

Examining the Relationship between Social Trust, Empathic Concern, the Principle of Care, and Low-cost and High-cost Prosocial Behaviors in Sociodemographic Contexts

by

Elias Hazen Chandarlis

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
(Psychology)
in the University of Michigan
2024

Doctoral Committee:

Professor Nansook Park, Chair
Professor Lorraine M. Gutiérrez
Assistant Professor Mari Kira
Professor Ramaswami Mahalingam

Elias Chandarlis

echandar@umich.edu

ORCID iD: 0000-0001-6635-6219

© Elias Chandarlis 2024

Dedication

This dissertation is dedicated to many important people in my life. I would first like to dedicate this dissertation to my mother and father. You have sacrificed so much for me, more than I ever appreciated as a child, and it's gotten me to where I am. I would not be the man I am without your dedication to me, and so I dedicate this work to you. I also dedicate this work to Brittany, who pushes me to be my best in everything I do, keeps me humble, and supports me through thick and thin. I love you very much and would not dream of doing this without you. Last but certainly not least, I dedicate this research to Dr. Nansook Park. You took a chance on me that few, if anyone else, would. You have had my best interests at heart ever since you became my mentor as an undergraduate student and remain so to this day. My skills as a researcher, an educator, and a human being who continues to try and see the best in people are all thanks to your continued mentorship and support. Thank you for always having my back. After all, we are a team!

Acknowledgments

I extend my deepest gratitude to my primary advisor and mentor, Dr. Nansook Park, whose unwavering support has been instrumental since my undergraduate studies. Dr. Park's guidance, insightful feedback, and dedication to my academic and personal growth have played a pivotal role in shaping this dissertation. Her expertise and encouragement have been a constant source of inspiration, and I am truly fortunate to have had her as my advisor. Thank you for everything you have done for me as an advisor and a mentor.

I am also immensely grateful to my dissertation committee, which is comprised of Dr. Park, Dr. Kira, Dr. Mahalingam, and Dr. Gutiérrez. Their collective wisdom, constructive criticism, and commitment to excellence have significantly enriched my research journey. Each committee member has provided invaluable insights and perspectives, contributing to the depth and quality of this dissertation. I appreciate their time, expertise, and encouragement throughout this challenging but rewarding process. You are all exemplars of your respective fields of research, and I cannot overstate how thankful I am for sharing your expertise and guidance with me during this project and through my time in this program.

I must also mention my fellow graduate students' unwavering support, especially my cohort-mates, Richard, Tiani, C., and Jessica, and my senior in Dr. Park's lab, Dr. Christina Costa! Thank you for supporting me from the beginning to the end of this program, through

classes, and on to our research! Even when things were stressful, it was great to know others were willing to help through our struggles and that I was never truly alone.

Finally, I want to express my heartfelt thanks to my family and friends in Texas and Michigan, whose unwavering support has sustained me over the past ten years. Your encouragement, understanding, and love have been my anchor during the highs and lows of this academic endeavor. Their belief in my abilities and the countless sacrifices they made on my behalf have been indispensable. I am truly blessed to have such a supportive network, and I appreciate everything you all have done for me.

Table of Contents

Dedication	ii
Acknowledgments.....	iii
List of Figures.....	vii
List of Tables	viii
Abstract.....	ix
Chapter 1: Introduction.....	1
Chapter 2: Background and Literature Review	11
Types of Prosocial Behaviors.....	11
Emotional, Cognitive, and Social Contributors to Prosocial Behaviors	16
Social Contextual and Demographic Contributors to Prosocial Behaviors	24
Summary of Study Aims.....	38
Research Questions.....	40
Chapter 3: Data and Methods	42
Measures.....	43
Analysis Plan.....	46

Chapter 4: Results	47
Chapter 5: Discussion	59
Implications.....	70
Limitations and Future Directions.....	76
Conclusion	78
References.....	94

List of Figures

Figure 1.1 Theoretical Model of Main Study Variables	81
Figure 2.1 Welch ANOVA - Sociodemographic Differences in Empathic Concern	82
Figure 2.2 Welch ANOVA - Sociodemographic Differences in the Principle of Care	83
Figure 2.3 Sociodemographic Differences in Social Trust	84
Figure 2.4 Sociodemographic Differences in Low-Cost Prosocial Behaviors.....	85
Figure 2.5 Sociodemographic Differences in High-Cost Prosocial Behaviors.....	86
Figure 3.1 Final Path Model of Main Study Variables	87

List of Tables

Table 1.1 Descriptive Statistics of Study Variables	88
Table 1.2 Correlations among Study Variables.....	89
Table 2.1 Means, Standard Deviations, and Welch ANOVA Results by Demographic Variable Groups.....	90
Table 4.1 Results of Unconstrained Model Multigroup Path Analyses	92

Abstract

Humans have an enormous capacity to act prosocially, yet global trends indicate a decline in such behaviors. Considering the importance of prosocial behaviors for individuals and society, it is crucial to explore the various factors and contexts influencing prosocial behaviors. Existing gaps in the literature limit a deeper understanding of the contributors to prosocial behaviors. Studies on prosocial behaviors have typically focused on emotional contributors, while cognitive and social factors like the principle of care and social trust have been less examined. In addition, few studies have treated prosocial behaviors as a multidimensional construct, while the majority of studies on prosocial behaviors have utilized youth samples from Western, Educated, Industrialized, Rich, and Democratic (WEIRD) backgrounds.

The current study utilizes data from 1,339 participants in the 2004 National Opinion Research Center General Social Survey. This study examines the relationships between empathic concern, the principle of care, social trust, and the frequency of low- and high-cost prosocial behaviors across various sociodemographic contexts. Additionally, this study examined the similarities and differences in these relationships across the sociodemographic contexts of racial and ethnic background, gender, socioeconomic status, and age.

A series of One-Way Welch ANOVAs revealed significant sociodemographic differences in contributors and types of prosocial behaviors. A path analysis showed that while the principle of care was associated with both high- and low-cost prosocial behaviors, social trust was associated with only high-cost prosocial behaviors, and empathic concern was associated with

only low-cost prosocial behaviors. Furthermore, the results of a series of multigroup path analyses demonstrated the stability of the principle of care's importance on prosocial behaviors across sociodemographic contexts, while the degree of relationship between empathic concern, social trust, and prosocial behaviors varied significantly across racial and ethnic background, gender, socioeconomic status, and age.

These findings highlight the importance of considering emotional, cognitive, and social contributors, different types of prosocial behaviors, and various sociodemographic contexts when researching prosocial behaviors. Furthermore, professionals who are designing programs and interventions to promote prosocial behaviors need to tailor their approaches based on the participants' sociodemographic backgrounds and influences of different emotional, cognitive, and social factors.

Chapter 1: Introduction

Humans are, in many ways, a prosocial species. Prosocial behaviors are any voluntary behavior meant to benefit others (Eisenberg et al., 2016). Prosocial behavior represents a diverse range of acts ranging from smaller, daily examples of prosociality, such as sharing a ride, to more structured and costly prosocial behaviors, such as volunteering or engaging in charity work, and even more costly prosocial behaviors that may risk one's own well-being (Padilla-Walker et al., 2015). The importance of prosocial behaviors for individuals and societies is obvious and well documented as it enhances human relationships, well-being, and the healthy functioning of society (see Hui et al., 2020 for review). While humans have an enormous capacity to act prosocially, they don't always act in prosocial ways. Given its importance in individual life and society, exploring various factors that contribute to prosocial behaviors could be significant. These findings could provide valuable information on further cultivating prosocial behaviors among individuals and society.

Humans have a remarkable capacity to act in a way that benefits others. Throughout history, whenever there were major challenges and tragedies such as wars, natural disasters, and atrocities in the world, countless individuals and groups demonstrated prosocial behaviors. Even during times of hardship, people tend to seek ways to help others, primarily to improve the lives of those around them, especially those most in need (Tekin et al., 2021). The COVID-19 pandemic is a recent example of the prevalence of prosocial behaviors within humanity. Within a qualitative study of 104 stories of altruism during the pandemic, researchers found that support

was mainly given to the elderly, those who were medically vulnerable, frontline workers, and those from marginalized communities who were at greater risk of hardship due to economic downturns associated with lockdown (Tekin et al., 2021). These helping behaviors were demonstrated by volunteer groups and communities and everyday individuals who stepped up to help others during the pandemic (Tekin et al., 2021). Interestingly, these helping behaviors were primarily driven by selfless reasons, such as a sense of community, gratitude, and allyship for the disadvantaged (Tekin et al., 2021).

Research suggests that prosocial behaviors are deeply rooted in human evolution and development. These prosocial behaviors may play an important role in human survival as a species and the well-being of individuals. Evolutionary perspectives theorize that prosocial behaviors serve a vital survival function for humans, and their continued existence throughout our evolutionary history stands as evidence for this theory (Barclay & Van Vugt, 2015). Studies in developmental psychology found evidence of early development of prosocial behaviors. In the first three years of life, children develop their prosocial abilities rapidly, demonstrating their importance to proper functioning (Brownell, 2013). Children were able to discern the distress of others within the first year of life (Roth-Hanania et al., 2011) and showed efforts to reduce distress in others around 30 months of age (Svetlova et al., 2010). Further, a study reported that children as young as 18 months old are willing to share their toys or food in response to a direct request from a stranger and will even offer to do so spontaneously by the age of 2 years (Brownell 2013). These findings of children beginning to act prosocially so early in their lives indicate just how vital prosociality is to human nature.

Presently, the world is grappling with formidable global and regional challenges, including climate change, armed conflicts, poverty, inequality, violence, discrimination,

incivility, loneliness, mental health crises, and escalating political polarization. It is suggested that the US is now more divided politically than ever before (Coleman & Godwin, 2023; Dimock & Wike, 2020; Woodruff & Carlson, 2023), potentially even more so than during the American Civil War (Jackman, 2022). Just a few individuals cannot solve these enormous challenges. It requires a collaborative effort from everyone. More than ever, the world needs more prosocial behaviors such as cooperation, teamwork, helping, and sharing to help bridge divides and solve issues.

However, recent trends indicate a concerning decline in prosocial activities in the United States. A 2023 AmeriCorps survey reported a 7% drop in formal volunteer participation from 2019 to 2021, marking the largest decrease since 2002 (Beaty & Gamboa, 2023). While factors like limited volunteer opportunities and economic concerns during the COVID-19 pandemic may have contributed to this decline, a decade-long downward trend in volunteerism is evident in both the U.S. (Kiersz, 2016) and the U.K. (Office for National Statistics, 2017). Additionally, Giving USA reports a 10.4% decrease in charitable donations in the U.S. for 2022, adjusted for inflation, representing only the fourth decline in forty years of data collection (Gamboa, 2023). This decline raises significant concerns, given the crucial role of prosocial behaviors in addressing contemporary societal challenges.

Although economic uncertainty has been identified as a potential driver behind the decline in prosocial behaviors (Gamboa, 2023), other psychological and social factors, such as social trust and empathy, may also contribute to this trend. Survey results on donation trends in the United States revealed that almost half of individuals who ceased charitable donations did so because they believed affluent individuals should bear more responsibility (Herschander, 2023). Additionally, resentment towards wealthier individuals has been suggested as a partial

explanation for decreased donations (Gamboa, 2023). In the U.S., distrust in the government and others has increased (Rainie et al., 2019), and a global survey spanning 28 countries, including the U.S., reported declining trust in government, business institutions, and individuals from different states, regions, and countries (Fischer, 2022). Furthermore, studies indicate a substantial drop in empathy among college students from 1979 to 2009 (Konrath et al., 2011). Given these observations, there is concern among the American people that a deficit of empathy may negatively impact the country (Hall & Leary, 2020; Luna & Konrath, 2019; Rubin, 2023).

In the existing research on individual, social, and cultural factors influencing prosocial behaviors, one of the most researched areas pertains to other-regarding emotions, particularly compassion and empathy (Carlo et al., 2010; Eisenberg et al., 2006; Jensen & Silk, 2013). Empathy, considered a major predictor of prosocial behaviors, involves both emotional and cognitive components related to understanding and responding to others' emotional states (Morelli et al., 2014). One of the most studied of these components is that of empathic concern, defined as the feelings of concern for another individual perceived as being in distress (Einolf, 2008). Empathic concern has been examined as a mediator between predictors of prosocial behaviors such as mindfulness, prosocial media, and prosocial behaviors. These studies suggest that increased empathic concern from other sources may increase prosocial behavior (Berry et al., 2018; Padilla-Walker et al., 2015). In addition, the direct effects of empathic concern on prosocial behavior have been investigated, revealing that empathic concern ratings are positively associated with prosocial behaviors among children and adults (Light et al., 2015; Williams et al., 2014). A plausible explanation for the relationship between empathic concern and prosocial behaviors could be alleviating distress experienced when witnessing another individual in need, which can be mitigated by acting prosocially (Decety et al., 2016). Although the relationship

between empathic concern and prosocial behaviors is well documented, many of these studies were conducted among children and youth. Less is known about the role of empathic concern on prosocial behaviors among adults.

The principle of care, another component of empathy subject to scholarly research, emphasizes the endorsement of the moral importance of assisting others (Ottoni-Wilhelm & Bekkers, 2010). While it bears similarities to empathic concern—both involve the well-being of others—these two constructs are distinct. The principle of care is considered a moral cognition rather than an emotional state and is theorized to be a higher developmental stage stemming from an individual's capacity for empathic concern (Bekkers & Ottoni-Wilhelm, 2016). This principle has demonstrated a positive correlation with prosocial behaviors, even when accounting for the influence of empathic concern (Kim & Kou, 2014; Ottoni-Wilhelm & Bekkers, 2010). However, as a more recent conceptualization, the relationship between the principle of care and prosocial behaviors is far from fully understood.

Less understood is the relationship between social trust and prosocial behavior. Social trust, defined as a person's belief that people in society are treated fairly and treating others fairly, is an additional variable that may contribute to prosocial behaviors (Delhey & Newton, 2005). The reciprocal-altruism hypothesis suggests that this relationship may result from people's trust and expectation that their supportive actions will be reciprocated or compensated for in the future (Hawley, 2014). Despite a lack of extensive research on the relationship between social trust and prosocial behavior, existing research finds that higher social trust is associated with higher rates of contributions to religious and secular causes (Wang & Graddy, 2008).

Interestingly, research also finds that instances where social trust diminishes, potentially due to negative news reports, may lead to reduced helping behaviors, reflecting declining faith in the

inherent goodness and fairness of others (Han et al., 2019). Understanding the interplay between social trust and prosocial behaviors is crucial for promoting prosocial behaviors effectively, especially in addressing societal disparities, divisions, and ongoing conflicts. Therefore, this study aims to explore the relationship between empathic concern, the principle of care, and social trust in influencing different types of prosocial behaviors.

Further, researching prosocial behaviors is important not just because they help others and our society but also for their potential benefits to the helper. In prior decades, psychologists have largely focused on studying why, how, and when people help or do not help. Researchers were instead interested in studying motivation, personality, social situations, developments, and individual variations in prosocial behaviors (Eisenberg, 2000). In recent decades, researchers have begun to pay attention to contributors to prosocial behaviors and the positive consequences of acting prosocially for the helper (Padilla-Walker & Carlo, 2014). Accumulating research documents multiple benefits for the person who engages in prosocial behaviors. The benefits of prosocial behavior include improved well-being (Layous et al., 2012), enhanced relationship and friendship quality (Dryburgh et al., 2022; Stavrova & Ehlebracht, 2015), better mental and physical health, and even longevity (Brown & Brown, 2015; Raposa et al., 2016). Additionally, prosocial behaviors are associated with improved performance in children's education and adult work environments (Caprara et al., 2014; Reizer et al., 2020). Prosocial behaviors may also enhance the welfare of communities and neighborhoods by fostering cohesion and safety. Recent studies indicate that when prosocial behaviors are exhibited by individuals outside of one's immediate social group, they can play a significant role in uniting communities, underlining the further need for a deeper comprehension of prosocial behavior, its impacts, and contributing factors (Baldassarri & Abascal, 2020). Although studies on the benefits of prosocial behavior on

the helper have accumulated, more research is needed to clarify how relevant factors contribute to these prosocial behaviors so we can better understand how to promote them.

There are major limitations in existing research on prosocial behaviors. First, existing research is lacking in accounting for contexts seriously. Research evidence suggests that cultural or social contextual factors may influence how often and in what ways children show prosocial behaviors (Jensen et al., 2014). However, there are limited studies that account for contextual variables in the prosocial behavior literature. Numerous publications indicate a significant problem with sampling in psychological research, particularly with an overreliance on Western, Educated, Industrialized, Rich, and Democratic (WEIRD) samples— those who are predominantly Western (usually White), Educated, Industrialized, Rich, and Democratic (Arnett, 2016; Henrich et al., 2010; Cheon et al., 2020; Muthukrishna et al., 2020; Thalmayer et al., 2021). Further studies noted that many studies are disproportionately skewed toward the experiences of Western undergraduate students. While valuable for research related to higher education, this demographic carries distinct traits, such as progressive beliefs and higher SES backgrounds, that differentiate them from broader contexts within the United States and even more so when compared to global populations (Henrich et al., 2010). Although there has been slight improvement—such as a decrease from 70% to 60% of published psychology studies featuring U.S. samples—progress remains to be made for adequate representation of global populations within psychology (Thalmayer et al., 2021). Prosocial behavior research is not exempt from this sampling issue, as many of these studies lean heavily on WEIRD samples or use measures not designed for perspectives outside of these WEIRD samples (Armstrong-Carter & Telzer, 2021). Those studies that do branch out from reliance on WEIRD samples often utilize relatively small sample sizes (Harris & Kruger, 2022; Streit et al., 2020). However, researchers

have recently begun noting this trend in their work and making strides to rectify it (see Aknin et al., 2015; Armstrong-Carter & Telzer, 2021; Shi et al., 2020). While this study will not fully address the imbalance of WEIRD sampling, this study aims to contribute towards a better comprehension of prosocial behavior and its contributors in a broader racial, ethnic, and socioeconomic context by examining a large, diverse sample from the National Opinion Research Center's General Social Survey (NORC GSS).

Second, existing prosocial behavior research has focused on understanding prosocial behaviors in mostly childhood and adolescent settings. While much of the existing research on prosocial behavior focuses on younger samples, more limited research on prosocial behaviors in adult populations highlights the importance of considering adults and age when examining prosocial behavior, its outcomes, and its contributors (Bailey et al., 2021; Mayr & Freund, 2020). One such study found that older adults acted more prosocially within their sample than younger adults, partly due to their higher levels of empathy from an identical situation (Beadle et al., 2015). The reasons for these differences remain unclear, furthering the importance of research on adult prosociality. Our study seeks to partially address this by including a sample of participants from ages 18-89.

Third, a further limitation of existing prosocial behavior research is the absence of viewing prosocial behavior as a multidimensional construct. Though existing research has explored some contributing factors of prosocial behaviors, this research does little to differentiate between different types of prosocial behavior, though it is understood that prosocial behaviors can differ regarding their conceptualizations, impacting the likelihood of performing some behaviors over others and even influencing the benefits to be derived from performing them (Eisenberg et al., 2016; Padilla-Walker & Carlo, 2014). Recent prosocial behavior research

conceptualizes prosocial behaviors by their context (compliance-based, dire, emotional, public, anonymous, and altruistic prosocial behaviors), the type of action enacted (helping, sharing, or comforting), and their relative cost (generally categorized as high- and low-cost). Our study addresses this limitation in part by examining how contributing factors such as empathic concern, the principle of care, and social trust may differentially impact high-cost and low-cost prosocial behaviors.

Although significant scientific progress has been made in understanding the development, contributors, and consequences of prosocial behavior, there are many research questions that have not been answered, and some of the findings are inconsistent across studies. Further research is necessary to address gaps in the existing literature and further clarify and deepen our understanding of the contributors to prosocial behaviors. This study allows us to examine both high- and low-cost prosocial behaviors in a large, nationally representative adult sample. Furthermore, there exists a lack of comparative research on prosocial behavior with diverse and non-WEIRD samples. This study will not only examine the contributing factors of two types of prosocial behavior but will also be able to compare across different racial and ethnic groups, socioeconomic groups, and both income and age. It will enrich our understanding of how these relationships differ and are similar across contexts. Finally, this study further explores the roles that the principle of care and social trust may play in influencing prosocial behaviors. These constructs are less researched within existing prosocial behavior research but may help us better understand how social factors and deeper moral conceptualizations may influence both high-cost and low-cost prosocial behaviors.

To better realize these goals, this exploratory dissertation aims to expand our knowledge of how prosocial behaviors are influenced by emotional, cognitive, and social factors such as

empathic concern, the principle of care, and social trust. Furthermore, this study examines similarities and differences in these associations across racial/ethnic and socioeconomic groups. By examining these factors, this study has the potential to inform future research and enrich our understanding of how we can promote prosocial behaviors across diverse communities. Furthermore, this study may allow us to better understand complex relationships among contributing factors to prosocial behavior. People have the capacity and skills to act prosocially, and this study may help further realize that potential.

Chapter 2: Background and Literature Review

This exploratory study examines the relationship between emotional, cognitive, and social factors such as empathic concern, principle of care, and social trust, and different types of prosocial behaviors in the context of race/ethnicity and socioeconomic status. Though existing research has long examined the factors contributing to prosocial behaviors, there are gaps in the existing literature that this study seeks to address. The majority of these studies utilize children and youth samples, which limits the generalizability of the findings to the adult population. Existing research has not fully explored the role of the principle of care in contributing to prosocial behaviors as a further developed dimension of empathy utilizing moral cognitions (Bekkers & Ottoni-Wilhelm, 2016). In addition, studies on the importance of social trust on prosocial behavior are rare (Han et al., 2019; Wang & Graddy, 2008). This study seeks to examine the contributing factors to both high-cost and low-cost prosocial behaviors, which existing research suggests may have differences in their motivational basis and associated contributing factors (Coyne et al., 2018; Dakin et al., 2021; Eisenberg & Shell, 1986; Padilla-Walker et al., 2018). Finally, while considering the broader sociodemographic contexts, we first discuss the existing literature and the gaps we aim to address in this study with the following literature review.

Types of Prosocial Behaviors

Various conceptualizations exist for categorizing different types of prosocial behaviors, with this study opting to focus on the distinctions between high-cost and low-cost prosocial

behaviors. This choice is particularly relevant in light of recent research indicating that the costs associated with prosocial behaviors may yield distinct outcomes, influenced by variations in contributing factors (Coyne et al., 2018; Gneezy et al., 2011; Padilla-Walker & Fraser, 2014). Our literature review explores the role of cost in shaping the performance of prosocial behaviors, underscoring how a range of contributing factors contribute differentially to high-cost and low-cost prosocial behaviors. This emphasis serves as a crucial step in highlighting the significance of considering cost as a relatively underexplored dimension within the realm of prosocial behavior.

Prosocial Behavior Cost as a Contributor to Prosocial Behaviors

An integral factor influencing the enactment of prosocial behaviors is the cost associated with these behaviors. Generally, the existing literature indicates that people are less likely to engage in high-cost prosocial behaviors as compared to low-cost prosocial behavior (Bell et al., 1995; Bohm et al., 2018; Hedge & Yousif, 1992; Imai, 1991). Beyond the effect of the higher cost itself, there is research examining the role of mental health processes as well, with researchers finding that anxiety symptoms are associated with decreased high-cost prosocial behaviors, perhaps through a decrease in mental resources to help others in those experiencing anxiety symptoms (Maiya et al., 2023). Experiences of acculturative stress and discrimination likewise exhibit associations with reductions in altruistic and high-cost prosocial behaviors, likely indicative of a similar diminishment in available mental resources (Davis et al., 2016; Davis et al., 2018). The following sections will discuss existing research that encompasses the effects of cost on an individual's prosocial behaviors.

Salience, Identity, and Cost of Prosocial Behaviors. A potential explanation for the influence of cost on the performing of prosocial behaviors may be attributed to the salience of that cost. One exploratory study examined individuals' decision-making process and donation decisions and discerned that participants who were primed to contemplate money spent longer deciding whether to donate under high-cost circumstances (Li et al., 2021). This extra time for thinking, however, was absent under low-cost conditions. An additional study noted that monetary and cost salience could be triggered in participants witnessing others making high-cost donations. Researchers reported that when individuals observed what to them was a costly donation by another person, they were more likely to donate money in turn, in part because they viewed the other person as acting more intrinsically and appearing more socially desirable (Wu et al., 2022). The implications of these findings are crucial and somewhat counterintuitive, suggesting that 'low-cost' messaging – emphasizing minimal required time or effort – may potentially undermine prosocial behavior promotion. Instead, an organization may be better served by letting donations be perceived as high-cost due to the observed tendency for other people to donate subsequently (Wu et al., 2022).

An additional salience source could stem from one's prosocial self-identity. Results indicated that when confronted with a costly prosocial donation request, participants proved more likely to view themselves as embodying prosocial characteristics or possessing a prosocial self-identity (Gneezy et al., 2011). This was subsequently coupled with increased honesty in subsequent tasks (Gneezy et al., 2011). In a second field experiment study, the researchers discovered that individuals who purchased a personal photograph, with the proceeds donated to charity, exhibited a higher tendency to purchase items for others than control condition participants. This financial expenditure was conceptualized as a costly prosocial behavior and

seemed to make participants act more generously to others immediately afterward (Gneezy et al., 2011).

Contributors to Low-Cost Prosocial Behavior. Despite their relative ease of execution, low-cost prosocial behaviors can yield substantial benefits for the performer and recipient. To better understand how to foster these behaviors, researchers have investigated several contributing factors. For instance, research on sympathy found that broad feelings of sympathy can predict low-cost prosocial behaviors (Padilla-Walker & Fraser, 2014). Interestingly, their research suggests a positive association between these increased low-cost prosocial behaviors and sympathy a year later, hinting at a potential bi-directional relationship. Within the same study, the researchers found that adolescent moral values were associated with both low and high-cost prosociality, underscoring the significance of moral values when studying prosocial behaviors in general (Padilla-Walker & Fraser, 2014). Prosocial media consumption has also been linked to a rise in low-cost prosocial behaviors, albeit without a significant predictive effect on high-cost prosocial behaviors like charity donations and volunteering (Coyne et al., 2018). The researchers posit that this could be attributed to the higher exposure to certain low-cost, more straightforward prosocial behaviors inside of media than their high-cost counterparts (Coyne et al., 2018). Interestingly, a unique form of low-cost, low-risk activism, termed 'slacktivism,' was associated with a higher propensity to donate to a cause and engage in activist actions such as writing letters or signing petitions. Notably, this correlation did not extend to high-cost activities such as protest attendance (Lee & Hsieh, 2013). While seemingly easy to engage in, researchers are still examining what factors may specifically promote low-cost helping, as much of the existing research does not differentiate between high- and low-cost

prosocial behaviors. This study intends to address this gap by delineating these distinctions, thereby contributing to the current body of knowledge.

