

**The Development of Moral Character during Adolescence:  
The Important Role of “Character Role Models”**

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### Abstract

The development of moral character is important during adolescence because of its' implications for serving self and society in mutually beneficial ways (Lerner, 2018). Nucci (2017, 2018) proposes that character is one system in an overall self-system that allows people to act in moral ways, but does not suggest *how* this system develops. Understanding how the character self-system develops may help researchers better understand ways in which adults may be able to promote adolescents' moral character.

Character role models (CRMs) are people adolescents look up to and seek to emulate due to the ways they behave and treat others (Johnson et al., 2016), and they may be a source of moral character development during adolescence. For this dissertation, I extended Nucci's framework of the character self-system to describe some ways that CRMs may influence the development of moral character during adolescence. I then evaluated part of this conceptual model: the relationship between adolescents' relationship quality with their CRM, the CRMs' character socialization practices, and adolescents' moral character development.

To evaluate those parts of the conceptual model, I used three waves of data (spanning about three years) previously collected as part of the Connecting Adolescents Beliefs and Behaviors (CABB) study, which included seven constructs related to moral development that map onto Nucci's (2017, 2018) framework: moral courage, personal moral values, moral purpose, prosocial moral reasoning, perspective taking, empathic concern, and intentional self-regulation. I evaluated adolescents' growth in these seven constructs using latent change score models. The sample from the CABB study consisted of middle and high school youth ( $M = 14.1$ ,  $SD = 1.9$ ) from the New England area of the United States. Over half the youth were girls (59%) and White (57%).

First, I hypothesized that adolescents' growth would be positively related to their CRMs' character socialization practices in the form of moral conversations. Latent change score models showed that CRMs' character socialization practices predicted adolescents' change between Time 1 and 2, and Time 2 and 3 for moral purpose, and from Time 2 to 3 for perspective taking.

Second, I predicted that adolescents' relationship quality with their CRM would moderate this relationship, such that socialization would be more strongly related to growth in moral character when levels of relationship quality were high. Latent change score models supported this prediction for all constructs, but only for the change from Time 2 to 3.

Finally, I evaluated whether CRM type moderated the relationship between adolescents' relationship quality with their CRM or the CRMs' character socialization practices and adolescents' moral character. I predicted that growth in moral character would be higher among adolescents who identified a parent CRM compared to those who selected a non-parent CRM. In contrast to my expectations, higher levels of relationship quality with a non-parent CRM predicted growth in adolescents' moral purpose from Time 2 to 3. Moreover, higher levels of non-parent CRMs' character socialization practices predicted growth in adolescents' perspective taking from Time 2 to 3, and empathic concern from Time 1 to 2.

Results are discussed in relation to Nucci's (2017, 2018) character self-system framework and with historical context in mind. Future directions for research on the role that CRMs play in adolescents' moral character development, and the implications for such research, are discussed.

*Keywords:* moral development, character development, role models, youth-adult relationships, adolescence

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*“Our traditional teachings remind us of our individual obligation to seek knowledge unto the ends of the earth - and of our social obligation to honor and nurture the full potential of every human life.” -His Highness the Aga Khan*

As a member of the Ismaili Muslim community, the value of service to others was instilled in me at a very early age. I was taught that pursuit of education should not focus on the gain for oneself, but to serve society and improve the quality of life of others. These values that are shared by my community, family, and friends, led me to my interest in moral character development and the topic of this dissertation. The path to moral character development is not taken alone, nor is the process to writing this dissertation, which allowed me to showcase a subset of skills I have developed as a doctoral student, but also allowed me to pursue a topic of great importance to me.

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## CHAPTER ONE: INTRODUCTION

*“All adults involved with children either help or thwart children’s growth and development, whether we like it, intend it or not.” – Aristotle*

An important source of an individual’s development, in general, and an adolescent’s development, in particular, is the relationships they have with other people (Lerner & Callina, 2014). There are many people in adolescents’ lives who can influence the moral aspects of their character development. Indeed, moral wellness and values do not emerge by themselves, but need to be nurtured by the adults in adolescents’ lives (Nucci, 2017). Character role models (CRMs) are people adolescents look up to and seek to emulate due to the ways they behave and treat others (Johnson et al., 2016), and accordingly they may be able to promote or shape adolescents’ moral character development.

The development of moral character is important during adolescence because of its’ implications for serving self and society in mutually beneficial ways (Lerner, 2018). In Nucci’s (2017, 2018) conceptualization of the character self-system, he identifies two primary components: the self-system (as a whole), which consists of moral agency and moral identity, and the character system within the self-system, which encompasses moral cognition (e.g., understanding and choosing on how to act on dilemmas), other-regarding social-emotional capacities (e.g., empathy, perspective taking), self-regarding social-emotional capacities (e.g., self-regulation), and moral critical social engagement (e.g., moral purpose, responsive engagement with others). See Figure 1 for a visual depiction of Nucci’s (2017, 2018) character self-system framework.

What is missing from Nucci’s (2017, 2018) character self-system framework is *how* this system develops. Understanding how the character self-system develops may help researchers

better understand ways in which adults may be able to promote adolescents' moral character, which enables them to contribute to creating a more equitable and just society. In this dissertation, I extended Nucci's framework of the character self-system to describe some of the ways in which CRMs may influence the moral aspects of character development during adolescence (see Figure 2 for a conceptual model of this process). The main aim of the dissertation was to evaluate part of this conceptual model: the relationship between adolescents' relationship quality with their CRM and the CRMs' character socialization practices and adolescents' moral character development. To address this aim, I used data collected as part of the Connecting Adolescents Beliefs and Behaviors (CABB) study, a mixed method, multi-reporter study of the positive development of middle and high school students, with a specific focus on character development, role models, and other important relationships (Johnson et al., 2016; Lerner et al., 2020). Although CABB was not explicitly designed to test aspects of Nucci's framework, it included many constructs that map onto it quite well. Below, I outline Nucci's framework, describe how I incorporated this framework into a conceptual model of how CRMs may promote moral character during adolescence, and explain the specific aspects of this model I addressed through the dissertation.

### **What are the Moral Aspects of Character?**

Concepts of character and virtues have been around for centuries; however, there is little agreement about the definition of character and what virtues or character strengths constitute character (Nucci, 2018; Seider et al., 2017; Shubert et al., 2015). Moreover, Nucci (2017) argues that specific virtues cannot be used to define character, as they are inconsistently identified across cultures, time, and contexts. Instead, many scholars view morality as being at the heart of character (e.g., Lerner & Callina, 2014; Lickona, 2014; Nucci, 2017). For example, Lickona

(2014) argued that performance virtues combined with a moral purpose can contribute to the betterment of society, but without moral purpose, performance virtues can be self-serving, and not a *character* virtue. Accordingly, I refer to ‘moral character’ and ‘character’ interchangeably because morality is implied within the term ‘character’ in the way it is currently used by most scholars and researchers.

Nucci (2017, 2018) proposes that character is one system in an overall self-system that allows people to act in moral ways. The larger self-system consists of two important components. The first component is a sense of agency, meaning the individual has a choice in how to behave from one context to another. The second component of the larger self-system consists of an identity unique to the individual, which includes areas such as gender identity or one’s identity within their family (Nucci, 2017). Within each of these components of the self-system (i.e., agency and identity) are aspects of morality (i.e., moral agency and moral identity). Nucci (2017) thus states that “[c]haracter is not a collection of virtues, personality traits, or reducible to identity, but a system that enables the person to engage the social world as a moral agent” (p. 12).

Within this larger self-system, Nucci (2017, 2018) proposes a character system that includes moral wellness and social engagement, highlighting that “[a]t its core, character is about making moral choices” (Nucci, 2018, p. 3). Moral wellness itself includes three parts. The first component is basic moral cognition, which refers to identifying and understanding a moral situation, and then choosing how to act in such a situation. The second component is other-regarding social-emotional capacities, which refers to identifying and responding to the emotions and needs of others using skills such as empathic concern and perspective taking. The final component is self-regarding social-emotional capacities, which is comprised of skills that

individuals can use in both moral and nonmoral situations, such as emotion regulation and executive functioning. These three components form the foundation of moral wellness but do not, according to Nucci (2017), encompass the whole of the moral character system. The final component, moral critical social engagement, involves developing a moral purpose and engaging with others regarding moral topics, which has the potential to result in moral change in society.

### **The Role of Adults in Adolescents' Character Development**

The overall framework for this dissertation comes from the RDS metatheory. This metatheory, which is derived from the process-relational paradigm (Overton, 2015), states that there are “mutually beneficial relations, that vary across ontogenetic time and contextual location (place), between person and context and..., in particular, between the individual and other individuals that comprise his/her context” (Lerner & Callina, 2014, p. 323). The development of moral character throughout the lifespan is inherently interpersonal, where youth are not only learning from the people in their environment (e.g., parents, teachers, peers), but also contributing to others and the environment (Lerner & Callina, 2014; Thompson & Winer, 2014). The literature on moral development highlights adolescence as a vital period, and moral development is crucial, because it prepares youth to become contributing members in society.

The process by which *character* development takes place within relationships has been studied less than the process of *moral* development, which has primarily focused on youths' relationships with parents. Parents have a specific role when it comes to promoting moral character development in adolescents. They, generally, know their child better than anyone else, providing them with added experience in educating and responding to their child (Pasupathi, 2014). Moreover, they likely spend more time with their child than any other adult in their child's life and have the most long-lasting relationship with their child. In addition to parents,

however, there are many others (including teachers, mentors, coaches, and religious leaders) who may support adolescents' moral character development (Bugental & Goodnow, 1998).

### **Character Role Models**

One way that adults may influence adolescents' moral character development is through being a role model. Generally, role models are defined as individuals whom people "look up to" (Hurd et al., 2009, p. 781). Though it was previously believed that youth primarily identified athletes, musicians, or other famous individuals as role models (e.g., Hurd et al., 2009), research has found that people whom youth are close to, such as parents, other family members, friends, teachers, and other adults are also identified frequently as role models, with parents typically being the most commonly identified (Bucher, 1998; Hurd et al., 2009; Stern et al., 2018; Yancey et al., 2002). Moreover, when asked about why they identified these individuals as models, youth often shared that these people had competencies they would like to possess and because they acted morally (Bucher, 1998). These findings are encouraging because it means that it is adults with whom youth have close contact with that have the potential to influence them through their own behaviors.

Whereas there are many reasons adolescents may look up to others in their lives, character role models – CRMs – are people whom adolescents "look up to" and seek to emulate *due to the ways they behave and treat others* (Johnson et al., 2016). CRMs can be parents, other adults in an adolescent's life, siblings, peers, and even famous people. Every person has the potential to be a CRM, but youth specifically identify individuals as their CRMs because they have qualities that adolescents think make them a "good" person. Although famous people may be CRMs, for this dissertation, I focused on and refer to CRMs as individuals whom adolescents know, have a personal relationship with, and interact with (i.e., not famous people), because

these CRMs have the most potential to influence adolescents directly (e.g., through conversations).

CRMs are a potentially powerful influence on adolescents' behaviors, including the development of the moral aspects of character, because of the role they may play in socializing youth, either directly (e.g., conversations) or indirectly (e.g., modeling). In a sample of adolescents in the New England area of the United States, Johnson and colleagues (2016) found that a majority of adolescents (64%) were able to identify a CRM, and these individuals were primarily family members. Although majority of youth may be able to identify a CRM, little research has explored the relationships between youth and their CRMs (see Johnson et al., 2016, as an exception). Greater understanding is needed about how adolescents choose individuals whom they identify as good or moral people, and the influence that these people have on them and their behaviors. In addition, understanding the processes by which these individuals may influence adolescents can provide very important information for adults who interact with youth and want to promote their character development.

### **Moral Character during Adolescence and the Process by which CRMs may Promote It**

There are some key features of relationships that support positive development, generally, and moral development, specifically. These key features are typically referred to as aspects of socialization. In this dissertation, I integrated Nucci's (2017, 2018) framework with theory and research on socialization practices to understand the process of how CRMs may promote moral character during adolescence. See Figure 2 for a conceptual model of this process.

Socialization comes in many forms. One form of socialization that has been studied extensively is meaningful conversations with youth that help them better understand their roles

in society (Grusec, 2014). Another form of socialization is modeling, where adults demonstrate ways in which they want youth to behave, thus, encouraging these behaviors in youth (Berkowitz & Grych, 1998). For this dissertation, I focused on socialization in the form of meaningful conversations, which was measured in the CABB Study, because such conversations can support in the development of youths' life narratives, which results in the development of a sense of who they are and what makes their life meaningful (Walker & Frimer, 2007). Finally, I note that the structure and content of socialization likely differ both within and between cultures (Wang et al., 2000). I focused on literature from European and American samples, because the majority of published research on this topic has been done in those areas, and because the CABB study took place in the U.S.

In order for socialization processes to be effective, adolescents may need to have nurturing relationships with their CRMs. Youth flourish in many settings where adults (e.g., parents, teachers) are warm and caring (e.g., Berkowitz & Grych, 1998; Roehlkepartain et al., 2017; Wentzel, 2002), and they are more receptive to guidance from adults with whom they are close (Grusec, 2014). Although there is little literature on CRMs specifically, adolescents' relationships with role models (generally) and other important adults, such as mentors, have frequently been studied (Rhodes, 2020). For example, the literature on mentoring relationships indicates that aspects of relationship quality, such as emotional closeness, are associated with positive outcomes for youth through developing more frequent contact and longer-term relationships with the mentor (Parra et al., 2002), and through instrumental aid (e.g., goal setting; Lyons et al., 2019). Moreover, Bowers and colleagues (2012, 2014) found positive associations between youth having a non-parental adult in whom they could confide about their problems and higher levels of character, compared to youth who did not have such an adult in their life. In a

prior analysis of CABB data, Johnson and colleagues (2016) found that one of the primary reasons that youth identified specific people as CRMs was due to how those people treated them or others. On average adolescents rated their CRMs highly on relationship quality as well as socialization practices. Because adolescent-CRM relationships share some features in common with the relationships that adolescents have with important adults in general, it is reasonable to extrapolate that CRMs who participate in socialization practices and have warm, caring relationships with youth, are likely to be able to influence them in their development, generally, and their moral character development, specifically.

In the following sections, I review each component of Nucci's framework. Within each component, I first discuss important development that is taking place during adolescence. I then describe socialization practices of adults who may support the development of that component. I focused particularly on conversations given that this socialization practice was included in the CABB study. Because very little research has been done on CRMs, specifically, in the following sections, I draw from research on adults, and use the terms *adults*, *parents*, etc. when discussing the research. However, when drawing conclusions on how these processes may be similar to or different for CRMs, I refer to them as *CRMs*.

Although I present the sections separately, it is important to note that the character self-systems framework as depicted by Nucci (2018; see Figure 1) does not consist of many individual, distinct circles, each one consisting of a single component. The figure, instead, depicts the system as a single, large self-system (consisting of moral agency and identity) and the character system within that self-system. Accordingly, the socialization practices that promote adolescents' development within one part of Nucci's (2017, 2018) framework likely promote other parts of the framework as well.

In each section, I focus on the constructs within the CABB dataset that were included in the dissertation. As previously mentioned, the CABB study was not originally designed to test Nucci's framework. Therefore, not all parts of the framework are represented, and some parts are represented through constructs that are similar to – but not completely the same as – constructs within Nucci's framework. See Figure 3 for constructs within the CABB dataset and how they map onto components of Nucci's character self-systems framework.

### **The Overall Self-System**

#### ***Moral Agency***

Adolescents, like all people, make choices, big and small, at every moment. Although morality is often discussed as being a stable, fixed characteristic that one does or does not have, people's behavior often differs between situations (Ardelt, 2000), and, at least in part, is responsive to context (Overton, 2015; Sobesky, 1983; Steinberg, 2017). For example, compared to children and adults, adolescents take their peers into consideration more when making risky decisions (Powers et al., 2018), and their emotions more strongly influence the decisions they make (Lee et al., 2018). Thus, an important component of moral character is adolescents' agency to make decisions in a particular situation.

A sense of responsibility over decisions is one way in which adolescents express their agency, and it tends to grow during adolescence (Hardy & Carlo, 2011). Because adolescents are better able to understand ownership over their own actions, thoughts and feelings than children, they are able to make better choices and hold themselves accountable for their actions (Blasi, 2001; Hardy & Carlo, 2011). The CABB study included items related specifically to moral courage, or the decision to act in a morally relevant situation. Moral courage includes similar components as moral agency (i.e., taking responsibility, choosing to act in a specific situation) so

it may be one way in which moral agency is expressed. Moral courage also involves components of moral reasoning (discussed below).

The process by which responsibility develops, and thus, adolescents' agency develops, is, at least in part, attributable to what they observe and learn from people around them. When considering the adolescent ↔ CRM relationship, it is not only important to understand the CRMs' role in the socialization process, but also how adolescents learn and exert their own agency into the process. In this dissertation, I explored if CRMs' character socialization about being a good person promoted growth in adolescents' moral courage (which I used as a proxy for moral agency and moral reasoning).

**Adult's Role in the Development of Moral Agency.** Conversations are not one-directional but involve two active parties. With the emergence of adolescence comes new cognitive skills that allow for more sophisticated and richer conversations with adults and with adolescents playing the leading role in conversations (Wainryb & Recchia, 2014). Research on socialization between parents and children reflects a similar framework, where youth are not always receptive to what the parent says, but instead are active agents, making their own choices and drawing their own conclusions (Grusec, 2014). In the case of moral socialization, youth may choose to accept their parents' views on a certain topic, they may reject their parents' views outright, or they may find alternatives, trying to negotiate the outcome of the conversation (Grusec, 2014).

Moral conversations can be delicate matters, sometimes taking place because of adolescents' wrongdoings. In such situations, warm, caring relationships are important for socialization. For healthy conversations to take place, it is important that adolescents think they have a choice in the matter, and their parents are not threatening their sense of autonomy (Deci &

Ryan, 1985). However, when parents or other adults use power or punishment without providing sufficient reason or the opportunity for negotiation, it may result in the adolescent being less open to participating in moral conversations, and they may not take away foundational lessons in morality (Baumrind, 2012). Thus, adults' approach to socialization of moral behaviors should provide youth with a sense of agency.

There are other benefits to youth feeling safe and comfortable with the adults around them, for instance, it may help them be more open to difficult conversations about morality (Recchia et al., 2014; Wainryb & Recchia, 2014) and even disclose their own wrongdoings (Tokić & Pećnik, 2011), both of which provide opportunities to grow as moral agents. Parents can provide an important context for such development if youth feel that their parents will love them unconditionally, and they can disagree with their parents without risking destroying the relationship (Wainryb & Recchia, 2014). Strong, unconditionally supportive relationships with other adults, such as a CRM, may allow similar challenging conversations to take place.

**CRMs Potential Role in the Development of Moral Agency.** CRMs, who are held at a high level of esteem as 'good people,' may be able to similarly promote positive agentic behaviors in youth, and such promotion may be perceived as more valuable coming from a CRM than from another person. For example, if an adolescent has been helpful to another person, the CRM may provide them with positive feedback, such as praise, and emphasize that they chose to be helpful (i.e., highlighting their agency), which may, in turn, promote future agentic moral behaviors. If the adult is not a CRM, the adolescent *may* not receive or value the feedback in the same way as they would if it came from someone whom they look up to as a 'good' person. In this dissertation, I explored if conversations with CRMs about how to be a good person were associated with change in adolescents' moral courage, and whether that association was stronger

in the context of better relationship quality. Moreover, I evaluated if adolescents' growth in moral courage differed between parent and non-parent CRMs.

### ***Moral Identity***

As youth transition from childhood into adolescence, they begin to explore who they are as individuals. When compared to childhood, adolescence is associated with more identity exploration (Eisenberg et al., 2009; Morris et al., 2011). One part of identity development involves moral identity, in which adolescents begin defining themselves “in terms of moral values, behaviors, and roles” (Morris et al., 2011, p. 52). Some theorists argue that moral identity development is the primary goal of identity development as a whole, because moral identity promotes social relationships and the well-being of individuals and those with whom they interact (as summarized in Hardy & Carlo, 2005).

Moral identity formation is also important because, as Blasi (1983) theorizes, moral identity often leads to moral action, as people generally want to live in ways that are consistent with how they perceive themselves. Thus, if youth perceive themselves as moral, it may result in them behaving in moral ways (as summarized in Hardy & Carlo, 2005). In some research, a greater sense of moral identity during adolescence has been associated with more prosocial behaviors and civic engagement (Porter, 2013; Sunil & Verma, 2018), both of which are typically considered moral behaviors.

The process of moral identity development occurs in conjunction with other developmental processes such as agency and moral critical social engagement. By testing out a variety of behaviors, values and different roles in their communities, adolescents can work towards understanding and building their moral identity (Pasupathi, 2014). Such behaviors that promote their moral identity may become part of their life narratives, in which adolescents'

construct a story of who they are, their purpose, and what makes their life meaningful (Walker & Frimer, 2007). Important individuals in adolescents' lives, such as CRMs, can support this developmental process through socialization practices such as conversations, which I evaluated in this dissertation.

**Adult's Role in the Development of Moral Identity.** Joint conversations with adults can help youth construct a sense of who they are as moral people. Adults may help adolescents understand the moral values that are important for them (i.e., their moral identity) and why they behave in certain ways (Berkowitz & Grych, 1998). For instance, if a parent shares food with someone in need, they may explain to their child that not everyone has enough money to buy food for themselves or their family, and that it is important that people who are fortunate enough to have such resources share with those who are not.

Another way in which conversations can support adolescents' moral identity development is through discussion about adolescents' own behaviors. Youth receive feedback, both positive and negative, from adults about their behaviors or thoughts, and are able to continue with similar behaviors or modify their behaviors according to who they feel they should be (Pasupathi, 2014). If the adolescent does something wrong, parents may share that they know they can be better or do better, and they may even have them recall times when they did behave better, thus sharing that they believe their teenager to be good, even if they made a mistake this time (Pasupathi, 2014). Moreover, when parents and youth discuss the same behaviors repeatedly, such as remembering a time when the youth did something good, it is more likely to become a memorable part of their story (Pasupathi, 2001), and imbue these events as being morally significant for the adolescent. Eventually, these values may become part of an adolescents' moral identity.

**CRMs Potential Role in the Development of Moral Identity.** Although I found no literature on the topic, adults may be able to support moral identity formation through conversations that ask youth to consider what kind of person they want to be. For instance, parents' conversations with children about current events or politics predicted beliefs that may be considered part of youths' civic identity, such as their civic values and a sense of responsibility to their community and to other people (White & Mistry, 2016). CRMs may be well situated to have morally relevant conversations because adolescents perceive them as being 'good' people, and therefore, they may be unlikely to be seen as hypocrites. Such discussions may span from conversations about moral or character attributes they want to possess, career goals they have (e.g., ones that serve themselves versus serving others), or relationships they want to have with others (e.g., how they want to treat and be treated by others). Through frequent conversations about the kinds of people they want to grow up to become, and good models (i.e., CRMs) to look up to, such conversations may benefit moral identity formation.

### **The Character Self-System**

#### ***Moral Cognition/Reasoning***

The first component of the character self-system, as defined by Nucci (2017, 2018) is moral cognition, which refers to identifying and understanding a moral dilemma, and then choosing how to act on that dilemma. This process is also commonly called moral reasoning. Similar to moral identity, as children enter adolescence, they begin to understand the needs and expectations of others, thereby showing growth in their moral reasoning (Carlo, 2006).

Kohlberg (1981) outlined stages of moral development, where prior to adolescence, children behave in accordance to the rules hoping to avoid punishment, and to satisfy their own needs. It is during adolescence, however, when Kohlberg believed conventional moral reasoning

begins to emerge, with adolescents acting in ways that they believe to be good in order to fulfill social expectations, as opposed to simply acting in ways that meet their own needs. This stage then prepares adolescents for future stages in which they support in maintaining social systems (by following laws and obeying authority figures), and working to support the greater good (Kohlberg, 1981). Although many have questioned the fixed nature and linearity of Kohlberg's stages of moral development, it is still agreed upon that adolescence is an important period during which developmental processes (e.g., moral reasoning) necessary for moral development occur (Eisenberg et al., 2005; Morris et al., 2011; Rest et al., 1999).

Prosocial moral reasoning, one type of moral reasoning, is "reasoning about moral dilemmas in which one person's needs or desires conflict with those of others in a context in which the role of prohibitions, authorities' dictates, and formal obligations is minimal" (Eisenberg, 1986; as cited in Eisenberg et al., 2009, p. 233). Thus, prosocial moral reasoning is less focused on what is just or right, and more focused on the needs of others in relation to the needs of the self. This type of moral reasoning is associated with higher levels of prosocial behaviors during adolescence (Carlo et al., 2011).

As adolescents progress through life, there are many factors that can influence the development of moral reasoning, including their cognitive abilities, encounters they have with moral issues and what they learn from those encounters, and importantly (and the primary focus of this dissertation), the values and skills they learn from their social contexts, including their parents, schools, and peers (Berkowitz, 2012). What is missing from the literature, however, is if frequent conversations with people whom adolescents look up to as examples of 'good' people (i.e., their CRMs) are associated with growth in skills such as moral reasoning.

**Adult's Role in the Development of Moral Cognition/Reasoning.** Adults, such as CRMs, in adolescents' lives are one factor that can influence the development of moral cognition. For instance, parenting style is associated with moral reasoning in youth. Authoritative parents embody important characteristics discussed earlier: they are often warm and nurturing, but they also set certain expectations and are open to communication and negotiation with their children. Children of authoritative parents tend to have mature moral reasoning skills (Baumrind, 2008).

As discussed earlier, specific parenting practices are associated with effective socialization through conversations. This point is especially true as it relates to moral cognition: when people are in affectively positive contexts, it improves their cognitive processing skills (e.g., creative problem solving, working memory; Ashby et al., 1999). So, parents who create positive contexts for conversations about morally salient topics, even difficult ones, promote youth's ability to think through moral dilemmas more creatively and perhaps even make better decisions (Grusec, 2014). Positive mood during such conversations can also facilitate recall of these conversations for future reference by the adolescent (Ashby et al., 1999). Research has found that youth are more likely to develop prosocial reasoning when parents have conversations with them about their values (van Goethem et al., 2014).

Two forms of conversations are primarily salient for building moral reasoning: induction and transactive discussions. Induction involves adults explaining why they are behaving in certain ways and what that means for others, thereby connecting moral reasoning with other-regarding social emotional capacities (such as empathy; Berkowitz & Grych, 1998). Through induction, adults are "explicitly link[ing] the self and other, simultaneously stimulating children's

understanding of the reasons for choosing one behaviour over another and the impact of that behaviour on another person” (Berkowitz & Grych, 1998, pp. 381–382).

Different from induction, transactive discussions allow both youth and adults to play more active roles in conversations, and involves acts such as paraphrasing, analyzing and extending conversations about moral topics (Berkowitz & Grych, 1998). Transactive discussions, when done at a slightly higher developmental level than the adolescent, can challenge them and may contribute to moral reasoning development (Walker & Taylor, 1991). For adolescents, such conversations may include discussions about racial injustices in America or how certain institutions may (intentionally or unintentionally) perpetuate systemic racism. These conversations give adolescents opportunities to learn about new topics, ask questions, think through challenging ideas, and continue to develop their ideas about right and wrong. When adults have such conversations with youth, they are likely learning important moral cognition skills, such as how to identify and understand a moral dilemma, and then choose on how to act on that dilemma.

**CRMs Potential Role in the Development of Moral Cognition/Reasoning.** Although the research in this area has, once again, primarily focused on parent-child conversations, research from the mentoring literature indicates that mentors can provide instrumental support to youth (e.g., through fostering goal setting behaviors; Lyons et al., 2019). Such instrumental support might include conversations of ways in which mentors set their own goals (e.g., drawing from their own experiences), and supporting youth in doing the same. I extrapolate that CRMs have the potential to have similar conversations about moral topics with adolescents. For example, CRMs *may* have encountered their own moral dilemmas and have reflected on how they acted or wished they had acted in such situations. These experiences can provide good

examples to share through both induction and transactive discussions. Moreover, prior experiences with moral dilemmas may have educated CRMs in what aspects need to be considered when making moral decisions, thereby providing them with questions to help challenge adolescents' reasoning. In this dissertation, I explored if conversations with CRMs about how to be a good person were associated with change in adolescents' moral reasoning, and whether that association was stronger in the context of better relationship quality.

### *Other-Regarding Social-Emotional Capacities*

The second component of moral wellness, as defined by Nucci (2018), is other-regarding social-emotional capacities, which involve identifying and responding to the emotions and needs of others using skills such as empathic concern and perspective taking. They are also associated with moral reasoning skills (Eisenberg et al., 2005, 2009). These skills continue to develop throughout adolescence and into adulthood (Eisenberg et al., 2005, 2009). Emotions such as empathy, shame, and guilt are morally situated (i.e., occur in response to interactions with others), and therefore are important in the development of morality (Hardy & Carlo, 2011).

Feelings of empathy, or experiencing the emotions of someone else, sometimes leads to empathic concern, which is feeling concern for that person (Davis, 1983). The literature on empathy clearly shows that it begins to develop early in childhood; however, empathic concern may continue to grow simultaneously with other cognitive developments taking place during adolescence (e.g., perspective-taking; Batson, 2009; Hoffman, 2000).

Perspective taking is the ability to see things from another person's point-of-view, and increases during the adolescent years (Van der Graaff et al., 2018). Selman (1975) states that perspective taking begins during pre-adolescence, when youth begin thinking in terms of third-person perspectives, and during later adolescence becomes more sophisticated, with the ability to

take multiple perspectives, realizing that the other party has complex thoughts, values, and emotions different from one self. Adolescents learn perspective-taking from others, and it often involves learning related skills, such as empathic concern (Miklikowska et al., 2011).

**Adult's Role in the Development of Other-Regarding Social-Emotional Capacities.**

Adults also play an important role in the development of other-regarding social-emotional capacities. Skills such as empathy and perspective taking begin to develop during childhood, but adults can continue to develop and nurture these skills during adolescence through conversations.

