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Categorical Differences: Social Identity Heuristics Predict Differences in Cognitive Empathy

Corey Ronald Sims
Walden University

Walden University

College of Psychology and Community Services

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Corey R. Sims

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the review committee have been made.

Review Committee
Dr. Jody Dill, Committee Chairperson, Psychology Faculty
Dr. Marlon Sukal, Committee Member, Psychology Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

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2024

Abstract

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Dissertation Submitted in Partial Fulfillment

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Abstract

The current study aimed to identify if there was a relationship between cross-ethnic racial identity and cognitive empathy for others and whether social and personal identities mediated this effect. Self-categorization theory was used as the theoretical framework. In this study, it was hypothesized that cross-ethnic racial identity significantly predicts empathic accuracy, and that social and personal identities mediate this relationship. A non-experimental, researcher-designed survey was used to collect participant data and demographic characteristics. Participant inclusion criteria were an age between 18 and 55, U.S. citizenship, and a self-identification as Asian American, Black American, Hispanic American, or White American. The Cross-Ethnic Racial Identity Scale (CERIS), Social and Personal Identity Scale (SIPI), and Reading the Mind in the Eyes Test (RMET) were used to assess ethnic-racial identity, social and personal identity, and empathic accuracy. Linear regression and mediation analyses were employed to determine relationships between each variable. The findings showed that CERIS did not predict empathic accuracy and SIPI did not mediate the relationship between CERIS and RMET. However, the CERIS was found to be a significant positive predictor of the SIPI. Post-hoc analysis also determined that self-identification as Black American was a significant negative predictor of the RMET and a significant positive predictor of the SIPI. Conversely, self-identification as White American was a significant positive predictor of the RMET and a significant negative predictor of the SIPI. This study enhances positive social change through understanding how group heuristics and racial dynamics influence the perceptions of the inner mental states of others.

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Dedication

"Success is to be measured not so much by the position that one has reached in life as by the obstacles which he has overcome while trying to succeed."

-Booker T Washington

I dedicate this dissertation to my friends and family who supported me throughout this academic journey. To Will, who instilled a love for writing in me at an early age, one who continues to astound me with his countless accolades in film and media, and who is and always will be my role model, thank you Dad. To Lisa, who showed me how to love unconditionally and support selflessly those who are in need, thank you Mom for being there every step of this journey and believing in me when my own self-doubt threatened progress. To Kristin, for setting the bar extremely high throughout our academic careers, for being a voice of reason during uncertain times, and for being the best "little big sister" throughout my life.

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Chapter 1: Introduction to the Study

As social beings, people rely on interpersonal relationships to gain an array of psychological benefits. Interpersonal relationships are described as those where a reciprocal interaction of both social and emotional dynamics takes place (American Psychological Association, 2024). Dispositional characteristics, situational factors, and social pressures can each contribute to the strength or weakness of an interpersonal relationship in unique ways.

The socially constructed concept of race, which assigns individuals to specific social categories based on phenotypical or behavioral differences, can impact the ways humans relate to one another (Richeson & Sommers, 2016). Racial discrimination in social decision-making is well documented throughout society in arenas spanning from the courtroom to the medical field (Anwar et. al., 2012). Furthermore, research has indicated racial ingroup bias in empathy (RIBE) is of particular concern because it focuses on how these socially constructed categories influence prosocial behaviors (Han, 2018).

In this chapter, I offer a brief commentary on the research topic, with a more in-depth analysis of the literature review in the following chapter. Additionally, the chapter contains the problem statement that justified this research study, an explanation of the purpose of the study, and the research questions and related hypotheses. The theoretical framework that guided this social psychological study and the nature of the study are included as well. I also provide a glossary of relevant terms, the relevant assumptions for the current study, scope, limitations, and delimitations.

Background

Understanding the thoughts and feelings of others is an essential component of interpersonal relationships. Sened et al. (2017) noted that deriving inferences about the inner states of others can lead to improved relationship satisfaction. The social psychological construct of empathic accuracy, also referred to as cognitive empathy, describes the extent to which individuals perceive the thoughts, feelings, and inner mental state of others accurately (Ickes & Hodges, 2013). Research has indicated that empathic accuracy can lead to improvements in various areas of interpersonal relationships, including psychological adjustments, conflict resolution, and relationship satisfaction between romantic partners (Sened et. al., 2017).

The placement of individuals into categories based on perceived differences is fundamental to human cognition (Bodenhausen et. al., 2012). The process allows the mind to organize and structure knowledge in a way that brings order and coherence to stimuli in the natural world. The formation of distinct categories of people, events, animals, and objects allows a perceiver to navigate the world in a much easier way. Furthermore, it allows individuals to create more details about specific differences between entities within the same group to gain more information. Fiske and Taylor (2016) reported that this fundamental process of cognition allows perceivers to also draw upon previous encounters with the target perceived to gain new inferences about newly encountered individuals.

Hwang (2020) identified the presence of neural correlates responsible for social bias and prejudice in infants ranging from 7 to 12 months. The organization of specific social networks within the brain leads

to specific behavioral and cognitive consequences. Psychologists have noted that familiar faces can lead to the recruitment of neural pathways associated with mental states, attitudes, and affective processing (Weaverdyck & Parkinson, 2018). The identification of increased neural responses in implicit biases situates this as a precipitating factor; however, the social decision-making that occurs as a result perpetuates discrimination in a multitude of systems (Anwar, 2012). Cognitive empathy is grounded in neurological representations of shared experiences. Decety and Ickes (2009) determined that individuals produce "self-bias" as they recognize similarities between themselves and others. Through this perception, an individual may or may not experience an empathic response when exposed to social stimuli. A multitude of factors relevant to the individual's sense of self can influence how accurate one's empathy is for others.

Problem Statement

The issue that prompted me to conduct this study is how the race and culture of an individual can impact their perceptions in interpersonal relationships. Social psychological literature notes that one's ethnic-racial identity (ERI) develops across their lifespan (Williams et. al., 2020). This development is based upon the recognition of specific milestones within cognitive-developmental theories (Piaget & Inhelder, 1973), the theory of psychosocial development coined by Erik Erikson (1968), and social identity/self-categorization theory (Tajfel & Turner, 1986). The development of one's ERI is based on specific cognitive milestones, pressures from their social environment, and the overall content of the ERI concerning their cultural orientation.

Previous studies have identified that empathy is more readily experienced by individuals who are within one's perceived ingroup as opposed to members of an outgroup (Tarrant et al., 2009). Empathy is intrinsically linked to altruistic behaviors and can be modulated through the intergroup relationships between perceivers and targets (Han, 2018). Therefore, improvements in empathic accuracy can be achieved through improvements in intergroup relationships between socially constructed ingroups and outgroups. The above considerations led me to investigate how the identification with one's ERI impacts their cognitive empathy abilities when identifying other members of society.

Purpose of the Study

The purpose of this quantitative study was to examine differences in cognitive empathy among adults with a core racial identity. A tendency to consider their identity as part of a group or from a more individualistic perspective was also considered. The dependent/outcome variable for the study was cognitive empathy, as measured by the Reading the Mind in the Eyes Test (RMET). The independent/predictor variables for the study were ethnic-racial attitudes. as measured by the Cross Ethnic-Racial Identity Scale (CERIS), and the extent to which social or personal qualities are a core part of an individual's identity, as measured by the Social and Personal Identities Scale (SIPI). I conducted mediation analysis to determine whether the effect of the CERIS on cognitive empathy can be meditated by the SIPI.

Research Questions and Hypotheses

The following research questions and corresponding hypotheses guided the current study. In Chapter 3, I will provide a more in-depth discussion of each of the hypotheses as well as the statistical techniques selected to address each question.

RQ1: Is the CERIS a significant predictor of cognitive empathy as measured by the RMET?

$H_0$1: The CERIS is not a significant positive predictor of cognitive empathy.

H_a1: The CERIS is a significant positive predictor of cognitive empathy.

RQ2: Is the SIPI a significant predictor of cognitive empathy as measured by the RMET?

$H_0$2: The SIPI is not a significant positive predictor of cognitive empathy.

H_a2: The SIPI is a significant positive predictor of cognitive empathy.

RQ3: Does the SIPI mediate the predictive effect between the CERIS and the RMET?

$H_0$3: The SIPI does not mediate the predictive effect of CERIS on cognitive empathy.

H_a3: The SIPI mediates the predictive effect of CERIS on cognitive empathy.

Theoretical Framework for the Study

The theory that grounded this study was Turner's (1987) self-categorization theory (SCT). Turner proposed the SCT to explain how categorizing oneself through a cognitive process can lead to various behaviors that are associated with the social category. The affiliations provide an individual with a sense of identity and can influence their social decision-making. The theory holds that the categorization of the self relies upon both accessibility and fit (Oakes et al., 1991). The perceived fit describes how well the social

categories are indicative of real-world differences in social reality (Hornsey, 2008). The comparative fit of an individual is understood as the maximization of perceived intercategory differences and the minimization of intracategory differences (Hogg & Terry, 2000). Within the SCT, the dynamic process varies according to context, yet it is defined by the perceptions of an individual.

The likelihood of a category distinction increases when the group membership or behaviors of an individual are aligned with stereotypes (Voci, 2006). This process is known as normative fit and can become influenced through sparing or frequent exposure (Hornsey, 2008). Turner (1987) identified three key factors that determine accessibility to create social categories:

- The extent to which an individual's self-definition is associated with the ingroup-outgroup distinction.
- Previous experiences of the individual when using the categorization effectively.
- The current motivation, goals, needs, and motivations of the perceiver.

Nature of the Study

To address the research questions in this quantitative study, the specific research design included a correlation to determine the relationships between each of the predictor variables and cognitive empathy. I also employed a multiple regression design (Warner, 2012) to measure the predictor variables based on the CERIS and SIPI. Mediation was also be used to determine if the SIPI can explain the relationship between the CERIS and cognitive empathy. Participants completed the RMET to understand the mental state of

others, which was the outcome variable of interest. I conducted this quantitative analysis to help pinpoint the variance in cognitive empathy.

I received approval from the Walden University Institutional Review Board (IRB) to gather primary data from at least 107 adults over the age of 18 related to the cognitive empathy. Data collection took place using a survey consisting of 16 questions from the CERIS, 16 questions from the SIPI, and 36 questions from the RMET. All participants completed a consent form at the beginning of the survey. The data were deidentified and contained the scores from each of the participants.

Definitions

Cognitive empathy: The ability of one to understand the inner emotional and mental state of another (Spaulding, 2017).

ERI: The cognitions and affects an individual holds about their race and ethnicity, and how these attitudes are developed across their lifespan (Umana-Taylor et. al., 2014).

Ethnicity: The cultural values, traditions, and belief systems an individual uses to connect themselves to their heritage, nationality, or family (Umana-Taylor et. al., 2014).

