

Context Factors for Prosociality in Cross-national and Cross-cultural Interactions

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Abstract

Prosociality is fundamentally important for societies. As people from different nations and cultures become increasingly interconnected due to globalization and migration, it is vital to understand the drivers of cross-national and cross-cultural prosociality. Contributing to this endeavor, this dissertation presents empirical studies that examine contextual factors for prosociality in cross-national and cross-cultural interactions. After providing an overview of theoretical models and empirical evidence for prosociality (Chapter 2 and 3) as well as a critical reflection of the methodology (Chapter 4), the studies are presented (Chapter 5). The first study focuses on prosociality between individuals from five different nations (Chile, Colombia, Peru, Venezuela, USA). The second study investigates host citizens' prosociality towards refugees in Germany. Using the COVID-19 pandemic as an example, a further study analyzes potential changes in prosociality before vs. during a crisis. The studies yield the following results: I) People are more prosocial towards the national in-group vs. out-group; hence, prosociality is rooted in a common social identity. However, in-group favoritism is not fixed but rather can be redirected to local cultural out-groups by making a common living environment salient. II) Individuals also act prosocially towards national and cultural out-group members – the degree of prosociality depends on certain out-group characteristics (e.g., closeness, similarity). III) Prosociality increased significantly during vs. before the COVID-19 crisis in Germany; prosociality is thus sensitive to changes in the external context. The results are discussed regarding their significance for existing theories, methodological limitations, and political implications to promote cross-national and cross-cultural prosociality.

Deutsche Zusammenfassung

Prosozialität ist von fundamentaler Bedeutung für Gesellschaften. Da Personen unterschiedlicher Nationen und Kulturen durch Globalisierung und Migration stärker verbunden sind, ist es wichtig, die treibenden Faktoren länder- und kulturübergreifender Prosozialität zu verstehen. Diese Dissertation leistet hierzu einen Beitrag und stellt empirische Studien vor, die Kontextfaktoren für Prosozialität in länder- und kulturübergreifenden Interaktionen untersuchen. Nach einem Überblick über theoretische Modelle und empirische Befunde zu Prosozialität (Kapitel 2 und 3) sowie einer kritischen Reflexion der Methodik (Kapitel 4), werden die Studien vorgestellt (Kapitel 5). Die erste Studie betrachtet Prosozialität zwischen Personen aus fünf Ländern (Chile, Kolumbien, Peru, Venezuela, USA). Die zweite Studie untersucht Prosozialität von Einheimischen gegenüber Geflüchteten in Deutschland. Am Beispiel der COVID-19 Pandemie analysiert eine weitere Studie potenzielle Veränderungen von Prosozialität vor vs. während einer Krise. Die Studien liefern die folgenden Ergebnisse: I) Personen verhalten sich prosozialer gegenüber der nationalen Eigen- vs. Fremdgruppe; Prosozialität basiert also auf einer gemeinsamen sozialen Identität. Eigengruppenfavorisierung ist jedoch nicht statisch, sondern kann durch die Salientmachung eines gemeinsamen Lebensraums auf lokale kulturelle Fremdgruppen neu ausgerichtet werden. II) Personen verhalten sich auch prosozial gegenüber Mitgliedern nationaler und kultureller Fremdgruppen – das Maß an Prosozialität hängt von bestimmten Merkmalen der Fremdgruppen ab (z.B. Nähe, Ähnlichkeit). III) Prosozialität ist während vs. vor der COVID-19-Krise in Deutschland deutlich angestiegen; Prosozialität reagiert demnach sensibel auf Änderungen im externen Kontext. Die Ergebnisse werden bzgl. ihrer Signifikanz für existierende Theorien, methodischer Einschränkungen und politischer Implikationen zur Förderung von länder- und kulturübergreifender Prosozialität diskutiert.

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1 General Introduction and Overview

Prosociality is an important driver of human interactions, as it determines a wide range of social decisions that individuals make in their everyday lives. There is a large body of evidence that prosociality is fundamental for the functioning of societies (e.g., Dietz et al., 2002; Fehr & Gächter, 2002; Hardin, 1968) and the well-being of their individual members (e.g., Doré et al., 2017; Raposa et al., 2016; Wang et al., 2020). Due to its fundamental importance for human life, the investigation of prosociality in social interactions is of great interest for researchers across various disciplines. Contributing to this investigation, this dissertation aims to obtain a deeper understanding of the factors that promote prosociality among individuals. This dissertation includes three papers published between 2018 and 2021 that systematically investigate factors that influence prosociality in social interactions using a similar measure of prosociality (one-shot dictator games) in different contexts. The focus is on prosociality in cross-national and cross-cultural interactions, as those are becoming increasingly important in today's world marked by globalization and migration.

In the literature, the terms cross-national interactions and cross-cultural interactions are often used interchangeably, as there is substantial overlap between both concepts. For simplicity and greater distinguishability between the empirical investigations in this dissertation (Paper 1 and 2), the terms will be defined as follows. Cross-national interactions refer to encounters between individuals from different nations who are currently living in their respective home countries (e.g., between-nation interactions; Paper 1). Cross-cultural interactions refer to encounters between individuals with different cultural backgrounds who are currently living in the same country (e.g., within-nation interactions; Paper 2).

In today's globalized world, the perception of national borders is shifting and different nations and cultures are becoming increasingly interconnected and interdependent (e.g., Faulconbridge & Beaverstock, 2009; Jensen et al., 2011). One important consequence thereof is an increase in interactions between people from different nations and cultural backgrounds. Individuals frequently engage in cross-national interactions, for instance, in multinational business operations, international political committees, student exchange programs, and leisurely travel around the world. With increased globalization, global problems affecting all individuals across the globe become clearly visible. Human-induced climate change, the finite nature of fossil resources, war and conflict between nations, migration flows, and ultimately also the current COVID-19 pandemic represent global problems of our times. It is obvious that these major global challenges can only be solved with joint forces and cross-national

cooperation. Consequently, politicians of different nations must negotiate binding climate agreements and peace treaties; employees of international companies must collaborate with colleagues abroad; researchers and experts from different nations must share their insights and knowledge. This implies broadening nationalistic perspectives to encompass an interconnected world and the extension of national group boundaries. Thus, there is an urgent need to establish positive interactions between people from different nations. However, the global problems we are currently facing also bear the risk of increased nationalism and patriotism. For instance, when people hold the belief that their nation will benefit from acting independently rather than collectively, they are more willing to support national rather than international goals (e.g., Waldee, 2018). These tendencies, of course, affect social interactions in which national and cultural differences between individuals become apparent. Rather than perceiving cross-national interactions as an advantageous means to learn and benefit from other nations and jointly achieve superordinate goals, individuals might favor their national in-group over national out-groups. On the behavioral level, this may be reflected in increased prosocial behavior towards national in-group members and decreased prosocial or even antisocial behavior towards national out-group members. However, cross-national prosociality is fundamentally important to establish positive cross-national interactions. Thus, research is needed that enables a deeper understanding of cross-national prosociality and the relevant context factors that promote prosociality between different nations. To contribute to this endeavour, the first paper of this dissertation, published in 2018 in *Judgment and Decision Making* (Fiedler, Hellmann et al., 2018), experimentally investigates the factors influencing cross-national prosocial behavior between five different nations (Chile, Colombia, Peru, Venezuela, and the USA).

Globalization not only increases cross-national interactions between individuals living in different nations, it also facilitates cross-cultural interactions within a nation. International migration can lead to the rise of multicultural nations and cities that seemingly contain the entire world within their borders, creating a diverse cultural environment. However, large-scale migration caused by poverty, climate change, war, and political instability also represents a major and largely unresolved policy challenge for the receiving nations. For instance, Germany has received the most refugees of all European nations in recent years (United Nations Refugee Agency, 2022). Successfully coping with this enormous influx of refugees not only requires commitment on the side of politicians and authorities but also acceptance and support by the host population. How individuals in the receiving nations react towards incoming refugees is a key factor of successful integration. Obviously, a successful

integration process depends on both host citizens' and refugees' efforts, with both sides having the chance to benefit from its results. However, especially upon arrival, incoming refugees are in a vulnerable state and often depend on direct support from the host citizens (e.g., in the form of monetary aid, donations, or personal assistance). In line with a social justice point of view – seeing the dominant group as economically capable and socially responsible for helping vulnerable groups (Goodman, 2011) – it is the level of prosociality shown by host citizens towards refugees that is essential for successful integration and the development of flourishing multicultural societies. This illustrates once more the need to understand the factors that facilitate prosociality, not only between nations but also between cultures within a nation, where host citizens and migrants share a common living environment. The second paper of this dissertation, published in 2021 in *Frontiers in Psychology* (Hellmann et al., 2021a), systematically investigates host citizens' prosocial behavior towards refugees. More specifically, factors are identified that increase levels of prosociality of German students towards different refugee groups (e.g., refugees that live in the same city, refugees who are also students).

Whereas the cross-national (Paper 1) and cross-cultural (Paper 2) investigations focus on context factors for prosociality with regard to the interacting actors (the giver and the receiver), the final investigation of this dissertation addresses an instance of the external context, namely an external shock due to a global crisis (Paper 3). As mentioned above, the challenges we face in a globalized world require people to cooperate and show prosocial behavior. The importance of prosociality among individuals becomes even more pronounced in times of an acute external shock. In economy, an external shock is defined as an unexpected event that dramatically changes a society's economy. External shocks occur when unpredictable change in an exogenous factor affects endogenous (economic) variables (Aber & Akinbobola, 2020). During the work on this dissertation, the world suffered from a global pandemic, the COVID-19 health crisis. This pandemic continues to affect all countries across the globe (World Health Organization, 2022), representing an enormous change in external circumstances and living conditions around the world. Soon after the initial outbreak, it became evident that prosociality plays a key role in combating this global crisis. First, prosociality is essential to tackle the cause of the pandemic, as all individuals must act prosocially – for instance, by wearing masks, maintaining physical distance, and becoming vaccinated to slow the spread of the highly contagious virus. Second, prosociality is needed to deal with the far-reaching economic, societal, psychological, and health-related consequences. It is especially those who are most vulnerable and most strongly affected by the pandemic

who need prosocial acts – for example, in the form of donations of money, blood, protection equipment, or time (e.g., delivering groceries). Given its fundamental importance in times of crisis, the third paper of this dissertation, published in 2021 in *Heliyon* (Hellmann et al., 2021b), experimentally investigates prosociality during the COVID-19 pandemic. Emphasis is placed on potential changes in individual levels of prosociality before vs. during the crisis. We analyzed whether prosociality is sensitive to external shocks. That is, whether prosociality changes (increases or decreases) during crisis or whether it is rather stable and unaffected by the crisis.

This dissertation systematically investigates factors that influence prosociality in social interactions with a particular focus on cross-national and cross-cultural interactions. After a short review of the development of theories on social decision making in Chapter 2, the most central context factors for prosociality will be presented in Chapter 3 along with theoretical models and empirical evidence that account for those factors. Furthermore, for each context factor, the empirical results obtained in the Papers 1-3 will be briefly described. Chapter 4 provides a critical reflection of the methodology. Chapter 5 contains the complete articles (Papers 1-3) as they were published in the respective journals. In Chapter 6, this dissertation concludes with a discussion of the presented findings regarding existing theories, their limitations, an outlook for future research, and implications for policy makers that wish to promote prosociality among individuals.

2 Social Decision Making

People – as social beings – constantly interact with other humans. In our everyday lives, we face uncountable situations that require us to make (large or small) social decisions. From deciding whether to let strangers go in front of you in the queue at the supermarket because they appear to be in a hurry to sacrificing your time to help your nervous colleague complete an important project. Given their omnipresence and importance in daily life, social decision making has roused the interest of the scientific world. How individuals make decisions in social interactions has been studied by economists, sociologists, philosophers, and psychologists for decades. Beginning at the roots of modern investigations of social decision making, one must begin with the standard economic perspective. According to Expected Utility Theory (von Neumann & Morgenstern, 1944), decision makers act rationally to maximize their expected utility from possible outcomes, e.g., the resulting (monetary)

consequences of a decision. Following this approach, individuals have complete and relevant information at their disposal, which forms the basis of their rational decision making. The individual is thereby considered a homo oeconomicus who is driven by rational and self-interested economic calculation (e.g., Hooker, 2013). Accordingly, people are expected to care solely and exclusively about their own profit and base their behavior on the overarching objective of maximizing their personal gains while minimizing their losses, regardless of the outcomes of others. This image of humans denies any form of prosociality towards other individuals.

Experimental research on prosociality frequently investigates social decision making through experimental economic games¹. A popular method to measure prosociality is the dictator game (DG), which can be described as follows. Two players are randomly assigned to the role of the dictator and the receiver, respectively. The dictator is given a sum of money $\$x$ and decides how much of $\$x$ to transfer to the receiver. The receiver has no active role and only receives the offered amount. The dictator receives the remainder $\$x - \offer (Forsythe et al., 1994). See Chapter 4.1.1 for a more detailed description of the DG. The standard economic perspective predicts dictators to be money-maximizing agents who act purely rationally and selfishly. They are thus expected to contribute 0% of their endowment to receivers.

The standard economic assumption with its orthodox view of purely selfish and rational individuals has been repeatedly rejected by empirical research. First, it has been shown that people's rationality and cognitive abilities are bounded (e.g., March, 1978; Tversky & Kahneman, 1974). This contradicts the assumption that individuals possess perfect information and arrive at the rational money-maximizing strategy based on an exhaustive analysis of outcomes and probabilities of different decisions. Second, there is ample empirical evidence that individuals do not behave completely selfishly in economic games (e.g., Rapoport & Dale, 1966; Selten & Stoecker, 1986; see van Lange et al., 2013 for a contemporary overview). A comprehensive meta-analysis on generosity in the DG that includes the results of more than 130 studies showed that dictators give, on average, 28.35% of their endowment to receivers (Engel, 2011). Hence, dictators systematically deviate from the standard economic assumption, as they do not solely make selfish choices by maximizing

¹ There are various types of economic games that focus on different aspects of prosociality. Some are strategic games in which self-interests are at conflict with collective interests (e.g., van Lange et al., 2013). As these strategic games measure cooperative behavior, a special form of prosociality that is not the primary focus of this dissertation, we will focus on the non-strategic DG.

their own material outcome but also prosocial choices considering the material outcome of receivers.

The large number of observed deviations from the rational (selfish money maximizing) strategy led to the rise of a new (more psychological) theoretical approach of social decision making. Social preferences models assume that decision makers do not solely care about their own material outcomes but also consider the outcomes of others in the decision-making process (e.g., Bolton & Ockenfels, 2000; Dawes, 1980; Fehr & Schmidt, 1999; Rabin, 1993; van Lange, 1999). Consequently, social preference models incorporate the others' outcome as an additional element of the decision makers' utility function. This element accounts for interindividual differences in the degree of utility that individuals derive from their own payoff and the payoff of others (Messick & McClintock, 1968). Note that assuming interindividual differences in social preferences does not contradict rational choice theory per se, as the rational money maximizing strategy is still considered to be one (but not the only) strategy that individuals follow. Rather, it represents a theoretical development that increases the theory's psychological realism and descriptive accuracy (e.g., Murphy et al., 2011). Different theories of social preferences suggest different forms in which others' payoffs are integrated into the decision makers' utility function. A simple utility function that accounts for the weight that decision makers assign to their own (w_{own}) and others' (w_{other}) payoffs can be described as follows:

$$U = w_{own} \times (\text{own payoff}) + w_{other} \times (\text{others' payoff})$$

As an example, dictators may receive an endowment of 10 points in a DG, which they can split between the self and a receiver in 1-point increments. As depicted in the formula, the tradeoff between one's own and the others' payoff can be represented as differences in the respective decision weights. Dictators who value their own payoffs highly and disregard the others' payoff (e.g., $w_{own} = 1$; $w_{other} = 0$) are more likely to keep the entire endowment for themselves, as this decision provides the greatest utility. Dictators who assign high value to both their own and others' payoffs (e.g., $w_{own} = 0.5$; $w_{other} = 0.5$) are more likely to choose an equal split, contributing 5 points to the other person and keeping 5 points for themselves.

In their model of inequality aversion, Fehr & Schmidt (1999) explain deviations from selfish behavior by a preference for equality. They assume that individuals can consider the distribution of payoffs between themselves and other persons. If individuals are inequality

averse, they prefer fair outcomes. There are two types of inequality aversion. Individuals may dislike inequality when they receive more than the other person, i.e., the inequality is to their material advantage (i.e., advantageous inequality), or when they receive less than the other person, i.e., the inequality is to their material disadvantage (i.e., disadvantageous inequality)². Individuals typically suffer more from disadvantageous inequality than from advantageous inequality (Bechtel et al., 2018; Fehr & Schmidt, 1999).

A further approach categorizes decision makers into social preference types (Murphy et al., 2011; Murphy & Ackermann, 2014). This categorization is based on the concept of Social Value Orientation (SVO, e.g., Liebrand & McClintock, 1988; van Lange 1999), which defines certain preferences for allocating resources between oneself and another person. In line with the example presented above, the authors assume that decision makers can be categorized into individualistic ($w_{\text{own}} = 1$; $w_{\text{other}} = 0$) or prosocial ($w_{\text{own}} = 0.5$; $w_{\text{other}} = 0.5$) SVO types. However, they define two additional SVO types, stating that decision-makers can further be categorized as having altruistic ($w_{\text{own}} = 0$; $w_{\text{other}} = 1$) or competitive ($w_{\text{own}} = 0.5$; $w_{\text{other}} = -0.5$) preferences. Whereas altruistic individuals only care about the payoff of the other person, competitive individuals enjoy being better off than the other person (Murphy et al., 2011). As the SVO is one central dependent variable in the empirical studies of this dissertation (Paper 1, Paper 3), a detailed description of this measure (SVO Slider) is reported in the method section in Chapter 4.1.2. SVO has been shown to be an (externally) valid predictor for prosocial and cooperative behavior in various social interactions (for a review, see Balliet et al., 2009, Bogaert et al., 2008). Being strongly related to personality traits (Hilbig et al., 2014), SVO is considered to be a trait-like characteristic of an individual, as it is assumed to be relatively stable over time and context (Murphy et al., 2011).

The concept of SVO simplifies individuals' social preferences to a single value per person. This SVO value is considered to be invariable and applied in all decision situations involving outcomes for the self and other individuals (van Lange, 1999). However, this simplification presumes context-independent or stable social preferences for the outcome of all other persons with whom one may interact. It does not capture important, situation-specific context factors that might influence individuals' social preferences and their willingness to behave prosocially.

² It is assumed that an individual i experiences the utility U from an outcome x with $U_i(x) = x_i - \alpha_i \max\{x_j - x_i, 0\} - \beta_i \max\{x_i - x_j, 0\}$, $i \neq j$. The utility loss that an individual i experiences if his or her outcome x_i is lower (higher) than the outcome of the interaction partner j is represented by the second (third) term.

3 Context Factors of Prosociality

The investigation of prosociality has received remarkable attention across different disciplines over the past decades. There is, however, no unanimous definition for the concept of prosociality. In addition, one can distinguish between different subtypes of prosociality (e.g., altruism, cooperation, helping behavior). Common to almost all definitions of prosociality is an emphasis on the promotion of the welfare of agents other than the actor (Pfattheicher et al., 2022). One concept that is closely related to prosociality – and often used synonymously – is altruism. Altruism can be considered to be a subtype of intentional prosociality with the underlying motivation of increasing another’s welfare (Batson & Powell, 2003). However, prosociality reflects a broader category of acts that have welfare promoting consequences for the other person and may be based on multiple motives, including altruistic, egoistic, and unspecified ones. With the common goal of measuring prosociality in controlled experimental settings, different economic games capture different underlying motives of prosociality (Thielmann et al., 2015). Whereas many games have the structure of a social dilemma considering (among others) the motive of social welfare, the DG captures the motive of altruism and fairness in prosocial decisions as well as the motives of greed and competitiveness in selfish decisions. In the empirical portion of this dissertation and consistently over all reported studies in Papers 1-3, prosociality is measured in terms of DG giving, such that higher allocations reflect increased prosociality. DG giving can be viewed as an instance of ‘altruistic’ behavior, as it improves the welfare of the receiver at the cost of the giver’s resources. In this dissertation, however, the broader umbrella term ‘prosociality’ will be used.

The main goal of this dissertation is the systematic investigation of specific context factors that influence individuals’ levels of prosociality in social decision making. For decision makers, certain information about the receiver – the person prosociality is directed towards – might be of great interest. Who is this other person? What is the relationship between the decision maker and the receiver? What characteristics does the receiver have? How does the decision maker evaluate those characteristics? What are the external circumstances at the time of the decision? These questions are highly relevant for decision makers, as they aid in adjusting individual (pro)social preferences and the degree of prosociality they are willing to demonstrate. In the following chapter, context factors for prosociality in social interactions will be presented. These context factors refer to either interactions between groups (i.e., in-group vs. out-group) or interactions between individual

members of different groups (i.e., self vs. out-group members). This is certainly not an exhaustive list. Rather, it represents a selection of highly relevant context factors that influence prosociality in cross-national and cross-cultural interactions, which form the main focus of this dissertation.

The presented context factors can be assigned to three categories. The first category (Chapter 3.1) focuses on common group membership – i.e., whether the receiver belongs to the in-group or an out-group. The second category (Chapter 3.2) comprises various factors regarding perceived characteristics of the receiving out-group member or interpersonal characteristics that depend on the interplay between the decision maker and the receiving out-group member³. The third category (Chapter 3.3) focuses on changes in the external context (i.e., external shock due to the global COVID-19 pandemic).

For each context factor, the structure is as follows. In a first step, the relevance of each context factor for prosociality will be introduced based on theoretical approaches. In a second step, empirical evidence for the effect of each context factor on prosociality will be presented. Findings in the current literature will be described with a special focus on prosociality in cross-national and cross-cultural interactions whenever respective studies are available. Subsequently, the results of the empirical studies of this dissertation (Papers 1-3) regarding each context factor will be presented. Note that the obtained results will be described in the form of means and standard deviations as well as univariate regression analyses with two-sided tests for each factor predicting prosociality. We applied mixed effects models with random person intercepts to account for the repeated measurement design, as participants indicated how much money they would give to various group members. As the DG allocation structure differs between the studies, standardized regression coefficients (beta) will be reported to ensure comparability between the papers. This procedure was chosen to give a comprehensive overview of the obtained results and allow for comparing the effects and jointly discussing the results of Paper 1-3. The analysis script and complete data are available at OSF (https://osf.io/86va2/?view_only=3a6edefaab284759a3efee83314e96c8). For the comprehensive statistical analyses including additional predictors and control factors, see the results section of the respective Paper 1-3 in Chapter 5.

³ Note that the empirical studies in Paper 1-3 also investigate characteristics of the giver (e.g., the giver's social and political orientation) as potential context factors for prosociality. Reporting all results would go beyond the scope of this dissertation. See Chapter 5 for additional information and analyses.

3.1 In-group Membership

As social beings, individuals belong to multiple social groups. Group membership can be based on a wide range of criteria (e.g., nationality, age, gender, social status, preferences), helping individuals to make sense of their social world and the role(s) they play within it (e.g., Macrae et al., 1995; Rydell et al., 2009; Tajfel & Turner, 1979). This is particularly important when interacting with other people. Whether or not the other person is perceived to belong to the same social group is important information that affects individual behavior. Thus, the group membership of the other person is a relevant context factor for social decision making. The following chapters focus on the phenomenon of in-group favoritism (3.1.1) and the dynamic nature of social identity (3.1.2). Reflecting the dynamic categorization process of group membership, the common in-group identity model (3.1.3) will be presented.