Induction, one form of socialization, not only supports in the development of moral reasoning, but also in other-regarding social-emotional capacities. During induction, adults challenge youth to consider how their actions have consequences (both positive and negative) for others, and how others may feel about those experiences, thereby asking adolescents' to take the perspective of others (Berkowitz & Grych, 1998). Recchia (2014) found that during such conversations about youths' helpful or harmful actions, children focus on the concrete behaviors of their actions, whereas adolescents focus on the psychological aspects of the conversation, indicating that these conversations become more sophisticated as youth age.

These conversations, however, may not only happen in relation to discussions of adolescents' behaviors, but can also take place in day-to-day discussions about the behaviors of others (Berkowitz & Grych, 1998), such as peers, people in media, etc. Ultimately, induction supports not only perspective-taking, but also the development of empathy. Parental induction is associated with empathy in youth (Lopez et al., 2001), and therefore may provide a long-lasting form of socialization as it relates to the development of other-regarding social-emotional capacities. At the same time, however, adolescents begin to de-idealize their parents, perceiving their parents as imperfect (Steinberg, 2017) and developing a sense of autonomy (Grusec, 2014)

and identity that is distinct from their parents. Youth may, in turn, challenge their parents and point out times when their parent was not empathic towards or took the perspective of others, realizing their parents' imperfections and viewing them more as people. Youth may use these realizations as opportunities to navigate their own identity around how they treat others. Such conversations may also serve as a form of socialization.

**CRMs Potential Role in the Development of Other-Regarding Social-Emotional Capacities.** CRMs may, once again, have advantage over other adults in promoting other-regarding social-emotional capacities. Because they themselves are 'good' people, at least from the perspective of adolescents, they may be skilled at taking the perspective of and being empathic towards others. Johnson and colleagues (2016) found that youth identified CRMs who treated them, or others, well (although the researchers did not evaluate these characteristics of the CRMs directly). Assuming that CRMs have skills such as perspective-taking and empathic concern, they may be better able to promote such skills in adolescents through induction than other adults who are not able to express such skills well. In this dissertation, I explored whether CRMs' character socialization in the form of conversations about being a good person was associated with change in adolescents' empathic concern and perspective taking, and if that association was stronger in the context of better relationship quality.

### *Self-Regarding Social-Emotional Capacities*

Nucci (2017, 2018) describes self-regarding social emotional capacities as skills such as executive functioning and emotion regulation that allow people to act on a variety of dilemmas. Executive functioning includes a variety of cognitive processes, such as self-regulation, self-monitoring, and inhibition. All of these skills are largely developed during adolescence, in conjunction with the development of the prefrontal cortex (Goldstein et al., 2014), and can help

youth not only plan for how they want to act in the future, but potentially also in the moment when a decision needs to be made.

Self-regulation is one facet of executive functioning, as it allows individuals to pursue goal-directed behaviors. Self-regulation is defined as “the ability to flexibly activate, monitor, inhibit, persevere and/or adapt one’s behavior, attention, emotions and cognitive strategies in response to direction from internal cues, environmental stimuli and feedback from others, in an attempt to attain personally-relevant goals” (Moilanen, 2007, p. 835). The ability to self-regulate is associated with many positive outcomes during adolescence, such as achieving higher levels of education (Duckworth et al., 2007), positive social relationships (Bowers et al., 2012), and the 5 Cs of PYD (confidence, competence, character, caring, and connection; Gestsdóttir & Lerner, 2007).

As it relates to emotion regulation and moral development, situations that require moral judgments to be made will likely be emotionally charged, thus, requiring some use of emotion regulation (Grusec, 2014). Emotions are particularly influential in decision making during adolescence (Lee et al., 2018), primarily as a result of neurological development taking place during this stage of development (Steinberg, 2008). Self-regulation is also important during adolescence because it can play a role in experiences of sympathy and empathy towards others (Eisenberg, 2010). For example, self-regulation is “likely to be involved in integrating information, planning, and executing other mental activities that might help an individual interpret information about another and feel competent to deal with negatively valenced vicarious emotion[s]” and it may result in whether someone responds to such experiences in prosocial ways (Eisenberg, 2010, p. 5). Adolescents’ executive functioning can be nurtured by the adults in their lives (Sosic-Vasic et al., 2017).

**Adult's Role in the Development of Self-Regarding Social-Emotional Capacities.**

Parents' socialization practices continue to support the development of self-regulation throughout adolescence (Hay & Forrest, 2006). Consistent with prior discussions on relationship quality, adolescents' relationship quality with their parents is associated with higher levels of self-regulation (Farley & Kim-Spoon, 2014; Finkenauer et al., 2005; Moilanen et al., 2010). Parent-adolescent positive interactions, such as parents listening to their child and enjoying spending time with their child, are also associated with higher levels of self-regulation (Kim & Brody, 2005).

Non-parental adults, such as mentors, can also promote self-regulation during adolescence. For instance, Bowers and colleagues (2016) found that youth showed growth in intentional self-regulation (ISR) after some time in a mentoring relationship. In this study, they highlighted the importance of long-term, enduring relationships in order to see positive effects (Bowers et al., 2016), which is consistent with previous research on mentoring relationships (Rhodes, 2005). Moreover, similar to the need for warm, caring relationships with parents in promoting other aspects of moral character development, Bowers and colleagues (2016) found a positive relationship between closeness to a mentor and ISR, thus, indicating that relationship quality is an important factor for the development of self-regulation.

Through opportunities to discuss situations that arise and practice skills, adults can promote executive functioning, such as self-regulation, during adolescence (Murray & Rosanbalm, 2017); however, I found no research on the types of conversations that may support the development of self-regulation. There is, however, a body of research on how adults may promote emotion regulation and guided goal setting, and this research may also apply to self-regulation, given that they are all forms of executive functioning.

For emotion regulation, when emotions are shared and discussed with adults whom youth feel safe, adults can participate in a process known as emotional coaching, which can help youth learn what their emotion is, how to interpret their feelings, and appropriate ways to express and regulate their emotions (e.g., Gottman et al., 1996; Thompson, 2010; Waters et al., 2010; Zeman et al., 2006). Through conversations with adults, what youth learn and take away from moral discussions may influence how they react in future situations that require them to make challenging moral judgements. Having had these conversations before such situations may allow youth to plan what they would do and how they may respond (i.e., self-regulation).

Guided goal setting is another way in which adults may be able to promote self-regulation during adolescence. The mentoring literature has evaluated guided goal setting as a form of instrumental mentoring, which involves setting specific, attainable, and measurable goals, typically in an academic context (e.g., McQuillin et al., 2015). Conversations around goal setting with a mentor may include deciding on academic goals and making plans on how to achieve those goals. These lessons on goal-setting may promote overall self-regulation during adolescence.

**CRMs Potential Role in the Development of Self-Regarding Social-Emotional Capacities.** When considering CRMs' roles in the development of self-regarding social-emotional capacities, the same argument can be made as with other-regarding social-emotional capacities. It may be that CRMs have higher levels of these skills than other adults (perhaps those capacities may even be the reason why the adolescent chose them as their CRM), and thereby may be able to provide additional feedback and coaching to adolescents on what they might do in morally salient situations and how they may respond. In this dissertation, I evaluated if more frequent conversations with their CRM about how to be a good person was associated

with growth in adolescents' ISR, and if that association was stronger in the context of better relationship quality.

### ***Moral Critical Social Engagement***

According to Nucci (2017, 2018), the aim of moral character development is to benefit one's community and/or society at large; therefore, the final piece, and ultimate outcome, of the character self-system is the development of moral critical social engagement. Nucci (2018) describes moral critical social engagement as involving the ability of an individual to communicate and engage with others regarding moral topics (i.e., responsively and transactionally) and develop a moral purpose, with the ultimate aim of benefiting society. Thus, in order to enact moral critical social engagement, all of the components of the self-system described above are necessary. Although moral critical social engagement is the outcome consisting of the earlier components of the character self-system, it can also directly be nurtured during adolescence through the development of a moral purpose and by fostering discourse skills that may support youth in creating moral change (Nucci et al., 2015). For the purpose of this dissertation, I focused on the development of moral purpose.

For this dissertation, I conceptualized purpose using Damon and colleague's (2003) definition: "Purpose is a stable and generalized intention to accomplish something that is at once meaningful to the self and of consequence to the world beyond the self" (p. 121). When defined this way, purpose has been associated with commitment to a moral cause, high self-esteem, and achievement (see Damon et al., 2003).

In his evaluation of purpose during adolescence, Damon (2008) categorized youth into one of four groups representing their level of purpose: the disengaged were youth with no sense of purpose; the dreamers were youth who expressed some ideas of purpose without taking steps

to achieve them; the dabblers were youth who were engaged in purposeful activities, but lacked long-term goals and meaning in the activities; and the purposeful were youth who found meaning in purposeful activities and were pursuing them. They found that only about 20% of adolescents were categorized as purposeful (Damon, 2008). However, the development of purpose is a process that can take many years, or even a lifetime, to achieve, and individuals may go through many stages of seeking purpose. For instance, in her evaluation of adolescents who were already leading purposeful lives, Bronk (2012) found that these youth pursued actions towards purposeful goals prior to finding those actions meaningful. Damon (2008) would have possibly categorized these youth as ‘dabblers.’

Because many youth do not achieve Damon’s (2008) definition of purposefulness during adolescence, another way in which researchers have evaluated purpose is through asking youth about their life goals, which is consistent with how the CABB study evaluated youth purpose. In their evaluation of life goals across age groups, Johnson and colleagues (2018) found that the configuration of life goals is more nuanced for individuals in college or graduate school than it is for high school students, concluding that one’s goals may narrow with age. One component of purpose in Damon and colleagues framework is having other-oriented life goals (Damon, 2008; Malin et al., 2014, 2017). By having other-oriented life goals, and focusing those goals with the support of others, youth can find areas of importance and interest to them and follow through on those interests with intention to achieve a moral purpose (Damon, 2008).

In addition to building moral purpose, adolescence is also a critical time during which important cognitive development is taking place, as described earlier, including youths’ ability to begin to understand complex, multifaceted social issues, and discussing these topics across multiple domains (i.e., morality and societal expectations; Nucci et al., 2015). When classroom

instruction provides more opportunities to discuss and write about morally relevant historical topics, middle-schoolers show increases in their moral reasoning, understanding of social conventions, and the ability to consider both the moral and societal conventions in their conversations with peers and within their written assignments (Nucci et al., 2015). Thus, providing youth with similar opportunities to reflect on and converse about moral issues may support them in the development of moral identity, moral purpose and moral critical social engagement.

#### **Adult's Role in the Development of Moral Critical Social Engagement.**

Conversations with parents, CRMs, and other adults have the potential to support youth in the development of a moral purpose, which may result in moral change in society (Damon, 2008). Like the process of developing a moral identity, the development of a moral purpose, and therefore moral critical social engagement, can be nurtured by parents' relationships with youth, as well as the conversations that parents have with youth about their behaviors (Gagné, 2003; Liang et al., 2018). The type of relationship that youth have with parents is also important for the development of moral purpose. For example, youth who are more purposeful describe their parents as being supportive and allowing them to explore their interests (Spencer et al., 2016).

In Damon's (2008) book *A Path to Purpose*, he found that most purposeful youth stumbled onto an area of interest where they ultimately found purpose. However, important individuals, such as parents, mentors, and even peers can support in the development of purpose (e.g., Bronk, 2012; Damon, 2008). Bronk (2012) found that adults and peers were integral support systems in searching for and finding opportunities to nurture their purpose and overcome challenges.

Some research also suggests that moral purpose may be fostered using skills similar to those used to foster perspective-taking, empathy or prosocial reasoning (Dunn, 2014; Liang et al., 2018). One type of conversation that youth may have with adults is about their moral responsibilities. Parents are able to encourage their children to consider the needs of others through their conversations and behaviors (Yoo et al., 2013). Moreover, if youth are receiving the messages that their society and culture values moral behaviors within school or work settings, then they are also likely to embody more moral behaviors (Nunner-Winkler, 2007).

Adults conversations with youth can also promote skills that allow youth to engage with important moral topics in society (Nucci, 2017, 2018). For example, adults may challenge youth to try something new (e.g., considering a moral dilemma they may not have encountered before), and provide support throughout the learning process, while also gradually reducing that support to help youth gain independence in being able to do the task alone (i.e., scaffolding and guided learning; see Grusec, 2014 for summary). Taking an active role in these conversations is necessary for the development of moral critical social engagement (Nucci et al., 2015).

In addition to conversations with parents and other adults, another setting in which such active responsibility can be nurtured during adolescence is in school. Teachers and school leaders, who have the potential to be CRMs for youth, can promote the building of moral purpose and responsibility through developing just communities, in which democratic participation (e.g., supporting the schools in creating and upholding the rules of the schools) is encouraged, thereby perhaps promoting prosocial behaviors, the development of moral purpose, and ultimately, moral critical social engagement (Nunner-Winkler, 2007).

### **CRMs Potential Role in the Development of Moral Critical Social Engagement.**

Youth look up to their CRMs for varied reasons, but all of them relate to the youth feeling this

individual is a ‘good’ person. It is possible, and maybe even likely, that CRMs have found their own moral purpose, or, at the very least, model other-oriented behaviors for youth. CRMs’ own moral purpose or desire to help others may encourage youth to not only ask their CRMs about moral topics, but also be willing to engage in discussions about their moral responsibilities and moral dilemmas that exist, in either their life or in society. These conversations may lead to youth developing their own moral purpose, and therefore, moral critical social engagement. In this dissertation, I evaluated if more frequent conversations with their CRM about how to be a good person was associated with growth in adolescents’ moral purpose, and if that association was stronger in the context of better relationship quality.

### **The Current Investigation**

The primary aim of this dissertation was to evaluate the role that CRMs may play in adolescents’ growth in moral character development. There is little research that has focused directly on adolescents’ CRMs. However, as others have noted (e.g., Berkowitz, 2012), findings related to what works in parent-child relationships, and the smaller literature on teacher-child relationships, can provide a useful starting point for thinking about adult-youth relationships in general, and CRMs in particular. That literature suggests two primary ways that adults may be able to promote the development of the character self-system: the quality of their relationships with the adolescent (e.g., Baumrind, 2008; Deci & Ryan, 1985; Moilanen et al., 2010) and their socialization practices, particularly the conversations they have with the adolescent (e.g., Berkowitz & Grych, 1998; Pasupathi, 2001; Recchia et al., 2014).

For this dissertation, I used previously collected data from the CABB study, which includes many constructs related to moral development that map onto Nucci’s (2017, 2018) framework. Within Nucci’s (2017, 2018) character self-system are many opportunities to

promote adolescents' moral character development. I evaluated adolescents' growth in these moral development constructs over three waves of data collection (spanning about three years).

For the first research question, I evaluated if CRMs' character socialization practices predicted growth in adolescents' moral character. I hypothesized that adolescents' growth would be positively related to their CRMs' character socialization practices in the form of moral conversations. For the second research question, I evaluated if adolescents' relationship quality with a CRM moderated the relationship between the CRMs' character socialization practices and growth in moral character. I predicted that the adolescents' relationship quality with their CRM would moderate this relationship, such that socialization would be more strongly related to growth when levels of relationship quality are high.

Finally, parents have been the primary focus in the literature on moral development. Therefore, for the final research question, I evaluated whether CRM type moderated the relationship between adolescents' relationship quality with their CRM or the CRMs' character socialization practices and adolescents' moral character. Learning about the differences in the role of moral character socialization of CRMs who are parents compared to non-parents will contribute to the literature on how moral character may be promoted during adolescence by different adults. Because of the focus that has been placed on parents in the literature, I predicted that a parent CRM would be more strongly related to growth in moral character compared to a non-parent CRM.

## CHAPTER TWO: METHOD

### Study Design

I used data from the Connecting Adolescents' Beliefs and Behaviors (CABB) Study. CABB was a mixed method, multi-reporter study of the positive development of students in fifth through twelfth grades, with a specific focus on character development, role models and other important relationships, and civic attitudes and engagement. Data collection took place over the course of four waves between February 2015 and April 2017. CABB includes data collected from adolescents, their parents/guardians, and adult staff members at their schools (e.g., teachers, coaches, school administrators). The current analyses focus on the data collected from the adolescents in Waves 2, 3 and 4. I chose not to use data from Wave 1 given the relatively small sample size compared to the other waves and the lower retention rate between Wave 1 and the following waves. For more details regarding the study, see Johnson and colleagues (2016).

### Procedures

CABB included two sub-samples of adolescents recruited through different procedures. The first sample, which the research team called the *School* sample, was recruited from elementary, middle, and high schools in the New England area of the United States. In Wave 1, the team recruited fifth, seventh, and ninth graders. They approached 37 schools in Massachusetts, Connecticut, and Rhode Island with students in these grades; fifteen schools agreed to participate. Due to scheduling challenges (e.g., severe weather during the winter of 2014-2015 in New England), the research team collected data at 12 schools (eight Catholic/parochial and four public) in Wave 1. Participating schools received a \$200 gift card incentive, regardless of number of student participants, in Waves 1 through 3.

Once school administrators agreed to participate in the study, the team provided the

schools with either: 1. packets of consent forms to send home with students; or 2. an email detailing information about the study and a link to the consent forms, based on the administrator's preferences. Parents/guardians provided consent either online or by returning a paper copy of the consent form in a designated box. Parent/guardian packets and permission forms were available in English and Spanish. At a time that was convenient for the school, trained research staff collected data from students. Students provided written assent, and then completed a paper-and-pencil survey, which took about 45 minutes. They received a \$15 gift card for their participation.

For Wave 2, the CABB team focused recruitment efforts on middle and high schools (i.e., they did not re-contact the elementary schools from Wave 1). Four schools from Wave 1 (three private, independent, or religious schools, and one public) continued to participate in Wave 2. They emailed and/or called 33 more public school districts in the Boston area, from which one additional school agreed to participate. The team also contacted 113 private, independent, or religious schools that had not participated in Wave 1. Of these schools, four agreed to participate. Accordingly, 11 schools (two public schools, nine private) participated in Wave 2. All 11 schools also participated in Waves 3 and 4. Schools received a \$200 gift card at Waves 2 and 3, and a \$300 gift card at Wave 4, regardless of the number of participants from the school. In Waves 2 through 4, the team used the same consent form distribution and survey administration procedures as in Wave 1. In Waves 2 and 3, students received a \$20 gift card for their participation, and in Wave 4 they received a \$25 gift card.

There were some adolescents who participated in Wave 1 but not in Wave 2, usually because they transferred to a different school or their school stopped participating in the study after Wave 1. Beginning in Wave 3, members of the study team re-contacted these adolescents

using the information their parents/guardians had provided at Wave 1. If the parents/guardians had provided an email address, they first emailed them a link to the parent/guardian permission form. If they did not provide an email address, the team mailed a form to them (which also included directions for how to complete the form online if they wanted). After receiving parent/guardian permission, a member of the team contacted the adolescents, using an email address if the parent/guardian provided one, or by mailing them a paper survey (which also included a link to the online version).

Beginning in Wave 2, the CABB team also expanded the sample using Qualtrics Panels. This sample, known as the *Online* sample, was recruited through a two-step procedure. First, Qualtrics provided their sample pool (parents with a child between grades of 6<sup>th</sup> and 11<sup>th</sup> who resided in Massachusetts, Connecticut, or Rhode Island) with a link to an eligibility survey. The eligibility survey included questions about child age and state of residency. If eligible, parents were sent a link to a permission form to fill out for their child. If the information they provided for their child indicated that the child was eligible, the research team sent a link to an online assent form. Sometimes the parent requested that the research team send the link directly to them, and they would forward it to their child. In other cases, the parent provided the e-mail address of their child. Adolescent participants from this sample then completed the questionnaire online at a location of their choice. In Waves 3 and 4, these participants were re-contacted through email using the same procedures. Consistent with the *School* sample, participants received a \$20 gift card for their participation in Waves 2 and 3, and a \$25 gift card in Wave 4.

### **Retention**

Only 220 youth participated in Wave 1 of the CABB study. After changes in recruitment methods and the addition of new youth to the sample, 666 youth participated in Wave 2, 737 in

Wave 3, and 586 in Wave 4. Of the 666 adolescents who participated at Wave 2, 539 also participated at Wave 3 (for a retention rate of 80.9% between Waves 2 and 3), and 171 new participants were added. At Wave 4, 528 participants were repeats from Wave 3 (90.1% retention rate), and 7 new participants were added. Of the 528 participants in Wave 4, who were repeats from Wave 3, 401 also participated in Wave 2 (for a retention rate of 68.4% between Waves 2, 3, and 4).

As a consequence of the small sample size, I dropped Wave 1 from the current analyses, and only retained those youth who completed surveys in Waves 2, 3 and 4 ( $N = 401$ ). Fourteen percent ( $n = 57$ ) of the youth in this final sample also participated in Wave 1 of this study. Because I dropped Wave 1 from the current analyses, I henceforth refer to each timepoint as Time 1, Time 2, and Time 3, representing Wave 2, Wave 3, and Wave 4, respectively.

I evaluated if there were between-group differences on demographic variables for adolescents who participated at all three timepoints, and were therefore, included in the analyses, and those who were in the study for fewer than three timepoints. There was no difference in racial identification ( $\chi^2(1, 953) = 1.05, p = .305$ ) or age ( $t(580.79) = -1.19, p = .234$ ); however, I did find a difference based on gender ( $\chi^2(1, 935) = 4.68, p = .030$ ), wherein a larger percentage of girls from the overall study sample (44.8%) were included in the analyses than boys (37.7%). To account for the gender difference, I included gender as an auxiliary variable in the final latent change score models. However, there were no substantive differences in model results ( $\Delta\beta < .01$ ) with and without the auxiliary variable; therefore, to keep the model interpretations as simple as possible, I did not include gender as an auxiliary variable in the final models.

### **Participants**

A total of 401 adolescents participated in Times 1, 2, and 3, and these adolescents

comprise the analysis sample for this dissertation. The average age at Time 1 was 14.1 years (SD = 1.9), with 23% 6<sup>th</sup> graders, 21% 7<sup>th</sup> graders, 13% 8<sup>th</sup> graders, 12% 9<sup>th</sup> graders, 17% 10<sup>th</sup> graders, and 14% 11<sup>th</sup> graders. Over half were girls (59%;  $n = 236$ ), and 57% ( $n = 230$ ) were White, 8% ( $n = 32$ ) Black, 8% ( $n = 32$ ) Asian/Asian American, 6% ( $n = 24$ ) Hispanic/Latino, 1% ( $n = 5$ ) other, 7% ( $n = 29$ ) with multiple identifications, and 12% ( $n = 49$ ) whose race/ethnicity changed across the three timepoints. These youth typically indicated multiple racial identifications that changed across timepoint (e.g., White at Time 1 and 2, and White and Black at Time 3). Due to the small racial/ethnic group sizes for all non-White youth, for the purpose of these analyses here, I grouped all non-White youth, including those who had multiple racial identifications, into one larger group ( $n = 171$ ; 43%).

The CABB Study team received responses from 342 parents at Time 1 (85% of adolescent sample) in the accompanying parent questionnaire. Of those parents, 282 (70% of the adolescent sample) indicated their highest level of education. Less than 3% of parents had less than a high school education ( $n = 7$ ); 8.5% ( $n = 24$ ) had a high school diploma or its' equivalent; 27% ( $n = 76$ ) had some college or vocational school training; 35% ( $n = 99$ ) completed a 4-year college; and 27% ( $n = 76$ ) had some level of post-graduate work. Because parental education level was missing for almost 30% of the sample, it was not included in additional analyses.

## **Measures**

### ***Age***

Participants were asked for their date of birth. Using SPSS 26 software, their age was calculated based on the survey completion date and their date of birth.

### ***Gender***

The research team asked participants "What is your gender?" Response options were

Boy, Girl, and Other (please specify). Two youth (0.5%) identified themselves as being another gender and nine youth (2.2%) changed their reported gender across timepoints. Due to the small group sizes, these youth were not included in analyses that evaluated gender differences.

### ***Race/ethnicity***

Participants were asked how they described themselves. Response options included: White, Caucasian, or European American; Black, African American, or of African descent; Asian or Asian American; Hispanic or Latino/a; Native American/Alaskan Native; Arab or Middle Eastern; Pacific Islander (for example Filipino); Caribbean; and Other (please specify). Participants could check multiple options.

### ***Character Role Models***

To assess if youth had a CRM, the research team asked the following question during each timepoint of data collection:

“Is there, or was there, someone from your family, school, or community that you look up to as an example of how to be a good person? By being a “good person,” we mean someone who generally does good things and acts in good ways (but they may still sometimes make mistakes). You can pick someone who is alive right now, or someone you used to know but who is not alive anymore. If you pick someone who isn’t alive anymore, answer the questions based on what things were like when they were alive.”

The prompt was followed by two open-ended questions: “What is the name of this person? (Please pick only ONE person)” and “What is this person’s relationship to you? (For example, is it your uncle, mother, teacher, friend, or someone else?)”. The answer to the latter question was used to code for the type of CRM identified (e.g., parent, aunts/uncles, grandparents, mentors, teachers or other-adults, siblings, and friends).

Across the three timepoints, between 93% - 95% youth identified a CRM at each timepoint. Fewer than 2.5% ( $n < 10$ ) youth identified individuals who were either famous people or it was unclear who the CRM was to the adolescent (e.g., they only gave the person's name or provided a nonsense response, such as a string of letters that did not form an interpretable word). For the purposes of this dissertation, these famous or unidentifiable CRMs were coded as missing.

### ***Frequency of Interactions with CRM***

The CABB team asked participants about how often they saw and/or talked to their CRM using an item adapted from the Spiritual Modeling Inventory of Life Environments (Oman et al., 2009): "How often do you see and/or talk to this person?" Response options were 1 = *Once every few years*, 2 = *Once a year*, 3 = *A few times a year*, 4 = *At least once a month*, 5 = *At least once a week*, and 6 = *Everyday or almost every day*.

### ***Relationship Quality with CRM***

The CABB team adapted three items from the Social Support and Rejection Scale (Roffman et al., 2000) to evaluate one aspect of relationship quality – adolescents' positive interactions with their CRMs. The items were, "Does this person look out for you and help you?," "Does this person care about you even when you make mistakes?," and "Do you feel like this person understands you?" Participants rated the frequency of each item on a scale from 0 = *Never* to 4 = *Always* with higher scores indicating more frequent positive interactions. These three items were included in analyses as either a composite score or (when possible) a latent variable (described in the Data Analysis and Results sections).

### ***CRMs' Character Socialization Practices.***

To index character socialization practices during each timepoint, the research team

adapted items from the Parenting Practices Measure, a scale originally used to measure the prosocial practices that parents use with their children (Carlo et al., 2007). Frequency of character socialization was assessed using three questions about moral conversations: “Does this person encourage you to think about how you would like to be treated in certain situations?,” “Does this person talk to you about how to be a good person?,” and “Does this person talk to you about what you can learn from books/movies/TV shows about how to be a good person?” Participants rated the frequency on a scale from 0 = *Never* to 4 = *Always* with higher scores indicating more frequent moral conversations. These three items were included in analyses as either a composite score or (when possible) a latent variable.

### ***The Moral Character Constructs***

Although the CABB study was not explicitly designed to test aspects of Nucci’s framework, it included many constructs that map onto it quite well. Below, I describe these constructs in more detail, as well as where they fit into Nucci’s character self-system framework (see Figure 3 for a visual depiction).

**Moral Courage.** CABB did not directly evaluate moral agency, one component of Nucci’s (2017, 2018) character self-system framework. However, the study did include a measure of moral courage. The CABB study used two adapted items from Bronstein and colleagues’ (2007) moral courage scale: “When I hear someone make a mean or offensive comment or joke about another person or group, I say something to challenge it,” and “If I hear someone say something bad about a friend of mine, I speak up for my friend.” Response options ranged from 0 = *Not at all like me* to 4 = *Just like me*, with higher scores indicating higher levels of moral courage. These two items were included in analyses as either a composite score or (when possible) a latent variable. When compared with the moral agency scale (see Black,

2016), there is a theme of responsibility that is conveyed in both measures. For example, items from the moral agency scale include, “In most cases, I can make my own decisions about what is right or wrong in a situation,” and “I am the one responsible for my own behavior, good or bad” (Black, 2016, p. 309). The moral courage items in CABB incorporate some qualities from both of the moral agency examples – being able to make the decision and taking action. Therefore, in this dissertation, I use moral courage as a proxy for moral agency.

**Personal Moral Values.** The CABB study used five items from the Search Institute’s Profiles of Student Life: Attitudes and Behaviors (Leffert et al., 1998) to assess the importance participants placed on certain values. Participants were asked to rate how important the following items were to them: “Speaking up for equality (everyone should have the same rights and opportunities),” “Doing what I believe is right, even if my friends make fun of me,” “Staying true to my values, even when people around me have different values,” “Telling the truth, even when it is not easy,” and “Accepting responsibility for my actions when I make a mistake or get in trouble.” Response options ranged from 0 = *Not important* to 4 = *Extremely important*, or participants could choose *I don’t know/I’m not sure*. These five items were included in analyses as either a composite score or (when possible) a latent variable. When considering Nucci’s (2017, 2018) character self-systems framework, these personal moral values items are consistent with the components of moral agency, moral identity, and moral critical social engagement.

**Moral Purpose.** The CABB team adapted 16 items from the Revised Youth Purpose Survey (Bundick et al., 2006), and created one item. Participants first read the following prompt: “People may have different types of goals for their lives. Below is a list of goals. How important is each goal to you?” Example goals included “Make money,” “Make the world a better place,” “Serve God/Higher Power,” and “Improve my community.” The created item was, “Start my

own business/organization.” Response options ranged from 0 = *Not Important* to 4 = *Extremely Important*. Of these 16 items, four items were classified as relating to moral purpose: “Help others,” “Do the right thing,” “Make the world a better place,” and “Improve my community.” These four items were included in analyses as either a composite score or (when possible) a latent variable. When considering Nucci’s (2017, 2018) character self-systems framework, the moral purpose items are consistent with the components of moral identity and moral critical social engagement.

