

**Who Supports the Disadvantaged?  
How Justice Sensitivity, Social Identification, and Political  
Ideology Shape Solidarity-based Action**

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## **Abstract**

As global challenges and humanitarian crises increase, the presence of injustice and inequality becomes ever-more apparent. This dissertation addresses the growing need to learn more about the drivers of support for disadvantaged groups. Using multiple pathways, this research focuses on four major factors, aiming to explore how justice sensitivity – a personality trait – and social identification – rooted in intergroup dynamics – both relate to solidarity-based action across various contexts, and to examine their relationship, as well as their interplay with intergroup emotions such as moral outrage and sympathy. Further, it aims to investigate the impact of political ideology, particularly liberalism, on attribution biases and their influence on emotional and behavioral responses when confronted with norm-violating behaviors by members of disadvantaged groups that one supports. Taken together, the findings indicate that justice sensitivity, particularly other-related justice sensitivity (JS-other), seems to be a reliable indicator of solidarity-based attitudes and behaviors. The significant role of social identification, especially on a superordinate level, is also supported, albeit with varying effects depending on the context. In an overall model, results suggest that individuals with higher JS-other tend to identify more strongly with higher levels of identification, which in turn leads to stronger intergroup emotions. These emotions then contribute to more solidarity-based action. Political ideology shapes how individuals attribute the causes of norm-violating behaviors, with liberals demonstrating a tendency to make lower dispositional attributions when the actor is a member of a disadvantaged group. While the severity of a norm-violation amplifies dispositional attributions, the ideological biases are found to persist. The findings aim to encourage individuals to reflect on their responses to injustice and to contribute to efforts that challenge social inequality. Ultimately, the insights gained here will be discussed in regard to suggesting theoretical as well as practical contributions for promoting more equal treatment across social groups.

## Introduction

However, as long as poverty, injustice, and gross inequality persist in our world, none of us can truly rest.

— Nelson Mandela (2005)

Over the past decade, climate change and humanitarian crises have led millions of people to flee their homes and seek refuge elsewhere. Across the world, inequalities have grown wider and deeper. In Europe, political and societal discussions have been profoundly shaped by the so-called “refugee crisis.” This refers to the large number of refugees fleeing war, persecution, and poverty, primarily from Syria, Afghanistan, and African countries. In 2015, over one million refugees arrived in Europe (UNHCR, 2015). This has sparked significant debates on solidarity-based action, with movements advocating for the integration and support of refugees, while others protest against it. Furthermore, since the Russian invasion of Ukraine in 2022, Europe has faced a new wave of refugees, with over 6 million Ukrainians seeking refuge across the continent, contributing to ongoing challenges and the need for solidarity-based action (UNHCR, 2025).

Solidarity-based action describes any type of action on behalf of disadvantaged groups that aims to improve their situation (Saab et al., 2015; Thomas et al., 2016; van Zomeren et al., 2008). While normally those who are disadvantaged take collective action for themselves (Wright et al., 1990), in the context of solidarity-based action, it is advantaged group members who act in support of others—for instance, by participating in protests or petitions, donating money, time, or resources to organizations that support disadvantaged groups, providing voluntary services for people in need, advocating for the rights of others, etc. Recent examples of solidarity-based action demonstrate the effort of advantaged groups in standing up for social equality. For instance, in the Black Lives Matter movement, many White individuals and groups have actively supported the fight against racial injustice and

inequality. Similarly, feminist movements have seen both men and women fighting for gender equality, women's rights, and combating violence against women. Environmental activism has mobilized people across generations to address climate change and advocate for sustainable policies.

Throughout the research for this dissertation, the focus has been on various ways in which people can engage in solidarity-based action, such as expressing political solidarity with a disadvantaged group, donating money, or providing help that can be categorized into dependency- and autonomy-oriented forms of helping (sometimes referred to as hierarchy-maintaining and -challenging). With regard to the latter, we aimed to take into account the fact that solidarity is not necessarily benign, but can also in fact be used to maintain status differences between groups or to challenge the status-quo (e.g., Nadler et al., 2009; Nadler & Halabi, 2015).

However, who are those supporting the disadvantaged? Why do some individuals in advantaged groups demonstrate solidarity-based action with disadvantaged groups, while others do not? What drives them to engage in solidarity-based action? And could this be promoted?

The complex dynamics of solidarity-based action have been a focal point of psychological research, especially in terms of understanding intergroup relations. More specifically, it has been of long-standing interest to investigate the key factors driving advantaged group members' engagement in solidarity-based action. At this stage, it has been established that part of the answer lies in psychological mechanisms, such as social identification, justice sensitivity, and intergroup emotions, as well as societal beliefs and political ideologies (e.g., Baumert et al., 2022; Kiess & Trenz, 2019; Radke et al., 2020; Thomas et al., 2009; van Zomeren et al., 2008). The manuscripts presented in this dissertation aim to contribute to this growing body of work by adding to the investigation of the factors

that motivate individuals, particularly those in advantaged groups, to engage in solidarity-based action for disadvantaged groups. While the research within this dissertation explores solidarity-based action in relation to various disadvantaged groups, the primary focus is on refugees. This is particularly relevant given that the displacement of millions of people worldwide is unlikely to cease in the foreseeable future, due to ongoing political conflicts, climate change, and other global crises. Therefore, the political, social, and societal challenges surrounding the so-called “refugee crisis” will persist, rendering research on intergroup relations and solidarity-based action continuously necessary. Each study presents a form of injustice, either by highlighting the situation of other disadvantaged groups or by describing an unjust act. Based on this, each study then uniquely focuses on different processes in response to injustice, including the interplay of social identification and justice sensitivity, the role of intergroup emotions, and the influences of political ideology, intergroup attribution biases, and behavioral tendencies. Throughout this dissertation, the terms “solidarity-based action” and “solidarity-based attitudes and behaviors” are used interchangeably, but with specific nuances in mind. The term “solidarity-based attitudes and behaviors” appears to be broader and encompasses not only actions but also the underlying attitudes and behavioral intentions that drive such actions. By employing both terms, the aim is to capture a wider spectrum of solidarity.

In summary, within the first manuscript, by Wolf, Knab, and Steffens (2024), the interplay of justice sensitivity and social identification in explaining solidarity-based attitudes and behaviors is investigated. While both justice sensitivity and social identification have previously been studied separately in relation to solidarity-based attitudes and behaviors (e.g., Baumert et al., 2022; van Zomeren et al., 2008), an integrative model has so far been missing. Therefore, a model incorporating perceptions on both an interpersonal (justice sensitivity) and an intergroup (social identification) level was proposed, in order to better understand who

those supporting the disadvantaged are. Building on the respective findings of the first manuscript, within the second manuscript (Wolf, Knab, & Steffens, in preparation), the relationship between justice sensitivity, social identification, and solidarity-based action across different contexts is explored. Further, intergroup emotions, such as moral outrage and sympathy, are incorporated into the model. Within the third manuscript (Wolf, Pauen, Steffens, & Knab, 2025), cognitive processes that may foster or hinder positive and prosocial intergroup attitudes and behaviors are examined. It would appear that solely investigating factors contributing directly to solidarity is not sufficient, as biases can still emerge within supporters of disadvantaged groups, potentially reinforcing intergroup differences. Therefore, the influence of political ideology—particularly liberalism—on attribution biases, with regard to norm-violating behaviors committed by a disadvantaged outgroup member in comparison to a majority ingroup member, is explored. This research may offer insights into how political ideology might shape the interpretation of behaviors, and might influence how people engage with issues of social justice and solidarity.

Taken together, all three manuscripts share two key elements: They all involve disadvantaged groups that suffer from social inequality, and they all involve injustice of some kind. Manuscripts 1 and 2 address the social inequality and injustice faced by disadvantaged groups, e.g., refugees facing discrimination, limited access to basic rights, and bureaucratic barriers, just to name a few. In contrast, Manuscript 3 expands this by exploring a situation where the injustice is committed by a member of a disadvantaged group themselves through behaving in a norm-violating way, e.g., committing an act of sexualized violence, thus adding complexity to the dynamics of solidarity and intergroup relations.

In summary, this dissertation aims to first combine the center-stage concept of social identification with the personality psychological approach of justice sensitivity, in order to obtain a more detailed understanding of how their modes of action are related when

confronted with injustice and when engaging in solidarity-based action. Second, intergroup emotion, as a common factor of social identification, and justice sensitivity are integrated to complement the base of knowledge. Third, adding insights into how political ideology—such as liberalism—influences attribution biases and, in turn, emotional and behavioral reactions regarding norm-violations of disadvantaged or advantaged group members aims to offer a deeper understanding of how people from different social groups are perceived and judged. This exploration can be viewed as following three pathways, which will be discussed in greater detail in the following theoretical sections. Ultimately, by addressing the question of who supports the disadvantaged, this dissertation seeks to provide insights into the factors that drive solidarity-based actions in an increasingly unequal world.

### **Pathway 1: Social Identification and Justice Sensitivity**

Within social psychology, social identification has been defined as key factor influencing and driving solidarity-based action for disadvantaged groups (e.g., Hoskin et al., 2019; van Zomeren et al., 2008). According to self-categorization theory (Turner & Reynolds, 1987), individuals identify with groups at different levels of inclusion depending on the context, ranging from specific, subordinate groups (e.g., fans of a specific football team, students of a specific subject) to more inclusive, superordinate groups (e.g., football fans in general, students in general). The common ingroup identity model (e.g., Gaertner et al., 1993; Gaertner & Dovidio, 2000) describes the process through which members of two groups recategorize themselves into a single larger ingroup, thereby resulting in a superordinate identification that transcends previous ingroup–outgroup boundaries (for a review on superordinate groups, see Wenzel et al., 2016). This model further emphasizes that when members of different groups recategorize themselves as part of a common ingroup, intergroup biases decrease, and solidarity-based action is more likely to occur. Research has shown that in creating a common ingroup identity, feelings of similarity and closeness appear, followed by an increase in

prosocial behavior, empathy, and helping intentions, and a reduction of prejudice (e.g., Chapman et al., 2020; Dovidio et al., 1991; McFarland et al., 2012). For instance, a higher superordinate European identity among Belgium participants was found to correlate with higher helping intentions toward Ukrainians (Politi et al., 2023), and creating a common superordinate American ingroup for White Americans and Black Americans was found to lead to a reduction in the White group's prejudice toward the Black group (Dovidio et al., 2004). Moreover, people are more likely to engage in solidarity-based behaviors such as political solidarity and humanitarian support for previous outgroup members when they have been primed to identify with a common superordinate group (e.g., Glasford & Calcagno, 2012; Reysen & Katzarska-Miller, 2017; Subašić et al., 2008). In summary, individuals can identify with groups at varying levels of inclusion. The more inclusive the group with which they identify, the more likely they are to engage in solidarity-based actions (e.g., Hoskin et al., 2019; Lantos et al., 2022; Reicher et al., 2006). Therefore, understanding the role of social identification is essential to answering the question of how people from advantaged groups come to disadvantaged groups through solidarity-based action.

Research in personality psychology has shown systematic individual differences in the perception and endorsement of justice. Justice sensitivity has been introduced as a stable and consistent personality trait, which explains emotional, cognitive, and behavioral responses to perceived injustice (Baumert & Schmitt, 2016; Schmitt et al., 2010). Four aspects of justice sensitivity have been identified: victim sensitivity, observer sensitivity, beneficiary sensitivity, and perpetrator sensitivity. While victim sensitivity concerns self-related injustice (e.g., perceiving oneself as being undeservedly worse off than others), the other three aspects—observer sensitivity, beneficiary sensitivity, and perpetrator sensitivity—relate to justice for others from different perspectives. Specifically, observer sensitivity (JS-observer) can be described as an unaffected bystander's perception of injustice, beneficiary sensitivity

(JS-beneficiary) stands for perceiving oneself as benefiting from injustice to others, and perpetrator sensitivity (JS-perpetrator) represents the perception of oneself as causing injustice to others (Schmitt et al., 2010). The latter three perspectives are often grouped as other-related justice sensitivity (JS-other), which has been associated with prosocial behaviors such as cooperation, altruism, and solidarity (e.g., Baumert et al., 2022; Lotz et al., 2013). Individuals high in JS-other tend to engage in cooperative behaviors, favor fairness, and support solidarity, especially in contexts involving disadvantaged groups (Rothmund et al., 2020; Stavrova & Schlösser, 2015). For instance, they are more likely to be cooperative and altruistic in economic games (e.g., Lotz et al., 2013) and express fewer negative attitudes toward immigrants (Rothmund et al., 2020). Furthermore, research indicates that individuals high in JS-other prefer equal distributions over personal advantage (Schlösser et al., 2018). However, high victim sensitivity, which is more focused on self-related (in)justice, is, among other things, associated with disapproval of political solidarity (Rothmund et al., 2017), defined as the extent to which an individual aligns with a minority/disadvantaged outgroup and their cause, demonstrating a commitment to collaborate with them in pursuit of social change (Neufeld et al., 2019; Starzyk et al., 2019).

A crucial point of interest is the potential relationship between justice sensitivity and specific types of prosocial behavior being associated with solidarity-based action, such as autonomy- and dependency-oriented helping. For example, Maki et al. (2017) found that individuals inclined to help in an autonomy-oriented way were better able to identify with others' needs, while those more likely to help in a dependency-oriented way experienced more personal distress and were more concerned with themselves. This suggests that JS-other may be connected to autonomy-oriented helping, while victim sensitivity may possibly be linked to dependency-oriented helping. These connections suggest a potential area for further

exploration in understanding how justice sensitivity relates to specific solidarity-based actions.

Considering social identification and justice sensitivity together, similarities in their modes of action have been identified, with both being linked to perceived injustice, corresponding emotions, and solidarity-related reactions, as introduced previously. A possible relationship between the constructs can be assumed, building further on the suggestion that justice sensitivity could be related to how strongly one identifies as a group member (Baumert et al., 2022) and the finding that identifying with a more inclusive group can predict justice concerns (Wenzel, 2004). Building on these findings, this dissertation aims to investigate how social identification and justice sensitivity, particularly JS-other, can jointly influence solidarity-based actions.

## **Pathway 2: Adding Intergroup Emotions**

Social identification and justice sensitivity are closely related to intergroup emotions, which play a crucial role in acting on the behalf of others and in solidarity-based action (e.g., Saab et al., 2015; Thomas et al., 2009). Intergroup emotions (exchangeable with *group-based emotions*) arise when individuals identify with a group and are socially shared within that group (Kessler & Hollbach, 2005), influencing attitudes and behaviors toward outgroup members (Smith et al., 2007). These emotions, such as moral outrage, sympathy, guilt, and shame, are vital for understanding how individuals respond to perceived injustices, especially in intergroup contexts (e.g., Berndsen & McGarty, 2010; Brown et al., 2008; Harth et al., 2008; Thomas et al., 2009). As introduced earlier, the way in which individuals experience and respond to injustice is shaped by both their social identification with certain groups (Saab et al., 2015; van Zomeren et al., 2008) and their justice sensitivity (e.g., Bondü et al., 2022; Lotz et al., 2011). Moral outrage, defined as anger at the violation of a moral standard (Batson et al., 2007), has been strongly linked to both, with higher social identification (e.g., Thomas

et al., 2009) and higher other-related justice sensitivity correlating with stronger feelings of moral outrage (e.g., Lotz et al., 2011). This emotion is particularly powerful when the injustice involves a third-party transgression, such as actions by a government or authority (Hartsough et al., 2020; Montada & Schneider, 1989). Moral outrage has been found to drive solidarity-based action, such as political activism to change an unfair system, especially when the ingroup and outgroup merge into a common group through the shared outrage toward the injustice (Thomas et al., 2009). Thus, moral outrage can be linked to both a subordinate and a superordinate identification level, since it is aimed toward a third party. Additionally, moral outrage has been shown to be more strongly related to autonomy-oriented than dependency-oriented helping behaviors, such as challenging authority or advocating for social change (Knab & Steffens, 2021; Subašić et al., 2008).

Sympathy, as one of the most common emotional responses to others' misfortunes (Boecker et al., 2022), is another emotion that plays a significant role in solidarity-based action. It is typically experienced by members of advantaged groups (Harth et al., 2008), and higher sympathy has been found to correlate with higher JS-observer (Rudert & Speckert, 2023). Sympathy is linked to more passive forms of helping, such as charity or dependency-oriented rather than autonomy-oriented help (Knab & Steffens, 2021). However, research regarding the relationship between sympathy and both social identification and, in particular, justice sensitivity is still limited.

Guilt, in intergroup contexts, is a moral emotion experienced by individuals who identify with a group responsible for wrongdoings against another group (Branscombe & Doosje, 2004; Weiss-Klayman et al., 2020) and can encourage support for reparative actions and reconciliation (Brown et al., 2008; Čehajić-Clancy et al., 2011). Individuals high in other-related justice sensitivity subtypes, such as JS-observer, JS-beneficiary, and JS-perpetrator, are likely to experience guilt in response to injustice (Bondü et al., 2022; Nicolai et al., 2022),

depending on the level and meaning of their social identification (Castano & Giner-Sorolla, 2006; Ferguson & Branscombe, 2014).

Shame arises from ingroup wrongdoing when the act tarnishes the group's image rather than being viewed as inherently illegitimate (Lickel et al., 2011). Shame has been found to correlate with either distancing oneself from the shame-inducing event (Johns et al., 2005; Schmader & Lickel, 2006) or supporting reparative actions (Brown et al., 2008), which may depend on the importance of one's group identity. In particular, the more valuable the group identity to the individual, the higher the motivation to protect this identity, and thus engage in proactive reparation attempts (Lickel et al., 2011).

In summary, the relationship between justice sensitivity and intergroup emotions remains a crucial area for research, as emotions such as moral outrage, sympathy, and guilt are key mediators between the perception of injustice and subsequent solidarity-based actions. While moral outrage is primarily associated with active, autonomy-oriented action, sympathy and guilt tend to influence more passive, dependency-oriented behaviors, as does shame, which can be related to reparative actions. Moreover, social identification plays a central role in determining which emotions are experienced and how they shape solidarity. In conclusion, the overall interplay between social identification, justice sensitivity, and intergroup emotions has not yet been explored and would appear to be important for learning more about those who support the disadvantaged.

### **Pathway 3: Political Ideology and Intergroup Attribution**

In order to deepen the understanding of solidarity-based action, the focus turned to the investigation of intergroup attribution, particularly in individuals with left-wing (henceforth *liberal*) political orientations. This approach was inspired by the recognition that while previous research largely addresses the question of who engages in solidarity-based action, by focusing on factors such as personality, identity, and emotions, another crucial angle is to

examine the cognitive processes that may foster or hinder prosocial intergroup attitudes, emotions, and behaviors among those who already support disadvantaged groups. Such cognitive processes include, among others, perspective-taking (Todd & Galinsky, 2014), stereotyping (Jenkins et al., 2018), and—importantly for this work—attribution. Attribution theory is valuable in this context as it helps to explain how individuals assign or withdraw responsibility for actions, which in turn influences their emotional responses, such as anger or sympathy (Chi et al., 2020; Rudolph et al., 2004), as well as their behavioral intentions, such as a preference for punishment (Allen et al., 2020; Pickett & Baker, 2014).

Attribution, as a cognitive process, involves assigning causal explanations for one's own and others' behaviors, allowing individuals to make sense of the world and reduce uncertainty (Heider, 1958; Hewstone, 1990; Tajfel, 1969). In intergroup contexts, attribution biases often arise, such as the tendency to attribute positive behaviors or the success of ingroup members to dispositional factors (e.g., being hard-working) while attributing negative behaviors or failure to situational factors (e.g., bad circumstances). This helps to maintain a positive group image (Pettigrew, 1979; Stephan, 1977). Conversely, negative behaviors or failures of outgroup members are often attributed to dispositional factors (e.g., being unintelligent), while positive behaviors or success are attributed to situational factors (e.g., luck) (for a review on intergroup attribution biases, see Hewstone, 1990). These biases can significantly influence how individuals perceive and react to actions within intergroup contexts, thus impacting solidarity-based actions.

In the political context, group membership (e.g., liberal vs. conservative) plays a significant role in shaping attribution tendencies, particularly when evaluating societal issues such as poverty, homelessness, unemployment, or civil protests. Liberals tend to prefer situational attributions, while conservatives lean toward dispositional attributions, as seen in various studies (Cozzarelli et al., 2001; Haider-Markel et al., 2018; Pellegrini et al., 1997;

Skitka & Tetlock, 1992). This so-called *ideo-attribution effect* suggests that political ideology influences how individuals attribute responsibility for behaviors, particularly when such behaviors align with their political values (Skitka et al., 2002; for a review, see Sahar 2014). For example, liberals may attribute societal issues such as poverty to external factors, while conservatives may attribute the same issues to the inherent traits of individuals (Skitka & Tetlock, 1992). Similarly, research on terrorism shows how political ideology shapes attributions regarding far-left, far-right, or Islamist terrorism (Haner et al., 2023), with liberals and conservatives differing in their attributions based on whether the perpetrators belong to groups aligned with their political views. A reversal of the *ideo-attribution effect* was found when situational attributions conflicted with liberals' values and dispositional attributions conflicted with conservatives' values. For instance, conservatives made more situational attributions than liberals for Marines accused of unjustly killing Iraqi civilians, as conservatives' strong commitment to security values conflicted with holding the Marines accountable for their actions (Morgan et al., 2010). Another aspect of intergroup attribution is its connection to social identification. Individuals who strongly identify with their subordinate ingroup have been found to be more likely to attribute negative historical actions to outgroups rather than to their ingroup, a bias that strengthens as subordinate ingroup identification increases (Doosje & Branscombe, 2003). Under conditions of social identity threat, this bias is even more pronounced. Specifically, low ingroup identifiers tend to attribute negative outcomes more internally to their ingroup, while high ingroup identifiers have been found to be more likely to make attributions to internal factors of the outgroup (Costarelli, 2009).