Contributors to High-Cost Prosocial Behavior. The general assumption among researchers is that high-cost prosocial behaviors, due to their extensive demands on the helper, occur less frequently, an assertion that is broadly supported by existing research (Bell et al., 1995; Bohm et al., 2018; Hedge & Yousif, 1992; Imai, 1991). Nevertheless, this perspective has spurred investigations into the determinants of high-cost prosocial behaviors. One contributing factor may be individuals' pursuit of meaning in their lives, or “meaning-seeking.” An exploratory series of five studies found an association between meaning-seeking and high-cost prosocial behaviors, with a stronger association than between meaning-seeking and lower-cost prosocial behaviors (Dakin et al., 2021). Furthermore, they found that individuals who reported higher rates of meaning-seeking had undertaken more costly prosocial behaviors before any exposure to or involvement in the study (Dakin et al., 2021).

Additional research focuses on empathy as an attribute promoting high-cost prosocial behaviors. A research study probing the influences of trait narcissism, self-sacrificing, and empathy on prosocial behaviors found no association between trait narcissism and self-sacrificing with high-cost prosocial behaviors. In contrast, trait empathy emerged as the sole measure associated with high-cost prosocial behavior, indicating a positive correlation between increased trait empathy and high-cost prosocial behaviors (Harris et al., 2023). The target of prosocial behavior, predominantly family and friends, has also been noted as a determinant of high-cost prosocial acts. One longitudinal study on high-cost prosocial behaviors across the transition to adulthood discovered that participants tended to perform high-cost behaviors more frequently for family and friends (Padilla-Walker et al., 2018). Notably, the pattern shifted

toward friends becoming the more frequent recipients of these behaviors as participants transitioned into emerging adulthood (Padilla-Walker et al., 2018).

Furthermore, moral reasoning, such as that found with the principle of care, has been associated with high-cost donating and prosocial behaviors in children, indicating that more emotionally mature children (who have a more developed sense of moral reasoning) may engage with more high-cost prosocial behaviors (Eisenberg & Shell, 1986). A contemporary study paralleled these findings in an adult cohort, with individuals possessing a more pronounced awareness of societal morality norms demonstrating a higher tendency for high-cost prosociality (Greitemeyer et al., 2006). Although current research has provided intriguing pointers regarding the influences on high-cost prosocial behaviors, this study area remains relatively under-researched. This project aims to expand on this field of research by examining the contributors of both high- and low-cost prosocial behaviors.

Emotional, Cognitive, and Social Contributors to Prosocial Behaviors

Within the study of prosocial behaviors, numerous emotional, cognitive, and social factors are found to be associated with the performance of prosocial behaviors. One's own concern for others, one's moral ideas of when to help, and the extent to which one feels safe and trusting of others are just some of the many factors explored in existing research (FeldmanHall et al., 2015; Gülseven et al., 2022; Ottoni-Wilhelm & Bekkers, 2010; Wang & Graddy, 2008). The following sections discuss a selection of these factors that are relevant to our existing study on the consequences of prosocial behaviors while also establishing our studies' additions to research on these topics.

Empathic Concern and Prosocial Behaviors

Empathic concern, sometimes referred to as empathy, is a persistent subject in scholarly investigations relating to the contributors and consequences of prosocial behaviors. Defined as a feeling of concern for an individual perceived to be in need, empathic concern is studied as both a situational and dispositional emotional construct (Davis, 2015; Einolf, 2008). The relationship between empathic concern and prosocial behaviors has undergone rigorous examination at various life stages – from toddlers and infants (Paulus, 2014) through adolescence (Litvack-Miller et al., 1997; Van der Graaf et al., 2017) and stretching into adulthood and late adulthood. The development and demonstration of empathic concern are suggested to be influenced by multiple elements, such as the alleviation of distress and the impacts of perspective-taking. Taken altogether, empathic concern is thought to be a largely emotional contributor to prosocial behaviors. This study seeks to further expand research on the topic of empathic concern and prosocial behavior by exploring group differences in a sociodemographic context, as well as by distinguishing between empathic concern and the principle of care (see Bekkers & Ottoni-Wilhelm, 2016).

Empathic Concern, Prosocial Behavior, and Distress. The association between empathic concern and prosocial behavior is attributed to the potential alleviation of distress experienced when recognizing another person's need (Paulus, 2014). Altruism research provides compelling support for this assertion, with studies demonstrating that situational distress, such as one might experience from empathic concern, was associated with increased prosocial behaviors, though trait distress was not (FeldmanHall et al., 2015). Participants observed individuals in pain and had an opportunity for prosocial action - offering monetary aid. It should be emphasized that participants had the option to avoid the situation, implying that the choice to stay and assist was a truly prosocial decision and not just their only option to get away from the distress. The data

ultimately suggested that those with heightened empathic concern were the most generous contributors and exhibited significant activation in brain regions associated with social attachment and caregiving (FeldmanHall et al., 2015).

Notably, research finds that distress is not uniformly linked to increases in prosocial behavior. In a 2013 study, researchers sought to examine how distress and empathic concern may influence helping someone in need of assistance when viewed as two distinct constructs (Carrera et al., 2013). They found that participants whose feelings of distress outweighed their feelings of empathic concern were less likely to help a person in need, partly due to an egoistic motivation to preserve one's well-being by escaping a stressful situation (Carrera et al., 2013). One exception to this is when a situation is perceived as inescapable, where the only means of alleviating distress is to help the person in need (Carrera et al., 2013). Adding to these findings, further research involving an extensive study composed of one thousand and thirty-seven Chinese college students assessed how various facets of empathic concern, including distress, might influence prosocial behaviors (Pang et al., 2022). These researchers found that while gratitude mediated the connection between distress and prosocial behaviors, distress was negatively associated with prosocial behaviors (Pang et al., 2022). While the findings of existing research on distress and prosocial behaviors may seem contradictory, they also highlight the importance of considering the factors that may influence empathic concern when studying its relationship to prosocial behaviors and further cement the importance of better understanding the role that empathic concern plays regarding prosociality.

Perspective Taking, Empathic Concern, and Prosocial Behaviors. Perspective-taking, often researched alongside prosocial behaviors within the sphere of empathic concern research, is defined as the capability to comprehend others' emotions and thoughts, serving as a precursor

to empathic concern (Mestre et al., 2019). Existing research has demonstrated the relationship between perspective-taking, empathic concern, and prosocial behaviors in multiple ways. In their 1996 study, Oswald found that, when induced in an experimental setting, those participants in the cognitive or affective perspective-taking conditions (taking on another's thoughts vs. taking on another's feelings) were rated as having higher empathy and higher altruistic tendencies (Oswald, 1996). Interestingly, Oswald also found that these associations were strongest for those in the affective perspective-taking condition (Oswald, 1996). One potential explanation for these findings is that those in the cognitive perspective-taking group may help less often and feel less empathic because they may consider that those in need may not need help or may also think of reasons not to render aid (Oswald, 1996). Expanding these findings beyond a Western context, researchers scrutinized the relationships between empathic concern, perspective-taking, and a variety of prosocial behaviors within a study encompassing Filipino and Turkish participants (Gülseven et al., 2022). Their research demonstrated a positive association between perspective-taking and empathic concern, with empathic concern also correlating positively with compliant and emotional prosocial behaviors (Gülseven et al., 2022). Additionally, perspective-taking exhibited a positive association with prosocial moral reasoning, which was subsequently positively related to anonymous prosocial behaviors (Gülseven et al., 2022). Despite the differences that can arise between different cultures regarding prosocial behavior tendencies, this study provides further evidence that perspective-taking and empathic concern are important considerations when studying prosocial motivation and that they are relevant across cultures.

Further research, such as a study on life history, perspective-taking, and prosocial behavior (Davis et al., 2019), adds to the body of research linking perspective-taking to empathic concern and subsequent prosocial behaviors. Utilizing a sample of two hundred and two young

adults, these researchers found that stressful life history events interacted with perspective-taking in contributing to empathic concern, with those high in stressful life history and perspective-taking seeing the highest rates of empathic concern (Davis et al., 2019). Empathic concern was then found to be positively associated with emotional, dire, compliant, anonymous, and altruistic prosocial behaviors. Taken together, these findings further support the role of perspective-taking in helping to explain the relationship between empathic concern and prosocial behavior while also demonstrating that other factors, such as life history, may play a role in the relationship (Davis et al., 2019).

Principle of Care and Prosocial Behaviors

Advancing the concepts of empathy and empathic concern, researchers sought to formulate a concept that referred to the influences that moral principles could exert on individual behaviors, notably prosocial behaviors. Researchers identified the effects of these moral values as the Principle of Care, which they further defined as the degree to which one identifies with the moral importance of helping others (Ottoni-Wilhelm & Bekkers, 2010). Distinctively described as a moral cognition as opposed to an emotional state, the Principle of Care is conceptualized as an advanced developmental stage based upon the capacity for empathic concern but maintaining discrete boundaries from it (Bekkers & Ottoni-Wilhelm, 2016). Subsequent research demonstrated that the Principle of Care is associated with prosocial behaviors. In their 2010 study, Ottoni-Whilelm and Bekkers found that not only was the principle of care associated with increased prosocial behaviors, but that the principle of care may mediate the relationship that is also found between empathic concern and prosocial behaviors, as many associations between empathic concern and prosocial behaviors became non-significant when the effects of the principle of care were removed (Ottoni-Wilhelm & Bekkers, 2010). This finding supports the

idea that the principle of care may serve as a further development of trait empathy (Ottoni-Wilhelm & Bekkers, 2010).

Further expanding on these findings, Bekkers and Ottoni-Wilhelm conducted a 2016 series of studies looking at the principle of care in self-report settings (studies 1 and 2), through observational research (study 3), and in an experimental setting (study 4). This series of studies focused on examining the role that the principle of care may play in contributing to prosocial behaviors in the form of charitable donations. Study 1 examined a large U.S. population in regard to the principle of care and prosocial behaviors in the form of charitable donations. Study 2 used the same methods and analyses but used a large Dutch sample. Both studies found that not only was the endorsement of the principle of care positively associated with charitable giving, but that the principle of care mediates the relationship between empathic concern and charitable giving (Bekkers & Ottoni-Wilhelm, 2016). The researchers noted that these studies were limited in part through their reliance on self-reporting behaviors and the reporting of the principle of care values within the same survey as reporting on helping behaviors, where post-helping justification may have been inaccurate (Bekkers & Ottoni-Wilhelm, 2016). Study 3 addressed these limitations and utilized longitudinal and observational methods to understand better how prosocial behaviors contribute to charitable donations. The researchers found that not only was the principle of care positively associated with reported charitable giving, but also that the principle of care predicted charitable giving that was observed by researchers at the conclusion of the study (Bekkers & Ottoni-Wilhelm, 2016). Study 3 had limitations as well, with researchers identifying the low amount of money to donate and the simple 3-item principle of care measure as possible issues with their study design. Study 4 further addressed the identified limitations by utilizing an experimental study and the larger, 8-item principle of care measure. Bekkers and

Ottoni Wilhelm found that across the conditions of different donation amounts, all but one participant donated money. Furthermore, the principle of care was found to be positively associated with donations and mediated the positive relationship between empathic concern and charitable donations (Bekkers & Ottoni-Wilhelm, 2016). With everything considered, the researchers asserted that not only was the principle of care an important factor in explaining why people choose to donate but that the principle of care, through its mediation, provides an explanation for how empathic concern may contribute to an increase in prosocial behaviors while having direct effects on donation as well (Bekkers & Ottoni-Wilhelm, 2016). This study aims to provide a greater understanding of these relationships by further examining the principle of care as it relates to prosocial behaviors alongside factors such as empathic concern and social trust.

Social Trust and Prosocial Behaviors

An additional factor potentially influencing prosocial behaviors and tendencies is the concept of social trust, which is defined as an individual's belief that people in society are treated fairly and treating others fairly (Delhey & Newton, 2005). One potential explanation for this relationship lies in people's trust in others and belief that their helping behaviors will be reciprocated in the future, as is discussed in the reciprocal-altruism hypothesis (Hawley, 2014). Though few studies examine the link between social trust and prosocial behavior, available research suggests that social trust fosters increased philanthropy towards religious and secular entities (Wang & Graddy, 2008). Interestingly, research also indicates that diminishing social trust, fueled by negative news narratives, can result in a reduction in prosocial behavior, potentially attributable to eroding faith in the goodness of others (Han et al., 2019).

A further study scrutinized the influence of institutional and social trust (conceptualized as general trust) on participants' prosocial behaviors (Irwin, 2009). The study found that while not significantly associated with prosocial behaviors in collectivist countries, social trust was associated with prosocial behaviors in individualist countries (Irwin, 2009). The study further found that in individualist countries, social trust was associated with prosocial behaviors even when institutional trust was accounted for (Irwin, 2009). The study researcher discusses that one potential explanation for these findings is that collectivist societies prioritize cooperation and prosociality by default, while more individualistic societies may not, leading social trust to have its potential associations take effect in these less socially cooperative societies (Irwin, 2009).

Adding to these findings, researchers conducted a secondary analysis employing the Social Capital Community Benchmark Survey (SCCB) data, revealing a positive association between social trust and prosocial behaviors (Wang & Graddy, 2008). The analysis, including more than nineteen hundred participants, affirmed that social trust was associated with both religious and secular-based philanthropy, underscoring the need for a more sophisticated understanding of social trust's impact on helping behaviors due to its connection with both donation forms (Wang & Graddy, 2008).

Further recent research has demonstrated that social trust could affect an individual's behavior (Han et al., 2019). One important component of their research was looking at how experiences of viewing the news may play a role in increasing or decreasing social trust, particularly in situations where the news viewed was negative or bad news. Researchers suggested that this fits into the larger social cognitive theory (SCT) by way of negative news affecting one's cognitions and making them view future information and experiences as negative (Han et al., 2019). For the negative news in their study, they focused especially on news

depicting immoral acts that could change one's trust in others, such as crime, scandals, and forms of violent crime. While experiment one established that participants did, in fact, focus more on negative news, experiments two and three examined the effect negative news had on social trust and helping behaviors. Experiment two utilized negative content news articles (with neutral as a control), while experiment three only utilized negative and neutral headlines with no article content. In both cases, participants in the negative news conditions were found to have significantly lower rates of helping behaviors (Han et al., 2019). Furthermore, experiment two found that social trust mediated this relationship, indicating that a decrease in social trust partially explained the decrease in helping behaviors after viewing negative news (Han et al., 2019). Experiment three demonstrated that negative news headlines were similarly and negatively associated with helping behaviors and that both cognitive bias and social trust mediated this relationship, supporting the researcher's hypothesis that the viewing of negative news would not just decrease social trust but could introduce a cognitive bias that has an individual focus more on negative news as they intake new information (Han et al., 2019). This study has many interesting findings, not the least of which is the relationship it shows between social trust and helping behaviors. Despite the limited research on social trust and prosocial behaviors, these findings underscore social trust's potential influence on prosocial behavior and its susceptibility to individual experiential influences. This study aims to add to the literature on the impact of social trust on high- and low-cost prosocial behaviors while also examining the relationship between other empirically supported variables and the same outcomes.

Social Contextual and Demographic Contributors to Prosocial Behaviors

Racial and Ethnic Background and Prosocial Behavior

While various factors contributing to prosocial behaviors have been investigated, including personal and social aspects, there has been comparatively less emphasis on the roles of racial and ethnic backgrounds. Nevertheless, preliminary evidence suggests that these variables might contribute to prosocial behaviors and may affect other contributing factors. The subsequent sections will delve into broader cultural contexts and values that might foster prosocial behaviors.

Cultural Contexts and Prosocial Behaviors. Existing research illustrates the influence of cultural contexts on prosocial behaviors. Key among these is the spectrum of individualism and collectivism. In individualist cultures, personal desires and needs supersede those of the group. Conversely, in collectivist cultures, the needs of the 'in-group' or collective take precedence (Triandis, 2001). Despite the apparent difference in these values, existing research has found that individuals can exhibit high or low values in both dimensions simultaneously without needing to diminish one value to elevate the other (Oyserman et al., 2002). Though our study is not equipped to capture cultural differences in a cross-national sense, these dimensions are worth considering to the extent they may appear within different racial and ethnic groups within the U.S.

Both individualism and collectivism are found to influence prosocial behaviors. Though less frequently linked than collectivist norms, individualism has a bearing on certain prosocial behaviors in specific contexts. Research on ethnic group attachment and cultural values among Latino adolescents found an association between individualist ideals encapsulated in mainstream American values and reports of public prosocial behaviors (Armenta et al., 2011). These prosocial behaviors might enhance social recognition and need not be performed exclusively for in-group members (Armenta et al., 2011). Additional research identified individualism as a

catalyst for high-cost prosocial behaviors such as volunteering - motivated often by personal gains like career opportunities (Finkelstein, 2010). Recent research examining prosocial behaviors and cultural values showed that horizontal individualism (autonomy with regard to others) was related to increased prosocial behaviors toward family members across 14 countries, alongside collectivist values (Padilla-Walker et al., 2022).

A more comprehensive body of work exists regarding collectivism and prosocial behaviors across several countries. Collectivist values have been linked with higher instances of prosocial behaviors (Chopik et al., 2017; Kemmelmeier et al., 2006; Lampridis & Papastylianou, 2014; Marti-Vilar et al., 2019; Padilla-Walker et al., 2022). Research on the aftereffects of disasters found that one mechanism explaining these findings may be that of psychological closeness, which mediated the relationship between collectivist values and prosocial behaviors (Lee & Kim, 2021). Psychological closeness explains why those endorsing collectivist values act more prosocially, as a more collectivist-minded individual may feel closer to those suffering and feel some of that discomfort themselves (Lee & Kim, 2021). In the modern context of the COVID-19 pandemic, it was found that those with higher collectivist values were more prone to behaviors that mitigate the spread of COVID-19 - for instance, avoiding social gatherings and getting vaccinated (Cavojova et al., 2022; Leonhardt & Pezzuti, 2022; Mo et al., 2021).

However, our understanding of the association between collectivism and prosociality remains incomplete. Luria et al.'s (2015) study across 66 countries highlighted that individualism, not collectivism, was positively associated with prosocial behaviors in their sample. Surprisingly, collectivism bore no significant relationship with volunteering, donating, or helping strangers, while individualism did. This study further alludes to the importance of recognizing potential racial and ethnic discrepancies when evaluating the contributors to

prosocial behaviors. While the United States predominantly leans towards individualism, racial and ethnic minorities exhibit distinct tendencies. African and Asian Americans have been found to display greater collectivist tendencies than their European American counterparts, while Latinos and Asian Americans were described as less individualistic (Coon & Kemmelmeier, 2001). These differences within the larger American culture could differentially impact prosocial behavioral tendencies and warrant further research on the basis of within-culture differences in the U.S.

Cultural Values and Prosocial Behaviors. Racial and ethnic backgrounds associated with specific cultural values may also contribute to prosocial behaviors (Guzman et al., 2014). Despite limited research on this subject, the relationship between Hispanic cultural values and prosociality, particularly the cultural value of familism, is a notable exception. Familism, a cultural value promoted in Hispanic communities, emphasizes the significance of responsibility towards, respect for, and support of one's family. This has been positively correlated with prosocial behaviors in multiple studies that explored Hispanic prosociality (Calderon-Tena et al., 2011; Carlo & Padilla-Walker, 2020; Knight et al., 2015; Zhao et al., 2022). Interestingly, familism has also shown potential to guard against the negative impacts of acculturation on prosocial behaviors. In the face of acculturative stress and discrimination, Mexican-American cultural values, including familism, have demonstrated a partial ability to protect prosocial behaviors via mediation (Brittian et al., 2013).

While this study does not specifically address the role of cultural values, the potential implications of these values highlight the importance of examining potential racial and ethnic differences in factors contributing to prosocial behaviors. To this end, this study is one step

toward exploring this topic with more nuanced and in-depth methods by considering participants' racial and ethnic backgrounds as one source of potential differences in this study.

Racial and Ethnic Discrimination and Prosocial Behaviors. Experiences of racial discrimination are associated with numerous negative psychological consequences, such as increases in stress and anxiety (Busse et al., 2017; Hopkins & Shook, 2017), depression (Britt-Spells et al., 2018; Paradies et al., 2015), and thoughts of hopelessness and loneliness (Priest et al., 2014). The implications of racial discrimination extend beyond the psychological sphere, having been associated with negative outcomes in physical health, such as increased blood pressure, substance use, and obesity rates (Paradies et al., 2015; Benner et al., 2018; Gilbert & Zemore, 2016; Bernardo et al., 2017). The frequency of reported discomfort and pain in medical settings among racial and ethnic minorities is a testament to this, as they are commonly not treated with the same gravity and accuracy as their European-American counterparts (Trawalter & Hoffman, 2015). With this host of costly and adverse outcomes, some researchers have asked how these negative experiences that are tied to one's racial and ethnic background may influence their prosocial behaviors. Theoretical perspectives, like the "stress and coping theory," postulate that racial and ethnic background-related negative experiences could deplete individuals emotionally and cognitively, often deterring them from performing prosocial behaviors (Hicken et al., 2014; Lorenzo-Blanco & Unger, 2015). Existing research endorses this theory, documenting how experiences of discrimination diminish prosocial behavior. Longitudinal studies even suggest that such experiences have a negative correlation with altruistic behavior (Brittian et al., 2013; Davis et al., 2016). In their study of Latino/ adolescents, researchers identified an important relationship between discrimination experiences, depressive symptoms, and adolescent prosocial behaviors (Davis et al., 2016). Specifically, the researchers found that

perceived discrimination was positively associated with depressive symptoms, which were then negatively associated with altruistic prosocial behaviors (Davis et al., 2016). Further demonstrating the importance of this finding, researchers identified altruistic prosocial behaviors as being protective against future depressive symptoms (Davis et al., 2016). This indicated that altruistic prosocial behaviors might serve a protective role for those experiencing the negative mental effects of discrimination experiences and negative life experiences more broadly. Davis and colleagues discussed that their findings may be somewhat exaggerated when compared to other minority populations since many of the participants in their study were recent immigrants, who may be experiencing higher levels of discrimination since they have had less time to adjust than other Latino/a individuals (Davis et al., 2016).

One additional pathway for how discrimination may reduce prosociality is through its negative effect on an individual's cognitive reappraisal, or the ability to re-evaluate emotions to better cope with an event. In their study of African-American university students, researchers found that experiences of discrimination were associated with less reappraisal, while reappraisal was positively associated with civic engagement attitudes (Riley et al., 2021). Interestingly, there was a gender difference in the relationship between discrimination, reappraisal, and civic engagement behaviors. Furthermore, while lower reappraisal was associated with decreased civic engagement behaviors in men, they were associated with increased civic engagement in women (Riley et al., 2021). Researchers suggested that this may be because experiences with discrimination see women engage in community activities as a way to cope with the experience, while men disengage from the process entirely (Riley et al., 2021). Further supporting the stress and coping theory, recent research conducted by Davis and Clark (2022) found that in their longitudinal study of racial and ethnic minority young adults, experiences of racial

discrimination negatively predicted empathic concern, which then was negatively associated with altruistic prosocial behaviors (Davis & Clark, 2022). Davis and Clark explained that discrimination may be a toxic form of stress that leads to negative outcomes for ethnic minorities. The pervasive nature of discrimination drains individuals of the emotional resources they may need to identify with and help others in need (Davis & Clark, 2022). Beyond not receiving the positive health benefits of acting prosocially, Davis & Clark point out that the stress of discrimination and its lessening of empathic concern can cause individuals to miss out on opportunities to help others in a way that strengthens their social ability and position, further compounding the negative outcomes of experiencing discrimination (Davis & Clark, 2022).

Interestingly, existing research finds that experiences of racial discrimination are associated with increases in public prosocial behaviors, or those prosocial behaviors likely to be seen by others (Brittian et al., 2013; Davis et al., 2016). Despite this leading to an increase in prosocial behaviors, researchers theorize this may be due to the stress of discrimination and the need to act in ways that improve one's public perception and promote harmony (Davis et al., 2021). With recent survey data showing that as many as half of Hispanic/Latino Americans and African Americans experienced racial and ethnic discrimination since the onset of the Covid-19 pandemic (Daniller, 2021; Ruiz et al., 2020), the importance of considering racial and ethnic discrimination in our literature review is clear. Though this study does not capture experiences of racial and ethnic discrimination, this remains an important consideration due to the prevalence of these experiences in the lives of the racial and ethnic groups that exist within this study.

Theories on Racial and Ethnic Background and Prosocial Behaviors. An alternative theory stands counter to the stress and coping models, coined as the “altruism born of suffering” hypothesis (Staub & Vollhardt, 2008). In this theory, adversity, suffering, and trauma may lead

to increased empathy and perspective-taking, consequently leading to increased prosociality. Extant research substantiates this theory both within a wider trauma context (Davis et al., 2019; Frazier et al., 2013; Vollhardt & Staub, 2011) and concerning racial discrimination as a traumatic incident (Aydinli-Karakulak et al., 2021). Aydinli-Karakulak et al. (2021) reported a positive correlation between experiences of discrimination and prosocial behaviors among ethnic minorities, which were associated with enhanced feelings of loneliness, self-esteem, and life satisfaction. While these findings indicate the potential for posttraumatic growth following perceived discrimination encounters, the researchers established no significant impact of prosocial behavior in mitigating negative effects. Consequently, this suggests that prosocial tendencies might work in tandem with other factors to diminish the detrimental effects of discrimination. However, some evidence contradicts this theory. For instance, researchers in a different study found no significant association between experiences of racial discrimination and prosocial behaviors among their religiously involved African-American male participants (Fike et al., 2022).