3.1.1 In-group Favoritism

Individuals show a systematic tendency to evaluate members of their own group (the in-group) more favorably compared to members of groups to which they do not belong (out-groups). This bias, called in-group favoritism or inter-group bias (Hewstone et al., 2002) is of great interest to social psychologists, as it has immense consequences for inter-group attitudes (e.g., prejudice), cognition (e.g., stereotypes), and behavior (e.g., discrimination). Regarding social decision making, in-group favoritism is a well-established finding in that individuals show more prosocial behavior towards in-group vs. out-group members (see Balliet et al., 2014 for a comprehensive meta-analysis on this topic). Different theoretical approaches are commonly employed to explain in-group favoritism, which have the overarching goal of understanding cognitive, motivational, and behavioral processes in inter-group settings (see Böhm et al., 2020 for a recent overview of theories on inter-group behavior and conflict).

The most prominent approach to explain in-group favoritism is the social identity approach, which stems from Social Identity Theory (SIT; Tajfel & Turner, 1979, 1986) and was later expanded by Self-Categorization Theory (SCT, Turner et al., 1987; see Chapter 3.1.2). A further prominent theory to explain in-group favoritism is the theory of Bounded Generalized Reciprocity (BGR, Yamagishi et al., 1999). As BGR emphasizes expectation-based assumptions – e.g., expectations regarding the others' behavior, which is not considered in the empirical part of this dissertation – we focus primarily on the social identity approach (SIT and SCT).

According to BGR (Yamagishi et al., 1999), in-group favoritism results from expectations regarding indirect generalized reciprocity within the in-group. This theory is grounded in an evolutionary approach to cooperation that assumes that groups are important for survival and reproductive success (e.g., Axelrod & Hamilton, 1981; Darwin, 1871). It further draws on reciprocal dependencies, as individuals are described as being mutually dependent on each other in cooperative decision making. BGR emphasizes the strategic advantage of in-group membership for maximizing individuals' own outcomes. It is assumed that the information of the others' group membership serves as a cue to form more accurate expectations concerning the others' cooperation behavior. Due to the system of indirect reciprocity and reputation for cooperation, individuals have generalized trust in in-group members and expect them to cooperate more than out-group members. The expectation to receive benefits from in-group members is not necessarily related to the specific in-group members with whom they cooperate. Rather, a cooperative reputation exists that is generalized to all in-group members. As in-group members have a reputation to cooperate, individuals are motivated to build and maintain this cooperative reputation among their in-group. Knowledge of common in-group membership is assumed to increase trust, reputational concerns, and expectations of the other's cooperation behavior, which forms the basis for increased levels of cooperation and prosociality towards in- vs. out-group members (Yamagishi & Kiyonari, 2000).

Another explanation for in-group favoritism stems from the social identity approach. This approach emphasizes the importance of group membership for the self. It is argued that social group memberships are an important source of self-esteem that provide individuals with a sense of belonging. Tajfel and Turner (1979) defined social identity as the part of one's self-concept that is derived from their group membership. SIT (Tajfel & Turner, 1979, 1986) has its origin in a series of experiments known as 'the minimal group studies', which investigated the minimal conditions required to elicit in-group favoritism (Tajfel, 1970). In the original experiment, participants were randomly assigned to one of two groups and were told that this categorization was made based on their previously assessed visual preference (for similar abstract paintings by Klee vs. Kandinsky). They were then presented with allocation matrices in which they had to decide how to divide money between members of those groups. Whereas a fair distribution (maximum joint payoff) was the predominant strategy when dividing money between two members of the same group (two in-group or two out-group members), participants consistently showed in-group favoritism when dividing money between an in-group and an out-group member. Importantly, participants not only

allocated more money to in-group vs. out-group members but also attempted to maximize the (relative) differences in payoff between the in- and out-group in a competitive manner even if that meant sacrificing absolute in-group payoff (Tajfel, 1970; Tajfel et al., 1971). The minimal group studies represent a powerful demonstration of the fact that the mere act of categorizing oneself and others into distinct arbitrary social groups (that have no interaction or contact with one another) is sufficient to create a cognitive structure of ‘us’ and ‘them’ and evoke ingroup favoring behavior. Since the initial studies, in-group favoritism has been frequently replicated and confirmed by several meta-analyses (e.g., Aberson et al., 2000; Balliet et al., 2014; Fischer & Derham, 2016; Mullen et al., 1992).

According to SIT, the motivating principle underlying in-group favoritism is the desire for a positive self-concept, which is achieved by seeking a positive social identity. The self-concept is thereby composed of two key parts: a personal identity and a social identity. Whereas the personal identity includes attitudes, emotions, and behaviors that define a person as an idiosyncratic, distinct individual, the social identity includes those aspects of an individual’s self-concept that are derived from perceived group membership. In addition to social categorization, two additional cognitive processes – social identification and social comparison – preside over the formation of a social identity (Ellemers & Haslam, 2012). In-group identification is not only reflected in the cognitive awareness to belong to a social group but also incorporates the emotional significance attached to that membership as a meaningful aspect of the self-concept. Individuals strive for a positive social identity by maximizing the positive distinctiveness of their in-group in contrast to an out-group (Tajfel & Turner, 1986). This can be achieved through social comparison by evaluating the in-group more positively on important dimensions with reference to relevant out-groups or preferential treatment of in-groups (e.g., increased prosociality) and/or discriminatory behavior (e.g., decreased prosocial or increased antisocial behavior) towards out-groups. In summary, SIT explains in-group favoritism through the mere categorization into in- and out-groups, initiating behaviors that aim to positively differentiate the in-group from the out-group (Tajfel & Turner, 1979).

The influence of in-group membership on prosociality has been observed in a broad range of contexts: Individuals show higher levels of trust (Glaeser et al., 2000; Romano et al., 2017), greater expectations concerning the others’ cooperativeness (e.g., Yamagishi et al., 2008), and more cooperative behavior in social dilemmas (e.g., De Cremer & van Vugt, 1999; Goette et al., 2006). Increased prosociality towards the in-group (vs. out-group) can even be observed in young children (Fehr et al., 2008) and non-human species (e.g., De Waal et al.,

2008). The large body of empirical evidence has stimulated the development of social preference models to account for the effect of group membership on prosociality. Chen and Li (2009) incorporated the information whether the other belongs to the in-group vs. out-group as an additional variable in the function predicting decision makers' utility. They argue that decision makers consistently assign greater (lesser) weight to the outcome of others with whom they (do not) share group membership. A comprehensive meta-analysis summarizing the results of 212 studies from 77 publications confirms the effect of in-group favoritism in social decision-making (Balliet et al., 2014). Overall, the authors found a small to medium effect size indicating that individuals cooperate more with in-group vs. out-group members ($d = 0.32$). They confirmed the robustness and generalisability of the effect across different group sizes, real vs. hypothetical costs of cooperation, experimental groups vs. natural groups, and several different countries. Investigating specific boundary conditions, the analysis further revealed that in-group favoritism was stronger in situations with (e.g., social dilemmas) vs. without (e.g., DG) mutual interdependence, with common vs. unilateral knowledge of group membership, and simultaneous vs. sequential exchanges.

Empirical evidence: In the cross-national context, it has been shown that individuals from different nations not only differ in the degree of general prosociality towards others (Falk et al., 2018; Levine et al., 2001; Luria et al., 2015) but also show varying baseline levels of in-group favoritism (van de Vliert, 2011, for a meta-analysis see Fischer & Derham, 2016). With regard to national in-group favoritism (i.e., favoring the national in-group over national out-groups), differences between countries have been reported. Whereas some nations show significantly more prosociality towards national in-group vs. out-group members, other nations display only a small degree of national in-group favoritism or even none at all (e.g., Castro, 2008; Dorrrough & Glöckner, 2016; Liu et al., 2011; Tanaka & Camerer, 2016). Although these studies suggest that nations vary in the degree of national in-group favoritism, a recently published, large-scale study including 42 nations around the world ($N = 18,411$) found a similar degree of national in-group favoritism in prosociality across countries in a social dilemma (Romano et al., 2021). Across all 42 nations, participants cooperated more when they knew that their partner was from the same nation compared to when they knew that their partner was from another nation or was a stranger (i.e., unidentified partner). In 39 out of 42 nations, the effect of national in-group favoritism was significant. The authors concluded that national in-group favoritism is a ubiquitous phenomenon that occurs around the world with rather little variation across nations.

National in-group favoritism in prosociality can be assessed in different ways. For instance, in a cross-national study on cooperation including six nations, Dorrough & Glöckner (2016) demonstrated national in-group favoritism threefoldly. Participants 1) showed more cooperation behavior in a social dilemma task and 2) had higher expectations concerning the cooperation level of their interaction partners from the national in-group vs. national out-groups. In addition, participants indicated that 3) if they were free to choose a partner to play the game with, they would mainly select a partner from their home nation. In addition to national in-group favoritism, the results demonstrated systematic positive and negative discrimination against specific nations, as participants showed varying degrees of cooperation and in-group favoritism depending on the interaction partner's nationality.

Empirical evidence of this dissertation: In Paper 1, we found strong evidence for national in-group favoritism in prosociality ($\beta = 0.21, z = 17.23, p < .001$) for the overall sample including participants of all five countries ($N = 915$). Participants gave on average approximately 11.69% more in the DG when they were matched with a national in-group ($M = 48.97$ out of 100 points, $SD = 23.77$) compared to a national out-group ($M = 37.28, SD = 24.15$) member. National subsample analyses revealed clear patterns of in-group favoritism for all nations. However, there were differences in the extent of in-group favoritism between the different nations. Whereas participants from all four Latin American nations showed high levels of in-group favoritism, giving significantly more to the national in-group vs. out-group (Chile +11.04%, Peru +13.11%, Colombia +14.14%, and Venezuela +12.69 %), participants from the USA (+2.86%) showed reduced, yet significant in-group favoritism. Additional analyses showed that these differences in in-group favoritism between Latin American countries and the USA were mainly driven by DG giving in out-group interactions. In in-group interactions, the relative majority of all participants (ranging from 49–63%, depending on the country) chose an equal split between the self and the national in-group member. In out-group interactions, this equal split rate was only slightly reduced for the USA (-6%) but strongly reduced for Latin American countries (-18-21%). This difference in out-group giving – with US participants giving relatively more to national out-group members compared to Latin American participants – appeared to be the driving factor for the observed differences in national in-group favoritism.

In Paper 2, the evidence for in-group favoritism in prosociality is mixed, as the existence of the effect was dependent on the criteria for group categorization and the respective out-group. Whereas Paper 1 focused on cross-national in-group favoritism in

interactions between people living in their respective home countries, Paper 2 examined cross-cultural interactions between individuals living in the same country. Again, we investigated prosociality in DGs by presenting each participant with four persons from different groups. In stage one, all participants ($N = 196$) were presented with a German student from their own university. This group of local German students represents the baseline in-group, as all participants belong to this group. In stage two, all participants were presented with a German student from another German city (the non-local German student out-group). Depending on the randomly assigned experimental condition, in stages three and four participants were matched with a local and a non-local refugee (refugee condition), a local and a non-local student refugee (student refugee condition), or a local and a non-local social welfare recipient (control condition). Comparing levels of prosociality between the in-group and the out-group of non-local German students, we found a clear pattern of in-group favoritism ($\beta = 0.09, z = 4.69, p < .001$). From an endowment of 200 points, local German students ($M = 53.77, SD = 58.32$) received a 4.73 % greater allocation than non-local German students ($M = 44.31, SD = 51.97$).

However, in the overall sample including all receiver groups, we found an effect of in-group favoritism in the opposite direction ($\beta = -0.11, z = -4.89, p < .001$) as local German students ($M = 53.77, SD = 58.32$) received, on average, 8.95% less than an average out-group member ($M = 71.67, SD = 70.41$). Refugee out-group members ($M = 88.26, SD = 76.51$) even received a 17.25% greater allocation than local, German, student in-group members. Thus, we found evidence of cross-cultural out-group favoritism but no evidence of cross-cultural in-group favoritism.

The design of the experiment allows for two additional criteria for group categorization in the in-group and out-group based on the city of residence or the student status with either all local receivers or all student receivers representing in-group members. We observed a pattern of overall local in-group favoritism ($\beta = 0.05, z = 2.00, p < .05$), with locals ($M = 70.42, SD = 68.84$) receiving 3.23% more allocations than non-locals ($M = 63.97, SD = 67.07$), and a pattern of overall student out-group favoritism ($\beta = -0.25, z = -10.26, p < .001$), with students ($M = 56.60, SD = 60.40$) receiving a 15.85% lower allocation than non-students ($M = 88.30, SD = 76.91$). Note that both effects refer to the overall sample. In the next chapter, these effects will be further examined with regard to the refugee out-group only.

3.1.2 The Dynamic Nature of Social Identity

Whether we perceive others as idiosyncratic individuals or as members of an in-group or an out-group is highly dependent on the social context. Representing a conceptual extension of SIT, SCT (Turner et al., 1987) focuses on the cognitive process of how individuals define cognitive representations of themselves and others in relation to different social groups. SCT assumes that as shared group membership becomes salient, individuals perceptually accentuate their similarities with in-group members (e.g., by focusing on shared group-defining characteristics). This process is called depersonalization, as the self or a group member is perceived as an interchangeable exemplar of the group prototype rather than as an individual. At the same time, individuals perceptually enhance the stereotypical differences from out-group members (Turner et al., 1994). Extending SIT, SCT assumes a more inclusive level of self-categorization, assuming that social identity ranges on a continuum from more subordinate (e.g., personal identity), to intermediate (e.g., subgroup identity), and finally to superordinate levels (e.g., human identity). Given the large number and constellations of social identities, what determines which particular identity is the basis for social (self) categorization? SCT suggests that social (self) categorization occurs as a function of perceived fit and cognitive accessibility (Oakes 1987; Oakes et al., 1991). Fit refers to the degree to which a particular social (self) categorization aligns with how individuals perceive their social world. Following the principle of meta-contrast ratio (a computation of differences between the in-group and the out-group divided by differences among the in-group), individuals compare in-group and out-groups on relevant dimensions. They perceive a high level of comparative fit if the social categorization maximizes intra-group similarities and inter-group differences. A high level of *normative* fit is perceived if observed characteristics and behaviors correspond to stereotypical expectations. Furthermore, social categories vary in terms of cognitive accessibility. That is, highly accessible categories have been recently (e.g., through priming) or frequently activated and are thus more likely to serve as a basis for social (self) categorization. Social categories can be temporarily or chronically accessible, as their accessibility depends on the presence of relevant categorization cues and individuals' previous experiences, expectations, or their current objectives (Oakes et al., 1991; Hornsey, 2008). In summary, social categorization is a dynamic process; and the activation of a social identity is highly sensitive to context cues.

Understanding the dynamics of the cognitive processes underlying social categorization in in- and out-groups is of great importance to reduce inter-group bias. One strategy to reduce in-group bias is to induce members of two groups to perceive others not as

an aggregate of a group but as distinct individuals – a process called decategorization. This allows individuals to appreciate unique and positive characteristics of others formerly perceived primarily in terms of their (out-)group membership. Bias is additionally decreased because there is no need to positively differentiate the in-group from the out-group, resulting in decreased in-group favoritism (Gaertner et al., 2016). One alternative strategy for reducing inter-group bias is recategorization, which assumes that members of different groups can be induced to perceive themselves as members of a common, more inclusive superordinate group.

As mentioned above, individuals can belong to and identify with various social groups (e.g., Macrae et al., 1995; Rydell et al., 2009; Tajfel & Turner, 1979), as group membership can be based on a wide range of criteria (i.e., preferences, capacities, cultural background, age, gender, social status). Depending on the frame of reference and social comparison points (Turner et al., 1994), different social identities and corresponding self-concepts can be activated and influence individual behavior. For example, depending on the situational context, a student from the University of Cologne might identify with different social groups. On the first day of her exchange program in Tokio, she might feel European, identifying with a group of other European exchange students. However, when celebrating carnival on the 11th of November and singing songs that praise her city, she might feel like a ‘kölsche Mädche’ (girl from Cologne), identifying with the group of citizens from Cologne or the more inclusive group that includes all carnival lovers. Consequently, individuals possess multiple social identities with varying degree of inclusiveness and overlap that can be activated simultaneously (Roccas & Brewer, 2002). Whereas some individuals perceive their multiple in-groups to be similar and strongly overlapping (i.e., low social identity complexity), others perceive their different in-groups as rather distinct and only slightly overlapping (i.e., high social identity complexity; Brewer & Pierce, 2005).

3.1.3 Common In-group Identity Model

The Common In-group Identity Model (CIIM; Gaertner & Dovidio, 2000) draws on the theoretical insights of SIT and SCT regarding the cognitive and motivational processes involved in in-group favoritism and proposes recategorization as core strategy to reduce in-group favoritism. If in- and out-group members perceive themselves to be members not of two separate groups but rather a common, more inclusive superordinate group, the in-group status is recategorized and a common in-group identity is developed. Consequently, the

perception of group boundaries changes from ‘us’ and ‘them’ to a more inclusive ‘we’. A common in-group identity can be induced by presenting factors that are perceived to be shared by both groups (e.g., common characteristics or goals) or by simply increasing the salience of existing common superordinate memberships such as a team, school, or nation (Dovidio et al., 2005). Following on Allport’s contact hypothesis stating that repeated positive inter-group interactions can reduce inter-group prejudice (Allport, 1954), positive inter-group contact represents another strategy for creating a common in-group identity. By having repeated positive contact with out-group members, individuals might be able to exchange information, thoughts, and feelings, making them realize commonalities with out-group members that may potentially facilitate recategorization into a common in-group (e.g., Welker et al., 2014). This recategorization into a common in-group can occur in two ways. First, two separate groups are combined to form a single, more inclusive superordinate group (‘we’). Second, a dual identity is activated in which group members maintain their initial in-group identity within the context of a superordinate identity and both identities remain simultaneously salient (‘us + them = we’).

The CIIM predicts that the development of a common superordinate in-group identity reduces inter-group bias, as the cognitive and motivational process that lead to in-group favoritism will be directed towards former out-group members due to their new (recategorized) in-group status (Gaertner & Dovidio, 2000). Gaertner and Dovidio argued that recategorization into a common in-group leads to more positive treatment of former out-groups because the identification with a common in-group identity brings former out-group members closer to the self (Gaertner et al., 1989). In line with this assumption, it could be shown that the psychological distance between the self and the (former) out-group – measured by the degree of perceived similarity between the self and the out-group – mediated the relationship between superordinate group identification (common in-group) and inter-group bias (Stone & Crisp, 2007). The reduction in inter-group bias through recategorization into a common in-group can be reflected in more positive cognitive (e.g., accessibility of positive thoughts), affective (e.g., empathic concerns), and behavioral orientations (e.g., cooperation) towards former out-group members (Gaertner & Dovidio, 2000; 2005; Gaertner et al., 2016).

Empirical evidence: The effect of reduced inter-group bias due to the salience of common in-group identity has been repeatedly shown (e.g., Brochu et al., 2020; Dovidio et al., 2005; Gaertner et al., 1989; Gaertner & Dovidio, 2000, 2005; Lemay & Ryan, 2021; Nier et al., 2001).

In the context of cross-cultural inter-group relations, most of the studies that investigate effects proposed by the CIIM focus on groups of national majorities (e.g., host citizens) and national minorities (e.g., immigrants) within one country (e.g., Chrysochoou & Anagnostou, 2019; Espinosa et al., 2018; Kunst et al., 2015, Levy et al., 2017). For instance, it has been shown that holding dual national identities reduces inter-group bias among different national subgroups (Gaertner et al., 1996). In a multi-ethnic high school, students who indicated that they identify both as Americans and as members of their ethnic subgroup (e.g., Black, Chinese) showed less inter-group bias in affective feelings toward other subgroups compared to students with only a subgroup identity. Levy and colleagues (2017) demonstrated that salient dual identities can reduce complex, historical conflict between different national groups within a country. Jewish Israeli participants who read essays about Arabs who identify with both Palestine and Israel showed more positive attitudes and increased prosociality towards the Palestinian out-group. Similarly, national identity inclusiveness can reduce inter-group bias (Espinosa et al., 2018). The authors demonstrated that the degree to which Sicilian teachers integrated immigrant students into their self-concept predicted positive attitudes toward those students. However, these positive effects did not generalize to attitudes about immigrants in general or immigration policy preferences. Thus, it remains unclear whether inclusive identities can have positive consequences for actual behavior toward immigrants.

There are fewer studies that investigate predictions of the CIIM between rather than within different countries. It has been shown that making a supranational identity salient reduces cross-national inter-group bias. For instance, an analysis of panel data of 27 EU member states provides evidence that holding a supranational identity leads to more positive attitudes towards immigrants, in general, and EU out-group countries, in particular. EU citizens who identify as European held more favorable views toward immigrants, whereas those with a strong national identity held more negative immigration attitudes (Curtis, 2014). Similarly, in a study by Stone & Crisp (2007), British participants were induced to perceive themselves as holding a supranational identity of being European vs. a national identity of being British. The more participants identified with the supranational identity, the more similar to the self and the more positive they evaluated a French out-group.

Empirical evidence of this dissertation: Reviewing the literature, two methodological limitations became apparent. First, the majority of the cross-national (survey) studies focusing on the reduction of national inter-group bias regarding general attitudes toward national out-

groups or specific attitudes toward helping national out-groups (e.g., Curtis, 2014; Espinosa et al., 2018; Stone & Crisp, 2007) are potentially limited in predicting actual behavior (Hilbig et al., 2014). Second, in the studies reported above, strong experimental manipulation was used to make a common in-group identity salient. For instance, participants were asked to read essays or answer questions (e.g., concerning similarities) designed to prime a common identity. In all studies presented above, the label of the superordinate identity was used in the evaluative measures – thus, the concept of superordinate identity was inherently salient in the judgment context. In the empirical studies of this dissertation, previous research was extended. Most importantly, in all studies, we investigated actual behavior by measuring prosociality via allocation decisions in DGs with real monetary consequences for participants and their real interaction partners.

In the cross-national study in Paper 1, we investigated effects of a common superordinate identity on prosociality towards (former) national out-groups. We tested whether a subtle manipulation to activate a supranational identity was sufficient to reduce inter-group bias. To make the supranational identity salient, we manipulated only the context of the interaction in terms of the set of national out-groups presented to participants without referring in any way to the common supranational identity. We investigated interactions among participants from four similar Latin American countries (Chile, Peru, Colombia, and Venezuela) that share a common supranational identity of being Latino. We varied the context of the interactions by including vs. excluding a dissimilar country (USA) in the presented set of national out-groups – i.e., whether or not Latin American participants interacted with a US out-group member. We expected that the mere presence of a dissimilar out-group would highlight the commonality among Latin nations, making their common supranational Latino identity salient. As in-group members are typically perceived to be closer to the self than out-group members (Schubert & Otten, 2002), we used the degree of perceived closeness as a manipulation check for the activation of a common group membership. Contrary to our expectations, the manipulation did not activate a supranational Latino identity, as Latin Americans did not feel closer to Latin American out-group members in the presence of a US American out-group (see results section, Paper 2). As this activation of a common superordinate identity is assumed to be the basis for the reduction in inter-group bias according to CIIM, it was not surprising that we did not find the expected effect. Latin participants' allocations towards Latin out-groups did not differ significantly in the presence ($M = 35.38, SD = 22.59$) vs. absence ($M = 37.02, SD = 25.25$) of an US out-group member ($\beta = -0.03, z = -1.02, p = .305$). Instead, we observed a slight (non-significant) decrease of 1.64%

in allocations in the presence of a US out-group member.

There are several explanations for the failed manipulation. First, the manipulation was potentially too subtle to activate a common supranational identity. Second, Latin American participants indicated that they have a high degree of contact with US Americans (45%) and substantially less contact with Latin out-groups (18%). As contact typically increases inter-group closeness and decreases inter-group bias (Allport, 1954; Dovidio et al., 2003), the USA might not have been an ideal candidate for a dissimilar, contrasting out-group. Third, if similarities are not sufficient for generating a common in-group identity, inter-group similarity might decrease prosociality towards out-groups (see Chapter 3.2.2), for instance due to increased competition towards similar out-groups (see Chapter 3.2.3).