Taken together, attributions can result in biases that favor one group while disparaging another group (Hewstone, 1990; Pettigrew, 2020). These biases can affect emotional and behavioral responses (Allen et al., 2020; Chi et al., 2020) and can fuel and intensify conflicts between groups, by affecting how individuals perceive each other's actions (Hewstone, 2020;

Pronin et al., 2002, 2023). By focusing on the attributions made by individuals who support disadvantaged groups, especially in the case of norm-violations committed by members of these groups, the aim is to build a bridge linking to the context of support for disadvantaged groups and solidarity-based action. This approach becomes particularly relevant when considering political ideologies. While it is often assumed that politically liberal individuals are inherently more supportive of social justice for disadvantaged groups (Jost et al., 2008), as well as being more tolerant, altruistic, and prosocial (Farwell & Weiner, 2000; Waytz et al., 2016; Zettler & Hilbig, 2010), recent societal debates—such as those surrounding refugees and crime—have highlighted internal conflicts within these supporters (Sassenberg & Winter, 2024). By investigating how liberals attribute norm-violating behavior, particularly in relation to the severity of the violation and the group membership of the violator, we can explore how attribution biases may influence the strength and form of emotions and behaviors among those who do support the disadvantaged. When looking at the bigger picture, this can be related to an understanding of solidarity-based action, as these attribution biases directly affect how individuals interpret and emotionally react to the actions of disadvantaged groups, thus shaping their motivation to act in solidarity.

## **The Present Research**

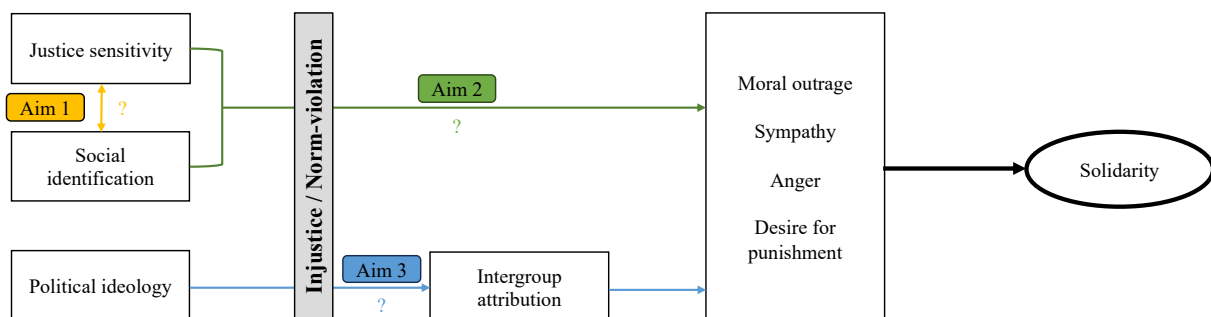
### **Main Aims**

Due to increasing inequality across the world, the investigation of solidarity-based action from different angles would seem to be of ever-growing importance. Therefore, the aim of this study is to extend previous research and, through this, contribute to a better understanding of who engages in solidarity-based action and how this can be fostered. Figure 1 presents the three pathways and the main aims that will be pursued within this dissertation. Although the pathways and aims have corresponding numbers, the pathways can be thought of as routes

passing through different places—or in our case, factors. The aims, on the other hand, are focused on understanding more about the direction of these routes and the connection between the factors. The first pathway (Aim 1) involves exploring the interplay between social identification and justice sensitivity in relation to solidarity. Thus, Aim 1 is to obtain an integrated perspective, testing how justice sensitivity and identification together explain solidarity-based attitudes and behaviors. The second pathway (Aim 2) introduces intergroup emotions and shifts the focus from solely examining justice sensitivity and social identification toward investigating their overall interplay with intergroup emotions in relation to solidarity. Thus, Aim 2 is to examine how the combined interplay between social identification, justice sensitivity, and intergroup emotions contributes to understanding the complexity of solidarity-based action in intergroup contexts. In the final pathway (Aim 3), the focus is placed on attribution biases and corresponding emotions and reactions among supporters of disadvantaged groups, based on their political ideology. Thus, Aim 3 is to investigate how political ideology shapes attribution biases and influences the emotional and behavioral responses of supporters of disadvantaged groups, thereby shedding light on the cognitive dynamics involved in intergroup differences and thus solidarity.

**Figure 1**

*Overview of the pathways, aims and factors of this dissertation*



*Note.* This figure provides a simplified representation of the pathways, aims, and factors, intended as a general guide for orientation throughout this dissertation.

Taken together, this dissertation aims to provide a deeper, integrated understanding of the psychological processes behind solidarity-based attitudes and behaviors. These objectives are pursued and realized through the three manuscripts comprising this dissertation. The following overview outlines how each manuscript contributes to these goals. In the general discussion, the overall findings will be presented and connected, and their implications will be discussed.

### **Summary of Manuscript 1**

Our current global challenges, such as climate change, political conflicts, and humanitarian crises, have led to injustice and inequality becoming ever-more noticeable. Research into factors that contribute to solidarity-based action is becoming increasingly important for both theory and practice. In Manuscript 1, we focus on two key constructs being crucial for engaging in solidarity: *Social identification* on an intergroup level as a main motor for acting on the behalf of others, and *justice sensitivity* on an interpersonal level as a stable and consistent personality trait leading to reactions to injustice. Previous research has shown similarities in their modes of action, leading to perceived injustice, corresponding emotions, and, in turn, behavioral reactions (e.g., Baumert & Schmitt, 2016; van Zomeren et al., 2008). This raises the questions of whether social identification and justice sensitivity are related and how they may interact in explaining solidarity-based action. Can they be seen as complementary drivers of solidarity or do they function independently in motivating individuals to act on behalf of disadvantaged groups? Thus, in Manuscript 1, the aim was to integrate the two perceptions on an intergroup (social identification) and an interpersonal (justice sensitivity) level to explain solidarity-based attitudes and behaviors toward disadvantaged groups. Other-related justice sensitivity and superordinate identification were found to be important in explaining political solidarity, and dependency- and autonomy-oriented help (Aim 1). Further, changes in JS-other influenced the level of superordinate

identification, which in turn led to changes in solidarity-based attitudes and behaviors. This suggests that people with high other-related justice sensitivity tend to identify more strongly on higher levels of identification, thus with superordinate groups that encompass both the disadvantaged outgroup as well as one's own group, and they also exhibit higher solidarity-based attitudes and behaviors. The results contribute to Aim 1 by supporting the idea that social identification and justice sensitivity are related.

## **Summary of Manuscript 2**

Manuscript 2 is a direct extension of the findings of Manuscript 1, by testing the relationship between justice sensitivity and social identification across different contexts. Two studies were conducted using different disadvantaged groups (southern Italians in Italy and Ukrainian refugees in Germany) and superordinate identifications (*all* Italians and White identification), and assessing justice sensitivity and the same solidarity-related outcomes as in Manuscript 1. The results confirmed the positive relationship between JS-other and solidarity-based action in both studies. However, the relationship of social identification with solidarity-based action and its effect on the relationship between JS-other and solidarity-based action varied depending on the context and social group. This supports the idea that JS-other appears to be a reliable indicator for solidarity-based attitudes and behaviors across different contexts, while the interplay with and effect of social identification on solidarity-based action differ.

Building further on Manuscript 1, Manuscript 2 also explores how intergroup emotions mediate the relationship between justice sensitivity and social identification in explaining solidarity-based actions. Two further studies were conducted assessing justice sensitivity and social identification within the highly relevant context of refugees in Germany, in addition to intergroup emotions (moral outrage, sympathy, guilt, and shame). Participants rated their level of identification with *autochthonous Germans* versus *all people living in Germany, including migrants and refugees*. First of all, the positive relationship between JS-

other and all intergroup emotions was able to be established. Second, moral outrage and sympathy were found to be key mediators, next to social identification, in the relationship between JS-other and dependency- and autonomy-oriented help. This contributes to Aim 2 by highlighting that individuals who are highly sensitive to justice concerns tend to identify more with superordinate groups and experience stronger intergroup emotions, which in turn drive solidarity-based action.

### **Summary of Manuscript 3**

Whereas Manuscripts 1 and 2 focused on the interplay of justice sensitivity, social identification, and intergroup emotions in solidarity-based action, Manuscript 3 shifts the focus to cognitive processes influencing emotional and behavioral reactions in intergroup relations. Intergroup attributions involve the process of assigning or withdrawing responsibility for one's own or others' actions, allowing individuals to make sense of the world and reduce uncertainty (Heider, 1958; Hewstone, 1990; Tajfel, 1969). Intergroup attributions have been found to correlate with behavioral reactions (Allen et al., 2020; Pickett & Baker, 2014), emotions (Chi et al., 2020; Rudolph et al., 2004), and the reduction or maintenance of intergroup conflict (Hewstone, 2020). Therefore, Manuscript 3 examines how political ideology shapes attribution processes, particularly with respect to liberals' reactions to norm-violating behavior by a disadvantaged outgroup member. Using two studies with liberal samples, the research explored how liberals attribute the behavior (dispositional vs. situational) of refugees in comparison to Germans. The findings show that liberals attributed norm-violations by refugees more situationally than those by Germans, and this persisted across varying norm-violations. Emotional reactions differed significantly based on the group membership of the actor and mediated by intergroup attribution, with more sympathy and less anger for refugees. These results emphasize the importance of political ideology in relation to

intergroup attribution and its influence on emotional and behavioral responses, contributing to Aim 3 by revealing attribution biases in liberals toward disadvantaged outgroup members.

## Overview of Manuscripts

Table 1 provides an overview of all three manuscripts, presenting the pathways/aims followed, the contexts of the disadvantaged groups studied, and the variables assessed. This should serve as a reference with which to maintain an overview of what was measured within each manuscript and in which context, offering clarity on the research and the key elements addressed throughout this dissertation.

**Table 1**

*Pathways, contexts, and variables assessed per manuscript*

<b>Manuscript (Pathway /Aim)</b>	<b>Context of disadvantaged group</b>	<b>Antecedents</b>	<b>Cognitive process</b>	<b>Emotional reaction</b>	<b>Solidarity-based attitudes and behaviors</b>
1 (1)	<ul style="list-style-type: none"> <li>• First Nations in Latin America</li> </ul>	<ul style="list-style-type: none"> <li>• Justice sensitivity</li> <li>• Social identification</li> </ul>			<ul style="list-style-type: none"> <li>• Political solidarity</li> <li>• Dependency- and autonomy-oriented help</li> <li>• Monetary donation intention</li> </ul>
2 (1)	<ul style="list-style-type: none"> <li>• Southern Italians</li> <li>• Ukrainian refugees</li> </ul>	<ul style="list-style-type: none"> <li>• Justice sensitivity</li> <li>• Social identification</li> </ul>			<ul style="list-style-type: none"> <li>• Political solidarity</li> <li>• Dependency- and autonomy-oriented help</li> </ul>
2 (2)	<ul style="list-style-type: none"> <li>• Different groups of refugees</li> </ul>	<ul style="list-style-type: none"> <li>• Justice sensitivity</li> <li>• Social identification</li> </ul>		<ul style="list-style-type: none"> <li>• Moral outrage</li> <li>• Sympathy</li> <li>• Guilt</li> <li>• Shame</li> </ul>	<ul style="list-style-type: none"> <li>• Dependency- and autonomy-oriented help</li> </ul>
3 (3)	<ul style="list-style-type: none"> <li>• Afghan refugees</li> </ul>	<ul style="list-style-type: none"> <li>• Political ideology (liberalism)</li> </ul>	<ul style="list-style-type: none"> <li>• Dispositional vs. situational attribution</li> </ul>	<ul style="list-style-type: none"> <li>• Anger</li> <li>• Sympathy</li> </ul>	<ul style="list-style-type: none"> <li>• Desire for punishment</li> </ul>

## Presentation of manuscripts

### Manuscript 1

#### Exploring Solidarity-Based Attitudes and Behaviors Regarding Disadvantaged Groups: The Role of Justice Sensitivity and Social Identification

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Published in *Peace and Conflict: Journal of Peace Psychology*

Aus rechtlichen Gründen ist der Artikel hier nicht abgedruckt.

Sie können den Artikel bei Interesse hier finden:

Wolf, T., Knab, N., & Steffens, M. C. (2024). Exploring solidarity-based attitudes and behaviors regarding disadvantaged groups: The role of justice sensitivity and social identification. *Peace and Conflict: Journal of Peace Psychology*, 31(1), 47–57.

<https://psycnet.apa.org/doi/10.1037/pac0000758>

## **Manuscript 2**

### **Connecting Justice Sensitivity, Social Identification and Intergroup Emotions to Predict Various Forms of Solidarity: An Integrative Approach**

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In preparation

## Abstract

This research examines how justice sensitivity influences solidarity-based action, focusing on the role of social identification and intergroup emotions as mediators. Justice sensitivity, a concept from personality psychology, refers to individuals' sensitivity to perceived injustice and influences their emotional and behavioral reactions. Social identification, central to social psychology, explains how people's identification with certain groups shapes their solidarity with others. Intergroup emotions, on the other hand, are emotions that arise from individuals' identification with social groups and influence their intra- and intergroup attitudes and behaviors. Despite their importance, the interplay between justice sensitivity, social identification and intergroup emotions has been underexplored in existing research. Therefore, two pilot studies ( $N_1=169$ ;  $N_2=161$ ) were first conducted to investigate the relationship between justice sensitivity and social identification in explaining solidarity-based attitudes and behaviors (beyond social dominance orientation). Following this, two studies ( $N_1=243$ ;  $N_2=289$ ) incorporating intergroup emotions into the model were carried out. The results largely replicate prior research, confirming that other-related justice sensitivity (JS-other) significantly predicts both autonomy- and dependency-oriented help. However, the role of superordinate identification was more complex than anticipated, with its influence varying based on the context and level of identification. Furthermore, intergroup emotions, such as moral outrage and sympathy, were identified as key mediators between JS-other and help types, with sympathy particularly driving dependency-oriented help, and moral outrage particularly driving autonomy-oriented help. Findings regarding how justice sensitivity, social identification and intergroup emotions shape solidarity-based actions will be discussed.

Word count: 250

*Keywords:* justice sensitivity, social identification, intergroup emotions, solidarity-based action, dependency- vs. autonomy-oriented help

## Introduction

In a time of increasing challenges, such as climate change, refugee crises, and social injustice, understanding what drives solidarity is more urgent than ever. While social psychology emphasizes the role of social identification, personality psychology sheds light on how individual perceptions of justice influence reactions to injustice. This research bridges these concepts to offer a more complete understanding of solidarity in intergroup contexts.

Earlier studies have shown that both social identification and justice sensitivity are key predictors of solidarity-based attitudes and behaviors, including political solidarity, helping intentions, and voluntary monetary donations. More specifically, people scoring highly on other-related justice sensitivity in relation to others/other people (henceforth, JS-other) appear to display higher levels of identification, which in turn leads to higher levels of solidarity-based attitudes and behaviors. Thus, the presence of superordinate group identification, such as identifying as a citizen of the world, was found to influence the relationship between JS-other and, in particular, political solidarity and dependency- and autonomy-oriented help, suggesting that superordinate identification may mediate this relationship (Wolf et al., 2024). These results have contributed to a more integrated understanding of how the personality factor of justice sensitivity and the social psychological construct of social identification shape solidarity-based actions, primarily by finding initial evidence that justice sensitivity and social identification might be related. Nonetheless, research is still limited.

Building on this, in light of the above-mentioned ongoing global challenges—such as the refugee crisis, climate change, and growing social divisions—the role of emotions in intergroup relations is becoming increasingly relevant. As individuals react to injustice, emotions such as moral outrage, sympathy, and guilt often drive solidarity-based actions (e.g., Saab et al., 2015; Thomas et al., 2009). These emotions play a significant role in shaping how we perceive other groups, especially those who are disadvantaged. For example, the

emotional response to the plight of refugees or victims of climate change can often fuel a sense of collective responsibility and solidarity (Karakayali, 2017). As such, intergroup emotions could be crucial mediators in understanding how justice sensitivity and social identification lead to solidarity-based attitudes and behaviors. By incorporating intergroup emotions into this framework, this research aims to further expand our understanding of how people's emotional connections to others on a group level can motivate solidarity-based actions, particularly in the context of global social justice issues.

Therefore, this research has two main objectives:

- (1) We aimed to test the replicability and generalizability of previous results regarding the relationship between social identification, justice sensitivity, and solidarity.
- (2) We aimed to extend this model examining justice sensitivity and social identification in explaining solidarity, by incorporating intergroup emotions.

Concretely, regarding objective (1), two pilot studies were conducted investigating the relationship between justice sensitivity, social identification, and solidarity-based attitudes and behaviors. Regarding objective (2), two further studies were conducted to investigate those same relationships but including intergroup emotions.

### **Social Identification, Intergroup Emotions, and Solidarity**

Social identification plays a central role in shaping the perception of injustice and is a precondition for experiencing intergroup emotions, which, in turn, are key factors driving solidarity and support for disadvantaged groups (e.g., Hoskin et al., 2019; Kessler & Hollbach, 2005; Saab et al., 2015; van Zomeren et al., 2008). Research on social identification and intergroup emotions—such as moral outrage and sympathy, which can be experienced by advantaged group members in regard to outgroup suffering—reveals complex relationships between group membership and emotional experiences. Intergroup emotions are understood as emotions experienced by individuals and arising from identifying with a social group.

Further, they are socially shared within the group and they contribute to regulating intergroup (and intra-group) attitudes and behaviors (Smith et al., 2007); for example, they influence how advantaged groups respond to inequality (e.g., creating action strategies to focus on social cohesion or social change; Thomas et al., 2009). In this research, we aimed to investigate the relationship between specifically subordinate vs. superordinate social identification levels and intergroup emotions.

*Moral outrage*, defined as anger at the violation of a moral standard (Batson et al., 2007), is strongly evoked by third-party transgressions, such as actions by a government or another authority (Hartsough et al., 2020; Montada & Schneider, 1989). It has been suggested that moral outrage transforms the disadvantaged into a shared moral in-group, creating a collective sense of moral solidarity (Thomas et al., 2009). Anger, which is related to moral outrage, has been associated with action tendencies aimed at confronting injustice, particularly when the in-group is perceived as strong (Mackie & Smith, 2015). Moreover, anger has been found to be stronger when the disadvantaged or victims are understood as members of the same group (Yzerbyt et al., 2003). The experience of moral outrage is connected to merging group boundaries, due to the advantaged and disadvantaged groups' shared outrage toward a third party (Thomas et al., 2009). Knab and Steffens (2021) presented evidence for the different relationships between moral outrage and identifying either with refugees (as being more inclusive/superordinate)—which correlated positively with moral outrage—or with the German government (as being less inclusive/subordinate), which did not correlate significantly with moral outrage. Beyond that, there would seem to be little research on the relationship between different levels of identification (subordinate vs. superordinate group identification) and moral outrage. This appears to be a significant gap in the literature, given that moral outrage has already been established as a group-based emotion that drives solidarity. Moreover, we know that different levels of social identification influence

solidarity-based action, suggesting that potential connections between social identification levels and moral outrage should be further explored. Understanding these dynamics could provide valuable insights into the mechanisms that link social identification, intergroup emotions, and solidarity-based action.

*Sympathy* (often used interchangeably with compassion) involves heightened awareness of another person or group's suffering and a motivational inclination to alleviate their distress (Lazarus, 1991; Wispé, 1986); it is one of the most common emotional responses to others' misfortunes (Boecker et al., 2022). Additionally, sympathy has been linked to prosocial behaviors, such as helping and perspective-taking (e.g., Carlo et al., 2012; Harth et al., 2008). It has been theorized that sympathy is primarily experienced by advantaged group members (e.g., Harth et al., 2008), reinforcing the boundaries between in-group and outgroup (Thomas et al., 2009). Nonetheless, in the context of gender identification, sympathy among men who identify strongly with their gender and also those who identify weakly with their gender, has been found to be a main predictor of collective action for women (Iyer & Ryan, 2009). Research regarding the relationship between sympathy and group identification is still limited.

However, moral outrage can be experienced by both advantaged and disadvantaged group members when witnessing the suffering of the latter. This highlights the unique role of moral outrage in fostering solidarity-based action. Building on the differentiation of solidarity-based helping intentions between dependency- and autonomy-oriented help (see Nadler, 2002, for a model of intergroup helping relations), moral outrage is more strongly associated with autonomy-oriented actions, which challenge the status-quo of authority (Subašić et al., 2008) and aim to restore justice, rather than engaging in more passive forms of prosocial behavior, such as donating money (Van de Vyver & Abrams, 2015). These findings align with those of Knab and Steffens (2021), who found that moral outrage predicted more

autonomy-oriented (hierarchy-challenging) than dependency-oriented (hierarchy-maintaining) helping intentions. In contrast, sympathy has been found to predict dependency-oriented actions (Knab & Steffens, 2021), which are associated with the recipient of help remaining more passive and dependent on the help-giver, thus maintaining hierarchies (e.g., Nadler, 2002).<sup>1</sup>

### **Justice sensitivity, intergroup emotions and solidarity**

Justice as a fundamental human value concerns us all, whether in interpersonal or intergroup relationships. Research has shown that individuals differ systematically in their perceptions, emotions, and reactions toward injustice, and these differences could be summarized into four subtypes of so-called justice sensitivity (observer, beneficiary, perpetrator, and victim; Baumert & Schmitt, 2016; Schmitt et al., 2010). The first three other-oriented perspectives are often grouped under the broader concept of other-related justice sensitivity (JS-other; e.g., Fetchenhauer & Huang, 2004; Lotz et al., 2013; Stavrova & Schlösser, 2015). Research has provided indirect evidence that justice sensitivity could predict solidarity-based attitudes and behaviors (e.g., Gollwitzer et al., 2005, 2009; Wolf et al., 2024). When examining the relationship between justice sensitivity and the corresponding reactions on a group level, intergroup emotions appear to be crucial factor (e.g., Lotz et al., 2011; Bondü et al., 2022; Nicolai et al., 2022). The different subtypes of justice sensitivity exhibit varying degrees of correlation with intergroup emotions, which, in some studies, have been identified as mediators in this relationship. These emotions arise in response to perceived injustice and thus serve as a link between the perception of injustice and subsequent behavioral reactions. In the rest of this section, previous findings regarding the relationship between justice sensitivity and these emotions will be briefly reviewed as a foundation for

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<sup>1</sup> *Guilt* and *shame* were also examined as intergroup emotions in this research; however, due to the limited significance of the results relating to these emotions, all details and findings pertaining to guilt and shame are reported in the Supplemental Material.

further analysis: Generally, individuals high in JS-other experience stronger feelings of moral outrage (Lotz et al., 2011). Further, especially higher JS-observer was found to go along with higher moral outrage (Rothschild & Keefer, 2022; Rothmund et al., 2014; Rudert & Speckert, 2023), higher sympathy (Rudert & Speckert, 2023) and higher guilt (Bondü et al., 2022). Moreover, higher JS-beneficiary and JS-perpetrator were also found to go along with higher guilt (Nicolai et al., 2022). JS-victim, on the other hand, which counts as self-related justice sensitivity, has been found to have varying relationships with intergroup emotions. Some studies have revealed no significant correlation with moral outrage (Lotz et al., 2011) (or guilt; see Gollwitzer et al., 2005), whereas Bondü et al. (2022) found significant positive correlations between JS-victim and, among others, anger, guilt, and sadness in unjust situations. While previous research has examined the relationship between different justice sensitivity subtypes (observer, beneficiary, perpetrator) and relevant intergroup emotions without considering their combined effects, a comprehensive overall picture of these associations is still lacking. In the present research, however, other-related justice concerns (JS-other) will be examined as a unified construct in regard to intergroup emotions. This approach is beneficial because studying JS-other as a single construct provides a more integrated understanding of how other-related justice sensitivity collectively influences social identification, intergroup emotions and thus solidarity. This comprehensive perspective helps to simplify the interpretation of findings. Additionally, the intergroup emotions of interest will be assessed across different intergroup contexts, representing advantaged and disadvantaged groups, to explore how their relationship with justice sensitivity may vary.