Further research examining the interrelationships among experiences of discrimination, prosocial behaviors, and decision-making processes demonstrates one potential explanation of how altruism born of suffering may still fit into this process. Harris and Kruger (2022) explored the perceptions of a group of African-American high-school-aged adolescents to gain deeper insights into their views about their identities and their potential influence on their behaviors. Though they did not find experiences of discrimination to increase or decrease prosociality in their sample, they reported that all participants discussed how their identities and interactions with racism were considered when choosing to act prosocially, regardless of whether they were in the high or low prosociality groups (Harris & Kruger, 2022). Participants in the group reported

how they had to achieve a balancing act between being kind but not too kind so they would not be taken advantage of or seen as weak. Despite this, motivations for helping, even those tied to experiences of racism, were still discussed. Some participants discussed how, while experiencing someone locking their door when they walk by, an easy solution would be to act nicer towards them, so they felt foolish for ever being racist in the first place (Harris & Kruger, 2022). The participants further discussed how prosocial behaviors could aid others from the community, both so they do not look like they do not care and also so others from their community can see how to act and get ahead as they have. The hope is that by serving as a model of generosity and learned experiences, others in their community can avoid some of the negative experiences they have dealt with (Harris & Kruger, 2022). Finally, the participants illuminated that they could express their vulnerability and prosocial tendencies without apprehension around family members, such as their mothers (Harris & Kruger, 2022). The researchers could not ascertain a definitive relationship between discrimination and prosocial behaviors, but they posited that understanding the nexus between discrimination, prosociality, and racial identity could offer substantive insights into the repercussions of discrimination on prosocial behaviors. Despite the difficulty of addressing these complex relationships, comprehending the relationship between racial discrimination and prosocial behaviors is pivotal for promoting prosocial behaviors more effectively.

Socioeconomic Status and Prosocial Behavior

Prosocial behaviors, fundamentally determined and shaped by numerous social contexts, may also be associated with the socioeconomic status (SES) of an individual, a factor that has been significantly examined in previous research. The relevance and potency of SES in prosocial behavior inquiries can be attributed to various causes, among them the escalating wealth

disparity and the stagnation of household income within the United States (Horowitz et al., 2020). The exploration of this topic is further complicated by its inherent inconsistencies and complexities, highlighting the value of continued research on the topic.

Furthermore, focusing on SES as one possible contributor to prosocial behaviors helps us to more comprehensively understand how to promote prosocial behaviors while also helping to address the tendency to focus on WEIRD samples, which do not often include a wider variety of socioeconomic statuses (Henrich et al., 2010).

Higher Socioeconomic Status and Increased Prosocial Behaviors. In the domain of prosocial behavior research, the influence of socioeconomic status (SES) on prosocial acts is evident across many studies. The most prominent point of contention is this relationship's exact nature and directionality. A substantial segment of existing literature suggests that individuals of greater SES are more inclined to carry out prosocial behaviors (Andreoni et al., 2021; Hermanni & Tusic, 2019; Korndorfer et al., 2015; Macchia & Whillans, 2022; Wang et al., 2021). One explanation for this relationship could be traced back to childhood experiences. Existing research has scrutinized the role of income in the development of a child's prosocial behaviors, investigating the link between household income during childhood and subsequent charity giving and volunteer rates (Bandy & Ottoni-Wilhelm, 2012). The results revealed that the rates of volunteering and charitable giving were significantly lower among low-income adolescents once they transitioned into early adulthood, signifying that formative backgrounds may play a significant influence in the relationship between SES and prosocial behaviors, and in particular that lacking the resources to act prosocially may lead to less prosocial behaviors in later life, even when available resources may be higher (Bandy & Ottoni-Wilhelm, 2012).

Global studies have delved into the interplay between SES and prosocial behaviors (Korndorfer et al., 2015). These scholars found a positive correlation worldwide between higher SES and increased charitable donations and volunteering, though the underlying mechanisms remain elusive (Korndorfer et al., 2015). However, additional research by Macchia and Whillans provides a potential insight into these mechanisms. Their usage of data from 133 nations revealed that high-income individuals contributed more to charitable organizations and volunteered more extensively than their counterparts with lower incomes (Macchia & Whillans, 2022). Notably, their analysis also correlated higher wealth inequality with increased prosocial activity among high-income individuals. There was, however, no such relationship identified for individuals with low income. Researchers posit that high-income individuals, perceiving donating their wealth as a societal obligation, could be more likely to demonstrate prosocial behavior. This propensity may be even more prominent in societies with heightened wealth inequality, where socioeconomic differences may be more apparent, thereby making the needs of others more conspicuous (Macchia & Whillans, 2022).

Lower Socioeconomic Status and Increased Prosocial Behaviors. Contrary to the aforementioned results, another body of research underscores an increased frequency of prosocial behaviors among individuals of lower socioeconomic status (SES) (Chen et al., 2013; Miller et al., 2015; Piff et al., 2010). Some scholars attribute this pattern to higher levels of agreeableness exhibited by lower SES individuals (Chapman et al., 2010), in addition to a propensity for cooperative traits such as reduced tendencies for deception and manipulation (Piff et al., 2012; Wang & Murnighan, 2014).

In their research scrutinizing the impact of SES on prosocial behaviors, researchers conducted four exploratory studies. They found that participants of lower SES across their

samples consistently showed heightened generosity, trustworthiness, charitableness, and helpfulness. Mediating this relationship was an adherence to egalitarian values and expressions of compassion, suggesting these factors as possible explanations for the link between lower SES and increased prosocial behaviors (Piff et al., 2010).

Nevertheless, the complexity of these discussions is further heightened by more recent studies employing similar methodologies to the previously discussed research, yet yielding contrasting conclusions (Andreoni et al., 2021; Stamos et al., 2020). These studies fail to establish a notable correlation between SES and prosocial behaviors using similar methodologies, further obfuscating the clarity of understanding this complex topic.

Explanations for Conflicting Findings on Socioeconomic Status and Prosocial Behavior. A potential explanation for these differential findings might lie in the specific type of prosocial behaviors executed and the resulting impact on an individual's reputation. Ongoing research offers robust evidence that a prosocial reputation can benefit an individual and that making these benefits salient can increase prosocial actions (Eisenberg et al., 1996; Penner et al., 2005). As would be expected then, prosocial behaviors, particularly those that are visible to others, can positively influence an individual's reputation (Andreoni, 1990). However, this tendency can be counteracted by concerns over appearing greedy or self-serving, with observers demonstrating acute sensitivity towards potentially egotistical motives (Exley, 2018; Newman & Cain, 2014; Silver et al., 2021). To this end, researchers explored the social benefits inherent in charitable giving across four individual studies (Yuan et al., 2018). Their findings found that individuals of lower SES tend to be perceived as more authentically altruistic, thereby accruing reputational benefits more readily. Nevertheless, highlighting the percentage of income donated by higher SES individuals facilitated similar reputational enhancements once it was clear they

were donating a similar portion of their income (Yuan et al., 2018). Further emphasizing the social dynamics of prosocial behaviors, researchers discovered a tendency among lower SES individuals towards private, rather than public, prosocial behavior (Kraus & Callaghan, 2016). Conversely, higher SES individuals demonstrated tendencies towards public prosocial behaviors, underscored by feelings of pride (Kraus & Callaghan, 2016). While the exact interplay between SES and prosocial behavior proves challenging to ascertain, one reason for variation in the findings regarding SES and prosocial behavior variations may stem from the distinct public and private nature of measured prosocial behaviors and the associated reputational considerations (Kraus & Callaghan, 2016).

Gender and Contributors of Prosocial Behavior. In recent studies investigating prosocial behavior within the gendered context, findings suggest that males and females exhibit more similarities than differences (Xiao et al., 2019). However, extant literature consistently reports that girls and women tend to display higher levels of prosocial behavior compared to boys and men (Fabes & Eisenberg, 1998; Kamas & Preston, 2021; Jaffee & Hyde, 2000; Kindap-Tepe & Aktas, 2021). This pattern may be attributed, in part, to the elevated levels of empathy and empathic concern observed in girls and women, both recognized as influential contributors to prosocial behaviors (Archer, 2019; Baron-Cohen & Wheelwright, 2004; Van der Graaf et al., 2014; Willer et al., 2015). Recent empirical support for this explanation comes from a study involving 180 U.S. college students, where researchers utilized various prosocial laboratory games to investigate these dynamics (Kamas & Preston, 2021). Notably, the study revealed that women exhibited empathy ratings 11% higher than men's, and their empathic concern was 14% higher than men's (Kamas & Preston, 2021). Consistent with prior research, women in the sample tended to engage in more prosocial behaviors, with both empathy and empathic concern

positively correlated with such behaviors, and women scoring significantly higher on both dimensions in this sample (Kamas & Preston, 2021). Interestingly, when controlling for ratings of empathy and empathic concern, gender differences in prosocial behavior ceased to be significant, suggesting that individuals with similar levels of empathy and empathic concern, regardless of gender, demonstrate comparable prosocial behaviors (Kamas & Preston, 2021). Despite these recent findings attempting to understand gendered differences in prosocial behaviors, there remains a gap in understanding how other concepts, such as the principle of care or social trust, may predict prosocial behaviors within the context of gender differences. Consequently, this study seeks to contribute to the existing literature by investigating potential gender differences in the relationship between factors influencing prosocial behaviors and the manifestation of such behaviors at both high and low costs.

Age and Contributors of Prosocial Behavior. In addition to other sources of variation in prosocial behaviors, existing research demonstrates that age can also impact our willingness to act prosocially through its relationship with other contributing factors. Studies consistently find that elderly individuals exhibit higher levels of prosocial behavior compared to their non-elderly counterparts, particularly in domains such as donations and volunteering (Gong et al., 2019; Matsumoto et al., 2016; Roberts & Maxfield, 2019; Sze et al., 2012). A potential explanatory factor for these findings lies in the well-documented correlation between age and empathic concern. Research investigating empathic concern across early, middle, and elderly adults reveals that the latter group reports elevated levels of trait empathy and empathic concern when exposed to distressing stimuli, such as a film depicting a distressing situation (Sze et al., 2012). Moreover, elderly participants demonstrate increased prosocial behavior, particularly in the form of charitable donations, with age partially mediating the relationship between empathic concern

and donation behavior (Sze et al., 2012). Contrary to the notion that empathy declines with age, the researchers propose that elderly individuals may be more attuned to situations of distress or instances requiring assistance, possibly due to a shift towards other-oriented emotions in later life or heightened salience of loss due to aging and accumulated experience with the deaths of others (Charles, 2005; Gurven & Kaplan, 2007; Palmore & Manton 1974). Supporting this, existing research indicates that, while both elderly and non-elderly individuals recognize the association between empathic concern and prosocial behavior, older adults exhibit higher levels of empathic distress, suggesting a heightened desire to engage in prosocial actions (Bailey et al., 2020). Further corroborating this point, it is found that even when younger and older participants demonstrate equal willingness to engage in prosocial behavior, older individuals invest more effort into their prosocial actions. This was exemplified in a study where older participants exerted greater effort in assembling medical pamphlets on pain research and management, potentially indicative of prioritizing social bonds over monetary rewards, a tendency more prevalent in elderly populations (Bailey et al., 2020). While these findings contribute valuable insights into the age-related dynamics of empathic concern and prosocial behavior, certain gaps persist, particularly regarding the relationship between age and other contributing factors to prosocial behavior, such as the principle of care and social trust. This study addresses these gaps by examining age-based variations in the relationships between these contributing factors and prosocial behaviors.

Summary of Study Aims

The objective of this exploratory study is to address existing gaps in the research by examining the factors that contribute to performing both high-cost and low-cost prosocial

behaviors. Specifically, this study further examines the contributing factors of social trust, the principle of care, and empathic concern in both low-cost and high-cost prosocial behaviors. While the relationship between empathic concern and prosocial behaviors is well established, the relationship between the principle of care, social trust, and prosocial behaviors is less understood. The principle of care, defined as the degree to which one identifies with the moral importance of helping others, has been found not just to be associated with prosocial behaviors but to stand separately from empathic concern (Ottoni-Wilhelm & Bekkers, 2010). Furthermore, despite research suggesting that social trust could be an important factor to consider when looking at contributors' top prosocial behaviors, few studies have examined this potential relationship (Han et al., 2019; Wang & Graddy, 2008). Finally, existing research on the contributing factors to prosocial behaviors has rarely examined similarities and differences across racial and ethnic groups and socioeconomic groups. This is a significant limitation to address, as existing research shows that one's racial and ethnic background may promote prosocial behaviors in specific contexts (Armenta et al., 2011; Harris & Kruger, 2022; Triandis, 2001). Though existing findings on socioeconomic status and prosocial behaviors are somewhat contradictory, researchers do agree that socioeconomic status, either historically or in the present, is another important contributing factor to one's decision to act prosocially and perhaps even to engage in low-cost or high-cost prosocial behaviors specifically (Bell et al., 1995; Bohm et al., 2018). Despite its exploratory nature, this study will allow us to better understand the nuances of prosocial behaviors beyond a unidimensional construct while also considering previously understudied contributing factors.

Research Questions

RQ #1 What differences do we see among our study variables across our sociodemographic groups?

- RQ#1a What sociodemographic differences do we see across empathic concern?
- RQ#1b What sociodemographic differences do we see across the principle of care?
- RQ#1c What sociodemographic differences do we see across social trust?
- RQ#1d What sociodemographic differences do we see across low-cost prosocial behaviors?
- RQ#1e What sociodemographic differences do we see across high-cost prosocial behaviors?

RQ #2 What is the relationship between empathic concern, the principle of care, social trust, and high-cost and low-cost prosocial behaviors?

- RQ#2a What association is there between empathic concern and both low- and high-cost prosocial behaviors?
- RQ#2b What association is there between the principle of care and both low- and high-cost prosocial behaviors?
- RQ#2c What association is there between social trust and both low- and high-cost prosocial behaviors?

RQ #3 What similarities and differences do we see in the relationship between these variables and high-cost and low-cost prosocial behaviors across sociodemographic contexts?

- RQ#3a What similarities and differences do we see in the relationship between prosocial contributors and prosocial behaviors across racial and ethnic backgrounds?

- RQ#3b What similarities and differences do we see in the relationship between prosocial contributors and prosocial behaviors across genders?
- RQ#3c What similarities and differences do we see in the relationship between prosocial contributors and prosocial behaviors across socioeconomic groups?
- RQ#3d What similarities and differences do we see in the relationship between prosocial contributors and prosocial behaviors across age groups?

Chapter 3: Data and Methods

In this study, we are conducting a secondary analysis of an existing national dataset. Specifically, we are utilizing the 2004 National Opinion Research Center General Social Survey (NORC GSS, or GSS). This survey contains a broadly representative sample of 2807 participants from across the United States in the year 2004. Our final sample includes 1,339 participants who had responses on at least one of our main study variables. These participants range in age from 18-89, with an average age of 46 years old. 45.5% of the sample is Female, while 54.5% of the sample is Male. Participants have a racial and ethnic group composition of 75% European American, 12% African American, and 9% Hispanic American. The socioeconomic breakdown of our final sample is 31.1% low income, 41.3% middle income, and 17.4% high income. The GSS includes multiple questions attempting to ascertain Americans' beliefs and ideas on society and their own lives. This includes questions relevant to prosocial behaviors, empathic concern, the principle of care, and social trust, as well as multiple demographic questions gathering information on race and ethnicity, socioeconomic status, education, and more.

The GSS was chosen due to its relatively large sample size, relative representation of US Citizens by demographic makeup according to US census figures, and the inclusion of participants from across the United States, as broken up into 8 geographic regions (Smith et al., 2014). In addition to this, the GSS includes a number of questions that many surveys do not have available, such as questions on multiple types of prosocial behaviors or questions relevant to the principle of care and social trust. Though many more recent years of the study have these

questions, the year 2004 was the last year that the GSS included questions measuring empathic concern, namely the Davis Interpersonal Reactivity Index's empathic concern subscale (Davis, 1980). Though we believe from existing research that other factors contribute to prosocial behaviors, the importance of empathic concern as a contributor must still be considered. Because of this, we opted to use data not just from the GSS, but from the 2004 dataset specifically.

Measures

Prosocial Behavior. To assess prosocial behaviors in our sample, this study utilized a conception of prosocial behaviors based on the prosocial behavior measure in Ottoni-Wilhelm and Bekker's 2010 study (Ottoni-Wilhelm & Bekkers, 2010). Similar to their study, this study utilized ten items measuring helping behaviors from the GSS survey items, which was divided into low-cost helping (seven items) and high-cost helping (three items). Low-cost helping behaviors included how often one gave food to people experiencing homelessness, offered their seat to someone else, or carried someone's belongings, among other behaviors. High-cost helping behaviors included giving money to a charity, volunteering for a charity, or donating one's blood. For each item, participants were asked to respond using a six-point Likert scale for how many times they engaged with each behavior in the past year, ranging from one (not at all in the past year) to six (more than once per week).

Social Trust. Social trust is measured using a single item created by the GSS for their 1981 World Values Survey (Davern et al., 1972-2022). This survey item asks the following question: "Would you say that people can be trusted or that you can't be too careful in dealing with people?" Responses on this item range from always trusted (1) to always not trusted (4), with higher scores indicating lower levels of social trust.

Empathic Concern. Empathic concern is measured using the empathic concern subscale of the Davis Interpersonal Reactivity Index (Davis, 1980). This measure asks participants to rate their responses to seven empathic concern-related questions such as: “(1) I often have tender, concerned feelings for people less fortunate than me; (2) Sometimes I don't feel very sorry for other people when they are having problems; (3) When I see someone being taken advantage of, I feel kind of protective towards them; (4) Other people's misfortunes do not usually disturb me a great deal; (5) When I see someone being treated unfairly, I sometimes don't feel very much pity for them; (6) I am often quite touched by things that I see happen; and (7) I would describe myself as a pretty soft-hearted person.” Responses on these measures range from does not describe me well (1) to describes me very well (5), with items two, four, and five being reverse-scored. Scores on all responses are then added, with the sum indicating the final empathic concern score. Higher scores are indicative of higher levels of empathic concern.

The Principle of Care. The principle of care measure is used as it was conceptualized in Ottoni-Wilhem and Bekker's 2010 study on helping behaviors and the influence of the principle of care (Ottoni-Wilhem & Bekker, 2010). This measure was constructed to measure moral positions and cognitions specifically, pulling from questions used by the NORC GSS to assess attitudes on general helping behaviors. The researchers further noted that these measures were very similar to those used by researchers attempting to measure prosocial personality traits, an idea that conceptually may be considered a predecessor to the principle of care (Penner et al. 1995). The principle of care measure consists of three questions from the GSS altruism module, including: “(1) people should be willing to help others who are less fortunate; (2) personally assisting people in trouble is very important to me, and (3) these days people need to look after themselves and not overly worry about others.” Responses to these items range from strongly

disagree (1) to strongly agree (5). The third measure is reverse scored, with the sum of all responses creating a final principle of care score, with higher scores indicating higher personal identification with the principle of care.

Racial and Ethnic Background. This study's racial and ethnic background was constructed from the GSS racial background and Hispanic identity items. The racial background questionnaire only asked if participants were European-American, African-American, or other. In addition, a separate question asked participants to indicate if they were Hispanic or not. To construct one measure for our racial and ethnic background measure, this study first took stock of which participants said they were Hispanic or not before then combining it in SPSS with the existing racial background measure in such a way that each participant was labeled as Hispanic if they indicated “yes” on the Hispanic identity item, and all other participants were labeled as European American, African American or other. This methodology was chosen to maximize the Hispanic population, as this seemed to be the smallest of the three groups and accounts for many Hispanic identities.

Socioeconomic Status. As a simple proxy for socioeconomic status, this study uses the GSS total family income measure to create three groups based on total income. Using Pew Research’s definition of middle income as a household income of two-thirds to double that of the median income (Pew Research Center, 2015) and 2004 Federal Census data showing the median income to be \$44,686, we calculate our low-income group as being any family income of less than \$30,000 a year, our middle-income group as \$30,000 to \$90,000 a year, and our higher-income group as any household making over \$90,000 a year.

Gender. Within the GSS study sample, gender was conceptualized as male and female. Respondents provided their gender information when responding to the GSS survey. The 2004 sample used in this study is 54.5% Female and 45.5% Male.

Age. Within the GSS study sample, age was measured by asking the respondent their age at the time of data collection. In the 2004 sample, ages ranged from 18 to 89 (or older), with no option to specify age over 89. The median age in our sample is 46 years of age, with a standard deviation of 16.8 years. Then, the age groups were further divided, in our sample, into three age groups of earlier adulthood (18-39 years of age), middle adulthood (40-59 years of age), and elderly adulthood (60 years of age and over).

Analysis Plan

Our analysis begins with a descriptive analysis to better understand relationships among the variables in this study. Next, a series of One-Way Welch ANOVAs are performed to examine potential demographic differences among our main study variables. Following this, I proceed to test the theoretical path model, as shown in Figure 1.1, by conducting a path analysis. With the model finalized, I conduct a series of multigroup path analyses based on the final full-sample model to examine model differences and differences in significant paths by demographic variable groups.

Chapter 4: Results

Statistical Analysis

For this study, our analysis begins with a set of descriptive analyses to better understand the relationships among the variables in this study. This includes calculating reliability for measures, examining means and standard deviations, and examining correlations among the study variables. Finally, we checked for the presence of multicollinearity among independent variables and found no issues related to multicollinearity. These descriptive analyses are performed in SPSS, version 29.

We proceeded to perform a set of one-way Welch ANOVAs to investigate whether there were any significant differences in the mean values of study variables across demographic variables. We then employed Games-Howell post-hoc testing to further clarify the differences among our demographic variables and the extent of these differences. These statistical analyses were carried out using SPSS version 29.

Utilizing path analysis, we tested the theoretical model (shown in Figure 1.1). We trimmed any non-significant paths from the model to attain a final version. Afterwards, we examined significant differences between groups based on demographic variables using multigroup path analyses, informed by our previous Welch ANOVA analyses and the final path model. These path analyses were conducted in SPSS AMOS version 29.

Missing Data Analysis

To examine the impact of missing data in our study, we performed a Missing Values Analysis before conducting multiple imputations using the Markov Chain Monte Carlo method in SPSS version 29. Our initial missing values analysis utilizing Little's MCAR test suggested that our missing data may not be Missing Completely at Random ($\chi^2(30) = 59.01, p = .001$). Separate Variance t-tests were then conducted to examine differences in response for those who did not respond to a variable with the most missing data, Social Trust. These T-tests found no significant difference in response on other variables for those who did and did not respond to the social trust question, suggesting that our data is missing at random (MAR). Additionally, we performed multiple imputations using the Markov Chain Monte Carlo method in order to understand better the impact of missing data in the study sample. We chose this method over other missing data estimation methods as they provide more accurate estimations and results and work best with path analysis, our intended final method of analysis (Little & Rubin, 2002) We created five imputed datasets using this method and reran the Welch ANOVA series. The imputed datasets had similar relationships to those identified in the Welch ANOVA's performed with the original dataset, suggesting the missing data had a minimal impact on our findings. Considering the minimal impact of the missing data in our sample, we used the original sample and pairwise deletion for our Welch ANOVA analyses and full information maximum likelihood estimation (FIML) for our path analyses.

Descriptive Analyses

To begin our descriptive analyses, the means, standard deviations, and alpha levels, where applicable for our main study variables, are examined (see Table 1.1 for Cronbach's alpha

and descriptives). Two of our main variables, empathic concern ($\alpha = .72$) and low-cost prosocial behaviors ($\alpha = .66$) showed acceptable reliability in our study (Vaske et al., 2017). Other variables such as the principle of care ($\alpha = .41$) and high-cost prosocial behaviors ($\alpha = .48$), were found to have relatively low reliability. Partially explaining this may be the fact that both of these scales have relatively few items, with both being only 3-item measures. Existing literature discusses that Cronbach's alphas are impacted by the number of items, such that fewer item measures may have artificially low alpha values (Cortina, 1993; Streiner, 2003a). In these cases, scholars suggest average item intercorrelation as another way to examine the reliability of a scale with an acceptable range of .15 to .50 (Briggs & Cheek, 1986). This method is also suggested to be better for examining behavioral scales, such as prosocial behaviors (Streiner, 2003b). Both the principle of care ($r = .37$) and high-cost prosocial behaviors ($r = .20$) showed average item intercorrelations within the acceptable range.

Next, the correlations among the main study variables, including the contributing factors as well as high- and low-cost prosocial behaviors, were examined (for all correlations and p-values, see Table 1.2). These analyses found there was a significant correlation between high- and low-cost prosocial behaviors ($r = .37, p < .001$), such that higher levels of high-cost prosocial behaviors are associated with higher levels of low-cost prosocial behaviors. Furthermore, analyses found that empathic concern was positively correlated with both low-cost ($r = .18, p < .001$) and high-cost prosocial behaviors ($r = .17, p < .001$). The principle of care was also positively correlated with both low-cost ($r = .24, p < .001$) and high-cost prosocial behaviors ($r = .28, p < .001$). Interestingly, we found no significant correlation between social trust and low-cost prosocial behaviors ($r = .02, p = .56$), though social trust was significantly associated with high-cost prosocial behaviors ($r = .14, p < .001$). Social trust was only significantly and

positively associated with one other contributing factor, the principle of care ($r = .10, p < .01$), such that higher levels of the principle of care were correlated with higher ratings of social trust. The principle of care and empathic concern were found to be significantly and positively correlated ($r = .45, p < .001$), supporting existing research suggesting that the two are separate but related constructs (Ottoni-Wilhelm & Bekkers, 2010). Taken together, these analyses help to shape our understanding of the relationships between our study variables as we begin to test our hypothesized path model.

Multicollinearity was assessed among our independent variables due to their strong correlations. This assessment was conducted by examining variance inflation factors (VIF), a common indicator of multicollinearity (Kim, 2019; Olivoto et al., 2017). The results indicated that there were no concerns of multicollinearity among our independent variables. All VIF scores were in the range of 1-5, indicating correlation but no concern of multicollinearity (Kim, 2019).