In the cross-cultural study in Paper 2, these factors were addressed once more to investigate the effect of a common superordinate identity on prosociality towards former out-groups. More specifically, we analyzed effects of common superordinate identities on host citizens' prosocial behavior towards (former) refugee out-groups. We hypothesized that the activation of a common local identity and a common student identity with refugees would reduce inter-group bias, leading to an increase in prosociality towards local (compared to non-local) and student (compared to non-students) refugees. Learning from Paper 1, we made the common identity more salient by explicitly referring to the shared group membership. As described earlier, in the cross-cultural study, German student participants were presented with either a local and a non-local refugee (refugee condition), a student refugee and a non-student refugee (student condition), a local and a non-local German social welfare recipient (control condition).

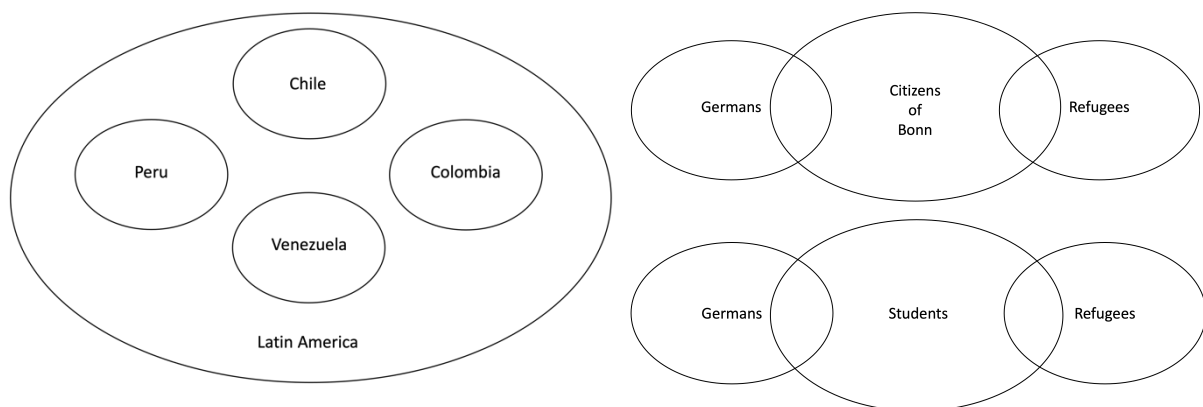


Figure 1: The common superordinate identities intended to be activated in Paper 1 (left, the Latino identity) and Paper 2 (right, the local and student identity).

In line with our expectations, participants felt significantly closer towards local (vs. non-local) refugees and student (vs. non-student) refugees (see results section, Paper 2), indicating that the activation of a common in-group was successful. As hypothesized, a common local identity led to 2.39% increased prosociality ($\beta = 0.03, z = 2.14, p < .05$), since local refugees ($M = 90.66$ out of 200, $SD = 76.83$) received a significantly larger allocation than non-local refugees ($M = 85.87, SD = 76.42$). However, a common student identity led to a (non-significant) decrease rather than increase in prosociality towards refugees ($\beta = -0.12, z = -1.35, p = .177$), as student refugees ($M = 79.38, SD = 68.90$) received a 8.81% smaller allocation than non-student refugees ($M = 97.01, SD = 82.67$). As a potential explanation, it is possible that a shared student status led to an increase in perceived competition for shared resources (see Chapter 3.2.3) such as an, albeit slight, increase in estimated income or a decrease in perceived income differences between the self and non-student receivers (see Chapter 3.2.4.1). These explanations will be further investigated in the respective chapters.

3.2 Out-group Characteristics

Whereas a large body of research has examined in-group favoritism, the circumstances under which prosocial behavior is extended to out-groups are less well examined. Prosociality is, however, not restricted to in-group members, as individuals also behave prosocially towards out-group members. Rather, it seems that the decision whether to show prosociality towards an out-group member is psychologically more challenging than the decision to help an in-group member (e.g., Siem et al., 2014; Stürmer & Snyder, 2010). It is, for instance, crucial how out-group members are perceived and what characteristics are assigned to them. In the following chapters, factors will be examined that influence prosociality in the inter-group context beyond the simple effect of in-group favoritism. Again, it should be mentioned that this is not an exhaustive list of influential factors for prosociality. Rather, it represents a selection of factors that have been shown to be particularly relevant for prosociality in interactions with national and cultural out-groups. First, the effects of perceived closeness (Chapter 3.2.1) and perceived similarity (Chapter 3.2.2) will be discussed. As inter-group similarity can go along with increased competitive tendencies, the effect of perceived competition (Chapter 3.2.3) on prosociality will be additionally considered. Finally, the role of inequalities (Chapter 3.2.4) between giver and receiver (e.g., income differences, receiver vulnerability, and giver responsibility) and the perception of the receiver on stereotype characteristics (Chapter 3.2.5) for prosociality will be examined.

3.2.1 Closeness

One factor that has proven to be highly relevant for prosociality is the perception of closeness – i.e., whether or not the other person is perceived to be close to the self. It has been repeatedly shown that perceived social closeness increases levels of prosociality. A high degree of perceived closeness toward another person is associated with increased prosociality, whereas a low degree of perceived closeness typically decreases levels of prosociality (e.g., Aron et al., 1991; Burnham, 2003; Brañas-Garza et al., 2010; Hoffman et al., 1996; Rachlin & Jones, 2008). In the last section, the degree of perceived closeness was introduced as an indicator for the activation of common group membership, as in-group members are typically perceived to be closer to the self than out-group members (Schubert & Otten, 2002). However, a high degree of perceived closeness is not limited to the in-group, as individuals can also perceive out-groups (and their members) to be socially close. In the literature, social closeness is typically regarded as tapping individuals' sense of being interconnected with others. Aron and colleagues (Aron et al., 1991, 1992) define social closeness as the degree to which the other is included in the self. They assumed that when an interaction partner is perceived to be close to the self, individuals act as if some or all characteristics of the interaction partner are partially the individuals' own characteristics. They further argued that people are motivated to self-expand by including others in their self-concept with the overall objective of enhancing their selves, increasing self-efficacy, and benefiting from close others' resources (Aron & Aron, 1986). When individuals feel close to another person, they perceive the self as including resources (e.g., in form of material goods, social assets, or knowledge), perspectives, and characteristics of the other person. This notion is particularly important regarding the relationship of perceived closeness and prosociality. In an experiment investigating this relationship, Aron et al. (1991) demonstrated that participants distributed money equally between the self and a socially close other (e.g., best friend) but allocated more to themselves than a socially distant other (e.g., mere acquaintance or stranger) even when the other did not know about their allocations. It was concluded that, to the extent that the other is included in the self, individuals make less distinction between their own and others' resources, as they perceive themselves to have access to the resources of close others. Perceiving the other's resources (in part) as one's own means that the outcome of close others is, to some degree, regarded as one's own outcome.

A typical example of this process of self-expansion to out-group members is inter-group friendship, reflecting the importance of inter-group contact to increase closeness towards out-group members. Based on implications of Allport's contact hypothesis (1954),

inter-group friendships represent an effective form of inter-group contact for reducing prejudice and promoting positive attitudes towards out-groups (for a review see Davies et al., 2011a). This effect of inter-group friendship on reduced prejudice has been shown to be mediated by perceived closeness in terms of self-other overlap (Aron et al. 2013; Davies et al., 2011b).

Based on the idea of closeness as overlapping selves, Aron et al. (1992) developed a single-item, pictorial measure of perceived interpersonal closeness. In their ‘inclusion of other in the self scale’, individuals are asked to select the picture that best describes their relationship with another person from a set of seven Venn-like diagrams. Each diagram represents a different degree of overlap between two circles representing the self and the other, respectively. The scale has been adapted and applied to the realm of inter-group relations. Based on the assumption of SIT and SCT stating that self-categorization can occur at different levels of inclusiveness (e.g., from personal to group level), Schubert and Otten (2002) developed closeness items to measure the perception of the self in inter-group situations: the overlap of self, in-group, and out-group scale (OSIO). The OSIO items metaphorically depict the experienced relation between the self and a group (self - in-group; self - out-group) mapped onto the spatial dimension. In addition to less specific aspects of one’s relation to a group, such as belonging vs. similarity, this mapping primarily depicts the subjective experience of one’s identification with a group. In contrast to other approaches that measure group identification as the inclusion of the group in the self (e.g., Smith & Henry, 1996; Tropp & Wright, 2001), the OSIO items depict the inclusion of the self in the group – the circle depicting the self is smaller than the group circle and, at the level of highest overlap, the self is completely included in the group circle.

Individuals differ in the degree to which they perceive closeness toward groups, which manifests itself in individual differences in the degree of self - out-group overlap. When an inter-group context is salient, however, the perceived self - in-group overlap is higher than the perceived self - out-group overlap (Schubert & Otten, 2002). Due to their easy application, high degree of comprehensibility, and validated properties (e.g., convergent validity), the OSIO items are suitable to measure perceived closeness in national and cultural out-groups. The OSIO items also permit equitable comparisons of perceived closeness among individuals from different national backgrounds, which is particularly important in cross-cultural research where experimenters face the challenge of translating (and, ideally, back-translating) instructions in foreign languages. That is why we used the OSIO items to measure perceived closeness towards national and cultural out-groups in Paper 1 and 2, as depicted in Figure 2.

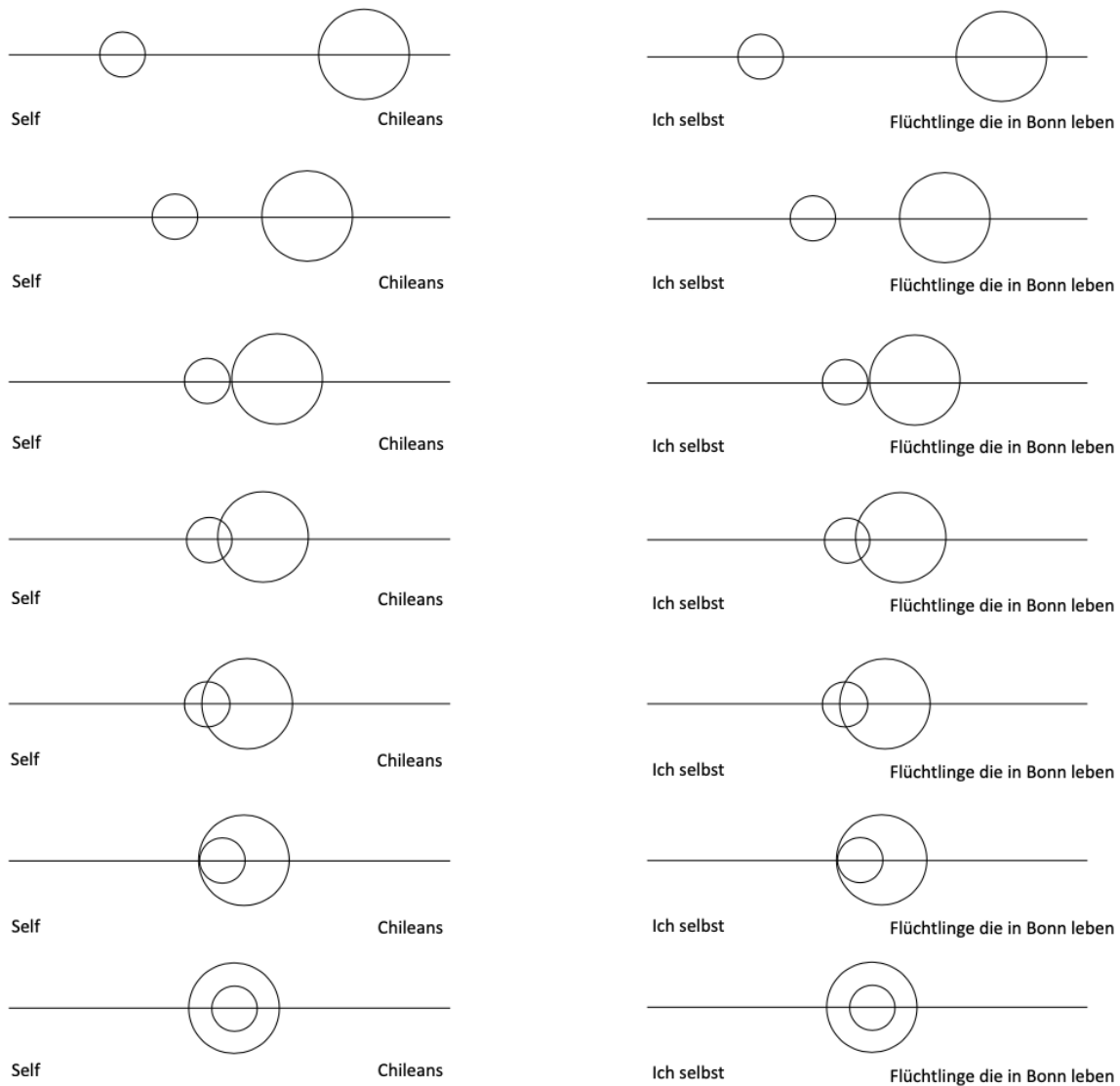


Figure 2: Measure of perceived closeness as self - out-group overlap adopted from the instructions in Paper 1 (left) and Paper 2 (right).

Empirical evidence: The perception of closeness toward out-groups, indicated by a high degree of self - out-group overlap, has demonstrated positive effects on evaluations of and behaviors towards out-group members. Galinsky and Moskowitz (2000) found that self - out-group overlap produced prosocial outcomes. In their experiments, self - out-group overlap was positively associated with perspective taking and negatively associated with out-group stereotyping. Similarly, Schubert and Otten (2002) demonstrated that self - out-group overlap decreased prejudice toward out-groups and in-group favoritism. Medical science students who perceived more overlap between the self and an out-group of psychologists hold less prejudice regarding the virtues of psychologists. Laham et al. (2010) showed self - out-group overlap to be associated with a decrease in negative emotions (e.g., anger, contempt,

resentment), negative actions (e.g., aggressive, avoidant, and disrespectful tendencies), and an increase in positive actions (e.g., approach and respectful tendencies) towards out-group members. Whereas cross-national studies on the topic are rather rare, there is initial cross-cultural evidence for the effect of perceived closeness on prosociality. Results of a study on refugee helping indicate that perceived closeness positively influences prosociality towards refugees (Nyeste, 2017). The study revealed a significant correlation between self - refugee out-group overlap and giving to charity as measured by DG allocations. However, this effect was only found when Dutch student participants were asked to divide their endowment between the self, a Dutch charity, and a refugee charity but not when allocations were only divided between the self and another Dutch person or a refugee charity. It was concluded that the Dutch charity served as a reference to which refugees can be perceived as more deserving.

Empirical evidence of this dissertation: Based on the theoretical and empirical insights reported above, we expected that perceived closeness in the form of perceived self - out-group overlap would positively affect prosociality towards national and cultural out-groups. In both Papers 1 and 2 we found strong evidence of this effect.

In the cross-national study including four Latin American countries and the USA, we showed that prosociality toward national out-groups significantly increased with perceived self - out-group overlap ($\beta = 0.16, z = 9.15, p < .001$). The closer participants felt towards national out-group members (on a scale ranging from 1-7, $M = 3.07, SD = 1.81$), the more money they allocated towards them in the DG. Participants indicating a high degree of closeness ($M + 1SD = 4.88$) towards national out-group members gave, on average, 22.65% more than those indicating a low degree of closeness ($M - 1SD = 1.26$). Perceived closeness was also associated with self-reported contact with the out-group, in that participants showed more self - out-group overlap towards national out-group members with whom they indicated having more frequent contact (see Paper 1 results section).

In Paper 2, we also found evidence that perceived closeness may influence prosociality towards cultural out-groups within a country, as indicated by a significant effect of self - out-group overlap on DG giving ($\beta = 0.08, z = 2.53, p < .05$). The closer participants felt toward refugees, the more prosocially they behaved towards them. More precisely, they gave, on average, 2.32% more when they perceived the refugee out-group member to be one unit (+ 1SD) closer. No such effect was observed for the receiver group of social welfare recipients. This is particularly interesting since this group served as a control group for the non-student refugee group for which perceived closeness strongly predicted DG-giving (see

results section, Paper 2). This indicates that perceived closeness might be particularly important in the context of prosociality towards cultural out-groups.

3.2.2 Similarity

Another factor that affects prosociality toward out-group members is perceived similarity. The concept of closeness and similarity are closely related and, in the literature, sometimes used interchangeably (e.g., Schubert & Otten, 2002) but are distinct concepts. Whereas closeness (i.e., self - other overlap) refers to the elements of others being physically close to and part of the structure of the self, similarity refers to the elements of others sharing descriptive features with those of the self (Aron et al., 2004). Individuals may perceive themselves to be similar to others along a variety of different dimensions, for example, in terms of physical appearance or psychological features such as attitudes, values, opinions, and personality traits. Generally, there is a large body of empirical evidence that similarity increases prosociality in humans. This pattern is often explained by evolutionary approaches such as kin selection theory, stating that prosociality is more likely to be directed towards relatives (Hamilton, 1964). Similarity has been shown to serve as a heuristic cue for kinship (Park & Schaller, 2005; Dovidio et al., 2006), as individuals may interpret similarities as signs of genetic relatedness, which may then motivate kin-recognition responses (e.g., prosociality) even in unrelated (but similar) individuals.

Perceptions of similarity (and closeness) are typically stronger for members of the in-group compared to the out-group (e.g., Robbins & Krueger, 2005). However, perceptions of similarity are not restricted to the in-group. Depending on historical, ideological, and salient context factors, individuals perceive some out-groups to be very similar to their in-group, whereas they perceive other out-groups to be rather dissimilar (e.g., Koch et al., 2020; Stürmer & Snyder, 2010). Furthermore, it has been shown that the effect of similarity on prosociality is not explained by group identity. Mussweiler and Ockenfels (2013) manipulated perceived similarity independent of group identity and showed that similarity triggers an altruistic response in the form of increased altruistic punishment. Participants were more willing to punish uncooperative behavior of others whom they perceive to be similar vs. dissimilar to the self. Group identity, in contrast, had the opposite effect on altruistic punishment, in that participants showed less altruistic punishment towards in-group vs. out-group members by reciprocating less cooperation with weaker punishments (Mussweiler & Ockenfels, 2013). Note, however, that this effect could not be fully replicated (Liu, 2016).

Similarly, Koch and colleagues (2020) showed that similarity increased cooperation beyond group membership. Investigating the influence of perceived similarity in stereotype dimensions of agency and beliefs (see Chapter 3.2.5 for stereotypes as a further factor influencing prosociality), the authors additionally measured and statistically controlled for in-group membership. The results demonstrated that the effect of perceived similarity on cooperation exists independently from the effect of group membership on cooperation (and can thus not be fully explained by group membership).

There is no conclusive evidence regarding whether the general effect of perceived similarity increasing prosociality also occurs for similar out-group members. Although closely related, SIT and SCT (see Chapter 3.1) make opposing predictions regarding how individuals react towards similar out-groups and whether perceived inter-group similarities increase or decrease prosociality towards similar out-groups.

Following predictions of SCT (Turner et al., 1987), individuals are expected to show higher levels of prosociality towards out-group members they perceive to be similar to their in-group. This is due to the cognitive process that people tend to maximize perceived intra-group similarities and inter-group differences, leading to a high comparative fit that increases the salience of distinct social categories. The underlying process here – called reflective distinctiveness (Spears et al., 2002) – acknowledges the reality of perceived inter-group differences rather than perceived inter-group similarities. Consequently, it is assumed that the more dissimilar a group is perceived to be, the more likely differentiation will occur – i.e., the group is perceived to be clearly distinct from the in-group. This increased likelihood for differentiation should, in turn, result in decreased levels of prosociality towards dissimilar out-groups and, accordingly, increased levels of prosociality towards similar out-groups.

According to SIT, individuals are expected to show decreased levels of prosociality toward out-groups that are perceived to be similar (vs. dissimilar) to the in-group. Assuming individuals have a strong motivation to differentiate their in-group positively from relevant out-groups to seek a positive social identity, similar out-groups represent highly relevant comparison groups from which the in-group must be differentiated (Tajfel, 1982). Comparison with similar out-groups threatens this process of group differentiation. The more similar the out-group is to the in-group, the greater the motivation to positively differentiate the in-group from the out-group. The operating process here – called reactive distinctiveness (Spears et al., 2002) – protects the in-group from being assimilated to similar out-groups. This

is achieved through in-group favoritism and out-group derogation with increased prosociality towards the in-group and decreased prosociality towards similar out-groups.

In cross-national research, one common model for assessing similarities (and differences) between nations and cultures is the Hofstede model of national culture. Within this model, culture is defined as the collective programming of the mind distinguishing the members of one group or category of people from others (Hofstede et al., 2010). Assuming countries come up with different ways of organizing themselves as a response to the challenge of distributing limited resources, Hofstede and colleagues provided an analytical tool to compare countries' responses to this basic challenge (Hofstede et al., 2010; Hofstede Insights, 2022). Their original model was based on a large research project on national differences on culture that was realized in the 1970s and included data on personal values and related sentiments of participants from over 50 countries around the world. All participants were employees at IBM, an American multinational technology company. Thus, they were assumed to be similar in many respects except their nationality, representing an adequate sample to identify differences in national value systems. Based on his data analysis, which showed clear patterns of similarities and differences among countries, Hofstede (1984) originally defined four dimensions to distinguish individuals from different nations: power distance (egalitarian vs. embracing hierarchy), individualism (collectivism vs. individualism), uncertainty avoidance (comfortable with uncertainty vs. uncomfortable with uncertainty), masculinity (nurture importance, femininity vs. power importance, masculinity). Expanding the research and collecting data from additional countries, Hofstede et al. (2010) later identified two further dimensions: long-term orientation (traditional, short term vs. futuristic, long-term), and indulgence (normative repression, restraint vs. satisfaction, indulgence). The resulting six dimensions of national culture allow for making predictions of how individuals are likely to behave in certain situations and how those behaviors vary between different countries. There are now scores available for 76 listed countries, with each country having six scores ranking from 0 to 100 for each cultural dimension (Hofstede et al., 2010; Hofstede Insights, 2022). These scores are relative and thus allow for a direct cultural comparison between countries. Hence, the distance between two countries on the cultural dimensions represents the degree of their cultural (dis)similarity. A standard method to compute cultural similarity based on Hofstede's model is the Euclidean distance⁴ by Kogut and Singh (1988), which was also used in the dissertation.

⁴ Cultural distance (*CD*) or cultural similarity is defined by a mathematical formula, where I_{kj} is country j 's score

Empirical evidence: As mentioned above, there is mixed empirical evidence on whether inter-group similarity leads to increased or decreased prosociality toward out-group members. In line with evolutionary approaches and expectations from SCT, there is evidence for increased prosociality towards national and cultural out-groups that are similar to the in-group: In a cross-ethnic study within a country, Handley and Mathew (2020) showed perceived cultural similarity to be related to the willingness to cooperate with ethnic out-groups. Within samples from four different pastoral groups in Kenya, participants showed higher cooperation rates (e.g., share of water) when they perceived a high degree of inter-group similarity in terms of cultural values. A recently published study provides further evidence for a positive relation between cultural similarity and prosociality towards national out-groups (Froehlich et al., 2021). Presenting a novel approach that considers individual differences in the perception of culture, the authors assessed perceived cultural similarity with individual ratings of nations on the Hofstede dimensions and showed increased levels of prosociality towards perceived culturally similar (vs. dissimilar) national out-groups. In addition, when examining more commonly used nation-level measures, they again demonstrated a positive effect of similarity on out-group prosociality when similarity was measured based on a recently developed measure of cultural distance (Muthukrishna et al., 2020) but found no effect for the national-level values of the Hofstede cultural dimensions.