Mediation analysis: A statistical technique that is used to explain a relationship between one independent variable (X) and one dependent variable (Y) through a third mediating variable (M). The mediating variable can be represented as X→M→Y (MacKinnon et al., 2012).

Multiple regression: A statistical technique utilized in the social sciences to examine a linear relationship between two or more independent variables and a single continuous dependent variable (American Psychological Association, n.d.)

Race: The social categorization of an individual based on the appearance of their skin color (Umana-Taylor et. al., 2014).

Assumptions

In the current study, I assumed that each participant responded to the survey questions with an honest interpretation of their attitudes. This assumption was important because the study variables were related to the participants' understanding of their identities and their ability to understand the affective states of other faces. Another assumption was that all participants were neurotypical adults with the cognitive capacity to read, understand, and respond to each question accordingly.

Scope and Delimitations

The current quantitative study was limited to using data from participants residing in the United States. Participants who met the criteria of being an adult over the age of 18 and having an ERI belonging to White American, Black American, Asian American, or Latinx American were eligible for participation in this study. External validity was also limited for the current study because all participants were recruited through convenience sampling techniques. Additionally, I only obtained data from those who freely agreed to participate in the study. All participants completed three self-report measures (i.e., the CERIS-A, SIPI, and RMET) and a demographic form.

The theoretical foundation of this study was based on the SCT related to self-identification in social settings. A delimitation of this study was the inclusion of White, Black, Latinx, and Asian racial categories because these are the four groups with the highest prevalence in the United States (U.S. Census Bureau, 2020). Those who identified with any combination of these categories were not assessed in the current study.

Limitations

A possible barrier to collecting survey data is the difficulty in the recruitment of participants. Additionally, this quantitative study involved the correlational analysis of two separate independent variables with one dependent variable. The introduction of one possible mediating variable was utilized; however, experimental analysis was not undertaken to determine cause-and-effect relationships.

Significance

This study is significant in that it contributes information about the relationships between the centrality of an individual's core racial identity and cognitive empathy. The study provides details about the strength of these relationships that can be used for educational purposes and the training of individuals who work with diverse populations. The study also contributes valuable knowledge about how the perceived racial categories of adults influence their abilities to infer the mental states of other members of society and how the propensity to categorize oneself influences their ability to accurately perceive the inner states of others.

Summary

In Chapter 1, I introduced the topic chosen for the current study and provided a background on the previous scholarly literature and the psychological processes present in the categorization of one's identity. The theoretical foundation of the study aligned with this identification. I also provided an overview of the methodology used to investigate how cognitive empathy may be influenced by one's tendency to favor their own racial identity as well as either placing their identity in the context of a group or with more of an individualistic perspective. In Chapter 2, I will provide a more comprehensive consideration of the extant literature related to this topic.

Chapter 2: Literature Review

To understand how an individual can develop a better perception of another's mental state, it must first be recognized how the mind creates a separation between the self and others. The volume of information taken in by the average human being far outweighs the amount of information they can selectively process; therefore, humans are forced to develop cognitive frameworks that help us process information (Neisser, 1976). These cognitive frameworks are understood in psychology to be schemas (Markus, 1977). Schemas are like blueprints encoded in human's minds that are created from their previous experiences. When these schemas apply to how humans view themselves, in terms of their personal qualities and behaviors, they are defined as self-schemas (Fiske & Taylor, 2017). These types of schemas are fluid and are subject to change over time.

In this literature review, I examine how the placement of the self in a perceived racial category impacts the ability to accurately understand the viewpoints of others. Specifically, I expand on previous understandings of how perceiver race and target race interact, how the use of mental shortcuts influences social decision-making, and how the categorization of the self between ingroups and outgroups influences empathic accuracy. Eckland and English (2019) found increased cognitive empathy when judging ingroup targets for White perceivers but not for non-White perceivers. However, their study was insufficient in identifying how additional factors, such as cultural values, perceived similarity, and the amount of intergroup contact, may or may not influence empathic accuracy.

To fill this gap in existing knowledge, I focused on how the centrality of race to one's identity, the tendency to form one's identity based on either social aspects or personal aspects, and how the ethnic-racial attitudes an individual holds towards other people impact their empathic accuracy. The use of SCT to analyze these factors is also discussed in detail in this literature review.

Literature Search Strategy

I used multiple combinations of search terms to locate current and past literature on cognitive empathy, ERI, and self-categorization. These terms were *empathy, cognitive empathy, social cognition, ingroup/outgroup, self-categorization theory, SAGE Knowledge, EBSCO Host, cognitive neuroscience, cultural bias, racial bias, Google Scholar, ScienceDirect, Journal of Personality and Social Psychology, mirror neuron system,* and *neuropsychology*. I searched several scientific databases and search engines available through the Walden University Library, including PsycINFO, EBSCO Host, SAGE Knowledge, Google Scholar, and ProQuest. Most of the scientific resources recovered for the literature review utilized information from within the past 15 years (i.e., 2009–2024). Peer-reviewed journal articles comprised many sources used in the literature review; however, I also gleaned an understanding of the theoretical and conceptual foundations of the study from books written by scholars in the field and journal articles that were published more than 15 years ago.

Theoretical Foundation

A core tenet of SCT is that perceivers categorize themselves and others in the ingroup as equivalent and in contrast to others in an outgroup (Tajfel & Turner, 1986). The self is ultimately assimilated to the

point of depersonalization, which can lead to actions based on their social identity instead of their personal identity (Tajfel & Turner, 1986). The process can lead to positive outcomes, such as the adoption of shared cultural worldviews and prosocial behaviors (Hogg & Terry, 2000). Within the SCT framework, an individual cognitively represents themselves as a depersonalized, interchangeable representative of a larger group prototype; however, their attitudes, beliefs, affect, and behaviors can fluctuate based upon what it means to be a group member in each context (Hornsey, 2008).

The empathic responses of an individual are influenced by their perceived social reality (Hogg & Terry, 2000). The SCT allows researchers to investigate empathy through a lens of self-definition and social decision-making. Previous social scientists found racial ingroup bias in perceiving pain (Avenanti et. al., 2010).

The SCT provided an ideal basis for narrowing the scope of the current study to improve empathic accuracy. Empathic accuracy refers to how accurate an individual is in inferring the inner mental states of another individual. (Ickes, 1997). These inferences can be analyzed through specific socially constructed categories through the lens of SCT. As noted previously, the socially constructed category of race is known to influence an array of social decision-making behaviors and is one of the most common avenues for implicit bias to occur (Hunt, 2015). The social cognitive nature of the empathic accuracy process between ingroups and outgroups lends itself to analysis through the SCT framework.

Conceptual Framework

The understanding that human's social reality is a construction is foundational to psychological research and investigation. Social scientists generally accept that when an individual is met with some level of information or stimuli, they must then construct some degree of understanding from the source to perceive it (Neisser, 1976). This stems from the fact that the information or stimuli have no degree of meaning in and of themselves; rather, the meaning is applied by the perceiver of the stimulus after it has been interpreted by them (Neisser, 1976). Once this process has taken place, the perceiver can understand the information based on their level of higher cognitive processing ability. This intermediate phase is where a plethora of psychological inquiries can be found. Social scientists may concern themselves with how the information is categorized, how the individual is persuaded or motivated to choose one option or another, and what conscious or unconscious systems are at play, to name a few.

Cognitive empathy is a psychological construct that describes the ability to accurately infer the internal state of another individual (Ickes, 1997). Cognitive empathy allows individuals to enhance their understanding of others, engage in positive social relationships, and enhance their emotional intelligence. Social psychologists have maintained that this process is imperative for interpersonal relationships and has been present within humanity throughout history (Ickes & Hodges, 2013). This building block of human interaction allows people to better understand human emotion, cognition, and behavior through accurately inferring the inner state of another (Decety & Ickes, 2009).

Biological Foundations of Cognitive Empathy

At its foundation, cognitive empathy is present at the biological level. The social scientist, Adam Smith (1809), noted that people often display motor mimicry when they imagine themselves in another's situation. This research led to the discovery of Theodor Lipps (1903) who found that conscious empathy is linked to instinctual motor mimicry when observing another person's affect. More recently, social psychophysiologists and neuroscientists alike have found that people tend to emulate the facial expressions of those they observe (Ickes, 2009). These discoveries of cognitive responses to facial affects and facial expression mimicry have been identified using functional magnetic resonance imagining and electromyography respectively.

The core circuitry for imitation and the limbic system have been implicated as mechanisms that support social mirroring and the ability to empathize with other individuals (Iacoboni, 2005). This network functions in a sequence of events where the perceiver's mirror neurons initiate the simulation of facial expressions of the target, which leads to the triggering of a particular limbic response, which triggers the perception of a particular emotion within the observer. Social scientists have noted that this large-scale network provides individuals with a simulation-based form of empathy (Goldman 2006, Goldman & Sripada, 2005).

Social Constructs and Cognitive Empathy

The neurological basis for imitation and mirroring of others as well as the empathic responses that follow can also be applied to the neuroscience of group membership. A litany of studies found that

individuals perceive the faces and actions of in- and outgroup members differently (Cunningham et al., 2004). Each study displayed how self-processing is deeply and intrinsically linked to ingroup processing. From a biological standpoint, the medial prefrontal cortex has been associated with evaluative decision-making by individuals when engaging in ingroup bias (Volz et al., 2009). Additional brain regions implicated are locations associated with episodic memory retrieval, which may be indicative of an interlinked network of personal identity and personal experiences (Cavanna & Trimble, 2006), and the tempo-parietal junction, which is associated with social cognitive reasoning and the ability to infer the contents of other mental states (Decety & Lamm, 2007).

The involvement of the above neurological networks suggests that the construction of social categories, like perceived in- and outgroups, have observable differences in the ways a person's mind functions. Stated another way, group membership has the capacity for modulating empathic experiences through increases in empathic accuracy for ingroup compared to outgroup members (Adams et al., 2009), ingroup favoritism (Volz et al., 2009), and the social categorization of the ingroup minus the outgroup (Volz et al., 2009).

The characteristics of both the target and the perceiver are important considerations for cognitive empathy. As discussed, the perception of an ingroup and outgroup dynamic impacts specific neurological processes, which, in turn, influences the possible elicitation of emotional responses. For targets, empathic accuracy can rely on observable characteristics, such as the perceptions of familiarity (Marangoni et al., 1995) and attractiveness (Ickes et al., 1990). These factors support the understanding that empathic

responses that follow this intuitive route can be the result of automatic experiences through imitation, mimicry, and emotional contagion.

However, previous studies also indicated that contextual factors could lead to empathic responses as well. Ma-Kellams and Blascovich (2013) found that relationship status can also lead to the experience of empathy towards outgroup members through a more systematic thought process. Cognitive engagement is crucial in understanding the mental states of others because it forces individuals to adjust their automatic, stereotypical views of perceptions of others (Ma-Kellams & Lerner, 2016). Overcoming the quick judgments of associating with the ingroup is a more laborious task, yet it can yield more beneficial results when attempting to understand the inner states of others. When perceivers experience cognitive capacity constraints, they are typically empathically inaccurate toward outgroup members (Avenanti et al., 2010).