**Prosocial Reasoning.** To measure moral reasoning, the CABB research team adapted one story from the Prosocial Reasoning Objective Measure (Carlo et al., 1992): the adolescent (and female) version of the “The Accident.” The team slightly adapted the story by changing the name of the protagonist. The prompt was as follows:

*One day Veronica was going to a friend's party. On the way, she saw a girl who had fallen down and hurt her leg. The girl asked Veronica to go to the girl's house and get her parents so the parents could come and take the girl to a doctor. But if Veronica did run and get the girl's parents, Veronica would be late to the party and miss out on fun activities with her friends.*

Participants read this story dilemma, and then they were asked: “What should Veronica do?” They were asked to select one of three choices: “Veronica should run and get the girl’s parents,” “Not sure,” or “Veronica should go to her friend’s party.” Across all timepoints, more than 98% of adolescents indicated that “Veronica should run and get the girl’s parents.”

After participants chose Veronica’s course of action, the question asked them to rate the importance of six reasons in making their decision: A) “How Veronica would feel about herself if she helped or not” (representing higher-level moral reasoning); B) “How much fun Veronica

expects the party to be and what sorts of things are happening at the party” (representing hedonistic reasoning); C) “Whether Veronica's parents and friends will think she did the right thing or she did the wrong thing” (lie); D) “Whether the girl really needs help or not” (representing needs-oriented reasoning); and E) “Whether or not Veronica thinks it's the right thing to do” (representing stereotypic reasoning). Participants rated the importance of each reason from 0 = *Not important* to 4 = *Extremely important*. For this dissertation, I only used the item for higher-level moral reasoning (i.e., “How Veronica would feel about herself if she helped or not”) to evaluate moral cognition/reasoning, as described by Nucci (2017, 2018).

**Perspective Taking.** The CABB team used three items from the Perspective Taking subscale of Davis’s Interpersonal Reactivity Index (Davis 1980; 1983). These items were “I try to understand other people by imagining how things look from their point of view,” “When I am upset at someone, I try to understand how they feel,” and “When people disagree about something, I look at everybody’s side.” The response scale ranged from 0 = *Not at all like me* to 4 = *Just like me*, with higher scores indicating greater levels of perspective taking. These three items were included in analyses as either a composite score or (when possible) a latent variable. When considering Nucci’s (2017, 2018) character self-systems framework, the perspective taking items are consistent with the other-regarding social emotional capacities component.

**Empathic Concern.** The CABB study used the caring subscale from the short form of the Positive Youth Development (PYD) measure (Geldhof et al., 2014) to index empathic concern. This measure contains six items (e.g., “When I see someone being taken advantage of, I want to help them”). The research team created one additional item (“I show concern for others when they are upset or mistreated”). Response options ranged from 0 = *Not at all like me* to 4 = *Just like me*. The seven empathic concern items were included in analyses as either a composite

score or (when possible) a latent variable. When considering Nucci's (2017, 2018) character self-systems framework, the caring items are consistent with the other-regarding social emotional capacities component.

**Intentional Self-Regulation.** The CABB study used nine adapted items from the short-form version (Gestsdottir et al., 2015) of the Selection, Optimization, and Compensation questionnaire developed by Freund and Baltes (2002). Sample items included "I always pursue goals one after the other," "To attain my goals, I try as many different strategies as I need to," and "When a goal is important to me, but has little chance of success, I put in extra effort." Response options ranged from 0 = *Not at all like me* to 4 = *Just like me*, with higher scores indicative of higher levels of intentional self-regulation. These nine items were included in analyses as either a composite score or (when possible) a latent variable. When considering Nucci's (2017, 2018) character self-systems framework, the self-regulation items are consistent with the self-regarding social emotional capacities component.

### **Missing Data**

Due to concerns about the burden on participants (i.e., too many questions) and schools (i.e., too much time away from instruction), the research team reduced the survey length through a three-form planned missingness design (Graham et al., 2006). In this design, missing data are used intentionally such that each participant receives a subset of the total survey. Some items, termed X set items, are answered by all participants. X set items relevant to this analysis included the personal information (e.g., gender), qualitative questions (e.g., identifying a CRM), and some constructs measured by a single item (e.g., higher-level moral reasoning). The remaining items (here, the quantitative questions from multi-item scales) were divided into three sets (A, B, and C), and three survey versions were created: one with X set items and A and B set

items, a second with X, A, and C, and a third with X, B, and C. Participants were randomly assigned to a version, thus, missingness due to survey version was considered missing completely at random. Participants were assigned to versions within waves. Accordingly, at each wave, youth received 100% of the X set items and approximately 67% of all other items. For these analyses, I used a subset of participants from each wave – specifically those who participated in Waves 2, 3, and 4. In this subset of data, planned missingness at the item level ranged from 17% to 24% ( $M = 20.9\%$ ). There were very low rates of unplanned missing data (0% to 7%;  $M = 1.7\%$ ). I dealt with missing data differently based on the research question, which I describe in the following section.

### **Data Analysis**

The data analysis plan consisted of five steps. First, using SPSS 27, I evaluated the univariate descriptive statistics and bivariate relations of all constructs. Next, I used MPlus Version 8 (Muthén & Muthén, 2017) to conduct seven longitudinal confirmatory factor analyses (CFAs), one for each of the moral character constructs. These CFAs evaluated the longitudinal measurement properties of the items designated to serve as indicators of the seven latent variables. I used robust maximum likelihood to account for the non-normal distribution of many of the selected variables. I also used full information maximum likelihood (FIML) to account for the planned missingness design. Third, after evaluating the longitudinal CFAs, I conducted tests of measurement invariance based on gender, racial identification, and age to evaluate any between-group differences in the structure of the latent variables.

Fourth, I conducted seven latent change score (LCS) analyses – one for each of the outcome variables (moral courage, personal moral values, moral purpose, prosocial moral reasoning, perspective taking, empathic concern, and intentional self-regulation). I conducted the

main LCS analyses following the recommended procedures described by Klopck and Wickrama (2020). Their recommendations focused on analyses including only one latent predictor. I extended those analyses to include two latent variables: adolescents' relationship quality with their CRM and the CRMs' character socialization practices.

Because I hypothesized that a CRMs' character socialization practices would be enhanced by their relationship with the adolescent, I tested an interaction between these two latent predictors in my models. In order to evaluate a latent-by-latent interaction, I used a Monte Carlo estimation. Although not all youth identified a CRM at each timepoint, only three adolescents' (0.7%) identified zero CRMs across the three timepoints. The use of FIML in the models with latent constructs allowed for the full sample of adolescents ( $N = 401$ ) to be included in the analyses.

Finally, to evaluate the final research question, if CRM type would moderate the relationship between relationship quality with adolescents' CRMs and CRMs' character socialization practices, I used observed, composite scores of relationship quality and character socialization practices. Because CRM type is an observed, time-varying variable, it was not possible to create an interaction between an observed and a latent variable. Therefore, I re-created the LCS models with observed predictors of relationship quality and character socialization practices to test my final hypothesis. However, in using observed variables, the FIML function in MPlus was no longer able to account for missing CRM data, and the sample was reduced by 18% ( $n = 328$  from  $n = 401$ ).

## CHAPTER THREE: RESULTS

### Preliminary Analyses

#### Character Role Models

Of the 401 adolescents who participated at all three timepoints, most (between 93% - 95%) identified a CRM at each timepoint. Three adolescents identified zero CRMs (0.7%), 35% ( $n = 140$ ) identified one CRM, 41% ( $n = 164$ ) identified two CRMs, and 23% ( $n = 93$ ) identified three CRMs. Parents were identified the most frequently (46.6% - 51.6%;  $n = 186 - 207$ ), followed by other adult family members (e.g., aunts/uncles, grandparents, 15.5% - 16%;  $n = 62 - 64$ ), friends (10.0% - 12.2%;  $n = 40 - 49$ ), other adults (e.g., teachers, mentors, coaches, 10.0% - 10.7%;  $n = 40 - 43$ ), and finally siblings or cousins (6.0% - 11%;  $n = 24 - 44$ ) (see Appendix A, Table A1 for descriptive statistics of CRM type). Group sizes for CRM types other than parents were not large enough to evaluate them separately (e.g., as a separate category in moderation analyses), so I collapsed all other types of non-parent CRMs into one group (Barker et al., 2014; Marsh et al., 2013).

See Appendix A, Table A2 and A3 for descriptive statistics on adolescents' relationship quality with their CRM and their CRMs' character socialization practices. Across the three timepoints, CRMs were generally rated highly on relationship quality ( $M = 3.31$  to  $M = 3.74$  on a scale of 0 to 4) and socialization practices items ( $M = 2.28$  to  $M = 3.24$  on a scale of 0 to 4). Evaluation of the descriptive statistics and histograms showed that all continuous items were negatively skewed. Pearson's correlations between the three relationship quality items are shown in Appendix B, Table B1; correlations between the three socialization items are shown in Appendix B, Table B2. In each subscale, the three constituent items were statistically

significantly, positively associated with one another ( $p < .01$ ), with moderate to large effect sizes ( $r = .433$  to  $.714$ ).

I conducted  $t$ -tests to evaluate differences in relationship quality, socialization practices and frequency of interactions between CRM type (parents and non-parents). Across all timepoints, adolescents rated parent CRMs statistically significantly higher than non-parent CRMs on relationship quality, socialization practices and frequency of interactions. See Appendix A, Table A4 for details.

### **Summary of Preliminary Analyses for the Moral Character Constructs**

Inspection of descriptive statistics for all of the moral character constructs suggested that all of the items intended to be included as indicators of latent variables were suitable for that purpose (see Appendix C for details). Most items were relatively skewed, but these deviations are not likely to be problematic given the large sample size (Lumley, Diehr, Emerson, & Chen, 2002 as cited in Field, 2013) and the use of the robust maximum likelihood estimator in MPlus. Inspection of inter-item correlations within each subscale indicated that the vast majority of inter-item correlations were at or above the desired threshold of  $r > .4$ . These relations were further evaluated during the process of estimating the CFAs.

### **Preparatory Analyses for Latent Change Score Models**

To prepare to conduct the latent change score models, I did preliminary analyses consisting of two steps: longitudinal invariance testing and invariance testing between groups. The purpose of this process was to evaluate the longitudinal measurement properties of the items designed to serve as indicators of the latent variables and evaluate any between-group differences in the structure of the latent variables.

### **Longitudinal CFAs and Invariance Testing**

I began my evaluation of the latent constructs by conducting longitudinal CFAs and invariance testing of the longitudinal models. The two constructs specifically related to CRMs – relationship quality and socialization practices – were included in one model, whereas the adolescents' moral character constructs (i.e., the outcome variables) were estimated separately in individual models. In total, I conducted seven longitudinal CFAs and invariance tests. See Appendix D Tables D1 – D7 for standardized model results for the longitudinal CFAs.

The first step in conducting the longitudinal CFA was to estimate configural invariance models for each latent construct, in which all factor loadings and intercepts were estimated freely, and where the residual variances for the same indicators were correlated across time points. Using criteria recommended by Hu & Bentler (1999), the overall model fit statistics for all configural invariance models were good, with RMSEAs below the desired cutoff of .05 or acceptable cutoffs below .08, SRMRs below the desired cutoff of .05, and CFIs above the desired cutoff of .95. See Appendix D Tables D8 – D14 for model fit statistics for tests for invariance for all models.

The second step was to test factorial invariance across time points. To conduct this test, I constrained the factor loadings of the same items across timepoints to be equal and allowed the latent variances to be freely estimated. The change in CFIs for all models were less than the cutoff of .01 (recommended by Cheung & Rensvold, 2002); therefore, I determined that all models passed factor loading invariance, and I proceeded onto intercept invariance testing.

To test for intercept invariance, I constrain the intercepts of the same items across timepoints to be equal and allowed the latent means to be freely estimated. All constructs passed the test of intercept invariance (change in CFIs less than the cutoff of .01) except moral purpose. For moral purpose, the largest difference in intercepts was for MPUR2 (“Do the right thing”).

After removing the constraint from this intercept, the model passed intercept invariance.

Because MPUR2 was intercept non-invariant, it was not used in the computation of moral purpose composite scores to be used in the LCS models.

### **Longitudinal Invariance Testing across Groups**

I conducted longitudinal invariance tests to evaluate measurement invariance for each construct between CRM type (parents, non-parents), gender (boys, girls), race (White, non-White) and age (middle school, high school) as described by Kim and Willson (2014). CRM type was a time-varying variable, which meant that adolescents could have different types of CRMs at each time point. Accordingly, invariance testing between CRM types (parent and non-parent) for all constructs was conducted three times, once for each timepoint.

The first step to conducting the invariance test for CRM type was to estimate configural models for each latent construct, in which all factor loadings and intercepts were estimated freely in both groups, and latent means and variances were constrained at zero and one, respectively. Then, I conducted tests of factorial invariance by making the factor loadings in items across groups equal to one another and allowing the latent variances to be freely estimated. Finally, to test for intercept invariance, I made the intercepts in items across groups equal to one another and allowed the latent means to be freely estimated. Change of CFI of less than .01 between steps was used to evaluate measurement invariance.

For the time invariant covariates, the first step to conducting the invariance test was to estimate a configural model for each latent construct. In this case, the configural models were the final, fully constrained models described in the longitudinal CFAs. Constraints within each group, however, were unique to that group. For the factorial invariance test, the factor loading constraints were set equal for both groups, and for the intercept invariance test, the constraints for

the intercepts were set equal for both groups. Change of CFI of less than .01 between steps was used to evaluate measurement invariance across groups.

### **Summary of Findings for Invariance Testing across Groups**

Model fit statistics for tests for invariance for all models can be found in Appendix D Tables D8 – D14. For the most part, there was invariance for most constructs across groups. Although cases of non-invariance were found for certain items in certain group analyses (see tables for full details), no specific item-related patterns were identified (i.e., there were no items that were non invariant across all groups tested). Therefore, I chose to proceed with the LCS models using the constraints described for the longitudinal CFAs. Moreover, because of the inconsistencies in non-invariances between certain items in certain groups, I chose to not include demographic characteristics as predictors in the LCS models.

### **Latent Change Score Models**

To test my hypotheses about the relationship between adolescents' growth in the moral character constructs and their relationship with their CRMs, I estimated LCS models for each of the outcome variables. I used procedures described by Klopck and Wickrama (2020), and I expanded on their model by including more than one predictor. For each of the outcome variables, I followed the same steps for model building: first, I estimated an unconditional model with only the outcome variable (to evaluate change in the constructs), and then I added one predictor to the model at a time (to evaluate whether the new constructs predicted that change).

The unconditional models for personal moral values and ISR did not converge. Evaluation of mean change and variance in outcome variables from Time 1 to Time 2 and Time 2 to Time 3 (see Table 1), showed that the variances for these two constructs were comparable to, if not higher than, the variances of other constructs. However, the mean level changes from

Time 1 to Time 2 for personal moral values and from Time 2 to Time 3 for ISR were low ( $< 0.010$ ), which may have resulted in non-convergence of the models. Because these models did not converge, these two constructs were left out of further analyses.

My first two hypotheses were that CRMs' character socialization practices would predict growth in the outcome variables, and that relationship quality with the CRM would enhance this relationship. To test these hypotheses, I used the latent constructs of relationship quality and character socialization practices, and their interaction. However, to evaluate my final research question (if CRM type would moderate the relationship between relationship quality with adolescents' CRMs and CRMs' character socialization practices), I used observed, composite scores of relationship quality and character socialization practices because CRM type is an observed variable, and it is not possible to create an interaction between an observed and a latent variable. Below, I describe the findings from the final models for each of the moral character constructs. Table 2 shows a summary of the unstandardized regression coefficients for all the moral character constructs for models with latent and observed predictors.

### **Moral Courage**

Change in adolescents' moral courage across timepoints was estimated in the unconditional model. As shown in Table 3, youth showed no change on average in moral courage (T1 to T2 change:  $\beta = -0.83$ ,  $p = .060$ ; T2 to T3 change:  $\beta = -0.84$ ,  $p = .055$ ).

After fitting the unconditional model, I first added in adolescents' relationship quality with their CRM as a predictor to the LCS model, followed by the CRMs' character socialization practices. The model with the two predictors was a good fit to the data (RMSEA = .025 (.011 to .035); SRMR = .049; CFI = .975). Next, I added the interaction between the latent constructs of relationship quality and character socialization practices. These models – with a latent-latent

interaction – do not produce the full set of model fit indices that are available in models without such an interaction (e.g., the models from the prior step). Both models do, however, include the loglikelihood value. Therefore, I compared the fit of these two models (the model with two predictors only and the model with the interaction) using a likelihood ratio test, which showed no difference in fit ( $\chi^2(4, 401) = 5.80, p = .214$ ). Accordingly, adding the latent-latent interaction did not improve the fit of the model. Overall, moral courage change was not predicted by moral courage at the previous timepoint (T1 to T2 change:  $\beta = 0.00, p = .997$ ; T2 to T3 change:  $\beta = -0.04, p = .944$ ). Figure 4 shows the unstandardized regression coefficients for the moral courage LCS model with latent predictors.

### ***Hypothesis One***

Inconsistent with the first hypothesis, CRMs' character socialization practices did not predict change in moral courage (T1 to T2 change:  $\beta = 0.04, p = .562$ ; T2 to T3 change:  $\beta = 0.14, p = .195$ ); however, CRMs' character socialization practices at Time 1 predicted initial levels of moral courage (i.e., the intercept;  $\beta = 0.20, p = .004$ ).

### ***Hypothesis Two***

Next, I hypothesized that relationship quality with the CRM would enhance the relationship between growth in moral courage and CRMs' character socialization practices. Although there was no moderation for change in moral courage from T1 to T2 ( $\beta = -0.04, p = .088$ ), there was moderation between T2 and T3 ( $\beta = 0.07, p = .015$ ), such that higher levels of relationship quality with CRMs enhanced the relationship between CRMs' character socialization practices and moral courage.

### ***Hypothesis Three***

Figure 5 shows the unstandardized regression coefficients for the moral courage LCS model with observed predictors, which I used to evaluate the final research question, if CRM type moderated the relationship between relationship quality or socialization practices and moral courage. The overall model fit for the moral courage LCS model with observed predictors was good (RMSEA = .045 (.021 to .066); SRMR = .032; CFI = .929). Compared to a non-parent CRM, selecting a parent as a CRM predicted growth in moral courage from T2 to T3 ( $\beta = 1.04, p = .049$ ), but there were no differences for change in moral courage based on CRM type from T1 to T2 ( $\beta = 0.26, p = .737$ ). CRM type did not moderate the relationship between relationship quality (T1 to T2 change:  $\beta = 0.16, p = .378$ ; T2 to T3 change:  $\beta = -0.28, p = .077$ ) or socialization practices (T1 to T2 change:  $\beta = -0.20, p = .070$ ; T2 to T3 change:  $\beta = 0.03, p = .813$ ) and moral courage.

### **Moral Purpose**

Change in adolescents' moral purpose across timepoints was estimated in the unconditional model. As shown in Table 3, youth showed no change on average in moral purpose (T1 to T2 change:  $\beta = 0.67, p = .600$ ; T2 to T3 change:  $\beta = 0.62, p = .625$ ).

After fitting the unconditional model, I followed the same steps described above to adding predictors to the LCS model. The model with two predictors was a good fit to the data (RMSEA = .026 (.014 to .036); SRMR = .051; CFI = .975). The likelihood ratio test between the model with only two predictors and model with the interaction showed no difference in the model fit ( $\chi^2(4, 401) = 9.39, p = .052$ ). Accordingly, adding the latent-latent interaction did not improve the fit of the model. Overall, moral purpose change was predicted by moral purpose at the previous timepoint (T1 to T2 change:  $\beta = -0.68, p = .006$ ; T2 to T3 change:  $\beta = -0.71, p = .004$ ), such that, on average, youth showed a decrease in moral purpose between timepoints.

Figure 6 shows the unstandardized regression coefficients for the moral purpose LCS model with latent predictors.

### ***Hypothesis One***

Consistent with the first hypothesis, CRMs' character socialization practices did predict change in moral purpose (T1 to T2 change:  $\beta = 0.21$ ,  $p = .003$ ; T2 to T3 change:  $\beta = 0.19$ ,  $p = .011$ ), such that higher levels of CRMs' character socialization practices were associated with growth in moral purpose between timepoints. Moreover, CRMs' character socialization practices at Time 1 predicted initial levels of moral purpose (i.e., the intercept;  $\beta = 0.30$ ,  $p < .001$ ).

### ***Hypothesis Two***

Next, I hypothesized that relationship quality with the CRM would enhance the relationship between growth in moral purpose and CRMs' character socialization practices. Although there was no moderation for change in moral purpose from T1 to T2 ( $\beta = 0.002$ ,  $p = .910$ ), there was moderation between T2 and T3 ( $\beta = 0.06$ ,  $p = .005$ ), such that higher levels of relationship quality with CRMs enhanced the relationship between CRMs' character socialization practices and moral courage.

### ***Hypothesis Three***

Figure 7 shows the unstandardized regression coefficients for the moral purpose LCS model with observed predictors, which I used to evaluate the final research question, if CRM type moderated the relationship between relationship quality or socialization practices and moral purpose. The overall model fit for the moral purpose LCS model with observed predictors was good (RMSEA = .000 (.000 to .038); SRMR = .046; CFI = 1.00). Compared to a non-parent CRM, selecting a parent as a CRM predicted growth in moral purpose from T2 to T3 ( $\beta = 1.64$ ,  $p < .001$ ), but there were no differences for change in moral purpose based on CRM type from T1

to T2 ( $\beta = 0.57, p = .159$ ). CRM type did not moderate the relationship between relationship quality and moral purpose between T1 and T2 ( $\beta = -0.07, p = .546$ ), but did moderate the relationship between T2 and T3 ( $\beta = -0.30, p = .023$ ), such that higher levels of relationship quality was predictive of higher levels of moral purpose for non-parent CRMs compared to parent CRMs. But this finding was nuanced. Figure 8 shows the change in moral purpose for adolescents with parent and non-parent CRMs across the three timepoints. When adolescents' relationship quality with their CRM was high, there were no differences in adolescents' level of moral purpose between youth who identified a parent versus non-parent CRM; however, when adolescents' relationship quality with their CRM was low, having selected a non-parent CRM was associated with higher levels of moral purpose from T2 to T3. CRM type did not moderate the relationship between socialization practices and moral purpose (T1 to T2 change:  $\beta = -0.06, p = .456$ ; T2 to T3 change:  $\beta = -0.15, p = .068$ ).

### **Moral Reasoning**

Change in adolescents' moral reasoning across timepoints was estimated in the unconditional model. As shown in Table 3, youth showed a decrease, on average, in moral reasoning (T1 to T2 change:  $\beta = -1.09, p < .001$ ; T2 to T3 change:  $\beta = -1.17, p < .001$ ).

After fitting the unconditional model, I followed the same steps described above to adding predictors to the LCS model. The model with two predictors was a good fit to the data (RMSEA = .028 (.017 to .038); SRMR = .049; CFI = .967). The likelihood ratio test between the model with two predictors and the model with the interaction showed no difference in the model fit ( $\chi^2(4, 401) = 5.24, p = .264$ ). Accordingly, adding the latent-latent interaction did not improve the fit of the model. Overall, moral reasoning change was predicted by moral reasoning at the previous timepoint (T1 to T2 change:  $\beta = -0.95, p < .001$ ; T2 to T3 change:  $\beta = -1.04, p <$

.001), such that, on average, youth showed a decrease in moral reasoning between timepoints. Figure 9 shows the unstandardized regression coefficients for the moral reasoning LCS model with latent predictors.

### ***Hypothesis One***

Inconsistent with the first hypothesis, CRMs' character socialization practices did not predict change in moral reasoning (T1 to T2 change:  $\beta = 0.13, p = .229$ ; T2 to T3 change:  $\beta = 0.14, p = .156$ ). However, CRMs' character socialization practices at Time 1 predicted initial levels of moral reasoning (i.e., the intercept;  $\beta = 0.23, p = .003$ ).

### ***Hypothesis Two***

Next, I hypothesized that relationship quality with the CRM would enhance the relationship between growth in moral reasoning and CRMs' character socialization practices. Although there was no moderation for change in moral reasoning from T1 to T2 ( $\beta = -0.01, p = .820$ ), there was moderation between T2 and T3 ( $\beta = 0.11, p = .008$ ), such that higher levels of relationship quality with CRMs enhanced the relationship between CRMs' character socialization practices and moral reasoning.

### ***Hypothesis Three***

Figure 10 shows the unstandardized regression coefficients for the moral reasoning LCS model with observed predictors, which I used to evaluate the final research question, if CRM type moderated the relationship between relationship quality or socialization practices and moral reasoning. The overall model fit for the moral reasoning LCS model with observed predictors was good (RMSEA = .008 (.000 to .042); SRMR = .030; CFI = .995). CRM type did not predict growth in moral reasoning between timepoints (T1 to T2 change:  $\beta = 0.65, p = .518$ ; T2 to T3 change:  $\beta = 1.07, p = .104$ ). Moreover, CRM type did not moderate the relationship between

relationship quality (T1 to T2 change:  $\beta = -0.06, p = .858$ ; T2 to T3 change:  $\beta = -0.29, p = .137$ ) or socialization practices (T1 to T2 change:  $\beta = -0.05, p = .694$ ; T2 to T3 change:  $\beta = 0.04, p = .742$ ) and moral reasoning.

### **Perspective Taking**

Change in adolescents' perspective taking across timepoints was estimated in the unconditional model. As shown in Table 3, youth showed no change on average in perspective taking (T1 to T2 change:  $\beta = -0.76, p = .096$ ; T2 to T3 change:  $\beta = -0.76, p = .084$ ).

After fitting the unconditional model, I followed the same steps described above to adding predictors to the LCS model. The model with two predictors was a good fit to the data (RMSEA = .025 (.012 to .035); SRMR = .050; CFI = .975). The likelihood ratio test between the model with only two predictors and model with the interaction showed no difference in the model fit ( $\chi^2(4, 401) = 2.19, p = .702$ ). Accordingly, adding the latent-latent interaction did not improve the fit of the model. Overall, perspective taking change was not predicted by perspective taking at the previous timepoint (T1 to T2 change:  $\beta = -0.53, p = .282$ ; T2 to T3 change:  $\beta = -0.55, p = .237$ ). Figure 11 shows the unstandardized regression coefficients for the perspective taking LCS model with latent predictors.

### ***Hypothesis One***

Somewhat consistent with the first hypothesis, CRMs' character socialization practices did not predict change in perspective taking from T1 to T2 ( $\beta = 0.15, p = .259$ ), but did predict change from T2 to T3 ( $\beta = 0.19, p = .037$ ), such that higher levels of CRMs' character socialization practices were associated with growth in perspective taking between timepoints. Moreover, CRMs' character socialization practices at Time 1 predicted initial levels of perspective taking (i.e., the intercept;  $\beta = 0.27, p = .001$ ).

***Hypothesis Two***

Next, I hypothesized that relationship quality with the CRM would enhance the relationship between growth in perspective taking and CRMs' character socialization practices. Although there was no moderation for change in perspective taking from T1 to T2 ( $\beta = -0.01, p = .622$ ), there was moderation between T2 and T3 ( $\beta = 0.06, p = .020$ ), such that higher levels of relationship quality with CRMs enhanced the relationship between CRMs' character socialization practices and perspective taking.

***Hypothesis Three***

Figure 12 shows the unstandardized regression coefficients for the perspective taking LCS model with observed predictors, which I used to evaluate the final research question, if CRM type moderated the relationship between relationship quality or socialization practices and perspective taking. The overall model fit for the perspective taking LCS model with observed predictors was good (RMSEA = .048 (.025 to .068); SRMR = .052; CFI = .888). CRM type did not predict growth in perspective taking between timepoints (T1 to T2 change:  $\beta = -0.81, p = .130$ ; T2 to T3 change:  $\beta = 0.32, p = .570$ ). Moreover, CRM type did not moderate the relationship between relationship quality and perspective taking between timepoints (T1 to T2 change:  $\beta = 0.35, p = .053$ ; T2 to T3 change:  $\beta = 0.14, p = .427$ ) or between socialization practices and perspective taking from T1 to T2 ( $\beta = -0.14, p = .249$ ). However, CRM type did moderate the relationship between socialization practices and perspective taking from T2 to T3 ( $\beta = -0.26, p = .037$ ), such that lower levels of CRMs' socialization practices were predictive of higher levels of perspective taking. However, this finding was nuanced. Figure 13 shows the change in perspective taking for adolescents with parent and non-parent CRMs across the three timepoints. When adolescents' relationship quality with their CRM was high and CRMs'

socialization practices were low, levels of perspective taking were higher in youth who identified a non-parent versus a parent CRM; however, when adolescents' relationship quality with their CRM was low and the CRMs' socialization practices were high, having selected a parent CRM was associated with higher levels of adolescents' perspective taking from T2 to T3.

### **Empathic Concern**

Change in adolescents' empathic concern across timepoints was estimated in the unconditional model. As shown in Table 3, youth showed no change on average in empathic concern (T1 to T2 change:  $\beta = 0.08, p = .934$ ; T2 to T3 change:  $\beta = 0.08, p = .939$ ).

After fitting the unconditional model, I followed the same steps described above to adding predictors to the LCS model. The model with two predictors was a good fit to the data (RMSEA = .023 (.006 to .033); SRMR = .052; CFI = .981). The likelihood ratio test between the model with only two predictors and model with the interaction showed no difference in the model fit ( $\chi^2(4, 401) = 5.62, p = .230$ ). Accordingly, adding the latent-latent interaction did not improve the fit of the model. Overall, change in Empathic concern was not predicted by empathic concern at the previous timepoint (T1 to T2 change:  $\beta = -0.46, p = .062$ ; T2 to T3 change:  $\beta = -0.47, p = .053$ ). Figure 14 shows the unstandardized regression coefficients for the empathic concern LCS model with latent predictors.

### ***Hypothesis One***

Inconsistent with the first hypothesis, CRMs' character socialization practices did not predict change in empathic concern (T1 to T2 change:  $\beta = 0.04, p = .446$ ; T2 to T3 change:  $\beta = 0.11, p = .052$ ). However, relationship quality with their CRM did predict change in empathic concern for T1 to T2 ( $\beta = 0.12, p = .004$ ), such that higher levels of relationship quality were associated with growth in empathic concern, but not for the change between T2 to T3 ( $\beta = 0.05$ ,

$p = .431$ ). Moreover, relationship quality with the CRM at Time 1 predicted initial levels of empathic concern (i.e., the intercept;  $\beta = 0.19, p = .006$ ).

