

Longitudinal Relations among Mothers' Perceived Social Support, Parenting Practices,  
and Children's Social Competence during Middle Childhood in Mozambique

by

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## ABSTRACT

Parenting practices have been commonly studied as important predictors of children's social outcomes in European American families. However, researchers have rarely investigated relations between parental factors and child social outcomes in families living in sub-Saharan regions, such as Mozambique. This study investigated longitudinal relations between mothers' perceived social support, mothers' parenting behaviors, and children's social competence during middle childhood using longitudinal data from the Mozambique site of the Family Migration and Early Life Outcomes (FAMELO) project ( $N = 609$ ; Wave 1 child  $M_{age} = 8.96$  years; 49.6% female). Mothers reported their perceived social support, parenting practices (i.e., parental engagement, modeling, monitoring), and children's social competence. The half-longitudinal mediation model did not support the hypothesized indirect effects from maternal social support to parenting practices, and parenting practices to children's social competence. However, mothers' social support positively predicted their modeling behaviors and children's social competence. Moreover, "parent effects" and "child effects" were found between maternal parenting practices and children's social competence across two years, but relations were not always as hypothesized or consistent with within-time relations. Mothers' engagement and monitoring behaviors at Wave 1 negatively predicted children's social competence at Wave 2. Children's social competence at Wave 1 negatively predicted maternal modeling behaviors and positively predicted maternal monitoring behaviors at Wave 2. The pattern of associations between mothers' parenting practices and children's social competence did not differ for boys and girls. This study provided novel information suggestive of longitudinal associations among mothers'

social support, maternal parenting practices, and children's social competence in middle childhood and shed light on the complex transactions between mothers and children in Mozambican families. Suggestions for future research were provided to facilitate a better understanding of the support mothers perceived from their social networks, parenting behaviors, and child social development in the sub-Saharan African context.

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## CHAPTER 1

### INTRODUCTION

Social competence is a set of behaviors, attitudes, and skills that individuals use to live together in the world and to achieve social tasks and outcomes (Schoon, 2009). A socially competent child tends to be able to not only acquire and perform socially appropriate behaviors but also coordinate these behaviors and skills depending on the situation (Lillvist et al., 2009). Social competence has been demonstrated to be important, due to its long-lasting relations with positive outcomes in children's current and later lives (Boyer & Nelson, 2016; Hosokawa & Katsura, 2017; Lecce et al., 2017; Semrud-Clikeman, 2007). Children who have developed better social competence often show fewer internalizing and externalizing problems in general, better school adjustment, and better academic achievement (Elias & Haynes, 2008; Huber et al., 2019; Ladd, 2005). On the contrary, poor social competence has been associated with more disruptive and aggressive behaviors, and worse physical and mental health (Ladd, 2005; Pedersen et al., 2007).

The family is the first social environment that affects a child's development (Baumrind & Thompson, 2002). Outside of genetic influence, parents influence children in various ways, such as the way they raise their children, the style in which they interact with their children, and the environment and atmosphere they provide for their children (Pomerantz & Thompson, 2008; Spera, 2005). Parenting practices, behaviors defined by specific content and socialization goals (Darling & Steinberg, 1993), have been linked to various child outcomes such as children's social competence across many developmental stages (e.g., Barnett et al., 2012; Engels et al., 2002) and in various cultures (e.g., Izzo et

al., 2008; Taylor et al., 2015). However, whether child sex moderates the relations between parenting practices and children's social outcomes remains unclear (Spruijt et al., 2019).

Aspects of parents' social contexts may affect their parenting. For instance, parents' perceived social support from others may facilitate parenting behaviors and indirectly affect children's development (e.g., Angley, et al., 2015; Brown et al., 2018; Green et al., 2007; Rhoad-Drogalis et al., 2020). When parents feel supported by their social networks, they are more likely to engage in parent-child activities, perform supportive parenting practices, and perceive high levels of self-efficacy and parenting competence; in turn, this may promote positive adjustment and competence in their children (Amato, 1989).