We analyzed the descriptive statistics of our study's demographic variables, including racial and ethnic background, socioeconomic status, gender, and age. Please refer to Table 1.3 to view our study variables' means and standard deviations by demographic variable groups. We conducted a series of one-way Welch's ANOVAs to assess differences in our study variables by demographic variable groups. As our data had issues with variance homogeneity, we used Welch's ANOVA, which examines mean differences like a regular ANOVA, but assumes unequal variances (Delacre et al., 2019).

One-Way Welch ANOVA for examining Group Differences

Our first series of one-way Welch's ANOVAs examined potential group differences among our main study variables as a function of racial and ethnic background. The results of

these analyses can also be seen in Table 2.1 and Figures 2.1-2.5. Of the five Welch ANOVAs, four indicated a significant difference by racial group, namely differences in empathic concern scores (Welch ANOVA test; $p = .029$), principle of care scores (Welch ANOVA test; $p = .024$), social trust scores (Welch ANOVA test; $p < .001$), and high-cost prosocial behaviors (Welch ANOVA test; $p < .001$). Post-hoc testing using Games-Howell testing provides a better understanding of the specific differences. Post-hoc testing of empathic concern scores found no significant pairwise differences. Post-hoc testing for the principle of care scores found a significant difference between European American and Hispanic American participants, such that European Americans' mean scores were higher than Hispanic Americans ($p = .039$). Post-hoc testing for social trust scores found that European Americans had significantly higher mean social trust scores than both African American ($p < .001$) and Hispanic American participants ($p = .002$). Finally, post-hoc testing for high-cost prosocial behaviors found that European Americans engaged in significantly more high-cost prosocial behaviors than Hispanic American participants ($p = .002$).

Our next series of one-way Welch's ANOVAs examined potential group differences among our main study variables as a function of gender. Of the five ANOVAs performed, three indicated significant differences by gender, namely differences in empathic concern scores (Welch ANOVA test; $p < .001$), principle of care scores (Welch ANOVA test; $p < .001$), and low-cost prosocial behaviors (Welch ANOVA test; $p = .003$). Because there are only two categories for gender here, post-hoc testing could not be conducted, but the results of the Welch ANOVA combined with our means in Table 1.3 indicate that women had significantly higher empathic concern and principle of care scores, while men had significantly higher rates of engaging in low-cost prosocial behaviors.

A third series of one-way Welch's ANOVAs examined potential group differences among our main study variables as a function of socioeconomic status. Of the five ANOVAs performed, three indicated significant differences by socioeconomic status, namely differences in principle of care scores (Welch ANOVA test; $p = .006$), social trust scores (Welch ANOVA test; $p < .001$), and high-cost prosocial behaviors (Welch ANOVA test; $p < .001$). Post-hoc testing using the Games-Howell test was then conducted to gain a better understanding of the specific differences among age groups and our main study variables. First, our post hoc test examining socioeconomic status and the principle of care scores found that high-income participants have significantly higher principle of care scores than both low-income ($p = .004$) and middle-income participants ($p = .023$). Next, our post hoc test examining socioeconomic status and social trust scores found that high-income participants have significantly higher ratings of social trust than both low-income ($p < .001$) and middle-income participants ($p < .001$). For our final post-hoc test, we examined socioeconomic status and high-cost prosocial behaviors and found that high-income participants exhibited higher levels of high-cost prosocial behaviors than both low-income ($p < .001$) and middle-income participants ($p < .001$).

The final series of one-way Welch's ANOVAs examined potential group differences among our main study variables as a function of age. All five Welch ANOVAs indicated significant differences based on age, including empathic concern scores (Welch ANOVA test; $p = .006$), principle of care scores (Welch ANOVA test; $p < .001$), social trust scores (Welch ANOVA test; $p < .001$), low-cost prosocial behaviors (Welch ANOVA test; $p < .001$) and high-cost prosocial behaviors (Welch ANOVA test; $p < .001$). Post-hoc testing using the Games-Howell test was then conducted to better understand the specific differences among age groups and our main study variables. Post-hoc testing examining age and empathic concern

demonstrated that early-adult participants had significantly lower scores than both middle ($p = .013$) and late-adulthood participants ($p = .034$). Post-hoc testing examining age and the principle of care found that early-adulthood participants had significantly lower scores than middle-adulthood participants ($p < .001$). Next, post-hoc testing examined age and social trust scores and found that early-adulthood participants had significantly lower ratings of social trust than both middle-adulthood ($p < .001$) and late-adulthood ($p < .001$) participants. Further post-hoc testing examined age and low-cost prosocial behaviors and found that late-adulthood participants had significantly lower rates of low-cost prosocial behavior than both middle-adulthood ($p < .001$) and early-adulthood participants ($p < .001$). Our final post-hoc test examining age and high-cost prosocial behaviors found that early-adulthood participants reported significantly less high-cost prosocial behaviors than middle-adulthood participants ($p < .001$)

The findings of our one-way Welch ANOVAs suggest that there are multiple potential group differences within our data. This warrants further exploration utilizing multigroup path analysis after the hypothesized full model is finalized.

Path Analysis

Next, we conducted a path analysis of our initial, full sample, theoretical model (Figure 3.1) in order to examine the relationship between emotional, cognitive and social contextual factors, and both high-cost and low-cost prosocial behaviors. Our theoretical model was found to have excellent model fit according to multiple fit indices ($\chi^2 = 1.127$, $df = 01$, $p = 0.29$; CFI = 1.0; TLI = 0.99; RMSEA = 0.01, see Hooper et al., 2008). Of our six hypothesized paths, four were found to be statistically significant, with one approaching significance, and one being non-significant. We found direct, significant associations between empathic concern and low-cost

prosocial behaviors ($\beta = .09, p = .003$), the principle of care and low-cost prosocial behaviors ($\beta = .19, p < .001$), the principle of care and high-cost prosocial behaviors ($\beta = .25, p < .001$), and social trust and high-cost prosocial behaviors ($\beta = .11, p < .001$). The path from empathic concern to high-cost prosocial behavior approached significance but remained non-significant at the $p \leq .05$ level ($\beta = .06, p = .063$). The final path, from social trust to low-cost prosocial behaviors, was found to be non-significant ($\beta = .00, p = .99$). Due to the good model fit exhibited from this model, nonsignificant paths were retained to allow for possible variations in our multiple group path analysis. The full sample model with paths and regression coefficients is available in Figure 1.2.

Multigroup Path Analysis

After establishing the finalized total-sample model, we retained the same model for conducting a series of multigroup path analyses. These analyses focused on exploring the impact of (1) racial and ethnic background, (2) gender, (3) socioeconomic status, and (4) age. The results of these analyses in terms of significant regression paths and pairwise parameter comparisons using z-score differences are presented in Table 4.1.

Racial and ethnic background: For this model, we first fully constrained the model to test the assumption that all regression paths were equal across groups. Doing so led to a statistically significant worsening of the model ($\Delta\chi^2 = 142.43, \Delta df = 38; p < .001$). For the remainder of the analysis of the racial and ethnic background groups, the unconstrained model was retained, which demonstrated adequate fit to the data indices ($\chi^2 = 1.03, df = 03, p = 0.79; CFI = 1.0; TLI = 1.0; RMSEA = 0.00$). We then began to examine the significant paths for each of our three racial and ethnic background groups. For the European American group, three paths

were statistically significant. These paths were from the principle of care to low-cost prosocial behaviors ($\beta = .22, p < .001$), principle of care to high-cost prosocial behaviors ($\beta = .27, p < .001$), and social trust to high-cost prosocial behaviors ($\beta = .08, p < .05$). For the African American group, two paths were statistically significant. These paths were from the principle of care to high-cost prosocial behaviors ($\beta = .20, p < .05$), and from social trust to high-cost prosocial behaviors ($\beta = .23, p < .05$). Our final group, Hispanic Americans, had two significant paths, from the principle of care to low-cost prosocial behaviors ($\beta = .21, p < .05$), and from social trust to high-cost prosocial behaviors ($\beta = .33, p < .001$). Pairwise parameter comparisons using z-scores demonstrated that in addition to these similarities and differences in the regression coefficients, there were statistically significant differences in the magnitude of some of these relationships. Namely, though significant for both parties, Hispanic Americans in this sample had a stronger positive association between social trust and high-cost prosocial behaviors than did European Americans ($Z = 2.43, p < .05$). In addition, pairwise parameter comparisons found differences that approached significance on the path from social trust to high-cost prosocial behavior ($Z = 1.77, p < .10$), and the path from the principle of care to low-cost prosocial behaviors ($Z = 1.65, p < .10$), between African Americans and European Americans, though they did not meet the $p < .05$ threshold. Furthermore, pairwise parameter comparisons on the path from principle of care to high-cost prosocial behaviors between European Americans and Hispanic Americans approached significance ($Z = -1.66, p < .10$).

Gender: We began by fully constraining the model to test the assumption that all regression paths were equal across groups. Doing so led to a statistically significant worsening of the model ($\Delta\chi^2 = 124.85, \Delta df = 19; p < .001$). For the remainder of the analysis of the gender groups, the unconstrained model was retained, which demonstrated adequate fit to the data

indices ($\chi^2 = 4.46$, $df = 02$, $p = 0.11$; CFI = .99; TLI = .94; RMSEA = 0.03). We next began to examine the significant paths for each of our male and female groups. For male participants, there were significant paths between empathic concern and low-cost prosocial behavior ($\beta = .10$, $p < .05$), empathic concern and high-cost prosocial behavior ($\beta = .09$, $p < .05$), the principle of care and low-cost prosocial behaviors ($\beta = .28$, $p < .001$), and the principle of care and high-cost prosocial behaviors ($\beta = .29$, $p < .001$). For female participants, there were significant paths between empathic concern and low-cost prosocial behavior ($\beta = .12$, $p < .01$), the principle of care and low-cost prosocial behavior ($\beta = .13$, $p < .01$), the principle of care and high-cost prosocial behavior ($\beta = .20$, $p < .001$), and social trust and high-cost prosocial behavior ($\beta = .13$, $p < .01$). Pairwise parameter comparisons using z-scores demonstrated that in addition to these similarities and differences in the regression coefficients, there were statistically significant differences in the magnitude of some similar path relationships. While male and female participants both saw a positive association between principle of care scores and low-cost prosocial behaviors, this association was found to be significantly stronger for male participants. ($Z = -2.79$, $p < .01$). Similarly, pairwise parameter comparisons for the path from the principle of care to high-cost prosocial behavior found a similar relationship that approached statistical significance at the threshold of $p < .05$ ($Z = -1.69$, $p < .10$).

Socioeconomic status (SES): Next, differences among socioeconomic status groups were explored. For this model, we first fully constrained the model to test the assumption that all regression paths were equal across groups. Doing so led to a statistically significant worsening of the model ($\Delta\chi^2 = 186.86$, $\Delta df = 38$; $p < .001$). For the remainder of the analysis of the racial and ethnic background groups, the unconstrained model was retained, which demonstrated adequate fit to the data indices ($\chi^2 = 3.51$, $df = 03$, $p = 0.32$; CFI = 1.0; TLI = .99; RMSEA = 0.01). We

then began to examine the significant paths for each of our three socioeconomic groups. For participants in the low-income group, there were three significant paths from empathic concern to low-cost prosocial behaviors ($\beta = .13, p < .01$), the principle of care to low-cost prosocial behaviors ($\beta = .14, p < .05$), and from the principle of care to high-cost prosocial behaviors ($\beta = .27, p < .001$). Participants in the middle-income group had four significant paths from empathic concern to high-cost prosocial behaviors ($\beta = .09, p < .05$), the principle of care to low-cost prosocial behaviors ($\beta = .21, p < .001$), the principle of care to high-cost prosocial behaviors ($\beta = .18, p < .001$), and from social trust to high-cost prosocial behaviors ($\beta = .10, p < .05$). Finally, our participants in the high-income group had two significant paths from the principle of care to low-cost prosocial behaviors ($\beta = .29, p < .001$), and from the principle of care to high-cost prosocial behaviors ($\beta = .37, p < .001$). Pairwise parameter comparisons using z-scores demonstrated that in addition to these similarities and differences in the regression coefficients, there was one statistically significant difference in the magnitude of one similar path relationship. Specifically, our high-income participants had a stronger association between the principle of care and high-cost prosocial behaviors than did our middle-income participants ($Z = 2.27, p < .05$).

Age: Fourth, we explored our final group model based on participant age. For this model, we first fully constrained the model to test the assumption that all regression paths were equal across groups. Doing so led to a statistically significant worsening of the model ($\Delta\chi^2 = 174.75, \Delta df = 38; p < .001$). For the remainder of the analysis of the racial and ethnic background groups, the unconstrained model was retained, which demonstrated adequate fit to the data indices ($\chi^2 = 2.96, df = 03, p = 0.40; CFI = 1.0; TLI = 1.0; RMSEA = 0.00$). Next, we examined the significant paths for each of our three age groups. Early adults saw four significant paths from

empathic concern to both low-cost prosocial behaviors ($\beta = .13, p < .01$) and high-cost prosocial behaviors ($\beta = .16, p < .001$), as well as from the principle of care to both low-cost prosocial behaviors ($\beta = .18, p < .001$) and high-cost prosocial behavior ($\beta = .19, p < .001$). For our middle adulthood participants, there were three significant paths from the principle of care to both low-cost prosocial behaviors ($\beta = .24, p < .001$) and high-cost prosocial behaviors ($\beta = .27, p < .001$), as well as from social trust to high-cost prosocial behaviors ($\beta = .11, p < .05$). The late adulthood participants had three significant paths, from the principle of care to high-cost prosocial behaviors ($\beta = .25, p < .001$), as well as from social trust to both low-cost prosocial behaviors ($\beta = .21, p < .01$) and high-cost prosocial behaviors ($\beta = .14, p < .05$). Pairwise parameter comparisons using z-scores demonstrated that there were no significant differences in the strength of associations between similar significant paths between groups, though one relationship suggesting that the association between the principle of care and low-cost prosocial behaviors may be greater for participants in middle adulthood than those in early adulthood did approach significance at the $p < .05$ threshold ($Z = 2.27, p < .10$).

Chapter 5: Discussion

Studies of prosocial behaviors have long documented the benefits of prosocial behaviors in the various domains of life, not only for receivers of help but also for helpers. Given the substantial benefits of prosocial behaviors for individuals and society and growing global and regional challenges and crises that require more prosocial behaviors among its members, researchers have continued exploring factors and conditions contributing to prosocial behaviors. Although significant scientific progress has been made in understanding the development, contributors, and consequences of prosocial behavior, many research questions have not been answered, and some of the findings are inconsistent across studies. In addition, gaps in the existing research limit a deeper understanding of the contributors of prosocial behaviors.

Research on the determinants of prosocial behaviors has traditionally emphasized emotional constructs, particularly empathic concern (Berry et al., 2018; Davis et al., 2019; Padilla-Walker et al., 2015). However, cognitive and social factors have received comparatively less attention in existing literature. Recent research suggests the importance of considering a broader spectrum of contributors to prosocial behaviors, including the principle of care and social trust, to enhance our understanding of predictive factors (Ottoni-Wilhelm & Bekkers, 2010; Han et al., 2019). Further, majority of studies on prosocial behaviors have predominantly utilized youth samples from mainly Western, Educated, Industrialized, Rich, and Democratic (WEIRD) backgrounds (Armstrong-Carter & Telzer, 2021), which limit the generalization of research findings. In addition, most existing studies approach prosocial behaviors as a

unidimensional construct that lacks more nuanced ways to capture the diverse range of prosocial behaviors (Eisenberg et al., 2016; Padilla-Walker & Carlo, 2014). Additionally, the cost and efforts associated with prosocial behaviors has been identified as a potentially significant factor for people to behave prosocially, highlighting the multidimensional nature of prosocial behaviors (Maiya et al., 2023; Davis et al., 2016; Davis et al., 2018).

Thus, further research is necessary to address gaps in the existing literature and further clarify and deepen our understanding of the contributors to prosocial behaviors. This study addresses these gaps in the existing research by investigating prosocial behaviors in a large, diverse, nationally representative adult sample within the United States while accounting for and examining potential differences across sociodemographic factors such as racial and ethnic background, gender, age, and income. Moreover, this study extends the existing studies by incorporating the principle of care (cognitive factor) and social trust (social factor) in addition to empathic concern (emotional factor) as additional contributors to prosocial behaviors. In addition, in this study, we distinguish between low- and high-cost prosocial behaviors to better capture the complexity of prosocial behaviors. This study aimed to expand our knowledge of prosocial behaviors by examining how emotional, cognitive, and social factors across various sociodemographic contexts influence different types of prosocial behaviors.

The following sections will present the main findings and implications of the current study, followed by a discussion of its limitations and suggestions for future research.

Sociodemographic Differences on Social Trust, Empathic Concern, the Principle of Care and Prosocial Behaviors

The results of current findings indicated similarities and noteworthy differences in participants' levels of social trust, empathic concern, and the principle of care. These variations

were observed across diverse sociodemographic contexts. Aligning with existing literature, social trust ratings were lower among both African Americans and Hispanic Americans in our study (Pew Research, 2007). Though our study does not address possible reasons for this, scholars posit that lower income, reduced opportunity for advancement, and experiences of racial discrimination, all of which disproportionately impact racial and ethnic minorities, may work to explain these findings (see Smith, 2010 for review). The differences in high-cost prosocial behaviors and principle of care ratings between European and Hispanic American participants may echo previous findings. Research has found that European Americans tend to endorse higher levels of altruistic tendencies than Hispanic Americans (Carlo et al., 2010). This may be linked to a heightened emphasis on family rather than a broader community focus among Hispanic Americans (Carlo et al., 2010). The principle of care measure used in this study included items that tend to focus on a broader sense of community and society rather than one's own family, which may contribute to a lower level of principle of care ratings among Hispanic Americans in this study.

In our analysis of gender differences concerning the study variables, we identified three statistically significant findings worth highlighting. Women were found to have significantly higher ratings of empathic concern and the principle of care. This finding is consistent with the existing literature, as studies find that women tend to have higher empathic concern ratings (Andrews et al., 2021; Van der Graff et al., 2014) and higher principle of care ratings than men (De Wit & Bekkers, 2016). In both cases, researchers have suggested that these differences may be more reflective of traditional gender roles and expectations rather than inherent biological distinctions (Andrews et al., 2021; Kamas & Preston, 2021; Löffler & Greitemeyer, 2023; Mesch et al., 2011). Researchers have demonstrated that men can display higher levels of empathic

concern when empathy and caring are viewed as manly or appropriate, further suggesting that the observed differences may be due to social norms (Burriss et al., 2015). We further found that men engaged in significantly more low-cost prosocial behaviors than women. However, there was no significant gender difference in high-cost prosocial behaviors. This is distinct from the existing literature, which finds higher rates of prosocial behavior among women than men (Eisenberg et al., 2006; Kamas & Preston, 2021; Willer et al., 2015). Interestingly, research reported that men tend to exhibit more public prosocial behaviors and more physical prosocial behaviors (Eagly, 2009; Nielson et al., 2017; Xiao et al., 2019). Items of low-cost prosocial behavior measures used in this study map onto more public, physical, and low-emotion helping behaviors, such as offering a seat or helping someone carry an item, which may explain our findings. By approaching prosocial behavior with a multidimensional focus, we can better explore gender differences in prosocial behaviors. Subsequently, we discovered noteworthy variations in the study variables depending on socioeconomic status. First, higher-income participants had higher principle of care ratings than low- and middle-income participants. Existing research demonstrates that high-income individuals tend to endorse the moral value of helping others when wealth inequality is high (Macchia & Whillans, 2022; Schmukle et al., 2019). Interestingly, during the time when the GSS data was collected, research indicated that the U.S. exhibited the highest wealth inequality among developed nations. This observation may offer some insight into why participants with higher incomes tended to provide higher ratings for the principle of care (Smeeding, 2005). A plausible explanation is that individuals with higher incomes and possessing greater resources may be more inclined to notice people in need or feel a stronger urge to contribute when they are aware of heightened levels of inequality. (Macchia & Whillans, 2022). We next found that higher-income participants had higher levels of social trust

than our low- and middle-income participants, consistent with existing research and data (Brandt et al., 2015; Pew Research, 2007). This could be explained by these high-income individuals' typically greater economic success. This, combined with higher levels of economic and social resources creates a situation where they can afford to be more trusting of those in their social sphere (Brandt et al., 2015). Third, higher-income participants reported engaging in more high-cost prosocial behaviors than low- and middle-income participants. Research has previously reported mixed findings on the relationship between income and prosocial behaviors. However, more recent research reported that higher-income individuals donate and volunteer more often than lower-income individuals (Macchia & Whillans, 2022). A recent meta-analysis proposes that this pattern may be attributed to situational factors, given that individuals with higher incomes possess more resources for altruistic acts or experience greater social benefits from such actions (Korndörfer et al., 2015; Piff & Robinson, 2017). Individuals with lower incomes may face constraints in terms of both resources and time, making it challenging for them to engage in high-cost helping activities as frequently, even if they are inclined to do so.

Additionally, we observed statistically significant differences in all of our study variables based on age. First, we found that participants in early adulthood exhibited lower ratings of empathic concern in comparison to those belonging to older age groups, aligning with existing research (O'Brien et al., 2013; Rosen et al., 2016; Sze et al., 2012). One mechanism for this can be the increase in available time and resources for being attentive to the needs and states of others. This is supported further by research finding that elderly participants may respond to situations with more empathic distress than younger adults do, perhaps as a function of having more idle time and resources or more life experience to recognize when others are in need (Bailey et al., 2020). Second, late adulthood participants had higher social trust ratings than

middle and early adulthood participants. Current research supports two theories that help explain this finding in combination. The first is a lifespan development theory, suggesting that as people age, they have more positive and varied interactions with others, which may allow them to become more trusting in others as they have more good interactions than bad ones (Rotenberg, 2010). Additionally, cohort theories suggest that some groups within a sample may have been exposed to life-shaping events that increased trust in others for a common goal, such as World War two (Robinson & Jackson, 2001). Third, we found that early adulthood participants had lower ratings of the principle of care than did middle-adulthood participants. However, there was no difference when compared to later-adulthood participants. Recent research has found that, compared to early adults, middle adults have higher levels of internal moral identity and lower levels of external moral motivation (Krettenauer & Victor, 2017). The distinction is that individual moral identity motivations encompass a desire to act in ways congruent with one's ideas of what is morally correct, similar to the principle of care. Fourth, our findings regarding prosocial behaviors found that late-adulthood participants engaged in low-cost prosocial behaviors less than both early and middle-aged adults. Existing research finds that prosociality tends to increase with age, though many of these studies examine monetary donations, volunteering, or other high-cost prosocial behaviors (Byrne et al., 2023; Gong et al., 2019; Midlarsky et al., 2015; Roberts & Maxfield, 2019). Older adults may have higher prosocial tendencies, but with age, they have low-cost prosocial behaviors performed more often for them, as opposed to performing them for others. Many of our low-cost prosocial behavior items encompass behaviors often performed for elderly individuals, such as offering one's seat on a bus, or helping someone to lift something. In contrast, they may perform more high-cost prosocial behaviors to maximize the effects of their effort. Additionally, though they may want

to help, older adults may act less prosocial in low-cost, everyday scenarios because of their lower daily physical activity levels (Byrne et al., 2023). Lastly, the results showed that early-adult participants engaged in high-cost prosocial behaviors significantly less than middle-aged participants. Early adults may act less prosocially in high-cost situations due to their lack of resources (Mayr & Freund, 2020). Another plausible explanation is that individuals in early adulthood may perceive themselves as having limited time to participate in high-cost helping activities, potentially influenced by the simultaneous challenges of initiating careers and establishing families (Gray et al., 2012). Future research that explores prosocial behavior as a multidimensional construct would contribute to a clearer understanding of the association between age and prosocial behaviors of varying costs.

Emotional, Cognitive, and Social Contributors to Low- and High-Cost Prosocial Behaviors

Empathic concern, a well-examined emotional factor influencing prosocial behaviors, has consistently been positively associated with prosocial behaviors in prior research (Davis et al., 2019; Paulus, 2014; Van der Graaf et al., 2018). However, this association has not been extensively explored in the context of low- and high-cost prosocial behaviors. The current research findings showed that empathic concern was associated with low-cost prosocial behavior but not with high-cost prosocial behaviors. This pattern aligns with previous research in children, indicating that empathic concern predicts higher levels of low-cost helping over time, with no significant relationship observed with high-cost prosociality (Padilla-Walker & Fraser, 2014). This finding may be elucidated by the spontaneous nature of low-cost prosocial behaviors, which may be more influenced by immediate emotional states and automatic responses, particularly for actions requiring minimal planning (Padilla-Walker & Fraser, 2014). Conversely, the potential burden associated with high-cost prosocial behaviors may outweigh the emotional

considerations, including empathic concern, especially when alternative choices such as not helping or escaping the situation may be perceived as more favorable (Carrera et al., 2013; Habashi et al., 2016).

The principle of care was positively associated with both high- and low-cost prosocial behaviors. These findings align with previous research investigating the relationship between the principle of care and prosocial behaviors (Bekkers & Ottoni-Wilhelm, 2016; Ottoni-Wilhelm & Bekkers, 2010) and broader studies on moral values and prosocial behavior (Padilla-Walker & Fraser, 2014). According to the role identity model, individuals with higher scores on the principle of care may adopt the role of a helpful or caring person, making them more inclined to engage in prosocial behaviors and persist in such conduct in the future (Piliavin & Callero, 1991; Wilhelm & Ottoni-Bekkers, 2010). This role identity may explain the association between the principle of care and both types of prosocial behaviors. While the role identity model suggests that higher-cost situations should more strongly affirm one's identity, it is also plausible that low-cost situations reinforce the role of being a helper more frequently (Finkelstein et al., 2005).

Lastly, our model revealed a positive association between social trust and high-cost prosocial behaviors. However, no significant relationship between social trust and low-cost prosocial behaviors was found. One plausible explanation for this disparity is that low-cost helping, being spontaneous and less dependent on broader feelings of social trust, may not directly involve one's views on social trust. In contrast, high-cost helping may involve increased considerations of social trust due to the higher investment required (Padilla-Walker & Fraser, 2014; Bartlett & DeSteno, 2006). Additionally, in line with the reciprocal altruism hypothesis, social trust may be less pertinent to low-cost prosociality due to its spontaneous nature, while

high-cost helping may prompt individuals to contemplate whether their actions will be reciprocated or prove self-beneficial in some way (Hawley, 2014; Tucker & Ferson, 2008).