There is, however, also empirical evidence for the opposite effect of similarity on prosociality. In line with predictions from SIT, various studies demonstrated that inter-group similarity threatens group distinctiveness (e.g., Jetten et al., 2001, 2004; Tajfel, 1982; Tajfel & Turner, 1986). In the cross-national context, evidence is rather rare. Dorrough and Glöckner (2016) found evidence for a negative effect of cultural similarity on prosociality. Their results reveal that cultural similarity between nations – based on the (national-level values for) Hofstede cultural dimensions – decreased prosociality. More specifically, it was shown that individuals’ tendency to cooperate more than implied by their expectations about their interaction partners’ cooperativeness decreased when their interaction partner belonged to a culturally similar (vs. culturally dissimilar) national out-group. Another study that investigated the impact of cross-national similarity (e.g., in terms of shared cultural values and geographical closeness) on prosociality provided unclear evidence (Connick-Keefer,

on the k th cultural dimension, I_{ki} is the score of country i on this dimension, and V_k is the variance of the score of the dimension:

$$CD_{ij} = \sqrt{\sum_{k=1}^K \left\{ \frac{(I_{kj} - I_{ki})^2}{V_k} \right\}}$$

2016). Canadian participants showed no differences in online support and prosocial intents toward a similar (i.e., US-Americans) and a dissimilar (i.e., South Africans) national out-group. However, the dissimilar national out-group received more prosocial action (e.g., donations) than the similar national out-group.

Empirical evidence of this dissertation: The empirical evidence of Paper 1 is in line with the results of the cross-national study of Dorrough and Glöckner (2016). Including participants from five countries (Chile, Peru, Colombia, Venezuela, and the USA), we investigated whether levels of prosociality change with increasing cultural similarity between countries. We calculated cultural similarity for all combinations of countries based on their Euclidian distance on the six (national-level values for) Hofstede cultural dimensions. We found a significant negative effect of cultural similarity on DG giving towards national out-groups ($\beta = -0.02, z = -2.30, p < .05$). Participants allocated less money to national out-groups that are more (vs. less) culturally similar to their own nation. Since US participants might be considered qualitatively different from Latin Americans, we reran the analysis as a robustness check excluding US participants. Note that the effect of cultural similarity on prosociality did not reach significance in this additional analysis ($\beta = -0.01, z = -1.29, p = .198$).

Individual subsample analyses showed that this effect of reduced prosociality towards similar national out-groups is particularly strong for the subsamples of Peru and Chile. The countries not only share a common identity of being Latino but are particularly similar based on the cultural distance of the Hofstede dimensions compared to Colombia, Venezuela, and the USA (see Figure 3).

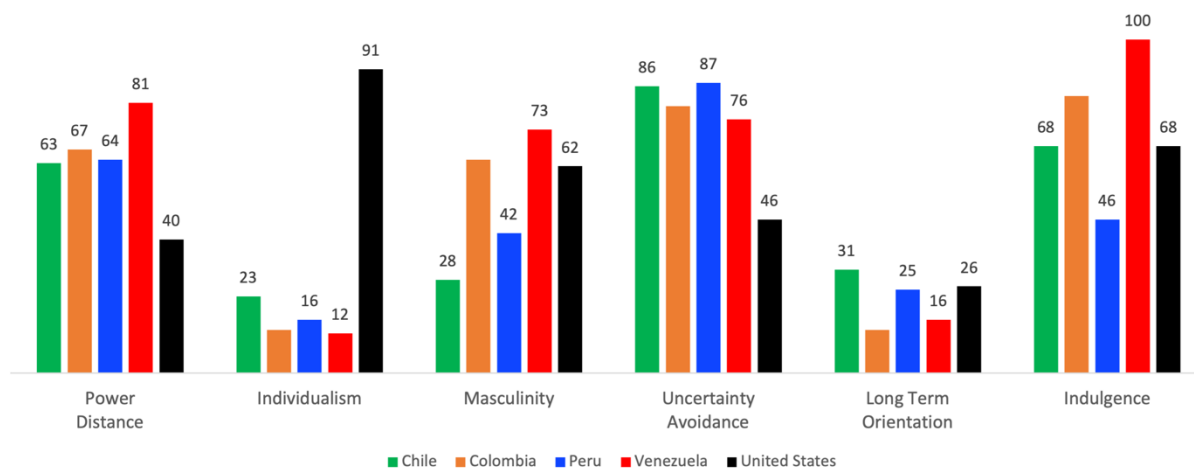


Figure 3: Comparison of the national-level values for Hofstede cultural dimensions ranging from 0 to 100 for the five nations included in Paper 1.

In the DG, Peruvians (Chileans) allocated significantly less money to participants from Chile (Peru) and perceived Chilean (Peruvian) interaction partners as significantly less close compared to those from all other culturally less similar out-group nations. Historically, both countries share a bitter history, with their conflict having its roots in their rivalry for hegemony on the Pacific coast in the 19th century. Chile won the Pacific War and took land from Peru that, to date, has only been partially returned. Still, there is on-going competition between both countries for shared resources (e.g., access to the ocean).

3.2.3 Competition

Perceived competition represents another factor that is relevant for prosociality towards out-group members (e.g., Sherif et al., 1961; Sherif, 1966). The perception of inter-group competition is especially relevant in the context of inter-group similarity, as focusing on similarities with out-groups can increase perceived competition between similar out-groups. This is particularly true if perceived inter-group similarities do not increase perceived closeness towards similar out-groups (e.g., self - out-group overlap) and do not activate a common identity. In such cases, perceived competition is particularly increased when the out-group is similar to the in-group on dimensions relevant to obtaining resources (e.g., skills; Esses et al., 1998). Consequently, one explanation for the negative effect of (cultural) similarity on prosociality found in Paper 1 might be an increase in perceived competition towards similar (vs. dissimilar) out-groups.

Generally speaking, and irrespective of whether or not it is triggered by perceived inter-group similarity, perceived competition for shared resources has negative consequences for inter-group attitudes and behaviors. According to realistic group conflict theory (RGCT), perceived competition (e.g., for access to limited resources) can lead to conflict between groups in the form of prejudice and hostile behavior toward out-groups (e.g., Jackson, 1993; Sherif, 1966). This has been impressively demonstrated by the classic Robber's Cave experiment in which white, middle-class, 12-year-old boys spent 2 weeks at a summer camp divided into two groups (Sherif et al., 1961). In the first phase of the experiment, the boys developed a group identity by only interacting with in-group members and calling themselves the Eagles or the Rattlers. In the second phase, the groups were introduced to each other and presented with different competitive group activities involving prizes and rewards for the winning team – thus, the groups were competing for resources. During this fierce competition, both groups developed antisocial and hostile behavior towards the competing out-group

including physical fights. Even though the experiment received serious criticism (e.g., see Chapter 4.2.2), it is a clear demonstration for the relationship between perceived inter-group competition, inter-group conflict, and antisocial inter-group behavior.

RGCT assumes that perceived group competition is likely to take the form of a zero-sum contest over resources, believing that the more the out-group obtains, the less is available to the in-group, resulting in strong perceived inter-group threat (e.g., Jackson, 1993). The greater the perceived inter-group threat, the more hostile behavior is expressed toward the out-group that represents the source of the threat. Even though it is assumed that some group conflicts are realistic, being based on real competition for scarce resources, the basic premise of RGCT does not require that actual competition over resources exists. Rather, it is the subjective perception of competition over resources that affects individuals' perceptions (e.g., perceived threat) and attitudes (e.g., prejudice) toward the out-group, leading to antisocial inter-group behavior (Esses et al., 1998). To sum up, based on RGCT, it can be expected that perceived competition over shared resources decreases prosociality towards (similar) out-groups.

Empirical evidence: In line with the prediction from RGCT, it has been shown that perceived inter-group competition decreases prosociality toward out-group members in both adults and children (e.g., Abrams et al., 2015; Moran & Taylor, 2022; Platow et al., 1999) and children. In cross-cultural research, RGCT is frequently used to explain anti-immigrant attitudes, as numerous studies indicate that negative attitudes toward immigrants are often the result of the host citizens' perception of competition toward immigrants (e.g., Gorodzeisky, 2011; Meuleman et al., 2009; Semyonov et al., 2006). Immigrants are perceived as rivals for limited resources, such as jobs, housing, and other goods. This tendency to perceive competition towards immigrants is particularly increased for right-wing political orientation, which – in contrast to left-wing political orientation – has been shown to be associated with a general motivation to accept hierarchies and inequalities between groups and pursue more pro-self than pro-social goals (e.g., Sheldon & Nichols, 2009; Thorisdottir et al., 2007). The fear that immigration represents a threat to the development of the host society's economy, culture, and safety is directly associated with negative attitudes (e.g., Jedinger & Eisentraut, 2020) and reduced helping behavior (e.g., Burhan & Leeuwen, 2016) toward immigrants. A study on attitudes toward immigrants supports the argument presented above, stating that perceived inter-group competition is particularly strong when the out-group is similar to the in-group on dimensions relevant to obtaining resources (Esses et al., 1998). The authors

showed that making similarities on work-related traits between the in-group and an immigrant out-group salient led to increased perceived competition such as greater prejudice and more negative attitudes toward immigrants (Zarate et al., 2004).

Empirical evidence of this dissertation: In Paper 2, we investigated effects of a common identity on prosociality towards refugees in Germany. Following insight from RGCT, we considered the possibility that perceiving refugees as more similar to the self may not necessarily increase prosociality due to an activation of common in-group identity. Instead, it may possibly decrease prosociality due to increased perceived competition towards similar refugees. We measured perceived competition toward members of in- and out-groups on 12 different domains relevant in daily life (e.g., work, education, governmental support, access to public resources). Participants indicated their agreement to each of the 12 competition items on five-point Likert scales (1 = not at all, 5 = very much) that formed the basis for an average score on perceived competition. Against predictions based on RGCT, the analysis showed no main effect of perceived competition on prosociality towards the cultural out-group of refugees ($\beta = .01, z = 0.12, p = .905$).

With reference to the relation between inter-group competition and inter-group similarity, we further tested whether increased similarity due to a presentation of common group membership leads to increased perceived competition towards similar cultural out-groups. In line with previous research (Esses et al., 1998), we found a significant effect of similarity on perceived competition for similarity in terms of a common living environment (i.e., same city; $\beta = .07, z = 4.93, p < .001$) and common social status (i.e., student; $\beta = .23, z = 2.71, p < .005$). Participants perceived greater competition towards local refugees ($M = 3.15, SD = 0.78$) compared to non-local refugees ($M = 3.03, SD = .81$) as well as towards student refugees ($M = 3.27, SD = 0.77$) compared to non-student refugees ($M = 2.91, SD = 0.78$).

Consequently, we tested whether increased competition towards the (more similar) student refugee group might explain the unexpected finding that a shared student identity led to increased closeness but decreased prosociality towards refugees. However, controlling for this increased competition towards students (by adding competition as an additional variable in the analysis) did not account for the unexpected negative effect of common student identity on prosociality towards refugees (see results section, Paper 2). We additionally considered the perception of economic inequalities – e.g., in form of perceived income differences between the giver and receiver – to be a possible explanation of the effect. As perceived inequalities

between the giver and receiver are likely important for prosociality towards cultural out-groups, the next chapter will address economic and social inequalities as factors of prosociality.

3.2.4 Inequalities between Giver and Receiver

Perceived economic and social inequalities between givers and receivers can influence givers' prosociality. For instance, De Cremer and van Dijk (2005) demonstrated that individuals assigned to the role of a leader showed decreased prosociality by making higher allocations to the self than to non-leaders due to feelings of entitlement and superiority. However, economic and social inequalities between givers and receivers that are to the advantage of givers can also trigger moral concerns for fairness and (social) justice, which might increase prosociality towards out-groups (e.g., Fehr & Schmidt, 1999). There can be various inequalities between givers and receivers – e.g., in terms of economic status, social status, group status, power, or responsibility – that might affect givers' social decision making. These inequalities between individuals represent an interpersonal characteristic, as they depend on the interplay between the giver and the receiver. In the following chapter, examples for those interpersonal factors (i.e., income differences, givers' responsibility, receivers' vulnerability) will be presented and analyzed regarding their effect on prosociality.

3.2.4.1 Differences in Economic Status between Receiver and Giver

(Perceived) differences in economic status between the self and an out-group member can affect prosociality. For instance, a person belonging to an out-group that differs from the in-group in terms of economic success or economic security might receive more or less prosociality depending on these differences being to the advantage vs. disadvantage of the in-group. Intuitively, one would expect that when decision makers perceive others to be financially worse off compared to the self, they tend to be more prosocial. At the same time, they might be less prosocial if others are perceived to be financially better off compared to the self. This pattern can be explained by individuals' social preferences for equal outcomes as proposed in the model of inequality aversion (Fehr & Schmidt, 1999) introduced in Chapter 2. The model assumes that some individuals primarily opt for choices that produce equal outcomes. Focusing on the distribution of outcomes, decision makers compute differences in outcomes between themselves and others that reflect economic (in)equalities. Due to their preference for fairness, inequality averse individuals are expected to equalize economic

differences by being more (less) prosocial towards others who are perceived to be financially worse (better) off compared to themselves. In line with the model, it has been repeatedly shown that many people dislike unequal outcomes, showing increased prosociality towards others to avoid or reduce outcome-based inequality (e.g., Bolton and Ockenfels, 2000; Fehr and Schmidt, 1999; Tricomi et al., 2010). Changing the structure of the DG by increasing the receiver's endowment from 0 to an amount equal to the dictator's endowment, Korenok et al. (2012) directly tested for inequality aversion. They showed that the amount given by the dictators reduced from 30% to <12% of the dictator's endowment, as there was less need for inequality compensation. This finding supports the notion that individuals' preferences for equal outcomes is an important factor of prosociality. In a recent study, Sánchez-Rodríguez et al. (2019) manipulated the degree of economic inequality in a fictional society and asked participants to make allocation decisions towards anonymous persons belonging to the same income group as well as a wealthier and a poorer group. In a more unequal (vs. equal) context (i.e., large vs. small gap between the wealthiest and poorest), participants allocated significantly more to the poorer and less to the wealthier group. In line with the assumption of inequality aversion, it was concluded that participants sacrificed their own benefits to redistribute resources in a fairer way. As a potential explanation for these findings, the authors noted that participants in the high-inequality context perceived the low-income group as needier and might therefore be more willing to help them than in the low-inequality context (see next chapter).

Empirical evidence: Cross-cultural studies provide support for the assumption of inequality aversion by demonstrating that individuals show higher levels of prosociality towards national out-groups that are financially worse off compared to their own nation. Tanaka and Camerer (2016) demonstrated that differences in socio-economic status affect prosociality between ethnic groups within a nation (in Vietnam). The low-status minority (Khmer, e.g., lower income, relatively less educated, etc.) showed less prosociality towards members of the high-status majority (Vietnamese) and high-status minority (Chinese) out-groups compared to members of their ethnic in-group. In contrast, Vietnamese and Chinese participants only displayed in-group favoritism when matched with each other but showed more prosociality toward the Khmer group compared to their in-group. Thus, high-status ethnic groups decided more equitably and showed higher levels of prosociality towards low-status (compared to high-status) ethnic out-groups.

This effect of differences in economic status on prosociality was also supported across different nations. Dorrough and Glöckner (2016) expected that participants would show increased levels of prosociality towards interaction partners from nations that are in a comparably worse financial situation compared to their own country. In line with their predictions on inequality aversion, they found that the difference between sender and receiver countries' gross domestic product (GDP) increased allocations. Prosociality was increased towards national out-groups with a lower (vs. higher) economic status compared to their national in-group.

Empirical evidence of this dissertation: The results of the cross-national study in Paper 1 investigating levels of prosociality between four Latin American nations and the USA are in line with these findings. Following the approach of Dorrough and Glöckner (2016), cross-national differences in economic status can be determined based on the countries' GDP per capita⁵. Measuring the value of all goods and services of a given country within one year the GDP can serve as a proxy for the economic status of a country. Relative cross-national comparison is possible, since the GDP is defined by values per capita and common currency (i.e., international dollar). The analysis revealed an overall significant effect of GDP on prosociality towards national out-groups ($\beta = 0.10, z = 3.39, p < .005$), with participants from nations with a higher GDP showing significantly more prosociality towards national out-group members compared to participants from nations with a lower GDP. This effect was mainly driven by the US sample, as the effect of GDP on prosociality towards national out-groups ($\beta = 0.03, z = 0.89, p < .372$) was no longer significant when the analysis included only Latin American nations. A comparison of the nations' GDP showed that the Latin American nations including Chile ($GDP = \$13,571.92$), Peru ($GDP = \$6,141.43$), Colombia ($GDP = \$6,088.68$), and Venezuela ($GDP = \$10,568.10$) had a substantially lower GDP than the USA ($GDP = \$56,848.51$). Consequently, in this study, the USA represents a nation with a high economic status, whereas the Latin American nations (median $GDP = \$9,092.53$) have a comparably low economic status. Participants from the high economic status nation USA gave, on average, 5.38% more in the DG ($M = 45.00$ out of 100 points, $SD = 22.66$) compared to participants from the low economic status Latin American nations ($M = 39.62, SD = 24.74$). Differences are apparent in their concerns for fairness. Whereas 58.08% of the US participants choose an equal split, only 36.46% choose the fair outcome option in the DG. As

⁵ Values for GDP in 2015 (the year when the respective study was conducted) were obtained from the website www.statista.com, where GDP for each country is reported over the years. For instance, see for the USA, <https://www.statista.com/statistics/263601/gross-domestic-product-gdp-per-capita-in-the-united-states/>

described in Chapter 3.1.1, this difference in the equal split rate between the USA and Latin countries was particularly pronounced for the out-group interactions reported here. Whereas US Americans mainly follow an equal split norm (for both in- and out-group interactions), Latin Americans do so only in in-group interactions (see results section, Paper 1). This relatively stronger preference for fairness on part of the high-status country (in interactions with low-status countries) is in line with the idea of inequality aversion – i.e., individuals seek an egalitarian distribution of resources (Fehr & Schmidt, 1999).

This evidence refers to differences in economic status based on national level values (GDP). However, there is substantial variance in economic status of individuals within a nation. Also, individuals vary in their subjective perception of the economic status of national or cultural out-groups. In Paper 2, which investigated prosociality towards cultural out-groups (i.e., refugees) in Germany, we therefore decided to account for this variance by measuring subjective ratings of economic status. In an online pre-questionnaire (min. 12 hours before the lab study), we asked participants to indicate their beliefs about the monthly net income of different social out-groups including those cultural out-groups with which participants were later presented in the lab. At the end of the lab experiment, participants indicated their own net income. Ratings were assessed based on 21 categories ranging from 250 to 5,000 Euros. As a proxy for perceived differences in economic status, we calculated the differences in income between the self and the cultural refugee out-group members (own income minus perceived others' income). We found no support for the expected effect of perceived income differences on prosociality, as participants did not allocate more money to refugees whom they perceived to be financially worse off compared to themselves ($\beta = -0.03$, $z = -0.37$, $p = .710$).

We concluded that rather than perceived inequality in incomes, there must be other factors defining certain inequalities between German student givers and refugee receivers that influence prosociality outweighing the effect of inequality aversion. Following the above-mentioned note of Sánchez-Rodríguez et al. (2019), we considered that perceiving the other as financially worse off compared to the self is typically associated with perceiving the other as needier and more vulnerable. In Paper 3, we thus considered two further factors that result from (social) inequalities between the giver and receiver – the perceived vulnerability of the receiver and the (corresponding) responsibility of the giver – that might be more decisive for prosociality.

3.2.4.2 Vulnerability of the Receiver and Responsibility of the Giver

Perceiving others as particularly vulnerable and in need of support affects prosociality. The willingness to engage in prosocial behavior is typically increased towards vulnerable compared to non-vulnerable others (for empirical evidence, see below). This may be explained by increased responsibility to help vulnerable others, as the perception of others' vulnerability is the key foundation for moral responsibility (Goodin, 1986). Moral decision makers assume responsibility to protect vulnerable others whom they perceive to be dependent on their prosocial choices and behaviors. The assumption of responsibility to make prosocial choices represents an important antecedent of actual prosocial behavior towards (vulnerable) others (Schwartz, 1973). From the point of view of social justice, it is the majority group – the agent group – that possesses both the necessary resources required to help vulnerable groups in society and the corresponding responsibility to help them (Goodman, 2011). According to these theoretical assumptions, it can be expected that individuals show more prosociality towards more vulnerable (vs. less vulnerable) others, as they feel more (vs. less) responsibility to help vulnerable others. Even though we did not directly test for the effects of receivers' vulnerability and givers' responsibility, the results of Paper 2 can be interpreted in this way. In contrast to the typical pattern of in-group favoritism, we observed higher degrees of prosociality towards out-groups vs. the German student in-group. The cultural out-group of (student and non-student) refugees and the control group of social welfare recipients represent out-groups that might be perceived as socially vulnerable groups in society that are more in need of help than fellow (German) students. Following the theoretical reasoning above, perceiving the out-group as more vulnerable and/or perceived own responsibility to help might explain increased prosociality towards refugees.

Empirical evidence: In the literature, there is empirical evidence for the relationship between prosociality and both the perceived vulnerability of the receiver and the perceived responsibility of the giver.

It has been repeatedly demonstrated that individuals (even young children; Malti et al., 2016; Paulus, 2020) tend to act more prosocially towards others who are perceived to be vulnerable vs. not vulnerable (e.g., Fisher & Ma, 2014; Kappes et al., 2018; Piston, 2014). The effect of the others' vulnerability on prosociality was supported by the meta-analysis on DG giving (Engel, 2011). If participants knew that a receiver is needy or deserving (vs. not), only half as many dictators kept everything and more than 20% gave everything. In the cross-cultural context, a large-scale study on refugee helping points in the same direction (Bansak et

al., 2016). Including data on 15 European host countries, the authors showed that refugees and migrants who had severe vulnerabilities (vs. no vulnerabilities) received the most support of the public.

Furthermore, in the literature there is strong evidence for the relationship between prosociality and perceived responsibility of the giver. Various studies investigating this relationship – emphasizing different aspects of responsibility – agree in their finding that prosociality increases when individuals perceive a high degree of (moral) responsibility to help others (e.g., Amato et al., 1984; Brañas-Garza, 2007; Bruttel & Stolley, 2018; D'Antonio, 2014; Erlandsson et al., 2015; Yang et al., 2020). In a framing experiment, Brañas-Garza (2007) demonstrated the link between perceived vulnerability and responsibility and their joint effect on prosociality. In the framing condition, the sentence ‘Note that your recipient relies on you’ was added to the DG instructions. The additional sentence was supposed to increase the salience of the vulnerability of the receivers in terms of their powerlessness and their dependence on the dictator’s behavior. As a result of this framing, the moral costs attached to selfish behavior were enlarged and dictators made more prosocial decisions compared to the control condition without framing. The authors concluded that prosociality was increased due to the perception of increased vulnerability and the corresponding activation of the universal moral rule of helping.

Empirical evidence of this dissertation: In line with the insights reported above, the empirical results of Paper 3 provide support for the effect of the receivers’ vulnerability and the giver’s responsibility on prosociality. Paper 3 investigated prosociality during the world-wide COVID-19 pandemic that began during the work on this dissertation. In the first study of Paper 3, vulnerability was defined as the degree to which people were threatened by the COVID-19 virus, i.e., have a high risk of becoming severely ill or dying from the virus. Responsibility was defined as the degree to which participants felt responsible for helping others. Both variables were assessed using a 7-point Likert-scale from (1) ‘not at all’ to (7) ‘very much’. The analyses showed significant effects on prosociality for both factors – perceived givers’ responsibility to help and receivers’ vulnerability (see results section Study 1, Paper 3). When participants perceived the other as more (vs. less) vulnerable to the virus and when they felt more (vs. less) responsible for helping, they showed higher levels of prosociality. As both factors were shown to be substantially correlated, $r(199) = 0.36, p < .001$, we conducted additional analyses to test the robustness and independence of the two effects on prosociality. A full model including both factors simultaneously and additional

control variables revealed a significant effect of responsibility and a substantially reduced but still marginally significant effect of vulnerability on prosociality. An exploratory, multi-level mediation analysis revealed a significant indirect effect of perceived vulnerability on DG-giving via perceived responsibility for helping, indicating that 85% of the total effect of perceived vulnerability on DG giving is due to perceived responsibility for helping (see Paper 3, results section). Both effects were conceptually replicated in the second study of Paper 3. In contrast to Study 1, in which vulnerability was measured on the individual level, in Study 2 vulnerability was defined in terms of different receiver groups with varying vulnerability to COVID-19. Here, again, prosociality was positively affected by vulnerability and responsibility (see results section Study 2, Paper 3). Participants allocated 17% more towards the more vulnerable risk group ($M = 2.42$ out of 5 points, $SD = 1.58$) and 12.76% more to the infected group ($M = 2.18$, $SD = 1.55$) compared to the less vulnerable control group ($M = 1.54$, $SD = 1.33$). Furthermore, participants decided more prosocially, the more responsible they felt for helping the receiver ($\beta = 0.24$, $z = 7.19$, $p < .001$).