ERI

Development of Racial Identity

Thorough research within the field related to the psychology of race has yielded a new conceptual framework for understanding how ERI develops from infancy through adulthood. Umana-Taylor et al. (2014) identified specific developmental milestones where an individual's ERI becomes more fully formed, noting that once an individual reaches young adulthood or emerging adulthood, they gain multiple cognitive abilities and ERI components that improve their interpersonal relatability. Abilities to note are greater cognitive flexibility, introspection, metacognition, deeper reflection for improved perspective-taking, collective self-verification, ideology, and transformation.

The development of an individual's racial identity is also based upon multiple ERI dimensions, including their ethnic-racial awareness, ethnic-racial affiliation, ethnic-racial behaviors, and ethnic-racial knowledge (Williams et al., 2020). Researchers have noted that ERI affiliation refers to an individual's sense of membership in or belonging to a specific ethnic or racial group (Williams et al., 2020). This process begins in early childhood and continues through adolescence. Once an individual reaches adulthood, their identity becomes more refined as they consider the real-world implications of their ERI, including political influences; dynamics within interracial relationships, including parenting; and the continuation of certain cultural practices to the next generation (Williams et. al., 2020). Placing oneself into a social category also places one in a dichotomous relationship with those who are not perceived to belong to the same group. This placement has a strong influence on how the self becomes depersonalized, and by default, becomes an interchangeable part of a larger group. This placement can lead to polarization and stereotyping both within the ingroup and towards the outgroup (Hogg & Turner, 1987). Additionally, as empathy is experienced as an other-focused emotion, the identification with one group over another can also lead to challenges in interpersonal relationships (Tarrant et al., 2009).

Social Cognition and Racial Bias

RIBE has been widely reported throughout both historical contexts of social behavior and in contemporary cultures (Bowers et. al., 2001). Although race itself is a socially constructed concept, the impacts of categorizing oneself and others into specific groups according to phenotypical differences can be physical. Previous studies noted that discriminative behaviors related to racial bias can be found in the

criminal justice system regarding the disproportionate convictions of Black defendants from all-White jury pools and significant increases in death penalty sentences of Black defendants from White male juries in "Black kills White" cases (Anwar et. al., 2012). Racial bias in social decision-making has also been noted in the medical field concerning the undertreatment of African Americans for prescriptions and medications for pain management (Todd et al., 1993).

RIBE may be a function of a negative attitude held toward members of a perceived outgroup (Han, 2018). These negative attitudes may be rooted in prejudices held towards outgroup members that occur implicitly, as indicated by the Implicit Association Test, or through explicit self-report measures (Gawronski & Bodenhausen, 2006). Additionally, the perceived closeness of the individual observed impacts the neural activity associated with mentalizing another individual's experience (Meyer et al., 2012). These cognitive mechanisms have the potential to be mediated by attitudes towards others as noted in racial ingroup bias. Although Gelfand et. al. (2012) noted that ingroup favoritism may arise because of cultural practices (i.e., collectivistic versus individualistic), RIBE is ubiquitous throughout society and can often be exacerbated through situational factors, such as cognitive overload. When individuals are placed under cognitive stress, as in time constraints or memorization exercises, implicit and automatic responses for empathy towards others become the norm (Morelli & Lieberman, 2013).

Literature Review Related to Key Variables

Self-Schemata in Social Cognition

The dynamic aspect of our self-schemata impacts the ways we judge and act upon information in the present. When an individual has experience in a particular environment, or with a certain group of people, they are more likely to be able to predict, or infer, how they would engage in a similar environment in the future (Markus, 1977). This is due to an understanding that they have both a schema for what they will encounter, as well as a self-schema for how they have interacted with that environment in their past. However, their self-schema can change if their future encounter differs from their encounters in the past. This allows the self to evolve throughout one's lifespan, which in turn, can lead to the development of a new version of self-schematic traits. However, the self-schema of an individual is limited to domains that they deem as important. This aspect causes the individual to visualize themselves in the interaction which links the self-schema to regions of the brain associated with motivational, affective, and automatic processing (Fiske & Taylor, 2017).

The placement of individuals into categories based on perceived differences is fundamental to human cognition (Bodenhausen et al., 2012). The process allows the mind to organize and structure knowledge in a way that brings order and coherence to stimuli in the natural world. The formation of distinct categories of people, events, animals, and objects allows a perceiver to navigate the world in a much easier way.

Furthermore, it allows individuals to create more details about specific differences between entities within the same group to gain more information. Fiske and Taylor (2016) pointed out that this fundamental process of cognition allows perceivers to also draw upon previous encounters with the target perceived to gain new inferences about newly encountered individuals.

Heuristics and Mental Shortcuts

Understanding how our minds help us to navigate the world around us is a focal point of cognitive science. For many researchers in the field of social cognition, this has led to a dedicated effort to studying the field of heuristics and how the mind works to create efficient mental shortcuts. These shortcuts are necessary when the individual is faced with a limited amount of time, when they are faced with a complex task, or when they have a limited amount of time to decide (Haselton, 2009). Heuristics allow humans to process their environment by relying on knowledge from previous encounters in their daily lives. Previous knowledge allows them to draw salient conclusions about the stimuli they encounter. Effectively, heuristics can be classified as a type of cognitive shortcut that allows an individual to arrive at a decision. Heuristics allow people to bypass laborious deliberations about stimuli they encounter by allowing them to rely on previous knowledge and experience.

One specific type of heuristic is known as representativeness. This type of heuristic is used to create educated guesses and shortcuts as they relate to probability (Fiske & Taylor, 2017, p. 189). For example, a representativeness heuristic could allow an individual to create an inference about the likelihood that one effect originated from one cause. Representativeness heuristics are based on the quality of the information

provided to make an inference. Without quality information, it may be difficult to make a reliable inference that effectively links the two. This characteristic contributes to the fallibility of the representativeness heuristic where an observed sequence of events is incorrectly inferred to represent a larger sample (Haselton, 2009, p. 753).

A solid foundation on which to build a representativeness heuristic is the base-rate information about the population of interest. Base-rate information relates to the generalized characteristics of the sample instead of focusing on the singular, anecdotal information about the sample (Fiske & Taylor, 2017, p. 203). The base-rate information is broad-based and typically more reliable while the anecdotal information is typically less valid and less reliable. This type of information focuses on gathering abstract information instead of focusing on colorful examples that look to fit a particular theory or bias.

Although heuristic information processing allows the human mind to create mental shortcuts to substantially decrease the amount of time spent on a particular activity, the human mind has a second approach that is equally as important. The systematic information processing approach relies on deep analysis, intense critical thinking, and extensive effort to conclude a particular object or stimuli (Chaiken & Ledgerwood, 2012). This type of approach requires time to decide whereas the heuristic approach allows the individual to rely on shortcuts to decrease the amount of time before acting.

The use of cognitive abilities is critical to the overall livelihood of human beings. Heuristic processing allows the mind to create quick conclusions and judgments that can be vital for their survival.

This type of informational processing has proven to be critical in the past as well as in the present. Stated another way,

> Heuristics are fast…and frugal…in their decision-making process…. these decision strategies can be seen as exquisitely adapted to problems present and past because simple decision strategies are often truly effective and by no means weak compromises that reveal limitations of the human mind. (Haselton, 2009, p.741).

This understanding underscores the necessity of heuristics processing within the human genome. The process has developed over thousands of years and persists today due to its rapidity and effectiveness in navigating the natural world. Although vital, heuristics can lead to negative interpersonal dynamics when they are rooted in oversimplifications and generalizations.

Elaborative Processes

The average human being is presented with a wealth of stimuli and information throughout their daily life. A plethora of choices, options, and decisions confront the individual's mind as they progress through the day, and each of these choices must be assessed for the individual to move forward in their daily activities. When the individual must select between one option against its' alternative, persuasion processes within the mind come into play. Social scientists have attempted to explain this persuasion process through a theoretical framework called the elaboration likelihood model. The elaboration likelihood model explains persuasive information can change the attitude of a person via one of two cognitive elaboration processes (Lin, Hwang, and Lai, 2017).

When the central route is utilized, the individual uses greater cognitive effort and attempts to understand the stimuli through critical analysis of its merits (Fiske & Taylor, 2017). An individual will be persuaded to select the option based primarily on the strength of the message itself (LoShiavo, 2018). Alternatively, the peripheral route of persuasion is associated with less cognitive effort (Lin et al., 2017). An individual utilizing this route will rely on the perception of the credibility of the source or another superficial cue related to the message (LoShiavo, 2017). Additionally, social scientists note that these decisions can also be impacted by both the motivation of an individual to critically analyze the information presented, as well as their overall ability to do so (Lin et al., 2017). These multiple factors play important roles in the mind of an individual and directly impact the persuasion of their attitude toward a particular message.

Communicator effects on the persuasion of an individual's attitude primarily impact the peripheral route of persuasion (Fiske & Taylor, 2017). The scientists note that the credibility of the source, the powerfulness of the source, and the attractiveness of the source each have the potential to serve as simple cues toward the peripheral route of persuasion. This effect is especially present when the outcome of the decision has little impact on the life of the individual making the selection. The finding is consistent with the elaboration likelihood model which notes that an individual's low motivation will typically result in the utilization of the peripheral route of persuasion.

Biases

Self-Bias

Bias in information processing can impact the ways humans draw conclusions and make judgments about their environment. In psychology, these types of systematic errors in thinking are known as cognitive biases. Relatedly, self-biases can influence the types of cognitive schemas developed by an individual. This is evident throughout society when considering how individuals view themselves in a higher regard than they view others. This self-bias can work to mediate the effects of events that may negatively impact their self-esteem. In this way, self-bias is an adaptation to preserve the overall positive worldview of the individual. Stated another way, "Viewing oneself in more positive terms than one views others also appears to mollify the effects of stressful events such as health threats" (Taylor & Brown, 1994, p. 3). This adaptability functions to bolster the self-appraisals of the individual.

However, these self-biases do not necessarily align with reality and can lead to an incorrect view of both the world and them. An incorrect alignment may result in a situation where the individual overestimates their abilities to complete a particular task, or in a way that leads them to engage in downward social comparisons when engaging with a perceived outgroup. This would indicate a clear discrepancy between what works in one's self-schema, and what is true and evident in reality.