### *Hypothesis Two*

Next, I hypothesized that relationship quality with the CRM would enhance the relationship between growth in empathic concern and CRMs' character socialization practices. Although there was no moderation for change in empathic concern from T1 to T2 ( $\beta = 0.03, p = .119$ ), there was moderation between T2 and T3 ( $\beta = 0.04, p = .017$ ), such that higher levels of relationship quality with CRMs enhanced the relationship between CRMs' character socialization practices and empathic concern.

### *Hypothesis Three*

Figure 15 shows the unstandardized regression coefficients for the empathic concern LCS model with observed predictors, which I used to evaluate the final research question, if CRM type moderated the relationship between relationship quality or socialization practices and empathic concern. The overall model fit for the empathic concern LCS model with observed predictors was good (RMSEA = .048 (.025 to .068); SRMR = .056; CFI = .931). CRM type did not predict growth in empathic concern between timepoints (T1 to T2 change:  $\beta = 0.08, p = .848$ ; T2 to T3 change:  $\beta = 0.69, p = .099$ ). Moreover, CRM type did not moderate the relationship between relationship quality and empathic concern between timepoints (T1 to T2 change:  $\beta = 0.12, p = .240$ ; T2 to T3 change:  $\beta = -0.07, p = .561$ ) or between socialization practices and empathic concern from T2 to T3 ( $\beta = -0.13, p = .089$ ). However, CRM type did moderate the relationship between socialization practices and empathic concern from T1 to T2 ( $\beta = -0.16, p = .036$ ), such that lower levels of CRMs' socialization practices was predictive of higher levels of empathic concern. However, this finding was nuanced. Figure 16 shows the change in empathic

concern for adolescents with parent and non-parent CRMs across the three timepoints. When adolescents' relationship quality with their CRM was high, there were no differences in adolescents' level of empathic concern between youth who identified a parent versus non-parent CRM; however, when adolescents' relationship quality with their CRM and their CRMs' socialization practices were low, having selected a parent CRM was associated with higher levels of empathic concern from T1 to T2.

### **Summary of Latent Change Score Models**

In summary, I estimated five LCS models, one for each moral character construct (moral courage, moral purpose, prosocial moral reasoning, perspective taking, and empathic concern). CRMs' character socialization practices at Time 1 predicted Time 1 scores for all moral character constructs except empathic concern, which was, instead, predicted by adolescents' relationship quality with their CRM at Time 1. With respect to the first hypothesis, CRMs' character socialization practices predicted adolescents' change across all timepoints only for moral purpose, and from Time 2 to Time 3 for perspective taking.

For the second research question, I evaluated if relationship quality moderated the relationship between CRMs' character socialization practices and adolescents' moral development. Higher levels of adolescents' relationship quality with their CRMs enhanced the relationship between CRMs' character socialization practices and adolescents' moral development for all constructs, but only for the change from Time 2 to Time 3.

Finally, I evaluated if CRM type moderated the relationship between relationship quality or character socialization practices and empathic concern. I found that when adolescents' relationship quality with their CRM was low, having selected a non-parent CRM was associated with higher levels of moral purpose from Time 2 to Time 3. Conversely, when adolescents'

relationship quality with their CRM was high and CRMs' socialization practices were low, levels of perspective taking were higher in youth who identified a non-parent versus a parent CRM from Time 2 to Time 3. Finally, when adolescents' relationship quality with their CRM and their CRMs' socialization practices were low, having selected a parent CRM was associated with higher levels of empathic concern from Time 1 to Time 2.

## CHAPTER FOUR: DISCUSSION

The development of moral character is important during adolescence because of its' implications for serving self and society in mutually beneficial ways (Lerner, 2018). CRMs are people whom adolescents “look up to” and seek to emulate *due to the ways they behave and treat others* (Johnson et al., 2016), and may be a potentially powerful influence on adolescents' moral character development. However, little research has evaluated CRMs' relationship with adolescents (see Johnson et al., 2016 as an exception), and at the time of this writing, I am not aware of any research that has evaluated how their relationship with and socialization of adolescents may promote moral character.

For this dissertation, I used previously collected data from the CABB study. In this sample, a large majority of youth (93-95%) identified a CRM at each timepoint, with about half of the adolescents identifying a parent as their CRM (47-52%). On average, adolescents had positive relationships with their CRM, rating their CRMs high on relationship quality and character socialization practices, which is consistent with prior research (Johnson et al., 2016). These findings are expected, as adolescents are unlikely to identify individuals whom they do not have a good relationship with as someone whom they “look up to as an example of how to be a good person.”

I used Nucci's (2017, 2018) framework of a character self-system to guide my selection of important aspects of moral character development during adolescence. Mapping available measures of moral character in the CABB study onto Nucci's framework, I evaluated adolescents' growth in seven moral character constructs: moral courage, personal moral values, moral purpose, prosocial moral reasoning, perspective taking, empathic concern, and intentional self-regulation. Because relationship quality (e.g., Baumrind, 2008; Bowers et al., 2014) and

socialization practices (e.g., Berkowitz & Grych, 1998; Pasupathi, 2014; van Goethem et al., 2014; Recchia, 2014) are associated with moral character development, I evaluated the relationship between change in adolescents' moral character constructs using LCS models. I hypothesized that adolescents' growth would be positively related to their CRMs' character socialization practices in the form of moral conversations. Moreover, I predicted that the adolescents' relationship quality with their CRM would moderate this relationship, such that character socialization would be more strongly related to growth when levels of relationship quality were high. Finally, parents have been the primary focus in the literature on moral development. Therefore, I evaluated whether CRM type would moderate the relationship between relationship quality or character socialization practices, predicting that identifying a parent CRM would be more strongly related to growth compared to selecting a non-parent CRM.

Ultimately, I was able to estimate LCS models for all moral character constructs except personal moral values and ISR (those models did not converge), possibly as a result of small mean-level change in the measures. Some studies have found that constructs for ISR (e.g., Bowers et al., 2011; Gestsdottir et al., 2009), and personal moral values (e.g., Scales et al., 2006) are not stable across adolescence, so my findings here were unexpected. Further discussion of the findings does not include these two constructs. On average, adolescents did not show growth in any of the moral constructs, which was also unexpected given that growth in several moral character areas (e.g., moral reasoning, perspective taking) is expected during adolescence (e.g., Eisenberg et al., 2005, 2009; Kohlberg, 1981); instead, there was a statistically significant decrease in prosocial moral reasoning between timepoints. However, there was variation in change (i.e., some adolescents increased, whereas others decreased), and adolescents'

relationship quality with, and the character socialization practices of, their CRMs explained some of the variation in the change in moral character.

### **Do CRMs' Character Socialization Practices Predict Growth in Adolescents' Moral Character?**

I first hypothesized that adolescents' perceptions of their CRMs' character socialization practices would predict growth in adolescents' moral character. I began by evaluating the cross-sectional relationship at Time 1, and I found that CRMs' character socialization practices at Time 1 predicted adolescents' moral character at Time 1 for all constructs except empathic concern. Instead, adolescents' relationship quality with their CRM predicted empathic concern at Time 1, and the change in empathic concern from Time 1 to Time 2. Empathic concern is an other-regarding social-emotional capacity (see Figure 3 for how moral character constructs used in this dissertation map onto Nucci's (2017, 2018) framework). Empathic concern may be better predicted by adolescents' relationship quality with their CRM rather than their CRMs' character socialization practices because their CRM may be practicing empathic concern in their interactions with youth. Youth flourish in many settings where adults (e.g., parents, teachers) are warm and caring (e.g., Berkowitz & Grych, 1998; Roehlkepartain et al., 2017; Wentzel, 2002). The items used to measure relationship quality in this study asked youth about how emotionally close youth felt to their CRM (e.g., "Do you feel like this person understands you?"). Being emotionally close to, and likely receiving empathic concern from a CRM, then, may be more likely to promote empathic concern than through conversations about how to be a good person. In prior research, emotional closeness with mentors has been associated with higher levels of perceived benefits of the mentoring relationship (Parra et al., 2002). Another pathway through which relationship quality may predict empathic concern is through modeled behavior, which

was not evaluated in the CABB study. By showing empathic concern towards youth, CRMs may be modeling how youth can also be empathic towards others (Berkowitz & Grych, 1998).

When evaluating change between timepoints, CRMs' character socialization practices predicted change in adolescents' moral purpose between both pairs of timepoints, and for perspective taking from Time 2 to Time 3, but not for the other moral character constructs. However, CRMs' character socialization practices predicted adolescents' moral character at Time 1 for all constructs except empathic concern. Because Time 1 was an evaluation of the initial levels of the moral character constructs, it may be that youth with higher initial levels of CRMs' character socialization practices also had higher scores on the moral character constructs. In other words, at Time 1, youth who started off with more frequent conversations around being a good person also had higher levels of moral character (e.g., in areas of perspective taking, moral courage). Change after Time 1 may have been more difficult to capture because of possible ceiling effects (e.g., those with high levels of perspective taking had no room to "grow"). Indeed, mean levels of most moral character constructs were high (> 3 for moral purpose and empathic concern; > 2.5 for moral courage, moral reasoning, and perspective taking, all on a 0 to 4 scale) and the distributions of scores were negatively skewed.

Nevertheless, adolescents who identified their CRM as partaking in more frequent character socialization practices showed more growth in moral purpose between timepoints than adolescents who shared that their CRMs had less frequent discussions with them about being a good person. When considered from Nucci's (2017, 2018) framework, moral purpose is part of moral identity and moral critical social engagement. Unlike some of the other moral character constructs, which begin to develop in childhood, identity exploration, in general, and moral identity exploration, in particular, really begin to take place during adolescence (Eisenberg et al.,

2009; Morris et al., 2011). Moreover, Damon (2008) emphasized the important role that adults play in supporting adolescents in taking an interest and transforming it into a purpose through their conversations. Therefore, given that growth in moral identity and purpose are expected around adolescence, CRMs' character socialization practices may also be especially important for growth during this time.

The way in which the CABB study measured adolescents' perceptions of their CRMs' character socialization practices may also explain why there was change in moral purpose, but not the other moral character constructs. To evaluate CRMs' character socialization practices, the researchers asked questions like "Does this person talk to you about how to be a good person?" Instead, if they had asked "Does this person talk to you about what you would do if someone was in trouble?," it may have better captured character socialization practices that promote moral reasoning skills; measured in that way, there may have been relationships between CRMs' character socialization practices and moral courage and prosocial moral reasoning.

Perspective taking, like empathic concern, is an other-regarding social emotional capacity. Unlike empathic concern, however, perspective taking was predicted by CRMs' character socialization practices at Time 1 and the change from Time 2 to Time 3. Despite being of part of the same component in Nucci's (2017, 2018) framework, the processes by which these two skills develop may differ. Although both perspective taking and empathic concern begin to develop during early childhood, perspective taking increases during the adolescent years (Van der Graaff et al., 2018), as adolescents gain cognitive skills that allow them to take third-person perspectives (Selman, 1975). In this study, adolescents were asked "Does this person encourage you to think about how you would like to be treated in certain situations?" Although this question does not directly ask about taking others' perspectives, in reality, such questions may be

part of larger conversations that likely involves induction (Berkowitz & Grych, 1998). Other natural questions that may follow might be “Do you feel others would want to be treated this way in the same situation?” and “How do you think others would respond to being treated this way?” If adolescents indicate that their CRMs are frequently practicing character socialization practices, then their CRMs may also be having a variety of conversations that build on one another in order to promote perspective taking and other moral character constructs.

### **Does Relationship Quality with a CRM Enhance CRMs’ Character Socialization Practices?**

Research indicates that youth flourish in many settings where adults (e.g., parents, teachers) are warm and caring (e.g., Berkowitz & Grych, 1998; Roehlkepartain et al., 2017; Wentzel, 2002), and that youth are more receptive to guidance from adults with whom they are close (Grusec, 2014). Therefore, my second hypothesis was that relationship quality with CRMs would enhance the CRMs’ character socialization practices to predict adolescents’ moral character. This moderation for growth was present on all of the moral character constructs from Time 2 to Time 3 (but not for Time 1 to Time 2 growth).

Based on the literature, I had expected relationship quality to enhance the relationship between character socialization practices and the moral character constructs cross-sectionally at Time 1, as well as change between timepoints. However, this relationship was only present during the change from Time 2 to Time 3. The RDS metatheory, which is derived from the process-relational paradigm (Overton, 2015), states that relations “vary across ontogenetic time and contextual location (place)” (Lerner & Callina, 2014, p. 323). Therefore, time and place are both important to consider when evaluating results. One explanation for this pattern of results may be related to historical context. Data at Time 2 were collected between May 2016 and December 2016, and Time 3 between December 2016 and May 2017. In the United States, 2016

was an election year, and one with a great deal of controversy, during which Donald Trump was running for and was elected President (McCammon, 2016). In January of 2017, he took office as President of the United States.

Why might this particular election be important for the development of moral character for youth in the United States? Although adolescents' relationship quality with their CRMs or the frequency of CRMs' characters socialization practices did not themselves change between timepoints (see Appendix A, Tables A2 and A3), it is possible that the quality and content of these conversations changed, thereby resulting in growth in moral character. Participants were also older during this timepoint than when they began the study and may have been getting more out of their relationships and conversations with their CRM than in earlier waves of data collection.

Donald Trump was a particularly controversial Republican candidate, especially in more Democratic states (McCammon, 2016). Data for the CABB study were collected from youth who lived in the New England area, which has traditionally primarily supported Democratic candidates. While Trump was running for office, and even after he took office, he was criticized by the media for his inappropriate comments regarding women (The New York Times, 2016) and disabled individuals (DeReal, 2015). Some even questioned, and continue to question, if Trump was an appropriate candidate because of his lack of ethics or morality (e.g., Estes & Graham, 2017; Harwood, 2017, 2020).

Conversations about Trump's suitability for office were taking place on news outlets, on social media, and in conversations between adults. But it is also possible that youth were part of these conversations. It may be that youth overheard discussions between adults or were actively engaged in these conversations themselves, which is consistent with the experiences of youth

after the 2017 Unite the Right rally in Charlottesville, Virginia (Williams et al., 2021). Youth may have asked questions about some of the more publicized events (e.g., when Trump mentioned inappropriately touching women; The New York Times, 2016). Parents, teachers, coaches, and even friends may have asked questions like ‘is Trump a good person?’ or ‘should a person who says or does certain things be allowed to be President?’ Youth of color may have been particularly affected by Trump’s taking office, the policies implemented by his administration, and the rhetoric against people of color being promoted by the President, himself (Williams et al., 2021; Wray-Lake et al., 2018).

CRMs’ conversations with youth may have focused around treating others well. For example, Trump mocked a disabled individual during his campaign. CRMs may have used the situation as a learning experience for youth. Moral character may have been promoted through several forms of questions, discussions, and reflections. Questions such as, ‘how do you think it made the disabled individual feel?’ may have promoted perspective taking; ‘do you think it hurt that person and other disabled people’s feelings?’ may have promoted empathic concern; ‘what would you have done in that situation?’ may have promoted moral reasoning; or ‘would you have spoken up or called Trump out?’ may have promoted moral courage. The questions in the CABB study for youth about the character socialization practices of their CRMs are quite specific (e.g., focused on being a ‘good person’); however, it is possible that more questions that promote a diverse set of moral behaviors were weaved into the conversations during this time period. Indeed, Kennedy and colleagues (2020) found that adult-youth conversations about Trump and his policies, especially those that required deeper analyses, promoted less reflexive emotional reactivity (e.g., ‘Trump sucks’) and more plans on how they might act or react in

certain situations. Such conversations may, in turn, promote moral courage or moral reasoning skills.

This historical context may be one explanation for this pattern of results related to moderation. However, Trump was running for and elected to office during the Time 2 data collection, but I only found relationship quality to moderate change between moral character and character socialization practices from Time 2 to Time 3. There may have been a ‘delayed response’ in seeing the moral outcomes of these conversations. Moreover, additional conversations that took place after the election and inauguration (i.e., during the time between Time 2 and Time 3) may have resulted in significant levels of growth from Time 2 to Time 3.

#### **Does CRM Type Moderate the Relationship between Relationship Quality or Character Socialization Practices and Adolescents’ Moral Character?**

Finally, I evaluated whether the type of CRM youth chose (parents vs. non-parents) moderated the relationship between relationship quality or character socialization practices and aspects of moral character. Much of the literature has focused on the role that parents play in moral development during childhood and adolescence (e.g., Pasupathi, 2014). Nevertheless, youth interact with many adults, such as aunts/uncles, teachers, coaches, and mentors. And even friends can be identified as CRMs (e.g., Johnson et al., 2016) and serve as catalysts for moral development. Overall, youth shared that they had more frequent interactions with parent CRMs than non-parent CRMs, and also rated parent CRMs higher on relationship quality and character socialization practices (see Appendix A, Table A4).

In spite of parent CRMs, on average, being rated higher on relationship quality than non-parent CRMs, compared to a parent CRM, identifying a non-parent CRM predicted growth in moral purpose from Time 2 to Time 3. But this finding was nuanced. When adolescents’

relationship quality with their CRM was low, having selected a non-parent CRM was associated with higher levels of moral purpose; however, when adolescents' relationship quality with their CRM was high, there were no differences in adolescents' level of moral purpose between youth who identified a parent versus non-parent CRM. Home environments are important in promoting moral identity, and relatedly, moral purpose. But, for those youth who may not have good relationships with parents inside the home, even a low-quality relationship with a CRM outside of the home may be important in nurturing ones' moral identity and purpose, regardless of the level of socialization practices of the CRM (see Figure 8).

Another possible explanation why I found this differentiated relationship in growth on moral purpose may be related to what is happening more generally, from a developmental perspective, during adolescence. During adolescence, youth begin to develop an increased sense of autonomy and de-idealize their parents, removing them from the pedestal that they had their parents on when they were children (Steinberg, 2017). They may have perceived their parents as being amazing, 'good' people during childhood, but during adolescence begin to perceive others as better examples of moral individuals, and are perhaps more likely to value the opinions and feedback of other individuals more so than their parents (e.g., Uink et al., 2019), even if they do not have a good relationship with this person. This process of de-idealization and increased autonomy may result in youth exploring their moral purpose when they have other, non-parental, examples of good people in their lives.

Interestingly, when relationship quality was high, there were no differences in adolescents' growth in moral purpose between youth who identified a parent versus non-parent CRM. CRMs may be modeling their 'goodness' through various activities (e.g., participating in service activities), thereby expressing their own moral purpose. Bucher (1998) found that youth

identified models because they had competencies that the youth themselves wanted to possess, and it seems logical that, as adolescents explore who they are as individuals, they may try to be more like people whom they like, regardless of this person being a parent or non-parent. So, it could be the case that youth are striving to be more like these CRMs to whom they are close (i.e., refining their moral identity to be more like the people whom they admire).

I also found that CRM type moderated the relationship between adolescents' perspective taking and CRMs' socialization practices. When adolescents' relationship quality with their CRM was high and CRMs' socialization practices were low, levels of perspective taking were higher in youth who identified a non-parent versus a parent CRM; however, when CRMs' were having more frequent conversations about being a good person, youth with parent and non-parent CRMs were not different in their level of perspective taking. Why might high relationship quality, but lack of socialization practices predict different levels of perspective taking for youth with non-parent compared to parent CRMs? I have already discussed how the character socialization practices of CRMs may promote perspective taking, and the questions that may build on one another to do so. It is possible that although youth are not having direct conversations about 'being a good person' with their CRM, they may be receiving other forms of socialization from non-parent CRMs – both in conversations and through modeled behavior. These other forms of socialization may be more salient when the relationship between adolescent and their CRM is good. It is possible that non-parent CRMs, such as teachers or mentors, ask different or more insightful questions, or prompt youth to think more deeply about the questions they are asking, which may, in turn promote these skills. Alternatively, it is possible that youth, although asked the same questions by parent and non-parent CRMs, receive and process the messages they receive from the two groups differently, putting more weight or trust in the

opinions or feedback of non-parent CRMs than in parent CRMs (e.g., Uink et al., 2019). This relationship may have been even further enhanced around and after the 2016 election.

Non-parent CRMs also have opportunities to provide character socialization for perspective taking in different contexts than parents. Parents see youth mostly at home, and therefore, may be restricted to providing socialization within that context, whereas non-parent CRMs may see youth at school, church, or sports practices. Even friends, who were identified as CRMs by some adolescents, interact with youth during unstructured or free time, during which socialization can take place. For instance, during unstructured time, a friend might ‘call out’ a youth for being rude or disrespectful to another friend. That friend might challenge them by saying ‘what if I said that to you?’, thereby having them take another person’s perspective and feeling empathy towards others. Because the contexts for conversations are often more diverse with non-parent CRMs than parent CRMs, it may result in more opportunities for the socialization of perspective taking, as well as more generalization of skills across contexts.

Finally, I found that, on average, youth who identified a parents CRM had higher levels of empathic concern from Time 1 to Time 2 than youth who had a non-parent CRM. Once again, this finding was nuanced (see Figure 16). Adolescents who had low levels of relationship quality with their CRM, and whose CRMs’ socialization practices were also low, had higher levels of empathic concern when their CRM was a parent compared to a non-parent. At higher levels of CRMs’ socialization practices, this difference was less pronounced.

Importantly, though, higher levels of CRMs’ socialization practices were associated with lower mean-levels of adolescents’ empathic concern when adolescents’ relationship quality with the CRM was low for both parent and non-parent CRMs. This finding indicates that socialization about being a good person may be more detrimental to adolescents’ empathic concern when it is

coming from someone to whom the adolescent is not close. As discussed earlier, adolescents seek to gain autonomy in making their own decisions. High levels of socialization may be perceived as attempts at control from people with whom they have bad relationships with, and may result in adolescents not feeling understood, and therefore, not being understanding of others.

### **Practical Implications**

The development of moral character during adolescence is crucial, because it prepares youth to become contributing members in society and allows them “to engage the social world as a moral agent” (Nucci, 2017, p. 12). Such contribution may take place through vocations that serve others (e.g., social workers, doctors, educators), community service participation, or civic engagement. Their contributions can make a big difference as they transition to adulthood. The Center for Information and Research on Civil Learning and Engagement at Tufts University (2020) shared that for the recent U.S. election “52%-55% of youth voted in 2020, and their impact—especially youth of color’s overwhelming support for Biden—was decisive in key races across the country.” Given that civic engagement during adolescence is highly related to their civic engagement as young adults (Obradović & Masten, 2007), it is important to promote moral character development early on.

Through both the literature discussed earlier, and the findings of this study, it is clear that adults play an important role in the development of moral character. Although most research has focused on parents’ role in moral development, there are many adults and even friends in adolescents’ lives who can support this developmental process. My findings here show that, for some aspects of moral character, non-parent CRMs who had high levels of relationship quality or character socialization practices promoted moral character at higher levels than parents. Thus, all

individuals in youths' lives have the potential to support their moral character development. Understanding the process by which moral character development takes place, as well as the types of conversations that youth are having with parents and non-parents (both CRMs and not) will help researchers and educators to provide more targeted information and feedback to adults in what they can do in their day-to-day conversations with youth that may support them in being moral agents and contributing members in society.

### **The Utility of Nucci's (2017, 2018) Framework for Studying CRMs' Role in Adolescents' Moral Character Development**

Concepts of character and virtues have been around for centuries; however, there is little agreement about the definition of character and what virtues or character strengths constitute character (Nucci, 2018; Seider et al., 2017; Shubert et al., 2015). Nucci's (2017, 2018) character self-system framework provides a comprehensive way to think about the elements of moral character that is superior to the virtue or trait-like approach taken to study character development. Nucci (2017) argues that virtues cannot be used to define character, as they are inconsistently identified across cultures, time, and contexts, and I agree with his evaluation of the need for a holistic model of character.

However, what is missing from Nucci's (2017, 2018) framework is *how* individuals develop moral character. Therefore, in this dissertation, I developed a conceptual model that built on Nucci's framework to understand the process by which moral character develops during adolescence (see Figure 2). I used my conceptual model as a guide to understand the important components of moral character during adolescence. But there are methodological challenges when trying to use such a holistic framework. The character self-systems framework depicted by Nucci does not consist of many individual parts, but is instead a single, large self-system.

Ideally, evaluation of the character self-system would involve evaluating the system as a whole. Instead, in my evaluation of the model, I broke it into components, which, naturally, overlapped. Teasing apart the components of the framework was necessary because using a holistic framework (i.e., including all constructs and representing the bidirectional and overlapping relationships between them) is impossible with currently available methods.

I used data from the CABB study, which was not explicitly designed to test aspects of Nucci's (2017, 2018) framework. Although many constructs from CABB map onto Nucci's framework quite well, not all parts of the framework are represented, and some parts are represented through constructs that are similar to – but not completely the same as – constructs within Nucci's framework. Accordingly, this dissertation could not fully test Nucci's framework. Ideally, I would have been able to use all moral constructs available in the CABB study to create one LCS model to evaluate the relationship to CRMs' character socialization practices and relationship quality. However, testing such a holistic model would be computationally intensive, and the data available from the CABB study does not have sufficient power to analyze such a model. Therefore, I estimated a single LCS model for each moral character construct.

Although I do believe that Nucci's (2017, 2018) framework of the character self-system provides a useful tool to consider character in relation to the whole person, there are methodological challenges associated with evaluating change in moral character using the framework. Ultimately, what I believe is needed in developmental science are better methods to evaluate complex models of development, such as intra-individual evaluations of change (e.g., Ram & Grimm, 2007).

### **Limitations and Future Directions**

There are several limitations to the present study, primarily as they relate to the design of the study and the constructs used in the analyses presented here. These limitations point to several areas to consider for future directions in the study of moral character development and CRMs during adolescence.

#### **Limitations and Future Directions Related to Evaluation of CRMs**

The first primary limitation to the CABB study was that adolescents were asked to nominate only one person whom they looked up to as a good person (their CRM) at each timepoint. It is likely that, at any given time, adolescents have many people whom they could identify as their CRM for different reasons (e.g., someone who is kind to others; someone who is a fire fighter who saves peoples' lives; see Varga & Zaff, 2018 for youths' webs of support). Because the research team only asked for one individual at each time of data collection, I was only able to analyze data regarding adolescents' relationships with that one individual and their moral character development.

The present evaluation of the role that CRMs play in promoting moral character development during adolescence is only the first step to better understanding how others may be able to promote character development in youth. The process of moral development is likely to differ for different people, thus, an ideographic approach to study the role of CRMs in moral development would be beneficial (Lerner, 2019). Although the CABB study only asked adolescents to identify one individual whom they believe to be a CRM, many youths' (> 64%) CRMs changed across timepoints. Adolescents interact with many people through school, extra-curricular activities, religious settings, extended family, etc. It is likely that there are a variety of adults and peers whom adolescents think are good people for different reasons. Understanding

how adolescents choose their CRMs, how they understand what the CRMs do that make them people of good character, and how they try to acquire those qualities for themselves and apply them to their own lives are all important considerations. Moreover, a short-term, longitudinal evaluation that asks youth to share recent interactions with both existing and new CRMs and what they are learning from them can illuminate the role CRMs play in the daily lives of adolescents and enable researchers to conduct intra-individually-focused analyses.

Another limitation to the study was that the group sizes for CRM types other than parents were not large enough to evaluate them separately (e.g., as separate categories in moderation analyses). Accordingly, I had to collapse all other types of non-parent CRMs into one group. However, by doing so, I assume that all non-parent CRMs have the same relationship with and socialize youth in the same way, which is unlikely to be the case. Teachers and friends, who are, in this evaluation, both considered non-parent CRMs, are likely to have varying levels of character socialization with youth, and also different levels of relationship quality. A larger sample size might have allowed for more specificity in evaluation on how different types of non-parent CRMs may promote the development of moral character.

It is also important to understand the long-term impact of having a CRM and their socialization practices. In this dissertation, I conducted LCS models that evaluated the relationship between changes in moral character during approximately the last year and adolescents' relationship quality with their CRM and the CRMs' character socialization practices with the adolescent. However, what was beyond the scope of this study was how CRMs character socialization practices at Time 1 may have been related to change in moral character development at Time 3. Such an evaluation might shed light on if there is a delay in seeing impact of CRMs' character socialization practices.

Finally, on average, youth rated their CRMs highly on relationship quality and character socialization practices. Although some variation exists, and some youth did rate their CRMs low on these two constructs, the distributions for these constructs were negatively skewed. The statistical models I estimated used robust maximum likelihood to account for these non-normal distributions through the correction of standard errors; however, these LCS models may still do a poor job at predicting the moral character outcomes for youth who rated their CRMs low on relationship quality or character socialization practices.

### **Limitations and Future Directions Related to Constructs**

There are also several limitations with the constructs used in this study. First, the CABB study evaluated socialization practices of CRMs in one way – through the moral conversations they were having with youth. There are many types of conversations and many forms of socialization that were not evaluated in the CABB study (e.g., modeling) and are therefore not included in these analyses. Accordingly, this dissertation could not fully test my conceptual model of how CRMs may be able to promote moral character development during adolescence.

Researchers should also consider how best to measure moral character. I used measures from the CABB study, which was not designed to measure moral character, and mapped it onto Nucci's (2017, 2018) framework of the character self-system. However, there may be better ways to measure moral character during adolescence. For instance, since the beginning of the CABB study in 2015, Black (2016) has developed a measure of moral agency. In this dissertation, I, instead, used moral courage as a proxy for moral agency. There are also several ways to measure moral purpose. In this study, the researchers asked youth about the content of their moral purpose (i.e., their goals), but another way to measure moral purpose is through measuring a sense of the adolescents' moral purpose (i.e., how strongly they feel they know what

their purpose in life is; e.g., Hutzell & Finck, 1994). Another consideration to measurement choice and development is to consider the developmental stage of the adolescents being evaluated. The period of adolescence consists of a large age range, and several areas of moral character development area uneven throughout adolescence (e.g., perspective taking; see Selman, 1975). Measures that validly measure these constructs and that are developmentally appropriate and change-sensitive will contribute to research to better understand how adults may be able to promote moral character.