3.2.5 Stereotypes

An additional factor that has been shown to affect prosociality towards out-group members is how they are perceived regarding stereotypes. Stereotypes represent the traits that are viewed as characteristic of groups and their members and that differentiate groups from each other. Stereotypes generally provide information about how typical group members think, feel, and behave (e.g., Fiske & Pavelchak, 1986; Gilbert & Hixon, 1991; Macrae et al., 1995). Among the three psychological components of inter-group bias, stereotypes represent the cognitive component next to the affective (emotional prejudices) and behavioral (discrimination) component. Representing effective tools to facilitate information processing and response generation, stereotypes are the traits that automatically come to mind when thinking about groups (e.g., Bodenhausen & Lichtenstein, 1987; Fiske & Neuberg, 1990). This allows individuals to make predictions about group members' behavior (D. Hamilton et al., 1990) and adapt their own judgments, decisions, and behaviors accordingly (e.g., Wheeler & Petty, 2001). Stereotype content models (SCM, Fiske et al., 2002; ABC model, Koch et al., 2016) propose that stereotypes vary on the dimensions of warmth/communion and competence/agency. One model additionally assumes a third dimension – conservative/progressive beliefs (Koch et al., 2016). Whereas the warmth/communion dimension is based on whether the out-group's intentions are perceived as friendly, the

competence/agency dimension is based on whether the out-group is perceived as being able to put their intentions into practice (Fiske et al., 2002). The additional belief dimension describes whether the out-group is perceived to hold conservative or progressive values (Koch et al., 2016). The evaluation of social groups on stereotype dimensions can be depicted in a multidimensional space that allows for a direct comparison between social groups. Many out-groups receive ambivalent stereotypes comprising a positive evaluation on one stereotype dimension and a negative evaluation on the other. Cross-cultural research suggests that stereotype dimensions are universal, as perceived warmth and competence were shown to reliably differentiate the perception of societal group stereotypes in different nations (Cuddy et al., 2008, 2009). Furthermore, it has been found that there are culturally shared stereotypes about national out-groups with people from different nations having shared national-character stereotypes of typical members of their own nation and typical members of other nations (e.g., Cuddy et al., 2009; McCrae & Terracciano, 2006). How (national and cultural) out-group members are perceived on stereotype dimensions is crucial for emotions and behavior displayed towards them. Extending their SCM, Cuddy and colleagues (2008) additionally defined a BIAS map (see Figure 4) to consider the behavioral outcomes of evaluations on the stereotype dimension of warmth and competence for inter-group interactions. Perceived warmth is considered to be of primary importance as it is strongly associated with the out-group's intentions (e.g., whether the out-group is expected to show prosocial behavior toward the in-group) and is assumed to predict active behavior towards out-groups. In the model, out-groups perceived as warm elicit active facilitation (i.e., help, prosocial behavior), whereas those perceived as cold elicit active harm (i.e., attack, antisocial behavior). Perceived competence, however, is expected to predict more passive behaviors, with out-groups perceived as competent eliciting passive facilitation (i.e., convenient cooperation) and out-groups perceived as lacking competence eliciting passive harm (i.e., ignoring; Cuddy et al., 2009). Regarding the overarching objective of this dissertation to define factors that influence prosociality in inter-group interactions, special importance is to be drawn to the perception of out-group members on the warmth dimension. Following predictions of the SCM and the BIAS map, prosociality should be increased towards out-groups that are perceived as warm (vs. cold).

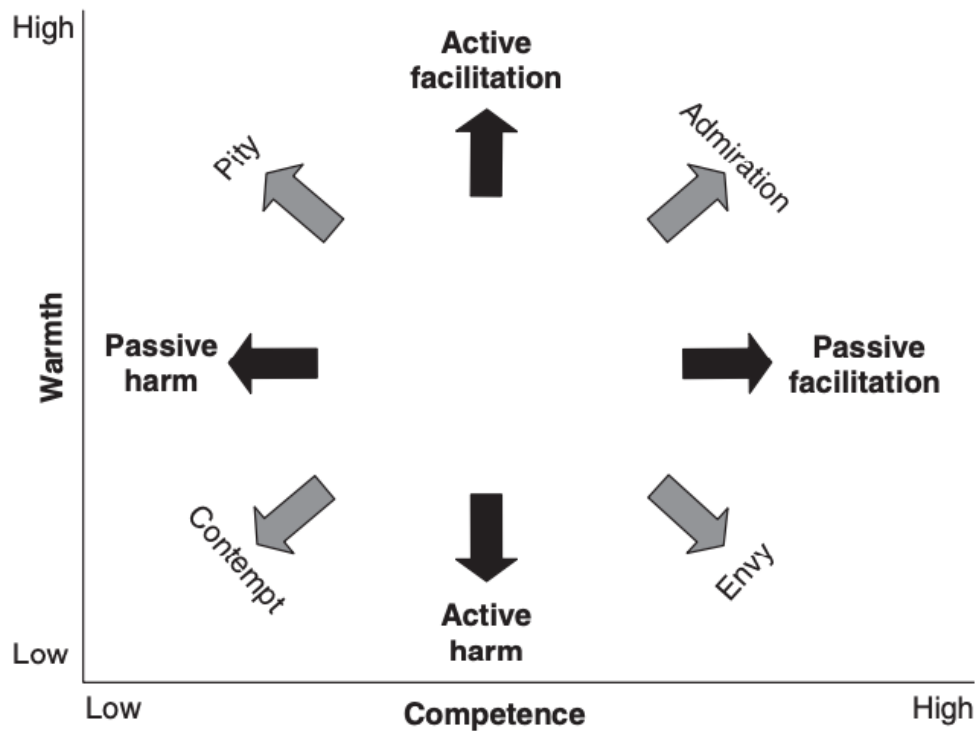


Figure 4: BIAS map taken from Cuddy et al. (2008)

Empirical evidence: Research on the behavioral consequences of the stereotypical perception of warmth supports the general predictions of the SCM and BIAS map. In various studies, it could be demonstrated that individuals show higher levels of prosociality towards out-group members perceived as warm. At the same time, participants showed significantly less prosociality towards out-groups perceived as cold, with those out-groups receiving rather antisocial behaviors (e.g., Becker & Asbrock, 2012; Cuddy et al., 2008). Investigating prosociality based on monetary allocations in DGs, Jenkins and colleagues (2018) showed that, for a wide variety of social groups (including national groups), individuals allocated more money towards out-groups they perceived to be warmer (and less competent) compared to those perceived as colder (and more competent).

Research on stereotypes often includes the social out-group of immigrants. In their original analyses, Fiske et al. (2002) found that individuals hold stable stereotypes of immigrants, perceiving them consistently as rather low in warmth and competence. More recent studies focusing on the German context during the ‘refugee crisis’ showed diverging results. Whereas some studies showed that immigrants and refugees were stereotyped as low in warmth and competence in line with Fiske et al. (2002), other studies found that immigrants were perceived as high in warmth and moderate in competence (Bye, 2020;

Froehlich & Schulte: 2019; Kotzur et al., 2017, Wyszynski et al., 2020). This indicates that stereotypes for specific social out-groups are not fixed but vary across individuals and contexts. A recent study on attitudes and behaviors towards immigrants in Norway found a correlation between individuals' perception of immigrants on the warmth dimension and prosocial behavior intentions towards immigrants (Bye, 2020). Perception of warmth was positively correlated with facilitation behavior in the form of high prosociality (e.g., participating in voluntary work to help asylum seekers) and negatively correlated with harmful behavior (e.g., participating in protests to stop the establishment of a refugee center) towards immigrants.

Empirical evidence of this dissertation: In Paper 2, we tested the predictions of the SCM and BIAS Map (Cuddy et al., 2008) that individuals' prosociality toward out-groups increases with perceived warmth for the cultural out-group of refugees. Perceived warmth was measured based on the stereotype dimensions of warmth/communion derived from the ABC model of stereotype content about social groups (Koch et al., 2016). Participants evaluated the refugee out-groups on a scale ranging from 0 (untrustworthy /dishonest/ repellent/ threatening/ cold/ egoistic) to 10 (trustworthy/ sincere/ likable/ benevolent/ warm/ altruistic). Additionally, we assessed the other two dimensions of agency/socioeconomic success (powerless-powerful, poor-wealthy, low-status-high-status, dominated-dominating, unconfident-confident, and unassertive-competitive) and conservative-progressive beliefs (traditional-modern, religious-science-oriented, conventional-alternative, and conservative-liberal). In line with the SCM and BIAS map, we found a significant positive effect of perceived warmth on prosociality towards refugees ($\beta = .21, z = 3.24, p < 0.005$), as participants gave, on average, 5.15% more when they perceived the refugee receiver to be one SD/unit warmer. The warmer refugees were perceived to be, the more allocation they received in the DG. Interestingly, this effect of perceived warmth on prosociality only holds for both refugee receiver groups (student and non-student refugees) but was not found for the German out-groups (see results section, Paper 2).

When examining the other two stereotype dimensions on prosociality, we found no effect of perceived competence/agency on prosociality for all receiver groups (all $p > 0.566$). For progressiveness, there was only a marginally significant effect on prosociality for the receiver group of non-student refugees ($\beta = .10, z = 1.70, p < .1$), whereas there was no such effect for any other receiver group. Our results indicate that the stereotype perception of

warmth (and progressiveness) might be particularly relevant to increase prosociality towards the cultural out-group of refugees.

3.3 External Context

In the previous chapters, it was shown that prosociality is affected by group membership and perceived characteristics of the receiver. In addition to the question of who the other person is or what the person is like, the external context appears to be important for social decision making. Whether a person decides to behave prosocially or not might be affected by external events (e.g., external shocks).

As mentioned above, the world was affected by the COVID-19 pandemic during the work on this dissertation. This continuing pandemic represents the most serious global crisis the world faced since World War II. It affects all humans in all countries across the globe and has immense psychological, social, economic, and health related consequences for most individuals (World Health Organization, 2022). There is no doubt that this pandemic is an external shock that represents a significant, unexpected change in an exogenous factor (i.e., global stability) that affects endogenous variables (e.g., physical and mental health). Accordingly, this pandemic provides the opportunity to investigate the role of external circumstances on prosociality. More specifically, it allows for testing whether or not individual levels of prosociality are stable over time and in the presence of external changes (e.g., external shocks). There are different theoretical approaches that come to diverging predictions stating that prosociality is either a fixed construct that is stable over time or a dynamic construct that varies with the external context.

Social Preference Models assume that individuals' preferences for prosociality are relatively stable over time and contexts (e.g., Murphy et al., 2011, Murphy, & Ackermann, 2014). An individuals' SVO is defined as a stable preference for certain patterns of outcomes for oneself and others (McClintock, 1978; van Lange et al., 1997). Based on that definition, SVO can be regarded as a dispositional trait measure for prosociality that remains relatively unaffected by time and external circumstances. Following the stability argument, we assume that general levels of prosociality should not change during external shocks such as the COVID-19 pandemic.

Other theoretical approaches would expect quite the opposite, with some approaches assuming an increase and others assuming a decrease in prosociality during crises (i.e.,

external shocks). Comprehensive observations of the development of human societies showed that evolutionarily successful societies reacted to crises with increased prosociality (e.g., working together and cooperating; e.g., Diamond, 2005). Increased prosociality in response to a crisis can be attributed to the common-enemy effect, stating that the interaction with a common enemy in the form of nature, an individual, or a group makes individuals more willing to cooperate (e.g., De Jaegher, 2021). Fighting the crisis – the common enemy – represents a common goal among individuals that fosters cooperation. Evidence for this argument can be found, for instance, in the third and last phase of the Robber’s Cave experiment (Sherif et al., 1961) introduced in Chapter 3.2.3. The implementation of superordinate goals – goals that require more than one group to be achieved – reduced conflict and increased cooperation between the former rival groups. Based on the common enemy effect and the superordinate goal to overcome the crisis, it can be expected that a crisis leads to increased prosociality towards others.

However, when the crisis (e.g., external shock) is not considered a common enemy that must be overcome with joint forces, it might instead trigger the perception of a lack of resources, which subsequently increases the perceived competition for those limited resources (e.g., Dietz, 2003; Hardin, 1968). According to RGCT (e.g., Jackson, 1993; Sherif, 1966), perceived competition for limited resources can lead to increased conflict and antisocial behavior (towards out-groups), as shown in the second phase of the Robber’s Cave experiment (see Chapter 3.2.3 for the effect of perceived competition on prosociality). Based on RGCT and the fact that crises are typically associated with limited availability of resources, it can be expected that a crisis may lead to a decrease in prosociality towards others.

Empirical evidence: In the literature, empirical evidence can be found for all theoretical approaches presented above, which predict different effects of a crisis (no effect, increase, decrease) on prosociality.

In line with the stability argument of social preferences (e.g., Murphy et al., 2011) substantial correlations of prosociality measures between different time intervals (short and long periods of time) and context have been reported in the literature.

Using a short time-interval of one week, Murphy et al. (2011) showed a very high retest reliability of the SVO measure ($r = .92$), indicating that social preferences are stable over time. Another study using the same time interval but a more diverse online sample, however, showed a lower test-retest correlation of only $r = .79$ (Höglinger & Wehrli 2017). Temporal

stability of social preferences could also be demonstrated over a longer time period. Over a period of five months, participants repeatedly indicated cooperation preferences in a series of three identically designed public good experiments (Volk et al., 2012). Participants showed very stable cooperation preferences at the aggregate level, and, to a smaller degree, at the individual level in all three experiments. A long-term study showed significant positive correlations between individuals' levels of prosociality at different times and contexts (Carlsson et al., 2014). Using the same non-student sample in rural Vietnam, the authors measured prosociality in terms of voluntary monetary or labor contributions to a public good (e.g., construction of a bridge in the middle of a village) in different contexts (e.g., naturally occurring events, field experiment) and at four different points in time within six years. Despite the long periods of time and the contextual variations, contributions were substantially correlated, demonstrating that (pro)social preferences are fairly stable over long periods of time and diverse contexts. Similarly, in a recently published study, Böhm et al. (2021) showed stable social preferences measured by the SVO Slider using time intervals of one week and three months.

However, empirical evidence on prosociality during acute crises shows a different picture, as levels of prosociality have been shown to be significantly affected by crisis. There are studies that document increases in prosociality as a response to a crisis – for instance, following terrorist attacks (e.g., the March 11th Madrid Bombings; Páez et al., 2007) and natural disasters (e.g., hurricane Katrina in Louisiana; Rodriguez et al., 2006). In a comprehensive meta-analysis, Bauer and colleagues (2016) investigated the effect of war exposure on cooperation within 16 studies including wars in different nations (e.g., Sierra Leone, Uganda) and points in time before and during the war. The authors defined a summary index of cooperation based on comparable survey measures (e.g., trust) and experimental measures (e.g., economic games) that were used in the different studies. The meta-analysis revealed a moderate, positive, significant average effect of war exposure on cooperation, showing that general prosociality increases during crises.

Other studies report a decrease in prosociality as a response to crisis by prompting conflict and antisocial behavior. In contrast to the results by Rodriguez et al. (2006) showing that prosociality increased after hurricane Katrina, Brancati (2007) found quite the opposite effect. Examining the impact of earthquakes in 185 countries over 27 years, the author demonstrated a positive effect of earthquakes on intrastate conflict measured in terms of antisocial behavior – for example, the number of violent behaviors (e.g., physical assaults) – as an indirect measure of prosociality. The author argued that this negative effect of

earthquakes on prosociality was due to earthquakes producing scarcities in basic resources (e.g., food, water, and housing), as the effect was particularly enhanced in developing countries where the competition for scarce resources is most intense. With regard to the climate crisis – the main challenge of our generation – a meta-analysis found a similar effect on conflict. Hsiang et al. (2013) included data from 60 studies across all major regions of the world that repeatedly (e.g., daily, weekly, monthly, annually) collected data on climate (e.g., temperature, rain) and conflict behavior (e.g., interpersonal and inter-group violence, crime). The authors found that the effect of climate change on conflict was highly significant, with each 1-SD change in climate toward warmer temperatures or more extreme rainfall increasing the frequency of interpersonal violence by 4% and inter-group conflict by 14%.

Empirical evidence of this dissertation: In Paper 3, we examined the effect of the COVID-19 pandemic on prosociality to clarify whether prosociality is sensitive to external shocks or rather stable over time. In line with insights from research presented above, but contrary to the assumption of stable social preferences (Murphy et al., 2011), we expected individuals' degree of prosociality to differ before vs. during the COVID-19 pandemic. To test this undirected hypothesis, we compared pre-pandemic baseline levels of participants' SVO (SVO1) with the same measure collected during the early stage of the pandemic (SVO2). See Chapter 4.1.2 for a detailed description of the SVO measure. In line with our expectations, we found that participants were significantly less prosocial prior to (SVO1: $M = 25.32$; $SD = 13.66$) than during (SVO2: $M = 27.67$; $SD = 13.13$) the pandemic ($p < .001$), resulting in a 9.28% increase of the SVO angle. Similarly, the SVO distributions before and during the crisis significantly differed from each other (see Paper 3 results section). Comparing the correlation of SVO before vs. during the crisis, we found this correlation to be substantially smaller ($r = 0.73$) compared to previous studies (Murphy et al., 2011, $r = .92$). Note, however, that Murphy et al. (2011) used a shorter time-interval of only one week.

Overall, the results indicate a substantial increase in general prosociality during vs. before the crisis on the aggregate level. On the individual level, we observed only few changes in SVO types during vs. prior to the crisis. Only 6% (12 out of 200) of participants changed SVO type, with 11 participants changing the category from individualist to prosocial and one from individualist to competitor. The great majority of participants were classified as prosocial at both points in time. Hence, changes in prosociality appear to be mainly gradual.

4 Methodology: a Critical Reflection

This chapter on methodology provides a critical reflection on the implemented measures for prosociality (4.1) and general methodological features (4.2) such as the use of monetary incentives, no deception, student samples, and open science that are particularly important for the empirical studies of this dissertation. The aim of this chapter is not to provide a complete description of the method applied in the empirical studies. A detailed description of the method (e.g., including design, sample, materials) can be found in the method section in the respective Papers 1-3 (see Chapter 5).

4.1 Measures for Prosociality

In this dissertation, the allocations in the DG and the SVO angle represent the dependent variables measuring prosociality. In the following chapter, both measures will be described and explained in detail and critically examined based on their psychometric properties. Being the core dependent variable in each of the empirical studies, special focus is placed on the evaluation of the DG, which will be critically evaluated regarding its advantages and disadvantages.

4.1.1 The Dictator Game

The DG is a frequently used experimental economic game to measure prosociality (Engel, 2011). As described earlier (see Chapter 2), the structure of the game is simple. The standard DG is an incentivized one-shot decision with real monetary consequences for two mutually anonymous players. One player is randomly assigned the role of the dictator whereas the other player is assigned the role of the receiver. The dictator is endowed with \$10 and determines how to split this endowment between himself/herself and the receiver. The receiver, by contrast, does not receive an initial endowment but instead receives what the dictator transferred. Accordingly, the receiver cannot influence the final payoff, so that his/her role is entirely passive (Forsythe et al., 1994). Due to its non-strategic nature, the DG is not really a game but rather an allocation decision task. Thus, strictly speaking, the DG is a misnomer (Zizzo, 2013). As mentioned in Chapter 2, the standard economic assumption expecting dictators to give nothing and keep the whole endowment for themselves has repeatedly been proven wrong. In his meta-analysis, Engel (2011) showed that dictators give, on average, 28.35% of their endowment to receivers. Looking at the overall distributions of

allocations, 36.11% of the participants give nothing, 5.44% give everything to the receiver, and 16.74% choose an equal split.

This is in line with the results of the empirical studies of this dissertation. Examining the DG allocation rates in the experiments in Paper 1-3 in Table 1, we even observe substantially more DG giving compared to the average evidence of the meta-analysis by Engel (2011).

Table 1: DG giving in percent for all studies included in the empirical part of this dissertation

	Paper 1	Paper 2	Paper 3, Study 1	Paper 3, Study 2
Average giving	40.20%	33.60%	36,59%	40.95%
0% giving	4.54%	26.28%	27.50%	20.38%
50% giving	38.80%	21.68%	- ^a	- ^a
100% giving	4.07%	13.78%	8.36%	9.63%

^a In the DG in Paper 3, an equal split (50 % giving) was not possible, since participants received an endowment of 5 points, which they could split between themselves and the receiver in increments of one point (0,1,2,3,4,5).

The DG has become immensely popular among experimentalists due to its several advantages. The DG, like other economic games, is typically conducted in the lab and allows for anonymity between participants, constant examination conditions for all participants, and randomization of participants between the control and treatment condition (e.g., Franzen & Pointner, 2013). Consequently, experimenters have more control over the experimental setting in contrast to field studies or other experiments with more direct interactions. This ensures the internal validity (i.e., the degree to which results are attributable to the independent variable) of the DG. One major advantage compared to questionnaire studies is that the DG assesses direct behavior that has real consequences, since participants' payments are (typically) dependent on their decisions made during the experiment. Due to its simple structure, it is also easier to interpret compared to more complex designs. It is also easily comprehensible to participants. To ensure understanding of the DG instructions, comprehension questions can be used. For instance, in the cross-national study of this dissertation, participants had to correctly answer four comprehension questions concerning the structure of the game before playing the DG. The easy comprehensibility makes the DG particularly useful for cross-national studies that typically face greater linguistic and cultural

barriers.

However, experiments often deviate from the standard DG described above. To address limited financial resources, limited laboratory capacities, a specific research question, or further practical constraints, experimenters often adjust the standard protocol – for instance, by changing the incentive structure. Adjustments in incentives must be thoroughly evaluated, as they may affect giving behavior and reduce the validity of the measure (e.g., Walkowitz, 2021). In all empirical studies of this dissertation, participants played repeated one-shot DGs as they allocated money to multiple receivers belonging to different groups. Due to financial limitations and Toluna’s average payment (the online panel provider Toluna that realized the recruitment of participants for the population-representative samples), the endowments between the studies differed. Participants received an endowment of 1.00 USD (100 points) in Paper 1 and 2.00€ (200 points) in Paper 2 as well as 5.00€ (5 points, study 1) and 3.00€ (5 points, study 2) in Paper 3 from which they could give the receiver any amount in increments of 1 point (including 0 points). Instead of paying out each decision, participants were informed that one allocation decision would be randomly selected and paid out at the end of the study. In Paper 1, participants were additionally informed that this could be one decision made by either themselves in the role of the dictator or another participant in the role of the receiver. This procedure represents a variant of the ‘strategy method’ (Selten, 1967). The strategy method is as an alternative to the direct response method, in which all decisions are relevant for payment and/or the further course of the experiment. Originally developed to assess how much participants would like to contribute to a public good dependent on how much others contribute, participants make conditional decisions for every possible situation (Selten, 1967). This strategy is an economical method for collecting data in large samples, as one obtains multiple observations per participant. The multiple DG design could be criticized, as past research showed sequence effects with previous allocation decisions affecting current decisions (see, for example, the phenomena of moral cleaning and moral self-licensing, Brañas-Garza et al., 2013). However, using the strategy method is an effective way to neutralize sequence effects, as each decision should be regarded as the only decision being made. Empirical evidence supports the validity of the strategy method in economic games, showing that allocations do not differ between the strategy method and the direct response method (e.g., Brandts & Charness, 2000; Cason & Mui, 1998; Fischbacher et al., 2012). However, results are mixed regarding role uncertainty (i.e., participants are informed that a random mechanism will determine which role, dictator or receiver, will be implemented and relevant for their payment). Whereas some studies (e.g., Engelmann & Strobel, 2004) suggest

that role uncertainty in the DG has no effect on results, others (e.g., Iriberry & Rey-Biel, 2011) found increased prosociality under role uncertainty. Thus, the research design in Paper 1 can be criticized for the use of role uncertainty. The fact that participants knew that they can have both roles (active dictator vs. passive receiver) might have activated reciprocity concerns that should be precluded in DGs (e.g., Büchner et al., 2007).