Contributors to Prosocial Behaviors in Sociodemographic Contexts

Our final set of analyses examined differences in our path model across sociodemographic contexts. Among these, we found a number of differences between racial and ethnic groups. The path from empathic concern to low-cost prosocial behaviors was nonsignificant across all groups. This may have been due to the principle of care absorbing much of this effect, combined with the smaller sample sizes when analyzing each group (Ottoni-Wilhelm & Bekkers, 2010). Intriguingly, while the principle of care continued to be associated with prosocial behaviors broadly, the principle of care was not associated with low-cost prosocial behaviors for African American participants. This may stem from the general nature of the items in the principle of care measure that may not capture mechanisms such as altruism born of suffering and in-group preferences (Hochschild, 2005; Staub, 2005; Vollhardt & Staub, 2011). Furthermore, the principle of was not associated with high-cost prosocial behaviors was for Hispanic American participants. This finding may be partially explained by a lack of resources among this group, given their lower median income at the time of data collection in 2004 (Fronczek, 2005). Interestingly, social trust was positively associated with high-cost prosocial behaviors across racial and ethnic groups, with a significantly stronger association for Hispanic Americans when compared to European Americans. However, there were no significant differences found between Hispanic and African Americans regarding the relationship between social trust and high-cost prosocial behaviors. This intriguing finding may be attributed to higher social trust being more impactful for racial and ethnic minority participants, particularly Hispanic Americans. An additional reason for this finding could be that Hispanic Americans

with higher social trust feel less racial threat. In our study, social trust scores were lower among Hispanic and African Americans than among European Americans. Existing research suggests that when people feel a racial threat, they seek to demonstrate that they are helpful and not a threat (Brittian et al., 2013). These types of prosocial behaviors are different from high-cost prosocial behaviors, which often involve blood donations and volunteer work, which may or may not be publicly displayed. Perhaps racial and ethnic minorities who have high levels of social trust may not need to prove themselves. Instead, they may redirect their efforts to high-cost prosocial behaviors.

While investigating gender differences, we discovered a significant association between empathic concern and low-cost prosocial behaviors for both men and women. However, a significant relationship between empathic concern and high-cost prosocial behaviors was evident among men, and not women. Although rates of high-cost helping were not significantly different between genders, the gendered expectation of prosocial behaviors may contribute to men with higher empathic concern engaging more in high-cost prosocial behaviors. Additionally, both men and women demonstrated positive associations between the principle of care and low- and high-cost helping behaviors. Men, however, had a stronger association between the principle of care to low-cost prosocial behavior than women. This finding may be explained by existing research indicating that men are more likely to engage in physical and public low-cost prosocial behaviors (Eagly, 2009; Nielson et al., 2017; Xiao et al., 2019). Despite lower ratings of the principle of care for men, these values may be more salient, possibly reflecting the socialization of men to suppress certain caring and empathic emotions, except for their caring values and cognitions (Burriss et al., 2015). Additionally, the path from social trust to high-cost prosocial behaviors

remained significant only for women, suggesting potential gender-specific motivational factors for engaging in high-cost prosocial behaviors.

Differences among our findings by socioeconomic status were also noted. The low-income group had a significant association between empathic concern and low-cost prosocial behaviors which was not observed in the middle and high-income groups. This may imply that low-income individuals engage in prosocial behaviors for more genuine and caring reasons instead of focusing on potential social benefits (Yuan et al., 2018). Additionally, only the middle-income group exhibited a significant association between empathic concern and high-cost prosocial behavior, potentially indicating different motivations for high-cost prosociality between middle and high-income groups. Furthermore, all three socioeconomic groups demonstrated significant associations between the principle of care and low- and high-cost prosocial behaviors. However, the middle-income group exhibited a significantly weaker association between the principle of care and high-cost prosocial behaviors than the higher-income group. This finding may be linked to existing research suggesting that wealthier individuals may donate more, especially in the context of wealth inequality, with those in the middle-income group experiencing a middle-ground effect, having more wealth than those in the low-income group, but not enough to give as freely or as often as those of higher-income. Finally, only the middle-income group displayed a significant and positive association between social trust and high-cost prosocial behaviors, potentially explained by lower-income groups lacking the resources for high-cost prosocial behavior and higher-income individuals not necessitating social trust due to ample resources.

Examining age groups revealed further intriguing differences. In early adulthood, empathic concern was significantly related to low-cost and high-cost prosocial behaviors, a

pattern not observed in middle and late adulthood groups. This may be attributed to lower ratings of empathic concern in early adulthood, with the possibility that empathic concern still drives the noticing of others in need when life experience falls short (Konrath et al., 2011). While the principle of care was associated with high-cost prosocial behaviors across all age groups, the late-adulthood group saw no association between the principle of care to low-cost prosocial behaviors. Late-adulthood participants may prioritize higher-cost prosocial behaviors due to limited physical ability and time (Byrne et al., 2023). The late-adulthood group displayed a significant path from social trust to low-cost prosocial behaviors despite engaging in low-cost prosocial behaviors significantly less than early and middle adults. This may suggest that late-adulthood groups with the resources or energy to engage in daily prosocial behaviors are also typically higher in social trust. Furthermore, the early-adulthood group did not demonstrate a significant relationship between social trust and high-cost prosocial behaviors. This observation might be attributed to the comparatively lower levels of social trust and high-cost prosocial behaviors reported among participants in the early-adulthood group in our study. Further studies on the contributors to different types of prosocial behaviors in various sociodemographic contexts are needed to clarify the current findings.

Implications

This research holds significant implications for the field of prosocial behavior, warranting further exploration. The study investigates both low- and high-cost prosocial behaviors, exploring their emotional, cognitive, and social determinants across various sociodemographic contexts, namely racial and ethnic background, gender, socioeconomic status, and age. Our findings demonstrate noteworthy distinctions among these demographic groups, many of which

have been overlooked in existing prosocial behavior research. Furthermore, this study illuminates variations in the contributing factors themselves. Emotional, cognitive, and social contributors exhibit associations with distinct patterns of prosociality when examining low-cost and high-cost prosocial behaviors. These revelations have substantial theoretical implications for the understanding and research of prosocial behaviors. Moreover, they offer practical insights relevant to interventions, community initiatives, and broader societal considerations. Identifying nuanced differences in the contributing factors and motivations of prosocial behaviors prompts a reevaluation and expansion of existing theoretical frameworks for research purposes, and advocates for tailored approaches to fostering prosociality within diverse populations.

Theoretical Implications

The findings of this study suggest several theoretical implications relevant to research on prosocial behaviors. First, what factors contribute to prosocial behavior depends on the contexts in which the prosocial behavior exists. The type of prosocial behavior being performed is one part of this context that has gone largely unconsidered in research on prosociality. Our results demonstrated that social trust was associated with high-cost prosociality, while empathic concern was associated with only low-cost prosociality. The type of prosocial behavior is one part of the larger context that must be considered regarding prosocial behaviors themselves, which may lead to different relationships with their potential contributing factors. With regards to existing prosocial behavior research on the effects of prosocial behavior context, much of the existing findings have not differentiated between different types of prosocial behaviors. One often researched context of prosocial behavior is the target of a given prosocial behavior. Though there are longitudinal changes in rates of helping, research finds that people tend to help friends the most, family the second most, and strangers the least, though helping of strangers does increase

with time (Groep et al., 2020; Padilla-Walker et al., 2018). One question that comes to mind when considering the current study and existing research on prosocial behavior targets is, what kinds of prosocial behaviors are being performed? For example, one may expect that friends are helped more often than family, as they are encountered more often than family members, but is there a difference in the types of prosocial behaviors performed? Perhaps, as a function of kin selection, high-cost prosocial behaviors may be performed more often for family members, though friends see more prosocial behaviors performed overall (Curry et al., 2013; Padilla-Walker et al., 2018). Relatedly, though existing research finds that empathic concern is associated with prosocial behaviors, research suggests that this may not be the case for all targets, such as family. Indeed, research on the topic found that empathic concern was associated with prosocial behaviors for friends and strangers but not for family (Padilla-Walker & Christensen, 2011). One reason for this could be that helping family members over time becomes more normalized, or even an obligation, which does not require empathic concern as a motivator. Additionally, researchers suggest that planned prosocial behaviors, which the study measures, may not map onto empathic concern as well since the prosocial behavior is less spontaneous and potentially less reliant on felt distress (Padilla-Walker & Christensen, 2011). Considering existing research, our findings reinforce the need for future prosocial behavior research to consider the contexts of prosocial behavior, such as the cost, the intended target, and possibly additional contextual factors, and how these may impact what contributing factors are relevant to prosocial behaviors.

Second, the findings of this study demonstrated that the principle of care, a cognitive factor, was significantly and positively associated with both low- and high-cost prosocial behaviors. Furthermore, when conducting comparisons across sociodemographic contexts, the

principle of care continued to be associated with one or both types of prosocial behaviors across different sociodemographic groups. These findings suggest that the principle of care may serve as a core value associated with helping behaviors across contexts. Existing research finds similar relationships in children, such that broader moral values predicted both low- and high-cost prosocial behaviors in children, suggesting that the principle of care may also be relevant in adults as well as children (Padilla-Walker & Fraser, 2014). The principle of care may be relevant to prosocial behavioral research as a core value or an extension of current values research. In terms of Schwartz's theories of human values (Schwartz, 1992) self-transcendence values, a higher order values that encompasses universalism (the well-being of everyone) and benevolence (the well-being of people one is close to), are found to be associated with prosocial behaviors (Heilman & Kusev, 2020). Additional research on values using the VIA Inventory of Strengths (Peterson & Seligman, 2004) has found that values such as kindness are associated with prosocial behaviors (Padilla-Walker et al., 2020). Perhaps the principle of care may further explain prosocial behaviors from a values perspective with its focus on an individual's ideas of what is morally correct and important behavior to them. Future research should seek to examine how the principle of care may be similar and different to existing measures of personal morals and values in order to understand better how an individual's ideas of morality may influence prosocial behaviors across a number of situations and contexts.

Third, studies of prosocial behavior should consider adult developmental stages and ideas. Across our three adult age groups, three different models demonstrated the relationship between our contributing factors and both low- and high-cost prosocial behaviors. This suggests that the factors associated with prosocial behaviors in adults may differ as a function of age, perhaps due to differences in life experiences and developmental tasks. Prosocial behavior

research often neglects the effect of adult developmental stages. However, existing research does suggest that concepts such as generativity vs. stagnation from Erikson's Stages of Psychosocial Development (Erikson, 1994) may be associated with prosocial behaviors, but the extent to which this is salient differs with age and ability (McAdams et al., 1997). Indeed, studies show that the desire for generativity will peak in middle adulthood and remain high throughout late adulthood, though generativity-related prosocial behaviors decrease from middle to late adulthood (Cavallini et al., 2021). This also begs the question then of how developmental periods may influence early adults' prosocial behaviors. If, according to Erikson's stages, young adults should be concerned with intimacy vs. isolation, could this also shape their prosocial behaviors in ways that would not be as relevant to other adult groups? One possible pattern could be that early adults may prioritize low-cost prosociality in socially relevant situations in order to build friendships and community while avoiding isolation. Further, future prosocial behavior research would benefit from continuing to research adult prosocial behaviors and considering the multidimensional nature of prosocial behaviors. This may allow researchers not just to understand how prosocial behaviors differ in adulthood across developmental stages and ages, but how different types of prosocial behaviors and contributing factors may factor into these relationships.

Practical Implications

The study's findings have significant implications for interventions targeting prosocial behaviors. Results indicate that empathic concern, the principle of care, and social trust influence distinct patterns of prosocial behaviors. Specifically, the principle of care correlates with both low- and high-cost prosocial behaviors, whereas empathic concern is linked only to low-cost prosocial actions. Conversely, social trust is associated solely with high-cost prosocial behaviors.

Therefore, interventions should be tailored to enhance either low- or high-cost prosocial behaviors, focusing on bolstering empathic concern or social trust, respectively, alongside the principle of care. Interventions promoting high-cost prosocial behaviors, such as volunteering and donations, could prioritize enhancing social trust and the principle of care to address observed deficits in these areas (Gamboa, 2023; Kiersz, 2016). Similarly, interventions targeting low-cost prosocial behaviors should emphasize enhancing empathic concern, which is positively related to everyday acts of prosociality. Such interventions not only benefit those receiving assistance but also offer mental, physical, and social advantages to the helpers, which contribute to stronger community bonds (Baldassarri & Abascal, 2020; Brown & Brown, 2015; Layous et al., 2012; Padilla-Walker & Carlo, 2014; Stavrova & Ehlebracht, 2015; Zhou et al., 2022).

Furthermore, our findings suggest that considering sociodemographic contexts is crucial for designing effective prosocial behavior interventions. For instance, interventions aimed at low-income populations should focus on enhancing empathic concern and emphasizing the value of low-cost prosocial behaviors. Similarly, interventions in racial and ethnic minority communities could benefit from increasing social trust, considering its association with high-cost prosociality and the stronger associations observed in racial and ethnic minority groups in our study. Gender and age also play roles in shaping prosocial behaviors. Men may benefit from interventions enhancing empathic concern, while interventions for women could focus on increasing social trust. Among different age groups, early adults exhibit lower levels of empathic concern, care, and social trust, suggesting targeted interventions in these areas. Conversely, middle and late adults may benefit from interventions that emphasize further enhancing social trust, given its association with prosocial behaviors in these groups.

Beyond individual interventions, community and societal efforts are essential for fostering prosocial behaviors. Addressing disparities in social trust and reducing factors such as racial and ethnic discrimination and wealth inequality can help establish higher rates of prosocial behaviors as social norms. These efforts are not only crucial for increasing prosocial behaviors but also for improving communities and societies, taking into account the influence of sociodemographic contexts on individuals' behaviors. The findings of this study, and subsequent studies further building upon the foundations laid here, could be used to address broader societal inequalities that act as barriers to prosocial behaviors. This could be one step in helping to address modern shortcomings in volunteering and donations, while also improving trust and sense of community.

Limitations and Future Directions

The present study has limitations that require careful consideration when interpreting and generalizing its findings. First, our study utilized secondary analysis which employed a cross-sectional design, providing a snapshot of the variables and relationships at a specific point in time. This research design restricts the depth and nuance of the information gathered compared to a longitudinal dataset or panel study. Most of all, it is limited to establish causal relationship. Further, while our sample demonstrated representativeness in certain aspects, such as racial and ethnic background and income, it may not accurately depict the current demographics of the U.S. population. Using a cross-sectional sample limited us to exclusively correlational and non-experimental analyses, reflecting an exploratory research design that restricts our ability to establish causality. Subsequent research on this topic should aim to employ more recent and diverse samples within the U.S. context, utilizing experimental methodologies and pre-established hypotheses to enhance the understanding of relationships among prosocial behaviors

and their contributing factors. In addition, future studies should seek to extend the research to non-WEIRD samples outside of the U.S. in order to expand and refine these findings in diverse cultural contexts.

Moreover, potential biases exist within the measures employed in our study. All measures relied on self-reporting of participant behaviors and retrospective reporting, introducing the possibility of unreliability or inaccuracy from participants. These measures also do not capture pertinent information regarding prosocial tendencies or the desire to act prosocially despite lacking the necessary resources. This consideration is particularly important, given research indicating that individuals with lower incomes may exhibit fewer prosocial behaviors in their daily lives but demonstrate an increased willingness to contribute if afforded the means to do so (Piff et al., 2010). Future research in this realm would benefit from incorporating measures that assess various types and costs of prosocial behaviors, capturing prosocial intentions, and exploring other relevant dimensions such as public, private, direct, physical, or emotional prosocial actions. Furthermore, our study's measures of prosocial behaviors encompassed more low-cost actions than high-cost ones, with the GSS lacking an initial design that accounted for the differential costs or the multidimensionality of prosocial behaviors. Future investigations in this area should consider incorporating measures that comprehensively assess various types and costs of prosocial behaviors. Collecting new data with these dimensions in mind would generate a wealth of useful information that can more accurately capture the multidimensional nature of prosociality. Furthermore, the categorization of age and income groups in our study may oversimplify developmental changes and socioeconomic groups, suggesting a future need for more nuanced examinations of these groups regarding their relationships with prosocial behaviors.

Additionally, the study's reliance on a singular question to gauge social trust is a limitation in the measurement approach. Despite its frequent use in large sample surveys in the U.S. and abroad, this item is comprised of only one question. Existing research suggests that the social trust measure may not precisely measure social trust but instead reflects the trust level in a smaller, more familiar group of individuals (Sturgis & Smith, 2010). Moreover, researchers suggest that the social trust measure may signify general levels of caution rather than social trust (Miller & Mitamura, 2003). Future studies exploring the role of social trust in promoting and contributing to prosocial behavior should consider adopting more intricate or validated measures of social trust. Alternatively, researchers may seek to develop and validate measures to assess social trust more accurately, considering the complexities and nuances involved in this construct.

We must urge caution with the interpretation of our results, as a combination of the limitations of our study methods and measures limits the generalizability of our study. While we found many differences in patterns of prosocial contributors and prosocial behaviors across sociodemographic contexts, we can only speculate on the causes utilizing existing research. Future research should aim to explore further the underlying causes and explanations for these differences among sociodemographic contexts as identified within our study, and others.

Conclusion

In conclusion, this study significantly contributes to the ongoing understanding of prosocial behavior by systematically exploring the relatively understudied emotional, cognitive, and social contributors associated with different types of prosocial behaviors across diverse sociodemographic contexts, including racial and ethnic background, gender, socioeconomic status, and age. The research unveils noteworthy variations in the relationships between

emotional, cognitive, and social factors and both low-cost and high-cost prosocial behaviors among the studied sociodemographic groups. These variations underscore the necessity for further in-depth research to unravel and comprehend the intricacies of these differences. Moreover, the study underscores the importance of considering emotional, cognitive, and social factors as integral contributors to prosocial behaviors, providing a more comprehensive understanding of the motivations behind prosocial actions. The findings also reiterate the significance of acknowledging the multidimensional nature of prosocial behaviors, as evidenced by the inclusion of both low- and high-cost prosocial behaviors in the analysis. Future research should build upon this foundation, incorporating the cost of prosocial behaviors while delving into additional dimensions that may yield further insights into their predictors. This holistic approach promises to enrich our understanding of the complex dynamics influencing prosocial behaviors across varied sociodemographic dimensions.

The implications of this research extend to individual interventions and broader community and societal efforts. Tailoring interventions to enhance either low- or high-cost prosocial behaviors based on factors like empathic concern and social trust could prove effective. Additionally, considering sociodemographic contexts is crucial in designing interventions that address the unique needs of diverse populations. This includes interventions focusing on social trust in racial and ethnic minority groups, empathic concern in low-income populations and early adults, and social trust in women, middle-aged adults, and later-adulthood adults for promoting high-cost prosocial behaviors. Moreover, the study findings suggest a need for a societal shift, emphasizing the importance of addressing disparities in social trust and combating factors that diminish it. By reducing racial and ethnic discrimination and broader wealth inequities, communities can foster higher rates of social trust and establish prosocial behaviors as social

norms. This aligns with the broader goal of increasing prosocial behaviors and contributing to the overall improvement of communities and society. In essence, this research underscores the dynamic and sociodemographic context-dependent nature of prosocial behaviors, urging scholars, practitioners, and policymakers to adopt a more nuanced and inclusive approach in understanding and promoting prosociality across diverse populations.

The world is currently grappling with significant global and regional challenges such as climate change, armed conflicts, poverty, inequality, violence, discrimination, mental health crises, and escalating political polarization. Each of these challenges is substantial and demands a collective effort from everyone to find solutions. There is a pressing need for increased prosocial behaviors among individuals to address these complex issues. Our study informed future research and enriched our understanding of how we can promote prosocial behaviors across diverse communities by identifying factors and contexts that facilitate different prosocial behaviors.

Figure 1.1

Theoretical Model of Main Study Variables

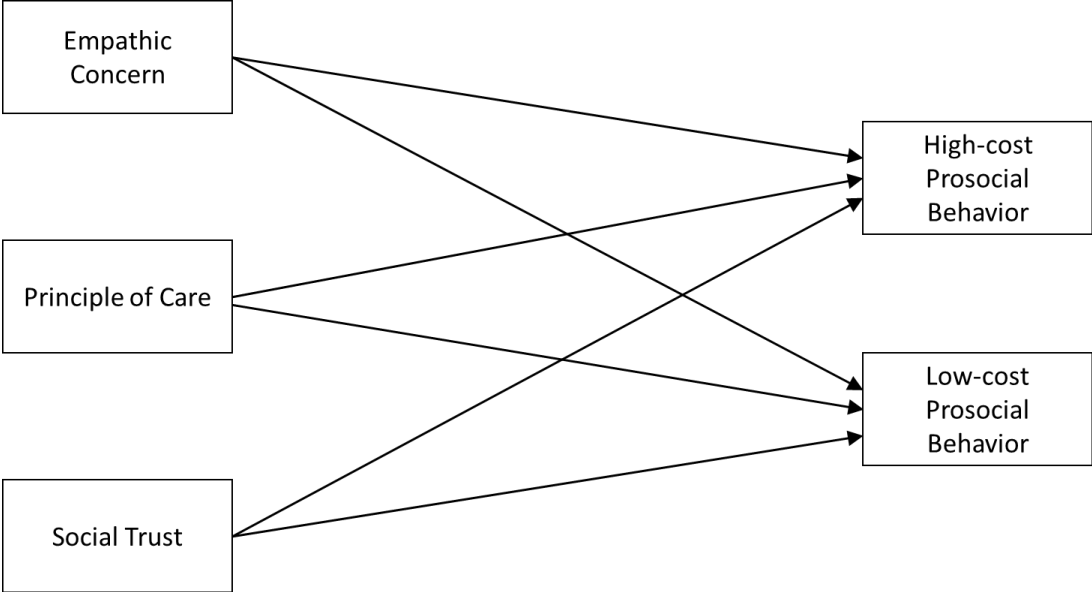
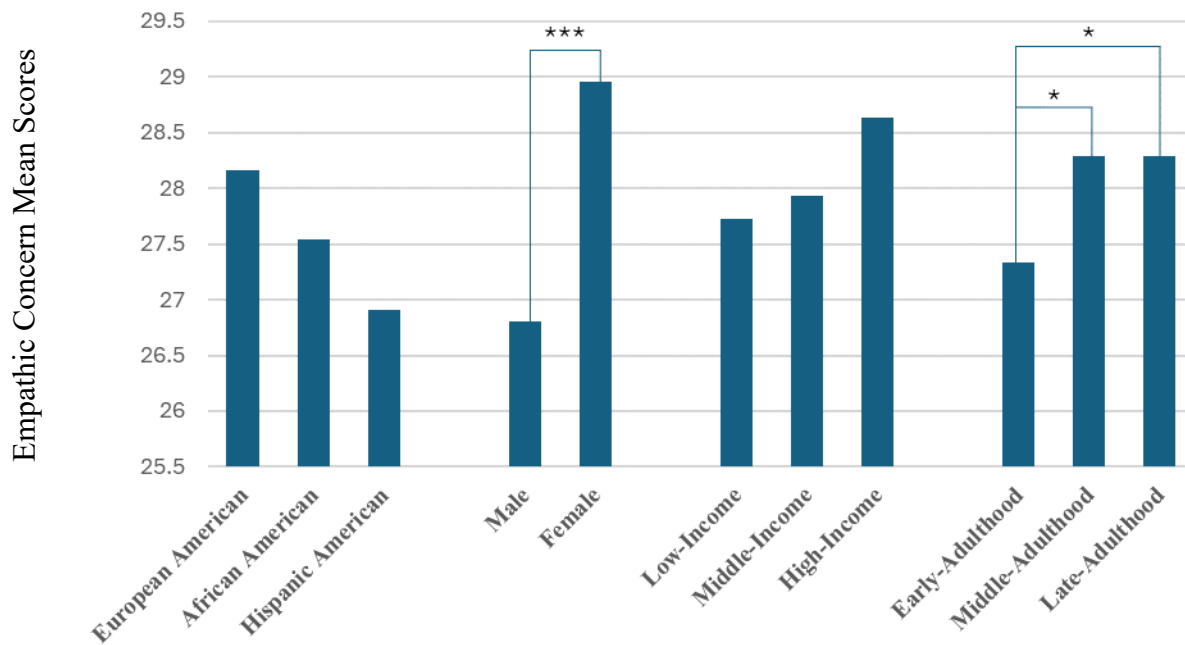


Figure 2.1

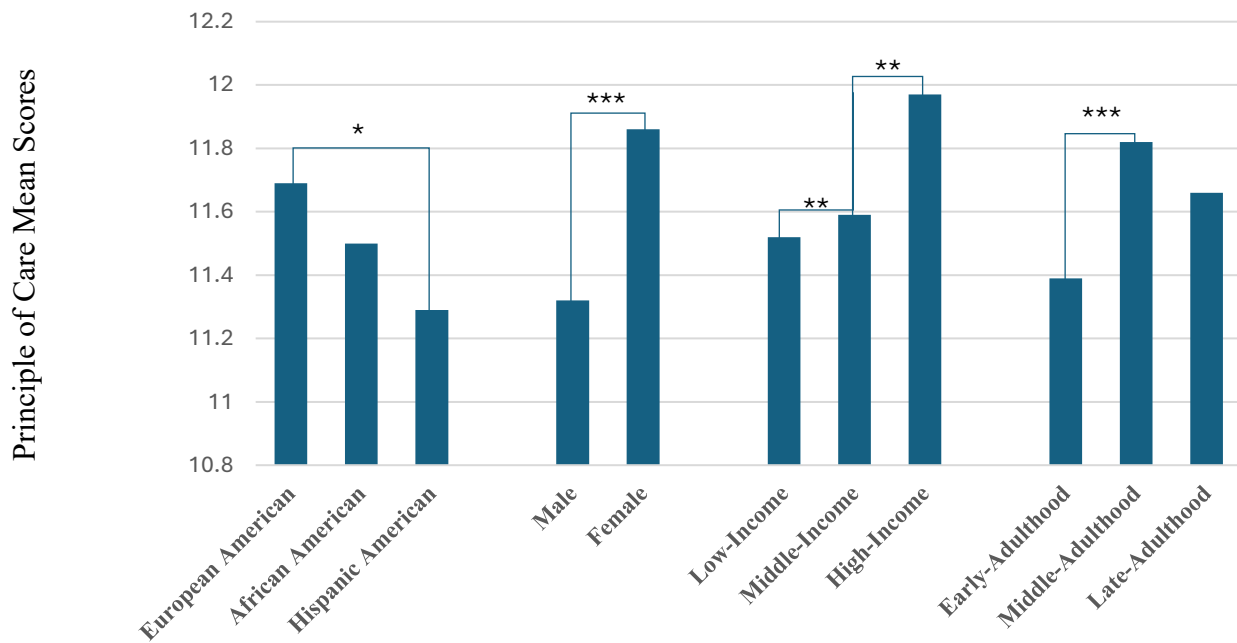
Welch ANOVA - Sociodemographic Differences in Empathic Concern



Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Figure 2.2

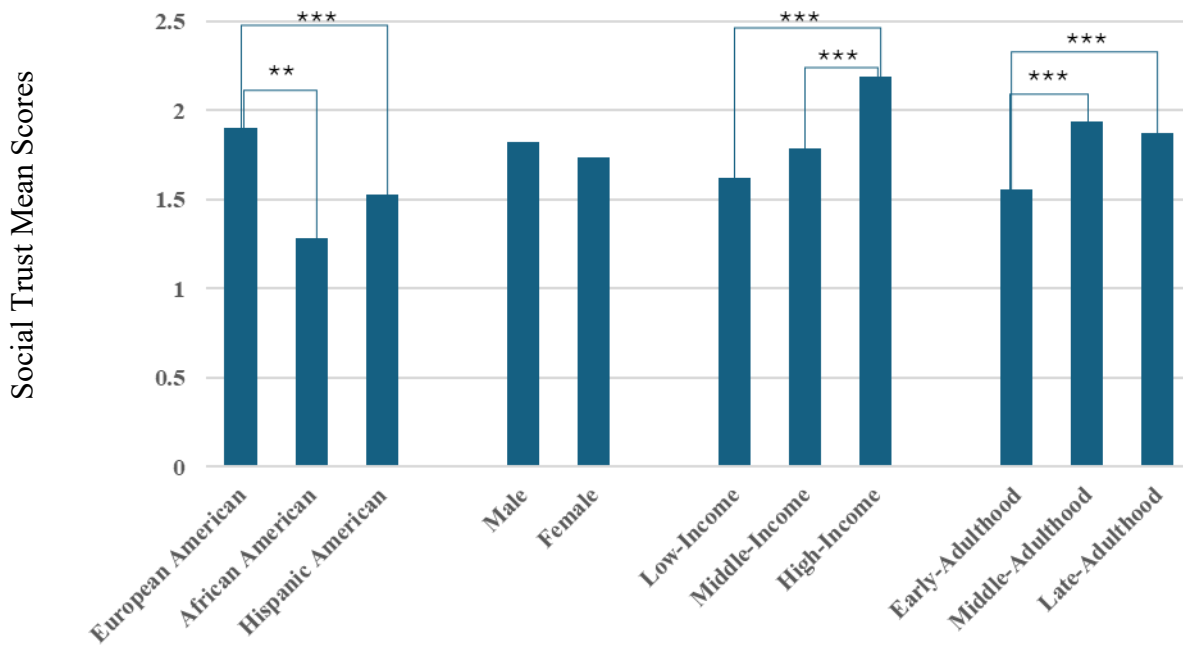
Welch ANOVA - Sociodemographic Differences in the Principle of Care



Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Figure 2.3

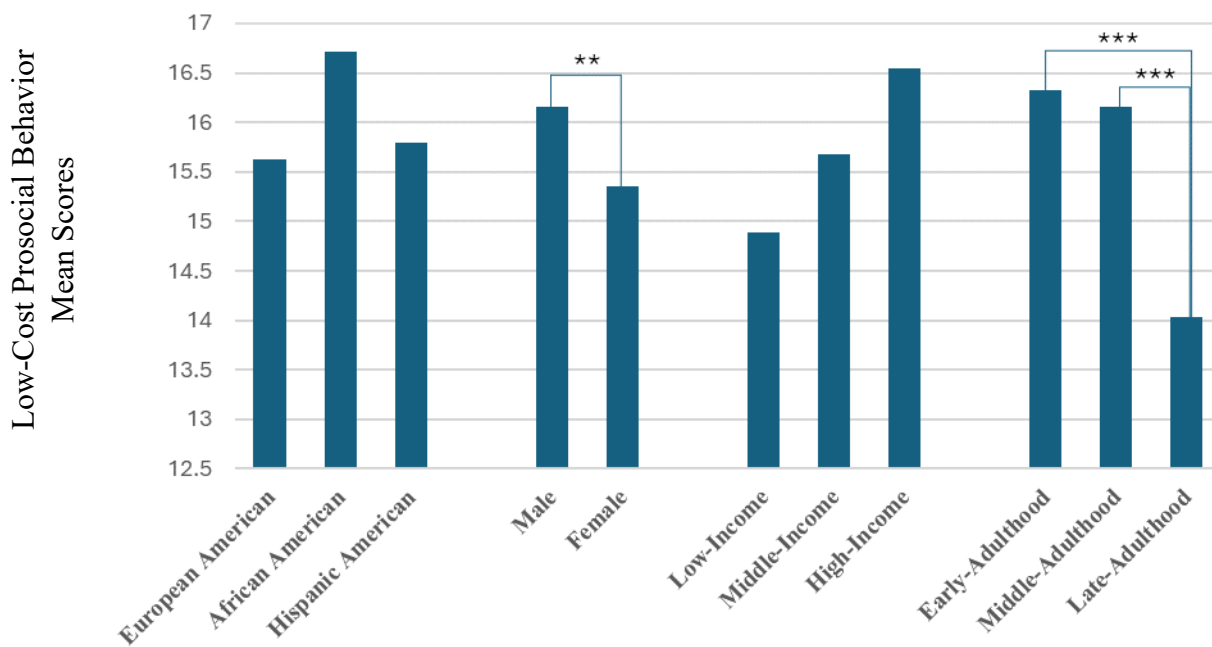
Sociodemographic Differences in Social Trust



Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Figure 2.4

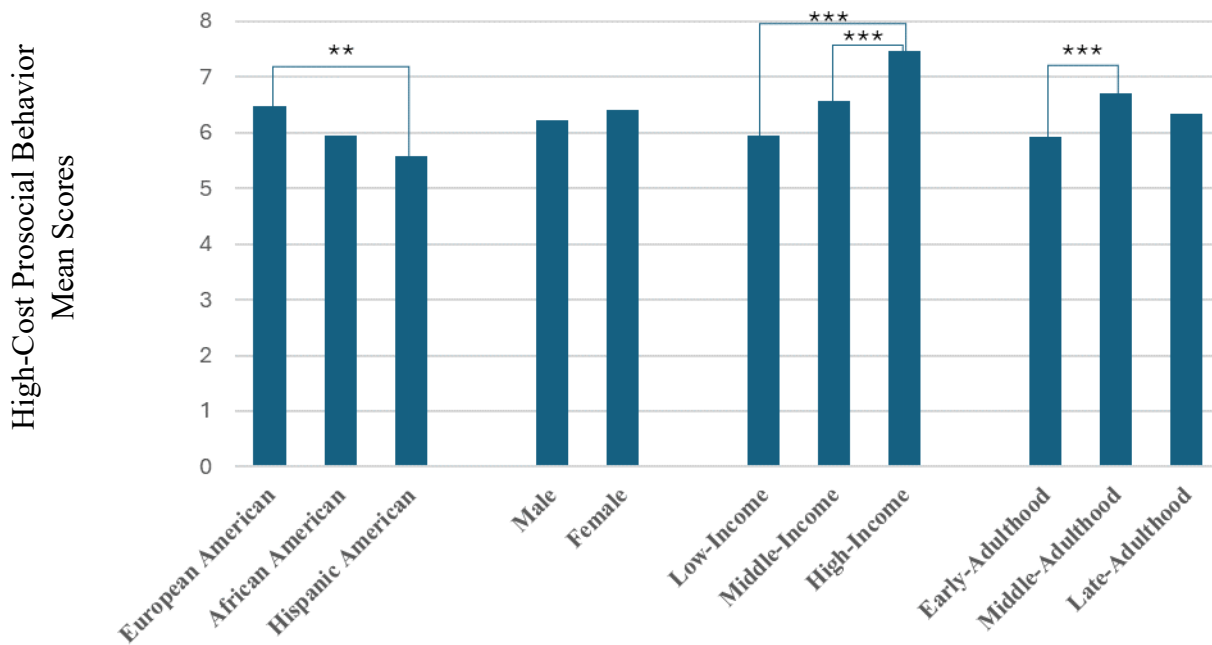
Sociodemographic Differences in Low-Cost Prosocial Behaviors



Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Figure 2.5

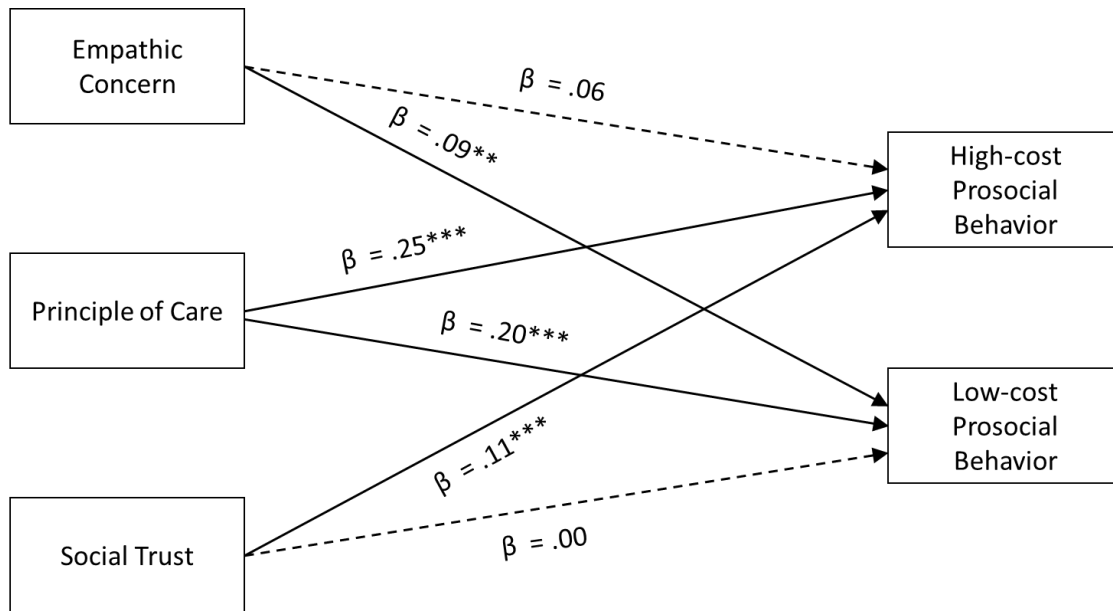
Sociodemographic Differences in High-Cost Prosocial Behaviors



Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Figure 3.1

Final Path Model of Main Study Variables



Note. * $p < .05$, ** $p < .01$, *** $p < .001$
Dashed lines indicate non-significant paths

Table 1.1*Descriptive Statistics of Study Variables*

Variables	Mean	SD	A
High-Cost Prosocial Behavior	6.32	2.56	.48
Low-Cost Prosocial Behavior	15.74	4.90	.66
Empathic Concern	27.95	4.80	.72
Principle of Care	11.60	1.83	.41
Social Trust	1.78	.94	n/a

Table 1.2*Correlations among Study Variables*

Variables	1	2	3	4	5
1. High-Cost Prosocial Behavior	—				
2. Low-Cost Prosocial Behavior	.37***	—			
3. Empathic Concern	.17***	.18***	—		
4. Principle of Care	.28***	.24***	.45***	—	
5. Social Trust	.14***	.02	.03	.10**	—

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 2.1*Means and Standard Deviations and Welch ANOVA Results by Demographic Variable Groups*

Demographic Variables	Empathic Concern Mean (SD)	Principle of Care Mean (SD)	Social Trust Mean (SD)	Low-Cost PSB Mean (SD)	High-Cost PSB Mean (SD)
<i>Racial and Ethnic Background</i>	*	*	***		***
European American	28.16 (4.68)	11.69 (1.82)	1.90 (.96)	15.62 (4.64)	6.47 (2.50)
African American	27.54 (5.27)	11.50 (1.80)	1.28 (.70)	16.71 (5.60)	5.94 (2.81)
Hispanic American	26.91 (4.93)	11.29 (1.90)	1.53 (.86)	15.79 (5.56)	5.58 (2.55)
<i>Gender</i>	***	***		**	
Male	26.80 (4.72)	11.32 (1.79)	1.82 (.94)	16.16 (5.09)	6.23 (2.57)
Female	28.96 (4.65)	11.86 (1.82)	1.74 (.94)	15.36 (4.69)	6.40 (2.55)
<i>Socioeconomic Status</i>		**	***		***
Low-income	27.73 (5.41)	11.52 (1.92)	1.62 (.87)	14.89 (5.38)	5.96 (2.57)
Middle-income	27.93 (4.62)	11.59 (1.77)	1.79 (.95)	15.68 (4.45)	6.56 (2.45)
High-income	28.64 (4.11)	11.97 (1.70)	2.19 (.94)	16.55 (4.32)	7.48 (2.45)

<i>Age</i>	**	***	***	***	***
Early Adulthood	27.33 (4.83)	11.39 (1.77)	1.56 (.87)	16.32 (4.90)	5.93 (2.38)
Middle Adulthood	28.29 (4.83)	11.82 (1.85)	1.94 (.97)	16.16 (4.89)	6.72 (2.71)
Late Adulthood	28.29 (4.63)	11.66 (1.76)	1.87 (.96)	14.03 (4.48)	6.35 (2.50)

Note. * < .05, **p < .01, ***p < .001, Significance indicates significant group differences from one-way Welch ANOVAs

Table 4.1*Results of Unconstrained Model Multigroup Path Analyses*

Model Paths	Standardized Regression Coefficients			Pairwise Parameter Comparisons (Z-Scores)		
	European American (EA)	African American (AA)	Hispanic American (HA)	EA vs. AA	EA vs. HA	AA vs. HA
<i>Racial and Ethnic Background</i>						
Empathic Concern → LC PSB	.05	.15	.18	1.05	1.27	.22
Empathic Concern → HC PSB	.06	.01	.09	-.49	.27	.58
Principle of Care → LC PSB	.22***	.02	.21*	-1.65†	.34	1.43
Principle of Care → HC PSB	.27***	.20*	.08	-.39	-1.66†	-.96
Social Trust → LC PSB	.01	.04	.12	.30	1.08	.46
Social Trust → HC PSB	.08*	.23*	.33**	1.77†	2.43*	.10
<i>Gender</i>						
	Male	Female		Male vs Female		
Empathic Concern → LC PSB	.10*	.12**		.16		
Empathic Concern → HC PSB	.09*	.02		-1.14		
Principle of Care → LC PSB	.28***	.13**		-2.79**		
Principle of Care → HC PSB	.29***	.20***		-1.69†		
Social Trust → LC PSB	-.02	-.01		.30		
Social Trust → HC PSB	.09	.13**		.55		
<i>Socioeconomic Status</i>						
	Low-income	Middle-income	High-income	Low-income vs. Middle	Middle-income vs High	Low-income vs. High
Empathic Concern → LC PSB	.13**	.06	.03	-1.08	-.37	-1.16
Empathic Concern → HC PSB	.04	.09*	-.01	.86	-1.12	-.49
Principle of Care → LC PSB	.14*	.21***	.29***	.74	.88	1.40
Principle of Care → HC PSB	.27***	.18***	.37***	-1.02	2.27*	1.49
Social Trust → LC PSB	-.08	.03	-.02	1.41	-.46	1.09
Social Trust → HC PSB	.04	.10*	.03	.74	-.72	-.09

<i>Age</i>	Early Adulthood (EA)	Middle Adulthood (MA)	Late Adulthood (LA)	EA vs. MA	MA vs. LA	EA vs. LA
Empathic Concern → LC PSB	.13**	.07	.07	-.79	-.04	-.76
Empathic Concern → HC PSB	.16***	-.01	-.01	-2.40*	-.01	-2.20*
Principle of Care → LC PSB	.18***	.24***	.11	.70	-1.70†	-1.06
Principle of Care → HC PSB	.19***	.27***	.25***	1.57	-.38	1.03
Social Trust → LC PSB	-.08	.01	.21**	1.12	2.25*	3.14**
Social Trust → HC PSB	.07	.11*	.14*	.55	.26	.75

Note. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$, Significance indicates significant group differences from pairwise parameter comparisons

References

- Aknin, L. B., Broesch, T., Hamlin, J. K., & Van de Vondervoort, J. W. (2015). Prosocial behavior leads to happiness in a small-scale rural society. *Journal of experimental psychology: General, 144*(4), 788. <https://doi.org/10.1037/xge0000082>
- Andreoni, J. (1990). Impure altruism and donations to public goods: A theory of warm-glow giving. *The economic journal, 100*(401), 464-477. <https://doi.org/10.2307/2234133>
- Andreoni, J., Nikiforakis, N., & Stoop, J. (2021). Higher socioeconomic status does not predict decreased prosocial behavior in a field experiment. *Nature communications, 12*(1), 4266. <https://doi.org/10.1038/s41467-021-24519-5>
- Andrews, K., Lariccia, L., Talwar, V., & Bosacki, S. (2021). Empathetic concern in emerging adolescents: the role of theory of mind and gender roles. *The Journal of early adolescence, 41*(9), 1394-1424.
- Archer, J. (2019). The reality and evolutionary significance of human psychological sex differences. *Biological Reviews, 94*(4), 1381-1415. <https://doi.org/10.1111/brv.12507>
- Armenta, B. E., Knight, G. P., Carlo, G., & Jacobson, R. P. (2011). The relation between ethnic group attachment and prosocial tendencies: The mediating role of cultural values. *European Journal of Social Psychology, 41*(1), 107-115. <https://doi.org/10.1002/ejsp.742>

- Armstrong-Carter, E., & Telzer, E. H. (2021). Advancing measurement and research on youths' prosocial behavior in the digital age. *Child development perspectives, 15*(1), 31-36. <https://doi.org/10.1111/cdep.12396>
- Arnett, J. J. (2016). The neglected 95%: Why American psychology needs to become less American. In A. E. Kazdin (Ed.), *Methodological issues and strategies in clinical research* (pp. 115–132). American Psychological Association. <https://doi.org/10.1037/0003-066X.63.7.602>
- Aydinli-Karakulak, A., Tepe, B., Nurcan, E., & Dimitrova, R. (2021). How prosocial behavior turns bad into good: An examination among Turkish-Bulgarian adolescents. *Current Psychology, 40*, 3986-3996. <https://doi.org/10.1007/s12144-019-00352-4>
- Bailey, P. E., Brady, B., Ebner, N. C., & Ruffman, T. (2020). Effects of age on emotion regulation, emotional empathy, and prosocial behavior. *The Journals of Gerontology: Series B, 75*(4), 802-810. <https://doi.org/10.1093/geronb/gby084>
- Bailey, P. E., Ebner, N. C., & Stine-Morrow, E. A. (2021). Introduction to the special issue on prosociality in adult development and aging: Advancing theory within a multilevel framework. *Psychology and aging, 36*(1), 1. <https://doi.org/10.1037/pag0000598>
- Baldassarri, D., & Abascal, M. (2020). Diversity and prosocial behavior. *Science, 369*(6508), 1183-1187. <https://doi.org/10.1126/science.abb2432>
- Bandy, R., & Ottoni-Wilhelm, M. (2012). Family structure and income during the stages of childhood and subsequent prosocial behavior in young adulthood. *Journal of adolescence, 35*(4), 1023-1034. <https://doi.org/10.1016/j.adolescence.2012.02.010>

- Barclay, P., & Van Vugt, M. (2015). The evolutionary psychology of human prosociality: Adaptations, byproducts, and mistakes. *The Oxford handbook of prosocial behavior*, 37-60. <https://doi.org/10.1093/oxfordhb/9780195399813.013.029>
- Baron-Cohen, S., & Wheelwright, S. (2004). The empathy quotient: an investigation of adults with Asperger syndrome or high functioning autism, and normal sex differences. *Journal of autism and developmental disorders*, 34, 163-175. <https://doi.org/10.1023/b:jadd.0000022607.19833.00>
- Bartlett, M. Y., & DeSteno, D. (2006). Gratitude and Prosocial Behavior: Helping When It Costs You. *Psychological Science*, 17(4), 319–325. <https://doi-org.proxy.lib.umich.edu/10.1111/j.1467-9280.2006.01705.x>
- Beadle, J. N., Sheehan, A. H., Dahlben, B., & Gutchess, A. H. (2015). Aging, empathy, and prosociality. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 70(2), 213-222. <https://doi.org/10.1093/geronb/gbt091>
- Beaty, T., & Gamboa, G. (2023, April 18). *Nonprofits Scramble for help amid dearth of volunteers*. AP News. <https://apnews.com/article/volunteers-needed-nonprofits-data-000c119a4223f91f0fe24c066f2d3960>
- Bekkers, R., & Ottoni–Wilhelm, M. (2016). Principle of care and giving to help people in need. *European Journal of Personality*, 30(3), 240-257. <https://doi.org/10.1002/per.2057>
- Bell, J., Grekul, J., Lamba, N., Minas, C., & Harrell, W. A. (1995). The impact of cost on student helping behavior. *The Journal of social psychology*, 135(1), 49-56. <https://doi.org/10.1080/00224545.1995.9711401>

- Benner, A. D., Wang, Y., Shen, Y., Boyle, A. E., Polk, R., & Cheng, Y. P. (2018). Racial/ethnic discrimination and well-being during adolescence: A meta-analytic review. *American psychologist, 73*(7), 855. <https://doi.org/10.1037/amp0000204>
- Berry, D. R., Cairo, A. H., Goodman, R. J., Quaglia, J. T., Green, J. D., & Brown, K. W. (2018). Mindfulness increases prosocial responses toward ostracized strangers through empathic concern. *Journal of Experimental Psychology: General, 147*(1), 93. <https://doi.org/10.1037/xge0000392>
- Brandt, M. J., Wetherell, G., & Henry, P. J. (2015). Changes in income predict change in social trust: A longitudinal analysis. *Political Psychology, 36*(6), 761-768. <https://doi.org/10.1111/pops.12228>
- Briggs, S. R., & Cheek, J. M. (1986). The role of factor analysis in the development and evaluation of personality scales. *Journal of personality, 54*(1), 106-148. <https://doi-org.proxy.lib.umich.edu/10.1111/j.1467-6494.1986.tb00391.x>
- Britt-Spells, A. M., Slebodnik, M., Sands, L. P., & Rollock, D. (2018). Effects of perceived discrimination on depressive symptoms among Black men residing in the United States: A meta-analysis. *American journal of men's health, 12*(1), 52-63. <https://doi.org/10.1177/1557988315624509>
- Brittian, A. S., O'Donnell, M., Knight, G. P., Carlo, G., Umana-Taylor, A. J., & Roosa, M. W. (2013). Associations between adolescents' perceived discrimination and prosocial tendencies: The mediating role of Mexican American values. *Journal of youth and adolescence, 42*, 328-341. <https://doi.org/10.1007/s10964-012-9856-6>

- Brown, S. L., & Brown, R. M. (2015). Connecting prosocial behavior to improved physical health: Contributions from the neurobiology of parenting. *Neuroscience & Biobehavioral Reviews*, *55*, 1-17. <https://doi.org/10.1016/j.neubiorev.2015.04.004>
- Brownell, C. A. (2013). Early development of prosocial behavior: Current perspectives. *Infancy*, *18*(1), 1-9. <https://doi.org/10.1111/inf.12004>
- Burris, C. T., Schrage, K. M., & Rempel, J. K. (2016). No country for girly men: High instrumentality men express empathic concern when caring is “manly”. *Motivation and Emotion*, *40*, 278-289. <https://doi.org/10.1007/s11031-015-9525-7>
- Busse, D., Yim, I. S., Campos, B., & Marshburn, C. K. (2017). Discrimination and the HPA axis: current evidence and future directions. *Journal of Behavioral Medicine*, *40*, 539-552. <https://doi.org/10.1007/s10865-017-9830-6>
- Byrne, K. A., Lockwood, P. L., Ghaiomy Anaraky, R., & Liu, Y. (2023). Age Differences in Prosocial Behavior Depend on Effort Costs. *The Journals of Gerontology: Series B*, *78*(6), 948-958. <https://doi-org.proxy.lib.umich.edu/10.1093/geronb/gbac194>
- Caprara, G. V., Kanacri, B. P. L., Gerbino, M., Zuffiano, A., Alessandri, G., Vecchio, G., ... & Bridglall, B. (2014). Positive effects of promoting prosocial behavior in early adolescence: Evidence from a school-based intervention. *International Journal of Behavioral Development*, *38*(4), 386-396. <https://doi.org/10.1177/0165025414531464>
- Carlo, G., Mestre, M. V., Samper, P., Tur, A., & Armenta, B. E. (2010). Feelings or cognitions? Moral cognitions and emotions as longitudinal predictors of prosocial and aggressive behaviors. *Personality and Individual Differences*, *48*(8), 872-877. <https://doi.org/10.1016/j.paid.2010.02.010>

- Carlo, G., & Padilla-Walker, L. (2020). Adolescents' prosocial behaviors through a multidimensional and multicultural lens. *Child Development Perspectives, 14*(4), 265-272. <https://doi.org/10.1111/cdep.12391>
- Carrera, P., Oceja, L., Caballero, A., Muñoz, D., López-Pérez, B., & Ambrona, T. (2013). I feel so sorry! Tapping the joint influence of empathy and personal distress on helping behavior. *Motivation and Emotion, 37*, 335-345. <https://doi.org/10.1007/s11031-012-9302-9>
- Cavallini, E., Rosi, A., Ceccato, I., Ronchi, L., & Lecce, S. (2021). Prosociality in aging: The contribution of traits and empathic concern. *Personality and Individual Differences, 176*, 110735. <https://doi.org/10.1016/j.paid.2021.110735>
- Chen, Y., Zhu, L., & Chen, Z. (2013). Family Income Affects Children's Altruistic Behavior in the Dictator Game. *PLoS ONE, 8*(11). <https://doi.org/10.1371/journal.pone.0080419>
- Chapman, B. P., Fiscella, K., Kawachi, I., & Duberstein, P. R. (2010). Personality, socioeconomic status, and all-cause mortality in the United States. *American journal of epidemiology, 171*(1), 83-92. <https://doi.org/10.1093/aje/kwp323>
- Charles, S. T. (2005). Viewing injustice: Greater emotion heterogeneity with age. *Psychology and Aging, 20*(1), 159-164. <https://doi.org/10.1037/0882-7974.20.1.159>
- Cheon, B. K., Melani, I., & Hong, Y. (2020). How USA-Centric Is Psychology? An Archival Study of Implicit Assumptions of Generalizability of Findings to Human Nature Based on Origins of Study Samples. *Social Psychological and Personality Science, 11*(7), 928-937. <https://doi.org/10.1177/1948550620927269>

- Chopik, W. J., O'Brien, E., & Konrath, S. H. (2017). Differences in empathic concern and perspective taking across 63 countries. *Journal of Cross-Cultural Psychology*, 48(1), 23-38. <https://doi.org/10.1177/0022022116673910>
- Coleman, P. T., & Godwin, P. (2023, March 30). *What Americans can do to bridge the political divide*. Time. <https://time.com/6266873/american-political-division-courage-challenge/>
- Coon, H. M., & Kimmelmeier, M. (2001). Cultural Orientations in the United States: (Re) Examining Differences among Ethnic Groups. *Journal of Cross-Cultural Psychology*, 32(3), 348-364. <https://doi.org/10.1177/0022022101032003006>
- Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of applied psychology*, 78(1), 98. <https://doi-org.proxy.lib.umich.edu/10.1037/0021-9010.78.1.98>
- Coyne, S. M., Padilla-Walker, L. M., Holmgren, H. G., Davis, E. J., Collier, K. M., Memmott-Elison, M. K., & Hawkins, A. J. (2018). A meta-analysis of prosocial media on prosocial behavior, aggression, and empathic concern: A multidimensional approach. *Developmental psychology*, 54(2), 331. <https://doi.org/10.1037/dev0000412>
- Curry, O., Roberts, S. G., & Dunbar, R. I. (2013). Altruism in social networks: Evidence for a 'kinship premium'. *British Journal of Psychology*, 104(2), 283-295. <https://doi-org.proxy.lib.umich.edu/10.1111/j.2044-8295.2012.02119.x>
- Dakin, B. C., Laham, S. M., Tan, N. P. J., & Bastian, B. (2021). Searching for meaning is associated with costly prosociality. *PLoS One*, 16(10), e0258769. <https://doi.org/10.1371/journal.pone.0258769>

Daniller, A. (2021, March 18). Majorities of Americans see at least some discrimination against black, Hispanic and Asian people in the U.S. Pew Research Center.