When evaluating the change in personal moral values and ISR, the LCS models did not converge. Upon evaluation of change between timepoints for these constructs, mean level changes were very small ( $< 0.010$ ). This finding may be because personal moral values and ISR are stable over time, and youth simply do not change much on these two constructs, or it could be the case that the measures are not sensitive enough to evaluate change. Future research should consider ways in which to evaluate change in these constructs. Additionally, all the measures evaluated here were self-reported, which may bring into question adolescents' response to some of the morally salient questions. Do they respond to these questions in ways they believe they should, or do they accurately depict their own moral characteristics?

### **Other Study Limitations and Future Directions**

Due to the cases of non-invariance found for certain items in certain group analyses (see section on Longitudinal Invariance Testing across Groups), and the computational limitations of the LCS model, I was not able to include demographic characteristics of youth in the LCS models. It may be the case that demographic characteristics moderate the relationship between adolescents' relationship quality with their CRM or the CRMs' socialization practices and the moral character constructs. The CABB study, and the sample used in the analyses here, had a

large age range (sixth through eleventh graders at Time 1). Not all moral character development happens evenly across adolescence – for instance, perspective taking begins during pre-adolescence, when youth begin thinking in terms of third-person perspectives, and during later adolescence becomes more sophisticated, with the ability to take multiple perspectives, realizing that the other party has complex thoughts, values, and emotions different from one self (Selman, 1975). Because of the uneven nature of development, and the wide age range of the CABB study, it is possible that there are more nuanced relationships between adolescents' relationship quality with their CRM or the CRMs' socialization practices, adolescents' moral character, and the adolescents' age that were not captured in these analyses.

Another limitation to the study was that, in my evaluation of attrition for the CABB study, more girls were included in the analyses than boys. Although it is unclear why this may be the case, it may reduce how generalizable the findings are for boys. For instance, was there something different about the boys who stayed in the study for all three timepoints compared to those who were in the study for fewer timepoints that I did not evaluate here? Moreover, caution needs to be taken when attempting to generalize the findings of this evaluation in general. Youth in this sample consisted of primarily White, middle-class adolescents from the New England area of the United States. Further evaluation on youth from different racial/ethnic, socioeconomic and regional groups is necessary to better understand the process through which CRMs may be able to promote moral character.

### **Conclusions**

Given the extent of Nucci's (2017, 2018) comprehensive character self-system framework, and all the necessary socialization practices discussed above, it may appear as though CRMs may have a heavy burden to carry. And though the responsibility of nurturing

moral character in youth is a large one, CRMs, through good relationships and frequent character socialization practices, have the potential to promote moral character. However, the burden of moral character development does not, and should not, fall on one person. Some may feel that the proverb *'It takes a village to raise a child'* may seem to no longer fit with American culture, it is still the case that other adults do have some amount of influence on youth. Indeed, not *all* youth identified their parents as their CRM. By further evaluating the role that CRMs play in adolescents' moral character development and understanding the ways in which they promote this development can provide valuable knowledge that can be disseminated to all individuals who interact with youth.

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**Tables****Table 1***Mean change and variance in moral character constructs from Time 1 to Time 2 and Time 2 to Time 3*

	Change from Time 1 to Time 2		Change from Time 2 to Time 3	
	Mean Change	Variance	Mean Change	Variance
Moral courage	-0.057	0.87	0.020	0.79
Personal moral values	0.003	0.45	0.081	0.59
Moral purpose	-0.039	0.55	0.099	0.59
Prosocial moral reasoning	0.251	1.72	0.157	1.64
Perspective taking	-0.069	0.99	-0.020	0.89
Empathic concern	0.031	0.38	0.044	0.38
Intentional self-regulation	0.019	0.59	0.001	0.62

**Table 2***Summary of regression coefficients for latent change score models with latent and observed predictors*

	Moral Courage	Moral Purpose	Prosocial Moral Reasoning	Perspective Taking	Empathic Concern
<b>LCS Model with latent predictors</b>					
<b>(N = 401)</b>					
T1 Intercept	2.74***	3.06***	2.69***	2.67***	3.14***
T1 $\beta$ RQ	0.13	0.05	0.03	0.10	0.19**
T1 $\beta$ SP	0.20**	0.30***	0.23**	0.27***	0.10
T1 $\beta$ RQ * SP	0.09	0.81	0.08	0.06	0.07
$\beta$ $\Delta$ T1 to T2	0.00	-0.68**	-0.95***	-0.53	-0.46
$\Delta$ T1 to T2 $\beta$ RQ	0.06	0.04	0.02	0.03	0.12**
$\Delta$ T1 to T2 $\beta$ SP	0.04	0.21**	0.13	0.15	0.04
$\Delta$ T1 to T2 $\beta$ RQ * SP	-0.04	0.00	-0.01	-0.01	0.03
$\beta$ $\Delta$ T2 to T3	-0.04	-0.71**	-1.04***	-0.55	-0.47
$\Delta$ T2 to T3 $\beta$ RQ	0.00	0.06	0.14	0.03	0.05
$\Delta$ T2 to T3 $\beta$ SP	0.10	0.19*	0.14	0.19*	0.11
$\Delta$ T2 to T3 $\beta$ RQ * SP	0.07*	0.06**	0.11**	0.06*	0.04*
<b>LCS Model with observed predictors</b>					
<b>(N = 328)</b>					
T1 Intercept	4.37**	3.52***	1.92	1.88	4.60***
T1 $\beta$ RQ	-0.54	-0.31	0.05	0.07	-0.35
T1 $\beta$ SP	-0.70	-0.34	-0.16	-0.08	-0.72**
T1 $\beta$ RQ * SP	0.23*	0.15*	0.10	0.08	0.19**
T1 $\beta$ CRM Type	-1.05	-0.05	1.29	0.45	-0.92
T1 $\beta$ CRM Type * RQ	0.26	-0.09	-0.32	-0.16	0.08
T1 $\beta$ CRM Type * SOC	0.10	0.14	0.00	0.09	0.21*
$\beta$ $\Delta$ T1 to T2	-0.71	-0.56*	-0.82	-0.23	-0.52*
$\Delta$ T1 to T2 $\beta$ RQ	0.25	0.25*	0.05	-0.07	0.01
$\Delta$ T1 to T2 $\beta$ SP	0.39*	0.29	0.15	0.03	-0.07
$\Delta$ T1 to T2 $\beta$ RQ * SP	-0.06	-0.04	-0.01	0.01	0.05
$\Delta$ T1 to T2 $\beta$ CRM Type	0.26	0.57	0.65	-0.81	0.08
$\Delta$ T1 to T2 $\beta$ CRM Type * RQ	0.16	-0.07	-0.06	0.35	0.12
$\Delta$ T1 to T2 $\beta$ CRM Type * SP	-0.20	-0.06	-0.05	-0.14	-0.16*

$\beta \Delta T2 \text{ to } T3$	-0.55	-0.62*	-0.90	-0.30	-0.61*
$\Delta T2 \text{ to } T3 \beta RQ$	0.18	0.23	0.15	-0.19	0.06
$\Delta T2 \text{ to } T3 \beta SP$	0.22	0.12	-0.31	0.04	0.14
$\Delta T2 \text{ to } T3 \beta RQ * SP$	-0.03	0.02	0.09	0.06	0.00
$\Delta T2 \text{ to } T3 \beta CRM \text{ Type}$	1.04*	1.64***	1.07	0.32	0.69
$\Delta T2 \text{ to } T3 \beta CRM \text{ Type} * RQ$	-0.28	-0.30*	-0.29	0.14	-0.07
$\Delta T2 \text{ to } T3 \beta CRM \text{ Type} * SP$	0.03	-0.15	0.04	-0.26*	-0.13

*Note: RQ = Adolescents' relationship quality with their character role model (CRM); SP = CRMs' character socialization practices with the adolescent; \* $p \leq .05$ , \*\* $p \leq .01$ , \*\*\* $p \leq .001$*

**Table 3***Mean change in moral character constructs for the unconditional latent change score models*

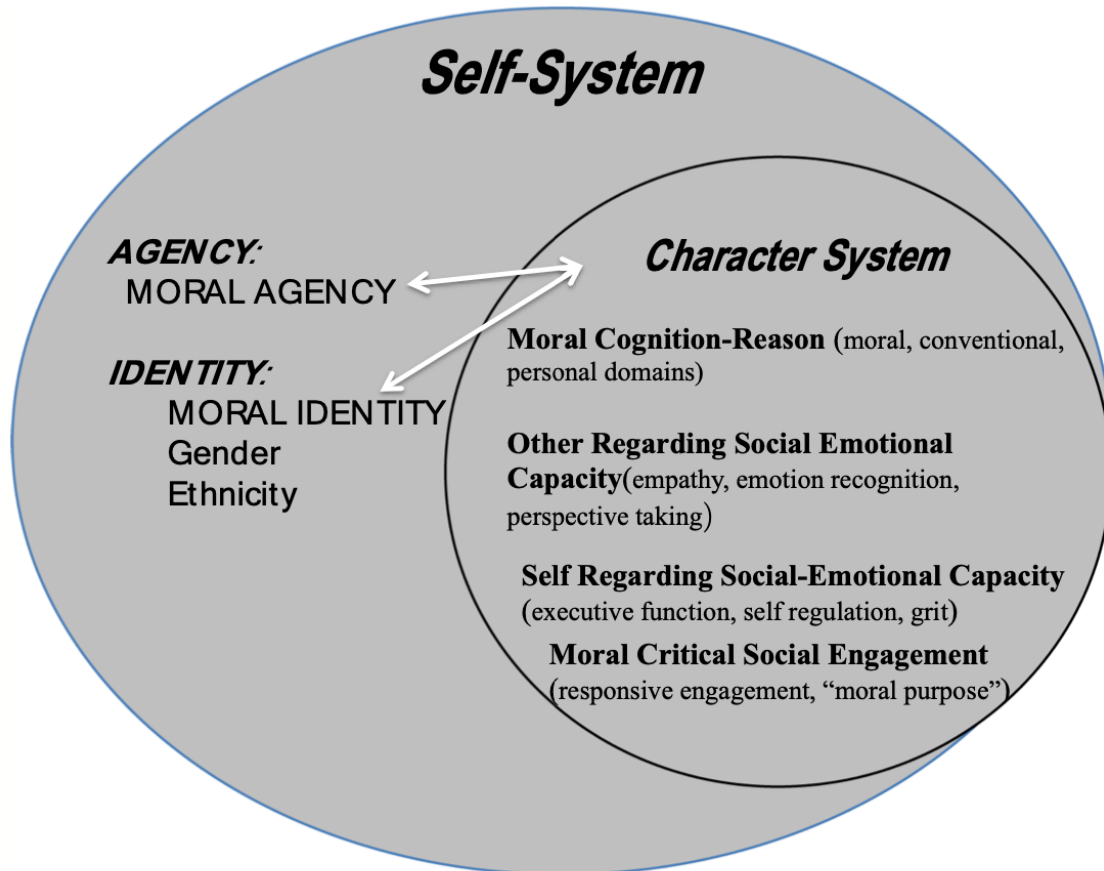
	Change from Time 1 to Time 2	Change from Time 2 to Time 3
	Mean Change	Mean Change
Moral courage	-0.834	-0.842
Moral purpose	0.674	0.623
Prosocial moral reasoning	-1.094***	-1.166***
Perspective taking	-0.758	-0.764
Empathic concern	0.080	0.075

*Note: \*\*\* $p \leq .001$*

## Figures

**Figure 1**

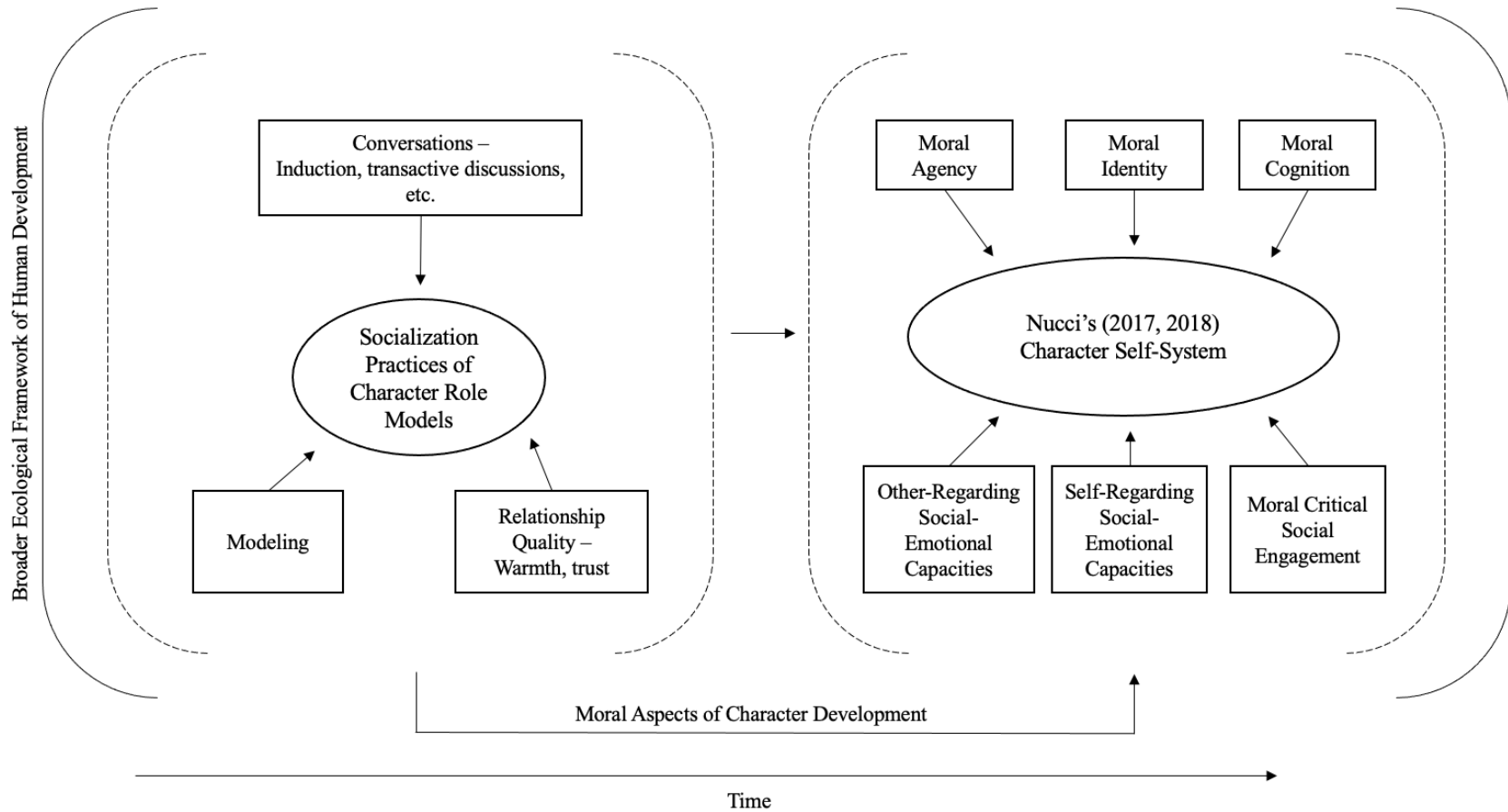
*Nucci's (2018) character self-systems framework*



*Note.* Reprinted from “Character: A developmental system,” by Nucci, L., 2018, *Child Development Perspectives*, 13(2), p. 3. Copyright 2018 by Society for Research in Child Development.

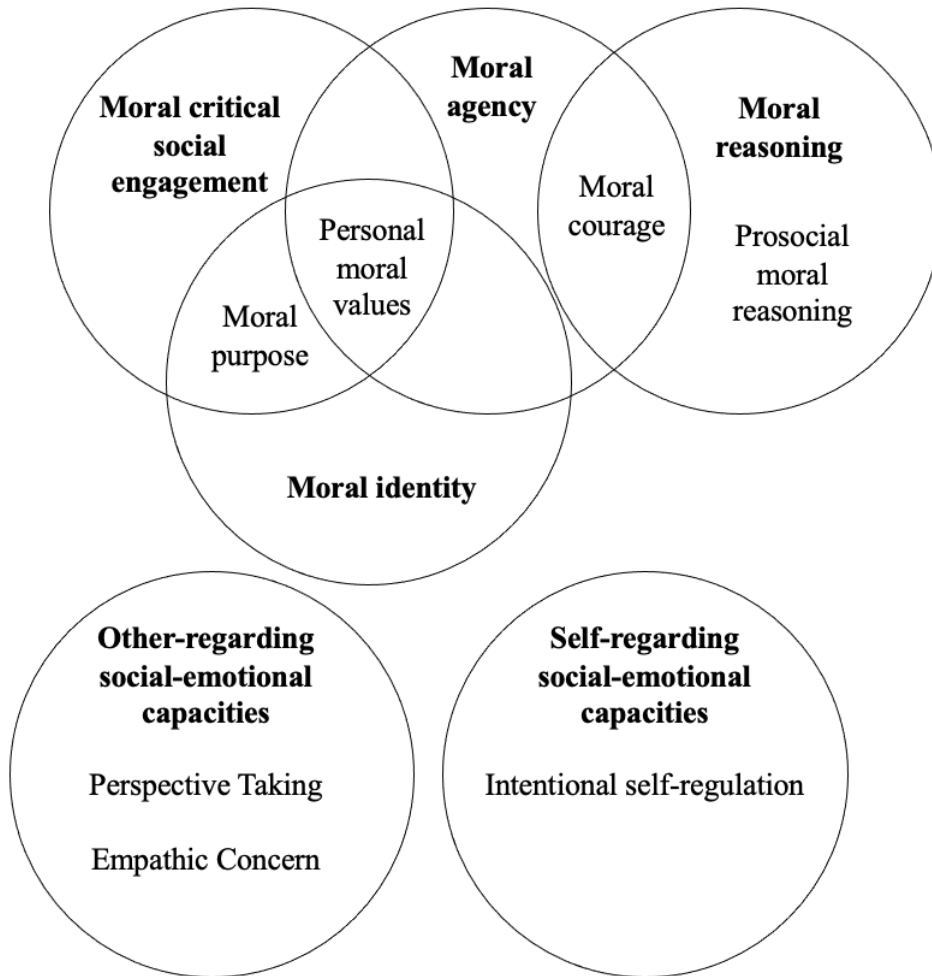
**Figure 2**

*Conceptual model for how character role models (CRMs) may promote development of Nucci's (2017, 2018) character self-system during adolescence*



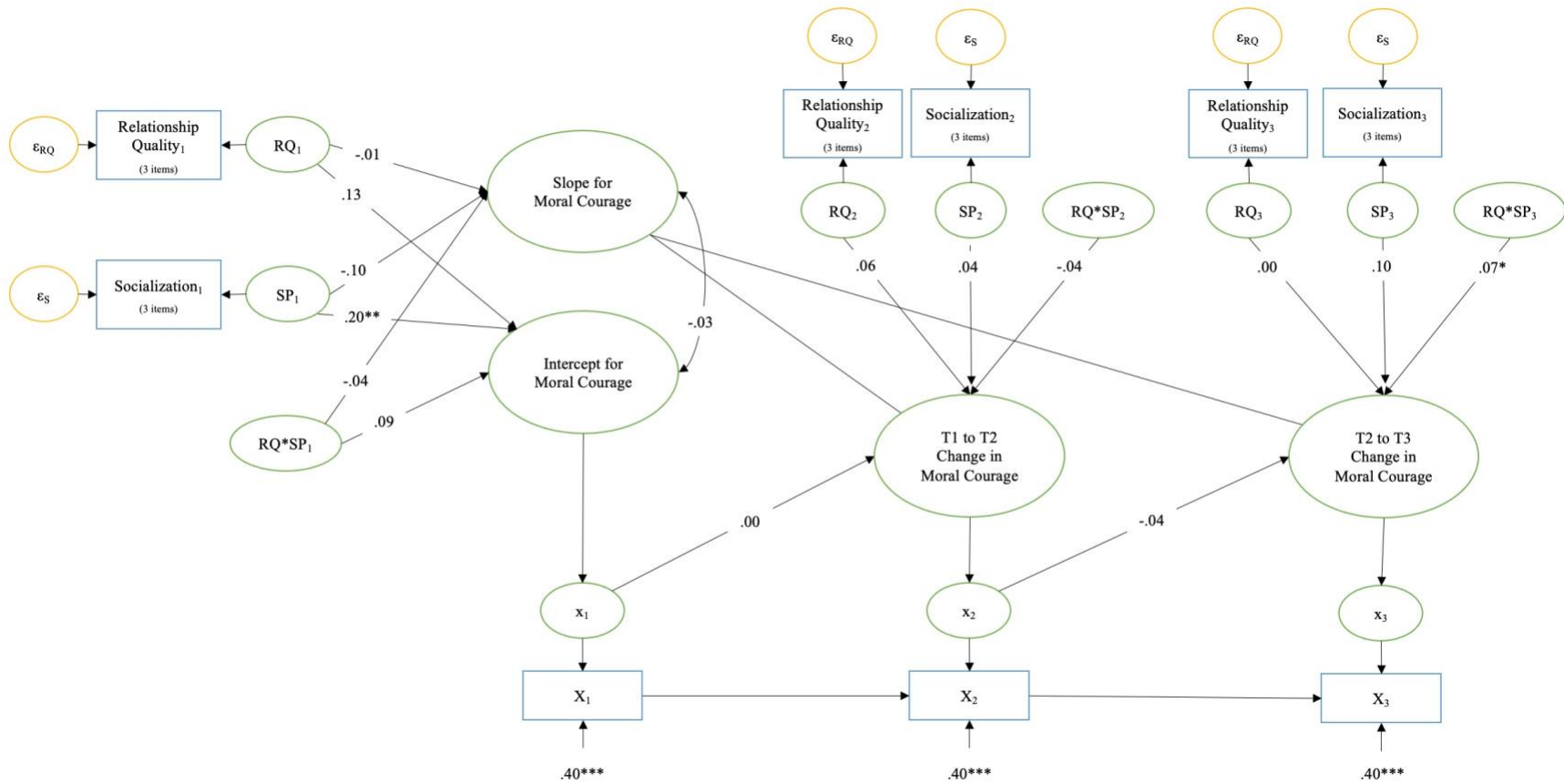
**Figure 3**

*Constructs within the Connecting Adolescent Beliefs and Behaviors (CABB) dataset and where they map onto components of Nucci's (2017, 2018) character self-systems framework*



**Figure 4**

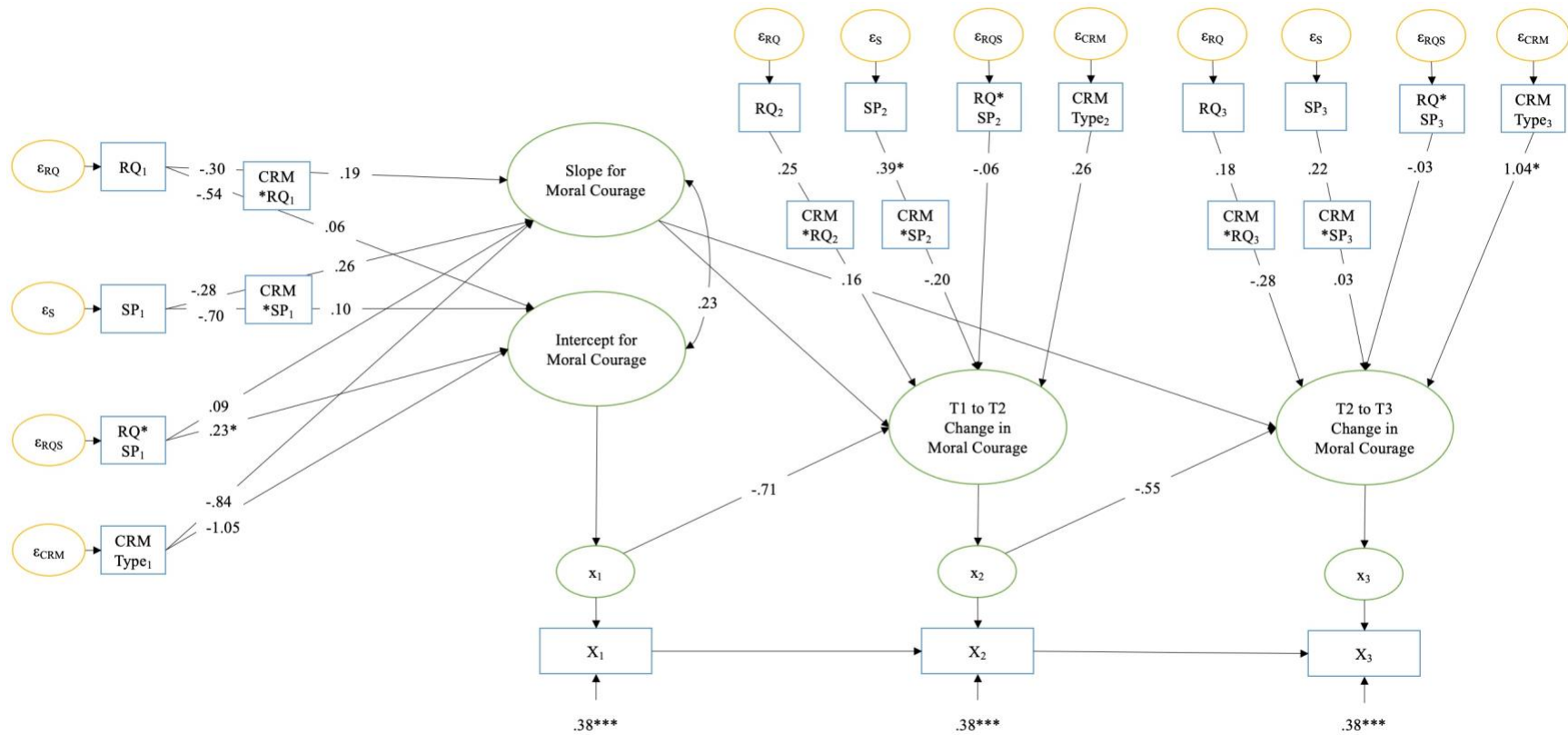
*Latent change score model for moral courage with latent predictors*



Note: N = 401; unlabeled paths constrained to 1; \* $p \leq .05$ , \*\* $p \leq .01$ , \*\*\* $p \leq .001$ ; unstandardized results shown.

**Figure 5**

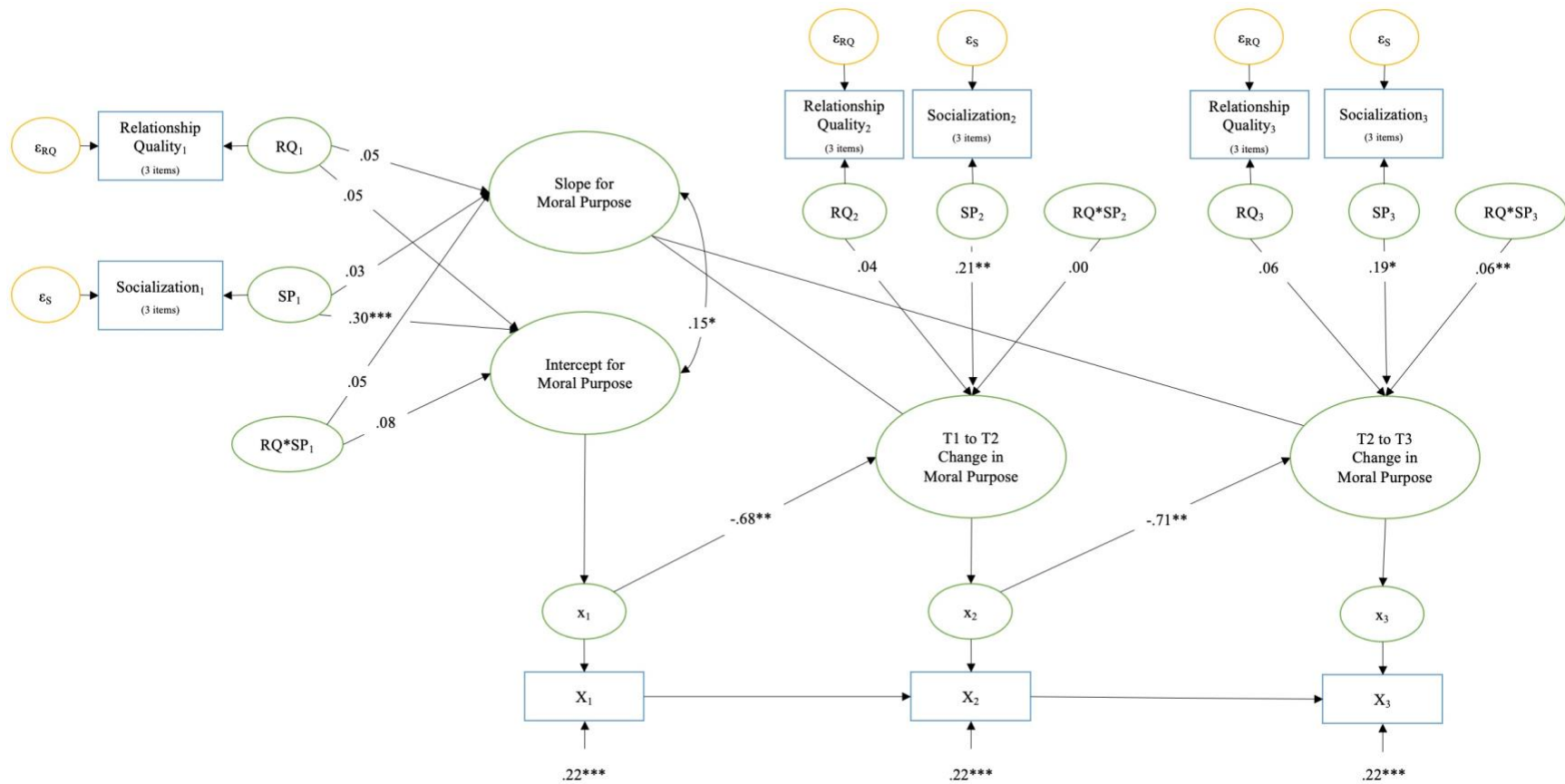
*Latent change score model for moral courage with observed predictors and character role model (CRM) type moderation*



Note:  $N = 328$ ; RMSEA = .045 (.021 to .066), SRMR = .032, CFI = .929; unlabeled paths constrained to 1; \* $p \leq .05$ , \*\* $p \leq .01$ , \*\*\* $p \leq .001$ ; unstandardized results shown.