Generally, it has been shown that the DG is rather sensitive to small changes in the experimental design (e.g., the incentive structure). When major changes in the structure of the game are made – for instance, when participants must earn their endowment (Cherry et al., 2002) or can take their partner's money (Bardsley, 2008) – prosociality is reduced or even reversed. Still, the fact that the DG is sensitive to contextual variations in the design is not necessarily detrimental to the internal validity as long as those contextual conditions can be defined and controlled for. For instance, knowing that a repetition of DGs affects giving (Engel, 2011), we presented the different receivers (e.g., with different national backgrounds) to participants in randomized order to control for sequence effects. Furthermore, the order could be added as a control variable when assessing the predictive value of a predictor (e.g., perceived closeness) on DG giving. Adjustments to the DG design can be important to learn about context factors and make the experimental environments more realistic. However, researchers must balance internal and external validity (see also Chapter 6.3 for a discussion).

Further criticism of the DG concerns demand effects. Cognitive demand effects refer to participants' capacity to identify the task at hand (e.g., regarding hypotheses) by employing cues about what constitutes appropriate behavior (e.g., they feel that the DG is about giving) and behave accordingly. In addition, social demand effects reflect the perceived social pressure that the experimenter puts (explicitly or implicitly) on participants through instructions and cues that leads participants to form beliefs about the experimenter's objectives and show congruent behavior (Zizzo, 2013). Similarly, participants might be generous in the DG for reasons of social desirability, as giving is generally a socially appreciated behavior, especially in the eyes of experimenters that typically aim at defining boundary conditions to increase prosociality.

To rule out the possibility that high DG allocations can be explained by experimenter demand effects, a so-called 'double-blind' DG procedure has been developed (e.g., Eckel & Grossman, 1996). Adding anonymity between dictators and experimenters to the more common anonymity between dictators and receivers, dictators need not reveal their allocation decisions to the experimenter. Interestingly, the meta-analysis by Engel (2011) showed that

using double-blind protocols has no significant effect on giving in one-shot DGs. Nevertheless, we aimed at ensuring anonymity in the empirical studies of this dissertation between both dictators and receivers as well as dictators and experimenters. In the online studies (Paper 1 and 3), anonymity could be guaranteed completely, since there was no interaction at all between experimenter and participants. In the lab study (Paper 2), we ensured anonymity regarding DG giving by informing participants that 1) they would be paid outside the lab by a student assistant that was not involved in the study and that 2) their payoff from different tasks was accumulated in the end, as our DG study was part of a battery of independent studies. Ensuring anonymity can certainly not entirely eliminate demand effects in the DG. Note that criticism regarding demand effects does not only refer to the DG. See for example Greenwood (1982) for a philosophical critique on the artificiality of the traditional laboratory experiments in social psychology.

In relation to the frequent use of the DG, studies that systematically investigate its psychometric properties are rather rare, as there are only few studies that report values for the DG's reliability and validity. Reliability refers to the degree to which results from a measure (e.g., DG allocations) are stable and consistent and can be assessed in different ways (e.g., internal consistency, test-retest reliability; Institute of Medicine, IOM, 2015). Brocklebank et al. (2011) reported high internal consistency (Cronbach's $\alpha = .94$) for variants of the DG (e.g., different dichotomous choices) and a high test-retest reliability across a two-week interval ($r = .84$). Baumert et al. (2014) also demonstrated a high internal consistency ($\alpha = .94$) for three successive one-shot DGs with three different anonymous participants and a lower stability indicated by a retest correlation of $r = .63$ across a six-week time interval. This evidence suggests that the DG can be considered a relatively reliable measure. Validity is defined as the degree to which evidence and theory support the interpretations of results of the measure (e.g., DG allocations) for proposed uses of the measure (e.g., measure for prosociality, IOM, 2015). One form of validity is construct validity, which determines the degree to which individual scores on a measure (e.g., DG giving) correlate with the theoretical concept the test is designed to measure (e.g., prosociality). Convergent validity, a subtype of construct validity, provides evidence that scores on a measure correlate relatively highly with scores on theoretically similar measures (IOM, 2015). Correlations with related constructs should be higher than with unrelated constructs. The DG's convergent validity can be determined with regard to SVO measures that represent similar and typically also incentivized measures for prosociality. Regarding SVO types, Baumert et al. (2014) showed that DG giving correlates positively with cooperative value orientation ($r = .53$) and negatively with individualistic

value orientation ($r = -.39$). Regarding the continuous SVO angle, a significant positive correlation between DG giving and SVO angle ($r = 0.42$) has been demonstrated (Höglinger & Wehrli, 2017), indicating that both measures assess the same underlying construct (of prosociality).

In two of the empirical studies of this dissertation, we also administer the SVO Slider and the DG within the same sample, allowing for a test of the DG's convergent validity. In both Paper 1 ($r = 0.20$) and Paper 3 (study1, $r = 0.32$), we found a significant but substantially smaller correlation between DG giving and the SVO Slider compared to Höglinger and Wehrli (2017). However, this is not surprising, as we only presented the SVO Slider in its standard (context-free) form, whereas we put the DG into a specific context – i.e., participants allocated money to receivers of specific groups based on nationality (Paper 1) and varying degrees of vulnerability to COVID-19 (Paper 3).

The DG's convergent validity can further be assessed regarding self-reported measures of (prosocial) personality traits. DG giving has been shown to be significantly correlated with the agreeableness dimension (e.g., morality, kindness, cooperation, modesty) of the Big Five model (e.g., Ben-Ner et al., 2004). Hilbig and colleagues (2013) found that the honesty-humility trait (i.e., the tendency to be fair and honest towards others, Ashton & Lee, 2007) is more predictive for DG giving than agreeableness. Using the HEXACO personality inventory – which distinguishes between honesty-humility and agreeableness – the authors showed that it is primarily the honesty-humility dimension that is associated with DG giving (active prosociality), whereas agreeableness was linked to non-retaliation in UG (reactive prosociality). A review supported the finding reporting sample weighted average correlations between honesty-humility and DG giving (or contributions to public goods) of $r = .24$, whereas they fell to $r = .13$ for HEXACO agreeableness (Zhao & Smillie, 2015).

Discriminant validity, the other subtype of construct validity, provides evidence that scores on a measure correlate poorly with scores on theoretically dissimilar measures (IOM, 2015). Regarding the above-mentioned problem of demand effects, it is particularly important to show that a measure for social desirability that theoretically should not be related to prosociality is, in fact, not related to the DG. In support of the DG's discriminant validity, it has been demonstrated that the DG was not associated with self-report measures of social desirability. Both facets of the Balanced Inventory of Desirable Responding, namely, self-deception ($r = -.07$; 'My first impression always turn out to be right') and other-deception ($r = -.08$; 'I always pick my litter up off the street') were shown to be poorly correlated with DG

giving (Baumert et al., 2014).⁶

Evidence for the DG's criterion validity is somewhat more inconclusive. Criterion validity is defined as the degree to which the measure's score (e.g., DG giving) correlates with other measurable, reliable, and relevant variables (i.e., criterion) believed to measure the same construct (e.g., prosociality; IOM, 2015). As behavioral criteria, different forms of prosocial behavior can be assessed based on self-reports (e.g., annual donations to charity or volunteer work) or observations in the field (e.g., helping confederate, making donations). Studies using donations as behavioral criterion reported significant correlations between DG giving and donations ranging from $r = .25$ to $r = .40$ (e.g., Benz & Meier, 2008; Kolstad & Lindkvist, 2013). However, evidence of lab-field studies is rather mixed. Whereas some studies report a significant positive association (e.g., Baumert et al., 2014; Benz & Meier, 2008; Barr & Zeitlin, 2010; Carpenter & Myers, 2010; Franzen & Pointer, 2013; Kolstad & Lindkvist, 2012) between prosociality in the field and DG giving in the lab, others report no association (Markus & Potgieter, 2015; Gurven & Winking, 2008; Lagarde & Blaauw, 2014) or mixed evidence (Baumert et al., 2014; Carpenter & Myers, 2010). This raises the general question of whether prosocial DG behavior in the lab can be generalized to prosocial forms of behavior outside the lab (i.e., external validity). See Chapter 6.3 for a discussion on the external validity of the DG.

4.1.2 Social Value Orientation Slider

The SVO Slider (Murphy et al., 2011) measures individuals' SVO, which represents a frequently used trait measure for prosociality towards others (e.g., Bakker & Dijkstra, 2021; Murphy & Ackermann, 2014). As introduced in Chapter 2, the construct of SVO is defined as individuals' preference for allocating resources between oneself and another person (Liebrand & McClintock, 1988). The items of the SVO Slider are resource allocation choices over a well-defined continuum of joint payoffs that have the structure of a DG. For each item, individuals choose one out of nine possible payoff combinations for themselves and another person that is typically an anonymous participant in the same study. The short version of the SVO Slider that was used in Paper 1 consists of six primary items. The long version that was applied in Paper 3 additionally contains nine secondary items. Figure 5 (left) shows the six primary SVO Slider items as seen by the participants in Paper 1. For each item, participants

⁶ It should be noted, however, that a recent study criticized the use of social desirability scales in general and questioned their validity, as they clearly measure neither bias nor substantive traits (Lanz et al., 2021).

choose a self/other allocation combination resulting in a value X between 50 and 100 for themselves and the other person. The six primary items were derived from the six lines in the self/other allocation plane depicted in Figure 5 (right). These lines interconnect the four points corresponding to the four most prominent types of SVO (i.e., altruistic, prosocial, individualistic, and competitive) introduced in Chapter 2. The choices for each item can be scored to a single index of an individuals' SVO. This SVO° angle is computed as follows:

$$SVO^\circ = \arctan \left(\frac{(\bar{A}_o - 50)}{(\bar{A}_s - 50)} \right)$$

The mean allocations for the self (\bar{A}_s) and the other person (\bar{A}_o) are computed. 50 is then subtracted from each of these means to shift the base of the resulting angle to the center of the circle (50, 50). Subsequently, the inverse tangent of the ratio between these means is calculated. The resulting SVO angle represents a continuous measure ranging between -16.26 and 61.39, with higher scores indicating a greater prosocial preference (Murphy et al., 2011).

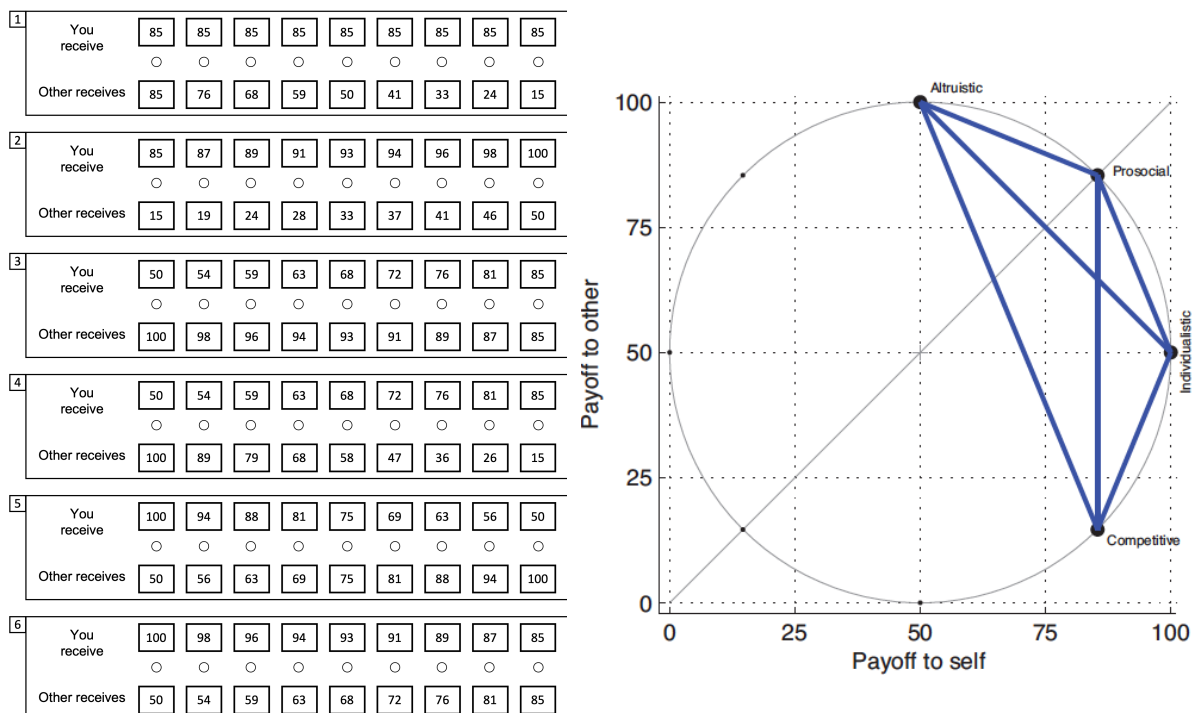


Figure 5: The six primary SVO Slider items depicted in the self/other allocation plane (right, figure adapted from Murphy et al., 2011) and as shown to participants (left).

Moreover, an individual's SVO Slider angle can be transformed into one of four corresponding SVO types. Depending on their SVO angle, individuals can be classified as individualists ($-12.04 < \text{SVO} < 22.45$), with a perfectly consistent individualist having an angle between -7.82° and 7.82° , or as competitors ($\text{SVO} < -12.04^\circ$), with a perfectly consistent competitor having an angle of -16.26° . Individuals can be further categorized as prosocials ($22.45^\circ < \text{SVO} < 57.15^\circ$) or altruists ($\text{SVO} > 57.15^\circ$), with an angle of 61.39° indicating perfect altruism. Murphy et al. (2011) showed that the majority of participants were classified as the prosocial type (59 %), followed by the individualistic type (35%). A small remainder of 3-4% consists of competitive or unclassifiable types. This is in line with the results of the empirical studies of this dissertation shown in Table 2. Again, as in the DG, participants decided more prosocially compared to Murphy et al. (2011).

Table 2: The percentage of participants assigned to the different SVO types and means and SDs for the SVO angle

	Paper 1	Paper 3, Study 1, T1	Paper 3, Study 1, T2
SVO types			
prosocial	70%	65%	71%
individualistic	28%	34%	28%
competitive	2%	1%	1%
altruistic	-	-	-
SVO angle (M, SD)	26.82 (14.25)	25.33 (13.66)	27.67 (13.12)

Note that the prosocial category can be further divided into two prosocial subtypes based on the additional responses of the nine secondary SVO Slider items. These additional items are designed to disentangle prosocial individuals who are inequality tolerant and strive to maximize joint gain ($37.09^\circ < \text{SVO} < 52.91^\circ$) from prosocial individuals who are motivated to minimize inequality by making allocations on (or very near) the 45° line representing perfectly equal allocations (see Figure 5). Hence, the additional items allow for detecting more nuanced motivations behind distributional preferences. However, for the purpose of this dissertation, the primary six SVO Slider items are sufficient, as we are less interested in detecting the differences in individuals' motivations than in the degree of prosociality that individuals show towards others.

In addition to its comprehensibility, applicability, and the possibility to check for transitivity, one major advantage of the SVO Slider (compared to alternative SVO measures) is that it yields a high-resolution output. Aside from the capacity to define SVO types, the SVO Slider primarily produces continuous data. This facilitates comparison and the detection of inter and intra-individual differences compared to mere categorical SVO data that ignores a substantial amount of information (Greiff et al., 2018; Murphy et al., 2011).

Validating the psychometric properties of the SVO Slider, Murphy and colleagues (2011) reported good values for reliability and validity compared to two other well-established and commonly used SVO measures, namely the SVO Ring Measure (SVO RM; Liebrand, 1984) and the Triple-Dominance Measure (TDM; see van Lange et al., 1997). More specifically, Murphy et al. (2011) reported an excellent test-retest reliability with a time interval of one week. The correlation between the resulting SVO Slider angles from both points in time was $r = 0.92$. 41 of 46 participants were categorized in the same SVO category each time, resulting in a consistency of 89% (SVO RM: 68%, TDM: 70%).

A more recent study found an almost identical distribution of the SVO angle and a smaller test-retest reliability ($r = 0.79$) as well as a category consistency of 86%; 14% of participants changed SVO type within a time interval of one week (Höglinger & Wehrli, 2017). In support of the convergent validity of the SVO Slider, the authors further report a high correlation of $r = 0.65$ with the SVO RM. This cross-method correlation was even higher compared to the SVO RM correlation with itself across retest ($r = 0.60$), indicating that the SVO Slider is the more reliable measure. The cross-method categorical agreement provides further evidence for the convergent validity of the SVO Slider, as the SVO Slider and the SVO RM (TDM) categorize the same participants in the same SVO category 75% (74%) of the time.

Furthermore, there is strong evidence for the criterion validity of the SVO Slider. There is, for instance, a positive relationship between the SVO Slider and cooperation behavior in social dilemmas. Whereas Murphy and colleagues (2011) report a moderate (statistically significant) correlation ($r = 0.24$), a more recent study found a higher correlation ($r = 0.35$; Höglinger & Wehrli, 2017) between individuals' SVO angle and their cooperation in social dilemmas. In addition, it has been shown that the SVO Slider is also associated with individuals' expectations concerning the others' cooperation in social dilemmas, with prosocials expecting more cooperation compared to individualists and competitors (see Pletzer et al., 2018 for meta-analysis). These results for the SVO Slider are consistent with

previous evidence showing a relationship between cooperative behavior in social dilemmas and SVO ($r = 0.30$; see Balliet et al., 2009 for a meta-analysis). Furthermore, survey responses on (prosocial) personality traits are substantially correlated with the SVO angle. For instance, the personality trait honesty-humility has been shown to be associated with more prosocial decisions in SVO measures ($r = .37$, Hilbig et al., 2014). Furthermore, field studies confirmed the real-world impact of SVO measures (but not the SVO Slider) on prosociality. For instance, it has been demonstrated that prosocials, relative to individualists, donated more money in charitable giving (e.g., van Lange et al., 2007) and demonstrated more environmentally friendly behavior (e.g., Cameron et al., 1998).

4.2 General Methodological Features

This chapter will further provide an overview of important methodological features used in the empirical studies of this dissertation. The focus will be on the use of monetary incentives (4.2.1), no deception (4.2.2), and student vs. population-representative samples (4.2.3). Empirical findings will be presented that underscore the importance of the use of these methodological aspects. Finally, best practice guidelines for applying open science (4.2.4) will be introduced that have been followed for the planning and implementation of each research project in this dissertation.

4.2.1 Monetary Incentives

Lab studies can be criticized for lacking external validity and displaying subtle experimenter demand effects or social desirability (see also Chapter 4.1.1 and Chapter 6.3). One way to increase the external validity of lab studies investigating prosociality is the use of monetary incentives in economic games. This allows for measuring actual prosocial behavior going beyond mere self-reports of prosociality (Baumeister et al., 2007). Unlike questionnaire studies where participants indicate their (pro)social preferences, incentivized allocation tasks assess direct behavior that has real monetary consequences for the participants themselves and their interaction partners. These real monetary consequences ensure that participants perceive their behavior as relevant and experience real emotions (e.g., Walkowitz 2021). Furthermore, the use of monetary incentives is advantageous because it may reduce measurement error by reducing participants' interpretative acts involved in understanding the decision problem (e.g.,

cognitive demand effects). Thus, incentivization might be helpful to reduce unsystematic variation in response behavior (e.g., Rahal, 2018).

However, monetary incentives obviously result in higher costs and effort, which typically leads to reduced sample size. In contrast, self-report measures for prosociality, for example the 16-item prosociality scale (Caprara et al., 2005), are generally more feasible to administer than incentivized behavioral measures of prosocial behavior and generally allow for larger sample sizes (e.g., Kanacri et al., 2021).

For the same reasons of feasibility, allocation tasks can be implemented without incentivization, providing participants with hypothetical rather than real endowments. Evidence on the impact of incentives on prosociality in economic games is mixed. Some studies showed that individuals are less prosocial in incentivized compared to hypothetical settings (e.g., Bühren & Kundt, 2015; Camerer & Hogarth, 1999; Fantino et al., 2007), speaking for the use of monetary incentives to measure prosociality. Other studies, however, report null effects of monetary incentives and equivalent levels of prosociality in incentivized compared to hypothetical settings (e.g., Ben-Ner et al., 2008, Engel, 2011; Thielmann et al., 2016). This evidence indicates that economic games with both real and hypothetical endowments can provide valid measures for prosociality. Still, hypothetical scenarios bear the risk that prosocial decisions may be biased due to social desirability, whereas incentives may decrease individuals' tendency to behave in a socially desirable manner (e.g., Baron, 2001). It has been shown that social desirability is indeed a potential driver of prosociality in economic games. However, other strategies (e.g., ensuring participants' anonymity) are potentially more effective in reducing response biases than using monetary incentives (Thielmann et al., 2016). In conclusion, there is no clear answer to the question of whether prosociality is best measured in economic games with real vs. hypothetical endowments. Rather, it depends on the contextual focus of the study. In real-life interactions (e.g., in the cross-national and cross-cultural context), prosocial decisions typically imply direct costs for the giver. Thus, the generalizability of laboratory-based findings on prosocial decision-making is greater if they involve real monetary consequences. Thus, to enhance external validity, both measures for prosociality used in this dissertation – the DG and the SVO Slider – are incentivized.

4.2.2 No Deception

The use of deception is a hotly debated topic with controversial opinions. Still, it remains common practice in psychological research (e.g., Kimmel, 2011). There are different

forms of deception that range from being more vs. less direct resulting in more vs. less (potentially harmful) consequences for participants. Indirect forms of deception are used when the purpose of the study is not fully conveyed or when participants agree to be informed of the true purpose of the study at the end of the experiment. These instances of deception have no (or only very mild) effects on behavior (Boynton et al., 2013). However, there are more direct forms of deception – for instance, using confederates, providing false feedback, misinforming participants about the study’s procedure, or giving participants deceptive study descriptions. There are several famous experiments in social psychology that initiated the critical debate on the appropriateness of deception. For instance, the Robbers Cave Experiment (Sherif et al., 1961) that has been described in detail in Chapters 3.2.3 and 3.3 is an example of major deception. In the experiment, participants were fully deceived, as they were made to believe (for the entire period of two weeks) that they were attending a summer camp, not participating in a social experiment. There is no doubt that this direct deception together with the fact that the participants were 12-year-old children and experimenters’ intention was to provoke conflict between unknowing groups clearly violates the standards regarding ethical principles in research (American Psychological Association, 2017). However, different attitudes towards the use of deception remain. Some researchers, especially economists, claim that any form of deception is inadmissible. Some economic journals even reject all studies involving any form of deception (Hertwig & Ortmann, 2003; Rousu et al., 2015). In addition to the infringement of ethics, opponents of deception warn of its methodological costs. Deception may prompt second-guessing of the true purpose of the study and distort participants’ behavior in present and future experiments, leading to suspicious or contaminated pools (Hertwig & Ortmann 2008; Boynton et al., 2013). Other researchers argue that deception cannot be completely banned from experimental research (e.g., Bortolotti & Mamei, 2006; Bröder, 1998; Cook & Yamagishi, 2008). They argue, for example, that deception can be useful to avoid more serious ethical breaches (e.g., lying about harming others) and is necessary to obtain information that would otherwise remain unobservable, since it can decrease demand effects and thus increase validity.