Mozambique is a country located in southeastern Africa. It is one of the poorest, most underdeveloped (UNCTAD, n.d.), and the most collectivistic countries in the world (Pelham et al., 2022). While most relevant studies used relatively homogenous samples of White and middle-class mothers, no study has examined associations between mothers' social support, parenting, and children's social competence in Sub-Saharan African families across time. It is unclear whether results from previous studies generalize to families in Mozambique, given that Mozambican culture differs from "Western culture." Mechanisms of support processes, preferred parenting styles, and concepts of social competence may also differ in Mozambique relative to in countries in which most relevant studies were performed.

To fill the gap in the literature, this study aimed to use data collected from families in Mozambique to examine the longitudinal relations between mothers'

perceived social support, mothers' parenting behaviors, and children's social competence during middle childhood. First, I tested the indirect effect of maternal parenting practices on the relations between mothers' perceived social support and children's social competence. Second, I investigated whether mothers' parenting behaviors and children's social competence in various domains predict one another over time (i.e., "parent effects," "child effects"). Third, I tested the moderating role of child sex in the relations between mothers' perceived social support, parenting behaviors, and children's social competence.

### **Social Competence**

Social competence has been frequently studied (e.g., Rose-Krasnor, 1997) and has been the subject of meta-analyses (e.g., Trentacosta, & Fine, 2010). Social competence is a set of behaviors that individuals use to live together in the world and to achieve social tasks and outcomes (Schoon, 2009). A socially competent child is likely to adaptively use acceptable means to accomplish social goals (Waters & Sroufe, 1983). By contrast, children who are not socially competent tend to either not have the skills needed to engage in social tasks, or do not know how to coordinate different skills and perform tasks to adapt particular situations.

Although I used the definition above in the present study, social competence has been defined from a multitude of perspectives and conceptualized as including various components. For example, Cavell (1990) suggested that social competence encompasses the central concept of effective functioning within social contexts and can be operationally defined as a multilevel construct made up of social adjustment, social performance, and social skills. Rubin and Rose-Krasnor (1992) defined social competence as "the ability to achieve personal goals in social interactions while

maintaining positive relationships with others over time and across settings” (p.125). In addition, O’Malley (1977) defined social competence as productive and mutually satisfying interactions between one child and peers or adults. Three components were identified based on this definition: adaptive interactions in the natural environment (e.g., seeking adult attention, utilizing adults as resources), personalities that attempts to integrate descriptive features of behavior (e.g., expressing affection or competing for attention in peer interaction), and behaviors underlying purposive interactions (e.g., role taking, social cognition). Furthermore, Rose-Krasnor (1997) proposed that social competence was defined as the effectiveness of a child to engage in social interactions with others, and she broke down this definition into social skills, sociometric status, relationships, and functional outcomes based on social development literature.

Although various definitions and components of social competence have been proposed, many share parts in common. Many perspectives have included characteristics such as social skills (e.g., Rose-Krasnor & Denham, 2009), effectiveness in social integration (e.g., Vaughn et al., 2009), adjustment and adaptation (e.g., Arthur et al., 1999), social status (e.g., Hubbard & Coie, 1994), and friendship quality (e.g., Blair et al., 2015) in the conceptualization. Social skills are one of the most frequently studied aspects of social competence (Blair et al, 2015). This aspect often has been defined as a set of socially acceptable behaviors or desirable skills that reflect characteristics or abilities that enable an individual to interact effectively with others (Cavell, 1990; Hukkelberg et al., 2019; Semrud-Clikeman, 2007). Cooperation, assertion, responsibility, empathy, self-control, prosocial behaviors, and solving peer problems have been recognized as parts of social skills (Gresham, 1998; Ragnarsdottir et al., 2018). It is

important to notice that social skills do not equal social competence. Social competence not only consists of the concept of social skills (i.e., behaviors that have to be acquired and performed), but also represents the environmental values and judgments of these presented behaviors (Gresham et al., 2011).