**Figure 6**

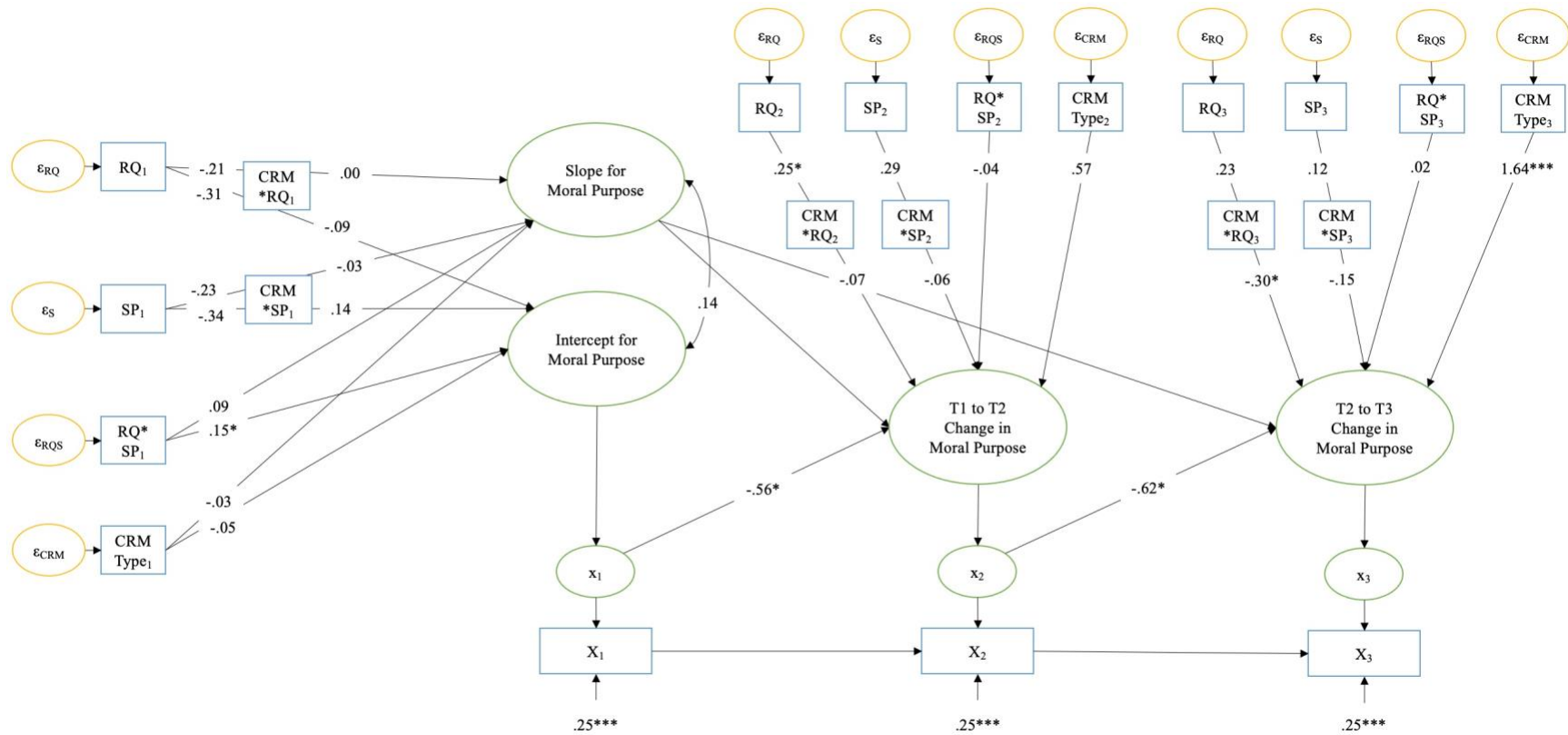
*Latent change score model for moral purpose with latent predictors*



Note:  $N = 401$ ; unlabeled paths constrained to 1; \* $p \leq .05$ , \*\* $p \leq .01$ , \*\*\* $p \leq .001$ ; unstandardized results shown.

**Figure 7**

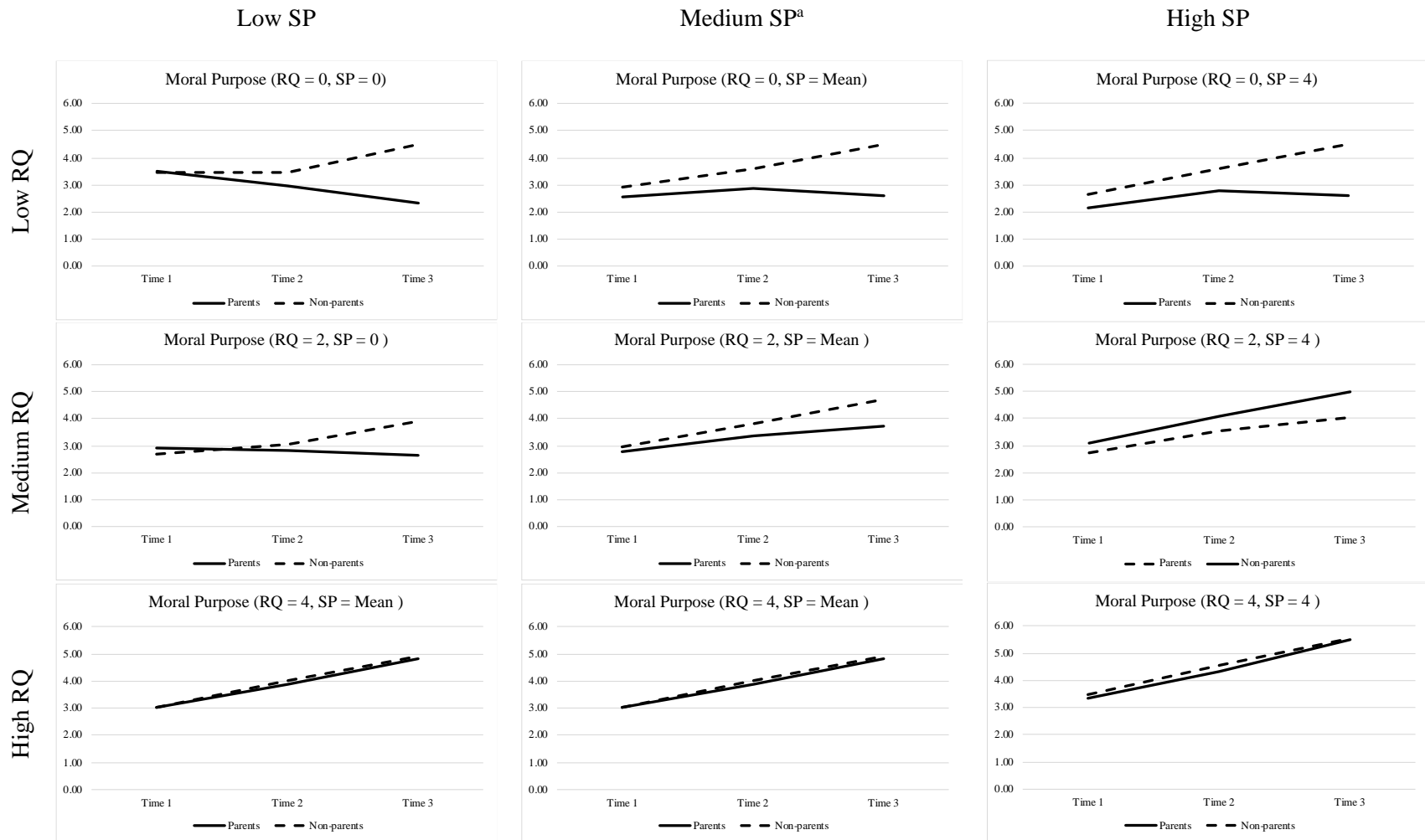
*Latent change score model for moral purpose with observed predictors and character role model (CRM) type moderation*



Note:  $N = 328$ ; RMSEA = .000 (.000 to .038), SRMR = .046, CFI = 1.000; unlabeled paths constrained to 1; \* $p \leq .05$ , \*\* $p \leq .01$ , \*\*\* $p \leq .001$ ; unstandardized results shown.

**Figure 8**

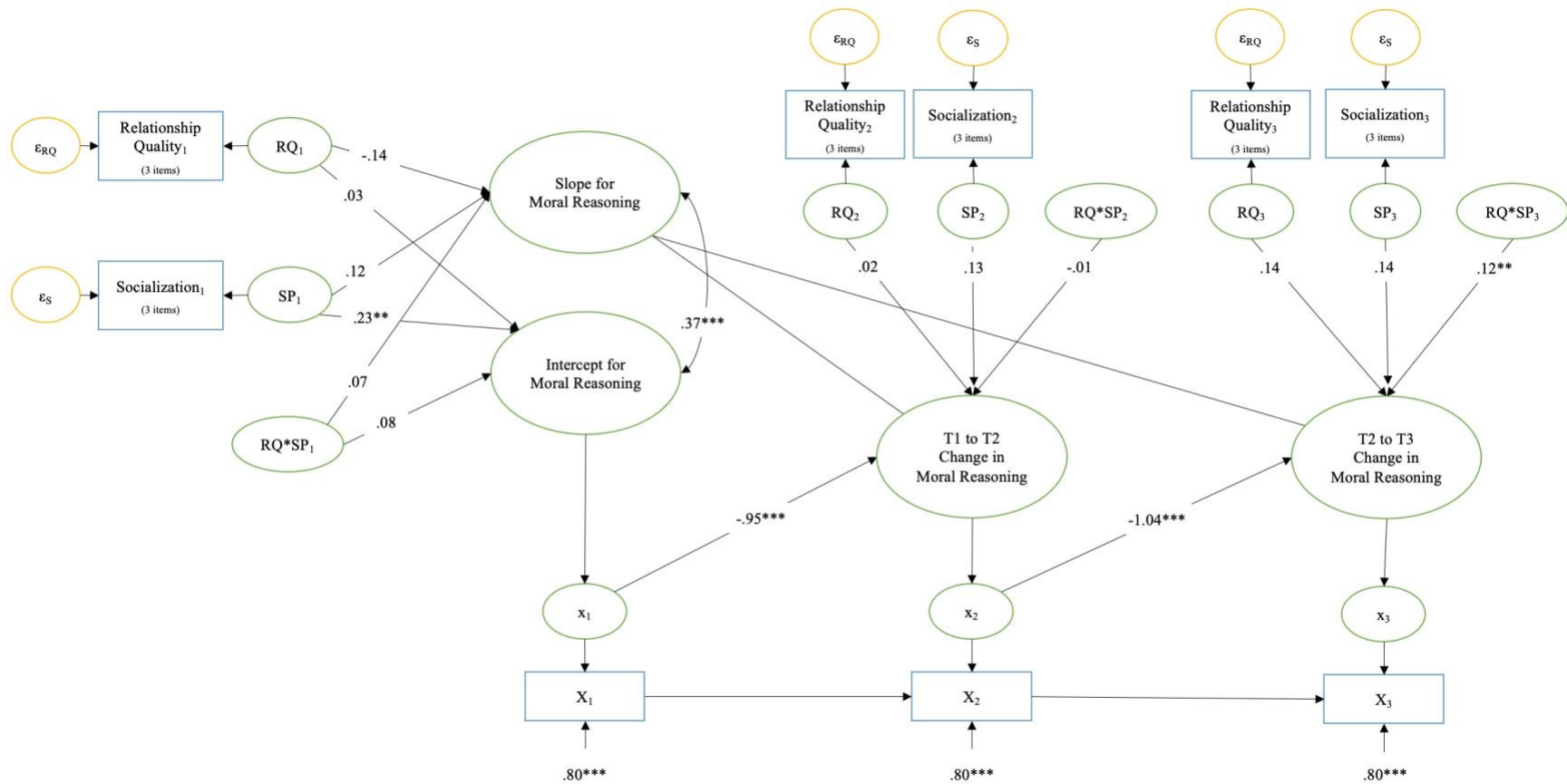
*Change in moral purpose for adolescents with parent and non-parent character role models (CRMs) across the three timepoints*



<sup>a</sup> Note: Mean for CRMs' character socialization practices ranged from 2.8 – 3.0 (on a 0 to 4 scale) at all timepoints.

**Figure 9**

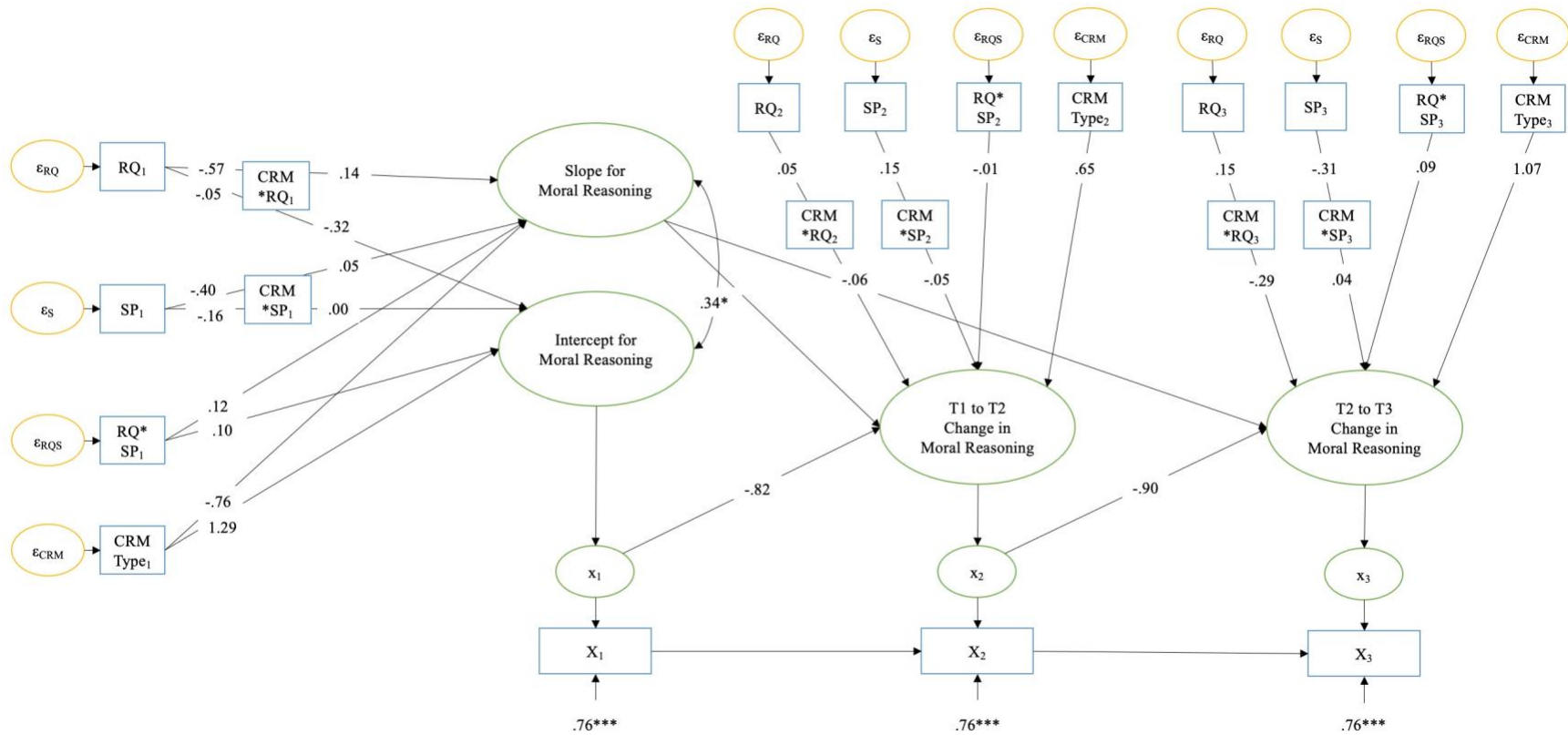
*Latent change score model for moral reasoning with latent predictors*



Note: N = 401; unlabeled paths constrained to 1; \*p ≤ .05, \*\*p ≤ .01, \*\*\*p ≤ .001; unstandardized results shown.

**Figure 10**

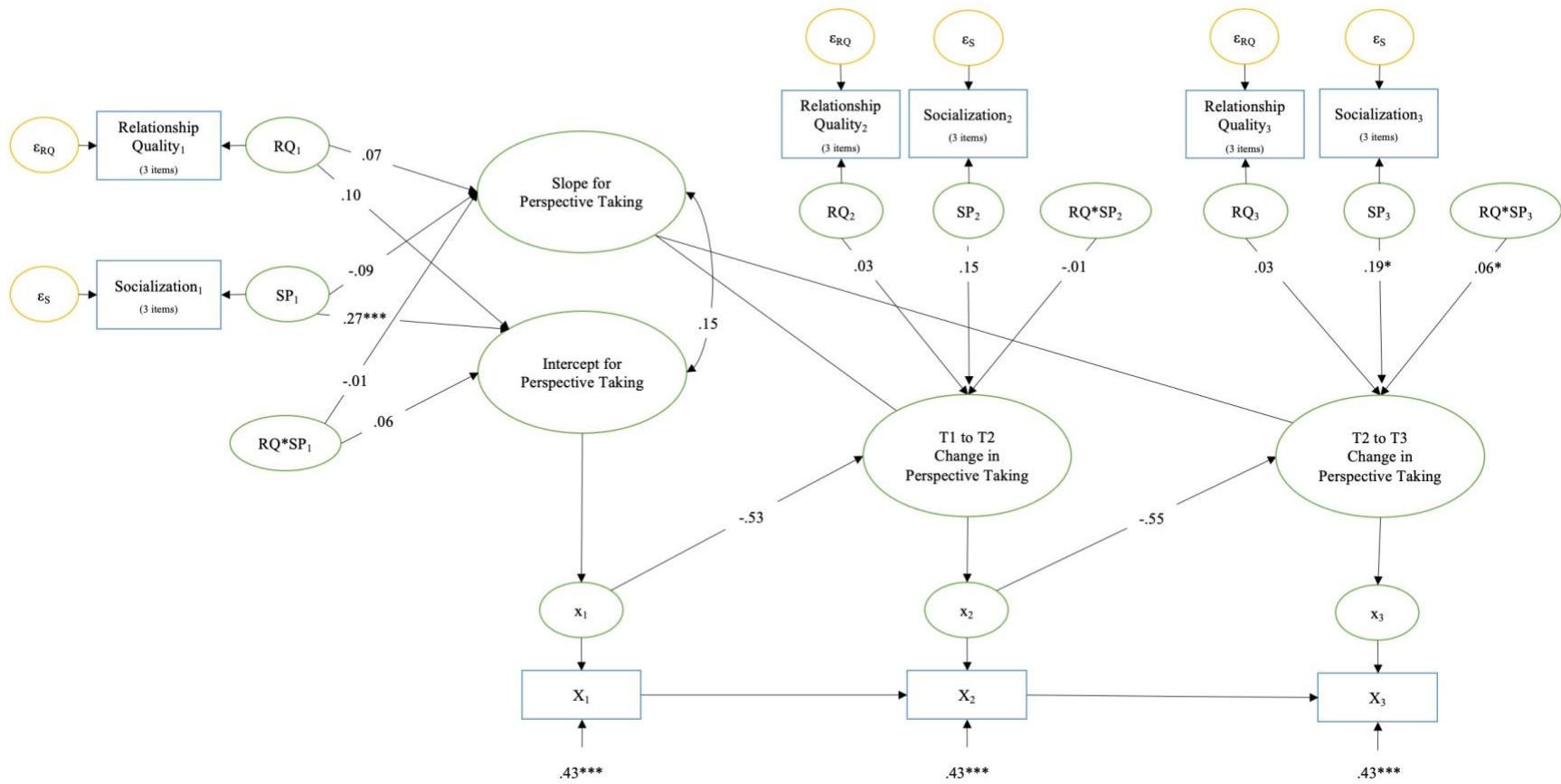
*Latent change score model for moral reasoning with observed predictors and character role model (CRM) type moderation*



Note:  $N = 328$ ; RMSEA = .008 (.000 to .042), SRMR = .030, CFI = .995; unlabeled paths constrained to 1; \* $p \leq .05$ , \*\* $p \leq .01$ , \*\*\* $p \leq .001$ ; unstandardized results shown.

**Figure 11**

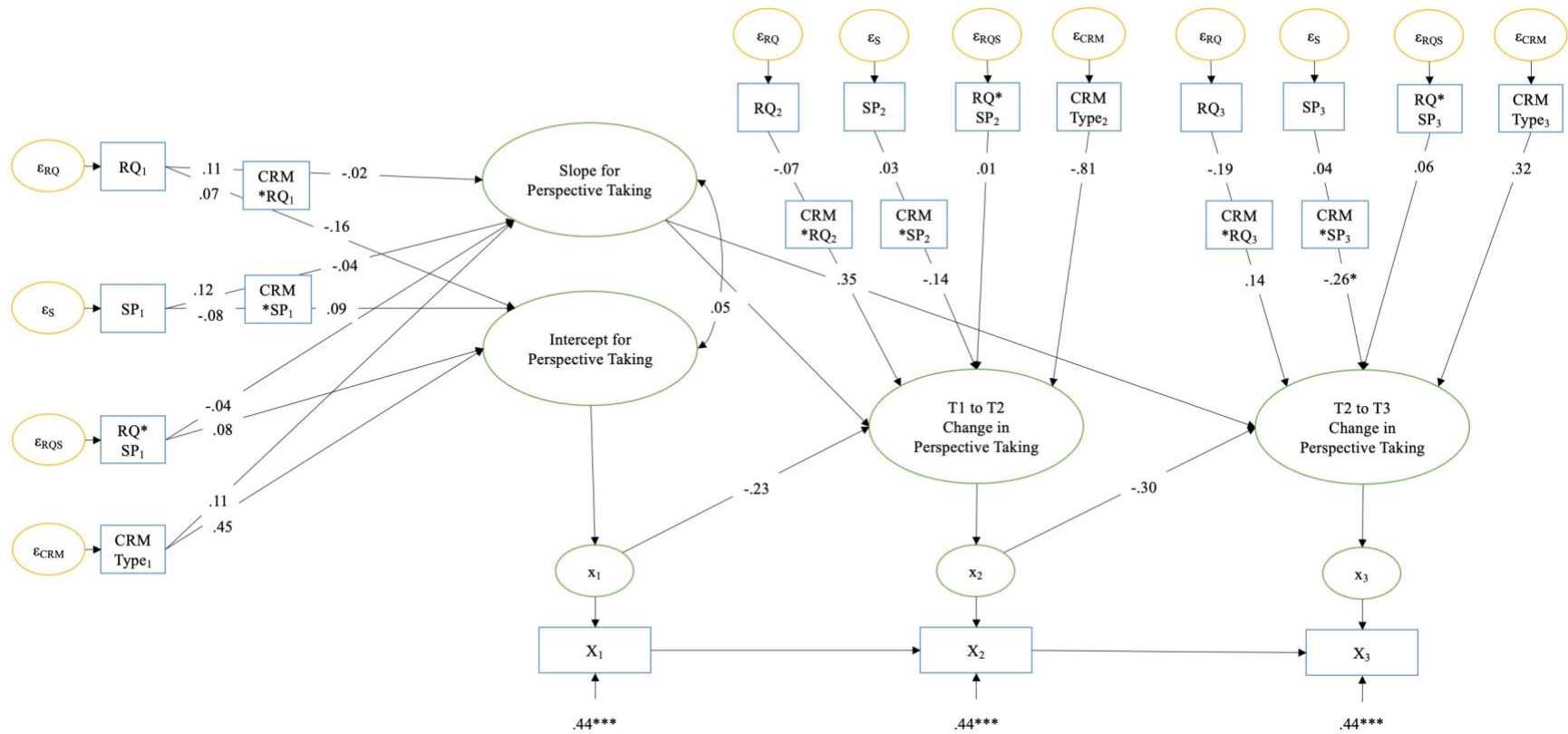
*Latent change score model for perspective taking with latent predictors*



Note: N = 401; unlabeled paths constrained to 1; \*p ≤ .05, \*\*p ≤ .01, \*\*\*p ≤ .001; unstandardized results shown.

**Figure 12**

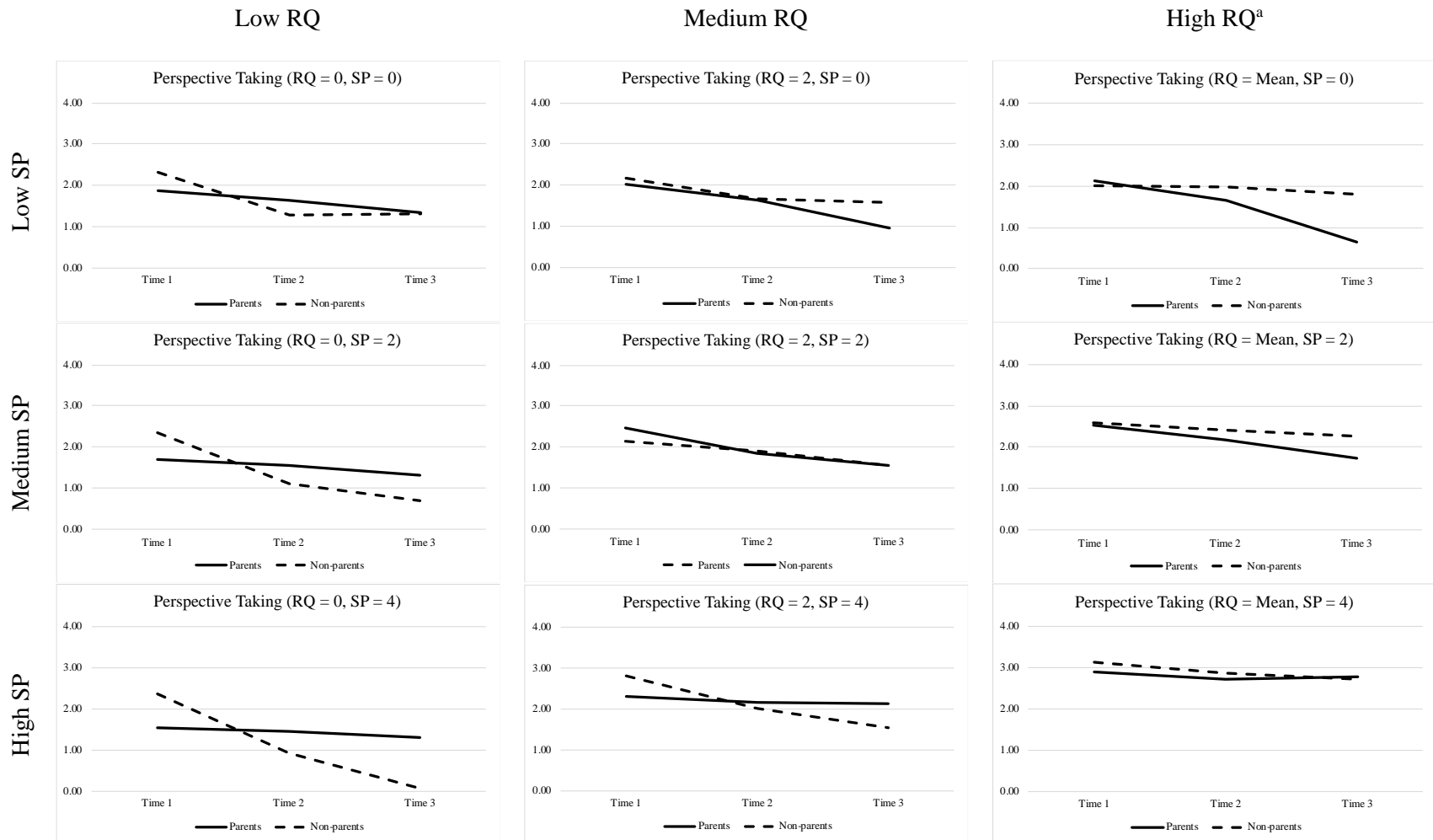
*Latent change score model for perspective taking with observed predictors and character role model (CRM) type moderation*



Note:  $N = 328$ ; RMSEA = .048 (.025 to .068), SRMR = .052, CFI = .888; unlabeled paths constrained to 1; \* $p \leq .05$ , \*\* $p \leq .01$ , \*\*\* $p \leq .001$ ; unstandardized results shown.