However, despite these different attitudes, there is consensus that the use of deception must be limited and well-justified (e.g., Hertwig & Ortmann 2008; Kimmel et al., 2011). This is in line with the most recent version of the Ethical Principles of Psychologists and Code of Conduct, which does not rule out deception completely but instead defines specific conditions for its use. It is required that deception is only used when 1) no non-deceptive method exists to study the phenomenon with significant value, 2) it does not cause harm to participants, and

3) it is fully and comprehensively explained to participants. Specifically, the use of deception is only acceptable if ‘the use of deceptive techniques is justified by the study’s significant prospective scientific, educational, or applied value, ... effective non-deceptive alternative procedures are not feasible’, if experimenters ‘do not deceive prospective participants about research that is reasonably expected to cause physical pain or severe emotional distress’, and if they ‘explain any deception ... to participants as early as is feasible, preferably after their participation, but no later than after the data collection, and permit participants to withdraw their data’ (American Psychological Association, 2017, Section 8.07).

For the experimental research conducted for this dissertation, alternative non-deceptive methods were feasible. Due to the full incentivization of the measurement for prosociality (see Chapter 4.2.1), we were able to completely avoid deception. In all studies, participants signed informed consent before participation and were fully debriefed after participation. Participants were informed that only one of their decisions (or one of the decisions made for them by another participant) would be relevant for their payment. Thus, in the end of the experiment, participants were informed of the specific decision that was selected as well as how many points/money they and the respective other person received. Note that in Paper 1 and Paper 3, we conducted online experiments. This is particularly important because a recent study warns against using deception particularly in online experiments, as participants can discontinue a study and dropout by simply closing the browser window, in which case full debriefing (and an option to withdraw one’s data) is no longer available (Hilbig & Thielmann, 2021). In our online studies, there was also a high dropout rate compared to our lab study, which is in line with substantial increases in dropouts for online experiments reported in the literature (e.g., Dandurand et al., 2008). However, for participants who completed the study, we ensured that they viewed the payment information (the decision that was randomly selected) on the last screen, as they had to confirm that they received this information by clicking a button⁷.

4.2.3 Students vs. Population-representative Samples

In experiments in psychology and economics, university students make up the vast majority of participants (e.g., Croson, 2007, Henry 2008). Note that most of these participants

⁷ On the last screen, participants confirmed the statement ‘I understand that my additional payment depends on one of the decisions that another participants made in task 2’. Task one was the SVO Slider and task two was the DG.

are not only students but can also be categorized as so-called WEIRD samples (white, educated, industrial, rich, and democratic; see Henrich et al., 2010 for more information). The recruiting of student samples is particularly convenient due to their high availability and accessibility. For psychological research, it is common practice that students' participation in experiments is obligatory, as it yields course credits. Although this procedure can be justified with the argument that students can learn about experimental methods and benefit themselves with their own research, it raises the question of voluntariness, which is an important ethical principle. More central in the debate on the use of student samples is, however, the question of generalizability – that is, whether the results obtained from student samples can be generalized to the broader population. This question is particularly relevant since university students differ systematically from the general population (or specific other populations) in terms of demographic (e.g., age, professional activity, marital status) and psychological (e.g., cognitive skills, attitudes, group norms, social support) characteristics (e.g., Ashraf & Merunka, 2017). Due to these specific characteristics of student samples, one might ask whether the use of student samples is an appropriate methodology for generating general contributions to scientific knowledge. Stevens (2011) argues that rather than avoiding this methodology, it is useful to consider the theoretical scope (universalistic vs. particularistic) and the study's primary purpose (internal vs. external validity). Student samples are not appropriate when the purpose of the study is to determine whether phenomena generalize across the target population or different contexts (i.e., external validity). This research purpose requires broad samples and natural settings. In contrast, student samples are very much appropriate when researchers aim at testing the internal validity of universalistic theories (e.g., when predictions are presumed to hold for all populations). Furthermore, students are often considered as more homogenous than representative samples, as student participants often share demographic (e.g., age) and socioeconomic (e.g., education levels) characteristics. This homogeneity ensures that differences in observed behavior are not due to differences in those characteristics. To increase homogeneity (or decrease variance), some studies using student samples go even further by restricting the sample to students born in a certain time period or that share the same mother tongue (i.e., Walkowitz, 2021). In studies using economic games, homogeneity regarding prior participation is particularly important, since prior experience affects behavior in economic games. For instance, prior experience can lead to a readjustment of cooperative intuitions to the laboratory settings, subsequently moderating the effect of time pressure on prosociality (Rand et al., 2014). Thus, in the cross-

cultural study (Paper 2), which was based on a student sample, we invited only students who had never participated in other studies involving economic games in our lab.

Cross-national studies that include participants from different nations often justify the use of student samples with the homogeneity argument (Saucier et al., 2015). However, an analysis using data from 59 countries demonstrated that students are as heterogeneous as the general population in terms of personality and attitudinal variables both between and within countries (Hanel & Vione, 2016). Furthermore, the authors showed substantial differences between student and representative samples that could not be systematically predicted by student characteristics (e.g., embeddedness, intellectual autonomy). Since students varied randomly from the general public, the authors concluded that generalizing from students to the general public is problematic. This indicates that cross-national research should also use representative samples that more accurately reflect characteristics of the entire population of a nation. Consequently, in the cross-national study in Paper 1, which included five different nations, we used population representative samples in terms of two important socio-demographic characteristics (i.e., age and gender).

Researchers using student samples can be criticized for the lack of generalizability; and reviewers and editors may, for good reason, ask whether their results apply only to student populations. One recommended procedure to increase the generalizability of results is to run the primary experiment with students and then replicate the study using a different participant pool to show that results are the same. This could be a particular subgroup that is relevant for comparison (e.g., professionals in a specific field; Croson, 2007) or a population-representative sample (e.g., in terms of sociodemographic characteristics), with the latter providing evidence that the behavior of interest can be generalized across different sub-populations (Bellemare & Kröger, 2007).

Regarding prosociality, differences between student vs. non-student samples have been reported. The meta-analysis on DG giving showed that students give significantly less compared to non-students, indicating that non-students generally behave more prosocially than students (Engel, 2011). Falk et al. (2013) showed no differences in giving between students and non-students in a trust game but significant differences in trustees' repayments, which primarily measures prosociality. Student trustees ($M = 13.47$ out of 20 CHF) transferred significantly less (-15 %) than non-student trustees $M = 13.17$). The empirical results of this dissertation are in line with this evidence. When comparing average DG giving in the studies included in Paper 1-3 (see Table 1), we observe a similar pattern of students

being less prosocial than non-students. When comparing average giving between the non-student sample in Paper 1 ($M = 40.20$ out of 100, $SD = 24.58$) and the student sample in Paper 2 ($M = 67.19$ out of 200, $SD = 68.00$), we see that students gave, on average, 6.6% more than non-students. However, this comparison should be interpreted with caution, since the studies in Paper 1 and 2 vary on many dimensions (e.g., cross-national vs. national interactions). Paper 3 allows for a more appropriate comparison. Following the recommendation to increase external validity, we conducted a first study using only (German) student participants and a second study using a non-student, representative sample (in terms of age and gender for the German population). The second study represents a conceptual replication of the first. The results show that students (Study 1, $M = 1.83$ out of 5, $SD = 1.53$) gave, on average, 4.36% less than non-students (Study 2, $M = 2.05$ out of 5, $SD = 1.54$). Similar to previous findings (e.g., Engel, 2011; Falk et al., 2013), this result refutes the criticisms of generating artificial findings with student participant pools that have little to do with the harsh reality of economic relations (see e.g., Levitt & List 2007). Rather, our results indicate that student samples appear to underestimate the willingness to give in DG.

4.2.4 Open Science

In the last decade, increased attention has been given to the problem of insufficient reproducibility and transparency as well as the use of questionable research practices and even fraud in (psychological) science. This problem is often referred to as the ‘replication crisis’ or ‘confidence crisis’ in psychological science (e.g., Wiggins & Christopherson, 2019). In particular, the publication of the Reproducibility Project in psychology (Open Science Collaboration, 2015) caused a furor by showing that the majority of high-visibility studies could not be replicated; the overall estimated replication rate was only 36%. The resulting concerns regarding the integrity of psychological science led to the development of the open science movement. This movement proposes reforms to make scientific practices more transparent and increase the accessibility of information on research methods, thus allowing others to evaluate, use, and replicate those methods (Spellman et al., 2017).

Best practice guidelines for applying open science have been defined by journals, funders, and societies to align scientific ideals with practices – for instance, the transparency and openness promotion (TOP) guidelines from the Center for Open Science in Charlottesville, Virginia (<https://www.cos.io/initiatives/top-guidelines>). The guidelines are based on the identification of several problems regarding the publication system and

(corresponding) questionable research practices of scientists. Problems can be observed in different steps within the scientific process from the generation of hypotheses over analyses and interpretation of the data to publication in scientific, peer-reviewed journals. Starting with the last step of publication, one general problem is the excess of positive results in published studies. It has been demonstrated that, in the standard literature in psychology, 96% of the results are in line with the hypothesis (Scheel et al., 2021)⁸. This is clear evidence for the so-called ‘publication bias’, which can be attributed to both reviewers’ and editors’ tendencies to selectively publish statistically significant results more frequently than null results (reviewer bias; Greenwald, 1975) as well as researchers’ tendencies to not submit studies with null results for publication (file-drawering; Rosenthal, 1979). Furthermore, the academic reward system emphasizes not only significant positive results but also innovation, encouraging researchers to produce ‘fancy’ results, whereas replicating previously demonstrated effects receives less attention (Nosek et al., 2015). To increase their chances for publication, some researchers use practices that are highly questionable. For instance, they actively alter selection criteria for data included in analyses or change the type of analysis used to achieve significant results, a phenomenon called ‘p-hacking’ (Head et al., 2015). Others conduct exploratory analyses of their data in search of interesting results and then define corresponding hypotheses to match their findings, a phenomenon called HARKin (i.e., hypothesizing after results are known, Kerr, 1998).

Guidelines for applying open science suggest several methodological procedures to overcome the above-mentioned problems with the goal of moving scientific communication toward greater openness. The TOP guidelines define eight standards with different levels that facilitate their adoption in whole or in part (Nosek et al., 2015): Citation standards (1) extend current article citation criteria to data, code, and research materials (e.g., regarding style and completeness). Replication standards (2) define conditions for replication procedures and reward replication studies as valuable opportunities for self-correction within the scientific process. Four standards refer to reproducibility: Design standards (3) – for example, a transparent description of experimental designs and research materials – (4) increase transparency about the research methodology. Data sharing standards (5) and analytic methods standards (6) require that all data and the complete analysis scripts are made available in a trusted repository so that all statistical analyses can be rerun by others. Finally,

⁸ Scheel et al., 2021 also reported only 44% positive results in registered reports in which peer review and the decision to publish take place before results are known.

two standards emphasize the importance of preregistration. Standards for preregistration of studies (7) including preregistration of analysis plans (8) require that authors register a time-stamped protocol of their research questions, hypotheses, methods, and analysis plans prior to data collection. Preregistration is an effective means to prevent HARKing and reduce the risk of p-hacking via limited flexibility in data analysis (Scheel et al., 2021). Scientific journals increasingly base their decisions regarding the acceptance of a manuscript on its compliance with these standards for open science. For example, the journal *Psychological Science* awards badges for ‘open data’, ‘open materials’, and ‘preregistration’, with each badge increasing the scientific value of a study (Eich, 2014).

In the empirical studies of this dissertation, we followed most of the above-mentioned standards for applying open science. For all studies, we made all materials (i.e., the complete instructions), all data, and the complete analysis scripts available at the Open Science Framework. The respective links can be found in the method and result sections in the respective papers (see Chapter 5). Furthermore, the sample size was determined before data collection; and the analysis was run only after all responses were collected. In Paper 1 and 2, the sample size was based on a pragmatic reason that the studies were run in a battery with an unrelated study⁹. In Paper 3, the power for both studies was determined a priori and we provided a (conceptual) replication of the first study to test for the robustness of the observed effects. For Papers 2 and 3, we provided detailed preregistration information including research questions, hypotheses, methods, and analysis plans. All analyses were conducted in line with the preregistration and all necessary adjustments were made explicit.

5 Papers of this Dissertation

The three papers that are the core elements of this dissertation are fully published in peer-reviewed journals. All three papers and the corresponding appendices that include additional information on the analyses can be found in the respective issues of the journals.

⁹ In Paper 2, we run a post-hoc sensitivity analysis using G*power (Faul et al., 2009) to show that the sample size used ($N = 196$) allowed for the detection of small to medium effects ($f = 0.18/ d = 0.36$) with a power $(1-\beta) = 0.95$.

5.1 Paper 1: Cross-national In-group Favoritism in Prosocial Behavior

Fiedler, S., Hellmann, D. M., Dorrough, A. R., & Glöckner, A. (2018). Cross-national in group favoritism in prosocial behavior: Evidence from Latin and North America. *Judgment & Decision Making, 13*(1).

5.2 Paper 2: Altruistic Giving toward Refugees

Hellmann, D. M., Fiedler, S., Glöckner, A., (2021a). Altruistic Giving Toward Refugees: Identifying Factors That Increase Citizens' Willingness to Help. *Frontiers in Psychology, 12*:689184. <https://doi.org/10.3389/fpsyg.2021.689184>

5.3 Paper 3: Prosocial Behavior during the COVID-19 Pandemic in Germany

Hellmann, D. M., Dorrough, A. R., & Glöckner, A. (2021b). Prosocial behavior during the COVID-19 pandemic in Germany. The role of responsibility and vulnerability. *Heliyon, 7*(9), e08041. <https://doi.org/10.1016/j.heliyon.2021.e08041>

6 Discussion

In the last chapter, the findings will be summarized (6.1) and their significance including caveats and recommendations for future studies (6.2) will be discussed. The remainder will consist of a discussion regarding overall limitations and future directions (6.3) and implications for society, organizations, and policy makers (6.4), that wish to promote prosociality among individuals. This dissertation ends with a final conclusion (6.5).

6.1 Summary of Empirical Findings

This dissertation is a systematic investigation of context factors that influence individuals' prosociality towards members of different groups. The results of three different empirical research projects are presented. The focus is on prosociality in cross-national and cross-cultural interactions, which are becoming increasingly important in today's world characterized by globalization and migration. Paper 1 investigates cross-national interactions between individuals from different nations that are currently living in their respective home nations (e.g., between-nation interactions). We assessed cross-national prosociality in population representative samples (in terms of age and gender) from five different nations (Chile, Colombia, Peru, Venezuela, and USA). Paper 2 investigates cross-cultural interactions between individuals with different cultural backgrounds that are currently living in the same nation (e.g., within-nation interactions). We assessed student participants' prosociality towards refugee out-groups living in Germany. Finally, in Paper 3, we investigated prosociality during the COVID-19 pandemic in Germany in a student (Study 1) and a representative (Study 2) sample. Across all reported studies, participants showed a high overall degree of prosociality in fully incentivized one-shot DGs. Giving, on average, 37.84% of their endowment, the level of prosociality was higher compared to findings in the literature (average giving 28.35% as reported by a meta-analysis on DG giving; Engel 2011). In the three research projects, we further identified important context factors that influenced participants' level of prosociality.

First, the obtained results provide evidence that 1.1) in-group membership is an important context factor of prosociality. In Paper 1, participants acted more prosocially towards national in-group vs. national out-group members. All five included nations showed national in-group favoritism, although the USA did so to a somewhat lesser degree. Considering the dynamic nature of group membership, we showed that 1.2) a common superordinate in-group identity was associated with increased prosociality. Making common

membership to a superordinate in-group (e.g., citizens of the same city) salient led to an increase in prosociality towards local refugees, as in-group favoritism was directed towards them (Paper 2). However, we did not find this effect for a common superordinate identity of students. Also, in Paper 1 we found no evidence for the effect of a common superordinate identity on prosociality towards Latin Americans, as presenting a dissimilar out-group (USA) did not activate a common Latino identity.

Second, as prosociality is not restricted to the in-group, context factors were identified that influence prosociality toward out-group members. For most but not all of the hypothesized factors, we found evidence. 2.1) Perceived closeness (i.e., perceived self – out-group overlap) was positively associated with prosociality towards both national (Paper 1) and cultural out-groups (Paper 2). The closer that out-groups were perceived to be to the self, the more prosociality was directed towards their members. 2.2) Cultural similarity was negatively associated with prosociality towards national out-groups (Paper 1), as participants showed less prosociality towards culturally similar (vs. dissimilar) national out-groups. Contrary to our expectations, we found no association between 2.3) perceived competition and prosociality. Investigating the influence of further context factors on prosociality that refer to 2.4) inequalities between givers and receivers, we found mixed evidence. Regarding 2.4.1) economic inequalities, we found a positive association when economic differences between givers and receivers were measured based on national level values (Paper 1). Participants from the nation with a high economic status (i.e., high GDP; USA) showed more prosociality towards national out-groups compared to participants from nations with a lower economic status (i.e., lower GDP; Latin American countries). However, we found no such association when economic differences were measured based on perceived income differences between the giver and receiver (Paper 2). Perceived income differences (such as perceived competition) could also not explain why student refugees received less prosociality than non-student refugees. Based on these findings, we assessed two further potential context factors for prosociality that might indicate social inequalities between the giver and receiver. In Paper 3, we identified 2.4.2) perceived vulnerability of the receiver and the giver's perceived responsibility to help as an important context factor for prosociality. When participants perceived the other as more (vs. less) vulnerable and when they felt more (vs. less) responsible to help, they showed higher levels of prosociality. Finally, we identified a further out-group characteristic, 2.5) perceived warmth, to be positively associated with prosociality towards cultural out-groups (Paper 2), as refugees perceived to be warm (vs. cold) received more prosociality.

Third, we showed prosociality to be sensitive to 3) changes in the external context. The results of Paper 3 demonstrate that prosociality was affected by an external shock (e.g., COVID-19 pandemic), as individual levels of prosociality substantially increased during (vs. prior to) the pandemic.

6.2 Significance of Results for Theories including Caveats and Recommendations

Theoretical implications will be considered regarding SIT, SCT, and CIIM, which can be summarized under the social identity approach. This approach provides the theoretical basis for the main hypothesis of Paper 1 and Paper 2. Overall, the results provide support for the theories' main assumptions. In particular, our results demonstrate 1) the relevance of all three proposed psychological processes needed to activate a social identity (i.e., social categorization, social identification, and social comparison) that individuals strive to enhance through in-group favoritism and 2) the dynamic nature of social identity and the resulting dynamics effects of in-group favoritism. Obviously, the results in line with our hypotheses provide support for the theory. In Paper 1, we found clear patterns of national in-group favoritism showing that the classic phenomenon of in-group favoritism can be also found for prosociality in a cross-national context involving non-student populations. Note that the observed reduction in in-group favoritism for the US was due to US participants mainly following an equal split norm for both in-group and out-group interactions. Latin American participants, in contrast, did so only for in-group interactions. This can be explained by the imbalance of group status between Latin and US Americans (see below) and/or diverging social norms within different nations (for cultural variation in social norms, see Morris et al., 2015; Roos et al., 2015). In Paper 2, we provide evidence for the dynamics of in-group favoritism. To do so, we activated a common local identity with refugees to induce corresponding (local) in-group favoritism – that is, participants acted more prosocially towards local vs. non-local refugees.

Although some results did not support our hypotheses, they do not appear to contradict the theory (i.e., social identity approach) but instead can be explained by methodological shortcomings and/or the selection of the specific natural groups. These potential shortcomings will be discussed in the following together with ideas for recommendations for future studies.

In Paper 1, we failed to activate a common Latino identity. Because the theory (i.e., SCT) emphasizes that contextual salience is required to activate a (common) social identity, our manipulation – the mere presence of a dissimilar out-group – might have been too subtle

to activate a common Latino identity. Second, following the meta-contrast principle, the theory stresses the importance of a relevant out-group for in-group categorization and subsequent in-group favoring behavior. Thus, the US (regardless of its salience) might have not been an appropriate contrasting out-group. Latin Americans indicated that they have more contact with US Americans than with the other Latin countries (45% vs. 18%). Contact typically increases positive attitudes and behaviors (Allport, 1954). Furthermore, the USA often serves as a model for economic growth and stability with many Latinos immigrating to the US in search of a better life (e.g., Tienda & Sanchez, 2013). Thus, it is quite possible that Latin Americans tend to maximize inter-group similarities and minimize differences with US Americans, leading to social decategorization. Our result suggests that the out-group appears to be highly relevant for in-group favoring to occur. This provides support for the social identity and not for the BGR perspective, with the latter stating that only cues of in-group (but not out-group) membership are necessary to elicit in-group favoritism (Yamagishi et al., 1999). It is also in line with evidence of one of our previous studies (Dorrough et al., 2015), where we showed that the presence of a distinct out-group is necessary for in-group favoritism to occur. In this study, participants sequentially interacted first with 10 members of the in-group (local students) and then with 10 members of the out-group (non-local students) or vice versa in a social dilemma task. Although we observed no initial differences in prosociality towards the in-group and the out-group, in-group favoritism only emerged after the change of interaction partners' group membership. As predicted by social identity approach, social comparison with a distinct out-group is necessary to develop an in-group identity and in-group favoritism.

Furthermore, the different types of superordinate identity used in Paper 1 (i.e., fully nested) and Paper 2 (i.e., cross-cutting) might explain why we found an effect of common identity in the latter but not the former. It has been assumed that the type of superordinate identity might be decisive for whether a superordinate identity has positive vs. negative effects on attitudes and behaviors towards (former) out-group members (Wenzel et al., 2008). This assumption is based on predictions of the in-group projection model (IPM, Wenzel et al., 1999) that – in contrast to the CIIM – predicts a general increase in bias towards former out-groups within a common superordinate in-group. Building on SCT's assumption of positive distinctiveness (Turner et al., 1987), the IPM assumes the evaluation of intergroup differences to be essential for intergroup behavior. According to the IPM, a superordinate group provides dimensions for comparisons between the in-group and the (former) out-group. Groups gain positive value when they are considered prototypical for the (positively valued) superordinate

group. As group members tend to project different in-group characteristics onto the superordinate group, they see their in-group as relatively more prototypical of the superordinate identity than the out-group. Thus, they evaluate (and treat) the in-group more positively than the out-group (Waldzus & Mummendey, 2004; Wenzel et al., 2003). Following from this, a fully nested superordinate group might be more likely to serve as a basis for group comparisons and the evaluation of intergroup differences. As both subgroups seek to capture the superordinate group for their own interests – due to in-group projection – a fully nested superordinate identity might lead to increased bias. However, when the subgroup extends beyond the superordinate group, this cross-cutting superordinate group does not serve as a relevant comparison background for all members of both subgroups. Instead, it represents an alternative common identity with less room for in-group projection. Indeed, in Paper 2 we found increased prosociality towards refugees when the common (cross-cutting) local identity was activated, as local refugees received more money than non-local refugees. We found no such effect in Paper 1, where the national subgroups (Chile, Peru, Venezuela, Colombia) were fully included in the Latino identity. This could speak for the argument outlined above. However, it should be emphasized that we failed to activate the (fully nested) Latino identity, so that our data does not allow for a test of the above argument. However, a systematic test of differences in the effect of both types of superordinate identity on prosociality appears to be an interesting starting point for future research. In any case, researchers should accurately reflect the type of superordinate identity they wish to activate. This may help to define boundary conditions for the predictions of the CIIM.

Contrary to our expectations, we found a negative (rather than positive) effect of a common (cross-cutting) student identity on prosociality. Although (refugee) students were perceived as closer compared to non-students (i.e., activation of a common student identity), the former received less prosociality than the latter. This instance of (student) out-group favoritism contrasts with the social identity approach, indicating that theoretically derived predictions do not hold universally. Rather, it can be concluded that characteristics of the out-group represent important context factors that must be taken into account. Thus, we considered the fact that making a common student identity salient led to an increase in perceived closeness but also in perceived competition, such as the albeit slight decrease in perceived income differences. Surprisingly, however, both factors failed to explain this unexpected result when included as control factors in the analysis. Consequently, there must be other out-group characteristics (not considered in Paper 2) that drive the effect of students receiving less prosociality than non-students. One possible explanation is that the mere label

'students' functions as a cue for a privileged status that signals the lack of vulnerability and need for support. Indeed, students are generally perceived as having certain social benefits and, most importantly, greater future success (Hu et al., 2011). Following on this explanation, we conducted a further study (Paper 3) testing whether perceived vulnerability of the receiver was associated with prosociality towards out-groups. In line with the above-mentioned explanation, we identified perceived vulnerability of the receiver to be an important context factor for prosociality towards out-groups.