Explicit and Implicit Bias

Explicit biases are understood to be controllable, conscious, made with awareness, and require a certain level of introspection and cognitive awareness (Nosek, 2007). This category of bias occurs whenever we make a conscious decision about our reasons for a certain type of behavior towards others or our environment. For example, making a conscious decision to befriend another individual based upon a mutual interest in a sports team, while remaining aversive to another because of their overall lack of interest in sports, would be a situation wherein our explicit bias is at play. Conversely, implicit bias takes place at the subconscious level and cannot be recognized through introspection (BruinX, 2016). While implicit biases are more difficult to identify and measure, psychologists typically utilize indirect methods to help identify when this type of bias is at play.

Both explicit and implicit attitude measures are necessary for improving human's general daily lives. For the former, asking individuals to self-report their attitudes and preferences could allow for the interpretation of both qualitative and quantitative data (Shattock, 2017). Free responses to open-ended questions can allow individuals to expose the depths of their explicit bias, while the use of rating scales can be used to cover a large population for different quantitative statistical measures. However, this approach is limited by the imposition of socially desirable responses (Shattock, 2017). Meaning, that participants may not be as willing to state their true perspectives for fear of judgment. Additionally, providing surveys and rating scales to participants who aren't clear about the question, or may have an intellectual disorder, will not produce adequate results for analysis.

Stereotyping

Stereotyping is a cognitive process wherein human's minds construct an overgeneralized belief about a specific set of things or individuals (American Psychological Association, n.d.). Although the term is typically associated with negative connotations, stereotyping can also be positive and assist in human's daily lives. For example, human minds can use stereotypes to indicate that chairs are meant for sitting and that steps are meant for climbing without generally negative outcomes. When stereotypes devolve into prejudices, the beliefs rooted in those stereotypes can drive discriminative behaviors. Prejudices stem from stereotypes and are understood to be unjustified pre-judgments about a group of people (Fiske & Taylor, 2017). These prejudgments can be both positive and negative. When these unjustified prejudgments motivate individuals' behaviors, they inevitably succumb to biased discrimination. These biases can take place both explicitly through a controlled cognitive process or implicitly through automatic processing (Fiske & Taylor, 2017).

Stereotyping occurs when the cognitive process of categorization is influenced by the bias of the perceiver (Fiske & Taylor, 2016). These biases are salient across a few demographic categories including race, gender, and socioeconomic status. Often, these biases are the fault of heuristics, or mental shortcuts, which are flawed through implicit biases held by the perceiver. While being aware of the stereotypes that each person holds regarding people is appropriate, at times, this awareness can also negatively influence behaviors. Stereotype threat is a phenomenon wherein people are aware of their stereotypical successes and failures in a particular social category and this awareness drives expectations about their general

performance (Spencer et al., 2016). This social psychological process leaves individuals at risk of conforming to a known negative stereotype about their particular social group simply by being aware of the stereotype.

Summary and Conclusions

Cognitive empathy is a necessary component for positive interpersonal relationships. Rogers (1967, 1975) noted that cognitive empathy is necessary for helping teachers understand where their students may need more attention, as well as helping therapists recognize the inner states of their clients. Recognizing the numerous psychological concepts associated with social decision-making is imperative to understanding the process in its entirety. A thorough understanding of cognitive empathy may lead to improvements in conflict resolution (Papp et al., 2010), relationship outcomes (Gleason et al., 2009), and communication accuracy (Mehrabian & Reed, 1968). Additional research is needed to determine if a relationship between an individual's ERI and their ability to accurately perceive the inner mental states of those in a racial category other than their own exists. Furthermore, the current study will seek to better understand the nature of this relationship through meditation analysis.

Multiple variables must be considered in the relationship between one's ERI and cognitive empathy. The centrality of race to one's own identity may reduce an individual's ability to engage in empathic accuracy. Whereas, maintaining a broader perspective on ERIs may improve an individual's cognitive empathy. These relationships may be mediated by the level of an individual's social and personal identities. An individual with higher levels of social factors that contribute to their identity may exhibit

higher cognitive empathy, while an individual with more personal factors may display lower cognitive empathy. The results of this study may inform teachers, therapists, business professionals, and family members alike in the context of interracial relationships. Future research may focus on affective empathy to determine if the tested relationships behave similarly. In Chapter 3, I will describe the methodology used to investigate if a relationship between ERI and cognitive empathy exists, with the additional mediating effect of one's social and personal identities.

Chapter 3: Research Method

In Chapter 2, I provided an examination of the current literature available regarding the biological foundations of cognitive empathy, the categorization of the self between a perceived ingroup and outgroup, and ERI formation. The chapter also contained a discussion of how SCT can be utilized to analyze how the perception of an in- and outgroup, along with the perception of belonging to a specific ethnic-racial group, can impact the empathic accuracy of the observer towards a particular target. Although there may be other factors that affect these variables, additional information is needed to determine the nature of these psychological dynamics.

The purpose of the current study was to identify if there was a relationship between cross-ethnic racial identity and cognitive empathy for others, if a separate relationship exists between one's social and personal identity tendencies and empathic accuracy, and whether social and personal identities mediate the effect of one's cross-ethnic racial identity and cognitive empathy. Chapter 3 includes a review of the quantitative methodology used to examine these psychological relationships in the current study. In this chapter, I also discuss the sampling procedures, data collection process, selected psychometric scales, internal validity measures, and ethical considerations.

Research Design and Rationale

In the current study, I employed a nonexperimental survey design with a sample of adults between the ages of 18 and 55 years old. The independent variables were social and personal identity, as measured by the SIPI, and cross-ethnic racial identity, as measured by the CERIS. The dependent variable was

cognitive empathy as indicated by the RMET. The mediating variable was the level of social versus personal identity formation, as indicated on the SIPI. I analyzed the interval variables of cross-ethnic racial identity, social and personal identities, and cognitive empathy through quantitative techniques.

Methodology

I used the quantitative approach in the current study because it was focused on the relationships between independent, dependent, and mediating variables. Information gained from this quantitative analysis directly addressed the research questions of interest. I employed correlational regression to identify the relationships between social and personal identity tendencies and cognitive empathy as well as cross-ethnic racial identity and cognitive empathy. Multiple regression was used to identify if the level of social and personal identities mediated the relationship between either of the independent variables and cognitive empathy. The selected scales measured the variables identified for the current study and provided the necessary data to investigate the research questions.

Population

Adult individuals between the ages of 18 and 55 with ERIs belonging to White American, Black American, Asian American, or Latinx were the target population for the current study. Individuals had to be U.S. citizens and reside within the country to be included in the study. Through parameter testing using G*Power 3.1 software (see Faul et al., 2009), I determined the total sample size for an effect size of 0.15 with two predictor variables to be 107 total participants. The sample size for the current study was

produced from the target population estimate that was required to provide a precise representation of the population of interest.

Sampling and Sampling Procedures

I recruited participants through convenience sampling methods. Recruitment ads were posted on my public social media profile as well as circulated through email at my place of business and word of mouth. Based on the responses generated from the study flyer, I provided interested participants with a link to the survey housed in SurveyMonkey. To conduct an ethical study, all participants received informed consent documents to complete before they participated in the study. Their survey responses were uploaded into Statistical Package for the Social Sciences (SPSS) for statistical analysis.

Instrumentation and Operationalization of Constructs

I conducted the surveys through SurveyMonkey. All participants completed a consent form at the beginning of the survey. The surveys were used to collect data related to the centrality of race to one's identity, the attitudes towards ERI, the importance ascribed to either one's social group or personal identities, and the ability to infer the mental states of others. The survey consisted of 16 questions from the CERIS (see Worrell et al., 2019), 16 questions from the SIPI (see Nario-Redmond et al., 2004), and 36 questions from the RMET (see Baron-Cohen, 2001). These instruments were the most appropriate because they considered the variables identified in the research questions for the current study and the psychometric scales have statistically significant reliability and validity (see Worrell Fhagen et al., 2021). Test content for each scale was available for non-commercial research and educational purposes without the

requirement of written permission. The CERIS, SIPI, and RMET can be found in Appendices A, B, and C respectively. Demographic questions were also asked of the participants. All participants engaged in the study of their own volition and had the opportunity to cease their participation at any stage of the study.

CERIS-A

Worrell et al. (2019) noted that the Cross-Ethnic Racial Identity Scale-Adult (CERIS-A) is an instrument that measures ethnic-racial identity attitudes in seven areas with four-item subscales:

- Assimilation
- Miseducation
- Self-hatred
- Antidominant
- Ethnocentricity
- Multiculturalist inclusive
- Ethnic-racial salience

The scale assesses these seven ERI attitudes for adults over the age of 18 from multiple ethnic and racial groups, including African American, Asian American, European American, and Latinx adults (Worrell et al., 2019). A 7-point Likert scale is used to determine participant attitudes toward each measure, with scores ranging from 1 = *strongly disagree* to 7 = *strongly agree*.

The CERIS-A can be self-administered by participants after reading the instructions for the survey carefully and then completing the included questions from the selected section of the CERIS-A (Worrell et

al., 2019). I used three constructs from the CERIS-A in the current study to determine the levels of attitudes held about ERI: ethnocentricity, multiculturalist inclusive, and ethnic-racial salience. Ethnocentricity refers to the extent to which one believes the values from their ethnic-racial group should inform their daily lives (Worrell et al., 2019). The construct for multiculturalist inclusive attitudes describes a combination of a strong connection to one's racial group and their willingness to embrace other cultural groups as well as their values and perspectives (Worrell et al., 2019). The final construct of ethnic-racial salience reflects the degree to which race is considered by the individual in their daily lives (Worrell et. al., 2019). All five questions from each construct were utilized in the current study.

Previous studies have indicated the considerable reliability and validity of the CERIS-A (Worrell et al., 2019). Worrell et al. (2020) analyzed 250 young adults aged 18–29 to determine the internal consistency and structural validity of CERIS-A scores. In the current study, I aimed to expand upon previous understandings of racial attitudes by widening the scope to include those of diverse backgrounds. The Cross Racial Identity Scale focuses primarily on those of African American descent (Umana-Taylor et al., 2014). However, the CERIS-A is intended to analyze the ethnic-racial identity attitudes across multiple groups (Worrell et al., 2016).

In a study using the CERIS-A, internal consistency alpha estimates for the sample ranged from .76 to .92 (Worrell et al., 2020). The following results from their study were well within the acceptable range for both gender and ethnic-racial subgroups of more than 10 participants: females (.74 to .94), males (.72 to .91), African Americans (.68 to .89), Asian Americans (.63 to .94), Latinx (.57 to .96), and European

Americans (.73 to .92). Additionally, the factor coefficients were substantial (> .59), and the omega internal consistency estimates were also strong (> .82). These replicated findings indicated the CERIS-A is a viable psychometric tool for determining three main areas concerning identity including how individuals view themselves, how they view other members of their ethnic-racial group, and how they view members from ethnic-racial groups other than their own (Worrell et al., 2011).