### **The Present Research**

Previous research has explored the connections between justice sensitivity, social identification, and solidarity, providing valuable insights into how these factors shape attitudes and behaviors toward disadvantaged groups, presenting initial evidence that justice

sensitivity and social identification are positively related (e.g., Wolf et al., 2024). However, a key missing component in this framework is the role of intergroup emotions, which may further explain the relationship between justice sensitivity, social identification, and solidarity-based action. This research aimed to extend existing models by incorporating intergroup emotions as a mediator, alongside social identification between justice sensitivity and solidarity-based attitudes and behaviors. Based on our main objectives, this work was divided into two components. First, we aimed to gain further insights regarding the question of how superordinate identification mediates the influence of JS-other on solidarity-based attitudes and behaviors, and whether the relationship between JS-other and superordinate identification extends beyond previously tested world identity. In order to do so, two pilot studies—focusing on different social identities (Italian identity and White identity) and different disadvantaged groups (southern Italians and Ukrainian refugees)—were conducted in order to establish a more generalizable understanding of the indirect effect of JS-other on solidarity-based attitudes and behaviors, such as political solidarity and dependency- and autonomy-oriented helping intentions toward a disadvantaged group, through the mediator of social identification (based on Wolf et al., 2024). Additionally, social dominance orientation (SDO), as a belief in the hierarchy of human societies and social inequality being natural (Pratto et al., 1994; Sidanius & Pratto, 2012), was found to be negatively related to JS-other (Bondü et al., 2021) and to negatively contribute to political solidarity and to dependency- and autonomy-oriented help (Wolf et al., 2024). Therefore, in order to conduct a consistent replication of the model investigated in Wolf et al. (2024), SDO was controlled for in the pilot studies.

Second, two studies—both using *all people in Germany (including migrants and refugees)* as a superordinate group, *autochthonous Germans* as a subordinate group and different groups of refugees in Germany as a disadvantaged group—were conducted but this

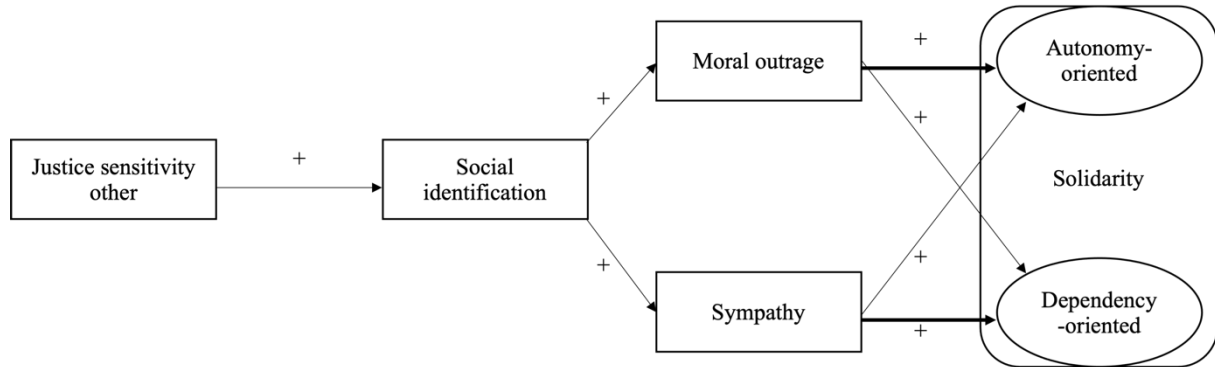
time incorporating intergroup emotions into the model. It is notable that the contexts in the pilot studies significantly differed from those in the main studies for several reasons. The primary goal of the pilot studies was to explore the generalizability of the proposed model across different social identities and disadvantaged groups. By focusing on Italian identity and White identity as social identities, and southern Italians and Ukrainian refugees as disadvantaged groups, the pilot studies aimed to broaden the scope of the research and ensure that the findings were not limited to a specific context. However, the results of the pilot studies led us to choose a different and possibly clearer context for the main studies, which focused specifically on a German context, with refugees in Germany as the disadvantaged group. This was based on the relevance of refugee-related issues in Germany at the time and the specific interest in understanding how intergroup emotions function in a contemporary political climate, where refugees are a prominent topic. Thus, while the contexts of the pilot and main studies differed, they were designed to complement each other, with the pilot studies providing initial insights and a broader understanding, while the main studies incorporated a more context-specific investigation, with the addition of intergroup emotions into the model. As previous research has demonstrated, changes in JS-other influence the level of social identification (the higher the JS-other, the more superordinate the social identification), which, in turn, leads to changes in solidarity-based attitudes and behaviors. Therefore, we suggested the following model in Figure 1<sup>2</sup> to include intergroup emotions.

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<sup>2</sup> This model was not preregistered and was being investigated in an exploratory manner within the context of this research, based on prior findings.

## Figure 1

Central variables in Study 1 and Study 2 of this research and their proposed relationships in explaining solidarity



*Note.* Thicker arrows indicate stronger relationships between intergroup emotions and outcomes.

All studies were preregistered.

Pilot Study 1: <https://aspredicted.org/pzb2-j4dw.pdf>

Pilot Study 2: <https://aspredicted.org/kynx-qypd.pdf>

Study 1: <https://aspredicted.org/hnch-xqhb.pdf>

Study 2: <https://aspredicted.org/v95x-rrwk.pdf>

Supplemental Material: <https://researchbox.org/4164>

### Pilot Study 1

To be able to generalize previous findings, we decided to conduct a study using northern Italian participants, assessing their solidarity-based attitudes and behaviors toward the disadvantaged group of southern Italians within Italian society. In southern Italy, unemployment is higher, the level of education is lower, the healthcare system is poorer and the socio-economic status is lower than in northern Italy (Deleidi et al., 2021; Ballarino et al., 2014; Lynn, 2010; Toth, 2014; Daniele, 2015). There are also prevailing stereotypes about southern Italians, such as that they are idlers, arrogant, high in sociability and low in morality, ability, assertiveness, and status (Dickie, 1999a, 1999b; Caldera & Mosso, 2024). The

existing economic, social and societal differences are unjust and divide the people of Italy, which is why we decided that this context also fits into our line of research.

## **Method**

A sample of 169 Northern Italians ( $M_{\text{age}} = 24.6$ ,  $SD = 7.56$ ) participated; 72.8% indicated being female, 26.6% indicated being male and 0.6% indicated other. Initially, justice sensitivity (*Justice Sensitivity Short Scale*, Baumert et al., 2014; JS-other  $\alpha = .79$ ; JS-victim  $\alpha = .63$ ) and SDO (*SDO<sub>7</sub> scale*, Ho et al., 2015;  $\alpha = .79$ ) were assessed. Then, political solidarity (*Political Solidarity Measure*, shortened six-item version, Neufeld et al., 2019;  $\alpha = .86$ ) and dependency- and autonomy-oriented helping attitudes and intentions were assessed (eight items each, adapted from Maki et al., 2017; e.g., dependency-oriented: “I help southern Italians because they are unable to help themselves”,  $\alpha = .82$ ; autonomy-oriented: “Helping southern Italians now makes them better able to solve their own problems in the future”,  $\alpha = .88$ ; correlation between dependency- and autonomy-oriented help scales:  $r = .42$ ,  $p < .001$ ). At the end of the study, participants rated their level of identification on a three-item polarity profile, representing the poles of northern Italian and all Italian identification (items based on *German Social Identification Scale*, Roth & Mazziotta, 2015;  $\alpha = .85$ ).<sup>3</sup>

## **Results**

### ***Correlations***

The most relevant results were that JS-other was positively related to solidarity-based attitudes and behaviors toward southern Italians. More specifically, higher levels of JS-other correlated with higher levels of political solidarity and dependency- and autonomy-oriented help. Further, higher identification (and thus superordinate) correlated with higher levels of political solidarity and dependency-oriented help but, interestingly, not with autonomy-oriented help. For all correlations, see Table 1.

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<sup>3</sup> For details on measures, see Study 1, and for further measures, see Giebel (2023).

**Table 1***Means (M, with standard deviations, SD) and correlations*

Variable	<i>M (SD)</i>	1	2	3	4	5	6
1. Identification	5.08 (1.14)	-					
2. JS-other	3.62 (.98)	.22**	-				
3. Political solidarity	4.42 (1.05)	.54**	.34**	-			
4. Dependency-oriented help	4.1 (1.13)	.37**	.35**	.57**	-		
5. Autonomy-oriented help	4.86 (1.19)	.01	.16*	.25**	.42**	-	
6. SDO	2.05 (.78)	-.36**	-.23**	-.43**	-.22**	.10	-
7. JS-victim	3.36 (1.18)	-.04	-.43**	-.17*	.19*	.18*	.01

*N* = 169. *Note.* The higher the identification, the more superordinate as compared to subordinate. Political solidarity, dependency- and autonomy-oriented help were assessed with reference to southern Italians. All variables were assessed on scales 1–6. *p* is two-tailed. \* *p* < .05, \*\* *p* < .01.

### ***Multivariate Analyses of Political Solidarity and Dependency- and Autonomy-Oriented***

#### ***Help***

Multiple linear regressions were used to identify predictors of the outcome variables in joint analyses. Social identification and JS-other were used as predictor variables, while controlling for SDO and JS-victim (see Table 2). For political solidarity, social identification, SDO, and JS-victim significantly contributed to the model, while JS-other did not. For dependency-oriented help, social identification and JS-other significantly contributed, while JS-victim and SDO did not. For autonomy-oriented help, none of the predictors showed a significant contribution.

**Table 2**

*Multiple linear regression models for the outcomes for political solidarity and dependency- and autonomy-oriented help*

Variables	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>	95% CI ( $\beta$ )
<b>Political solidarity</b>	<i>F</i> (4, 164)=27.59, <i>p</i> <.001, <i>R</i> <sup>2</sup> <sub>Corr</sub> =.39					
Social identification	.39	.06	.42	6.44	<.001	.2700; .5089
SDO	-.33	.09	-.25	-3.78	<.001	-.5086; -.1597
JS-other	.14	.08	.14	1.92	.056	-.0038; .2923
JS-victim	.12	.06	.14	2.01	.046	.0019; .2392
<b>Dependency-oriented help</b>	<i>F</i> (4, 164)=11.75, <i>p</i> <.001, <i>R</i> <sup>2</sup> <sub>Corr</sub> =.20					
Social identification	.30	.07	.30	4.05	<.001	.1544; .4482
JS-other	.26	.09	.23	2.81	.006	.0771; .4413
JS-victim	.10	.07	.10	1.32	.190	-.0486; .2433
SDO	-.09	.11	-.06	-.78	.44	-.2994; .1298
<b>Autonomy-oriented help</b>	<i>F</i> (4, 164)=2.45, <i>p</i> =.049, <i>R</i> <sup>2</sup> <sub>Corr</sub> =.03					
SDO	.20	.13	.13	1.61	.108	-.0453; .4540
JS-other	.16	.11	.13	1.44	.151	-.0569; .3668
JS-victim	.13	.09	.13	1.50	.137	-.0411; .2984
Social identification	.03	.09	.03	.37	.710	-.1386; .2031

*Note.* Predictors are presented in descending order. Results are comparable if SDO is excluded, except for political solidarity, with JS-other then being significant (*p* = .01; see Supplement Material). *SE* = standard error; *CI* = confidence interval.

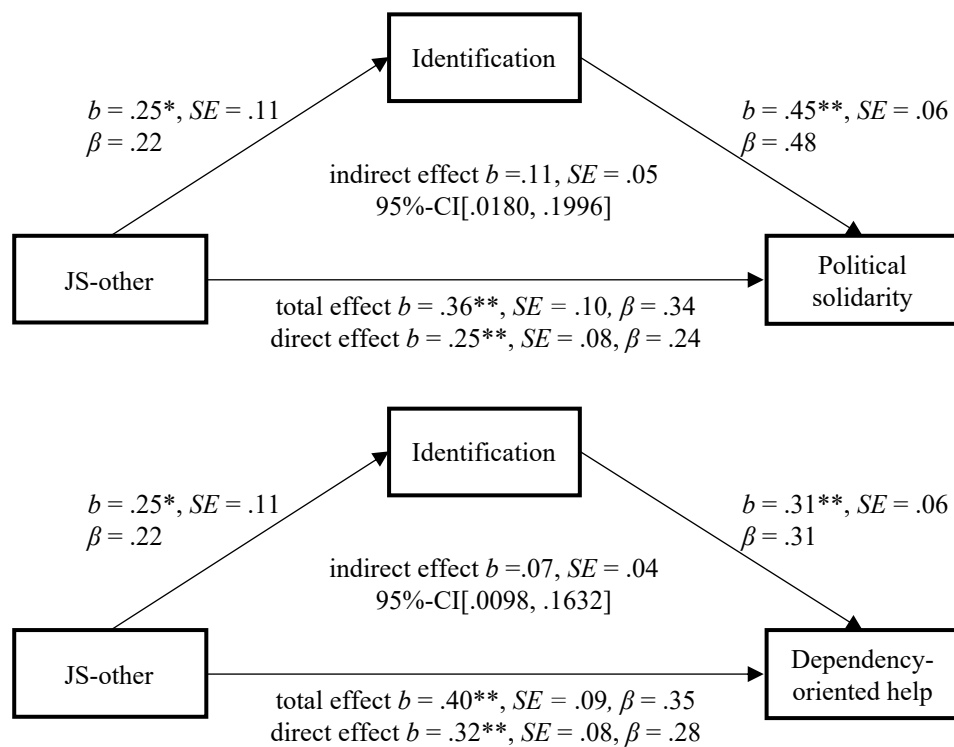
### ***Testing the Relationship between JS-Other and Social Identification***

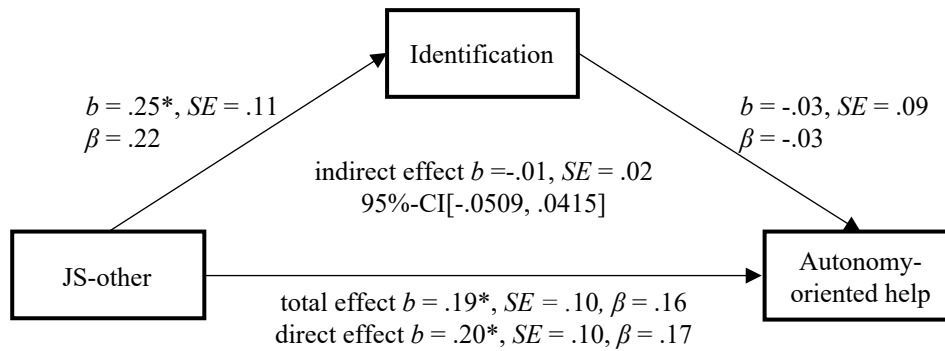
Focusing on the research question of how superordinate identification mediates the influence of JS-other on solidarity-based attitudes and behaviors, and whether the relationship between JS-other and superordinate identification extends beyond world identity, we conducted mediation analyses (see Figure 2). For political solidarity and dependency-oriented help, the models showed partial mediation effects: JS-other had a positive effect on social identification

(mediator) and the outcome variables, with a small indirect effect mediated by social identification. Thus, while there was a direct relationship between JS-other and political solidarity, as well as dependency-oriented help, results indicate that a significant portion of the relationship can be explained by social identification. Regarding autonomy-oriented help, no mediation effect could be found. This is in line with the results of the regression analysis, as well as the fact that social identification did not significantly correlate with autonomy-oriented help.

**Figure 2**

*Mediation models for predicting relationship of political solidarity and dependency- and autonomy-oriented help with JS-other and social identification*





*Note.* PROCESS procedure for SPSS Version 4.0, Model 4 (Hayes, 2018). A total of 5,000 bootstrap samples for percentile bootstrap confidence intervals.  $b$  = unstandardized coefficient;  $SE$  = standard error;  $\beta$  = standardized coefficient;  $CI$  = confidence interval. \*  $p < .05$ ; \*\*  $p < .01$ .

## Discussion

In summary, we focused on northern Italians' attitudes toward disadvantaged southern Italians. Here, social identification with a superordinate group (Italian identity) was positively related to both political solidarity and dependency-oriented helping. This aligns with the general findings from Wolf et al. (2024) but, interestingly, autonomy-oriented help was not significantly related to superordinate identification in this study, which diverges from the findings of Wolf et al. (2024), where superordinate identification was more strongly linked to both types of helping intentions. The fact that the disadvantaged group (southern Italians) belong to the same nationality as the advantaged group under investigation (northern Italians) may have influenced the effects of social identification on helping intentions. However, it is as yet unclear as to how these results can be explained. Further, the results of the regression analyses differ from previous findings regarding the role of JS-other and social identification (and SDO). This supports the assumption that the relationships between these factors and solidarity-based attitudes and behaviors may be context-dependent.

When comparing the mediation results with previous research (Wolf et al., 2024), we found that the mediation effects for political solidarity and dependency-oriented help were replicated, with partial mediation observed in both cases. Specifically, for political solidarity,

the indirect effect of social identification on the relationship between JS-other and political solidarity was even larger in Pilot Study 1 than in previous findings (Wolf et al., 2024), suggesting that social identification plays a stronger role in this context. For dependency-oriented help, the indirect effect was similarly small in both studies. However, the most notable difference arose with autonomy-oriented help, where no indirect effect via social identification was found in Pilot Study 1; this aligns with the lack of a significant correlation between social identification and autonomy-oriented help.

Additionally, the measurement of dependency- and autonomy-oriented help in Pilot Study 1 differed from the previous research that we aimed to replicate (see Wolf et al., 2024). In particular, the use of different instruments in measuring dependency- and autonomy-oriented help may explain some of the inconsistencies observed. It may be that the items in the helping orientation inventory by Maki et al. (2017) elicited corresponding processes that were different to those in the scale from Becker et al. (2019). This difference could have influenced the relationship between social identification and help types, leading to variations in the results.

## **Pilot Study 2**

To explore another context, we focused on Ukrainian refugees and White identification among German participants. Although White identification somewhat deviates from the identity level previously examined, the idea that White identity could enhance solidarity was based on the observed differences in how people in Germany (or Western Europe) treat Ukrainian refugees compared to refugees from the Middle East or Africa. According to social identity theory, this can be attributed to the perceived similarity with these refugees. The more similar they are to us, the more likely that they are to be categorized as part of the in-group, which, as explained previously, should lead to greater solidarity. Research has already shown that the more deserving treatment of Ukrainian refugees compared to others can be explained

by, among other things, their White skin color (Altam & Kokane, 2023; Herat, 2023; Shmidt & Jaworsky, 2022). There is also evidence indicating that even within the group of Ukrainian refugees, differences have been found based on skin color (see Herat, 2023). Therefore, the following pilot study aimed to investigate whether a higher White identification was associated with increased solidarity toward this refugee group. It should be noted that the original plan was to examine the difference between Ukrainian refugees perceived as White and those perceived as being of color, depending on the level of White identification. Since no expected differences were found, in the following presentation of the pilot study we will focus only on the results that expand the connections between social identification, justice sensitivity, and solidarity.

### Method

A total of 162 Germans ( $M_{\text{age}} = 38.09$ ,  $SD = 2.38$ ) participated in the study, with 66% indicating being female, 30.9% being male, 1.9% being diverse, and 1.2% not responding. Initially, justice sensitivity (*Justice Sensitivity Short Scale*, Baumert et al., 2014; JS-other  $\alpha = .79$ ; JS-victim  $\alpha = .77$ ) and SDO (*SDO<sub>7</sub> scale*, Ho et al., 2015,  $\alpha = .75$ ) were assessed. White identification was assessed using an adapted version of the *German Social Identification Scale* (Roth & Mazziotta, 2015;  $\alpha = .88$ ). Then, brief information regarding the situation in Ukraine, as well as a photograph of a Ukrainian refugee family<sup>4</sup>, was presented to the participants. This was followed by the assessment of dependency- and autonomy-oriented helping intentions toward Ukrainian refugees in Germany (Becker et al., 2019; dependency:  $\alpha = .88$ ; autonomy:  $\alpha = .92$ ; correlation between dependency- and autonomy-oriented help scales:  $r = .68$ ,  $p < .001$ ). Next, participants were presented with pairs of items, one describing

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<sup>4</sup> At this point, the originally planned manipulation took place through the presentation of a Ukrainian “White” family or a Ukrainian family of color. As no group differences between the experimental groups could be recorded, this distinction was not taken into account in the following analyses. For further measures and all results, see Müller-Hohenstein (2023).

a dependency-oriented type of help and the other one an autonomy-oriented type. Participants had to choose one of each in regard to Ukrainian refugees. By using a forced-choice format, we aimed to obtain a clearer idea of the impact of justice sensitivity and social identification on the type of helping intention preferred.

## **Results**

### ***Correlations***

As expected, JS-other correlated with significantly higher levels of political solidarity and dependency- and autonomy-oriented help and with significantly lower levels of SDO. White identification did not show any significant relations with solidarity-related attitudes and behaviors (see Table 3). To gain a deeper understanding of the influence of JS-other and identification on the helping type, participants' choice of either dependency- or autonomy-oriented help was assessed. Overall, dependency-oriented help was chosen in 642 cases (28%) and autonomy-oriented help in 1,626 cases (72%). This already demonstrates a clear tendency toward autonomy-oriented helping types among the participants in relation to Ukrainian refugees. JS-other was positively associated with autonomy-oriented help, indicating that people being more sensitive to other-related justice concerns selected autonomy-oriented help rather than dependency-oriented help. White identification correlated negatively with selecting autonomy-oriented help. JS-victim did not significantly correlate with autonomy-oriented help. Given the binary nature of the response format, these results inversely translate to dependency-oriented help.