Another component that is usually viewed as an aspect of social competence is emotion competence. Whereas some perspectives describe emotion competence as an indicator of social competence, other perspectives describe emotion competence as a contributor to the development of social competence. According to Rose-Krasnor's (1997) theoretical social competence prism model, a variety of skills from individuals, including social, emotional, and cognitive abilities and motivations, can shape one's social competence through qualities of interaction sequences, relationships, and group status between the self and others. Consistent with this theoretical framework, research has shown that higher levels of emotion competence either concurrently or longitudinally predicted better social skills, more prosocial behaviors, and higher peer acceptance (Blair et al., 2015; Denham, 2007; Garner & Estep, 2001).

Studying children's social competence in middle childhood – usually defined as ages 6 to 12 years of age – is important. Where early childhood and adolescence have been studied within a large body of research, middle childhood is a crucial but underappreciated phase of human development (Del Giudice, 2018). This stage is the transition from early childhood to adolescence and considered as a developmental switch (Del Giudice et al. 2009). During middle childhood, parents continue to be important influences, and at the same time there is an increasing reliance on peers (Collins & Laursen, 2000). It is a time when children develop foundational skills for building

healthy social relationships and learn appropriate social behaviors that will prepare them for adolescence and adulthood. A child's ability to successfully interact with others and form stable peer relationships has implications for later development (Woodward & Fergusson, 2000).

In the past decades, researchers have become increasingly interested in how cultural and contextual factors are involved in the development of social competence (e.g., Chen & French, 2008; Feldman & Masalha, 2010; Topping, 2000). Much of the early social competence literature was based on research conducted in Western countries (i.e., the United States), but in recent years a growing number of cross-cultural and developmental researchers have emphasized that social competence varies across cultural contexts (e.g., An et al., 2018). Thus, general social competence is sometimes difficult to define, as the skills and behaviors required to live together and to achieve social tasks and outcomes vary with context and the demands of specific situations (Schoon, 2009). For instance, in Western cultures that tend to be more self-oriented or individualistic, acquiring autonomy, showing leadership, and being assertive are important socialization goals. In collectivist cultures, however, the same skills may be discouraged, viewed as negative, or interpreted as insensitive (Chen & French, 2008). When a child overemphasizes his own ideas or pursues his own ideals and fails to meet the expectations of his parents, parent-child conflict may arise and disrupt family harmony. In other words, collectivist cultures tend to emphasize family and social relationships, hierarchy, respect and obedience (Tamis-LeMonda et al., 2008). Children living in collectivist communities are expected to obey their elders, be calm to attend to the needs of others, and be polite and kind. As they form positive connections with their families

and those around them in their lives through these good manners and deference, they are more likely to be recognized have social competence (Harwood et al., 1997).

In summary, social competence is crucial for children in middle childhood given that social competence plays a significant role in individuals' life course, and children start forming stable and meaningful relationships with peers during this developmental stage. To consider context and cultural features, children's social harmony and manners, deference and compliance, responsibilities, and familial collectivism may better conceptualize children's social competence than other constructs in Mozambique. Items emphasizing these aspects of social competence were administered in the present study.

### ***Sex Differences in Children's Social Competence***

A large body of literature has demonstrated sex differences in children's socio-emotional outcomes (e.g., Brody et al., 2000; Dunsmore et al., 2008; Murphy & Eisenberg, 2002). In addition to sex differences in social competence that may be driven by biology, differences may be driven by social and cultural influences. For instance, some have suggested that sex differences are because fathers and mothers tend to have different expectations for sons and daughters and socialize their sons and daughters differently, even in very early life (Zeman et al., 2010). For instance, parental emotion socialization is dependent upon the sex of child (Cunningham et al., 2009).

### ***Other Differences in Children's Social Competence***

In addition, children's social competence may show differences according to a host of demographic variables, such as child age, child race, family socioeconomic status, (or income and parents' education as separate variables), family resources, and parents' marital status (Daga et al., 2015; Denham et al., 2003; Garrett-Peters et al., 2017)). Lower