**Figure 13**

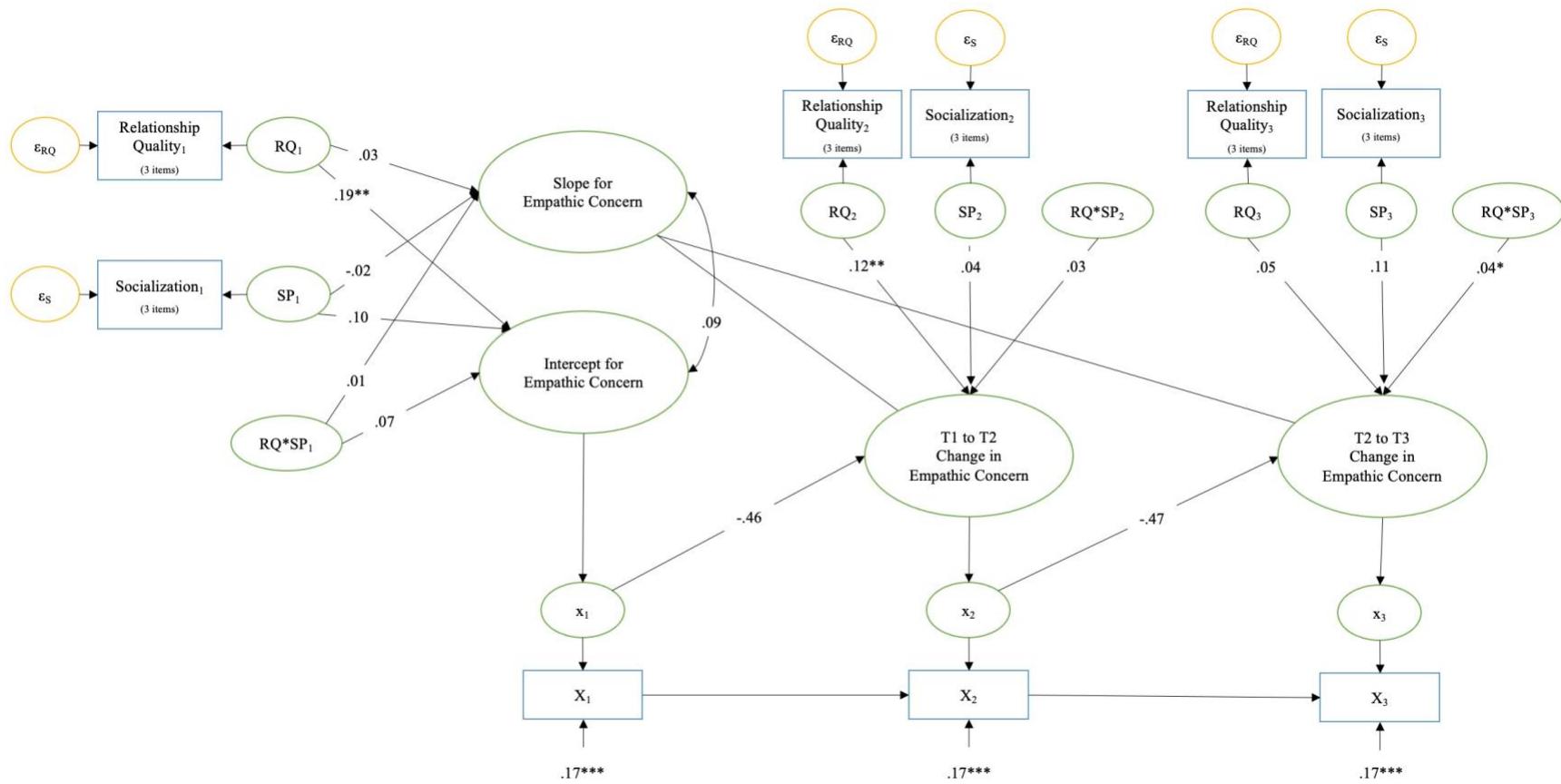
*Change in perspective taking for adolescents with parent and non-parent character role models (CRMs) across the three timepoints*



<sup>a</sup> Note: Mean for adolescents' relationship quality with their CRM was > 3.5 at all timepoints.

**Figure 14**

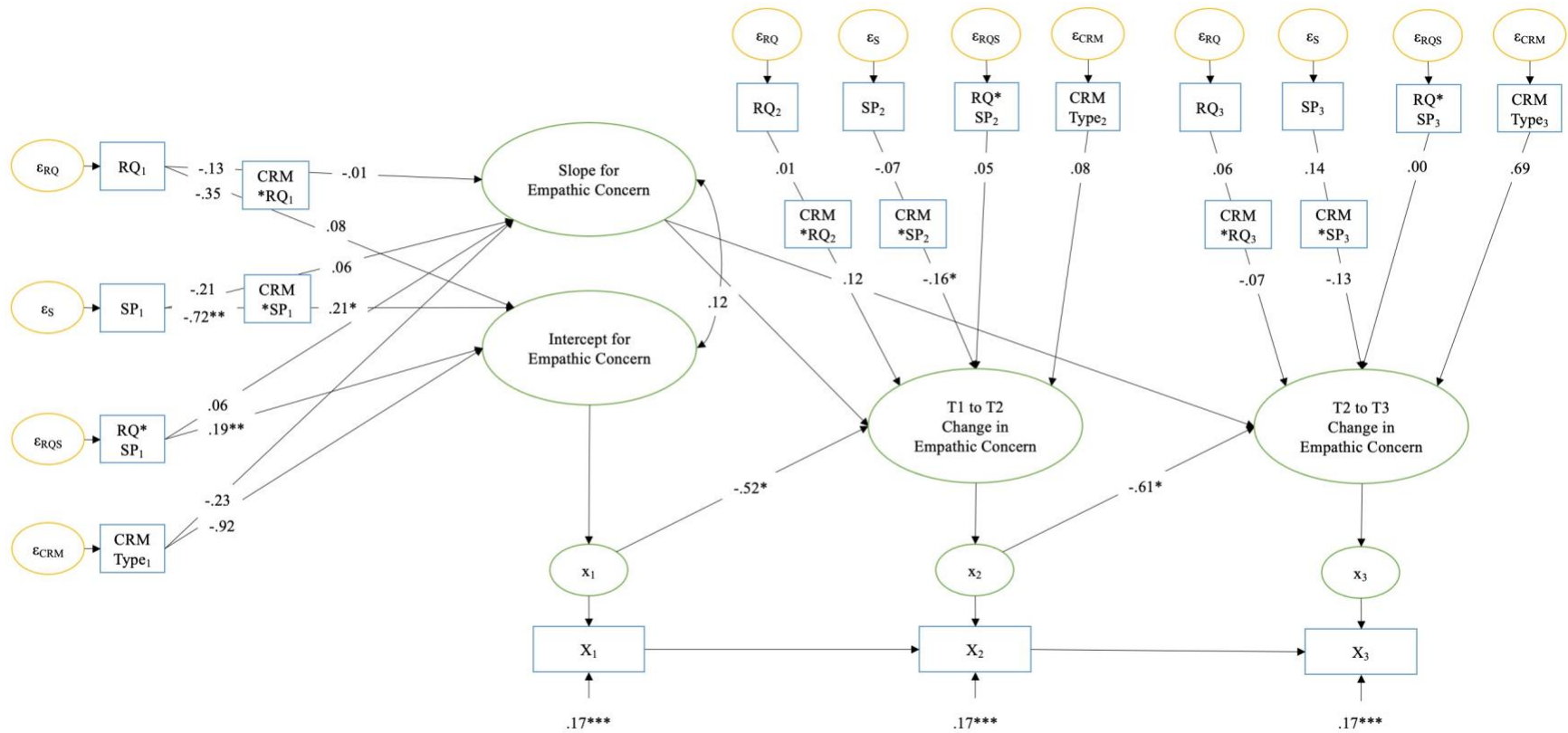
*Latent change score model for empathic concern with latent predictors*



Note: N = 401; unlabeled paths constrained to 1; \*p ≤ .05, \*\*p ≤ .01, \*\*\*p ≤ .001; unstandardized results shown.

**Figure 15**

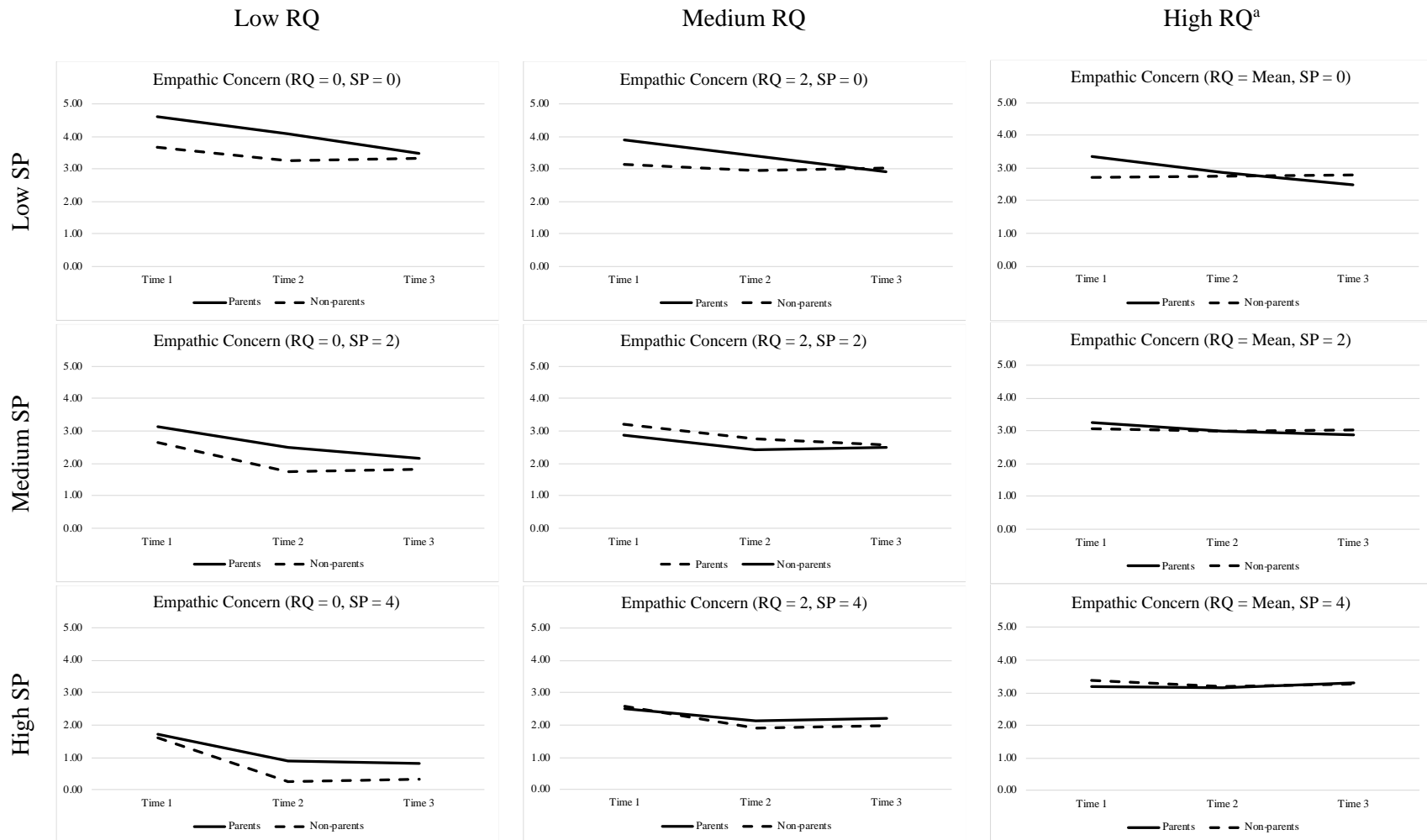
*Latent change score model for empathic concern with observed predictors and character role model (CRM) type moderation*



Note:  $N = 328$ ; RMSEA = .048 (.025 to .068), SRMR = .056, CFI = .931; unlabeled paths constrained to 1; \* $p \leq .05$ , \*\* $p \leq .01$ , \*\*\* $p \leq .001$ ; unstandardized results shown.

**Figure 16**

*Change in empathic concern for adolescents with parent and non-parent character role models (CRMs) across the three timepoints*



<sup>a</sup> Mean for adolescents' relationship quality with their CRM was > 3.5 at all timepoints.

## Appendix A

Table A1

*Types of character role models (CRMs) identified from Time 1 – 3*

Types of CRMs	Time 1		Time 2		Time 3	
	<i>N</i>	%	<i>n</i>	%	<i>n</i>	%
Parent	186	46.6	207	51.6	204	50.9
Aunt, Uncle, Grandparent	64	16.0	63	15.7	62	15.5
Teachers, coaches, mentors, other adults	40	10.0	41	10.2	43	10.7
Siblings, cousins	44	11.0	24	6.0	28	7.0
Friends	40	10.0	49	12.2	41	10.2
No CRM	27	6.7	17	4.2	23	5.7

**Table A2***Descriptive statistics of adolescents' relationship quality with their character role model (CRM) from Time 1 – 3*

Relationship Quality with CRM	Time 1				Time 2				Time 3			
	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>
CRM_RQ1: Does this person care about you even when you make mistakes?	279	3.70(0.66)	-2.45	6.42	310	3.65(0.72)	-2.50	7.12	319	3.74(0.63)	-2.72	7.77
CRM_RQ2: Do you feel like this person understands you?	290	3.42(0.74)	-1.21	1.40	311	3.31(0.82)	-1.22	1.45	310	3.39(0.82)	-1.53	2.63
CRM_RQ3: Does this person look out for you and help you?	294	3.67(0.66)	-2.04	3.63	308	3.65(0.69)	-2.49	7.28	303	3.65(0.71)	-2.61	8.03

**Table A3***Descriptive statistics of character role models' (CRMs) character socialization practices from Time 1 – 3*

CRMs' Character Socialization Practices	Time 1				Time 2				Time 3			
	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>
CRM_SP1: Does this person encourage you to take part in organizations or activities that promote being a good person?	370	3.01(1.14)	-1.00	0.15	392	3.10(1.05)	-1.06	0.44	384	3.09(1.04)	-1.05	0.46
CRM_SP2: Does this person talk to you about how to be a good person?	277	3.09(1.12)	-1.07	0.24	306	3.24(1.03)	-1.32	1.17	318	3.22(0.99)	-1.29	1.17
CRM_SP3: Does this person talk to you about what you can learn from TV shows/books/movies about how to be a good person?	292	2.28(1.35)	-0.22	-1.09	307	2.52(1.29)	-0.45	-0.81	303	2.48(1.29)	-0.37	-0.95

**Table A4**

*T-test between relationship quality, character socialization practices, and frequency of interaction with character role models (CRMs) and CRM type*

	Relationship Quality with CRM		CRMs' character socialization Practices		Frequency of Interaction with CRM	
	<i>n</i>	<i>M(SD)</i>	<i>n</i>	<i>M(SD)</i>	<i>n</i>	<i>M(SD)</i>
Time 1						
Parents	178	3.74(0.38)	178	3.12(0.83)	179	5.93(0.38)
Non-parents	182	3.41(0.64)	181	2.55(1.09)	180	5.08(1.14)
t-test	$t(358) = 4.20, p < .001$		$t(357) = 5.59, p < .001$		$t(357) = 9.49, p < .001$	
Time 2						
Parents	207	3.64(0.53)	206	3.13(0.79)	205	5.92(0.45)
Non-parents	176	3.51(0.70)	175	2.81(1.11)	175	5.09(1.16)
t-test	$t(381) = 2.10, p = .036$		$t(379) = 3.27, p = .001$		$t(378) = 9.46, p < .001$	
Time 3						
Parents	202	3.69(0.51)	204	3.08(0.83)	203	5.86(0.69)
Non-parents	174	3.56(0.62)	172	2.81(0.98)	169	5.12(1.22)
t-test	$t(374) = 2.27, p = .024$		$t(374) = 2.80, p = .005$		$t(370) = 7.32, p < .001$	

**Table A5***Descriptive statistics of adolescents' moral courage from Time 1 – 3*

Moral Courage	Time 1				Time 2				Time 3			
	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>
MCOUR1: When I hear someone make a mean or offensive comment or joke about another person or group, I say something to challenge it.	393	2.50(1.22)	-0.42	-0.78	398	2.56(1.15)	-0.44	-0.52	391	2.58(1.10)	-0.44	-0.55
MCOUR2: If I hear someone say something bad about a friend of mine, I speak up for my friend.	393	3.07(0.98)	-0.92	0.32	398	3.14(0.91)	-0.96	0.55	392	3.09(0.91)	-0.84	0.24

**Table A6***Descriptive statistics of adolescents' personal moral values from Time 1 – 3*

Personal Moral Values	Time 1				Time 2				Time 3			
	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>
MVAL1: Speaking up for equality	375	3.27(0.89)	-0.92	-0.25	388	3.23(0.93)	-1.06	0.31	385	3.09(0.98)	-0.83	-0.03
MVAL2: Doing what I believe is right, even if my friends make fun of me	385	3.22(0.90)	-0.96	0.33	388	3.25(0.85)	-0.89	0.03	387	3.14(0.88)	-0.90	0.59
MVAL3: Staying true to my values, even when people around me have different values	289	3.24(0.88)	-1.11	0.99	303	3.24(0.83)	-0.72	-0.49	314	3.21(0.87)	-0.93	0.43
MVAL4: Telling the truth, even when it's not easy	304	3.14(0.94)	-0.88	0.04	307	3.16(0.91)	-0.85	0.05	309	3.16(0.93)	-0.95	0.50
MVAL5: Accepting responsibility for my actions when I make a mistake or get in trouble	303	3.16(0.95)	-0.95	0.15	311	3.14(0.87)	-0.70	-0.20	309	3.06(0.92)	-0.73	0.13

**Table A7***Descriptive statistics of adolescents' moral purpose from Time 1 – 3*

Moral Purpose	Time 1				Time 2				Time 3			
	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>
MPUR1: Help others	399	3.30(0.87)	-1.15	0.78	400	3.20(0.87)	-0.87	0.20	395	3.18(0.84)	-0.82	0.26
MPUR2: Do the right thing	398	3.48(0.74)	-1.35	1.42	400	3.30(0.84)	-1.02	0.35	395	3.34(0.81)	0.81	1.01
MPUR3: Make the world a better place	398	2.98(1.05)	-0.73	-0.27	397	3.10(0.93)	-0.69	-0.47	395	2.98(0.98)	-0.65	-0.26
MPUR4: Improve my community	397	2.65(1.08)	-0.35	-0.66	399	2.73(1.03)	-0.30	-0.90	397	2.59(1.07)	-0.27	-0.70

**Table A8***Descriptive statistics of adolescents' prosocial moral reasoning from Time 1 – 3*

Higher Level Prosocial Reasoning	Time 1				Time 2				Time 3			
	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>
PS_REAS1: How Veronica would feel about herself if she helped or not	396	2.73(1.06)	-0.66	-0.02	399	2.48(1.20)	-0.46	-0.59	396	2.32(1.15)	-0.31	-0.64

**Table A9***Descriptive statistics of adolescents' perspective taking from Time 1 – 3*

Perspective Taking	Time 1				Time 2				Time 3			
	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>
PT_1: I try to understand other people by imagining how things look from their point of view	301	2.79(1.05)	-0.56	-0.34	313	2.87(1.00)	-0.60	-0.28	326	2.85(0.99)	-0.66	-0.09
PT_2: When I am upset with someone, I try to understand how they feel	310	2.45(1.18)	-0.39	-0.74	314	2.60(1.13)	-0.46	-0.68	314	2.60(1.11)	-0.46	-0.54
PT_3: When people disagree about something, I look at everybody's side	311	2.73(1.03)	-0.51	-0.22	311	2.76(1.04)	-0.41	-0.73	311	2.79(1.05)	-0.71	0.02

**Table A10***Descriptive statistics of adolescents' empathic concern from Time 1 – 3*

Empathic Concern	Time 1				Time 2				Time 3			
	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>
EC_1: I show concern for others when they are upset or mistreated.	396	3.22(0.89)	-1.12	1.11	398	3.21(0.85)	-1.13	1.37	395	3.16(0.86)	-0.95	0.70
EC_2: When I see someone being taken advantage of, I want to help them.	305	3.00(0.99)	-0.96	0.57	316	3.13(0.84)	-0.73	0.06	329	3.10(0.86)	-0.89	0.86
EC_3: When I see someone being picked on, I feel sorry for them.	316	3.28(0.85)	-1.26	1.83	314	3.25(0.79)	-0.95	0.77	316	3.29(0.83)	-1.06	0.68
EC_4: When I see another person who is hurt or upset, I feel sorry for them.	316	3.40(0.76)	-1.39	2.47	313	3.26(0.85)	-1.05	0.65	314	3.18(0.86)	-0.92	0.51
EC_5: It bothers me when bad things happen to another person.	315	3.19(0.90)	-1.01	0.61	312	3.12(0.89)	-0.87	0.32	314	3.03(0.97)	-0.77	-0.08

EC_6: I feel sorry for people who don't have what I have.	304	2.80(1.12)	-0.71	-0.20	312	2.88(1.06)	-0.69	-0.24	327	2.87(1.00)	-0.68	-0.08
EC_7: It makes me sad to see a person who doesn't have friends.	314	3.22(0.98)	-1.18	0.76	315	3.10(0.94)	-0.93	0.33	318	3.09(1.00)	-1.02	-0.53

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**Table A11***Descriptive statistics of adolescents' intentional self-regulation from Time 1 – 3*

Intentional Self-Regulation	Time 1				Time 2				Time 3			
	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>	<i>n</i>	<i>M(SD)</i>	<i>Skew</i>	<i>Kurtosis</i>
ISR_1: I always pursue goals one after the other.	300	2.46(1.09)	-0.29	-0.56	315	2.50(1.07)	-0.22	-0.63	321	2.48(1.00)	-0.24	-0.34
ISR_2: I think about ways I can best achieve my goals	312	2.94(0.96)	-0.57	-0.44	313	2.89(0.96)	-0.60	-0.27	313	2.89(0.92)	-0.52	-0.20
ISR_3: When things don't work the way they used to, I look for other ways to achieve my goals.	312	2.70(0.95)	-0.39	-0.35	310	2.73(0.99)	-0.40	-0.42	309	2.76(0.91)	-0.33	-0.41
ISR_4: When something doesn't work as well as planned, I look at how others achieve that goal.	298	2.48(1.08)	-0.31	-0.57	314	2.51(1.05)	-0.30	-0.45	323	2.59(1.02)	-0.37	-0.44
ISR_5: When I decide upon a goal, I stick to it.	309	2.71(1.05)	-0.41	-0.55	312	2.62(1.04)	-0.35	-0.50	313	2.64(1.01)	-0.25	-0.64

ISR_6: To attain my goals, I try as many different strategies as I need to.	311	2.68(1.07)	-0.47	-0.41	308	2.67(1.02)	-0.41	-0.48	308	2.70(0.96)	-0.28	-0.76
ISR_7: For important goals, I pay attention to whether I need to put in more time or effort.	301	2.80(0.96)	-0.70	0.26	313	2.81(1.03)	-0.61	-0.24	323	2.85(0.91)	-0.41	-0.52
ISR_8: I make every effort to achieve a goal I set.	311	2.84(1.00)	-0.58	-0.28	313	2.75(1.01)	-0.45	-0.39	314	2.71(1.00)	-0.37	-0.51
ISR_9: When a goal is important to me, but has little chance of success, I put in extra effort.	309	2.82(1.07)	-0.58	-0.40	310	2.87(0.96)	-0.52	-0.46	308	2.79(0.94)	-0.39	-0.52

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**Appendix B****Table B1**

*Pearson Correlations ( $r$ ) between adolescents' relationship quality with their character role model (CRM) items from Time 1 – 3*

Relationship Quality with CRM	Time 1			Time 2			Time 3		
	CRM_RQ1	CRM_RQ2	CRM_RQ3	CRM_RQ1	CRM_RQ2	CRM_RQ3	CRM_RQ1	CRM_RQ2	CRM_RQ3
CRM_RQ1	1			1			1		
CRM_RQ2	.520	1		.607	1		.435	1	
CRM_RQ3	.548	.502	1	.714	.548	1	.702	.607	1

*Note: all correlations were statistically significant at  $p < .01$ .*

**Table B2**

*Pearson correlations (r) between character role models' (CRMs) character socialization practices items from Time 1 – 3*

CRMs' Character Socialization Practices	Time 1			Time 2			Time 3		
	CRM_SP1	CRM_SP2	CRM_SP3	CRM_SP1	CRM_SP2	CRM_SP3	CRM_SP1	CRM_SP2	CRM_SP3
CRM_SP1	1			1			1		
CRM_SP2	.531	1		.617	1		.508	1	
CRM_SP3	.433	.580	1	.434	.576	1	.438	.494	1

*Note: all correlations were statistically significant at  $p < .01$ .*

**Table B3***Pearson correlations (r) between adolescents' moral courage items from Time 1 – 3*

Moral Courage	Time 1		Time 2		Time 3	
	MCOUR1	MCOUR2	MCOUR1	MCOUR2	MCOUR1	MCOUR2
MCOUR1	1		1		1	
MCOUR2	.514	1	.505	1	.608	1

*Note: all correlations were statistically significant at  $p < .01$ .*

**Table B4***Pearson correlations (r) between adolescents' personal moral values items from Time 1 – 3*

Personal Moral Values	Time 1					Time 2					Time 3				
	MVA L1	MVA L2	MVA L3	MVA L4	MVA L5	MVA L1	MVA L2	MVA L3	MVA L4	MVA L5	MVA L1	MVA L2	MVA L3	MVA L4	MVA L5
MVAL1	1					1					1				
MVAL2	.502	1				.464	1				.519	1			
MVAL3	.457	.665	1			.485	.650	1			.493	.651	1		
MVAL4	.436	.517	.451	1		.409	.511	.498	1		.404	.556	.492	1	
MVAL5	.463	.602	.657	.617	1	.391	.590	.571	.727	1	.466	.663	.675	.565	1

*Note: all correlations were statistically significant at  $p < .01$ .*

**Table B5***Pearson correlations (r) between adolescents' moral purpose items from Time 1 – 3*

Moral Purpose	Time 1				Time 2				Time 3			
	MPUR1	MPUR2	MPUR3	MPUR4	MPUR1	MPUR2	MPUR3	MPUR4	MPUR1	MPUR2	MPUR3	MPUR4
MPUR1	1				1				1			
MPUR2	.602	1			.616	1			.633	1		
MPUR3	.598	.483	1		.642	.573	1		.602	.533	1	
MPUR4	.497	.398	.583	1	.566	.441	.638	1	.533	.422	.631	1

*Note: all correlations were statistically significant at  $p < .01$ .*

**Table B6***Pearson correlations (r) between adolescents' perspective taking items from Time 1 – 3*

Perspective Taking	Time 1			Time 2			Time 3		
	PT_1	PT_2	PT_3	PT_1	PT_2	PT_3	PT_1	PT_2	PT_3
PT_1	1			1			1		
PT_2	.497	1		.656	1		.608	1	
PT_3	.574	.478	1	.630	.655	1	.583	.508	1

*Note: all correlations were statistically significant at  $p < .01$ .*

**Table B7***Pearson correlations (r) between adolescents' empathic concern items from Time 1 – 3*

Empathic Concern	Time 1						
	EC_1	EC_2	EC_3	EC_4	EC_5	EC_6	EC_7
EC_1	1						
EC_2	.435	1					
EC_3	.438	.578	1				
EC_4	.333	.390	.736	1			
EC_5	.439	.471	.491	.449	1		
EC_6	.420	.449	.427	.427	.474	1	
EC_7	.402	.519	.556	.558	.611	.535	1
	Time 2						
	EC_1	EC_2	EC_3	EC_4	EC_5	EC_6	EC_7
EC_1	1						
EC_2	.523	1					
EC_3	.476	.643	1				
EC_4	.500	.601	.723	1			
EC_5	.501	.549	.634	.614	1		
EC_6	.324	.360	.476	.467	.473	1	
EC_7	.558	.527	.572	.614	.632	.507	1
	Time 3						
	EC_1	EC_2	EC_3	EC_4	EC_5	EC_6	EC_7
EC_1	1						
EC_2	.439	1					
EC_3	.570	.614	1				
EC_4	.497	.664	.738	1			
EC_5	.475	.467	.537	.539	1		
EC_6	.371	.362	.438	.430	.390	1	
EC_7	.485	.469	.575	.557	.676	.422	1

*Note: all correlations were statistically significant at  $p < .01$ .*

**Table B8***Pearson correlations (r) between adolescents' intentional self-regulation items from Time 1 – 3*

Intentional Self- Regulation	Time 1								
	ISR_1	ISR_2	ISR_3	ISR_4	ISR_5	ISR_6	ISR_7	ISR_8	ISR_9
ISR_1	1								
ISR_2	.588	1							
ISR_3	.666	.613	1						
ISR_4	.492	.481	.545	1					
ISR_5	.533	.473	.518	.301	1				
ISR_6	.614	.563	.563	.613	.585	1			
ISR_7	.532	.561	.620	.502	.541	.647	1		
ISR_8	.562	.584	.619	.403	.575	.642	.618	1	
ISR_9	.602	.503	.575	.445	.559	.541	.613	.585	1
	Time 2								
	ISR_1	ISR_2	ISR_3	ISR_4	ISR_5	ISR_6	ISR_7	ISR_8	ISR_9
ISR_1	1								
ISR_2	.638	1							
ISR_3	.627	.687	1						
ISR_4	.569	.546	.665	1					
ISR_5	.486	.486	.638	.536	1				
ISR_6	.622	.622	.730	.692	.675	1			
ISR_7	.568	.568	.651	.590	.647	.694	1		
ISR_8	.624	.639	.653	.531	.682	.717	.626	1	
ISR_9	.530	.514	.626	.560	.629	.644	.619	.644	1
	Time 3								
	ISR_1	ISR_2	ISR_3	ISR_4	ISR_5	ISR_6	ISR_7	ISR_8	ISR_9
ISR_1	1								
ISR_2	.710	1							
ISR_3	.641	.621	1						
ISR_4	.643	.622	.664	1					
ISR_5	.622	.631	.532	.548	1				
ISR_6	.614	.564	.659	.609	.514	1			
ISR_7	.584	.701	.589	.569	.621	.656	1		
ISR_8	.659	.640	.570	.579	.657	.642	.676	1	
ISR_9	.586	.536	.569	.504	.590	.557	.652	.612	1

*Note: all correlations were statistically significant at  $p < .01$ .*

## Appendix C

### Preliminary Analyses for the Moral Character Constructs

#### Moral Courage

See Appendix A, Table A5 for descriptive statistics for the two moral courage items. On average, adolescents indicated that the statements were ‘*kind of*’ or ‘*a lot*’ like them ( $M = 2.50$  to  $M = 3.14$  on a scale of 0 to 4) across the three timepoints. Evaluation of the descriptive statistics and histograms showed that the first item (‘When I hear someone make a mean or offensive comment or joke about another person or group, I say something to challenge it’) was relatively normally distributed across the three timepoints, whereas the second item (‘If I hear someone say something bad about a friend of mine, I speak up for my friend’) was somewhat negatively skewed. The items were statistically significantly, positively associated with one another ( $ps < .01$ ), with moderate to large effect sizes ( $r = .505$  to  $.608$ ) across the three timepoints (see Appendix B, Table B3).

#### Personal Moral Values

See Appendix A, Table A6 for descriptive statistics for the personal moral values items. Across the three timepoints, on average, adolescents indicated that the values were all ‘*very*’ or ‘*extremely important*’ to them ( $M = 3.06$  to  $M = 3.27$  on a scale of 0 to 4). Evaluation of the descriptive statistics and histograms showed that all items were negatively skewed. The items were statistically significantly, positively associated with one another ( $ps < .01$ ), with moderate to large effect sizes ( $r = .391$  to  $.727$ ) across the three timepoints (see Appendix B, Table B4). One relation between items was below the desired  $r > .4$ .