**Table 3***Means (M, with standard deviations, SD) and correlations*

Variable	<i>M (SD)</i>	1	2	3	4	5	6	7
1. White ID	2.67 (.73)	-						
2. JS-other	3.90 (.99)	.18	-					
3. Political solidarity	5.85 (1.08)	-.14	.26**	-				
4. Dependency-oriented help	4.53 (1.20)	-.02	.19*	.33**	-			
5. Autonomy-oriented help	5.07 (1.29)	-.08	.31**	.50**	.68**	-		
6. Type of help	-	-.17*	.19*	.45**	-.12	-.59**	-	
7. SDO	2.29 (.82)	.12	-.30**	-.45**	-.12	-.40**	-.48**	-
8. JS-victim	3.30 (.99)	.32**	.27**	-.12	.05	-.05	-.14	-.05

*N* = 162. *Note.* White ID was assessed on scale of 1–5, with higher values indicating higher White identification. JS and SDO were assessed on scales of 1–6. Political solidarity and dependency- and autonomy-oriented help were assessed regarding Ukrainian refugees on a scale of 1–7. Type of help = number of autonomy-oriented help options chosen, with results inversely translating to dependency-oriented help. Correlations were controlled for the experimental condition. *p* is two-tailed. \* *p* < .05, \*\* *p* < .01.

### ***Multivariate Analyses of Political Solidarity and Dependency- and Autonomy-Oriented Help***

Multiple linear regressions were used to identify significant predictors of the outcome variables in joint analyses. JS-other and White identification were used as predictors, with SDO and JS-victim being controlled for (see Table 4). JS-other significantly contributed to all outcomes. White identification, in contrast, did not make a significant contribution to any of the outcome variables. SDO significantly contributed to political solidarity and autonomy-oriented help, but did not significantly contribute to dependency-oriented help. JS-victim only played a significant role in explaining political solidarity.

Regarding the type of help chosen (forced-choice format on dependency- or autonomy-oriented help), the variable did not meet the key assumptions for standard regression models, due to the count-data structure and significant deviation from normality (Kolmogorov-Smirnov  $p < .001$ , Shapiro-Wilk  $p < .001$ ). Moreover, since it represents an aggregated response frequency rather than a continuous construct, interpreting regression coefficients would be difficult. Therefore, no further regression analysis was conducted for this variable. Further, due to the lack of significant correlations between the proposed mediator of social identification and both JS-other and the outcome variables, as well as its non-significant explanatory power in the regression analysis, no further mediation analyses as in Pilot Study 1 were conducted.

### **Discussion**

Taken together, we focused on Germans' political solidarity and dependency- and autonomy-oriented help intentions toward Ukrainian refugees. Here, JS-other was found to correlate with all three solidarity-based outcomes, in line with previous findings (e.g., Baumert et al., 2022; Wolf et al., 2024). Social identification, as in being White, did not correlate with any of the solidarity-based attitudes and behaviors assessed, contrary to Pilot Study 1 and previous findings, such as those of Wolf et al. (2024). Further, while the results indicate that JS-other significantly contributed to explaining political solidarity and dependency- or autonomy-oriented help in the regression analyses (alongside SDO and JS-victim for political solidarity, and SDO for autonomy-oriented help), White identification was not found to make a significant contribution throughout all three models. The present results leave two possibilities open: On the one hand, White identification may not function in the same way as other superordinate identities (e.g., world identity), which could explain the absence of the expected effects of identification. On the other hand, the generally low levels of White identification in the sample may have also prevented the expected effects from emerging.

**Table 4**

*Multiple linear regression models for the outcomes of political solidarity and dependency- and autonomy-oriented help*

Variables	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>	95% CI ( $\beta$ )
<b>Political solidarity</b>	<i>F</i> (4, 157)=13.8, <i>p</i> <.001, $R^2_{Corr}$ =.24					
SDO	-.51	.10	-.39	-5.30	<.001	-.6951; -.3176
JS-other	.22	.09	.20	2.69	.008	.0583; .3806
JS-victim	-.14	.06	-.17	-2.24	.026	-.2628; -.0168
White identification	-.11	.11	-.08	-1.04	.298	-.3283; .1014
<b>Dependency-oriented help</b>	<i>F</i> (4, 157)=1.79, <i>p</i> =.134, $R^2_{Corr}$ =.02					
JS-other	.21	.10	.18	2.96	.041	.0084; .4184
SDO	-.10	.12	-.07	-.81	.422	-.3380; .1422
White identification	-.08	.14	-.05	-.58	.566	-.3528; .1938
JS-victim	.01	.08	.01	.14	.893	-.1458; .1671
<b>Autonomy-oriented help</b>	<i>F</i> (4, 157)=10.64, <i>p</i> <.001, $R^2_{Corr}$ =.19					
SDO	-.49	.12	-.31	-4.15	<.001	-.7247; -.2575
JS-other	.33	.10	.26	3.29	.001	.1326; .5315
JS-victim	-.12	.08	-.12	-1.55	.124	-.2712; .0332
White identification	-.10	.14	-.05	-.71	.481	-.3610; .1707

*Note.* Predictors are presented in descending order. Results are comparable if SDO is excluded (see Supplemental Material). *SE* = standard error; CI = confidence interval.

One possible explanation for the latter is the sample's left-leaning (liberal) political orientation,<sup>5</sup> with liberals typically not seeing their Whiteness as a prominent identity (Schildkraut, 2019) and even disidentifying with it (Dai et al., 2021).

Additionally, the measurement of White identification may have even emphasized the opposite, making a broader, non-racial identification more salient and potentially leading to

<sup>5</sup> Political orientation on scale 1 (rather left) to 11 (rather right):  $M(SD)$ =3.08(1.5)

the contrary effects. One interesting finding regarding White identification was the positive relationship with JS-victim. People who identified more strongly as White were also more sensitive to self-related injustice. One explanation could be that if one identifies with a group and some of its members are experiencing injustice, one might subjectively feel like a victim too. Another explanation, going in the opposite direction, could be based on the findings that JS-victim was associated with less support for solidarity, mediated by nationalistic concerns among a German sample regarding European countries in need (Rothmund et al., 2017), which could be translated as a tendency to identify on a lower, more subordinate level rather than a more inclusive one. If we take White identification as a more subordinate group within our sample, this could explain the positive relationship. This train of thought could be supported by the negative relationship between White identification and choosing autonomy-oriented help. In other words, higher White identification correlated with more dependency-oriented help when participants had to choose between both helping types, with dependency-oriented help being more associated with subgroup identification (Knab & Steffens, 2021; Wolf et al., 2024).

### **Discussion of Pilot Studies 1 and 2**

Both pilot studies contribute valuable insights into how identity and justice sensitivity influence solidarity-based behaviors. While Pilot Study 1 demonstrates the importance of social identification and justice sensitivity in shaping solidarity toward disadvantaged in-group members (southern Italians), Pilot Study 2 highlights the complexity of White identification in solidarity actions, particularly when such identification is not strongly salient. Together, these studies suggest that the role of identification—whether superordinate or subordinate—can significantly affect solidarity-based attitudes and behaviors, but that the nature of the identified group and the level of identification must be carefully considered. Further research should explore how varying types of identity interact with justice sensitivity

across different disadvantaged groups, in order to refine our understanding of solidarity dynamics. An overall comparison and meta-perspective of findings will be presented in the general discussion at the end of this work.

### **Study 1**

This study examined the role of intergroup emotions in the relationship linking justice sensitivity and social identification to solidarity-based attitudes and behaviors. While prior findings suggest that justice sensitivity and social identification are related, less is known about how emotions such as moral outrage and sympathy shape their influence on solidarity. Given that intergroup emotions can drive different forms of action (Saab et al., 2015; Thomas et al., 2009), this study aimed to provide a more nuanced understanding of the emotional mechanisms underlying solidarity. By including these affective components to extend the existing models, we sought to test the generalizability of previous results and offer a more integrative perspective on the interplay between personality-driven justice sensitivity, social identification, and intergroup emotions in shaping responses to injustice regarding disadvantaged outgroups. While SDO was included in the pilot studies to ensure clearer comparability with previous findings, it was not included in Study 1 (or Study 2). This decision was made to avoid an overabundance of variables and to allow the focus to remain on the primary variables of interest. Additionally, excluding SDO helped to streamline the analysis and enhance clarity.

Building on our previous research, we proposed the following replication hypotheses: Higher (superordinate) identification compared to lower (subordinate) identification correlates with higher solidarity-based attitudes and behaviors toward refugees (H1a: dependency-oriented help; H1b: autonomy-oriented help). Extending the research by adding intergroup emotions, we also postulated that: higher (superordinate) identification compared to lower (subordinate) identification correlates with higher moral outrage (H2); higher JS-other

correlates with higher solidarity-based attitudes and behaviors (H3a: dependency-oriented help; H3b: autonomy-oriented help); higher JS-other correlates with higher moral outrage (H4a) and sympathy (H4b); higher JS-victim correlates with lower autonomy-oriented help (H5a), lower moral outrage (H5b), and lower sympathy (H5c);<sup>6</sup> and superordinate identification and JS-other make a significant contribution in an overall model explaining dependency- (H6a) and autonomy-oriented help (H6b).

## **Method**

### ***Participants***

The sample consisted of 243 German-speaking participants ( $M_{\text{age}} = 34.21$ ,  $SD = 14.33$ ), with 71.6% female, 27.6% male, and 0.8% diverse or other. Participants were mainly recruited via social networks and mailing lists. Psychology students could earn course credit.

A sensitivity analysis was conducted to determine the smallest effect size detectable, with the given sample size at 95% power and  $\alpha = .05$ . For the initial multiple regression model with four predictors, the smallest detectable effect was  $f^2 = .08$  (equivalent to  $R^2 = .07$ ). For the second model, which included four additional predictors (intergroup emotions)<sup>7</sup>, we conducted a follow-up sensitivity analysis for the incremental variance explained. The smallest detectable additional effect was the same:  $f^2 = .08$ .

### ***Measures, Materials and Procedure***

First, we again assessed justice sensitivity. Then we asked participants for their level of identification with all people living in Germany, including migrants and refugees, followed by an assessment of intergroup emotions regarding refugees in Germany. This time, we did not specify a group of refugees but used the general term “refugees”. As an outcome, we assessed

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<sup>6</sup> Originally, guilt and shame were assessed for exploratory purposes; therefore, we did not phrase hypotheses in the preregistration.

<sup>7</sup> All intergroup emotions assessed were included in the models.

dependency- vs. autonomy-oriented help. Finally, we asked participants for their level of identification with only autochthonous Germans.

Since we had originally planned to focus on JS-victim, which was somewhat neglected in our previous research, it was assessed using all ten items from the *Justice Sensitivity Inventory* (e.g., “It makes me angry when others are undeservingly better off than me”,  $\alpha = .85$ ; Schmitt et al., 2010). For the other three subtypes, we used two items each from the *Justice Sensitivity Short Scale* (JS-other, e.g., “I am upset when someone is undeservingly worse off than others”,  $\alpha = .77$ ; Baumert et al., 2014). For the assessment of social identification, we used a shortened version of the *German Social Identification Scale* (six items, based on the results of the pilot study in Wolf et al. (2024), e.g., “I feel connected with..”; Roth & Mazziotta, 2015). These items were used twice, once assessing participants’ identification with all people living in Germany, including refugees and migrants ( $\alpha = .86$ ), and the second time at the end of the study, assessing participants’ identification with autochthonous Germans ( $\alpha = .88$ ). Intergroup emotions regarding refugees in Germany were assessed using an 11-item scale, based on Knab and Steffens (2021): Moral outrage (four items, e.g., “I get angry when I think about how refugees are treated”,  $\alpha = .87$ ), sympathy (three items, e.g., “I feel sympathy for the refugees”,  $\alpha = .90$ ), guilt (two items, e.g., “I feel guilty when I think about how refugees are doing”,  $\alpha = .83$ ), and shame (two items, e.g., “I am ashamed of the violent attacks and protests against refugees”,  $\alpha = .66$ ). Dependency- and autonomy-oriented help were assessed using a shortened version of the 22-item scale provided by Becker et al. (2019); six items each were averaged to assess dependency-oriented help (e.g., “I would get involved in a project where clothes and toy donations are accepted, sorted and distributed to refugees on a voluntary basis”,  $\alpha = .84$ ) and autonomy-oriented help (e.g., “I would take part in a demonstration to prevent the deportation of refugees”,  $\alpha = .89$ ;

correlation between dependency- and autonomy-oriented help scales:  $r = .66, p < .001$ ).<sup>8</sup> Due to previous findings that the items assessing dependency- and autonomy-oriented help did not show the necessary factor loadings (Wolf et al., 2024), an exploratory factorial analysis was conducted, indicating that the assumed two-factor solutions were obtained in this study (see Supplemental Material for results).

## Results

After checking assumptions, we proceeded to analyze the data in the following order: First, we conducted correlations of all variables of interest to compare them with previous results.<sup>9</sup> Second, we conducted two sets of multiple linear regression models for both outcomes: dependency- and autonomy-oriented help. The first set included our previously tested factors of JS-other, social identification, and JS-victim. In the second set, we added the intergroup emotions in order to explore whether they may be possible mediators within their detected relationships. Finally, depending on the results of the multiple regression analyses, mediation analyses were conducted to gain a better idea of how the intergroup emotions might mediate the relationships.

### *Correlations with Social Identification*

Table 5 presents all the means, standard deviations, and correlations of the variables.

Superordinate group identification (all people living in Germany) correlated with significantly higher dependency-oriented help and autonomy-oriented help, as well as significantly higher moral outrage and sympathy. Subordinate group identification (autochthonous Germans) did not show a significant relation with dependency-oriented help, but correlated with significantly lower autonomy-oriented help, moral outrage and sympathy. For all outcomes,

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<sup>8</sup> For further measures, see Exner (2023).

<sup>9</sup> Since the four emotions assessed were highly correlated, an exploratory factor analysis was conducted. The results indicated that the assumed four-factor solutions were obtained (see Supplement Material for findings of both studies).

the difference between correlations was significant: dependency-oriented help  $z = 5.83, p < .001$  (H1a); autonomy-oriented help  $z = 7.46, p < .001$  (H1b); moral outrage  $z = 7.26, p < .001$  (H2); and sympathy  $z = 6.55, p < .001$ , which was not phrased as a hypothesis.

### ***Correlations with Justice Sensitivity***

JS-other correlated with significantly higher dependency- (H3a) and autonomy-oriented help (H3b), and with significantly higher moral outrage (H4a) and sympathy (H4b). The expected negative correlations between JS-victim and autonomy-oriented help (H5a), moral outrage (H5b), and sympathy (H5c) were not found.

### ***Multivariate Analyses of Dependency- and Autonomy-Oriented Help***

Multiple linear regressions were used to identify predictors of the outcome variables in joint analyses. First, we used JS-other, and superordinate and subordinate identification, controlling for JS-victim. As expected, JS-other and superordinate identification significantly contributed to both helping types (H6a, H6b). Further, subordinate identification was a significant negative predictor for autonomy-oriented help. We aimed to explore how the inclusion of intergroup emotions into an overall model explaining dependency- and autonomy-oriented help changed the impact of superordinate identification and JS-other. When intergroup emotions were added to the regression models as possible predictors, sympathy was found to be another significant positive predictor, alongside JS-other and superordinate identification, in explaining dependency-oriented help. Interestingly, regarding autonomy-oriented help, JS-other and subordinate identification no longer made a significant contribution when moral outrage was taken into account, being the strongest predictor for autonomy-oriented help in the model. Although guilt and shame are primarily presented in the Supplemental Material, they were incorporated into the main analyses to ensure comprehensive coverage. See Table 6 for multiple regression analyses. The results are comparable if guilt and shame are excluded; see Supplement Material.

**Table 5***Means (with SDs) and bivariate correlations between all variables*

Variable	<i>M</i>	1	2	3	4	5	6	7	8	9	10
1. Superordinate ID	3.34 (.97)										
2. Subordinate ID	2.76 (.93)	-.12									
3. JS-other	4.28 (.99)	.29**	-.07								
4. Perceived injustice	5.53 (1.51)	.49**	-.26**	.31**							
5. Moral outrage	5.28 (1.51)	.57**	-.31**	.40**	.81**						
6. Sympathy	5.44 (1.63)	.49**	-.18**	.41**	.70**	.75**					
7. Guilt	3.91 (1.89)	.41**	.04	.46**	.47**	.61**	.53**				
8. Shame	5.32 (1.61)	.52**	-.23**	.37**	.73**	.83**	.71**	.62**			
9. Dependency-oriented help	4.61 (1.52)	.42**	-.12	.37**	.35**	.47**	.51**	.41**	.47**		
10. Autonomy-oriented help	4.54 (1.72)	.57**	-.24**	.33**	.64**	.70**	.54**	.46**	.60**	.66**	
11. JS-victim	3.90 (.96)	-.12	.21**	.25**	-.11	-.01	-.01	.04	-.01	-.03	-.11

*N* = 241. *Note.* Perceived injustice, emotions, and dependency- and autonomy-oriented help were assessed regarding refugees in Germany. Correlations were controlled for the experimental condition (potential victimhood). ID was assessed on a scale of 1–5, JS on a scale of 1–6, and perceived injustice, emotions, and dependency- and autonomy-oriented help on a scale of 1–7. *p* is two-tailed. \* *p* < .05, \*\* *p* < .01.

**Table 6**

*Multiple linear regression models for the outcomes of dependency-oriented help and autonomy-oriented help*

Variables	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>	95% CI ( $\beta$ )
<b>Models A: excluding emotions as possible predictors</b>						
<b>Dependency-oriented help</b>	$F(4, 236)=19.41, p<.001, R^2_{Corr}=.24$					
Superordinate ID	.49	.09	.32	5.25	<.001	.3060; .6732
JS-other	.44	.10	.29	4.67	<.001	.2556; .6288
JS-victim	-.09	.10	-.06	-.91	.36	-.2749; .1011
Subordinate ID	-.08	.09	-.05	-.88	.38	-.2686; .1029
<b>Autonomy-oriented help</b>	$F(4, 236)=36.24, p<.001, R^2_{Corr}=.37$					
Superordinate ID	.86	.10	.48	8.82	<.001	.6645; 1.0469
JS-other	.34	.10	.19	3.45	<.001	.1461; .5347
Subordinate ID	-.28	.10	-.15	-2.83	.005	-.4712; -.0844
JS-victim	-.13	.10	-.07	-1.27	.20	-.3222; .0693
<b>Models B: including emotions as possible predictors</b>						
<b>Dependency-oriented help</b>	$F(8, 232)=14.6, p<.001, R^2_{Corr}=.31$					
JS-other	.25	.10	.16	2.51	.013	.0533; .4430
Superordinate ID	.24	.10	.16	2.34	.02	.0378; .4448
Sympathy	.24	.08	.26	3.05	.003	.0852; .3954
Shame	.10	.10	.11	1.04	.298	-.0874; .2843
JS-victim	-.08	.09	-.05	-.85	.394	-.2569; .1015
Guilt	.08	.06	.10	1.24	.215	-.0442; .1954
Subordinate ID	-.04	.10	-.02	-.39	.699	-.2324; .1561
Moral outrage	-.03	.11	-.03	-.29	.772	-.2572; .1911
<b>Autonomy-oriented help</b>	$F(8, 232)=34.0, p<.001, R^2_{Corr}=.52$					
Moral outrage	.60	.11	.52	5.47	<.001	.3798; .8078
Superordinate ID	.41	.10	.23	4.19	<.001	.2190; .6075

JS-victim	-.16	.09	-.09	-1.81	.071	-.3284; .0137
JS-other	.12	.09	.07	1.22	.224	-.0709; .3011
Subordinate ID	-.05	.09	-.03	-.55	.582	-.2373; .1336
Sympathy	-.03	.08	-.03	-.44	.664	-.1808; .1153
Guilt	.03	.06	.03	.49	.625	-.0859; .1428
Shame	.02	.09	.02	.19	.848	-.1602; .1947

*Note.*  $N=241$ . Predictors are presented in descending order according to their  $B$ -value.

### ***Exploring the Relationship between JS-Other, Social Identification and Intergroup***

#### ***Emotions***

In previous research, social identification was found to have a mediating role between JS-other and solidarity-based attitudes and behaviors (Wolf et al., 2024), which was able to be replicated in Pilot Study 1. Building on this, in combination with the results of the multiple linear regression models, which highlight the role of sympathy in explaining dependency-oriented help and moral outrage in explaining autonomy-oriented help, we conducted exploratory serial mediation analyses using social identification as a possible first mediator, and then sympathy as a possible mediator for dependency-oriented help and moral outrage as a possible mediator for autonomy-oriented help.<sup>10</sup> For mediation models, see Figure 3; for all further mediation models, also including guilt and shame, see Supplement Material. The ordering of the mediator variables in the models was based on the theory that intergroup emotions stem from social identification (e.g., Crisp et al., 2007; Mackie et al., 2015).

#### ***Moral Outrage***

The results of the mediation analyses indicate that JS-other significantly influenced autonomy-oriented help via the mediators of social identification and moral outrage. The total effect of JS-other was significant, but the direct effect was not significant, indicating full

<sup>10</sup> A path model or structural equation model could have been used to include all intergroup emotions simultaneously but, due to the sample size being insufficient for such analyses, we decided against this.