household socioeconomic status has been found to negatively predict positive parenting (conceptualized as encouraging child independence, emphasizing achievement, and affection), and in turn, may be associated with lower children's social competence (Liu et al., 2020). Mothers' education level has also been linked to children's academic and social outcomes (Deneault & Ricard, 2013). Family resources invested in children's health and well-being have been measured by the ratio of young dependent family members to adult working-age family members. A high dependency ratio is associated with higher household strain, increased labor demands, poorer nutrition status for children, and children's school performance (Hadley et al., 2011). Parental marital status could be related to how children experience the quality of the home environment, such as parental sensitivity and social support, which in turn can predict children's academic and socio-emotional outcomes (Mandara & Murray, 2000; Son & Peterson, 2017). In summary, children who are girls, older, of the racial majority, from high household socioeconomic status, whose parents complete higher levels of education, whose family owns more resources, and whose parents are married tend to show better social competence than children who are boys, younger, of the racial minority, from low household socioeconomic status, whose parents complete lower levels of education, whose families have fewer resources, and whose parents are single or divorced (Lansford et al., 2006; O'Connor, 2001). That said, some previous studies have not taken into consideration that the conceptualizations of social competence may have been based on values of White, higher-SES individuals, and not been sensitive to cultural differences.

### **Parenting Practices and Children's Social Competence**

A variety of factors may influence the development of children's social

competence, both genetic and environmental (e.g., Scarr, 1992). In this study, I focused on a potential environmental factor, parenting. That said, it is important to acknowledge that mothers are likely to influence their children's social competence through shared genes, and mothers' genes likely influence their parenting.

Scientific research on parenting dates at least as far back as 1957. Sears, Maccoby, and Levin (1957) interviewed 379 American mothers about how they rear their children from birth to kindergarten age. Their findings provided information about general patterns of mothers' feelings about motherhood, their child-rearing practices, descriptions of the children's behaviors, and the relations between rearing practices and children's behaviors (Zehrer, 1958). Since its publication, scholars have developed theoretical and empirically supported models for parenting behaviors and child socialization process (e.g., Baumrind, 1971; Belsky, 1984) as well as how they, directly and indirectly, affect children's outcomes (e.g., Darling & Steinberg, 1993; Eccles, 2005).

In line with Bronfenbrenner's Ecological Systems Theory (Bronfenbrenner, 1986; Ryne, 2001), child development takes place within the context of the system of relationships that form the child's environment. In this theory, there are five "layers" of the environment which affect the child's development: the microsystem (the layer closest to the child which contains the structures with which the child has direct contact), the mesosystem (the layer providing connections between the structures of the child's microsystem), the exosystem (the layer representing the larger social system in which the child does not function directly), the macrosystem (the layer considered the outermost layer in the child's environment), and the chronosystem (the system encompassing the dimension of time as it relates to a child's environment). For children, the microsystem is

primarily family-centered. Most children's emotions, behaviors, and cognitions are developed through input and behavior within the family (Bronfenbrenner, 1986). Moreover, Bronfenbrenner points out strong bidirectional influences between the child and the microsystem level (Ryne, 2001). This statement is supported by Serbin and her colleagues (2015)'s finding of significant reciprocal relations between various parenting behaviors and school-aged children's adjustment problems. The longitudinal result showed that positive parenting predicted a decrease in children's externalizing and internalizing problems over time, which subsequently led to a reduction in parents' positive parenting across the consecutive 3-year intervals.

Another model frequently used to interpret direct parental influences on children's social development is Albert Bandura (1977)'s Social Learning Theory. This model suggests that learning occurs when children observe and imitate the behavior of others. According to social learning theory, an individual must learn behavior through attention, memory, motor regeneration, and reinforcement. For example, a child may notice that her mother always caresses her back and gives her a hug when she loses something important. Next, these behaviors are coded as showing love and empathy and are able to be retrieved from memory by the child. The child must then be able to reproduce these behaviors by moving her body in a coordinated manner to treat another person prosocially. Ultimately, the child expects these modeled behaviors to be positively reinforced. When her friend loses a necklace at school, this girl will imitate the mother-modeled comforting strategy and expects her friend feel better.

Furthermore, transactional models of parent-child relationships also describe parent and child behavior as interactive over time, so parents and children influence each

other (Sameroff, 2009). These models suggest that parents may interact differently with individual children when they respond to specific characteristics of their children (Barnett et al., 2012). In addition, individual children may interpret and internalize their parents' behaviors differently, exhibiting unique behaviors that, in turn, elicit unique parental responses (Bornstein, 2009). For example, when children are more likely to follow the directions of or be polite to adults, parents tend to provide more warmth and support to and have better communication with children.