#### Moral Purpose

See Appendix A, Table A7 for descriptive statistics for the moral purpose items. Across the three timepoints, on average, adolescents indicated that helping others, doing the right thing, and making the world a better place were either ‘*very important*,’ or ‘*extremely important*’ to them ( $M = 2.98$  to  $M = 3.48$  on a scale of 0 to 4). For the item ‘improving my community,’ on average, adolescents said this goal was ‘*important*’ to them ( $M = 2.59$  to  $M = 2.73$  on a scale of 0 to 4). Evaluation of the descriptive statistics and histograms showed that the four continuous items were negatively skewed. The items were statistically significantly, positively associated with one another ( $ps < .01$ ), with medium to large effect sizes ( $r = .398$  to  $.642$ ) across the three timepoints (see Appendix B, Table B5). One relation between items was below the desired  $r > .4$ .

### **Prosocial Moral Reasoning**

See Appendix A, Table A8 for descriptive statistics for the higher-level prosocial moral reasoning item. Across the three timepoints, on average, adolescents indicated that it was ‘*important*’ or ‘*very important*’ to help because of how the character would feel about herself if she helped the child in need or not ( $M = 2.32$  to  $M = 2.73$  on a scale of 0 to 4). Evaluation of the descriptive statistics and histogram showed that adolescents’ responses were relatively normally distributed across the three timepoints.

### **Perspective Taking**

See Appendix A, Table A9 for descriptive statistics for adolescents’ perspective taking items. Across the three timepoints, on average, adolescents indicated that the statements were ‘*kind of*’ or ‘*a lot*’ like them ( $M = 2.45$  to  $M = 2.87$  on a scale of 0 to 4). Evaluation of the descriptive statistics and histograms showed that responses to the items were slightly negatively skewed. The items were statistically significantly, positively associated with one another ( $ps <$

.01), with moderate to large effect sizes ( $r = .478$  to  $.656$ ) across the three timepoints (see Appendix B, Table B6).

### **Empathic Concern**

See Appendix A, Table A10 for descriptive statistics for adolescents' empathic concern items. Across the three timepoints, on average, adolescents indicated that the statements were 'a lot' or 'just' like them ( $M = 2.80$  to  $M = 3.40$  on a scale of 0 to 4). Evaluation of the descriptive statistics and histograms showed that adolescents' responses to the items were all negatively skewed. The items were statistically significantly, positively associated with one another ( $ps < .01$ ), with moderate to large effect sizes ( $r = .324$  to  $.738$ ) across the three timepoints (see Appendix B, Table B7). Seven relations between items were below the desired  $r > .4$ . Five of these seven relations were between the item 'I feel sorry for other people who don't have what I have' and other items

### **Intentional Self-Regulation**

See Appendix A, Table A11 for descriptive statistics for intentional self-regulation items. Across the three timepoints, on average, adolescents indicated that the statements were 'kind of' or 'a lot' like them ( $M = 2.46$  to  $M = 2.94$  on a scale of 0 to 4). Evaluation of the descriptive statistics and histograms showed that responses were all either very slightly negatively skewed or relatively normally distributed. The items were statistically significantly, positively associated with one another ( $ps < .01$ ), with moderate to large effect sizes ( $r = .301$  to  $.730$ ) across the three timepoints (see Appendix B, Table B8). One relation between items was below the desired  $r > .4$ .

**Appendix D****Table D1**

*Standardized model results for the longitudinal confirmatory factor analysis (CFA) for relationship quality and character socialization practices*

Item	Factor Loadings	Intercepts	Residual Variances
Time 1			
CRM_RQ1	0.75	6.31	0.45
CRM_RQ2	0.58	4.87	0.67
CRM_RQ3	0.75	5.94	0.44
Time 2			
CRM_RQ1	0.82	5.66	0.34
CRM_RQ2	0.65	4.47	0.58
CRM_RQ3	0.84	5.46	0.30
Time 3			
CRM_RQ1	0.78	6.17	0.40
CRM_RQ2	0.57	4.52	0.68
CRM_RQ3	0.82	6.12	0.32
Variance for RQ	1.00		
Time 1			
CRM_SP1	0.65	2.66	0.57
CRM_SP2	0.80	2.81	0.36
CRM_SP3	0.67	1.76	0.55
Time 2			
CRM_SP1	0.70	2.86	0.52
CRM_SP2	0.86	3.06	0.25
CRM_SP3	0.68	1.79	0.54
Time 3			
CRM_SP1	0.65	2.94	0.58
CRM_SP2	0.79	3.07	0.38
CRM_SP3	0.64	1.85	0.60
Variance for SP	1.00		

*Note: all correlations were statistically significant at  $p < .001$*

**Table D2***Standardized model results for the longitudinal confirmatory factor analysis (CFA) for moral courage*

Item	Factor Loadings	Intercepts	Residual Variances
Time 1			
MCOU1	0.69	2.05*	0.53
MCOU2	0.75	3.12*	0.44
Time 2			
MCOU1	0.68	2.20*	0.54
MCOU2	0.74	3.35*	0.45
Time 3			
MCOU1	0.76	2.28*	0.43
MCOU2	0.80	3.37*	0.36
Variance for MCOU	1.00		

*Note: \*  $p < .001$*

**Table D3**

*Standardized model results for the longitudinal confirmatory factor analysis (CFA) for personal moral values*

Item	Factor Loadings	Intercepts	Residual Variances
Time 1			
PVAL1	0.62	3.57	0.61
PVAL2	0.80	3.57	0.36
PVAL3	0.77	3.77	0.41
PVAL4	0.68	3.34	0.53
PVAL5	0.78	3.40	0.39
Time 2			
PVAL1	0.57	3.44	0.67
PVAL2	0.80	3.72	0.36
PVAL3	0.77	3.98	0.40
PVAL4	0.70	3.57	0.51
PVAL5	0.79	3.61	0.38
Time 3			
PVAL1	0.58	3.30	0.66
PVAL2	0.83	3.64	0.32
PVAL3	0.79	3.82	0.38
PVAL4	0.69	3.35	0.52
PVAL5	0.81	3.48	0.35
Variance for PVAL	1.00		

*Note: all correlations were statistically significant at  $p < .001$*

**Table D4***Standardized model results for the longitudinal confirmatory factor analysis (CFA) for moral purpose*

Item	Factor Loadings	Intercepts	Residual Variances
Time 1			
MPUR1	0.79	3.78	0.38
MPUR2	0.71	4.54	0.49
MPUR3	0.74	2.94	0.45
MPUR4	0.67	2.47	0.55
Time 2			
MPUR1	0.79	3.74	0.37
MPUR2	0.67	3.98	0.55
MPUR3	0.83	3.23	0.31
MPUR4	0.72	2.61	0.48
Time 3			
MPUR1	0.80	3.79	0.37
MPUR2	0.69	4.26	0.52
MPUR3	0.80	3.11	0.37
MPUR4	0.70	2.53	0.52
Variance for MPUR	1.00		

*Note: all correlations were statistically significant at  $p < .001$*

**Table D5**

*Standardized model results for the longitudinal confirmatory factor analysis (CFA) for perspective taking*

Item	Factor Loadings	Intercepts	Residual Variances
Time 1			
PT1	0.74	2.69	0.45
PT2	0.69	2.11	0.53
PT3	0.76	2.70	0.43
Time 2			
PT1	0.82	2.81	0.32
PT2	0.78	2.26	0.39
PT3	0.79	2.66	0.38
Time 3			
PT1	0.80	2.89	0.36
PT2	0.75	2.28	0.44
PT3	0.72	2.56	0.48
Variance for PT			

*Note: all correlations were statistically significant at  $p < .001$*

**Table D6***Standardized model results for the longitudinal confirmatory factor analysis (CFA) for empathic concern*

Item	Factor Loadings	Intercepts	Residual Variances
Time 1			
EC1	0.60	3.64	0.64
EC2	0.66	3.23	0.56
EC3	0.78	4.00	0.39
EC4	0.78	4.03	0.40
EC5	0.62	3.40	0.48
EC6	0.57	2.70	0.68
EC7	0.73	3.31	0.47
Time 2			
EC1	0.64	3.83	0.59
EC2	0.76	3.66	0.43
EC3	0.82	4.16	0.32
EC4	0.78	4.01	0.39
EC5	0.77	3.57	0.41
EC6	0.58	2.73	0.66
EC7	0.76	3.40	0.43
Time 3			
EC1	0.64	3.80	0.59
EC2	0.75	3.57	0.44
EC3	0.82	4.08	0.33
EC4	0.79	3.99	0.38
EC5	0.70	3.23	0.50
EC6	0.60	2.77	0.64
EC7	0.72	3.18	0.38
Variance for EC			

*Note: all correlations were statistically significant at  $p < .001$*

**Table D7**

*Standardized model results for the longitudinal confirmatory factor analysis (CFA) for intentional self-regulation*

Item	Factor Loadings	Intercepts	Residual Variances
Time 1			
ISR1	0.75	2.43	0.44
ISR2	0.74	3.03	0.45
ISR3	0.79	2.86	0.37
ISR4	0.65	2.32	0.58
ISR5	0.72	2.51	0.49
ISR6	0.78	2.55	0.40
ISR7	0.77	3.04	0.41
ISR8	0.80	2.75	0.37
ISR9	0.70	2.76	0.51
Time 2			
ISR1	0.76	2.35	0.42
ISR2	0.78	3.01	0.40
ISR3	0.83	2.83	0.31
ISR4	0.74	2.50	0.45
ISR5	0.77	2.56	0.41
ISR6	0.87	2.69	0.25
ISR7	0.77	2.88	0.41
ISR8	0.83	2.72	0.31
ISR9	0.76	2.84	0.42
Time 3			
ISR1	0.80	2.52	0.37
ISR2	0.79	3.25	0.38
ISR3	0.80	2.93	0.35
ISR4	0.73	2.61	0.48
ISR5	0.75	2.66	0.44
ISR6	0.81	2.70	0.34
ISR7	0.80	3.18	0.37
ISR8	0.81	2.82	0.35
ISR9	0.74	2.97	0.45
Variance for ISR	1.00		

*Note: all correlations were statistically significant at  $p < .001$*

**Table D8**

*Model fit statistics for the tests of invariance in relationship quality and character socialization practices across three waves*

<i>Model tested</i>	<i>RMSEA (90% CI)</i>	<i>SRMR</i>	<i>CFI</i>	<i>ΔCFI</i>	<i>Pass?</i>
<u>Longitudinal Invariance</u>					
Configural	.025 (.003 to .038)	.043	.981	--	
Factorial invariance	.019 (.000 to .033)	.045	.987	.006	Yes
Intercept invariance	.018 (.000 to .032)	.046	.989	.002	Yes
<u>Time 1 CRM Type Invariance</u>					
Configural	.076 (.038 to .113)	.049	.937	--	
Factorial invariance	.097 (.066 to .128)	.088	.872	-.065	No
Factorial invariance 2 <sup>a</sup>	.087 (.054 to .120)	.065	.903	-.034	No
Factorial invariance 3 <sup>b</sup>	.079 (.044 to .114)	.057	.924	-.013	No
Factorial invariance 4 <sup>c</sup>	.069 (.028 to .105)	.050	.946	.009	Yes
Intercept invariance	.066 (.030 to .100)	.053	.937	-.009	Yes
<u>Time 2 CRM Type Invariance</u>					
Configural	.040 (.000 to .083)	.044	.987	--	
Factorial invariance	.024 (.000 to .069)	.060	.994	.007	Yes
Intercept invariance	.042 (.000 to .077)	.070	.979	-.015	No
Intercept invariance 2 <sup>d</sup>	.035 (.000 to .072)	.067	.987	-.007	Yes
<u>Time 3 CRM Type Invariance</u>					
Configural	.056 (.000 to .095)	.049	.967	--	
Factorial invariance	.050 (.000 to .086)	.066	.968	.001	Yes
Intercept invariance	.057 (.019 to .089)	.078	.949	-.019	No
Intercept invariance 3 <sup>e</sup>	.048 (.000 to .083)	.075	.965	-.003	Yes
<u>Longitudinal Gender Invariance</u>					
Configural	.042 (.030 to .054)	.081	.943	--	
Factorial invariance	.042 (.029 to .053)	.083	.944	.001	Yes
Intercept invariance	.050 (.039 to .060)	.090	.918	-.026	No
Intercept invariance 2 <sup>f</sup>	.046 (.034 to .057)	.087	.930	-.014	No
Intercept invariance 3 <sup>g</sup>	.045 (.033 to .056)	.086	.933	-.011	No
Intercept invariance 4 <sup>e</sup>	.042 (.029 to .053)	.083	.942	-.002	Yes
<u>Longitudinal Race Invariance</u>					
Configural	.020 (.006 to .042)	.072	.972	--	
Factorial invariance	.028 (.005 to .042)	.091	.972	.000	Yes
Intercept invariance	.029 (.007 to .042)	.094	.970	-.002	Yes
<u>Longitudinal Age Group Invariance</u>					
Configural	.033 (.016 to .045)	.071	.966	--	
Factorial invariance	.030 (.012 to .043)	.070	.970	.004	Yes
Intercept invariance	.031 (.012 to .043)	.071	.969	-.001	Yes

*Notes:* a. Constraint on factor loading for item CRM\_RQ3 ("Does this person look out for you and help you?") was removed from both groups.

- b. Constraint on factor loading for item CRM\_SP1 (“Does this person encourage you to take part in organizations or activities that promote being a good person?”) was removed from both groups.
- c. Constraint on factor loading for item CRM\_SP2 (“Does this person talk to you about how to be a good person?”) was removed from both groups.
- d. Constraint on intercept for item CRM\_SP2 was removed from both groups.
- e. Constraint on intercept for item CRM\_RQ3 was removed from both groups.
- f. Constraint on intercept for item CRM\_SP3 (“Does this person talk to you about what you can learn from TV shows/books/movies about how to be a good person?”) was removed from both groups.
- g. Constraint on intercept for item CRM\_RQ1 (“Does this person care about you even when you make mistakes?”) was removed from both groups.

**Table D9***Model fit statistics for the tests of invariance in moral courage across three waves*

<i>Model tested</i>	<i>RMSEA (90% CI)</i>	<i>SRMR</i>	<i>CFI</i>	<i>ΔCFI</i>	<i>Pass?</i>
<u>Longitudinal Invariance<sup>a</sup></u>					
Configural A	.000 (.000 to .123)	.005	1.00	--	
Configural B	.000 (.000 to .123)	.005	1.00	--	
Configural C	.000 (.000 to .123)	.005	1.00	--	
Factorial invariance	.000 (.000 to .081)	.010	1.00	.000	Yes
Intercept invariance	.051 (.000 to .101)	.012	.992	-.008	Yes
<u>Time 1 CRM Type Invariance<sup>b</sup></u>					
Configural	.078 (.024 to .130)	.038	.968	--	
Factorial invariance	.054 (.000 to .101)	.041	.979	.011	No
Factorial invariance 2 <sup>c</sup>	.059 (.000 to .108)	.040	.977	.009	Yes
Intercept invariance	.044 (.000 to .091)	.042	.983	.006	Yes
<u>Time 2 CRM Type Invariance<sup>b</sup></u>					
Configural	.071 (.007 to .122)	.031	.980	--	
Factorial invariance	.079 (.036 to .122)	.059	.965	-.015	No
Factorial invariance 2 <sup>c</sup>	.073 (.024 to .119)	.050	.973	-.007	Yes
Intercept invariance	.062 (.008 to .104)	.052	.975	.002	Yes
<u>Time 3 CRM Type Invariance<sup>b</sup></u>					
Configural	.000 (.000 to .000)	.017	1.00	--	
Factorial invariance	.000 (.000 to .029)	.040	1.00	.000	Yes
Intercept invariance	.000 (.000 to .034)	.048	1.00	.000	Yes
<u>Longitudinal Gender Invariance</u>					
Configural	.000 (.000 to .049)	.020	1.00	--	
Factorial invariance	.000 (.000 to .060)	.046	1.00	.000	Yes
Intercept invariance	.062 (.015 to .102)	.090	.980	-.020	No
Intercept invariance 2 <sup>d</sup>	.000 (.000 to .066)	.061	1.00	.000	Yes
<u>Longitudinal Race Invariance</u>					
Configural	.043 (.000 to .094)	.033	.993	--	
Factorial invariance	.037 (.000 to .086)	.032	.994	.001	Yes
Intercept invariance	.025 (.000 to .075)	.033	.997	.003	Yes
<u>Longitudinal Age Group Invariance</u>					
Configural	.000 (.000 to .062)	.018	1.00	--	
Factorial invariance	.000 (.000 to .059)	.032	1.00	.000	Yes
Intercept invariance	.044 (.000 to .087)	.064	.990	-.010	Yes

*Notes:*

a. The configural longitudinal CFA for the moral courage construct was just identified and could therefore not produce model fit statistics. To evaluate the configural model, I set factor loadings equal at one timepoint to allow one degree of freedom, and therefore, allow the model to be estimated. Factor loadings in 'Configural A' were set equal for Time 1, 'Configural B' for Time 2, and 'Configural C' for Time 3.

b. The CRM type models were under-identified with two indicators, and they did not produce model fit statistics. Therefore, I chose to run a two-factor model with perspective taking, which was just-identified.

- c. Constraint on factor loading for item MCOUR1 (“When I hear someone make a mean or offensive comment or joke about another person or group, I say something to challenge it.”) was removed from both groups.
- d. Constraint on intercept for item MCOUR2 (“If I hear someone say something bad about a friend of mine, I speak up for my friend.”) was removed from both groups.

**Table D10***Model fit statistics for the tests of invariance in personal moral values across three waves*

<i>Model tested</i>	<i>RMSEA (90% CI)</i>	<i>SRMR</i>	<i>CFI</i>	<i>ΔCFI</i>	<i>Pass?</i>
<u>Longitudinal Invariance</u>					
Configural	.045 (.033 to .058)	.041	.966	--	
Factorial invariance	.041 (.029 to .053)	.044	.969	.003	Yes
Intercept invariance	.041 (.030 to .053)	.047	.966	-.003	Yes
<u>Time 1 CRM Type Invariance</u>					
Configural	.038 (.000 to .094)	.036	.991	--	
Factorial invariance	.015 (.000 to .074)	.047	.998	.007	Yes
Intercept invariance	.035 (.000 to .078)	.061	.986	-.012	No
Intercept invariance 2 <sup>a</sup>	.000 (.000 to .065)	.047	1.00	.002	Yes
<u>Time 2 CRM Type Invariance</u>					
Configural	.102 (.061 to .146)	.049	.950	--	
Factorial invariance	.094 (.058 to .131)	.073	.942	-.008	Yes
Intercept invariance	.084 (.051 to .117)	.079	.940	-.002	Yes
<u>Time 3 CRM Type Invariance</u>					
Configural	.066 (.000 to .114)	.039	.972	--	
Factorial invariance	.047 (.000 to .091)	.044	.980	.008	Yes
Intercept invariance	.038 (.000 to .080)	.046	.983	.003	Yes
<u>Longitudinal Gender Invariance</u>					
Configural	.048 (.035 to .061)	.066	.956	--	
Factorial invariance	.051 (.038 to .063)	.077	.950	-.006	Yes
Intercept invariance	.053 (.041 to .065)	.088	.943	-.007	Yes
<u>Longitudinal Race Invariance</u>					
Configural	.045 (.031 to .058)	.067	.961	--	
Factorial invariance	.046 (.033 to .058)	.078	.958	-.003	Yes
Intercept invariance	.046 (.033 to .058)	.083	.957	-.001	Yes
<u>Longitudinal Age Group Invariance</u>					
Configural	.053 (.040 to .065)	.066	.948	--	
Factorial invariance	.054 (.041 to .065)	.076	.945	-.003	Yes
Intercept invariance	.058 (.047 to .069)	.086	.933	-.012	No
Intercept invariance 2 <sup>b</sup>	.054 (.042 to .065)	.076	.943	-.002	Yes

*Notes:*

- a. Constraint on intercept for item MVAL5 (“Accepting responsibility for my actions when I make a mistake or get in trouble”) was removed from both groups.
- b. Constraint on intercept for item MVAL3 (“Staying true to my values, even when people around me have different values”) was removed from both groups.

**Table D11***Model fit statistics for the tests of invariance in moral purpose across three waves*

<i>Model tested</i>	<i>RMSEA (90% CI)</i>	<i>SRMR</i>	<i>CFI</i>	<i>ΔCFI</i>	<i>Pass?</i>
<u>Longitudinal Invariance</u>					
Configural	.058 (.043 to .074)	.034	.969	--	
Factorial invariance	.054 (.039 to .068)	.045	.969	.000	Yes
Intercept invariance	.064 (.051 to .077)	.056	.950	-.019	No
Intercept invariance 2 <sup>a</sup>	.058 (.044 to .072)	.046	.961	-.008	Yes
<u>Time 1 CRM Type Invariance</u>					
Configural	.120 (.058 to .188)	.035	.962	--	
Factorial invariance	.092 (.040 to .145)	.057	.961	-.001	Yes
Intercept invariance	.079 (.045 to .123)	.079	.954	-.007	Yes
<u>Time 2 CRM Type Invariance</u>					
Configural	.107 (.044 to .175)	.026	.980	--	
Factorial invariance	.085 (.031 to .138)	.052	.978	-.002	Yes
Intercept invariance	.084 (.040 to .129)	.071	.968	-.010	Yes
<u>Time 3 CRM Type Invariance</u>					
Configural	.156 (.097 to .222)	.037	.951	--	
Factorial invariance	.121 (.074 to .172)	.043	.949	-.002	Yes
Intercept invariance	.099 (.058 to .143)	.042	.951	.002	Yes
<u>Longitudinal Gender Invariance</u>					
Configural	.064 (.048 to .079)	.060	.953	--	
Factorial invariance	.061 (.046 to .076)	.063	.955	.002	Yes
Intercept invariance	.068 (.053 to .082)	.071	.944	-.011	No
Intercept invariance 2 <sup>b</sup>	.065 (.050 to .079)	.067	.948	-.007	Yes
<u>Longitudinal Race Invariance</u>					
Configural	.070 (.056 to .084)	.059	.945	--	
Factorial invariance	.070 (.056 to .084)	.065	.943	-.002	Yes
Intercept invariance	.069 (.055 to .083)	.068	.943	.000	Yes
<u>Longitudinal Age Group Invariance</u>					
Configural	.069 (.055 to .084)	.058	.947	--	
Factorial invariance	.069 (.055 to .083)	.065	.945	-.002	Yes
Intercept invariance	.070 (.056 to .084)	.064	.942	-.003	Yes

*Notes:*

a. Constraint on intercept for item MPUR2 (“Do the right thing”) was removed from both groups.

b. Constraint on intercept for item MPUR1 (“Help others”) was removed from both groups.

**Table D12***Model fit statistics for the tests of invariance in perspective taking across three waves*

<i>Model tested</i>	<i>RMSEA (90% CI)</i>	<i>SRMR</i>	<i>CFI</i>	<i>ΔCFI</i>	<i>Pass?</i>
<u>Longitudinal Invariance</u>					
Configural	.020 (.000 to .053)	.027	.996	--	
Factorial invariance	.006 (.000 to .044)	.031	1.00	.004	Yes
Intercept invariance	.010 (.000 to .043)	.034	.999	-.001	Yes
<u>Time 1 CRM Type Invariance<sup>a</sup></u>					
Configural	.078 (.024 to .130)	.038	.968	--	
Factorial invariance	.054 (.000 to .101)	.041	.979	.011	No
Factorial invariance 2	.059 (.000 to .108)	.040	.977	.009	Yes
Intercept invariance	.044 (.000 to .091)	.042	.983	.006	Yes
<u>Time 2 CRM Type Invariance<sup>a</sup></u>					
Configural	.071 (.007 to .122)	.031	.980	--	
Factorial invariance	.079 (.036 to .122)	.059	.965	-.015	No
Factorial invariance 2	.073 (.024 to .119)	.050	.973	-.007	Yes
Intercept invariance	.062 (.008 to .104)	.052	.975	.002	Yes
<u>Time 3 CRM Type Invariance<sup>a</sup></u>					
Configural	.000 (.000 to .000)	.017	1.00	--	
Factorial invariance	.000 (.000 to .029)	.040	1.00	.000	Yes
Intercept invariance	.000 (.000 to .034)	.048	1.00	.000	Yes
<u>Longitudinal Gender Invariance</u>					
Configural	.033 (.000 to .060)	.060	.986	--	
Factorial invariance	.029 (.000 to .056)	.064	.989	.003	Yes
Intercept invariance	.034 (.000 to .060)	.074	.982	-.007	Yes
<u>Longitudinal Race Invariance</u>					
Configural	.037 (.000 to .062)	.057	.982	--	
Factorial invariance	.033 (.000 to .058)	.057	.985	.003	Yes
Intercept invariance	.030 (.000 to .056)	.057	.987	.002	Yes
<u>Longitudinal Age Group Invariance</u>					
Configural	.035 (.000 to .061)	.068	.984	--	
Factorial invariance	.034 (.000 to .060)	.073	.984	.000	Yes
Intercept invariance	.030 (.000 to .056)	.073	.987	.003	Yes

*Notes:*

a. The CRM type models were just identified with three indicators, and they did not produce model fit statistics. Therefore, I chose to run a two-factor model with moral courage, which was under-identified.

b. Constraint on factor loading for a moral courage item was removed from both groups. There were no indications for factor loading invariance for perspective taking.

**Table D13***Model fit statistics for the tests of invariance in empathic concern across three waves*

<i>Model tested</i>	<i>RMSEA (90% CI)</i>	<i>SRMR</i>	<i>CFI</i>	<i>ΔCFI</i>	<i>Pass?</i>
<u>Longitudinal Invariance</u>					
Configural	.049 (.041 to .056)	.047	.938	--	
Factorial invariance	.048 (.040 to .055)	.059	.936	-.002	Yes
Intercept invariance	.048 (.041 to .056)	.064	.930	-.006	Yes
<u>Time 1 CRM Type Invariance</u>					
Configural	.101 (.076 to .127)	.063	.898	--	
Factorial invariance	.088 (.064 to .112)	.082	.906	.008	Yes
Intercept invariance	.086 (.064 to .109)	.094	.894	-.012	No
Intercept invariance 2 <sup>a</sup>	.085 (.063 to .108)	.091	.900	-.006	Yes
<u>Time 2 CRM Type Invariance</u>					
Configural	.047 (.000 to .078)	.041	.980	--	
Factorial invariance	.043 (.000 to .072)	.065	.980	.000	Yes
Intercept invariance	.042 (.000 to .069)	.072	.977	-.003	Yes
<u>Time 3 CRM Type Invariance</u>					
Configural	.090 (.064 to .116)	.057	.918	--	
Factorial invariance	.078 (.053 to .103)	.067	.924	.006	Yes
Intercept invariance	.075 (.052 to .098)	.069	.918	-.006	Yes
<u>Longitudinal Gender Invariance</u>					
Configural	.063 (.055 to .071)	.088	.888	--	
Factorial invariance	.062 (.055 to .070)	.102	.889	.001	Yes
Intercept invariance	.064 (.056 to .071)	.120	.882	-.007	Yes
<u>Longitudinal Race Invariance</u>					
Configural	.059 (.051 to .066)	.081	.908	--	
Factorial invariance	.058 (.050 to .066)	.093	.909	.001	Yes
Intercept invariance	.057 (.049 to .065)	.094	.910	.001	Yes
<u>Longitudinal Age Group Invariance</u>					
Configural	.060 (.052 to .067)	.077	.905	--	
Factorial invariance	.059 (.051 to .066)	.081	.906	.001	Yes
Intercept invariance	.059 (.051 to .066)	.083	.904	-.002	Yes

*Notes:*

a. Constraint on intercept for item EC5 (“It bothers me when bad things happen to another person.”) was removed from both groups.

**Table D14***Model fit statistics for the tests of invariance in intentional self-regulation across three waves*

<i>Model tested</i>	<i>RMSEA (90% CI)</i>	<i>SRMR</i>	<i>CFI</i>	<i>ΔCFI</i>	<i>Pass?</i>
<u>Longitudinal Invariance</u>					
Configural	.033 (.025 to .040)	.042	.970	--	
Factorial invariance	.032 (.025 to .039)	.048	.970	.000	Yes
Intercept invariance	.032 (.025 to .038)	.049	.969	-.001	Yes
<u>Time 1 CRM Type Invariance</u>					
Configural	.047 (.017 to .070)	.047	.973	--	
Factorial invariance	.043 (.011 to .065)	.055	.974	.001	Yes
Intercept invariance	.038 (.000 to .060)	.057	.977	.003	Yes
<u>Time 2 CRM Type Invariance</u>					
Configural	.072 (.052 to .092)	.045	.957	--	
Factorial invariance	.075 (.056 to .093)	.074	.948	-.009	Yes
Intercept invariance	.071 (.053 to .089)	.077	.947	-.001	Yes
<u>Time 3 CRM Type Invariance</u>					
Configural	.059 (.036 to .080)	.040	.968	--	
Factorial invariance	.053 (.030 to .074)	.050	.971	.003	Yes
Intercept invariance	.052 (.030 to .072)	.055	.968	-.003	Yes
<u>Longitudinal Gender Invariance</u>					
Configural	.047 (.040 to .054)	.068	.937	--	
Factorial invariance	.048 (.041 to .054)	.078	.935	-.002	Yes
Intercept invariance	.049 (.042 to .055)	.078	.930	-.005	Yes
<u>Longitudinal Race Invariance</u>					
Configural	.045 (.038 to .052)	.067	.941	--	
Factorial invariance	.045 (.038 to .052)	.072	.941	.000	Yes
Intercept invariance	.045 (.038 to .051)	.072	.940	-.001	Yes
<u>Longitudinal Age Group Invariance</u>					
Configural	.047 (.040 to .054)	.065	.938	--	
Factorial invariance	.047 (.040 to .053)	.068	.937	-.001	Yes
Intercept invariance	.048 (.041 to .054)	.068	.935	-.002	Yes