Furthermore, the finding regarding cultural similarity must be interpreted with caution. In Paper 1, we found a significant negative effect of cultural similarity on prosociality towards national out-groups. This is not in line with evolutionary theories (e.g., Dovidio et al., 2006; Hamilton, 1964; Park & Schaller, 2005) and expectations of SCT regarding reflective distinctiveness (e.g., Spears et al., 2002; Turner et al., 1987). Rather, the result corresponds with expectations of SIT on reflective distinctiveness (Spears et al., 2002), which assume that inter-group similarity increases the need for differentiation and correspondingly decreases prosociality towards similar out-groups. However, it should be noted that this result could also be due to methodological shortcomings. First, it is potentially problematic that cultural similarity was only measured using the Hofstede cultural dimensions, which can be criticized for their lack of validity and generalizability (e.g., Schmitz & Weber, 2014). Still, some replication studies showed that most (but not all) of the Hofstede values can be generalized from IBM employees to highly qualified subsamples of pilots (Helmreich & Merrit, 1998) or bank employees (van Nimwegen, 2002). However, it remains unclear whether individuals of the general population (e.g., with different educational backgrounds) hold similar cultural values. Thus, participants' subjective perception of cultural values of national out-groups may differ from the Hofstede national values due to their individual experiences (e.g., contact, knowledge about culture). Also, their perception of cultural similarity between nations may differ from the calculation of cultural similarity based on differences regarding the Hofstede values. Hence, for future research it is recommended to include a subjective measure of cultural similarity and/or using more recently developed measures for nation-level cultural similarity – e.g., the multidimensional measure of cultural similarity based on the World Values Survey beliefs (Muthukrishna et al., 2020). Note that a recent study found a positive effect of cultural similarity on prosociality based on both nation-level Muthukrishna similarity and individual-level Hofstede similarity (Froehlich et al., 2021). Second, it must be noted that it is particularly problematic to use nation-level values, as the results are based on few data points since we included only five nations. The effect of cultural similarity on prosociality did

not reach significance in an analysis excluding the US. As the US is particularly culturally dissimilar compared to the Latin American nations, the exclusion of the US decreases the variance in the predictor variable. Thus, the small set of data points/nations and the specific characteristics of the included nations could be one reason why the results differ from other studies using the same measure of cultural similarity. Whereas Dorrough and Glöckner (2016) also found a negative effect of national-level Hofstede similarity on prosociality, the more recent study including ten nations with more cultural variability (e.g., China, Mexico, The Netherlands; Froehlich et al., 2021) found no effect. Consequently, for future research a larger plurality of nations that differ widely on cultural dimensions should be included before overarching generalizations can be made. Subsample analyses revealed that the negative effect of cultural similarity on prosociality was particularly strong for the subsamples of Peru and Chile. This could be explained by competition for resources (e.g., access to the ocean) or the true origin of cultural commonalities (e.g., whether Peru or Chile may claim Pisco as their national drink). The result may fit the theoretical argument that inter-group similarity decreases prosociality towards out-groups due to increased perceived competition towards similar out-groups (e.g., Esses et al., 1998). However, one should be cautious with conclusions on causality in this context. It is not clear whether it is the cultural similarity or rather the historically developed rivalry between the specific countries that explains low levels of inter-group prosociality (e.g., Sherif et al., 1961).

Following on this explanation and testing predictions from RGCT (e.g., Jackson, 1993; Sherif, 1966), we examined whether perceived competition is associated with prosociality towards cultural out-groups in Paper 2. However, there was no evidence for the expected negative effect of perceived competition on prosociality towards refugees, which might be due to the form of prosociality we assessed. Jackson and Esses (2000) showed that perceived economic competition with immigrants reduced prosocial attitudes only for empowering forms of help (e.g., ‘People should help immigrants to help themselves adjust to the host society’) but not for non-empowering forms of help (e.g., ‘The adjustment problems faced by immigrants are the fault of the host society, so the host society should help to solve the problems’). Measuring prosociality with donations in a DG, which reached refugees in the form of small gifts as in Paper 2, is definitely a non-empowering form of prosociality. Hence, future studies that investigate the link between perceived competition on prosociality towards refugees should accurately reflect the form of prosociality that is measured and/or systematically investigate the varying impact of perceived competition on empowering vs. non-empowering forms of prosociality toward refugees.

Assessing imbalances in group status between the in-group and out-group as an additional context factor for prosociality, we found mixed evidence for the effect of differences in economic status on prosociality towards national and cultural out-groups. In line with the idea of inequality aversion (Fehr & Schmidt, 1999), the analysis revealed a positive effect for national level based differences in economic status (i.e., national GDP) on prosociality. The high-status nation (US) showed a stronger preference for fairness when interacting with low-status nations (Latin American nations) than vice versa, indicated by a higher equal split rate (58.08%) compared to Latin American nations (average 36.46%). However, the observed effect of differences in economic status (based on GDP) was no longer significant in an analysis that excluded the US. Here, again, this effect might be due to the limited number of data points/nations and thus be of limited informative value. Furthermore, the US and Latin American nations differ not only in terms of economic status but also on many other dimensions such as cultural values and norms (see above) and their level of globalization. For instance, country-level globalization has been shown to be positively associated with prosociality toward national out-groups (Buchan et al., 2011). As the US has a higher globalization index than Latin American nations (e.g., Lockwood & Redoano, 2005), this could be an alternative explanation for US participants' increased prosociality towards Latin Americans. Future research investigating the effect of differences in economic status on prosociality towards national out-groups should use a large set of nations that vary in economic status. In addition, future research should also include individual as well as national level based measures of economic status.

However, when using a more appropriate individual measure for differences in economic status (i.e., own income minus perceived others' income) in Paper 2, we did not find the expected effect on prosociality towards cultural out-groups (i.e., refugees). As already mentioned above, one explanation could be that perceiving the receiver as particularly vulnerable might be a more decisive context factor for prosociality (toward refugees) than perceived inequality (or common student status). Generally, both participants' estimations of their own monthly net income and their perception of the income of the receiver groups (e.g., refugees, social welfare recipients; see Appendix Paper 2) belong to rather low-income categories compared to the average German monthly net income (Rehbock & Liedke, 2022)¹⁰. Nevertheless, we can assume that both refugees and social welfare recipients are perceived as socially vulnerable groups in society and thus are perceived to need more help than fellow

¹⁰ Note that the values can be compared against each other to a limited extent only, as it might not have been clear whether, for example, rent has already been deducted from net income.

German students. Although it is not directly considered in the predictions of inequality aversion (Fehr & Schmidt, 1999) and the social identity approach (Tajfel & Turner, 1979, 1986), perceived vulnerability of the receiver might activate responsibility to help and correspondingly increase prosociality, thus outweighing the effect of inequality aversion and a shared student identity on prosociality. Indeed, in a later study in Paper 3, we identified perceived vulnerability of the receiver and the giver's perceived responsibility to help as important context factor for prosociality (during the COVID-19 pandemic). Both effects could be replicated in a second study showing that they can be generalized from German students to a broader German sample that was representative in terms of age and gender for the German population. Future studies are needed to investigate whether both effects can be generalized to refugee helping and other contexts.

Finally, prosociality was shown to be sensitive to changes in the external context, as levels of prosociality significantly increased during the early stages of the COVID-19 pandemic as compared to pre-pandemic times. This is in line with previous research on prosociality during crises (Bauer et al., 2016; Páez et al., 2007; Rodriguez et al., 2006). However, it is not in line with theoretical accounts assuming that prosociality is rather stable over time and insensitive to environmental factors (Murphy et al., 2011). The observed increase in prosociality is particularly remarkable since prosociality was assessed with the context-independent SVO without referring in any way to the pandemic (and not with pandemic-specific measures, i.e., sharing germicide). Whereas this increase in prosociality was significant on the aggregate level, we observed only few changes on the individual level – that is, only 6% (12 out of 200) of participants changed SVO type. Hence, the observed individual changes in prosociality appear to be mainly gradual.

However, it remains unclear whether we observed long-term changes in prosociality or rather a temporary phenomenon similar to a state of prosociality. Our data were collected during a relatively early stage of the pandemic in Germany (mid-March, 2020), when people were just beginning to realize the immense threat posed by the pandemic. This indicates that experiencing an acute external shock might trigger a reaction of increased prosociality. However, this does not provide insights about whether this effect holds during the course of the crisis and thereafter. Being a highly relevant topic during the COVID-19 pandemic, multiple studies have been conducted to investigate effects on prosociality. However, the results are inconclusive, as some studies report increases (e.g., Shachat et al., 2020) and others decreases (e.g., Brañas-Garza et al., 2022) in prosociality or even no change at all (Bilancini et al., 2020). These mixed findings indicate complex effects on prosociality during

the pandemic, which might vary across contexts, cultures, and points in time. Thus, more studies are needed that systematically account for these context variables. Furthermore, future studies that investigate changes in prosociality might account for inter-group differences. In a recently published study, Böhm et al. (2021) showed individuals' overall social preferences to be stable during the heated 2016 Austrian presidential election. However, the authors found some indication of variation in prosociality toward in-group members (i.e., supporters of the same party), when the conflict becomes less salient. In particular, individuals were more prosocial toward in-group members during vs. three months after the election. The authors interpreted this finding such that cohesion among in-group members increases during the threat of inter-group conflict (e.g., Bornstein & Ben-Yossef, 1994). Thus, it might be particularly interesting whether these differences also occur in a global crisis (e.g., COVID-19) that is not based on group conflict.

Still, our results give hope that crises can have some positive effects on societies. In line with this, a recent study provides evidence for post-traumatic growth during the COVID-19 pandemic (Stallard et al., 2021). Participants indicated experiencing positive effects from challenging pandemic circumstances (e.g., loss of income, homeschooling) – for instance, regarding positive improvements in family relationships or a greater appreciation for life. However, future research is warranted that investigates whether these positive effects (e.g., increased prosociality) are a short-term (e.g., acute prosocial reaction to an external shock) or long-term phenomenon.

6.3 Overall Limitations and Future Directions

The empirical research of this dissertation can be criticized for its limited focus. First, only one specific form of prosociality was investigated. The DG specifically measures concerns for altruism and fairness (Thielmann et al., 2015) with its non-strategic structure precluding reciprocal or strategic concerns. However, a prosocial environment typically depends on the (prosocial) behavior of all interaction partners – most commonly in the form of (mutual) cooperation. This might be especially the case in cross-national interactions. As mentioned in the introduction, the major global challenges (e.g., climate change, migration, pandemics, wars) we are currently facing can only be solved with cross-national cooperation. Thus, politicians, researchers, and experts from different nations around the world must cooperate, with both sides simultaneously engaging in prosocial behavior. Given the importance of cooperation, it would be particularly interesting to test whether the obtained

results of this dissertation also hold for cooperative behavior, another subtype of prosociality. Cooperative behavior is typically measured in social dilemmas, which can be defined as ‘situations in which a non-cooperative course of action is (at times) tempting for each individual, in that it yields superior (often short-term) outcomes for the self, and if all pursue this non-cooperative course of action, all are (often in the longer term) worse off than if all had cooperated’ (van Lange et al., 2013, p. 126). For future studies, it could be of particular interest to replicate the research of Paper 1 using a strategic social-dilemma game (e.g., the prisoner’s dilemma) instead of a non-strategic DG. This would allow for determining whether the defined context factors for prosociality in cross-national interactions can be generalized to other forms of prosociality (e.g., cooperative behavior). In the same vein, the investigation of other forms of prosociality could also be relevant for cross-cultural interactions within a country. As mentioned in the previous chapter, the investigation of empowering forms of refugee helping could be an interesting starting point for future research. Future studies could, for instance, investigate individuals’ willingness to teach refugees skills and abilities (e.g., language skills). Here, again, it could be assessed whether the defined context factors can be generalized to other forms of prosociality towards refugees.

Second, the number of social categories under investigation was limited. Whereas, in the cross-cultural study (Paper 2), we investigated multiple social categories (e.g., cultural background, city of residence, and student status), only one social category (e.g., nationality) was included in Paper 1. However, individuals possess multiple social identities, as they belong to and identify with various social groups (e.g., Macrae et al., 1995; Rydell, et al., 2009). These social groups can be based on different criteria (i.e., preferences, capacities, demographics) that are applied similarly in different nations. For instance, two individuals from different nations might belong to a common social group such as being fans of the sports club FC Barcelona, sommeliers, peace activists, or psychology students. Rather than only investigating the national identity or potential common supranational identities, future cross-national studies might include additional aspects of common social identity that exist across national borders. More specifically, both research series (Paper 1 and Paper 2) could be combined. In cross-national interactions, common superordinate cross-cutting identities could be activated – for instance, by making common preferences, capacities, or social status with individuals from different nations salient.

Third, prior to conducting the research and based on theory and previous results, a preselection of specific potential context factors of prosociality in cross-national and cross-cultural interaction was made, which is by no means exhaustive. Especially regarding out-

group characteristics, there are other factors such as, for example, benevolence, willingness to integrate, and (language) skills that also deserve attention in future cross-national and cross-cultural research.

As a further limitation, one could question the general use of economic games to measure prosociality. As outlined in Chapter 4.1, the DG (and the SVO) has several advantages. Its simplified controlled setting ensures internal validity. However, its decontextualized nature also decreases the external validity. Apart from the fact that monetary incentives can increase the DG's external validity (see Chapter 4.2.1), the DG can still be criticized for being rather abstract and remote from real life experiences of prosociality – a criticism that lab studies using economic games receive in general (Franzen & Pointer, 2013). This raises the question of whether findings based on the DG can be generalized to other individuals and contexts. It can be argued that in real life only very few social interactions have the form of a DG involving only two people who do not know each other, with one being fully active and powerful and the other being fully passive and powerless, as well as full anonymity and a predetermined end. Certainly, there are cases of cross-national and cross-cultural prosociality to which all these characteristics apply. Imagine, for instance, an online donation appeal to anonymously give money to a particular cultural or national out-group member with group membership being the only information provided. Underscoring the conceptual similarity between donations and DG giving, studies reported significant correlations between $r = 0.25$ and $r = 0.4$ (e.g., Benz & Meier, 2008; Kolstad & Lindkvist, 2012). However, (pro)social decision making often involves active behavior of both interaction partners, such as more direct contact, communication, and dependencies between both group members. A recent study demonstrated that situations of high conflict of interest among strangers – which are typically studied in economic games – compose only a small fraction of the situations that individuals report to experience in daily life (Columbus et al., 2021). Based on their results, the authors emphasize the importance of studying a diverse array of interdependent situations to better understand prosociality in daily life.

Evidence of lab-field experiments that compare prosociality in DGs in the lab with natural forms of prosocial behavior in the field is mixed. Whereas some studies report a significant positive association (e.g., Baumert et al., 2014; Benz & Meier, 2008; Barr & Zeitlin, 2010; Carpenter & Myers, 2010; Franzen & Pointer, 2013; Kolstad & Lindkvist, 2012) others report no association at all or mixed evidence (Baumert et al., 2014; Carpenter & Myers, 2010; Markus & Potgieter, 2015; Gurven & Winking, 2008; Lagarde & Blaauw, 2014). For instance, using the misdirected letter technique, Franzen and Pointner (2013)

showed that participants' giving in standard DGs in the lab was associated with their prosocial behavior outside the lab. After (five weeks and two years of) participating in the lab, participants received letters (containing 10€ in correspondence to their endowment in the DG) that created the impression that they were misdirected by the mail delivery service. At both points in time, participants who showed more (vs. less) prosociality in the lab returned the misdirected letters more often, lending support for the external validity of the DG. In contrast, Galizzi and Navarro-Martinez (2019) found no association between DG giving in the lab and subsequent prosocial behavior in the field in five naturalistic field situations that provided an opportunity to behave prosocially (e.g., confederate asks for help or donation after the experiment). Due to their results, the authors question the external validity of the DG and suggest bringing more context into the lab by constructing experimental environments that more closely resemble naturalistic situations of interest.

This dissertation certainly does not claim to provide evidence that can be directly transferred to all instances of prosociality. Quite the opposite is true – the major claim is that (pro)social decision making is highly sensitive to context factors. Nonetheless, the aim of this dissertation was to reveal some general principles of cross-national and cross-cultural prosociality. However, additional future research is needed to externally validate the obtained findings. This could be achieved in field experiments, for instance, by measuring prosociality through observations of voluntary contributions to build something relevant for the neighborhood (e.g., a bridge; Carlsson et al., 2014).

Furthermore, Balliet and colleagues (2022) recently noted that documenting prosocial behaviors outside of the laboratory can yield further, rich insights for research on prosociality in addition to experiments. They argue that qualitative methods such as experience sampling and diary methods are useful to describe social behaviors in daily life and test theory about how prosocial behavior changes across situations and relationships. Consequently, future studies might additionally collect qualitative data for prosociality.

Overall, the samples used in the studies of this dissertation are generally broader compared to the typical student sample. Still, the research can be criticized for the limited number of national and cultural out-groups, which reduces the generalizability of the conclusions. Consequently, as already outlined in the previous chapter, future cross-national studies should include more nations that differ considerably from each other – for instance, with regard to their cultural values and/or their economic status. In the cross-cultural study in Paper 2, we concluded that the identified context factors for prosociality were particularly

relevant and – at least to some degree – unique for refugee giving, as they did not predict giving to the German control group (i.e., social welfare recipients). However, it is not clear whether the obtained results can be generalized across different sub-populations of cultural out-groups. As the cross-cultural study was conducted during the ‘refugee crisis’ in 2015, when Germany received a high number of refugees especially from Syria, the term ‘refugee’ was associated with recently incoming refugees. Thus, for a future study, it would be particularly interesting to investigate whether the results hold for cultural out-groups that have already been living in the host country (e.g., Germany) for a longer period of time (e.g., Turkish migrants). Furthermore, this study involved only student participants – a homogenous, highly educated group that typically hold progressive rather than conservative beliefs when it comes to refugees compared to less educated groups (e.g., Pew Research Center, 2016). Hence, a replication study using a representative sample is warranted.

Similarly, for the investigation on prosociality in times of crisis (e.g., external shock due to the COVID-19 pandemic) in Paper 3, it should be taken into account that results are based on German participants only. We were able to replicate and thus generalize the results (concerning vulnerability and responsibility) from a student sample to a representative sample, thus increasing their external validity. Still, the pandemic is a global phenomenon, which arguably has a different impact on individual nations. Thus, data from other nations is needed to test whether the obtained results regarding prosociality during COVID-19 (and other crises) can be generalized across different nations. For instance, it would be particularly interesting to replicate the study in nations that have similar infection numbers but differ from Germany in terms of political, economic, cultural, and social aspects (e.g., in terms of social inequality). In summary, future research is needed before overarching generalizations for the obtained context factors for prosociality can be made.

6.4 Implications for Society, Organizations, and Policy Makers

Since today’s world is marked by globalization and migration, prosociality between individuals from different nations and cultures is becoming increasingly important. From the obtained results, some specific recommendations for increasing prosociality can be derived.

First, increasing perceived closeness towards out-group members might be an effective way to promote prosociality both in cross-national interactions between nations and in cross-cultural interactions within a nation. Following Allport’s contact hypothesis (Allport,

1954), this can be accomplished by establishing positive inter-group contact, as our results show that perceived closeness was associated with contact. For instance, international companies with employees in different nations could organize (virtual) events at regular intervals, at which colleagues of different nations interact in enjoyable activities (e.g., games) or learn about their colleagues' national traditions (e.g., regarding national holidays) and potential similarities to one's own cultural traditions. Similarly, cross-cultural contact could be promoted within a nation. Right from the beginning, nursery and primary schools should seek to dismantle cultural barriers and fears of contact by creating multicultural groups or appreciating diverse cultural traditions. For instance, German nursery schools could celebrate not only carnival but also the end of the Islamic fasting-month of Ramadan. In line with this, studies demonstrate that positive (negative) contact facilitates (inhibits) positive refugee-receiving community relations (e.g., Kotzur et al., 2018; Lutterbach & Beelmann, 2020).

Second, focusing on commonalities (e.g., common in-group membership) instead of differences increases prosociality. The results of Paper 2 suggest that highlighting cultural out-groups (e.g., refugees) as part of a common local community might be an effective strategy to promote prosociality. Consequently, local rather than national programs for refugee helping should be developed. Such campaigns should specifically emphasize a shared sense of belonging to the same community (e.g., a city or neighborhood) and its emotional and symbolic value for all its members. For instance, neighborhood initiatives and local mentoring programs might provide an excellent platform for increasing prosociality towards cultural out-groups. The observed increase in prosociality towards local as compared to non-local cultural out-groups is in line with research showing a general preference for local (vs. non-local) charity organizations (e.g., Hall et al., 2013). Finding explanations for this tendency, the authors demonstrated that individuals experience donating to local charities as more rewarding, since they were more likely to see the positive impact on their local community. Further arguments were related to increased transparency and accountability of local charities. Thus, an increased sense of belonging might be only one of multiple explanations for why highlighting a common living environment increases prosociality towards cultural out-groups. The effect of local communities on prosociality is also relevant for urban planners who wish to promote prosociality towards cultural out-groups and facilitate their successful integration. The obtained results suggest that the dispersion of refugees (e.g., quota systems) rather than the creation of marginalized communities (e.g., refugee camps outside the city) might represent future-oriented approaches for urban planning. This is in line with evidence showing that refugee integration occurs primarily on the local level of the city

and the neighborhood (e.g., Seethaler-Wari, 2018).

Third, highlighting the vulnerability of others and emphasizing individual responsibility to help others appear to be successful strategies for increasing prosociality, especially in times of crisis. Thus, policy makers who wish to promote prosociality in the current pandemic and beyond might best develop information campaigns about the risks and consequences for individuals who are particularly vulnerable to COVID-19 and thus most in need of instances of prosociality. Also, politicians should encourage individuals to assume responsibility and raise awareness that the crisis can only be overcome with prosociality. In doing so, the crisis could be framed as a chance for (post-traumatic) growth that brings people closer together. In doing so, the need to help the local community during the pandemic should be particularly emphasized. Relating insights from Paper 1 and Paper 2, a recent study found that prosociality during the pandemic was particularly high for local charities active in COVID-19 relief efforts compared to national or international charities. Participants from the US and Italy donated significantly more money at the local vs. the national or international level (Grimalda et al., 2021).

6.5 Conclusion

Prosociality is of fundamental importance for social life and living together in society. Recent years have been characterized by growing globalization and migration, with people from different nations and cultures becoming increasingly interconnected. Consequently, it is vital to understand the drivers of prosociality in interactions between different nations and cultures. This dissertation contributes to this endeavor by examining context factors for prosociality in cross-national and cross-cultural interactions both between nations and within a nation. First, prosociality is rooted in common social identity, as people are more prosocial towards the national in-group vs. out-group. However, in-group favoritism is not fixed but rather can be redirected to local cultural out-groups by making a common living environment salient. Second, individuals also act prosocially towards (national and cultural) out-group members – the degree of prosociality depends on certain out-group characteristics (e.g., perceived closeness, similarity with the ingroup) that are presented and discussed in detail in this dissertation. Finally, individuals' prosociality is sensitive to changes in the external context (i.e., external shock). The level of prosociality among German participants increased significantly during the early stages of the COVID-19 crisis. Future studies are needed to systematically test whether this increase holds during the course of the crisis and thereafter as

well as whether it is also observable in other nations. The obtained findings are discussed regarding their significance for existing theories, methodological limitations, and implications for public policies to promote cross-national and cross-cultural prosociality. Future research is needed to systematically test the obtained findings in more externally valid settings.

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