Socialization research often has been focused on parenting styles and parenting practices. Parenting *styles* refer to the general climate parents create in which they raise their children (e.g., high warmth; Darling & Steinberg, 1993; Spera, 2005). One of the major conceptualizations of parenting styles is Baumrind's (1971) typology of authoritative, authoritarian, and permissive parenting, and the typology of neglectful parenting was later added by Maccoby and Martin (1983).

Although some researchers have studied parenting as a mix of parenting styles and parenting practices (e.g., Chen et al., 1997; Maysseless et al., 2003), it is important to understand the differences between parenting styles and parent practices. According to the parenting model proposed by Darling and Steinberg (1993), parenting practices are domain-specific by definition and directly affect a child's development, whereas parenting styles usually describe parent-child interactions across a wide range of situations and indirectly influence child development. For example, if a mother sets a socialization goal as appropriate table manners, she may guide her children on how to eat soup without making sounds, model them the right way to use knives and forks, and make time for them to have dinner together. However, this mother could interact with

kids in either an authoritative style (e.g., give encouragement and show warmth when children show good manners) or an authoritarian style (e.g., yell at children or take away their meals when children spill the drink unintentionally).

Parenting *practices* are defined as specific and goal-directed behaviors that parents use to socialize their children (Darling & Steinberg, 1993; Spera, 2005). Parenting behaviors have been conceptualized as belonging to various constructs. Terminology and categorization of behaviors and affect vary considerably across researchers. To better understand the association between parenting and child outcomes, Kawabata and his colleagues (2011) conducted a meta-analysis to cluster a large number of parenting constructs and analyze the relations between parenting behaviors and children's and adolescents' relational aggression. They first grouped 142 parenting constructs by sorting from experts. Then, the multiple correspondence analyses were conducted to yield four parenting clusters: Positive parenting, psychologically controlling parenting, negative/harsh parenting, and uninvolved parenting. Each cluster consisted of six to 24 parenting constructs.

Parenting practices items from The Family Migration and Early Life Outcomes (FAMELO) project, the data used in the present study, were generated by investigators using a multi-step process including local expert feedback, focus groups, and pilot survey data. The final set of items mostly reflected aspects of positive parenting, control (behavioral control/monitoring/supervision as opposed to psychological control), and harsh discipline. In this study, I focused on aspects of parenting that typically are categorized under the label of "positive parenting" (i.e., support [guidance, warmth], communication, modeling), as well as on monitoring. Note that although the term

“positive” is used, it is unclear if these parenting practices positively benefit children’s development in the context of Mozambique. The same parenting practices may have different meanings and results in various cultures. I revisit this notion in a later section.

### ***Positive Parenting and Children’s Social Competence***

Seay and her colleagues (2014) reviewed the literature and provided a definition of positive parenting. It included *caring* for the child in a responsive relationship with love and warmth, *leading/modeling* the child by setting developmentally appropriate boundaries or limits with discipline, *providing* a safe environment, *teaching* by providing developmentally appropriate activities and play to facilitate the child’s cognition, peer relations, and attendance at school, and *communicating* with the child through verbalization, active listening, and respect. Each of characteristics have been frequently studied and found positive associations with children’s social competence.

**Parental Engagement and Children’s Social Competence.** Given that parental support and guidance, warmth, and communication reflect being actively involved in children’s daily lives, these concepts were combined as “parental engagement” in the present study. Engaged parenting has been viewed and assessed as one factor of positive parenting (Dallaire et al., 2006) and been linked to promoting social competence in children and adolescents (Taylor et al., 2015). Parental warmth, affection, love, care comfort, support, and responsiveness sometimes have been conceptualized as parental acceptance; acceptance has been related to better social competence (Khaleque, 2013). Parents who show their love, warmth, and support when taking care of their children tend to have children who are socially competent (Baumind, 1989). To be more specific, parental warmth usually relates to children’s better emotion regulation (Colman et al.,