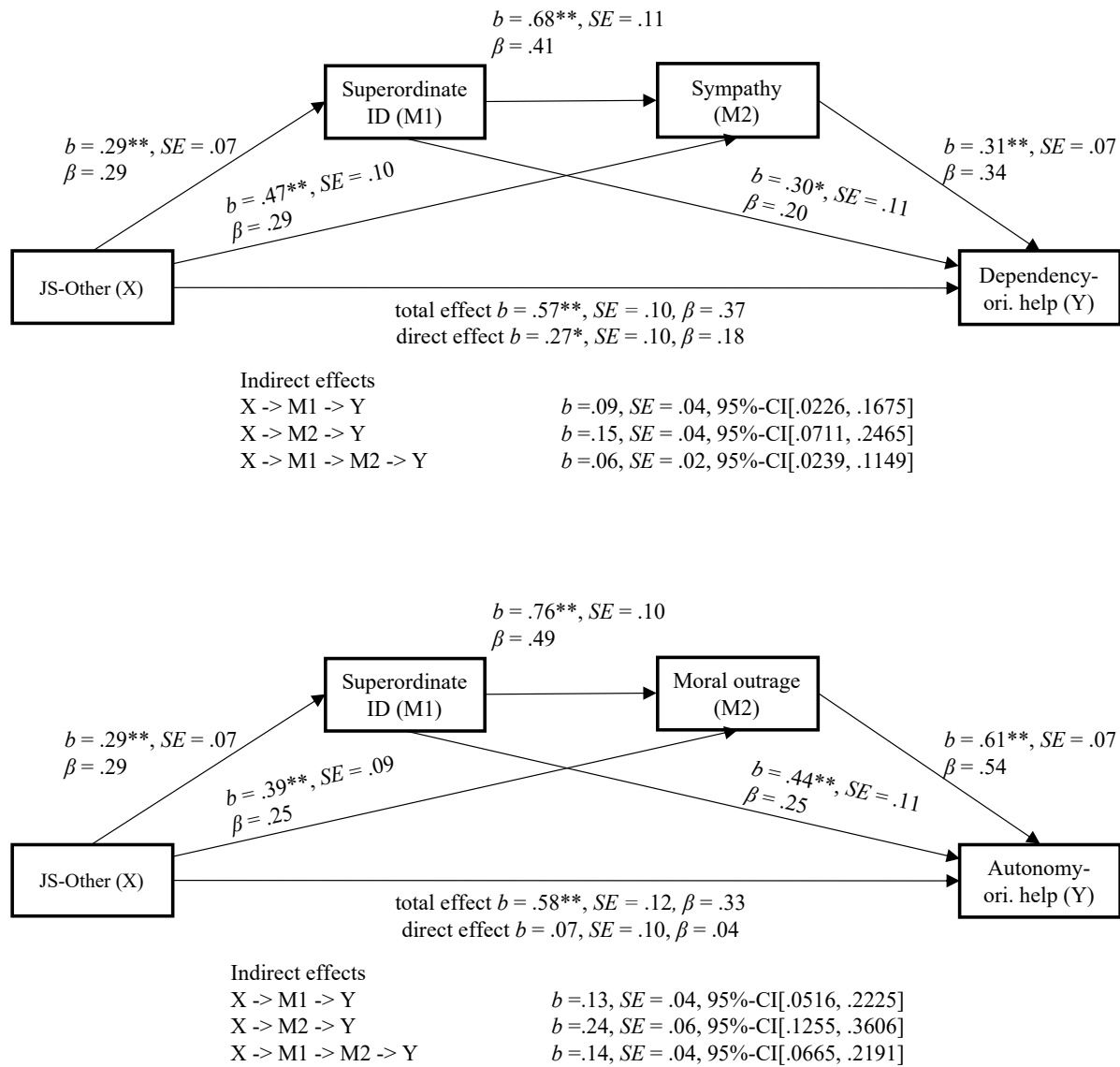
mediation, which is in line with the results of the multiple linear regression models, where the significant contribution of JS-other for autonomy-oriented help disappeared when moral outrage was added to the model. The total indirect effect was significant at .50, 95%-CI [.3382, .6679], with significant contributions from moral outrage. The serial indirect effect was also significant. Interestingly, moral outrage had a larger indirect effect than superordinate identification and than both mediators together in both models, underscoring its stronger role in mediating the relationship between JS-other and the outcomes.

### ***Sympathy***

The results indicate that JS-other significantly influenced dependency-oriented help via the mediators of social identification and sympathy. The total effect of JS-other was significant, with the direct effect also being significant, suggesting partial mediation through superordinate identification and sympathy, with the total indirect effect being .30, 95%-CI [.1761, .4286]. Both mediators showed significant indirect effects. These results highlight that while both mediators played significant roles in both models, sympathy demonstrated a stronger indirect effect than superordinate identification on the relationship between JS-other and dependency-oriented help.

**Figure 3**

*Mediation models for predicting dependency-oriented help (and autonomy-oriented help) with JS-other, identification and sympathy (moral outrage)*



*Note.* PROCESS procedure for SPSS Version 4.0, Model 6 (Hayes, 2018). A total of 5,000 bootstrap samples for percentile bootstrap confidence intervals.  $b$  = unstandardized coefficient;  $SE$  = standard error;  $\beta$  = standardized coefficient;  $CI$  = confidence interval. \*  $p < .05$ ; \*\*  $p < .01$ .

## Discussion

The regression results and the mediation analyses provide valuable insights into the influence and interplay of JS-other, superordinate identification, and various intergroup emotions on dependency-oriented help and autonomy-oriented help. The multiple linear regressions replicated this and highlight that superordinate identification and JS-other are key predictors for both types of help. For dependency-oriented help, this is also the case when sympathy is added to the model. This is in line with previous research demonstrating that sympathy is more connected to dependency-oriented help than autonomy-oriented help (Knab & Steffens, 2021). However, when it comes to autonomy-oriented help, moral outrage seems to fully mediate the relationship of JS-other and autonomy-oriented help. Moral outrage and superordinate identification significantly contributed to autonomy-oriented help, whereas JS-other no longer played a significant role. The role of moral outrage also aligns with previous research showing that moral outrage is more connected to autonomy-oriented help than to dependency-oriented help (Knab & Steffens, 2021).

The mediation models demonstrate that intergroup emotions appeared to have a central role in explaining the relationship between JS-other and the helping types. In these models, intergroup emotions mediated the effect of JS-other on dependency-oriented help and autonomy-oriented help, suggesting that while JS-other had a direct effect in the regression analysis, intergroup emotions did (partly) explain the influence of JS-other on behavior.

These differences between the regression and mediation results suggest that while JS-other and superordinate identification may have been primary drivers of solidarity-based behavior in a direct sense (as shown in the regressions), moral outrage and sympathy significantly mediated this relationship, especially in the case of more complex behaviors, such as autonomy-oriented help. In summary, the regression results highlight the direct contributions of JS-other and superordinate identification, with indirect effects via intergroup

emotions, as underscored in the mediation results. Sympathy played a larger role in explaining how JS-other translated into dependency-oriented help, and moral outrage played the largest role in explaining autonomy-oriented help, compared to the role of superordinate identification and to both the intergroup emotion and superordinate identification taken together. It is important to note that the assumed direction of the conducted mediation analyses was based on two factors: first, exploratory findings from Wolf et al. (2024) suggesting that social identification may be a mediator between JS-other and solidarity-based attitudes and behaviors; and second, findings that suggest that intergroup emotions stem from social identification (e.g., Crisp et al., 2007; Mackie et al., 2015). Future research could focus on a more precise examination of this direction to verify whether it holds or whether it diverges. Due to the correlational nature of our data, the ability to make causal claims is limited.

## **Study 2**

Study 2's overarching goal was to shed light on the interplay between justice sensitivity, social identification and intergroup emotions regarding solidarity-based attitudes and behaviors, from a different angle to that in Study 1. We conducted an economic game, aiming to investigate the differences in solidarity-based action toward different groups of refugees (in our case: Afghan vs. Ukrainian refugees). Economic games were initially developed in the field of behavioral economics, but have become a standard tool for the assessment of prosocial behavior within psychology (Baumard et al., 2013). Economic games simulate social interaction in different scenarios and contexts, in order to assess participants' "real behavior" in an experimental setting (e.g., Kelley et al., 2003). For the purpose of our study, we used the Three-Person Ultimatum Game, in which one party divides monetary goods between two other parties (the participant's group and a pretend group of refugees).

In this research, we expected that German participants would show different intergroup emotions and types of helping behavior depending on the refugees' origin. We even suggested that participants might identify more strongly with the superordinate group, including refugees and migrants in Germany, when being confronted with Ukrainian refugees (compared to Afghan refugees), due to their perceived similarity (e.g., Sinclair et al., 2023; Xi, 2023). Specifically, we proposed that when being confronted with Ukrainian refugees, social identification with all Germans, including migrants and refugees, should be higher, followed by more moral outrage and sympathy as well as higher helping intentions—specifically autonomy-oriented helping intentions<sup>11</sup>—than when being confronted with Afghan refugees.

Anticipating that the hypothesized differences between the groups might not be found (see results section), we used the data to further build on our correlational findings from the previous studies. As in Pilot Study 2, we chose a categorical assessment of helping type instead of a continuous one (either dependency-oriented, autonomy-oriented, or no help at all), which led us to postulate that higher superordinate identification (H1a), as well as higher JS-other (H2a), would correlate more with autonomy-oriented help and, further, that higher superordinate identification, as well as JS-other, would correlate with higher moral outrage (H1b, H2b) and sympathy (H1c, H2c).

## **Method**

### ***Participants***

The sample consisted of 289 German-speaking participants ( $M_{\text{Age}} = 25.51$ ,  $SD = 10.24$ ), with 65.9% female, 32.8% male, and 1% diverse or other. Participants were mainly recruited via a university, social networks and mailing lists. All participants could take part in a raffle for

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<sup>11</sup> Originally, further hypotheses were stated (see preregistration). However, based on the results of the previous studies described in this manuscript, they were later discarded.

winning up to 50€. Psychology students could earn course credit. A sensitivity analysis was conducted for bivariate correlations to determine the critical  $r$  detectable with the given sample size, at 95% power and  $\alpha = .05$ . The analysis revealed a critical  $r$  of .10.

### ***Measures, Materials and Procedure***

For assessing justice sensitivity, we used two items each from the *Justice Sensitivity Short Scale* (JS-other  $\alpha = .77$ ; JS-victim  $\alpha = .76$ ; Baumert et al., 2014). The economic game, modeled after Lotz et al. (2011), was then introduced, with one subsample being presented with the information that they were playing with one group of other Germans (representing an authority such as the government) and one group of Afghan refugees ( $n=144$ ), compared to one group of Ukrainian refugees for the other subsample ( $n=145$ ). An alleged distribution decision by the other German group, which was supposed to represent the authority, paid out significantly more money to the German group of participants (Group B, 10€) than to the Afghan (or Ukrainian) group of refugees (Group C, 5€). This was intended to be perceived as potentially unfair and to evoke intergroup emotions. After being presented with the unfair distribution, participants were asked to rate their intergroup emotions regarding the specific situation. Intergroup emotions were assessed using an 11-item scale based on Knab and Steffens (2021): moral outrage (four items;  $\alpha = .84$ ), sympathy (three items;  $\alpha = .87$ ), guilt (two items;  $\alpha = .82$ ), and shame (two items;  $\alpha = .80$ ) (with the latter two additionally assessed as in Study 1). They were then asked to choose one of three options as to how to continue the economic game: They could either choose a dependency-oriented method of helping the disadvantaged refugee group (“You can give 2€ of your money to group C. This leaves your group with €8 in this round and group C gets €7.”) or an autonomy-oriented method of helping (“You can invest €2 of your money to change the rules of the game and give Group C more power over Group A, the authority. They can then reject unfair payments if they wish. However, refusing payment would then also result in a loss of payout to your group.”), or

they could choose to not help in any way and just keep their money received (“You can accept the distribution decision of the authority (Group A). This means that your group will receive €10 in this round and group C will receive €5.”). After answering some items unrelated to the study, participants indicated their level of social identification on a polarity profile, ranging from identifying with autochthonous Germans to identifying with all people living in Germany, including migrants and refugees. For the assessment of identification, we used the *German Social Identification Scale* (three items; Roth & Mazziotta, 2015,  $\alpha = .77$ ).

## Results

After checking assumptions, we proceeded to test for the originally expected differences between groups. None of the results indicated a significant difference; see Table 7.

**Table 7**

*Means (M, with standard deviations, SD) and results of t-test for independent samples*

	Afghan group	Ukrainian group	<i>t</i>	<i>df</i>	<i>p</i>
	<i>M(SD)</i>	<i>M(SD)</i>			
Social identification	4.7 (1.08)	4.43 (1.51)	.82	284	.41
Moral outrage	4.78 (1.54)	4.5 (1.56)	1.53	287	.13
Sympathy	5.37 (1.38)	5.21 (1.5)	.92	287	.36

*Note.* Social identification was assessed dimensionally, ranging from autochthonous Germans to all Germans on a scale of 1–6; JS on a scale of 1–6; and intergroup emotions on a scale of 1–7.

As described above, we intended to replicate the correlational findings of our previous studies. For simplicity, we excluded participants who chose the option of not helping (10.7 %) and focused on the group of participants choosing either the dependency- or the autonomy-oriented method. The results indicated that higher superordinate identification did not correlate more with autonomy-oriented help, contrary to H1a. However, as expected, higher JS-other correlated more with autonomy-oriented help (H2a). Further, higher superordinate

identification, as well as JS-other, correlated with higher moral outrage (H1b, H2b) and sympathy (H1c, H2c); see Table 8 for results.

**Table 8**

*Means (M, with standard deviations, SD) and correlations*

Variable	<i>M (SD)</i>	1	2	3	4	5	6	7
1. Social identification	4.74 (1.01)	-						
2. JS-other	4.22 (.80)	.22**	-					
3. Moral outrage	4.90 (1.39)	.30**	.38**	-				
4. Sympathy	5.54 (1.22)	.29**	.31**	.62**	-			
5. Guilt	4.57 (1.73)	.20**	.40**	.58**	.51**	-		
6. Shame	4.67 (1.63)	.16**	.40**	.74**	.59**	.66**	-	
7. Helping type	.57 (.50)	.05	.22**	.21**	.09	.05	.14*	
8. JS-victim	3.60 (1.14)	-.14*	.19**	.09	-.004	.08	.07	.14*

*N* = 255. *Note.* Correlations were controlled for experimental condition (Afghan vs. Ukraine refugees). Social identification was assessed dimensionally, ranging from autochthonous Germans to all Germans on a scale of 1–6; JS on a scale of 1–6; and intergroup emotions on a scale of 1–7. Helping type 0 = dependency-oriented, 1 = autonomy-oriented. *p* is two-tailed. \* *p* < .05, \*\* *p* < .01.

### ***Multivariate Analyses of Dependency- and Autonomy-Oriented Help***

To extend the previous findings, we performed a binomial logistic regression to predict the likelihood of choosing dependency- or autonomy-oriented help with respect to JS-other, superordinate identification, intergroup emotions, and JS-victim. The model (see Table 9) was statistically significant, resulting in a small amount of explained variance (Schuchard-Fischer et al., 2013): Nagelkerke’s  $R^2=.12$  (1991). The model correctly classified 76.6% of autonomy-oriented help cases and 50.9% of dependency-oriented help cases, with an overall classification accuracy of 65.5%. Of the variables entered into the regression model, only JS-other and moral outrage were found to be significant. The results indicated that higher JS-other increased the likelihood of providing autonomy-oriented help, followed by moral

outrage, which was also found to increase the likelihood of choosing autonomy- over dependency-oriented help. The other variables entered into the model were not found to be significant.

**Table 9**

*Binomial logistic regression to predict the type of help, depending on JS-other, social ID, intergroup emotions, and JS-victim*

Variables	<i>B</i>	<i>SE</i>	<i>Wald</i> $\chi^2$	<i>p</i>	<i>OR</i>
<b>Type of help</b>	$\chi^2(7)=24.33, p = .001, Nagelkerke's R^2=.12$				
JS-other	.52	.19	7.05	.008	1.68
Moral outrage	.39	.16	6.21	.01	1.48
Guilt	-.19	.11	2.86	.09	.831
JS-victim	.16	.12	1.79	.18	1.18
Sympathy	-.06	.15	.18	.68	.94
Social identification	-.05	.14	.11	.74	.95
Shame	-.02	.14	.02	.90	.98

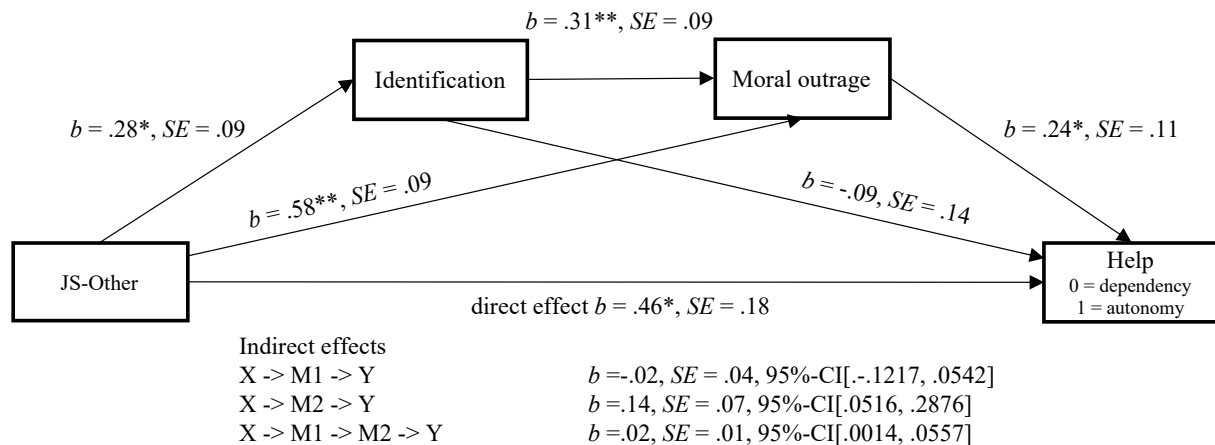
***Exploring the Relationship between JS-Other, Social Identification and Intergroup Emotions***

We conducted serial mediation analyses again to see whether we could replicate the results of Study 1. The results indicated a partial serial mediation, with indirect effects of social identification and moral outrage on the relationship between JS-other and choosing autonomy- over dependency-oriented help. Social identification did not play a role in explaining the relationship between JS-other and the help type chosen in this model (see Figure 4). We conducted further serial mediation analyses using sympathy. The results did not indicate any partial or full mediation, and none of the indirect effects appeared to be

significant (all models, also including guilt and shame, can be found in the Supplemental Material).

**Figure 4**

*Mediation model for predicting dependency- and autonomy-oriented help with respect to JS-other, identification, and moral outrage*



*Note.* PROCESS procedure for SPSS Version 4.0, Model 6 (Hayes, 2018). Model 6 correctly applies logistic regression for a dichotomous dependent variable. This ensures the appropriate handling of the binary outcome and reliable estimation of the indirect effects. A total of 5,000 bootstrap samples for percentile bootstrap confidence intervals.  $b$  = unstandardized coefficient;  $SE$  = standard error;  $\beta$  = standardized coefficient;  $CI$  = confidence interval. \*  $p < .05$ ; \*\*  $p < .01$ .

## Discussion

The results of this study largely replicated the findings of Study 1, though with some differences. Social identification did not show a significant correlation with choosing either dependency- or autonomy-oriented help, as expected in H1a, suggesting that, at least in this study, higher superordinate identification does not necessarily lead to more autonomy-oriented helping behaviors. However, JS-other was positively correlated with choosing autonomy-oriented help (H2a), aligning with our hypothesis that greater sensitivity to other-related justice concerns would be related to more independent forms of helping. Furthermore, both social identification and JS-other were positively associated with increased levels

of moral outrage and sympathy, highlighting the emotional responses that arose as a result of justice sensitivity and social identification.

In the multivariate analyses conducted, JS-other emerged as a significant predictor of autonomy-oriented help, suggesting that individuals who were more sensitive to the justice of others were more likely to provide support that promotes autonomy and independence. While moral outrage also significantly predicted autonomy-oriented help, other variables, such as social identification and sympathy, did not have significant direct effects on the type of help provided.

The serial mediation analyses further explored the role of emotions in the relationship between JS-other and help type. Although moral outrage showed a significant partial mediation in the relationship between JS-other and autonomy-oriented help, the role of social identification was not significant in explaining the relationship in this model. Additionally, while sympathy was tested as potential mediator, no significant indirect effect was found. These results suggest that while emotional responses, particularly moral outrage, played a significant role in shaping helping behaviors, social identification did not appear to mediate the influence of JS-other on the type of help chosen in this study. These findings align partly with the results of Study 1, reinforcing the importance of moral outrage in driving autonomy-oriented help, while also indicating the need for further exploration of the emotional mechanisms underlying solidarity-based actions.

There are several limitations to consider. First, social identification was measured on a single dimension, ranging from subordinate to superordinate, which differed from the approach used in our previous studies. In this study, the mean score for social identification was relatively high, indicating that most participants strongly identified with the superordinate group, limiting our ability to assess the influence of social identification, as a broader sample with more variation in social identification would be needed to draw clearer conclusions.

Furthermore, the order of assessing measures in this study differed from that in Study 1. In Study 1, social identification was measured between JS-other and the outcomes, potentially activating participants' social identification before answering the items assessing dependency- and autonomy-oriented help. This activation could have influenced their responses. In this study, however, social identification was measured at the end, after the participants had already chosen a helping type.

Finally, the measure of dependency- and autonomy-oriented help in this study was based on a single-item categorical response, which could have limited the informative power, whereas previous studies utilized a multi-item scale that allowed for continuous measurement of helping behaviors.

### **Mini-Meta-Analyses of Correlations**

To gain a better overview of the results, we standardized all the means of JS-other, social identification, dependency- and autonomy-oriented help, intergroup emotions, and JS-victim throughout the four studies presented in this manuscript and, additionally, from the main study in Wolf et al. (2024). Table 10 presents all bivariate correlations (Pearson's  $r$ ) of those main correlates. JS-other correlates with higher dependency- and autonomy-oriented help in all studies. In particular, the correlations regarding JS-other and autonomy-oriented help are similar between Wolf et al. (2024) (First Nations in Latin America used as a disadvantaged group), Pilot Study 2, and Study 1 (both using refugees in Germany as a disadvantaged group). On the other hand, the correlations differ regarding social identification. This leads us to the assumption that social identification has different mechanisms of action, depending on the group and the level with which we asked the participants to identify. However, it should also be noted that this could present differently in other samples, since we are assuming that we had rather liberal samples based on indicators such as political orientation and social

dominance orientation.<sup>12</sup> The term *liberal* is exchangeable with being politically more *left-leaning* (e.g., Carney et al., 2008; Oppenheimer & Trail, 2010) and is connected to open-mindedness, rejection of inequality, and preference for social change (e.g., Altemeyer, 1998; Jost et al., 2003, 2008).

JS-victim only correlates with both types of help in Pilot Study 1, which comprised an Italian sample being investigated in relation to their solidarity-based attitudes and behaviors toward southern Italians. Since the sample identified quite highly with all Italians (including southern Italians), they could understand themselves as being victims of the inequality, which would lead them to be more engaged in solidarity. In addition, JS-victim correlated with less autonomy-oriented help in Wolf et al. (2024), but we could not replicate this correlation.