SIPI

Nario-Redmond et al. (2004) noted that the SIPI is a measure that distinguishes between the readiness of an individual to categorize themselves either to a particular group or to a personal self-category, based on the degree of importance ascribed to each. The scale operationalizes both social and personal identity constructs to elucidate the degree to which one is predisposed to categorize oneself at either level. Importantly, the scale utilizes SCT as a guiding orientation to understand how this process occurs. The individual differences in both the centrality and importance of the two domains are rooted in the dispositional tendency toward either personal or social self-identification (Nario-Redmond et al., 2004). The SIPI measures these differences as conceptually different levels of the self.

The SIPI operationalizes the two distinct levels of self through an individual's self-schematic tendencies. Specifically, one's social identities are defined as the tendency to apply aggregate group identifications, and one's identities are defined as the tendency to apply individuation markers that are distinct from in-group affiliations (Nario-Redmond et al., 2004). The scale includes 16 items in Likert-scale formatting with responses ranging from 1 = *not important at all to who I am* to 9 = *extremely*

important to who I am. The instrument contains eight items related to personal identity and eight items related to social identity.

The psychological constructs of social and personal identity were previously validated through a study of 570 participants (Nario-Redmond et. al., 2004). The group, composed of 91% White and 9% people of color, including 4.1% Asian American, completed the 16-item SIPI during a mass-testing session in one auditorium (Nario-Redmond et al., 2004). Through mixed-model analysis of variance, the researchers found significant interaction between ethnicity and identity, determining that personal identity was significantly more important for White respondents and that this ethnic difference could be explained by an increase in social identity scores for minority respondents compared to White participants (Nario-Redmond et. al., 2004). Nario-Redmond et al. (2004) conducted an additional study to determine reliability and construct validity that included 530 undergraduate students comprised of 499 women, 12 men, and 19 unspecified. The researchers found alpha coefficients of .77 and .74 for the personal identity subscale and the social identity subscale, respectively. A correlation between the two subscales was found to be $r = .33$, $p < .0001$. Construct validation was also replicated in the current study. The ethnicity and identity interaction was higher among minority participants as compared to the White participants (F (1, 903) = 10.64, $p < .0001$).

RMET

The RMET has been utilized in clinical, social, and developmental psychological research (Baron-Cohen et. al., 2001). The test measures the theory of mind, a multidimensional psychological construct that

considers an individual's ability to categorize socially relevant stimuli, understand the cognitive and affective states of others, and perform executive and motivational processes (Turner & Felisberti, 2017). Correlations between the RMET, empathy, and IQ have also been established previously (Vellante et al., 2013). The psychological instrument is constructed of 36 questions with four response options (Baron-Cohen et al., 2001). The self-paced test requires participants to view photographs of the eye region while attempting to identify the mental states displayed.

In a recent study to assess the RMET in a sample of Italian adults between the ages of 18 and 32 (N = 200) where male participants made up 46% of the sample, Vellante et al. (2013) found internal consistency for the RMET to be .605, as measured by Cronbach's alpha. Test-retest reliability on a subgroup of participants (n = 36) 1 month following the test was measured using the Item Characteristic Curve (ICC) and found to be .833 (95% CI = .745 to .902). A comparison of the mean differences between the first test was also conducted to determine if a statistically significant change occurred. With a 95% CI, the results indicated no significant change from 0 due to a mean difference between both tests being 1.3 (SD = 4.4).

Data Analysis Plan

Research Questions and Hypotheses

The following research questions and hypotheses were tested through careful quantitative analysis:

RQ1: Is the CERIS a significant predictor of cognitive empathy as measured by the RMET?

$H_0$1: The CERIS is not a significant predictor of cognitive empathy.

H_a1: The CERIS is a significant predictor of cognitive empathy.

RQ2: Is the SIPI a significant predictor of cognitive empathy as measured by the RMET?

$H_0 2$: The SIPI is not a significant predictor of cognitive empathy.

$H_a 2$: The SIPI is a significant predictor of cognitive empathy.

RQ3: Does the SIPI mediate the predictive effect between the CERIS and the RMET?

$H_0 3$: The SIPI does not mediate the predictive effect of CERIS on cognitive empathy.

$H_a 3$: The SIPI mediates the predictive effect of CERIS on cognitive empathy.

Analysis

Statistical analysis was conducted using the most recent version of SPSS statistical software for Mac. A linear regression was used to test both Hypothesis 1 and Hypothesis 2 once data were uploaded onto the platform. Predictor variables were the CERIS and SIPI for Hypothesis 1 and Hypothesis 2 respectively, while the outcome variable of cognitive empathy as measured by the RMET remained the same. The acceptable alpha level for statistical significance in this study was .05. Warner (2012) noted that a multiple regression design is used to determine the relationships between two variables.

A mediation analysis was also utilized to determine if a mediating effect existed as demonstrated by Hypothesis 3. Hayes (2007) noted that the central idea in mediation is that various transformative processes within an organism mediate the effects of stimuli on behavior. The PROCESS macro was utilized to determine if a mediation occurred in the current model. The approach includes a regression between the CERIS and RMET, a regression between the SIPI and RMET, a regression between CERIS and SIPI, and

lastly, a multiple regression with both the CERIS and SIPI as predictors of RMET. Data was analyzed under PROCESS macro software to determine if any change occurred for the predictor and mediating variables when tested independently, as well as when they were included together during the final regression analysis.

Threats to Validity

Threats to validity in the current study were found to be external. The convenience sampling may have led to the overrepresentation of individuals in the immediate network of the PI.

Ethical Procedures

Ethical procedures were implemented during the research study to protect participants. A link to the current study's survey was circulated through social media channels online. The age of the participant was verified and informed consent was obtained after advisement that participation in the study was voluntary. All data which could be used to identify participants was deidentified through coding techniques. Per Walden University policy, all data were secured on a password-protected device owned by me for 5 years, upon which time, all data will be immediately destroyed. The IRB determined participation in the current study proposed minimal to low risk for all those who chose to contribute to the current study. The approval number provided by the Walden University IRB is 03-27-24-1042305.

Summary

In the current research study, I used quantitative techniques to investigate psychological relationships between both cross-ethnic racial identity and cognitive empathy, as well as one's social and

personal identity and cognitive empathy. Linear regression analysis was used to predict the predictive strength of these relationships among the convenience sample (N = 107) of adults over the age of 18. Mediation was also conducted to investigate the nature of these relationships. Collected demographic data as well as data collected using the CERIS-A, SIPI, and RMET were investigated through quantitative techniques in SPSS. All ethical considerations were addressed as outlined by the Walden University IRB. External validity was considered concerning sampling methodology, and internal validity was considered regarding each of the psychometric scales utilized. Findings and conclusions from the current study will be discussed in the following chapter.

Chapter 4: Results

The purpose of this quantitative survey study was to identify differences in cognitive empathy among adults with a core racial identity. The tendency of each respondent to associate their identity as part of a group or from a more individualistic perspective was also considered. I utilized three psychometric scales to achieve this goal: the CERIS measured levels of an individual's core racial identity, the SIPI measured social versus individual identity tendencies, and the RMET measured empathic accuracy.

I hypothesized that both the CERIS and the SIPI would be significant positive predictor variables in the study while the RMET was hypothesized as the dependent variable. Additionally, the SIPI was hypothesized to mediate the relationship between the CERIS and the RMET. I analyzed all collected data using the SPSS, Version 27.0. Multiple regression procedures were conducted using the Hayes's (2017) PROCESS macro integrated into SPSS software. The following research questions and hypotheses guided the current study:

RQ1: Is the CERIS a significant predictor of cognitive empathy as measured by the RMET?

$H_0$1: The CERIS is not a significant predictor of cognitive empathy.

H_a1: The CERIS is a significant predictor of cognitive empathy.

RQ2: Is the Social and Personal Identity Scale (SIPI) a significant predictor of cognitive empathy as measured by the Reading the Mind in the Eyes Test (RMET)?

$H_0$2: The SIPI is not a significant predictor of cognitive empathy.

H_a2: The SIPI is a significant predictor of cognitive empathy.

RQ3: Does the SIPI mediate the predictive effect between the CERIS and the RMET?

$H_0$3: The SIPI does not mediate the predictive effect of CERIS on cognitive empathy.

H_a3: The SIPI mediates the predictive effect of CERIS on cognitive empathy.

I outline the data collection procedures and sample demographics at the start of this chapter. I also discuss the descriptive statistics and findings from the statistical analysis. All analyses and findings are supported by the tables provided.

Data Collection

The data collection procedures in this study followed all protocol steps detailed in the earlier chapters. Data collection began on April 2nd, 2024, after I received formal approval to begin recruitment by the Walden University IRB. The recruitment flyer was posted to the Walden University Research Participant pool website, shared through my social media accounts (on Instagram, Facebook, X, and LinkedIn), and circulated through word-of-mouth to personal and professional channels. When participants followed the link indicated on the flyer to the survey, they were immediately prompted to read the informed consent dialogue per Walden University's ethical guidelines. Once informed consent was provided, participants answered a series of questions relating to their age, ERI, and citizenship status to determine their eligibility to participate. If the potential participants satisfied all criteria, they were immediately provided access to complete the full survey for the study. Study recruitment closed at midnight on April 30th, 2024. I collected a total of 204 participant responses during the timeframe specified for the study.

Of the 204 total responses to the survey, 141 respondents completed the survey. The response rate before data cleaning was calculated to be 69%. I downloaded the survey data into Microsoft Excel and immediately imported them into SPSS for cleaning and analysis. Once incomplete responses and data from participants who did not meet the study criteria were removed, the final count was 128 participants. This exceeded the minimum number of participants for a linear regression analysis with two predictor variables of 107 as calculated through parameter testing in G*Power 3.1 software (see Faul et al., 2009).

Demographic Characteristics

The sample consisted of 128 participants. The age range with the highest representation was the 25–34 age group (n = 50, 39.1%). White (n = 60, 46.9%) and Black or African American (n = 57, 44.5%) made up the largest demographics of participants. The highest education level completed was also recorded for respondents. Those who completed graduate school made up the largest group (n = 54, 42.2%). Descriptive statistics for each of these three measures are in Tables 1, 2, and 3.

Table 1

Frequency Table of Participant Ages

Age	*n*	%
18-24	16	12.5%
25-34	50	39.1%
35-44	34	26.6%
45-55	28	21.9%

Table 2

Frequency Table of Racial Identification

Race	*n*	%
Asian American	1	0.8%
Black American	57	44.5%
Hispanic American	10	7.8%
White American	60	46.9%

Table 3

Frequency Table of Participant Educational Attainment

Education	*n*	%
Did not attend school	1	0.8%
Graduated high school	4	3.1%
Some college-level education	34	26.6%
Graduated from college	29	21.9%
Some graduate school	6	4.7%
Completed graduate school	54	42.2%

External Validity of the Population Sample

The racial demographic of the sample collected for the current study indicated a lower representation of the overall population of citizens in the Indianapolis area. Participants who identified themselves as White (46.9%) were lower than the percentage reported by the U.S. Census Bureau (2013; 55.7%) during the last reported period. Black or African Americans were overrepresented in the sample (44.5%) when compared to the U.S. Census (28.8%). Hispanic or Latino was slightly lower for the current sample (7.8%) compared to the 10.9% reported by the U.S. Census, and Asian Americans (0.8%) were also lower than the reports of the U.S. Census (4.2%). Education levels for those with a high school degree or

higher were found to 99.8% in the current sample as compared to 87.2% according to the U.S. Census (2023).