2006), in turn, they are more able to be polite to others and more willing to obey the norms of parents and adults. In addition, children who experience more parental warmth tend to show higher self-esteem (Khaleque, 2013), and thus they are more willing to take responsibility for themselves. One meta-analysis indicated that parental warmth and supportive behaviors were correlated significantly with many aspects of psychosocial adjustment of children universally. No significant differences were found from 16 countries across five continents (Bangladesh, Barbados, Colombia, Czechoslovakia, Egypt, Finland, India, Japan, Kuwait, Mexico, Pakistan, Puerto Rico, South Korea, St. Kitts, Turkey, and the USA) as well as many ethnic groups in the United States (i.e., African Americans, Asian Americans, European Americans, and Hispanic Americans) (Khaleque, 2013). Furthermore, a cross-cultural study investigated the relations between parental warmth and fourth- to sixth-graders' socio-emotional adjustment in Brazil, Canada, China, and Italy. The result showed that parental warmth was positively associated with teacher-reported children's school-related social competence across the four cultures (Chung et al., 2008).

Many researchers have also demonstrated the importance of parent-child communication and its impact on children's social development (e.g., Laible & Thompson, 2000). Both the style and content of the conversation between parents and their children are related to individual differences in various domains of development (Laible, 2004). Parents may facilitate children's development of social competence through delivering their cultural values and sharing their feelings, thoughts, and strategies about interpersonal interactions they experienced to promote children's social behaviors (e.g., being polite to others, being respectful to elders), and thus meet social expectations

(Ladd et al., 1993). For example, Burlleson and his colleagues (1992) examined the relations between maternal communication and children's skills, and elementary-school aged children's acceptance by peers. Results indicated that maternal communication was positively associated with children's development of social-cognitive and communicative skills, and peer acceptance when controlling for demographic variables such as SES, family size, and gender.

**Parental Modeling and Children's Social Competence.** Parental modeling is another way that parents may socialize their children. Parents acting in their own particular ways may implicitly teach their children those behaviors are the behaviors that are acceptable and encouraged in their family (Denham et al., 1997). Behaviors children learn through modeling are not always adaptive or harmonious. However, in the present study, items were worded such that modeling may be assumed to reflect positive parenting.

Previous studies have connected parental modeling of emotion expression with children's social competence in the United States (e.g., McDowell, 2002). For example, Denham and her colleagues (1997) found that parental modeling of expressive styles and emotional responsiveness to preschool children significantly predicted preschoolers' social competence. When parents guided and socialized more emotion language, children had better scores in teacher-rated social competence. Likewise, Isley (1999) examined the extent to which parental expressions of affect were linked to teacher- and peer-rated children's social functioning through children's own affective expressions. The results indicated that parents who expressed more warmth and positive emotions to their kindergarten children had children who showed more prosocial behaviors and less



aggression in the first grade. This suggested that parental modeling of specific interaction styles may be imitated and transferred to other interactions by children. Then, these interactions may play a crucial role in the development of children's social competence with peers. For example, when a mother always gets the housework done, puts family first, and maintains a harmonious relationship with her husband, her children may be more likely to be responsible for their school and personal tasks, value family, and get along with others.

### **Positive Parenting and Children's Social Competence across Cultures.**

Despite the empirical evidence suggesting cross-cultural similarities in the relations between positive parenting styles and children's social competence across cultures and countries (e.g., Pastorelli et al., 2016), it is important to note that what is typically considered "positive parenting" may not always be associated with positive child outcomes across cultures. Similarly, what is typically considered "negative parenting" (e.g., authoritarian parenting) does not always have a bad effect on child outcomes. For example, previous studies have found that authoritarian and permissive parenting does not significantly connect with school-aged children's development in collectivistic cultures (e.g., Jabaghourian et al., 2014; Rudy & Grusec, 2006), and can even sometimes serve a protective function for children (Dunbar et al., 2021). The collectivistic culture tends to believe that parents show their closeness and responsiveness to children by setting rules, providing guidelines, and giving warnings (Febiyanti et al., 2021). On the contrary, children experiencing authoritative parenting may become soft or spoiled (Mayseless et al., 2003).