Regarding intergroup emotions, these were only assessed in Studies 1 and 2. Both JS-other and identification (independent of which type) correlated with higher moral outrage and sympathy (as well as guilt and shame). JS-victim did not correlate with any of these intergroup emotions.

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<sup>12</sup> Political orientation on a scale of 1 (strong left) to 11 (strong right): Pilot Study 2  $M(SD)=3.08(1.5)$ ; Study 1  $M(SD)=3.91(2.12)$ ; Study 2  $M(SD)=4.1(1.58)$ . SDO on a scale of 1 (strongly disagree) to 6 (strongly agree): Pilot Study 1  $M(SD)=2.05(.78)$ ; Pilot Study 2  $M(SD)=2.29(.82)$ .

**Table 10**

*Bivariate correlations of main correlates with intergroup emotions and/or dependency- and autonomy-oriented help*

<i>Correlate</i>	Dependency-oriented help	Autonomy-oriented help	Moral outrage	Sympathy	Guilt	Shame
JS-other						
Wolf et al. (2024)	.26**	.32**				
Pilot 1	.35**	.16*				
Pilot 2	.19*	.32**				
Study 1	.37**	.33**	.40**	.41**	.46**	.37**
Study 2			.48**	.42**	.46**	.47**
Identification						
Wolf et al. (2024)	.25**	.24**				
Pilot 1	.37**	.01				
Pilot 2	-.02	-.08				
Study 1	.42**	.57**	.57**	.49**	.41**	.52**
Study 2			.36**	.36**	.26**	.25**
JS-victim						
Wolf et al. (2024)	-.07	-.16*				
Pilot 1	.18*	.19*				
Pilot 2	.05	-.05				
Study 1	-.03	-.11	-.01	-.004	.04	-.01
Study 2			.10	.06	.09	.08

*Note.* Wolf et al. (2024):  $N = 231$ , global citizen identification; Pilot 1:  $N = 169$ , Italian identification; Pilot 2:  $N = 162$ , White identification; Study 1:  $N = 242$ , all Germans identification; Study 2:  $N = 289$ , all Germans identification. Correlations were controlled for the experimental condition.

## General Discussion

This research had two main objectives in order to provide important insights into the complex mechanisms that drive solidarity-based attitudes and behaviors. First, we aimed to test the

replicability and generalizability of previous results regarding the relationship between social identification, justice sensitivity, and solidarity, and second, we aimed to extend this model examining justice sensitivity and social identification in explaining solidarity, by incorporating intergroup emotions. Only those results that contribute to the overall understanding will be discussed in detail in the following. Detailed discussions of the individual results can be found in the respective discussion sections after each study.

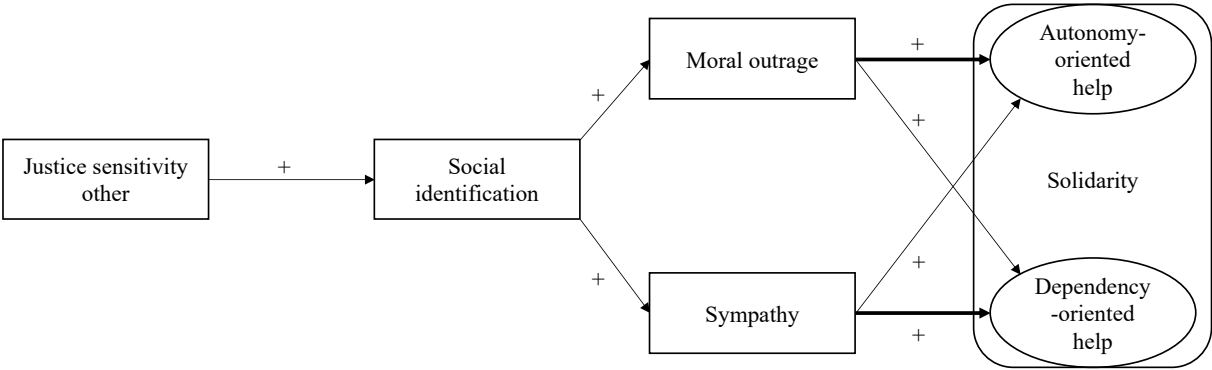
In summary, the findings largely replicate previous research, confirming that higher justice sensitivity toward others (JS-other) consistently goes along with higher political solidarity, autonomy- and dependency-oriented helping behaviors (Wolf et al., 2024). Regarding superordinate social identification a more complex role than previously anticipated was found. Higher social identification did not always go along with higher solidarity-based attitudes and behavior. It appears that the effect of social identification varies depending on the group being studied and the level of identification elicited from participants, underlining the nuanced nature of the role of social identification in fostering solidarity. When aiming to replicate the results that both JS-other and superordinate identification significantly contribute to explaining solidarity-based action (Wolf et al., 2024), some inconsistent results were found. For instance, neither JS-other nor social identification contributed significantly to explaining autonomy-oriented help in the Italian context, further, social identification (white identification) did not contribute significantly to any of the solidarity-related outcomes in the context of Ukrainian refugees, while JS-other was found to be a significant contributor of solidarity-based action in all refugee contexts (Pilot study 2, Study 1 and 2). However, the majority of findings confirm the important role of both constructs in explaining solidarity-based action with some context-dependent differences.

One of the key extensions of this study is the integration of intergroup emotions, such as moral outrage and sympathy, into our models of solidarity-based attitudes and behaviors.

Our results suggest that first of all, sympathy alongside JS-other and social identification contributed significantly to dependency-oriented help, while moral outrage alongside JS-other and social identification contributed significantly to autonomy-oriented help. Moreover, we could find support that these emotions act as crucial mediators in the relationship between JS-other and solidarity-based actions. As expected, moral outrage was a key mediator, particularly influencing autonomy-oriented help, whereas sympathy particularly influenced dependency-oriented help. Particularly, the effect of JS-other on dependency-oriented help was partly explained through social identification and sympathy, and the effect of JS-other on autonomy-oriented help was fully explained through social identification and moral outrage. In other words, higher JS-other went along with higher social, thus superordinate identification, which in turn, appeared to go along with higher feelings of sympathy (or moral outrage) and thus, led to more dependency- (or autonomy-)oriented help. Revisiting Figure 1, which outlined the expected relationships at the beginning of this work, the findings suggest that they are largely supported; see Figure 5.

**Figure 5**

*Central variables in Study 1 and Study 2 of this research and their relationships in explaining solidarity*



*Note:* Thicker arrows indicate stronger relationships between intergroup emotions and outcomes.

However, our research are subject to the following limitations. First, the different methods for assessing helping behaviors—continuous scales versus forced-choice formats—may have influenced participants’ decisions, with the latter revealing a stronger preference for autonomy-oriented help. This finding suggests that the way in which we ask about helping intentions can influence participants’ choices, highlighting the importance of careful measurement design.

Second, the variation of context between the studies should be taken into consideration. It cannot be assumed that the dynamics of disadvantaged vs. advantaged intergroup relations of the Italian context is directly comparable to the context of refugees in Germany. In the case of Italy, both the disadvantaged (Southern Italians) and the advantaged (Northern Italians) share the same national identity which may affect our findings and the comparability. This shared identity could result in a different kind of intergroup dynamic compared to Germans and refugees in Germany. Furthermore, some of the measurements used in this research may not have been fully suitable for all contexts. For instance, the applicability of the items measuring dependency- and autonomy-oriented help, adapted from Maki (2017), in the Italian context remains questionable. Future research could focus on developing more context-specific tools.

Based on our findings, exploring the contextual factors that influence the relationship between social identification and solidarity could provide deeper insights into when and why certain types of identification (e.g., national vs. world identity) lead to different types of helping behaviors. Ultimately, these findings could inform strategies aimed at fostering greater solidarity within and between groups, especially in addressing pressing societal issues such as refugee crises, climate change, and inequality.

In conclusion, this research underscores the complex interplay, but also its context-dependency, of justice sensitivity, social identification, and intergroup emotions in shaping

solidarity-based attitudes and behaviors. By examining how individuals with heightened sensitivity to injustice—especially those who identify strongly on a superordinate level with disadvantaged groups—experience intergroup emotions, this research adds to our understanding of the emotional and psychological mechanisms that drive solidarity-based action. Further explorations of these relationships will not only enrich theoretical models but also inform practical applications aimed at fostering solidarity in diverse intergroup contexts.

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## Manuscript 3

### **We are all the same and (not) judged the same? Examining attribution tendencies of liberals in the context of norm violations by refugees.**

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## **General discussion**

The complex dynamics of solidarity-based action have been a focal point of psychological research. This dissertation aimed to contribute to this growing body of work by investigating the multifaceted factors that have already been found to be related to solidarity-based action, each of which comes from a distinct perspective: justice sensitivity, which is personality-related; social identification, rooted in intergroup dynamics; intergroup emotions, which reflect an affective component; and intergroup attributions, representing a cognitive aspect. An overview of the pathways and aims of this dissertation was presented in Figure 1. Each manuscript focused on different dimensions of the modes of action in relation to the different factors, with Manuscript 1 exploring the relationship of justice sensitivity and social identification in explaining solidarity-based action, Manuscript 2 incorporating the role of intergroup emotions in the model of justice sensitivity, social identification, and solidarity-based action, and Manuscript 3 shifting the focus to political ideology, intergroup attribution biases, and corresponding emotional and behavioral reactions. This chapter serves to summarize the main findings from this dissertation and to build a foundation of knowledge for Figure 1. Those results that contribute to an overall understanding are discussed in detail in the following sections, offering an aggregated summary of the key findings in relation to the dissertation's objectives. Detailed discussions of the individual results from each manuscript can be found in the manuscripts' respective discussion sections. Further, theoretical contributions, practical implications, and limitations will also be discussed, before suggesting possible directions for future research.

### **Pathway 1: Justice Sensitivity and Social Identification**

The starting point of this research was the idea that social identification and justice sensitivity could potentially be related due to their similarities in modes of action, such as their connection to perceived injustice, and corresponding emotions and reactions (e.g., Baumert &

Schmitt, 2016; van Zomeren et al., 2008). Initially, to underpin the previous research, the individual relationships of justice sensitivity<sup>1</sup> and social identification in relation to solidarity-based attitudes and behaviors were examined. The results from Manuscripts 1 and 2 consistently demonstrated that higher other-related justice sensitivity correlates with higher solidarity-based attitudes and behaviors, such as political solidarity, donation intentions, and both dependency- and autonomy-oriented help, across all contexts. These results are in line with previous research. For instance, higher JS-other has been associated with more cooperative and altruistic behavior in economic games (Lotz et al., 2013), as well as higher motivation to act in solidarity with a disadvantaged interaction partner (Stavrova & Schlösser, 2015). Further, higher JS-other has been found to correlate with sharing tendencies, approval of political solidarity, and support for solidarity (Baumert et al., 2022), and with reduced anti-immigration attitudes (Rothmund et al., 2020). Thus, the results in this dissertation confirm and strengthen these previous findings. In relation to social identification, the results aiming to confirm the already-established relationship between social identification and solidarity-based action were more diverse. Identifying as a *citizen of the world* or as *all people living in Germany, including migrants and refugees* consistently correlated with higher solidarity-based attitudes and behaviors (donation intentions, political solidarity, and dependency- and autonomy-oriented help). This aligns with the findings of previous research, e.g., that creating a common ingroup reduced prejudice (Dovidio et al., 2004) and bias (Stone & Crisp, 2007), predicted helping intentions (Politi et al., 2023), and was linked to monetary donations (Chapman et al., 2020). Further, the results support earlier findings that identifying as a global citizen correlated with concern for human rights (e.g., Hackett et al., 2015) and prosocial actions (e.g., Reese & Kohlmann, 2015). However, this could not be found among all types of social identification investigated. For example, the results indicated that northern Italians'

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<sup>1</sup> The focus of the results presented here is on the role of justice sensitivity in relation to others (JS-other). For results regarding self-related justice sensitivity (JS-victim), see Manuscripts 1 and 2.

identification with *all Italians, including northern and southern Italians* did not significantly correlate with autonomy-oriented helping intentions, although the relationships with political solidarity and dependency-oriented help could be replicated. Additionally, identifying as White was not found to be related to any of the solidarity-based attitudes and behaviors regarding Ukrainian refugees. The idea behind this assumption was that Ukrainian refugees are treated as more deserving than other refugees, due to the perceived similarities with Western Europeans (e.g., Blomqvist Mickelsson, 2023; Sinclair et al., 2024) and their “Whiteness” (e.g., Herat, 2023; Shmidt & Jaworksy, 2022). An explanation for the findings could be that the sample being investigated was politically more liberal (left-oriented), with liberals not perceiving their Whiteness as a salient identity (Schildkraut, 2019) and showing disidentification with their White racial identification (Dai et al., 2021). This is in line with the average score of White identification in the sample being rather low. Another explanation could be that the measurement of White identification might have presented a more subordinate group identification for the participants, since it may have rendered their identification on a higher level with people independent of perceived skin color even more salient, thus leading to the opposite effect than that expected. Following this, the results would be partly in line with the finding in Manuscript 1, where subordinate group identification was not correlated with autonomy-oriented help and did not significantly contribute to any of the solidarity-based attitudes and behaviors. Further, in Manuscript 2, subordinate German identification even correlated with less dependency- (although not significant) and autonomy-oriented help. Overall, this implies that both factors—White identification and the influence of subordinate identification in the context of solidarity-based action—need further investigation.

Aim 1 was not only to examine the individual relationships of justice sensitivity and social identification with various types of solidarity-based action, but also to explore their

suggested interplay and determine how they jointly influence solidarity-based attitudes and behaviors. To do so, both constructs were initially added to multiple regression analyses, in order to investigate their contributing role in explaining solidarity-based attitudes and behaviors. The majority of the results of Manuscripts 1 and 2 indicate a relationship between JS-other and social identification, in terms of both being found to significantly contribute to the expression of political solidarity, as well as dependency- and autonomy-oriented help. Again, White identification was not found to have the same effects, suggesting the previously discussed differences with respect to White identification in the context of our research, or its subordinate character. However, removing the context of White identification from the picture, social identification and higher JS-other contributed significantly to higher political solidarity, and dependency- and autonomy-oriented help in the contexts of world citizens (superordinate identification) with regard to First Nations in Latin America (disadvantaged group) and of all people living in Germany, including migrants and refugees (superordinate identification), with regard to refugees in Germany (disadvantaged group), with the exception of political solidarity and autonomy-oriented help in the context of all Italians (superordinate identification) with regard to southern Italians (disadvantaged group.) However, the majority of the findings confirm the important role of both constructs in explaining solidarity-based action.

In addition to their similarities in modes of action, such as their connection to perceived injustice, and corresponding emotions and reactions (e.g., Baumert & Schmitt, 2016; van Zomeren et al., 2008), other indications of their relationship include the finding that identifying with an inclusive category predicted justice concerns (Wenzel, 2004) and the suggestion that the strength of one's group identification may shape justice sensitivity in intergroup contexts (Baumert et al., 2022). Taken together, both factors—justice sensitivity and social identification—influence individuals' intergroup behavior and attitudes, especially

with regard to solidarity-based action. While justice sensitivity refers to a personality-based perception of and reaction to injustice, social identification involves belonging to a particular social group, which also affects how individuals perceive and react to injustice. Two possible relationships can be assumed: On the one hand, identifying strongly with a group may shape sensitivity to injustices affecting that group, and on the other hand, being inherently more sensitive to other-related justice concerns may influence the level of inclusion on which one identifies. Based on justice sensitivity being a stable personality trait, which has been found to remain consistent across different situations (e.g., Baumert & Schmitt, 2016; Schmitt et al., 2010), while social identification is understood as being malleable and dependent on the situation (e.g., Turner & Reynolds, 1987), the latter of the two possible relationships described here was tested, with social identification appearing later in the process model as a possible mediator. The findings indicate that social identification accounts partly for the relationship between JS-other and political solidarity, and dependency- and autonomy-oriented help. Specifically, the mediation models presented in Manuscripts 1 and 2 indicated that changes in JS-other seem to influence the level of social identification and, in turn, lead to changes in solidarity-based attitudes and behaviors. In particular, higher JS-other correlated with higher social identification and, in turn, with more political solidarity, and dependency- and autonomy-oriented help. By obtaining these findings in different contexts (Manuscript 1: world citizens–First Nations in Latin America; Manuscript 2: all Italians–southern Italians/all Germans–refugees), it may be concluded that the overlap of these two constructs is generalizable across contexts and that they do share important variance.

## **Pathway 2: Adding Intergroup Emotions**

Now that a clearer picture of the relationship between justice sensitivity and social identification was able to be drawn, this dissertation aimed to extend these findings by incorporating the role of intergroup emotions. As displayed in Figure 1, the relationships of

social identification and justice sensitivity with intergroup emotions separately, and the relationship between intergroup emotions and solidarity-based action have already been supported by previous research (e.g., Bondü et al., 2022; Harth et al., 2008; Knab & Steffens, 2021; Lotz et al., 2011; Rothmund et al., 2014; Smith et al., 2007; Subašić et al., 2008; Thomas et al., 2009). Based on this foundation, Aim 2 of this dissertation was to gain a deeper understanding of the role of intergroup emotions and where they fit into the framework of justice sensitivity and social identification in regard to solidarity-based action. For this purpose, moral outrage, sympathy, guilt, and shame<sup>2</sup> were assessed in two studies within Manuscript 2.

First, higher JS-other did consistently correlate with higher feelings of moral outrage, supporting previous findings on the positive relationship between JS-other and moral outrage (Lotz et al., 2011), as well as sympathy and guilt. Thus, by using the unified construct of JS-other, the results extend the findings on the positive relationships between individual subtypes of other-related justice sensitivity, such as JS-observer with moral outrage (Rothmund et al., 2014; Rothschild & Keefer, 2022; Rudert & Speckert, 2023), sympathy (Rudert & Speckert, 2023), and guilt (Bondü et al., 2022), and JS-beneficiary and JS-perpetrator with guilt (Nicolai et al., 2022). Moreover, higher JS-other was also found to correlate with higher feelings of shame across all contexts.

With regard to social identification, higher levels also consistently correlated with higher feelings of all intergroup emotions. With regard to moral outrage, this supports results finding that moral outrage is connected to merging group boundaries between advantaged and disadvantaged groups (Thomas et al., 2009). Nonetheless, research on social identification and intergroup emotions remains limited. For instance, it has been proposed that sympathy is primarily experienced among the advantaged, with group boundaries being intact (e.g., Harth

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<sup>2</sup> Although guilt and shame were included in the Supplemental Material of Manuscript 2 for clarity, here they are briefly introduced in order to obtain the most complete picture possible.

et al., 2008; Thomas et al., 2009). With regard to the results presented here, this is questionable, since sympathy was found to significantly correlate with a superordinate rather than shared identification. In other words, higher sympathy correlated with higher, superordinate identification, which represents merging group boundaries. In addition, guilt and shame have previously been associated with stronger group boundaries, such as identifying strongly with the perpetrator group being associated with the experience of guilt (Ferguson & Branscombe, 2014) and shame being associated with a threat to one's ingroup image (Lickel et al., 2011), thus suggesting that group boundaries also seem to stay salient. Despite this, in light of the correlation results in Manuscript 2, where sympathy, guilt, and shame were all significantly positively associated with superordinate identification, it is important to note that identifying with a superordinate group does not negate the awareness of belonging to a subordinate and possibly advantaged group. This awareness may persist regardless of one's willingness to identify at a higher level, and may highlight the individual's position within the advantaged group, especially in comparison to the disadvantaged group.

Second, when JS-other, social identification, and all intergroup emotions were added to multiple linear regression models explaining dependency- and autonomy-oriented help, the most significant results were that sympathy, alongside JS-other and social identification, contributed significantly to dependency-oriented help. Further, moral outrage and social identification made significant contributions, with moral outrage eliminating the role of JS-other in explaining autonomy-oriented help. Guilt and shame did not appear as significant contributors to any of the two helping types assessed.

When examining the results of the mediation models that included intergroup emotions in Manuscript 2, the indication is that the effect of JS-other on dependency-oriented help can partly be explained by social identification, which in turn relates to sympathy. Moreover, the effect of JS-other on autonomy-oriented help would seem to be fully explained

through social identification and moral outrage. This means that higher JS-other correlated with higher social identification, which in turn correlated with higher sympathy (or moral outrage), leading to more dependency-oriented (or autonomy-oriented) help. In addition, when forcing a choice between dependency- or autonomy-oriented help, moral outrage was found to be the main motor for choosing autonomy-oriented help. These results strengthen previous findings that sympathy and moral outrage are important contributors to these types of solidarity-based action, and that there seems to be a stronger relationship between sympathy and dependency-oriented help on the one hand, and moral outrage and autonomy-oriented help on the other hand (Knab & Steffens, 2021; Subašić et al., 2008). The intergroup emotions appear to fit into the overall model at the point where they were proposed—namely, that they are influenced by social identification and, in turn, impact solidarity-based attitudes and behaviors, with JS-other still playing a key role at the beginning of the pathway in the model suggested.

### **Pathway 3: Political Ideology and Intergroup Attribution**

The research from Manuscripts 1 and 2 largely addressed the questions of who engages in support for the disadvantaged through solidarity-based action, the personality-based justice sensitivity that they hold and the groups with which they likely identify. However, another aspect of those acting in solidarity can be their cognitive processes and biases, which, as is also the case with justice sensitivity and social identification, correspond with specific emotions and reactions, and influence intergroup differences and conflict (Hewstone, 1990; Pettigrew, 2020; Pronin et al., 2002, 2023). Since the research presented in Manuscript 3 stands alone from the research of Manuscripts 1 and 2, it has not been directly incorporated into the summary of results so far. Thus, the aim and results of Manuscript 3 are briefly summarized in this section, and additional analyses with regard to social identification within

the context of the research are reported, with the intention of building a bridge between the findings of all three manuscripts.

Liberals, in comparison to conservatives, are associated with engaging more in solidarity-based or collective action for disadvantaged groups (Lambert & Chasteen, 1997; Levenson & Miller, 1976), and thus they are motivated to suppress discriminatory or stereotyping behavior (Webster et al., 2014). This initially led to the question of how liberals deal with the situation when they observe norm-violating behavior by a member of a group that they support and this behavior conflicts with their values, based on their political ideology, e.g., sexualized violence threatening gender equality (for intraindividual conflicts, see Sassenberg & Winter, 2024; Winter et al., 2021).