Coding Procedures

Before data analysis, I coded the nominal data categories of age, race/ethnicity, and level of education. Age ranges were coded as the following: 1 = 18–24, 2 = 25–34, 3 = 35–44, and 4 = 45–55. Race/ethnicity was coded as the following: 1 = Asian or Asian American, 2 = Black or African American, 3 = Hispanic or Latino, and 4 = White. The highest level of education was coded as the following: 1 = did not attend school, 2 = graduated from high school, 3 = some college-level education, 4 = graduated from college, 5 = some graduate school, and 6 = completed graduate school.

I coded each of the psychometric scales for the predictor variables following directions provided by the authors. Specifically, the CERIS contained three subscales related to ethnocentricity, multicultural identity, and ERI. Each subscale required calculating mean scores from responses to four questions within the overall CERIS. Mean scores for each of the subscales were calculated and recoded to interval/ratio variables. The overall CERIS composite scale was created following previous literature on the validation of the psychometric scale (Worrel et al., 2020). I calculated the mean score from the sum of each of the three subscales and recoded the score into an interval/ratio variable for analysis.

Similarly, the SIPI contained two subscales to measure participant tendencies to identify as either part of a larger group or separate from their overall community. I calculated mean scores from alternating questions on the SIPI to determine these levels and recoded the scores into interval/ratio variables for

analysis. The overall SIPI composite variable was created from the mean score of the sum from both SIPI subscales. This variable was also coded as an interval/ratio variable for analysis.

The RMET required participants to accurately guess the affective expressions of 36 images. The total number of correct responses to these questions was required to measure the empathic accuracy among participants. The survey contained multiple-choice responses to each of these images, which I then summed and recoded into interval/ratio variables for analysis.

Results

Model Assumptions, Normality Testing, and Outliers

I chose linear regression to investigate the predictive effects of each of the independent variable subscales on the dependent variable. This quantitative approach is used to test for a significant relationship between one outcome variable and one or more predictor variables (Warner, 2012). Linear regression maintains multiple assumptions, including linearity between the predictor(s) and outcome variable, homoscedasticity, normality, and independence. I calculated normality using descriptive statistics in SPSS. The CERIS, SIPI, and RMET were each included in the analysis.

I considered normality using the conventional approach of dividing skewness and/or kurtosis by the standard error (Warner, 2012). Skewness is a measure of the amount of asymmetry in a graph around a central point (American Psychological Association, n.d.). Normal frequency distributions are bell-shaped, which means approximately 95% of the scores are within 2 standard deviations of the mean. Kurtosis refers to the degree of peakedness in a distribution (American Psychological Association, 2024). Normal

distributions appear as a bell curve without a high peak around a particular score. A nonsignificant result was accepted if this z score ranged between -1.96 to 1.96. I also considered the central limit theorem was also considered for normality because the sample size exceeded 30 (N = 128).

Descriptive statistics for the CERIS indicated a mean score of around 5 (M = 4.59, SD = .08). The z-score calculated from kurtosis (z = .05) was found to be nonsignificant. The mean score for the SIPI was also found to be around 5 (M = 5.21, SD = .13). Similarly, the z-scores calculated from the kurtosis (z = -1.19) of the SIPI was also found to be nonsignificant. I found the median score of the RMET to be around 25 (M = 24.6, SD = .367). In addition to the previous variables, the z-score calculated from the kurtosis (z = 1.84) was found to be nonsignificant.

I also considered tests for normality and outliers by analyzing Shapiro-Wilk results and graphical representations of the variable outputs. The Shapiro-Wilk test is one of the most used tests for analyzing the normality of data (Mishra et al., 2019). The test relies on interpreting significance values $p > .05$ to accept the normality of the data. The CERIS (p = .94) and the SIPI (p = .261) met this requirement and were interpreted as not statistically significant. The RMET ($p < 0.001$) did not meet this threshold.

I conducted additional normality testing, including the Durbin-Watson tests for scedacity, linearity, and Cook's distance. The Durbin-Watson test is used to analyze the null hypothesis that all residual scores for the sample show no autocorrelation (Turner 2020). Scores range from 0 to 4 with a score of 2 indicating no autocorrelation. The CERIS and RMET model; the SIPI and RMET model; and the complete CERIS, SIPI, and RMET model had Durbin-Watson scores of 1.8, 1.9, and 1.8, respectively. These scores satisfied

the null hypothesis that each of the variable's scores in the sample showed no autocorrelation between residuals.

I analyzed scedacity through the production of scatterplots for each of the models. This element is concerned with the pattern of error terms among variables (American Psychological Association, n.d.). Regression analysis assumes that all scores exhibit a pattern of errors with constant variance that may be due to chance (American Psychological Association, 2024). This is known as homoscedasticity and contrasts with heteroscedasticity, which may appear as greater clustering of variance around specific points of the graph. Results from the current analysis indicated homoscedasticity for each of the models. Linearity was also established from this analysis.

I also analyzed Cook's distance for the current study because the intent was to analyze the relationship between one outcome variable and at least one predictor variable. Cook's distance is a measure of the amount of difference the elimination of a single observation from the analysis would have on the overall model (American Psychological Association, n.d.). A score greater than 1 is generally interpreted as indicative of influential cases that could skew the results of the data analysis. I measured Cook's distance for each of the models (i.e., the CERIS and RMET; the SIPI and RMET; and the CERIS, the SIPI, and the RMET) for RQ1, RQ2, and RQ3, respectively. The Cook's distance scores were found to be .07, .12, and .09, respectively. Each of the models was below the conventionally accepted score of 1 and satisfied the requirements for inclusion.

I identified outlier responses through the Casewise Diagnostics feature in SPSS, which indicated the presence of a total of four outlier cases. Case Numbers 12, 31, and 87 were consistent outliers for each of the three models. The second research question, which was analyzed using the SIPI and RMET model, contained one additional outlier: Case Number 30. I determined that each of these cases were slight violations that did not warrant elimination from the overall analysis. Normality was assumed for the overall model after careful analysis of these results.

Linear Regression

Linear regression analysis was performed to determine the answers to RQ1 and RQ2. Linear regression was performed in SPSS using the PROCESS macro software (Model 4). The PROCESS macro is utilized to test the mediative effect of an overall model (Hayes, 2017). The pathway between the CERIS and the RMET (Path C), referred to as hypothesis one in the current study, was analyzed to determine if a statistically significant relationship existed. Mediation analysis requires the presence of a statistically significant relationship between the predictor and outcome variable of interest before the investigation of potential mediating variables (Hayes, 2017).

As noted in hypothesis one, the CERIS psychometric scale was included as the independent variable and the RMET as the outcome variable. The total effect of CERIS on RMET was examined without considering the mediating variable SIPI. The results indicated that CERIS did not significantly predict RMET ($\beta = -0.38$, $p = 0.3729$). The model explained only 0.63% of the variance in RMET ($R^2 = 0.0063$, $F(1, 126) = 0.7995$, $p = 0.37$). This finding suggests that CERIS did not have a significant total

effect on RMET. Analysis indicated a failure to reject the null hypothesis which stated: The CERIS is not a significant predictor of cognitive empathy.

The lack of a statistically significant relationship between the CERIS and the RMET eliminated the potential for finding the SIPI as a mediating variable. However, analysis continued for performing an exhaustive investigation of the steps required in a mediation study. The SIPI was analyzed in a linear regression with the PROCESS macro as an independent variable with scores from the RMET as the dependent variable (Path B). The results indicated that SIPI did significantly predict RMET ($\beta = -0.53$, $p = 0.0450$). The model explained about 3.17% of the variance in RMET ($R^2 = 0.0317$, $F(1, 126) = 4.0991$, $p = 0.045$). These findings suggest that SIPI alone does have a significant impact on RMET. Analysis indicated a rejection of the null hypothesis which stated that the SIPI is not a significant predictor of cognitive empathy.

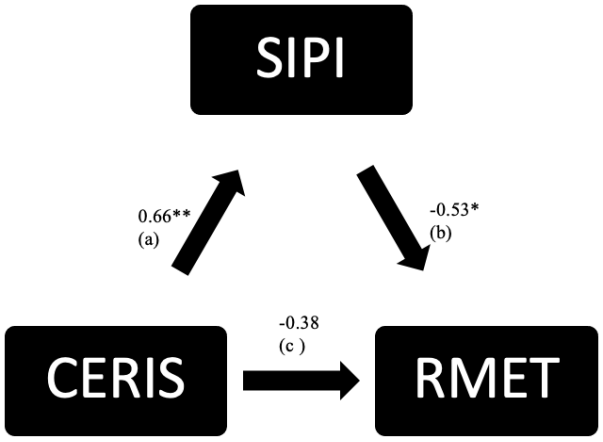
Mediation analysis was conducted to answer the third research question. Analysis was conducted in SPSS utilizing the PROCESS macro from Hayes (2017). The analysis of the two paths remained for determining the existence of a mediating relationship. The path between the CERIS and the SIPI (Path A) was investigated using linear regression. The results indicated that CERIS significantly predicted SIPI ($\beta = 0.66$, $p < 0.001$). The model explained 14.74% of the variance in SIPI [$R^2 = 0.1474$, $F(1, 126) = 21.7850$, $p < 0.001$]. These findings suggest that higher levels of CERIS were associated with higher levels of SIPI.

The indirect effect of CERIS on RMET through SIPI was examined using bootstrapping with 5,000 resamples. Hayes (2017) notes that the lower limit confidence interval (LLCI) and the upper limit

confidence interval (ULCI) should also not pass through zero if a mediation has occurred. The results showed that the indirect effect was not significant, as the bootstrapped 95% confidence interval contained zero (Effect = -0.2786, BootLLCI = -1.02, BootULCI = 0.81). This finding suggests that SIPI did not mediate the relationship between CERIS and RMET. These findings led to a failure to reject the null hypothesis which stated that the SIPI does not mediate the predictive effect of CERIS on cognitive empathy. The mediation diagram for this model is in Figure 1.