Countries in sub-Saharan Africa, such as Mozambique, have a very different

culture from those often included in previous research. Furthermore, few previous studies on parental engagement (e.g., support, warmth, communication), modeling, and monitoring and their relations with child social competence have focused on middle childhood. Thus, whether these parenting practices are related to positive child outcomes during middle childhood in traditional, collectivist cultures need further exploration.

### ***Parental Monitoring and Children's Social Competence***

Parental monitoring is another parenting practice that has been defined as “a set of correlated parenting behaviors involving attention to and tracking of the child’s whereabouts, activities, and adaptations” (Dishion & McMahon, 1998, p. 61). It can take place in a broad range of situations (Kerns et al., 2001). For example, parents with high levels of parental monitoring may check whether their children have completed homework or ask them about their plans for the coming day.

Most research on parental monitoring has focused on adolescents because they spend less time with parents and more time with peers (Smetana, 2008). Research often has found that extensive parental supervision and monitoring during adolescence is associated with less externalizing behavior (e.g., Dillon et al., 2008), conduct problems (e.g., Herman et al., 2020), juvenile delinquency (e.g., Keijsers et al., 2012), and drug and alcohol use (e.g., Bray et al., 2022) across racial/ethnic groups (White, African American, Hispanic; e.g., Dillon et al., 2008; Latendresse et al., 2017). Few studies have examined parental monitoring and child social and school outcomes in middle childhood (e.g., social adjustment, Coley & Hoffman, 1996; academic engagement, Malczyk & Lawson, 2017; school performance, Crouter et al., 1990). However, the findings were mixed. Although parental monitoring has been suggested to help buffer youth from a variety of

risks and has been shown to be important in predicting social competence in children and adolescents (Gardner & Cutrona, 2004; Taylor et al., 2015), some studies found that parental monitoring either a non-significant or a negative predictor of children's social outcomes. For example, one Kenyan study examined perceptions of adolescents regarding their parents' various behaviors and their prediction on the development of adolescent social competence and found that maternal monitoring did not significantly predict Kenyan adolescents' self-esteem (Ngige et al., 2020). A study in the U.S. tested relations among parental control, parental affect, children's display rule use, and children's social competence and found that maternal controlling behavior was related to fourth graders being rated as *less* socially competent by teachers (McDowell et al., 2005). In line with these findings, Brajsa-Zganec and her colleagues (2019) investigated parental supervision and parental involvement at school in relation to fifth- through eighth-graders' social competence and school achievement in Croatia. The results showed that parental supervision and parental involvement indirectly predicted children's school achievement through children's social competence. That is, when parents less frequently supervised their whereabouts, activities, and friends and when they engaged in more activities at their child's school, their children were more likely to exhibit prosocial behaviors and have better communication skills. In turn, more socially competent children tended to obtain higher grade point averages (GPA).

In addition, the direction of effects between parental monitoring and social competence is not clear. Not all studies have found significant prediction from parental monitoring to later social competence. Instead, some researchers have found that children's social competence and adjustment problems predicted later parental

monitoring and other behaviors (“child effects” as opposed to “parent effects”). For example, one study examined the reciprocal and longitudinal relations between maternal parenting and child adjustment behaviors in high-risk families in late childhood (Barbot et al., 2014). Half of participants were African Americans, and about one third of them were White. Results suggested that children’s social competence predicted increased parental involvement and appropriate monitoring and decreased parental stress over five years controlling for earlier levels, indicating that mothers’ involvement and monitoring may increase when their children have relatively high social competence. Accordingly, further studies are needed to examine how parental monitoring and children’ social competence predict each other over time in Mozambique.

### ***The Role of Child Sex***

A large body of literature demonstrates sex differences in children’s socioemotional outcomes, beginning at a very early age (e.g., Brody et al., 2000). Girls are more likely to exhibit better social skills and higher social competence than do boys, whereas boys have more problem behaviors than do girls (Abdi, 2010). However, the role of child sex on the association between parental factors and children’s social competence remains unclear.