Previous research has demonstrated that political ideology is connected to the way in which the behavior of others is attributed (e.g., Morgan et al., 2010; Sahar, 2014; Skitka et al., 2002) and attributions are related to emotional and behavioral reactions toward the actor of the behavior being attributed (e.g., Rudolph et al., 2004). Aim 3 was therefore to explore the influence of political ideology, particularly liberalism, on attribution biases and corresponding emotions and reactions, with regard to norm-violating behavior committed by a supported disadvantaged outgroup member versus an advantaged ingroup member. The main results were that liberals do indeed attribute the same behavior differently depending on the group membership of the actor. The norm-violating behavior of a member of a disadvantaged group (refugees) was generally attributed less dispositionally (thus more to situational/external factors) compared to the same behavior shown by a German ingroup member. By attributing situationally, the responsibility for the norm-violating behavior is withdrawn from the actor and is thereby implicitly excused (Staub, 1996). This could be explained through cognitive dissonance theory (Festinger, 1957), which describes psychological discomfort when one holds conflicting beliefs or when their behaviors are inconsistent with their attitudes. To

reduce this discomfort, people often change their attitudes, beliefs, or behaviors in order to restore consistency. In this context, liberals supposedly experience cognitive dissonance by supporting a disadvantaged group but at the same time facing norm-violating behavior from a member of this group. To resolve this conflict, they might justify the behavior by attributing it to external, situational factors, thus maintaining their commitment to supporting the disadvantaged group.

Moreover, the results indicated that the effect of group membership (and the strength of norm-violation) on emotional and behavioral reactions could partly be explained by the way in which the behavior was attributed. The results further suggested that liberals' attribution biases persisted across different strengths of norm-violation, i.e., liberals retained their tendency to attribute more situationally across norm-violations differing in their severity.

Overall, the results can be connected to the concept of politicized identity, which refers to the identification that individuals have with social movements or charities, motivating them to align their actions with the norms and beliefs of these groups (e.g., Stürmer & Simon, 2004). Previous research shows that politicized identification predicts collective action among advantaged group members and seeks to improve the status of the disadvantaged group (e.g., Simon & Klandermans, 2001; Subašić et al., 2008; van Zomeren et al., 2008, 2011). Although politicized identity was not directly measured in the research presented in Manuscript 3, the results suggest that the sample, which was selected on the basis of a liberal political orientation, sought to improve the status of the disadvantaged group by evaluating its member's behavior more positively than the advantaged ingroup member's behavior, through the attribution bias. This is in line with liberals' norms and values, supporting social equality and suppressing discrimination and stereotyping (e.g., Jost et al., 2003; Napier & Jost, 2008; Webster et al., 2014). Building further on this, the results can be examined through the lens of politically motivated reasoning (Jost et al., 201; Taber et al.,

2009), which refers to individuals aligning their assessments and views with their political affiliation, regardless of the facts. In such contexts, attitudes and emotions are shaped by the attempt to express and maintain belonging to one's group identity (Sherman & Cohen, 2006). In the context of this research, liberals' persisting attribution bias may be linked to their desire to protect and express their political group identity, even when confronted with norm-violations.

### **Additional Insights**

In addition to political orientation, with which a link to politicized identity was made, autochthonous German identification was also assessed as part of Experiment 2 in Manuscript 3 (for details, see Bierbaum, 2024). Although this was not previously presented or discussed in the manuscript, due to the manuscript's emphasis on liberalism and attribution bias, additional analyses, including autochthonous German identification, offer the possibility of building a bridge to Manuscripts 1 and 2, and thus strengthening the overall framework and providing an insight into the role of social identification within the context of intergroup attribution. All results can be found in the Appendix. Previous research has already shown that high ingroup identification correlates with higher internal and thus responsibility-ascribing attributions to the outgroup (Costarelli, 2009). The results of the additional, exploratory correlational analyses indicated that higher German identification correlated with higher dispositional attribution, lower sympathy and higher feelings of anger regarding a disadvantaged outgroup member (refugee). No significant relationships could be detected for an advantaged ingroup member (German). In other words, the more that one identified as being autochthonously German, the more responsibility that one ascribed to the disadvantaged outgroup member (refugee) for the norm-violating behavior, which is in line with the results from Costarelli and colleagues (2009), and the more anger and less sympathy that one experienced toward the actor. Additionally, to draw another connecting line through this

dissertation, mediation analyses were conducted investigating the interplay of German identification and attributions with sympathy, anger and the desire for punishment. Identification with the German group was thought to potentially influence how much anger, sympathy,<sup>3</sup> and desire for punishment would be directed toward a disadvantaged outgroup member who committed a norm-violation, as the correlations indicated. Thus, this relationship might be mediated by the way in which the behavior is attributed (whether to dispositional and internal or situational and external factors), with stronger negative (anger, desire for punishment) and weaker positive (sympathy) emotional reactions arising when the behavior is attributed to dispositional factors. For the disadvantaged outgroup member (refugee), the effect of German identification on sympathy was found to be fully mediated by dispositional attribution. In other words, higher German identification correlated with higher dispositional attribution, and thus higher ascriptions of responsibility, which in turn correlated with less sympathy. The same pattern was partially found for anger: Higher German identification correlated with higher dispositional attribution, which in turn correlated with more anger. With regard to desire for punishment, no direct or total effect was found; however, an indirect effect through attribution was significant. For the advantaged group member (German), no evidence was found for the effect of German identification on the outcomes via dispositional attribution. The results can be further interpreted as being in line with the research in Manuscripts 1 and 2, where subordinate identification levels were associated with fewer solidarity-based attitudes and behaviors.

### **Overall Contributions**

In conclusion, while Manuscripts 1 and 2 focus on the interplay between social identification and justice sensitivity, and the emotional mechanisms within, Manuscript 3 shifts the focus

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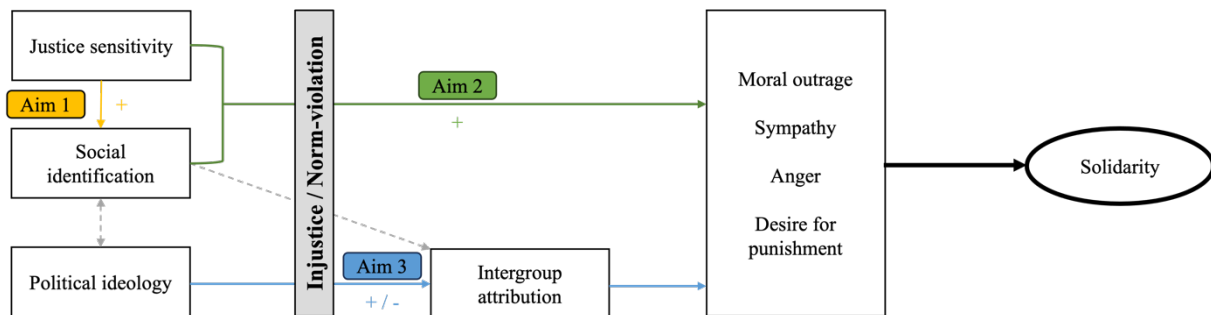
<sup>3</sup> It should be noted that anger and sympathy in this case were interpersonal and individual, i.e., we asked about anger toward the actor and not anger (moral outrage) toward a third party, as we did in Manuscript 2.

to intergroup attributions and their effects on emotions and behaviors, particularly in relation to liberalism. Manuscripts 1 and 2 highlight how justice sensitivity and social identification contribute to solidarity-based actions through emotions such as moral outrage and sympathy. In addition, Manuscript 3 reveals how attributions, influenced by political ideology, affect emotional and behavioral reactions, particularly when norm-violations occur within supported disadvantaged groups. Despite these different pathways, all three manuscripts contribute to a better understanding of solidarity-based attitudes and behaviors.

In short, Aim 1 of this dissertation was to obtain an integrated perspective, testing how justice sensitivity and social identification together explain solidarity-based attitudes and behaviors. Here, the findings provide initial evidence that justice sensitivity and social identification appear to be related and suggest that people high on JS-other are largely those who identify on higher levels of identification. Aim 2 of this dissertation was to explore how intergroup emotions fit into this interplay. The results suggest that there may be a sequence of individuals with higher other-related justice sensitivity, who identify more strongly on higher levels of identification, and thus experience stronger intergroup emotions, such as moral outrage and sympathy, which in turn lead to higher solidarity-based attitudes and behaviors. Finally, Aim 3 was to explore the cognitive process of intergroup attributions and corresponding emotions and reactions, based on political ideology, particularly liberalism. Here, liberals' solidarity displayed itself in terms of excusing the norm-violating behavior of a member of a disadvantaged group by attributing it less dispositionally, and thus more situationally. Together, the three manuscripts provide a comprehensive view of how personality, social identification, political ideology, and emotional and cognitive factors shape solidarity-based attitudes and behaviors across different contexts.

**Figure 2**

*Overview of the pathways, aims, and factors of this dissertation, including findings*



*Note.* This figure serves as a simplified representation of the findings. In short, the results indicate a positive influence of JS-other on the level of social identification (Aim 1), as well as a serial mediation effect of JS-other on solidarity through social identification and intergroup emotions (Aim 2). Political ideology affected intergroup attribution patterns (+/-): the tendency to make dispositional versus situational attributions shifted depending on who violated the norm (Aim 3). Further, this figure displays the additional relationship discussed between social identification and political ideology through politicized identities, and indicates the effects of social identification on intergroup attributions found in the additional analyses, offering new insights into the overall connections within this dissertation's framework.

## **Theoretical Contributions**

Social identification and justice sensitivity are theoretical constructs that have been identified as playing a major role in driving people, particularly advantaged group members, to engage in solidarity-based action, with the former being investigated more extensively than the latter. Nonetheless, research could potentially show that there are similarities between justice sensitivity and social identification in terms of the way in which they affect emotions, attitudes, and behaviors. Therefore, this dissertation aimed to contribute to the theoretical knowledge surrounding these two constructs, in order to build an overall model explaining solidarity-based action.

The main results of the studies presented within Manuscripts 1 and 2 indicate that social identification and justice sensitivity can jointly affect solidarity-based attitudes and behaviors, such as political solidarity, and dependency- and autonomy-oriented help. At this

point, it is an open question as to whether they may be two sides of the same coin, but it can be concluded that they share important variance in the explanation of the outcomes investigated.

Moreover, the research suggests that people who have a high sensitivity for other-related justice concerns may be the same people identifying on higher levels of identification. This dissertation expands on the idea that social identification mediates the relationship between JS-other and solidarity-based actions. It indicates that social identification might explain how justice sensitivity translates into behaviors such as dependency- and autonomy-oriented help, providing a deeper understanding of the pathway that links these constructs. Finally, this dissertation aimed to contribute to the generalizability of the interplay of social identification and justice sensitivity across different contexts. The findings highlight the context-dependent influence of social identification in particular. Justice sensitivity appeared to be more stable in its impacts across contexts.

Further, this dissertation could contribute to filling the gap in the research on justice sensitivity in intergroup contexts, which had been identified by Baumert and colleagues (2022) in their overview. They suggested that justice sensitivity perspectives could be crucial in determining how individuals respond to more group-related situations and demands, which may not directly affect them as individuals but may still have implications for their group. The results provide new insights by establishing the positive relationship between the unified construct of JS-other and solidarity-based action in an intergroup context, particularly highlighting the positive relationship with both dependency- and autonomy-oriented helping types. While the relationship was stronger for autonomy-oriented help in comparison to dependency-oriented help in the case of First Nations in Latin America and Ukrainian refugees, it was stronger for dependency-oriented help compared to autonomy-oriented help in the case of southern Italians and an unspecified group of refugees in Germany. This

indicates that the influence of JS-other on helping intentions may depend on the intergroup context. One possible explanation is that the level of injustice or the perceived needs of the disadvantaged group may shape the type of help that individuals are more likely to provide. For instance, autonomy-oriented help may be more relevant when the group is seen as striving for independence, while dependency-oriented help might be more strongly linked to groups perceived as needing basic support. This interpretation makes sense when considering the specific dynamics within each context. For instance, southern Italians may be seen by northern Italians as a group in need of support within the existing social system, rather than as a group striving for independence or autonomy. This could explain why JS-other is more strongly related to dependency-oriented help in the southern Italian context. On the other hand, First Nations in Latin America may be perceived as a group that seeks greater autonomy, a point that may have been emphasized in the information given in the study itself, potentially shaping the stronger relationship with autonomy-oriented help. The difference between Ukrainian refugees and another (unspecified) refugee group in Germany is particularly interesting. Ukrainian refugees are often seen as “more deserving” due to their perceived similarities with Western Europeans (Altam & Kokane, 2023; Herat, 2023; Shmidt & Jaworsky, 2022), which may explain why they are viewed as deserving of autonomy. In contrast, it could be suggested that other refugee groups in Germany, such as Syrians or Afghans, may be perceived more as needing fundamental assistance, which may explain the stronger association with dependency-oriented help. This difference is important within the broader debate surrounding the differential treatment of refugees (Blomqvist Mickelsson, 2024). However, the discussion here should be considered with caution, as the relationships between JS-other and the helping types are only slightly different across these contexts.

Another contribution was the inclusion of intergroup emotions within the overall model for which this dissertation was aiming. The results of Manuscript 2 support these

findings by identifying moral outrage and sympathy as key mediators for the intention to engage in dependency- or autonomy-oriented help. Based on the results of the multiple regression models, where only these two emotions were found to have a significant impact, the findings related to guilt and shame are not discussed in detail here. In addition, a positive relationship between the unified construct of JS-other and all intergroup emotions assessed (moral outrage, sympathy, guilt, and shame), independent of context, could be established.

On top of this, the dissertation added a third pathway to the aim of investigating solidarity-related issues in a broader approach. The results from Manuscript 3 extend the theory of intergroup attribution and the ideo-attribution effect by generalizing it to the context of refugees in Germany. Further, the ideo-attribution effect did persist across different strengths of norm-violations in such a way that the attributions for a disadvantaged outgroup member were still more situational in comparison to those for an advantaged ingroup member. This suggests that even under conditions of stronger norm-violations, liberals' solidarity with a disadvantaged outgroup remains. An additional finding involved the connection between autochthonous German identification and attribution biases, which aligns with the overall results of this dissertation. Specifically, stronger subordinate identification with autochthonous Germans was associated with more dispositional and thus responsibility-ascribing attributions for the behavior of a disadvantaged outgroup member, while this association was not found for the behavior of a German ingroup member. Pathway 3 enhances our understanding of how ideological factors can shape emotional responses, such as anger and sympathy, and ultimately affect behavioral intentions related to solidarity.

### **Practical Implications**

Above all, across the majority of findings, this dissertation contains the implication that a higher social identification level, and thus a superordinate identification, is an important driver of solidarity-based action and should therefore be strengthened. This is consistent with

previous research that has demonstrated the positive effects of higher-level identities, e.g., global citizens, on prosocial and pro-environmental attitudes, intentions, and behaviors (e.g., Reese & Kohlmann, 2015; Renger & Reese, 2017; Reysen & Katzarska-Miller, 2017).

Following this, programs could be developed in which shared identities are activated and encouraged, with the aim of increasing prosocial behavior and reducing prejudice in intergroup contexts, particularly with regard to marginalized and disadvantaged groups. One example could be the diversity training developed by Ehrke and colleagues (2014), in which representations of superordinate groups as being diverse improved intergroup attitudes.

Another approach could be inspired by SIGN's research and the SIGNIFY interventions from the University of Queensland Australia (Social Identity and Groups Network (SIGN), n.d.), which offers workshops, seminars and programs promoting shared identities in a leadership context. Here, five steps are used among leaders or members of different groups to enhance their shared identity: readying (Why do *we* matter?), reflecting (Who are *we*?), representing (What are *we* about and what do *we* want to be?), realizing (How do *we* become what *we* want to be?), and reinforcing (How can *we* be better?). This could be adapted to all different types of intergroup contexts in which a variety of groups meet. Further, educational or political initiatives could emphasize the idea of a common group identity in schools or other settings. However, it should be kept in mind that creating a common ingroup identity can also cause difficulties, as it can conceal real-world differences (e.g., Cole, 2009). This can weaken the original goal of greater solidarity (e.g., Banfield & Dovidio, 2013).

Findings on justice sensitivity and intergroup emotions could be used to highlight issues of injustice, and thus appeal to people's personal justice sensitivity and their affective reactions. For example, information, news, and messages could be framed in a way that focuses on the injustices, as well as evoking intergroup emotions. This builds on the research by Knab and Steffens (2021), who suggested that charity and human rights organizations

should be informed about how to develop interventions that elicit specific emotions depending on the goal of the organization, such as eliciting sympathy when asking for monetary donations to cover basic needs, or moral outrage to engage in challenging the status-quo. In addition, since JS-other was found to be a reliable indicator of different types of solidarity-based action, knowledge surrounding the induction of justice sensitivity perspectives, following Maltese and colleagues (2013), could be further built on and used to enhance prosocial behaviors.

Moreover, this dissertation underscores the challenges faced by liberals in attributing and reacting to norm-violations committed by members of disadvantaged groups whom they support, revealing the complex interplay between ideological stance and attribution. As debates about media portrayals and public perceptions—specifically in the context of refugees—continue, the findings highlight the tension behind the processes in shaping the perceptions and judgements of people from different social groups. Information and communication within different communities of (non-)supporters would seem to be essential. In addition, the insights into liberals' attribution processes offer a deeper understanding of intergroup relations and the cognitive foundations of social judgment. At first glance, the bias investigated appears to be something positive, in terms of support for disadvantaged groups. However, this should be viewed with caution. After all, it would be preferable if behaviors were attributed and responded to in the same way, regardless of the group to which the actor belongs. Therefore, these findings could be used to inform about such biases, and thus promote more equal treatment across groups. Furthermore, the observed differences in emotional and punitive reactions based on the group membership of the actor may have significant implications for fields such as the judiciary, where understanding the impact of group-based attributions could help in addressing biases in legal decision-making and fostering fairness. As Pickett and Baker (2014) demonstrated, there are relationships between

attribution style and punitive versus rehabilitative consequences in criminal justice.

Attributing a crime more to the dispositional factors of the perpetrator was associated with higher preference for punitive consequences, while higher situational attribution correlated with higher preference for rehabilitative consequences. Moreover, the political ideology of the judge was found to have a substantial effect on their decision-making (Harris & Sen, 2019); one mediator of this effect may be their attribution bias, based on the findings of this dissertation. This knowledge, if supported in further research, could be thematized in the training of judges or other professions who deal with individuals from different groups (e.g., police, teachers, etc.), to increase awareness of possible biases and consequences. This heightened awareness could potentially lead to more equality.

### **Overall Limitations**

The specific limitations are discussed within each manuscript. However, this section focuses on the limitations that are shared across the manuscripts.

One key issue is the comparability of the chosen contexts. The group of First Nations in Latin America is not physically present in Germany, where the study was conducted, and does not have a direct, everyday impact on the participants' lives. In contrast, the studies focusing on refugees address a much more immediate and relevant issue for the participants, as refugees have been arriving in Germany throughout the last decade, and their presence directly influences daily life, on top of societal discussions and media portrayals. Further, for the study involving southern Italians, the issue is much closer and more present to the Italian participants' lives. All three groups differ in their proximity and impact on participants' lives, which suggests different dynamics, and thus the comparability and generalizability remain in doubt.

The studies also measured solidarity-based action intentions rather than actual behaviors, which are known to differ in many cases (Ajzen & Fishbein, 1977). The only

exceptions were Manuscript 1, where participants could donate a part of their potential raffle winnings at the end of the study, and Study 2 in Manuscript 2, with participants being told that they would play for money in the economic game, which they could receive at the end of the game if drawn in a raffle. While this was designed to influence decision-making and bring the study closer to real behavior, the amount of money in both cases was relatively low, and its believability might have been questionable for participants. Therefore, this represents a limitation of the presented research with regard to the questionable transfer into real behavior. Another limitation concerns the correlational data used in Manuscripts 1 and 2, which do not provide conclusive evidence of causality. Further, while the level of social identification was measured, how salient it was throughout the studies and how it specifically influenced the solidarity-related outcomes cannot definitively be determined. However, the correlations suggest that the level of identification does play a role, particularly when considering the differences between the correlations of superordinate identification and the corresponding outcomes, and subordinate identification and the outcomes. Despite this, manipulating the level of social identification would be helpful for clarification. As yet, the mechanisms and causal relationships proposed are preliminary and require further investigation in order to be validated. In addition to this, the order in which variables were measured in some studies did not always align with the expected sequence of processes, e.g., social identification was only assessed at the end of Study 2 in Manuscript 2. Therefore, response order effects (e.g., McFarland, 1981) cannot be ruled out.

Another limitation is that not all the measurements were fully adequate for the specific purposes of the different studies. For example, the measure of dependency- and autonomy-oriented help, adapted from Becker et al. (2019), worked well in the context of refugees, but was more challenging to adapt to the context of First Nations in Latin America, which was confirmed in the unsatisfactory factor loadings with regard to the latter. The items from

Maki's scale (2017), on the other hand, appeared somewhat vague when asking about behavioral intentions. It seemed that participants were asked more about what they perceived as important or desirable in the help that they generally provide, rather than reflecting on very specific behaviors in relation to the respective disadvantaged group. A solution for this problem might be the recently introduced and validated Intergroup Giving and Intergroup Acting in Favor of Refugees scale (IGIAF) (Hanioti et al., 2024). For other disadvantaged groups, the investigation and development of validated measures regarding dependency- and autonomy-oriented help may be useful.

Finally, one similarity of all three manuscripts was the inclusion of injustice of some type. However, the following differences should be noted: In Manuscripts 1 and 2, neither injustices were presented with direct consequences for either the individual or the individual's social group, nor were they directly named. The injustice was more implicitly given through the context, e.g., refugees in Germany, and referred to a group as a whole. In contrast, Manuscript 3 addressed an injustice experienced by an alleged ingroup member, which was directly described as being committed by a disadvantaged outgroup member, but it remains unclear as to what extent participants perceived the victim as an actual ingroup member.

### **Future Research Directions**

This section offers suggestions for future research, building on the limitations and considerations outlined in the previous section.