<https://www.pewresearch.org/short-reads/2021/03/18/majorities-of-americans-see-at-least-some-discrimination-against-black-hispanic-and-asian-people-in-the-u-s/>

Davern, M.; Bautista, R.; Freese, J.; Herd, P.; and Morgan, S. L.; General Social Survey 1972-2022. [Machine-readable data file]. Principal Investigator, Davern, M.; Co-Principal Investigators, Bautista, R.; Freese, J.; Herd, P.; and Morgan, S. L.; Sponsored by National Science Foundation. NORC ed. Chicago: NORC, 2023: NORC at the University of Chicago [producer and distributor]. Data accessed from the GSS Data Explorer website at gssdataexplorer.norc.org.

Davis, M. H. (1980). A multidimensional approach to individual differences in empathy. *JSAS Catalog of Selected Documents in Psychology*, 10, 85.

Davis, M. H. (2015). Empathy and prosocial behavior. In D. A. Schroeder & W. G. Graziano (Eds.), *The Oxford handbook of prosocial behavior* (pp. 282–306). Oxford University Press. <https://doi.org/10.1093/oxford/hb/9780195399813.013.026>

Davis A.N., Carlo G, Schwartz S. J., Unger J. B., Zamboanga B. L., Lorenzo-Blanco E. I., Cano M. Á. , Baezconde-Garbanati L., Oshri A., Streit C., Martinez M. M., Piña-Watson B., Lizzi K., Soto D. (2016) The Longitudinal Associations Between Discrimination, Depressive Symptoms, and Prosocial Behaviors in U.S. Latino/a Recent Immigrant Adolescents. *Journal of youth and adolescence*, 45, 457-470.
<https://doi.org/10.1007/s10964-015-0394-x>

- Davis, A. N., Carlo, G., Streit, C., Schwartz, S. J., Unger, J. B., Baezconde-Garbanati, L., & Szapocznik, J. (2018). Longitudinal associations between maternal involvement, cultural orientations, and prosocial behaviors among recent immigrant Latino adolescents. *Journal of Youth and Adolescence*, *47*, 460-472.
<https://doi.org/10.1007/s10964-017-0792-3>
- Davis, A. N., & Clark, E. S. (2022). Considering the role of empathy in the links between discrimination and prosocial behaviors. *Journal of Adult Development*, *29*(4), 287-294.
<https://doi.org/10.1007/s10804-022-09406-7>
- Davis, A. N., Martin-Cuellar, A., & Luce, H. (2019). Life events and prosocial behaviors among young adults: Considering the roles of perspective taking and empathic concern. *The Journal of genetic psychology*, *180*(4-5), 205-216.
<https://doi.org/10.1080/00221325.2019.1632785>
- Davis, A. N., McGinley, M., Carlo, G., Schwartz, S. J., Unger, J. B., Rosiers, S. E. D., ... & Soto, D. (2021). Examining discrimination and familism values as longitudinal predictors of prosocial behaviors among recent immigrant adolescents. *International journal of behavioral development*, *45*(4), 317-326. <https://doi.org/10.1177/01650254211005561>
- Decety, J., & Yoder, K. J. (2016). Empathy and motivation for justice: Cognitive empathy and concern, but not emotional empathy, predict sensitivity to injustice for others. *Social neuroscience*, *11*(1), 1-14. <https://doi.org/10.1080/17470919.2015.1029593>
- De Wit, A., & Bekkers, R. (2016). Exploring gender differences in charitable giving: The Dutch case. *Nonprofit and Voluntary Sector Quarterly*, *45*(4), 741-761. <https://doi-org.proxy.lib.umich.edu/10.1177/08997640156012>

- Delacre, M., Leys, C., Mora, Y. L., & Lakens, D. (2019). Taking parametric assumptions seriously: Arguments for the use of Welch's F-test instead of the classical F-test in one-way ANOVA. *International Review of Social Psychology*, 32(1), 13. <https://doi-org.proxy.lib.umich.edu/10.5334/irsp.198>
- Delhey, J., & Newton, K. (2005). Predicting cross-national levels of social trust: global pattern or Nordic exceptionalism? *European sociological review*, 21(4), 311-327. <https://doi.org/10.1093/esr/jci022>
- Dimock, M., & Wike, R. (2020, November 13). *America is exceptional in the nature of its political divide*. Pew Research Center. <https://www.pewresearch.org/short-reads/2020/11/13/america-is-exceptional-in-the-nature-of-its-political-divide/>
- Dunfield, K. A. (2014). A construct divided: Prosocial behavior as helping, sharing, and comforting subtypes. *Frontiers in psychology*, 5, 958. <https://doi.org/10.3389/fpsyg.2014.00958>
- Dryburgh, N. S., Ponath, E., Bukowski, W. M., & Dirks, M. A. (2022). Associations between interpersonal behavior and friendship quality in childhood and adolescence: A meta-analysis. *Child Development*, 93(3), e332-e347. <https://doi.org/10.1111/cdev.13728>
- Eagly, A. H. (2009). The his and hers of prosocial behavior: An examination of the social psychology of gender. *American Psychologist*, 64(8), 644–658. <https://doi-org.proxy.lib.umich.edu/10.1037/0003-066X.64.8.644>
- Einolf, C. J. (2008). Empathic concern and prosocial behaviors: A test of experimental results using survey data. *Social Science Research*, 37(4), 1267-1279. <https://doi.org/10.1016/j.ssresearch.2007.06.003>

- Eisenberg, N. (2000). Emotion, regulation, and moral development. *Annual review of psychology*, 51(1), 665-697. <https://doi-org.proxy.lib.umich.edu/10.1146/annurev.psych.51.1.665>
- Eisenberg, N., Cameron, E., Tryon, K., & Dodez, R. (1981). Socialization of prosocial behavior in the preschool classroom. *Developmental psychology*, 17(6), 773. <https://doi.org/10.1037/0012-1649.17.6.773>
- Eisenberg, N., Fabes, R. A., Karbon, M., Murphy, B. C., Wosinski, M., Polazzi, L., ... & Juhnke, C. (1996). The relations of children's dispositional prosocial behavior to emotionality, regulation, and social functioning. *Child development*, 67(3), 974-992. <https://doi.org/10.2307/1131874>
- Eisenberg, N., & Shell, R. (1986). Prosocial moral judgment and behavior in children: The mediating role of cost. *Personality and social psychology bulletin*, 12(4), 426-433. <https://doi.org/10.1177/0146167286124005>
- Eisenberg, N., Spinrad, T., & Sadovsky, A. (2006). Empathy-related responding in children. In *Handbook of moral development* (pp. 535-568). Psychology Press. <https://doi.org/10.4324/9780203581957>
- Eisenberg, N., VanSchyndel, S. K., & Spinrad, T. L. (2016). Prosocial motivation: Inferences from an opaque body of work. *Child Development*, 87(6), 1668-1678. <https://doi.org/10.1111/cdev.12638>
- Erikson, E. H. (1994). *Identity and the life cycle*. WW Norton & company.

- Evangelist, M. (2022). Narrowing racial differences in trust: How discrimination shapes trust in a racialized society. *Social Problems*, 69(4), 1109-1136. <https://doi-org.proxy.lib.umich.edu/10.1093/socpro/spab011>
- Exley, C. (2018). Incentives for prosocial behavior: The role of reputations. *Management Science*, 64(5), 2460-2471. <http://dx.doi.org/10.1287/mnsc.2016.2685>
- Fabes, R. A., & Eisenberg, N. (1998). Meta-analyses of age and sex differences in children's and adolescents' prosocial behavior. *Handbook of child psychology*, 3, 1-29.
- FeldmanHall, O., Dagleish, T., Evans, D., & Mobbs, D. (2015). Empathic concern drives costly altruism. *Neuroimage*, 105, 347-356. <https://doi.org/10.1016/j.neuroimage.2014.10.043>
- Fike, K. J., Morton, C. S., Thorne, K. M., & Mattis, J. S. (2022). The power of faith: Racial discrimination and religiosity among Black American men. *Cultural diversity and ethnic minority psychology*. <https://doi.org/10.1037/cdp0000574>
- Finkelstein, M. A. (2010). Individualism/collectivism: Implications for the volunteer process. *Social Behavior and Personality: an international journal*, 38(4), 445-452. <https://doi.org/10.2224/sbp.2010.38.4.445>
- Finkelstein, M. A., Penner, L. A., & Brannick, M. T. (2005). Motive, role identity, and prosocial personality as predictors of volunteer activity. *Social Behavior and Personality: An International Journal*, 33(4), 403-418. <https://doi-org.proxy.lib.umich.edu/10.2224/sbp.2005.33.4.403>

- Fischer, S. (2022, January 18). *Distrust in political, media and business leaders sweeps the globe - axios*. Axios. <https://www.axios.com/2022/01/18/distrust-in-political-media-and-business-leaders-sweeps-the-globe>
- Flynn, E., Ehrenreich, S. E., Beron, K. J., & Underwood, M. K. (2015). Prosocial behavior: Long-term trajectories and psychosocial outcomes. *Social development, 24*(3), 462-482. <https://doi.org/10.1111/sode.12100>
- Frazier, P., Greer, C., Gabrielsen, S., Tennen, H., Park, C., & Tomich, P. (2013). The relation between trauma exposure and prosocial behavior. *Psychological Trauma: Theory, Research, Practice, and Policy, 5*(3), 286. <https://doi.org/10.1037/a0027255>
- Fronczek, P. (2005). Income, earning, and poverty. *2004 American Community Survey*.
- Gamboa, G. (2023, April 21). *Helping out: How American volunteerism is changing - and why*. AP News. <https://apnews.com/article/volunteering-american-history-generation-philanthropy-8daaf54e7327b8f59853adc1faf4eab1>
- Gilbert, P. A., & Zemore, S. E. (2016). Discrimination and drinking: A systematic review of the evidence. *Social science & medicine, 161*, 178-194. <https://doi.org/10.1016/j.socscimed.2016.06.009>
- Gneezy, A., Gneezy, U., Nelson, L. D., & Brown, A. (2011). Shared social responsibility: A field experiment in pay-what-you-want pricing and charitable giving. *Science, 329*(5989), 325-327. <https://doi.org/10.1126/science.1186744>

- Gong, X., Zhang, F., & Fung, H. H. (2019). Are older adults more willing to donate? The roles of donation form and social relationship. *The Journals of Gerontology: Series B*, 74(3), 440-448. <https://doi.org/10.1093/geronb/gbx099>
- Gray, E., Khoo, S. E., & Reimondos, A. (2012). Participation in different types of volunteering at young, middle and older adulthood. *Journal of Population Research*, 29, 373-398. <https://doi.org/10.1007/s12546-012-9092-7>
- Greitemeyer, T., Fischer, P., Kastenmüller, A., & Frey, D. (2006). Civil courage and helping behavior: Differences and similarities. *European Psychologist*, 11(2), 90-98. <https://doi.org/10.1027/1016-9040.11.2.90>
- Groep, S., Zanolie, K., & Crone, E. A. (2020). Giving to friends, classmates, and strangers in adolescence. *Journal of Research on Adolescence*, 30, 290-297. <https://doi-org.proxy.lib.umich.edu/10.1111/jora.12491>
- Gülseven, Z., Carlo, G., Kumru, A., Sayıl, M., & Selçuk, B. (2022). The protective role of early prosocial behaviours against young Turkish children's later internalizing and externalizing problems. *European Journal of Developmental Psychology*, 19(3), 400-418. <https://doi.org/10.1080/17405629.2021.1920917>
- Gurven, M., & Kaplan, H. (2007). Longevity among hunter-gatherers: a cross-cultural examination. *Population and Development review*, 33(2), 321-365. <https://doi-org.proxy.lib.umich.edu/10.1111/j.1728-4457.2007.00171.x>
- Guzman, M. R. T., Do, K. A., & Kok, C. M. (2014). The cultural contexts of children's prosocial behaviors. *Prosocial development: A multidimensional approach*, 1, 221-241. <https://doi.org/10.1093/acprof:oso/9780199964772.003.0011>

- Habashi, M. M., Graziano, W. G., & Hoover, A. E. (2016). Searching for the prosocial personality: A Big Five approach to linking personality and prosocial behavior. *Personality and Social Psychology Bulletin, 42*(9), 1177-1192. <https://doi-org.proxy.lib.umich.edu/10.1177/0146167216652859>
- Hall, J., & Leary, M. (2020, September 17). *The U.S. has an empathy deficit*. Scientific American. <https://www.scientificamerican.com/article/the-us-has-an-empathy-deficit/>
- Han, L., Sun, R., Gao, F., Zhou, Y., & Jou, M. (2019). The effect of negative energy news on social trust and helping behavior. *Computers in Human Behavior, 92*, 128-138. <https://doi.org/10.1016/j.chb.2018.11.012>
- Harris, M. W., Byrne, K. A., Liu, Y., & Anaraky, R. G. (2023). The cost of giving: Examining the relationship between narcissistic, self-sacrificing, and empathetic traits on effortful versus effortless prosocial behavior. *Journal of Research in Personality, 102*, 104320. <https://doi.org/10.1016/j.jrp.2022.104320>
- Harris, J., & Kruger, A. C. (2022). “Be Kind But Not Too Kind”: Black Males' Prosocial Behaviors in the Face of Dehumanization. *Journal of Research on Adolescence, 32*(2), 552-568. <https://doi.org/10.1111/jora.12746>
- Hawley, P.H. (2014). Evolution, prosocial behavior, and altruism: A roadmap for understanding where the proximate meets the ultimate. In L. Padilla-Walker & G. Carlo (Eds). *Prosocial development: A multidimensional approach* (pp. 43-69). Oxford University Press.

- Hedge, A., & Yousif, Y. H. (1992). Effects of urban size, urgency, and cost on helpfulness: A cross-cultural comparison between the United Kingdom and the Sudan. *Journal of Cross-Cultural Psychology*, 23(1), 107-115. <https://doi.org/10.1177/0022022192231008>
- Heilman, R. M., & Kusev, P. (2020). Personal values associated with prosocial decisions. *Behavioral Sciences*, 10(4), 77. <https://doi-org.proxy.lib.umich.edu/10.3390/bs10040077>
- Henrich, J., Heine, S., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences*, 33(2-3), 61-83. <https://doi.org/10.1017/S0140525X0999152X>
- Herschander, S. (2023, June 29). *Wealthier Should Give to Charity, Say People Who Stopped Donating, New Poll Finds*. The Chronicle of Philanthropy. <https://www.philanthropy.com/article/wealthier-should-give-to-charity-say-people-who-stopped-donating-new-poll-finds>
- Hicken, M. T., Lee, H., Morenoff, J., House, J. S., & Williams, D. R. (2014). Racial/ethnic disparities in hypertension prevalence: reconsidering the role of chronic stress. *American journal of public health*, 104(1), 117-123. <https://doi.org/10.2105/AJPH.2013.301395>
- Hochschild, J. L. (2005). Looking ahead: Racial trends in the United States. *Daedalus*, 134(1), 70-81. <https://doi-org.proxy.lib.umich.edu/10.1162/0011526053124343>
- Hopkins, P. D., & Shook, N. J. (2017). A review of sociocultural factors that may underlie differences in African American and European American anxiety. *Journal of Anxiety Disorders*, 49, 104-113. <https://doi.org/10.1016/j.janxdis.2017.04.003>

- Horowitz, J. (2016). Dimensions of Job Quality, Mechanisms, and Subjective Well-Being in the United States. *Sociological Forum*, 31(2), 419–439. <https://doi.org/10.1111/socf.12251>
- Horowitz, J., Igielnik, R., & Kochhar, R. (2020, January 9). Trends in income and wealth inequality. Pew Research Center's Social & Demographic Trends Project. <https://www.pewresearch.org/social-trends/2020/01/09/trends-in-income-and-wealth-inequality/>
- Hui, B. P. H., Ng, J. C. K., Berzaghi, E., Cunningham-Amos, L. A., & Kogan, A. (2020). Rewards of kindness? A meta-analysis of the link between prosociality and well-being. *Psychological Bulletin*, 146(12), 1084–1116. <https://doi.org/10.1037/bul0000298>
- Imai, Y. (1991). Effects of influence strategies, perceived social power and cost on compliance with requests. *Japanese Psychological Research*, 33(3), 134-144. <https://doi.org/10.4992/psycholres1954.33.134>
- Irwin, K. (2009). Prosocial behavior across cultures: The effects of institutional versus generalized trust. In *Altruism and prosocial behavior in groups* (pp. 165-198). Emerald Group Publishing Limited. [https://doi.org/10.1108/S0882-6145\(2009\)0000026010](https://doi.org/10.1108/S0882-6145(2009)0000026010)
- Jackman, S. (2023, July 12). *America more divided than at any time since Civil War*. United States Studies Centre. <https://www.ussc.edu.au/america-more-divided-than-at-any-time-since-civil-war>
- Jaffee, S., & Hyde, J. S. (2000). Gender differences in moral orientation: a meta-analysis. *Psychological bulletin*, 126(5), 703. <https://doi.org/baronronb10.1037/TO33-2909.126.5.703>

- Jenkinson, C. E., Dickens, A. P., Jones, K., Thompson-Coon, J., Taylor, R. S., Rogers, M., ... & Richards, S. H. (2013). Is volunteering a public health intervention? A systematic review and meta-analysis of the health and survival of volunteers. *BMC public health*, *13*(1), 1-10. <https://doi.org/10.1186/1471-2458-13-773>
- Jensen, K., & Silk, J. (2013). Searching for the evolutionary roots of human morality. In *Handbook of Moral Development, Second Edition* (pp. 475-494). Taylor and Francis. <https://doi.org/10.4324/9780203581957>
- Jensen, K., Vaish, A., & Schmidt, M. F. (2014). The emergence of human prosociality: aligning with others through feelings, concerns, and norms. *Frontiers in Psychology*, *5*, 822. <https://doi.org/10.3389/fpsyg.2014.00822>
- Jonas, E., Schimel, J., Greenberg, J., & Pyszczynski, T. (2002). The Scrooge effect: Evidence that mortality salience increases prosocial attitudes and behavior. *Personality and Social Psychology Bulletin*, *28*(10), 1342–1353. <https://doi-org.proxy.lib.umich.edu/10.1177/014616702236834>
- Kamas, L., & Preston, A. (2021). Empathy, gender, and prosocial behavior. *Journal of Behavioral and Experimental Economics*, *92*, 101654. <https://doi.org/10.1016/j.socec.2020.101654>
- Kemmelmeier, M., Jambor, E. E., & Letner, J. (2006). Individualism and good works: Cultural variation in giving and volunteering across the United States. *Journal of Cross-Cultural Psychology*, *37*(3), 327-344. <https://doi.org/10.1177/0022022106286927>
- Kiersz, A. (2016, February 25). *Volunteering in America is at its lowest level in over a decade*. Business Insider. <https://www.businessinsider.com/bls-volunteering-chart-2016-2>

- Kim, J. H. (2019). Multicollinearity and misleading statistical results. *Korean journal of anesthesiology*, 72(6), 558-569. <https://doi.org/10.4097/kja.19087>
- Kim, S. J., & Kou, X. (2014). Not all empathy is equal: How dispositional empathy affects charitable giving. *Journal of Nonprofit & Public Sector Marketing*, 26(4), 312-334. <https://doi.org/10.1080/10495142.2014.965066>
- Kindap-Tepe, Y., & Aktaş, V. (2021). The mediating role of needs satisfaction for prosocial behavior and autonomy support. *Current Psychology*, 40, 5212-5224. <https://doi.org/10.1007/s12144-019-00466-9>
- Knight, G. P., Carlo, G., Basilio, C. D., & Jacobson, R. P. (2015). Familism values, perspective taking, and prosocial moral reasoning: Predicting prosocial tendencies among Mexican American adolescents. *Journal of Research on Adolescence*, 25(4), 717-727. <https://doi.org/10.1111/jora.12164>
- Konrath, S. H., O'Brien, E. H., & Hsing, C. (2011). Changes in dispositional empathy in American college students over time: A meta-analysis. *Personality and Social Psychology Review*, 15(2), 180-198. <https://doi.org/10.1177/1088868310377395>
- Korndörfer, M., Egloff, B., & Schmukle, S. C. (2015). A large scale test of the effect of social class on prosocial behavior. *PloS one*, 10(7), e0133193. <https://doi.org/10.1371/journal.pone.0133193>
- Kraus, M. W., & Callaghan, B. (2016). Social class and prosocial behavior: The moderating role of public versus private contexts. *Social Psychological and Personality Science*, 7(8), 769-777. <https://doi.org/10.1177/1948550616659120>

- Krettenauer, T., & Victor, R. (2017). Why be moral? Moral identity motivation and age. *Developmental Psychology*, 53(8), 1589–1596. <https://doi-org.proxy.lib.umich.edu/10.1037/dev0000353>
- Lampridis, E., & Papastylianou, D. (2017). Prosocial behavioural tendencies and orientation towards individualism–collectivism of Greek young adults. *International Journal of Adolescence and Youth*, 22(3), 268-282. <https://doi.org/10.1080/02673843.2014.890114>
- Layous, K., Nelson, S. K., Oberle, E., Schonert-Reichl, K. A., & Lyubomirsky, S. (2012). Kindness counts: Prompting prosocial behavior in preadolescents boosts peer acceptance and well-being. *PloS one*, 7(12), e51380. <https://doi.org/10.1371/journal.pone.0051380>
- Lee, Y. H., & Hsieh, G. (2013, April). Does slacktivism hurt activism? The effects of moral balancing and consistency in online activism. In *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 811-820). <https://doi.org/10.1145/2470654.2470770>
- Lee, J., & Kim, Y. (2021). When thinking of my death leads to thinking of others' deaths: The effect of collectivism, psychological closeness, and mortality salience on prosocial behavioral intentions in the Sewol ferry disaster. *Journal of Risk Research*, 24(6), 756-770. <https://doi.org/10.1080/13669877.2020.1738530>
- Leonhardt, J. M., & Pezzuti, T. (2022). Vaccination acceptance across cultures: The roles of collectivism, empathy, and homophily. *Journal of International Marketing*, 30(2), 13-27. <https://doi.org/10.1177/1069031X211073179>