Figure 1

Standardized Regression Coefficients for the Relationship Between the CERIS and RMET as Mediated by the SIPI



*p < .05. **p < .001

Post-Hoc Analysis

Post-hoc analysis was also performed to investigate if a statistically significant relationship between respondent race/ethnicity and cognitive empathy existed. Racial demographer was selected as a predictor

variable based on the hypothesis that racial identity as measured by the CERIS could be used to predict cognitive empathy. The lack of a statistically significant relationship between the CERIS and the RMET led to an additional level of investigation. Mediation analysis was carried out using the PROCESS macro for the model to determine the potential mediating effect of SIPI on the relationship between race and RMET. Racial demographers of both Black and White were selected as each group contained more than 55 respondents (n = 57 and n = 60, respectively). The predictor variable was respondent race, the outcome variable was RMET, and the mediating variable was SIPI.

Black was chosen to be included in the analysis of the first model. The total effect of Black identification on RMET (Path C) was examined without considering the mediating variable SIPI. The results indicated that Black identity did significantly predict RMET (β = -1.9244, $p < 0.05$). The model explained 5.35% of the variance in RMET (R^2 = 0.0535, $F(1, 126) = 7.1209$, $p < 0.05$). This finding suggests that Black identification did have a significant total effect on RMET.

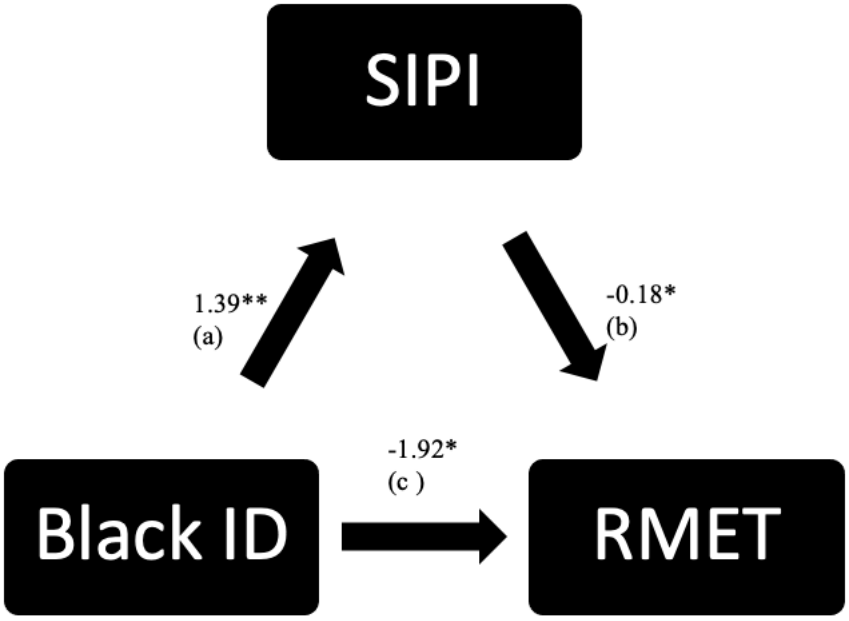
Results of the analysis of the effect of Black identification on SIPI (path a) indicated that race significantly predicted SIPI (β= 1.3891, t = 5.9259, $p < 0.001$). The model explained 21.80% of the variance in SIPI [R^2 = 0.2180, $F(1,126) = 35.1161$, $p < 0.001$]. The results suggest that Black identity is associated with higher levels of SIPI. A separate regression was conducted to determine the effect of SIPI on RMET in the new mediation model. The results indicated that SIPI did negatively predict RMET (β= -0.1802, t = -0.6562, $p < 0.026$). The model explained 5.67% of the variance in RMET (R^2= 0.0567, F

(1,126) = 3.7597, $p < 0.0260$). These results indicate that SIPI alone does have a significant impact on RMET.

The indirect effect of Black identification on RMET through SIPI was also examined using bootstrapping with 5,000 resamples. The results showed that the indirect effect was not significant, as the bootstrapped 95% confidence interval contained zero (Effect = -0.02504, BootLLCI = -1.0658, BootULCI = 0.5612). The analysis of this model indicates that while Black identification significantly predicted RMET, Black identification significantly predicted SIPI and SIPI significantly predicted RMET, the SIPI did not mediate the relationship between Black identification and RMET. The mediation pathway diagram for this analysis is in Figure 2.

Figure 2

Standardized Regression Coefficients for the Relationship Between Demographer Black Identity and RMET as Mediated by the SIPI



*$p < .05$. **$p < .001$.

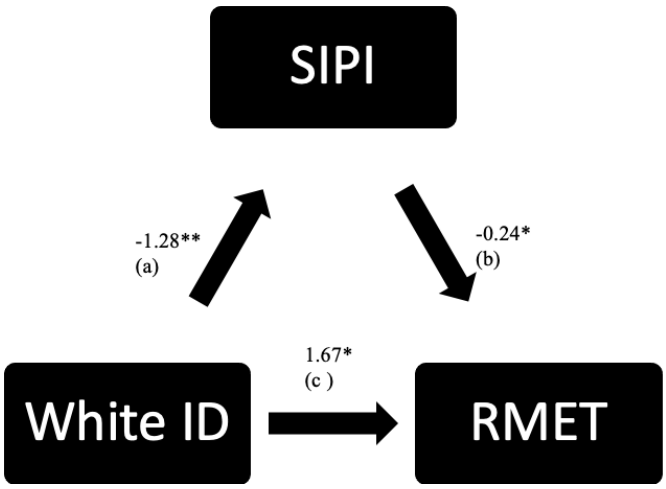
White identification was selected for analysis of the second post-hoc model. The total effect of White identification on RMET (Path C) was examined without the inclusion of the mediating variable SIPI. The results indicated that White identity did significantly predict RMET ($\beta = 1.6745$, $p < 0.05$). The model explained 4.08% of the variance in RMET ($R^2 = 0.0408$, $F(1, 126) = 5.3639$, $p < 0.05$). This finding suggests that White identification did have a significant total effect on RMET.

Results of the analysis of the effect of White identification on SIPI (path a) indicated that race significantly predicted SIPI (β= -1.2832, t = -5.3922, $p < 0.001$). The model explained 18.75% of the variance in SIPI [$R^2 = 0.1875$, $F(1,126) = 29.0764$, $p < 0.001$]. The results suggest that White identity is associated with lower levels of SIPI. A separate regression was conducted to determine the effect of SIPI on RMET in the new mediation model. The results indicated that SIPI did negatively predict RMET (β= -0.2440, t = -0.9007 $p < 0.05$). The model explained 4.7% of the variance in RMET (R^2= 0.0470, F (1,126) = 3.0835, $p < 0.05$). These results indicate that SIPI alone does have a significant impact on RMET.

The indirect effect of White identification on RMET through SIPI was also examined using bootstrapping with 5,000 resamples. The results showed that the indirect effect was not significant, as the bootstrapped 95% confidence interval contained zero (Effect = .3131, BootLLCI = -0.4074, BootULCI = 1.0415). The analysis of this model indicates that while White identification significantly predicted RMET, White identification significantly predicted SIPI and SIPI significantly predicted RMET, the SIPI did not mediate the relationship between White identification and RMET. The mediation diagram for this analysis is in Figure 3.

Figure 3

Standardized Regression Coefficients for the Relationship Between Demographer White Identity and RMET as Mediated by the SIPI



*$p < .05$. **$p < .001$.

Summary

The purpose of this quantitative study was to determine the predictive effects of social identities and cognitive empathy. Social identities were quantified using the CERIS and the SIPI. One hundred twenty-eight U.S. adults with self-disclosed racial identities participated in the current study. Most of the sample was composed of the 25 to 34 demographic (39.6%). White Americans and Black Americans represented the largest racial/ethnic demographic in the current study (46.9% and 44.5%, respectively). Those with a graduate degree also represented much of the sample population (42.2%).

The psychometric instruments used for this study were created following the proper guidelines set forth by the authors. Data were coded and entered in Survey Monkey for public circulation from April 2nd,

2024, until midnight Eastern Standard Time on April 30th, 2024. Recruitment took place through convenience sampling methods which included social media distribution and word-of-mouth. Responses were cleaned and recoded into their proper form for variable measurement, and analysis was conducted using SPSS software. Tests for normality and outliers indicated no abnormality in participant responses which led to further analysis of participant data. Analysis of the data indicated a failure to reject each of the three null hypotheses.

Specifically, RQ1 and RQ2 were analyzed using linear regression within the PROCESS model analysis. Each test resulted in a negative relationship, and the SIPI to RMET pathway (RQ2) was the only relationship found to be statistically significant. RQ3 was analyzed using mediation analysis in PROCESS. Cognitive empathy served as the outcome variable. The hypothesized predictor variable was one's cross-ethnic racial identity. Social and personal identity served as the mediator for this analysis. The analysis determined that while CERIS significantly predicted SIPI (Path A), and SIPI did have a significant predictive effect on RMET (Path b). The total effect (Path C) of CERIS on RMET was not determined to be statistically significant. Furthermore, the indirect effect of CERIS on RMET through SIPI as a mediating variable was not significant. Post-hoc analysis was also performed to determine if racial identification significantly predicted the RMET and if this relationship was mediated by the SIPI. Although a statistically significant relationship was found between the racial identifiers of Black and the RMET and the identifiers of White and the RMET, neither relationship was mediated through the SIPI. Chapter 5 will

include limitations and further interpretation of this study. Possible directions for future research as well as social change implications will also be discussed.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of the current study was to examine how heuristics related to racial preference and social identity affect cognitive empathy. I also examined if social identity tendencies mediated the relationship between one's ERI and empathic accuracy. The participants were adults between the ages of 18 and 55 with a self-disclosed racial identity as Asian American, Black American, Latino/American, or White American.

Core racial identity is normally well-established within one's belief system during early adulthood (Umana-Taylor et. al., 2014). Additionally, this racially based self-preference can influence decision-making in social situations resulting in cognitive bias (Adams et al., 2009; Albiero & Matricardi, 2013; Anwar et. al., 2012; Avenanti et al., 2010). Self-identification as an individual versus identification with the collective has also been shown to produce biased behavior (Bodenhausen et al., 2012; Hogg, 2001; Hornsey, 2008). Findings such as these led to the identification of a gap in the extant literature regarding the elements of these social processes within the context of cognitive empathy. In Chapter 5, I present the findings from the current study, my analysis and interpretation of the findings, the limitations of the study, my recommendations for future research, and the implications for positive social change.

Interpretation of the Findings

In this study, I used three separate psychometric scales to collect participant response data that were analyzed with both linear regression and mediation techniques. The CERIS used for the current study was limited to the three subscales of ethnocentricity, ethnic-racial salience, and multiculturalist-inclusive only.

Scores were compiled into one composite variable according to the scoring procedures of Worell et al. (2019). I used both subscales that comprise the SIPI in their entirety. The scale was coded and analyzed according to scoring procedures of Nario-Redmond et al. (2004). Each of the 36 questions from the RMET was used for this study. I coded and analyzed the responses according to Baron-Cohen's (2001) scoring procedures. Each of the scales was entered into Survey Monkey, after being distributed to the participants through convenience sampling methods.