First, the path of causality needs to be further explored in this context. One approach with which to do so could be manipulating sub- and superordinate identification and examining its effect on the variables of interest. Specifically, if social identification was manipulated by creating subordinate and superordinate group conditions, and justice sensitivity was measured beforehand as an independent variable, it would allow for an exploration of potential interactions between these constructs. For example, if participants

high in JS-other engage in higher solidarity-based action while a subordinate group identification is activated, it could suggest that social identification may be helpful but not necessarily required for solidarity-based actions if JS-other is high. Conversely, if participants are low in JS-other (or high in JS-victim) while a superordinate group identification is activated, whether this group identification alone is sufficient to trigger the corresponding solidarity-based action could be assessed. Such an experimental design would provide deeper insights into the relative importance of justice sensitivity and social identification in shaping solidarity-based actions. For Manuscript 1, such hypotheses were initially pre-registered, and the corresponding results can be found in the respective Supplemental Material of the manuscript. Although there were no indications supporting the expected interactions, it is likely that the analyses are not sufficient to draw definitive conclusions regarding the interactions, since the manipulations of social identification had not worked as planned. Another approach could be to manipulate justice sensitivity. It has been shown that justice sensitivity perspectives could be induced, even though it is recognized as a personality trait (Maltese et al., 2013); further investigation in order to develop well-functioning manipulation methods is recommended. Also, with regard to the slightly different relationships between JS-other and dependency- and autonomy-oriented help, this should be examined further in future research. It might be recommended to look at the relationships between the different other-related subtypes of justice sensitivity and dependency- and autonomy-oriented help separately, since this may offer insights into specific tendencies depending on whether one perceives oneself as observer, perpetrator, or beneficiary. Furthermore, integrating the concept of social identification into this exploration would offer a more detailed view, as one's social identification could potentially shape the way in which different subtypes of justice sensitivity interact with solidarity-based actions. By considering both justice sensitivity and social identification further, future research could clarify how individuals'

social identification relates to their justice sensitivity subtypes, and thus influences their tendency to engage in either dependency-oriented or autonomy-oriented forms of help.

Second, this dissertation contained pathways that differed in their approach to investigating factors related to solidarity and those who support the disadvantaged: One approach was to explore the influence of personality and social identification on solidarity-based attitudes and behaviors, and the other approach was to explore the role of political ideology in attribution biases, and thus in emotional and behavioral reactions. Both approaches had in common the perception of injustice: While general injustice toward a disadvantaged group was described in the first approach (Manuscripts 1 and 2), the second used a scenario describing injustice toward an individual (advantaged) group member (Manuscript 3). Building on this, an integrated approach is recommended. Initially, an investigation into whether there is a relationship between justice sensitivity and intergroup attribution should be carried out. Then, as an example, a potential approach could involve examining how the situation of a disadvantaged group, such as refugees, is attributed—specifically, whether their circumstances are viewed as a result of their own actions or due to external factors. This could help to illuminate how such attributions mediate the relationship between justice sensitivity and solidarity-based attitudes and behaviors. Moreover, a deeper investigation of the degree to which the injustices presented in the studies were appraised as being relevant to the participants' social group or to them individually (as pointed out by Süssenbach & Gollwitzer, 2015) is particularly important in order to draw conclusions for intergroup contexts.

Furthermore, this investigation could be extended by exploring whether social identification or political ideology moderates the relationship between justice sensitivity and attribution. Understanding these interactions would provide valuable insights into how personality factors, intergroup attributions and social identification shape solidarity-based

action in the context of intergroup relations. In Manuscript 3, anger, sympathy, and desire for punishment were assessed following a norm-violation committed by a disadvantaged outgroup member (compared to an advantaged ingroup member). An idea to further enhance the bridge to solidarity-based action could be to also measure solidarity-based attitudes and behaviors—such as political solidarity, and dependency- and autonomy-oriented helping intentions—following the norm-violation and the corresponding attribution. By doing so, this could shed light on the influence of perceived norm-violations by a disadvantaged outgroup member on solidarity-based action toward this disadvantaged group, especially among participants who first consider the disadvantaged group as suffering from injustice and second condemn the norm-violation.

Since social identification has been identified as playing such an important role in relation to solidarity-based action, it might also be interesting to broaden the existing knowledge with respect to the investigation of intersectionality. Intersectionality is already present among activists, in such a way that they can have both an advantaged and a disadvantaged identity (Curtin et al., 2016); the previous discussion demonstrated that identifying with a superordinate group does not negate one's awareness of belonging to a subordinate and possibly advantaged group. Further, when considering the research from Manuscript 3, participants can identify with liberals, and with Germans and/or refugees, as well as with the victims of the norm-violation. The impact of these different intersecting identities has not been taken into account in the research presented, but it could be suggested that, for example, female participants who identify with both liberals and their values and also strongly with the victim of the sexualized norm-violation may encounter an even bigger inner conflict than the one suggested. In future research, the possible intersecting identities of participants could be assessed in order to understand their distinct impact, as well as their interactions.

## Conclusion

There are many ways in which solidarity manifests globally, perhaps in diverse forms and at different levels, but solidarity is a constant presence and will continue to be so. With this in mind, the goal of this dissertation was to shed light on three pathways potentially leading to solidarity, in order to provide a greater understanding of who supports the disadvantaged and who acts in solidarity with others. Is it their personality-driven sensitivity to injustice? Is it their higher social identification with certain groups, or perhaps the emotions that they feel or their political ideologies? We know that the answer is likely a combination of all these factors, in addition to many others. Whether it is in how we react to the plight of refugees or how we support other disadvantaged groups, the factors explored in this dissertation demonstrate that our actions are influenced by our personality, our identification with social groups, our political ideology, and its norms and values, as well as the emotions that we experience. So, who supports the disadvantaged? Based on the findings in this dissertation, it is those who are sensitive to injustice, who are willing to challenge their own biases, who are able connect with others through shared identities, and who are motivated to act on their emotions. Understanding these dynamics allows us to become more aware of the processes that shape our attitudes and behaviors. By aiming to encourage individuals to reflect on these processes, this dissertation seeks to foster more thoughtful and informed reactions to injustice and social inequality.

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## Appendix

### Manuscript 3 - Additional analyses

**Table 1**

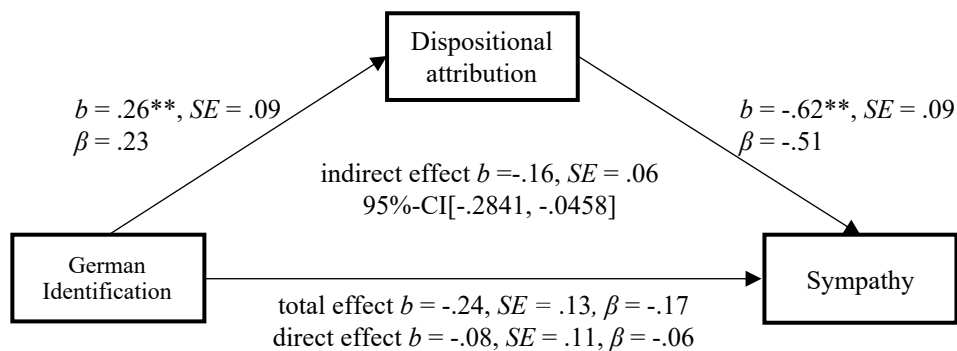
*Bivariate Correlations of German Identification with Dispositional attribution, Sympathy, Anger, and Desire for punishment regarding Disadvantaged Outgroup Member (Refugee) and Advantaged Ingroup Member (German).*

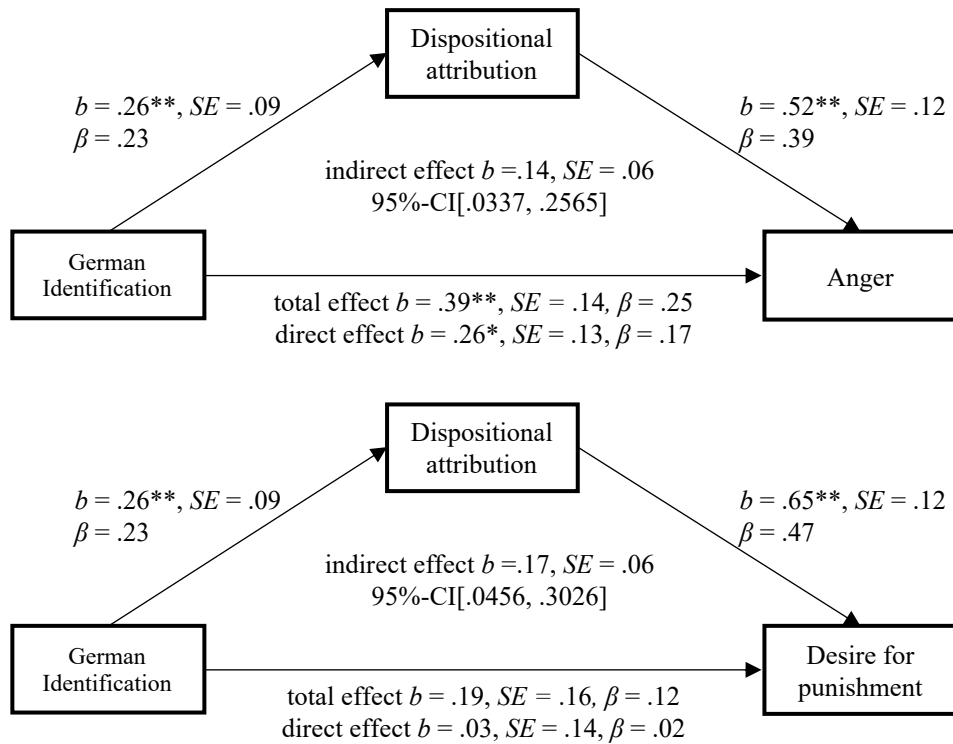
Correlate	<i>N</i>	Dispositional Attribution	Sympathy	Anger	Desire for punishment
German identification					
Refugee	128	.23*	-.18*	.26**	.12
German	148	-.15	.12	.02	-.05

*Note.* Dispositional attribution: 1 (highly situational) – 9 (highly dispositional). \*  $p < .05$ , \*\*  $p < .01$ .

**Figure 1**

*Mediation models for predicting Sympathy, Anger, and Desire for Punishment with German Identification, and Dispositional Attribution regarding a Disadvantaged Outgroup Member (Refugee).*

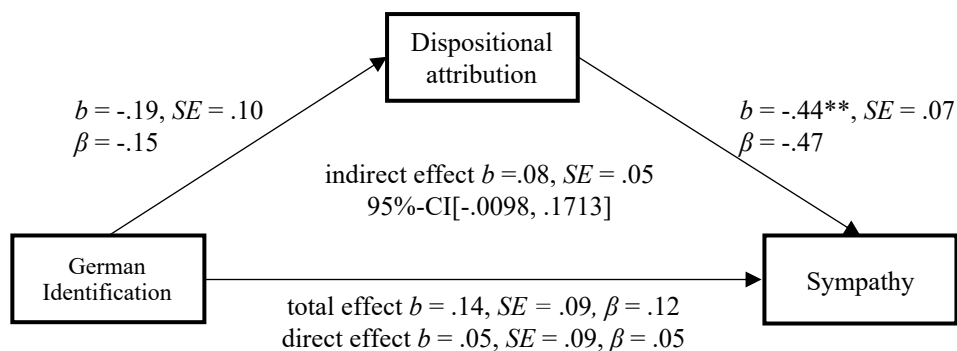


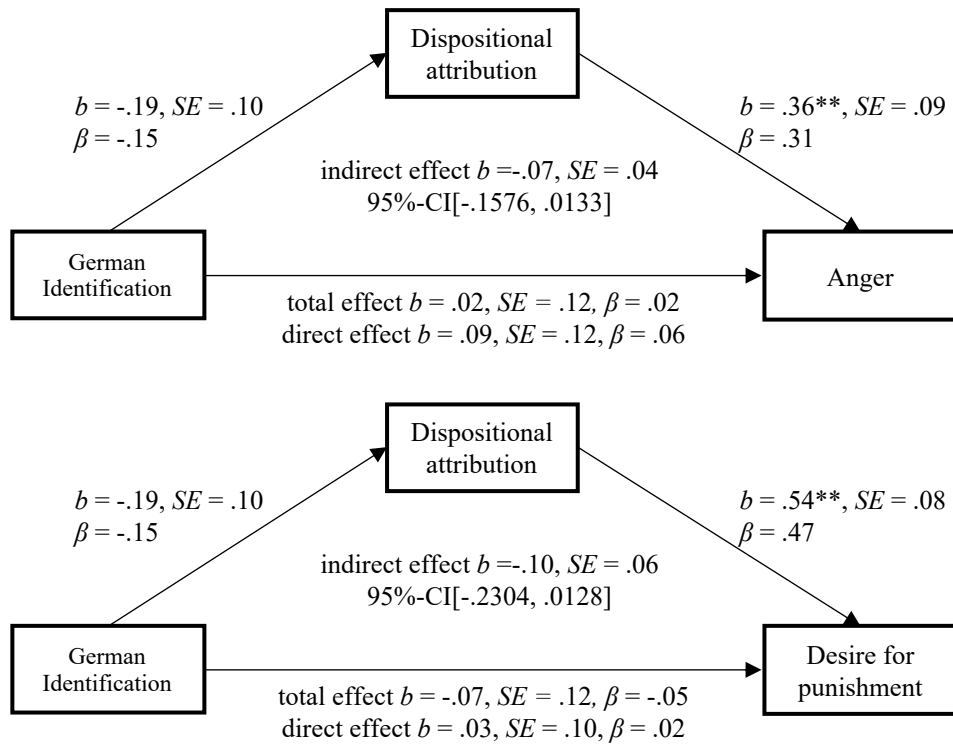


Note.  $N = 128$ . 5000 bootstrap samples for percentile bootstrap confidence intervals. \*  $p < .05$ , \*\*  $p < .01$ .

**Figure 2**

*Mediation models for predicting Sympathy, Anger, and Desire for Punishment with German Identification, and Dispositional Attribution regarding a Advantaged Ingroup Member (German).*





Note.  $N = 148$ . 5000 bootstrap samples for percentile bootstrap confidence intervals. \*  $p < .05$ , \*\*  $p < .01$ .

## CRedit-Tables

Manuscript 1:

Wolf, T., Knab, N., & Steffens, M. C. (2024). Exploring solidarity-based attitudes and behaviors regarding disadvantaged groups: The role of justice sensitivity and social identification. *Peace and Conflict: Journal of Peace Psychology*.

<b>CRedit Role</b>	Author 1: Tamara Wolf	Author 2: Nadine Knab	Author 3: Melanie C. Steffens	Author 4: [Name]	Author 5: [Name]
1. Conceptualization	<input checked="" type="checkbox"/> lead	<input checked="" type="checkbox"/> lead	<input checked="" type="checkbox"/> supporting	<input type="checkbox"/> --	<input type="checkbox"/> --
2. Data curation	<input checked="" type="checkbox"/> --	<input type="checkbox"/> --	<input type="checkbox"/> --	<input type="checkbox"/> --	<input type="checkbox"/> --
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13. Writing – original draft	<input checked="" type="checkbox"/> --	<input type="checkbox"/> --	<input type="checkbox"/> --	<input type="checkbox"/> --	<input type="checkbox"/> --
14. Writing – review & editing	<input checked="" type="checkbox"/> lead	<input checked="" type="checkbox"/> supporting	<input checked="" type="checkbox"/> supporting	<input type="checkbox"/> --	<input type="checkbox"/> --

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**Prof. Melanie C. Steffens** \_\_\_\_\_

Manuscript 2:

Wolf, T., Knab, N., & Steffens, M. C. (in preparation). The Role of Intergroup Emotions in Solidarity- based Attitudes and Behaviors: Building on the Interplay of Justice Sensitivity and Social Identification.

<b>CRedit Role</b>	Author 1: Tamara Wolf	Author 2: Nadine Knab	Author 3: Melanie C. Steffens	Author 4: [Name]	Author 5: [Name]
1. Conceptualization	<input checked="" type="checkbox"/> lead	<input checked="" type="checkbox"/> supporting	<input checked="" type="checkbox"/> supporting	<input type="checkbox"/> --	<input type="checkbox"/> --
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Manuscript 3:

Wolf, T., Pauen, H., Steffens, M. C., & Knab, N., (in press). We are all the same and (not) judged the same? Examining attribution tendencies of liberals in the context of norm violations by refugees. *Journal of Community & Applied Social Psychology*.

<b>CRedit Role</b>	Author 1: Tamara Wolf	Author 2: Helena Pauen	Author 3: Melanie C. Steffens	Author 4: Nadine Knab	Author 5: [Name]
1. Conceptualization	<input checked="" type="checkbox"/> lead	<input checked="" type="checkbox"/> lead	<input checked="" type="checkbox"/> supporting	<input checked="" type="checkbox"/> supporting	<input type="checkbox"/> --
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14. Writing – review & editing	<input checked="" type="checkbox"/> lead	<input checked="" type="checkbox"/> supporting	<input checked="" type="checkbox"/> supporting	<input checked="" type="checkbox"/> supporting	<input type="checkbox"/> --

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**Helena Pauen** \_\_\_\_\_

**Dr. Nadine Knab** \_\_\_\_\_

**Prof. Melanie C. Steffens** \_\_\_\_\_

## **CRediT (<https://credit.niso.org/>): Contributor Roles**

- 1. Conceptualization:** Ideas; formulation or evolution of overarching research goals and aims.
- 2. Data curation:** Management activities to annotate (produce metadata), scrub data and maintain research data (including software code, where it is necessary for interpreting the data itself) for initial use and later re- use.
- 3. Formal analysis:** Application of statistical, mathematical, computational, or other formal techniques to analyse or synthesize study data.
- 4. Funding acquisition:** Acquisition of the financial support for the project leading to this publication.
- 5. Investigation:** Conducting a research and investigation process, specifically performing the experiments, or data/evidence collection.
- 6. Methodology:** Development or design of methodology; creation of models.
- 7. Project administration:** Management and coordination responsibility for the research activity planning and execution.
- 8. Resources:** Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools.
- 9. Software:** Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components.
- 10. Supervision:** Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team.
- 11. Validation:** Verification, whether as a part of the activity or separate, of the overall replication/ reproducibility of results/experiments and other research outputs.
- 12. Visualization:** Preparation, creation and/or presentation of the published work, specifically visualization/data presentation.
- 13. Writing – original draft:** Preparation, creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation).
- 14. Writing – review & editing:** Preparation, creation and/or presentation of the published work by those from the original research group, specifically critical review, commentary or revision – including pre- or post- publication stages.

# Curriculum Vitae

*Tamara Wolf*

## Education

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11/2020 – 07/2025	<b>RPTU Kaiserslautern-Landau</b> PhD Student
09/2023 – now	<b>HAiP – Hessische Akademie für integrative Psychotherapie</b> Training Psychological Psychotherapist
03/2022 – 04/2024	<b>Claudia Swierczek &amp; Jennifer Becker GbR</b> Training Equine-assisted Systemic Intervention & Psychotherapy
10/2018 – 10/2020	<b>University Koblenz-Landau</b> M.Sc. Psychology
10/2013 – 08/2016	<b>Albert-Ludwigs-University Freiburg</b> B.Sc. Psychology

## Teaching Experience

---

RPTU Kaiserslautern-Landau	Undergraduate Level <ul style="list-style-type: none"><li>• Empirical practicum (Bachelor of Science, Summer term 2022, Winter term 2022/2023)</li><li>• Introduction to Social Psychology (Bachelor of Science, Winter term 2020/21; Summer term 2021; Winter term 2021/22; Summer term 2022; Summer term 2023)</li><li>• Colloquium (Bachelor of Science, Summer term 2023)</li></ul>
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## Scholarships and Grants

---

Research Grant	Minerva Stiftung, Minerva Short-Term Research Grant (research stay in Israel: January – March 2021)
Research Grant	Forum Peace Psychology – Small Grant (Master Thesis Project in cooperation with Tel Aviv University)
Scholarship	PROMOS – Project funding from the German Academic Exchange Service (research stay in Israel: March - September 2020)

## Stays abroad

---

03/2020 – 12/2022	Israel – Research Internship Tel Aviv University
08/2016 – 10/2016	Greece – Voluntary Service Refugee Aid Lesbos

## Publications and Conference Contributions

---

**Wolf, T.**, Knab, N., & Steffens, M. C. (in preparation). Connecting Justice Sensitivity, Social Identification and Intergroup Emotions to Predict Various Forms of Solidarity: An Integrative Approach

Pesin-Michael, G., Shnabel, N., Steffens, M., **Wolf, T.** (2025). A needs-based level of construal: Members of victim and perpetrator groups prefer to represent transgression at different levels of abstraction. *Journal of Personality and Social Psychology*.

**Wolf, T.**, Pauen, H., Steffens, M. C., & Knab, N. (2025). We Are All the Same and (Not) Judged the Same? Examining Attribution Tendencies of Liberals in the Context of Norm Violations by Refugees. *Journal of Community & Applied Social Psychology*, 35(3), e70093.

**Wolf, T.**, Knab, N., & Steffens, M. C. (2024). Exploring solidarity-based attitudes and behaviors regarding disadvantaged groups: The role of justice sensitivity and social identification. *Peace and Conflict: Journal of Peace Psychology*.

Bogado, N., & **Wolf, T.** (2024). The CDU and the Leitkultur Debate: An Analysis of Angela Merkel's Integration Discourse Before and After the 2015 Syrian Refugee Crisis. *Journal of International Migration and Integration*, 25(4), 2123-2141.

**Wolf, T.**, Knab, N., & Steffens M. C. (2023). Justice sensitivity and social identification: Explaining solidarity-related attitudes and behaviors. 18. *Tagung der Fachgruppe für Sozialpsychologie*. 11.-13.09.2023, Graz, Austria.

**Wolf, T.**, Knab, N., & Steffens M. C. (2022). Investigating solidarity in an increasingly unequal world: How do justice sensitivity, social dominance orientation and social identification interact for predicting solidarity-based actions? 64. *Tagung experimentell arbeitender Psycholog:innen*. [64th Conference of experimental psychologists.] 20.-23.03.2022, Köln.

## **Eidesstaatliche Erklärung**

Hiermit erkläre ich, Tamara Wolf, dass ich die vorliegende Dissertation selbstständig verfasst habe und keine anderen als die angegebenen Quellen genutzt habe. Die aus fremden Quellen direkt oder indirekt übernommenen Gedanken habe ich als solche kenntlich gemacht.

Diese Arbeit habe ich bisher weder in gleicher noch ähnlicher Form einer staatlichen oder anderen Prüfungsbehörde vorgelegt.

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Offenbach, den 25.04.2025

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Tamara Wolf