- Li, M., Li, J., Tan, M., & Zhong, Y. (2021). Exposure to money modulates the processing of charitable donation: An event-related potentials study. *Neuroscience Letters*, 765, 136277. <https://doi.org/10.1016/j.neulet.2021.136277>
- Light, S. N., Moran, Z. D., Swander, L., Le, V., Cage, B., Burghy, C., ... & Davidson, R. J. (2015). Electromyographically assessed empathic concern and empathic happiness predict increased prosocial behavior in adults. *Biological psychology*, 104, 116-129. <https://doi.org/10.1016/j.biopsycho.2014.11.015>
- Little, R. J., & Rubin, D. B. (2002). Bayes and multiple imputation. *Statistical analysis with missing data*, 200-220. <https://doi-org.proxy.lib.umich.edu/10.1002/9781119013563.ch10>
- Litvack-Miller, W., McDougall, D., & Romney, D. M. (1997). The structure of empathy during middle childhood and its relationship to prosocial behavior. *Genetic, social, and general psychology monographs*, 123(3), 303-325. PMID: 9259121
- Lorenzo-Blanco, E. I., & Unger, J. B. (2015). Ethnic discrimination, acculturative stress, and family conflict as predictors of depressive symptoms and cigarette smoking among Latina/o youth: The mediating role of perceived stress. *Journal of youth and adolescence*, 44, 1984-1997. <https://doi.org/10.1007/s10964-015-0339-4>
- Luna, K., & Konrath, S. (2019, December). *The decline of empathy and the rise of narcissism, with Sara Konrath, Phd.* American Psychological Association. <https://www.apa.org/news/podcasts/speaking-of-psychology/empathy-narcissism>
- Luria, G., Cnaan, R. A., & Boehm, A. (2015). National culture and prosocial behaviors: Results from 66 countries. *Nonprofit and Voluntary Sector Quarterly*, 44(5), 1041-1065. <https://doi.org/10.1177/0899764014554456>

- Macchia, L., & Whillans, A. V. (2022). The link between income, income inequality, and prosocial behavior around the world. *Social Psychology*, *52*(6), 375-386.
<https://doi.org/10.1027/1864-9335/a000466>
- Maiya, S., Gülseven, Z., Killoren, S. E., Carlo, G., & Streit, C. (2023). The intervening role of anxiety symptoms in associations between Self-Regulation and prosocial behaviors in US Latino/a college students. *Journal of American college health*, *71*(2), 584-592.
<https://doi.org/10.1080/07448481.2021.1899187>
- Matsumoto, Y., Yamagishi, T., Li, Y., & Kiyonari, T. (2016). Prosocial behavior increases with age across five economic games. *PLoS ONE*, *11*(7), Article e0158671. <https://doi.org/10.1371/journal.pone.0158671>
- Mayr, U., & Freund, A. M. (2020). Do we become more prosocial as we age, and if so, why? *Current Directions in Psychological Science*, *29*(3), 248-254. <https://doi.org/10.1177/0956797620975781>
- McAdams, D. P., Diamond, A., de St Aubin, E., & Mansfield, E. (1997). Stories of commitment: The psychosocial construction of generative lives. *Journal of personality and social psychology*, *72*(3), 678. <http://dx.doi.org.proxy.lib.umich.edu/10.1037/0022-3514.72.3.678>
- Mesch, D. J., Brown, M. S., Moore, Z. I., & Hayat, A. D. (2011). Gender differences in charitable giving. *International Journal of nonprofit and voluntary sector marketing*, *16*(4), 342-355. <https://doi-org.proxy.lib.umich.edu/10.1002/nvsm.432>

- Mestre, M. V., Carlo, G., Samper, P., Malonda, E., & Mestre, A. L. (2019). Bidirectional relations among empathy-related traits, prosocial moral reasoning, and prosocial behaviors. *Social Development, 28*(3), 514-528. <https://doi.org/10.1111/sode.12366>
- Mewes, J., Fairbrother, M., Giordano, G. N., Wu, C., & Wilkes, R. (2021). Experiences matter: A longitudinal study of individual-level sources of declining social trust in the United States. *Social Science Research, 95*, 102537. <https://doi.org/10.1016/j.ssresearch.2021.102537>
- Midlarsky, E., Kahana, E., & Belser, A. (2015). Prosocial behavior in late life. In D. A. Schroeder & W. G. Graziano (Eds.), *The Oxford handbook of prosocial behavior* (pp. 415–432). Oxford University Press. <https://doi-org.proxy.lib.umich.edu/10.1093/oxfordhb/9780195399813.013.030>
- Miller, J. G., Kahle, S., & Hastings, P. D. (2015). Roots and benefits of costly giving: Young children's altruism is related to having less family wealth and more autonomic flexibility. *Psychological Science, 26*(7), 1038. <https://doi.org/10.1177/0956797615578476>
- Miller, A. S., & Mitamura, T. (2003). Are surveys on trust trustworthy? *Social Psychology Quarterly, 66*(1), 62–70. <https://doi-org.proxy.lib.umich.edu/10.2307/3090141>
- Mo, P. K., Yu, Y., Luo, S., Wang, S., Zhao, J., Zhang, G., ... & Lau, J. T. (2021). Dualistic determinants of COVID-19 vaccination intention among university students in China: From perceived personal benefits to external reasons of perceived social benefits, collectivism, and national pride. *Vaccines, 9*(11), 1323. <https://doi.org/10.3390/vaccines9111323>

- Morelli, S. A., Rameson, L. T., & Lieberman, M. D. (2014). The neural components of empathy: predicting daily prosocial behavior. *Social cognitive and affective neuroscience*, 9(1), 39-47. <https://doi.org/10.1093/scan/nss088>
- Newman, G. E., & Cain, D. M. (2014). Tainted altruism: When doing some good is evaluated as worse than doing no good at all. *Psychological science*, 25(3), 648-655. <https://doi.org/10.1177/0956797613504785>
- Nielson, M. G., Padilla-Walker, L., & Holmes, E. K. (2017). How do men and women help? Validation of a multidimensional measure of prosocial behavior. *Journal of Adolescence*, 56, 91–106. <https://doi-org.proxy.lib.umich.edu/10.1016/j.adolescence.2017.02.006>
- O'brien, E., Konrath, S. H., Grühn, D., & Hagen, A. L. (2013). Empathic concern and perspective taking: Linear and quadratic effects of age across the adult life span. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 68(2), 168-175. <https://doi-org.proxy.lib.umich.edu/10.1093/geronb/gbs055>
- Office for National Statistics. (2017, March 16). *Billion pound loss in volunteering effort*. https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworking/hours/articles/billionpoundlossinvolunteeringeffort/2017-03-16#footnote_3
- Olivoto, T., de Souza, V. Q., Nardino, M., Carvalho, I. R., Ferrari, M., de Pelegrin, A. J., ... & Schmidt, D. (2017). Multicollinearity in path analysis: a simple method to reduce its effects. *Agronomy journal*, 109(1), 131-142. <https://doi-org.proxy.lib.umich.edu/10.2134/agronj2016.04.0196>

- Oswald, P. A. (1996). The effects of cognitive and affective perspective taking on empathic concern and altruistic helping. *The Journal of social psychology, 136*(5), 613-623.
<https://doi.org/10.1080/00224545.1996.9714045>
- Otoni-Wilhelm, M. , & Bekkers, R. (2010). Helping behavior, dispositional empathic concern, and the principle of care. *Social psychology quarterly, 73*(1), 11-32.
<https://doi.org/10.1177/0190272510361435>
- Oyserman, D., Coon, H. M., & Kemmelmeier, M. (2002). Rethinking individualism and collectivism: evaluation of theoretical assumptions and meta-analyses. *Psychological bulletin, 128*(1), 3-72. <https://doi.org/10.1037/0033-2909.128.1.3>
- Padilla-Walker, L. M., & Christensen, K. J. (2011). Empathy and self-regulation as mediators between parenting and adolescents' prosocial behavior toward strangers, friends, and family. *Journal of Research on Adolescence, 21*(3), 545-551. <https://doi-org.proxy.lib.umich.edu/10.1111/j.1532-7795.2010.00695.x>
- Padilla-Walker, L. M., & Carlo, G. (2014). The study of prosocial behavior. In L. Padilla-Walker & G. Carlo (Eds). *Prosocial development: A multidimensional approach* (pp. 3-16). Oxford University Press.
- Padilla-Walker, L. M., Carlo, G., & Memmott-Elison, M. K. (2018). Longitudinal change in adolescents' prosocial behavior toward strangers, friends, and family. *Journal of Research on Adolescence, 28*(3), 698-710. <https://doi-org.proxy.lib.umich.edu/10.1111/jora.12362>
- Padilla-Walker, L. M., Coyne, S. M., Collier, K. M., & Nielson, M. G. (2015). Longitudinal relations between prosocial television content and adolescents' prosocial and aggressive

- behavior: The mediating role of empathic concern and self-regulation. *Developmental psychology*, 51(9), 1317-1328. <https://doi.org/10.1037/a0039488>
- Padilla-Walker, L. M., & Fraser, A. M. (2014). How much is it going to cost me? Bidirectional relations between adolescents' moral personality and prosocial behavior. *Journal of adolescence*, 37(7), 993-1001. <https://doi.org/10.1016/j.adolescence.2014.07.008>
- Padilla-Walker, L. M., Memmott-Elison, M. K., & Nielson, M. G. (2018). Longitudinal change in high-cost prosocial behaviors of defending and including during the transition to adulthood. *Journal of Youth and Adolescence*, 47, 1853-1865. <https://doi.org/10.1007/s10964-018-0875-9>
- Padilla-Walker, L. M., Millett, M. A., & Memmott-Elison, M. K. (2020). Can helping others strengthen teens? Character strengths as mediators between prosocial behavior and adolescents' internalizing symptoms. *Journal of adolescence*, 79, 70-80. <https://doi.org/10.1016/j.adolescence.2020.01.001>
- Padilla-Walker, L. M., Van der Graaff, J., Workman, K., Carlo, G., Branje, S., Carrizales, A., ... & Žukauskienė, R. (2022). Emerging adults' cultural values, prosocial behaviors, and mental health in 14 countries during the COVID-19 pandemic. *International Journal of Behavioral Development*, 46(4), 286-296. <https://doi.org/10.1177/01650254221084098>
- Palmore, E. B., & Manton, K. (1974). Modernization and status of the aged: International correlations. *Journal of Gerontology*, 29(2), 205-210. <https://doi-org.proxy.lib.umich.edu/10.1093/geronj/29.2.205>

- Pang, Y., Song, C., & Ma, C. (2022). Effect of different types of empathy on prosocial behavior: Gratitude as mediator. *Frontiers in psychology, 13*, 768827.
<https://doi.org/10.3389/fpsyg.2022.768827>
- Paradies, Y., Ben, J., Denson, N., Elias, A., Priest, N., Pieterse, A., ... & Gee, G. (2015). Racism as a determinant of health: a systematic review and meta-analysis. *PloS one, 10*(9), e0138511. <https://doi.org/10.1371/journal.pone.0138511>
- Paulus, M. (2014). The emergence of prosocial behavior: Why do infants and toddlers help, comfort, and share? *Child Development Perspectives, 8*(2), 77-81.
<https://doi.org/10.1111/cdep.12066>
- Penner, L. A., Dovidio, J. F., Piliavin, J. A., & Schroeder, D. A. (2005). Prosocial behavior: multilevel perspectives. *Annual Review of Psychology, 56*, 365-392.
<https://doi.org/10.1146/annurev.psych.56.091103.070141>
- Penner, L. A., Fritzsche, B. A., Craiger, J. P., & Freifeld, T. R. (1995). Measuring the prosocial personality. In J. Butcher & CD Spielberger.(Ed.), *Advances in personality assessment*, 10, 147-164.
- Peterson, C., & Seligman, M. E. (2004). *Character strengths and virtues: A handbook and classification* (Vol. 1). Oxford university press.
- Pew Research Center. (2007, February 22). *Americans and Social Trust: Who, where and why*. Pew Research Center's Social & Demographic Trends Project.
<https://www.pewresearch.org/social-trends/2007/02/22/americans-and-social-trust-who-where-and-why/>

Pew Research Center (2015, December 9). The American Middle Class Is Losing Ground. Pew Research Center's Social & Demographic Trends Project.

<https://www.pewresearch.org/social-trends/2015/12/09/the-american-middle-class-is-losing-ground/>

Piff, P. K., Kraus, M. W., Côté, S., Cheng, B. H., & Keltner, D. (2010). Having less, giving more: the influence of social class on prosocial behavior. *Journal of personality and social psychology*, *99*(5), 771-784. <https://doi.org/10.1037/a0020092>

Piff, P. K., & Robinson, A. R. (2017). Social class and prosocial behavior: Current evidence, caveats, and questions. *Current opinion in psychology*, *18*, 6-10. <https://doi.org/10.1016/j.copsyc.2017.06.003>

Piff, P. K., Stancato, D. M., Côté, S., Mendoza-Denton, R., & Keltner, D. (2012). Higher social class predicts increased unethical behavior. *Proceedings of the National Academy of Sciences*, *109*(11), 4086-4091. <https://doi.org/10.1073/pnas.1118373109>

Piliavin, J. A., & Callero, P. L. (1991). *Giving blood: the development of an altruistic identity*. Johns Hopkins University Press.

Priest, N., Perry, R., Ferdinand, A., Paradies, Y., & Kelaher, M. (2014). Experiences of racism, racial/ethnic attitudes, motivated fairness and mental health outcomes among primary and secondary school students. *Journal of youth and adolescence*, *43*, 1672-1687. <https://doi.org/10.1007/s10964-014-0140-9>

Rainie, L., Keeter, S., & Perrin, A. (2019, July 22). Trust and distrust in America. Pew Research Center - U.S. Politics & Policy. <https://www.pewresearch.org/politics/2019/07/22/trust-and-distrust-in-america/>

- Raposa, E. B., Laws, H. B., & Ansell, E. B. (2016). Prosocial behavior mitigates the negative effects of stress in everyday life. *Clinical Psychological Science, 4*(4), 691-698.
<https://doi.org/10.1177/2167702615611073>
- Reizer, A., Galperin, B. L., & Koslowsky, M. (2020). Is prosocial behavior always good for the workplace? On the direction and strength of the relationship between prosocial behaviors and workplace outcomes. *Frontiers in Psychology, 11*
<https://doi.org/10.3389/fpsyg.2020.01886>
- Riley, T. N., DeLaney, E., Brown, D., Lozada, F. T., Williams, C. D., Dick, D. M., & Spit For Science Working Group. (2021). The associations between African American emerging adults' racial discrimination and civic engagement via emotion regulation. *Cultural Diversity and Ethnic Minority Psychology, 27*(2), 169-175.
<https://doi.org/10.1037/cdp0000335>
- Roberts, J. R., & Maxfield, M. (2019). Mortality salience and age effects on charitable donations. *American Behavioral Scientist, 63*(14), 1863–1884. <https://doi.org/10.1177/0002764219850864>
- Robinson, R. V., & Jackson, E. F. (2001). Is trust in others declining in America? An age–period–cohort analysis. *Social Science Research, 30*(1), 117-145.
<https://doi.org/10.1006/ssre.2000.0692>
- Rosen, J. B., Brand, M., & Kalbe, E. (2016). Empathy mediates the effects of age and sex on altruistic moral decision making. *Frontiers in Behavioral Neuroscience, 10*, 67.
<https://doi-org.proxy.lib.umich.edu/10.3389/fnbeh.2016.00067>

- Rosenberg, M. (1965). *Rosenberg self-esteem scale*. American Psychological Association PsycTests. <https://doi.org/10.3389/fpsyg.2017.02119>
- Rotenberg, K. J. (2010). The conceptualization of interpersonal trust: A basis, domain, and target framework. *Interpersonal trust during childhood and adolescence*, 8-27. <https://doi.org/10.1017/cbo9780511750946.002>
- Roth-Hanania, R., Davidov, M., & Zahn-Waxler, C. (2011). Empathy development from 8 to 16 months: Early signs of concern for others. *Infant Behavior and Development*, 34(3), 447-458. <https://doi.org/10.1016/j.infbeh.2011.04.007>
- Rubin, J. (2023, February 16). *We are suffering from an empathy gap, but we can fix it*. The Washington Post. <https://www.washingtonpost.com/opinions/2023/02/15/empathy-gap-fix/>
- Ruiz, N. G., Horowitz, J., & Tamir, C. (2020, July 1). Many black and Asian Americans say they have experienced discrimination amid the COVID-19 outbreak. Pew Research Center's Social & Demographic Trends Project. <https://www.pewresearch.org/social-trends/2020/07/01/many-black-and-asian-americans-say-they-have-experienced-discrimination-amid-the-covid-19-outbreak/>
- Schmukle, S. C., Korndörfer, M., & Egloff, B. (2019). No evidence that economic inequality moderates the effect of income on generosity. *Proceedings of the National Academy of Sciences*, 116(20), 9790-9795. <https://doi.org/10.1073/pnas.1807942116>
- Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. In *Advances in experimental social psychology* (Vol. 25, pp. 1-65). Academic Press. [https://doi.org/10.1016/S0065-2601\(08\)60281-6](https://doi.org/10.1016/S0065-2601(08)60281-6)

- Shi, R., Qi, W. G., Ding, Y., Liu, C., & Shen, W. (2020). Under what circumstances is helping an impulse? Emergency and prosocial traits affect intuitive prosocial behavior. *Personality and Individual Differences, 159*, 109828. <https://doi.org/10.1016/j.paid.2020.109828>
- Silver, I., Kelly, B. A., & Small, D. A. (2021). Selfless first movers and self-interested followers: Order of entry signals purity of motive in pursuit of the greater good. *Journal of Consumer Psychology, 31*(3), 501-517. <https://doi.org/10.1002/jcpy.1228>
- Smeeding, T. M. (2005). Public policy, economic inequality, and poverty: The United States in comparative perspective. *Social Science Quarterly, 86*, 955-983. <https://doi.org/10.1111/j.0038-4941.2005.00331.x>
- Smith, S. S. (2010). Race and trust. *Annual review of sociology, 36*, 453-475. <https://doi-org.proxy.lib.umich.edu/10.1146/annurev.soc.012809.102526>
- Smith, L. M., Harwell, L. C., Summers, J. K., Smith, H. M., Wade, C. M., Straub, K. R., & Case, J. L. (2014). A US Human Well-being Index (HWBI) for multiple scales: linking service provisioning to human well-being endpoints (2000–2010). *EPA/600/R-14/223*.
- Stamos, A., Lange, F., Huang, S. C., & Dewitte, S. (2020). Having less, giving more? Two preregistered replications of the relationship between social class and prosocial behavior. *Journal of Research in Personality, 84*, 103902. <https://doi.org/10.1016/j.jrp.2019.103902>
- Stavrova, O., & Ehlebracht, D. (2015). A longitudinal analysis of romantic relationship formation: The effect of prosocial behavior. *Social Psychological and Personality Science, 6*(5), 521-527. <https://doi.org/10.1177/1948550614568867>

- Staub, E. (2005). The Roots of Goodness: The Fulfillment of Basic Human Needs and the Development of Caring, Helping and Nonaggression, Inclusive Caring, Moral Courage, Active Bystandership, and Altruism Born of Suffering. In G. Carlo & C. P. Edwards (Eds.), *Moral motivation through the life span* (pp. 33–72). University of Nebraska Press.
- Staub, E., & Vollhardt, J. (2008). Altruism born of suffering: The roots of caring and helping after victimization and other trauma. *American Journal of Orthopsychiatry*, 78(3), 267-280. <https://doi.org/10.1037/a0014223>
- Stets, J. E., & Fares, P. (2019). The effects of race/ethnicity and racial/ethnic identification on general trust. *Social Science Research*, 80, 1-14. <https://doi.org/10.1016/j.ssresearch.2019.02.001>
- Streiner, D. L. (2003a). Starting at the beginning: an introduction to coefficient alpha and internal consistency. *Journal of personality assessment*, 80(1), 99-103. https://doi.org/10.1207/S15327752JPA8001_18
- Streiner, D. L. (2003b). Being inconsistent about consistency: When coefficient alpha does and doesn't matter. *Journal of personality assessment*, 80(3), 217-222. https://doi.org/10.1207/S15327752JPA8003_01
- Streit, C., Carlo, G., & Killoren, S. E. (2020). Ethnic socialization, identity, and values associated with U.S. Latino/a young adults' prosocial behaviors. *Cultural Diversity and Ethnic Minority Psychology*, 26(1), 102–111. <https://doi.org/10.1037/cdp0000280>
- Sturgis, P., & Smith, P. (2010). Assessing the validity of generalized trust questions: What kind of trust are we measuring?. *International journal of public opinion research*, 22(1), 74-92. <https://doi-org.proxy.lib.umich.edu/10.1093/ijpor/edq003>

- Svetlova, M., Nichols, S. R., & Brownell, C. A. (2010). Toddlers' prosocial behavior: From instrumental to empathic to altruistic helping. *Child development, 81*(6), 1814-1827. <https://doi.org/10.1111/j.1467-8624.2010.01512.x>
- Sze, J. A., Gyurak, A., Goodkind, M. S., & Levenson, R. W. (2012). Greater emotional empathy and prosocial behavior in late life. *Emotion, 12*(5), 1129–1140. <https://doi.org/10.1037/a0025011>
- Tekin, S., Sager, M., Bushey, A., Deng, Y., & Uluğ, Ö. M. (2021). How do people support each other in emergencies? A qualitative exploration of altruistic and prosocial behaviours during the COVID-19 pandemic. *Analyses of Social Issues and Public Policy, 21*(1), 1113-1140. <https://doi.org/10.1111/asap.12277>
- Thalmayer, A. G., Toscanelli, C., & Arnett, J. J. (2021). The neglected 95% revisited: Is American psychology becoming less American? *American Psychologist, 76*(1), 116–129. <https://doi.org/10.1037/amp0000622>
- Trawalter, S., & Hoffman, K. M. (2015). Got pain? Racial bias in perceptions of pain. *Social and Personality Psychology Compass, 9*(3), 146-157. <https://doi.org/10.1111/spc3.12161>
- Triandis, H. C. (2001). Individualism-collectivism and personality. *Journal of personality, 69*(6), 907-924. <https://doi.org/10.1111/1467-6494.696169>
- Tucker, W. T., & Ferson, S. (2008). Evolved altruism, strong reciprocity, and perception of risk. *Annals of the New York Academy of Sciences, 1128*(1), 111-120. <https://doi-org.proxy.lib.umich.edu/10.1196/annals.1399.012>

- Van der Graaff, J., Branje, S., De Wied, M., Hawk, S., Van Lier, P., & Meeus, W. (2014). Perspective taking and empathic concern in adolescence: Gender differences in developmental changes. *Developmental Psychology, 50*(3), 881–888. <https://doi.org/10.1037/a0034325>
- Van der Graaff, J., Carlo, G., Crocetti, E., Koot, H. M., & Branje, S. (2018). Prosocial behavior in adolescence: Gender differences in development and links with empathy. *Journal of youth and adolescence, 47*(5), 1086-1099. <https://doi.org/10.1007/s10964-017-0786-1>
- Vaske, J. J., Beaman, J., & Sponarski, C. C. (2017). Rethinking internal consistency in Cronbach's alpha. *Leisure sciences, 39*(2), 163-173. <https://doi.org.proxy.lib.umich.edu/10.1080/01490400.2015.1127189>
- Vollhardt, J. R., & Staub, E. (2011). Inclusive altruism born of suffering: the relationship between adversity and prosocial attitudes and behavior toward disadvantaged outgroups. *American Journal of Orthopsychiatry, 81*(3), 307-315. <https://doi.org/10.1111/j.1939-0025.2011.01099.x>.
- Wang, L., & Graddy, E. (2008). Social capital, volunteering, and charitable giving. *Voluntas: International Journal of Voluntary and Nonprofit Organizations, 19*, 23-42. <https://doi.org/10.1007/s11266-008-9055-y>
- Wang, L., & Murnighan, J. K. (2014). Money, emotions, and ethics across individuals and countries. *Journal of Business Ethics, 125*, 163-176. <https://doi.org/10.1007/s10551-013-1914-9>
- Wang, Y., Yang, C., Zhang, Y., & Hu, X. (2021). Socioeconomic status and prosocial behavior: The mediating roles of community identity and perceived control. *International journal*

of environmental research and public health, 18(19), 10308.

<https://doi.org/10.3390/ijerph181910308>

Wilkes, R., & Wu, C. (2019). Immigration, discrimination, and trust: A simply complex relationship. *Frontiers in Sociology*, 4, 32. <https://doi-org.proxy.lib.umich.edu/10.3389/fsoc.2019.00032>

Willer, R., Wimer, C., & Owens, L. A. (2015). What drives the gender gap in charitable giving? Lower empathy leads men to give less to poverty relief. *Social science research*, 52, 83-98. <https://doi.org/10.1016/j.ssresearch.2014.12.014>

Williams, A., O'Driscoll, K., & Moore, C. (2014). The influence of empathic concern on prosocial behavior in children. *Frontiers in psychology*, 5, 425. <https://doi.org/10.3389/fpsyg.2014.00425>

Williamson, I., Wildbur, D., Bell, K., Tanner, J., & Matthews, H. (2018). Benefits to university students through volunteering in a health context: A new model. *British Journal of Educational Studies*, 66(3), 383-402. <https://doi.org/10.3389/fmed.2022.797153>

Woodruff, J., & Carlson, F. (2023, March 10). *Examining how U.S. politics became intertwined with personal identity*. WOUB Public Media. <https://woub.org/2023/03/09/u-s-politics-personal-identity/>

Wu, X., Wang, X., Xu, Q., & Jin, L. (2022). How the perceived cost of prosocial action inspires observers to contribute. *European Journal of Social Psychology*, 52(1), 191-203. <https://doi.org/10.1002/ejsp.2824>

Xiao, S. X., Hashi, E. C., Korous, K. M., & Eisenberg, N. (2019). Gender differences across multiple types of prosocial behavior in adolescence: A meta-analysis of the prosocial tendency measure-revised (PTM-R). *Journal of Adolescence*, *77*, 41-58.

<https://doi.org/10.1016/j.adolescence.2019.09.003>

Yuan, M., Wu, J., & Kou, Y. (2018). Donors' social class and their prosocial reputation: Perceived authentic motivation as an underlying mechanism. *Social Psychology*, *49*(4), 205-218

<https://doi.org/10.1027/1864-9335/a000342>

Zhao, C., White, R. M., & Roche, K. M. (2022). Familism values, family assistance, and prosocial behaviors among US Latinx adolescents. *The Journal of Early Adolescence*, *42*(7), 914-936.

<https://doi.org/10.1177/0272431622107883>

Zhou, J., Prinzing, M. M., Le Nguyen, K. D., West, T. N., & Fredrickson, B. L. (2022). The goods in everyday love: Positivity resonance builds prosociality. *Emotion*, *22*(1), 30–45.

<https://doi-org.proxy.lib.umich.edu/10.1037/emo0001035>