The final study met the original power analysis minimum sample size calculation of 107 (N = 128). I conducted linear regression analysis to answer RQ1 and RQ2. The CERIS was determined to not be statistically significant predictor of scores on the RMET, however the SIPI significantly predicted scores on the outcome variable. I conducted mediation analysis to answer RQ3 and found that the SIPI was not a significant mediator of the relationship between the CERIS and the RMET. However, the CERIS was found to be a significant positive predictor of the SIPI. Post-hoc analysis also determined the demographic variables of Black American and White American were significant predictors of scores on the RMET. Identifying as Black American maintained a negative predictive effect on the RMET, while identifying as White American maintained a positive predictive effect with the RMET. Neither relationship was mediated by the SIPI.

In the hypotheses for RQ1, I investigated if the CERIS was a significant predictor of cognitive empathy as measured by the RMET. Similarly, the hypothesis for RQ2 was created to investigate if the SIPI was a significant predictor of cognitive empathy as measured by the RMET. Analysis of the linear

regression results indicated the CERIS was not a significant predictor of cognitive empathy, and that the SIPI was a significant predictor of cognitive empathy.

These findings are consistent with the literature surrounding cognitive empathy, which noted that empathic accuracy is tied to a multitude of neurological networks relevant to an individual's sense of self (Decety & Ickes, 2009). Cognitive empathy involves an understanding of the point of view of the other individual, and this social recognition is a function of the ventral prefrontal cortex, which is implicated in interpersonal behaviors (Struss et al., 2001). The current study results are consistent with previous research that indicated familiarity as a central factor in the facial processing system, and more specifically, faces that are perceived to be familiar to oneself allow for the detection of mental states more rapidly than those that are perceived to be less familiar (Castella et. al., 2014). These factors indicate that more than racial and social affiliations are required to understand the inner mental states of others.

Social and Personal Identity as a Mediator

With the hypotheses for RQ3, I investigated the heuristic tendency to associate one's identity as part of a collective group or as an individual separate from the group as well as proposed that this tendency would mediate the relationship between one's ERI and cognitive empathy. However, linear regression analysis of the hypotheses for RQ1 and RQ2 indicated a significant interaction between the psychometric scales of SIPI and RMET only. Both predictor variables were required to be significant predictors of cognitive empathy to answer RQ3. I still performed mediation analysis using Hayes's (2017) PROCESS macro as part of an exhaustive analysis. Results indicated that social and personal identity did not mediate

the relationship between one's ERI and cognitive empathy. These results are consistent with previous research that indicated familiarity as a central factor in the facial processing system (D'Argembeau et. al., 2007). The development of one's social identities including in- and outgroup membership is associated with activation of both the medial prefrontal cortex and the anterior cingulate cortex (Morrison et al., 2012). These networks that activate during the categorization of social words are referred to as the social brain. The complexity of neurological processes activated for the perception of the self and others is also well documented within the field of social cognition (Uddin et al., 2007). The current study finding of no significant mediating effect of the relationship between one's ERI and cognitive empathy through social and personal identity tendencies is consistent with the complex processes required for self-identity and social cognition.

Theoretical Interpretation

I utilized SCT as the theoretical framework in the current study to analyze each of the social cognitive processes related to identity and cognitive empathy. The SCT relies on the recognition that the mind produces a sense of self that is separate and distinct from the perceived other (Turner, 1987). This separation produces a sense of identity that allows for social decision-making where the individual can develop a sense of depersonalization through the assimilation into a larger group that shares similar attitudes, beliefs, and cultural values (Hogg & Terry, 2000). Through this framework, group membership becomes a necessary component of one's identity and is foundationally rooted in the neurological processing of social stimuli.

The current study findings are consistent with SCT because a statistically significant relationship was discovered between the predictor variables. Specifically, mediation analysis indicated the CERIS as a significant positive predictor of the SIPI. This finding indicates that the level of one's tendency to identify as part of a group or separate and distinct from the group can be predicted from one's ERI. Additionally, the SIPI was found to be a significant predictor of the RMET. These findings are in alignment with two key factors from SCT that are used to determine how individuals create social categories: the previous experiences of an individual contribute to their schematic development, which influences categorization and how it is used effectively, and the extent to which one's definition of self is associated with a particular ingroup-outgroup distinction. Turner (1987) noted that these elements influence how accessible social categories become for an individual. SCT provided a framework to understand why ERI and social and personal identity were found to be statistically significant relationships.

Limitations of the Study

Sample Demographics

I viewed sample demographics as a limitation because participants were recruited through convenience sampling methods from my immediate networks. The sample included individuals across multiple demographers, including various races, educational attainments, and ages; however, the most prevalent participant characteristic in the current study included those who had completed graduate school (N = 54, 42.2%). This contrasts with U.S. Census Bureau (2021) data that showed that those with an advanced degree among those 25 years of age and older is a much smaller percentage (14.4%).

Additionally, this study included an overrepresentation of individuals between the ages of 25 and 34 (N = 50, 39.1%) when compared to the percentage of individuals in this age demographic across the United States (13.6%; U.S. Census Bureau, 2023). Both findings limit the generalizability of the results of this study to the overall U.S. population.

Reading the Mind in the Eyes Test

I also considered the RMET a limitation of the current study because the images did not contain an equal representation of each racial demographic. The RMET contained Black and White images of cross sections of eyes that displayed various emotional states; however, these images contained an overrepresentation of individuals from White demographics as compared to those of Black, Asian, and Latin/o. Post-hoc analysis indicated participant demographics of Black and White both maintained significant relationships with the RMET. These relationships were predictive in opposite directions as Black identity was negatively predictive of scores while White identity was positively predictive of scores. Equal representation across demographics may have yielded different predictive relationships between same-race perceivers and targets.

Nature of the Study

The nature of this study limited the implications of the results due to the sampling methodology and selected psychometric approach. I obtained participants through convenience sampling methods to ensure a minimum of 107 participants were recruited, as determined by the power analysis. Although the minimum sample size required was achieved, scientists have noted that those who choose to participate voluntarily

are inherently different than those who do not (DeVellis, 2016). Convenience sampling methods also contribute to a lack of external validity through both under- and overrepresentation of participants.

Additionally, the chosen psychometrics for the current study relied on self-report surveys. This type of participation relies on the participants to have preexisting knowledge of the topics asked, a distraction-free environment to focus on the task, and enough time to complete the survey in one sitting. Participants in self-report environments are also susceptible to tailoring their responses to more socially desirable answers that may influence the results of the study (Paulhus, 2017). I also used linear regression and mediation analysis in the current study to determine statistically significant relationships, and this approach is limited because it can only identify potential relationships between variables. Cause-and-effect relationships are only able to be determined through direct experimentation, which was not within the scope of the current study.

Recommendations

Recommendations for Action

Social cognition is an integral aspect of human interaction. I conducted the current study to develop an understanding of social identity tendencies and their influence on people's abilities to empathize with one another through the perception of their inner states. The results of this study indicated that an individual cannot solely rely upon the chosen ERI ascribed to oneself when attempting to understand the emotional state of another. However, the socialized or individualized identity of an individual was found to be a sufficient predictor for positively identifying the inner state of a human being. These findings

contribute to the understanding of the complexity of social interactions by recognizing that a myriad of processes are required to predict how humans perceive the emotional states of others. Reliance on the personal identity of the self alone is not sufficient for understanding how humans can better relate to social situations. More attention should be given to how individuals create the relationships between themselves and others to better understand how inner states can be perceived. This could lead to more accurate predictions in future encounters.

Recommendations for Future Research

Empathic accuracy is recognized as a necessary component for positive intergroup dynamics, such as prosocial behavior (Simon & Gutsell, 2021) and relationship satisfaction (Sened et al., 2017). Future research should investigate this cognitive process from the perspective of how humans form their social identities and how the formation of these identities either includes or excludes others. This would expand knowledge on this topic by not focusing on how identities that have already been formed either accurately or inaccurately perceive the inner state of another but rather on how the inclusion or exclusion of individuals leads to their empathic perceptions.

Future research could also investigate this topic by including a purposive sampling approach and recruiting participants who more closely represent the educational demographic breakdown of the United States. Future studies may consider using a laboratory approach where participants are asked to identify the inner states of others in a controlled environment where their responses are monitored. Researchers may also consider engaging in an experimental approach where participants are primed with the specific identity

markers before identifying emotional states and compared to groups without the priming condition. This information may indicate a specific cause-and-effect relationship between identity adherence and cognitive empathy.

Research may also be considered to investigate the predictive effects of racial demographics on same-race targets. Post-hoc analysis indicated White identity as a significant positive predictor of the RMET. This demographic also maintained a significant negative relationship with the SIPI. In contrast, Black identity was determined to be a significant negative predictor of the RMET. Black identity also maintained a significant positive relationship with the SIPI. The differences in the predictive abilities of these two demographics upon both cognitive empathy as measured by the RMET and their social and personal identity tendencies warrant further investigation. Scientists may consider how specific cultural differences between these two groups may contribute to these outcomes. Additionally, scientists may also look to develop psychometric scales that include equal representation of racial categories to determine if predictive effects differ between same-race and other-race perceivers and targets.

Implications

This study contributes to the body of scholarly knowledge by adding an understanding of how social identity tendencies impact cognitive empathy. Previous literature indicates that empathy is influenced by the categorization of the self in social contexts related to prosocial behavior (Tarrant et al., 2009) and group membership (Morrison et al., 2012). The current study determined cognitive empathy is not significantly predicted by the ERI. However, the social and personal identity of an individual can

significantly predict scores on the RMET. These findings enhance understanding of mental processes and human behavior by indicating heuristic tendencies can be sufficient predictors of the inner mental states of others. The categorization of the self and the development of identity is a complex process that guides self-navigation throughout social situations. Determining that the ethnic-racial identity of an individual is not a significant predictor for understanding the inner state of another indicates that this variable should not limit how differing backgrounds relate to one another. At the same time, the tendency to adhere more to group identity or more to a separate and distinct identity rooted in self-awareness can influence how empathy is perceived.

Conclusion

The purpose of the current study was to investigate if ERI was a significant positive predictor of cognitive empathy. The study also investigated if social and personal identity was a significant positive predictor of cognitive empathy. Social and personal identity was proposed as a potential mediator for the relationship between ERI and cognitive empathy. The investigation determined a failure to reject the null hypothesis for the predictive effect of CERIS on the RMET. However, a statistically significant relationship between the CERIS and the SIPI, as well as the SIPI and the RMET, was determined during mediation analysis. This finding suggests that the tendency of an individual to associate their identity more with a group or as separate and distinct from the group can predicted by their level of ERI. Furthermore, this group affiliative heuristic is a sufficient predictor of cognitive empathy. Results also indicated racial demographics were significant predictors of cognitive empathy. Investigations into how demographers

between both perceiver and target should be conducted to determine how these predictive effects may differ between groups.

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