The differential socialization perspective indicates that sex differences in social competence can be explained by parents adopting different parenting strategies for sons and daughters (Spruiit et al., 2009; see Lytton & Romney, 1991). For example, parents may be more likely to verbally interact with their daughters and be more responsive (Leaper, 2002), allowing girls to develop better communication skills in interacting with their peers. Alternatively, the differential susceptibility perspective suggests that the same

parenting may have different effects on boys and girls (Rutter et al., 2003). For example, Barnett and Scaramella (2013) asserted that boys and girls may be exposed to equally negative parenting but this parenting affects boys' externalizing behaviors more strongly than girls' because boys may be more sensitive to mothers' negative parenting. In other words, child sex may play a moderating role in the relation between parenting behaviors and social competence.

Although theoretical perspectives suggest that the association between parental factors and children's social competence varies by child sex, not all empirical studies support this argument. For example, Spruijt et al. (2019) reported that parental sensitivity was related to children's social competence irrespective of child sex during the early school years. Similar findings were also found in single-parent households (e.g., Buehler & Legg, 1992) and in longitudinal studies (e.g., Zhou et al., 2002). Therefore, whether child sex moderates the relation between parental practices and children's social competence in Mozambican families will be explored in this study.

### **Social Support as a Positive Contributor to Parenting Practices**

Social bonds and supportive relationships are widely believed to be influential on healthy psychological functioning and general well-being (Taylor et al., 2015). Social support refers to an individual's social bonds, social integration, and primary group relationships. It reflects a person's feeling of being loved, valued, and able to rely on others when needed (Turner & Brown, 2010). Parenthood is challenging and stressful, especially for parents living in poverty; finding the time and energy to meet their children's basic needs can be difficult (Green et al., 2007). Parenting stress has been associated with negative, coercive, and harsh parenting, and these can negatively predict

children's behaviors (Jackson & Choi, 2018). As such, the role of supportive relationships in helping parents successfully raise their children has been the focus of much research and societal attention. Lee and his colleagues (2011) examined the relations among family financial stress, parents' social support, parental depressive symptoms, parenting practices, and children's externalizing problem behaviors. Parents (most were White and mothers) with children in kindergarten through third grade were recruited in the study. Results of structural equation modeling showed that parents' perceived social support positively predicted their parenting practices (i.e., communication, involvement, parenting confidence). Parents who perceived more availability of someone with whom to talk, someone with whom to do things, and instrumental assistance from others showed better communication quality with children, were involved in more parent-child activities, and were more confident when making parenting decisions.

Social support often has been studied in terms of different resources of support, such as spouses, relatives, friends, and neighbors. Some studies have emphasized the importance of spousal support for adult mothers (Belsky, 1984). Spousal support is a primary support system that is unique and different from other sources of support. It generally reflects a specific person who has the most emotional engagement and time spent with mothers than any other sources. One study used structural equation modeling to test associations between economic strain, support from spouse, and quality of parenting in two-parent families. Results indicated that parents tended to be more concerned about their child's feelings, take more interest in their child's daily activities, manifest more love and acceptance, and to be more likely to encourage appropriate

behavior when they perceived more social support from their spouses (Simons et al., 1992). When husbands help share the housework or childcare, listen to their wives, or give affirmation, it could reduce wives' parenting stress and increase their efficacy, so that wives are more likely to have time and emotional resources for parenting and able to parent their children with love and patience. Family support has also been positively linked to parents' parenting practices. Especially in families where the husband works outside the home or in large families, either emotional or practical support from family members could be of great help to the mother in parenting children. Taylor and Robert (1995) studied the associations between kinship support and adolescent psychological well-being in economically disadvantaged African- American families. Findings showed a positive prediction of kin support to parenting behaviors, meaning that mothers who perceived more social support from relatives were more likely to show closeness and acceptance of the adolescents and encouraged adolescents' psychological autonomy. In addition, some researchers have emphasized the important role of the support from neighbors and communities in ethnic minority participants in the United States and in collectivistic cultures. For example, one study used the focus group method to explore fathers' race-related concerns and parenting strategies in African American families (Cooper et al., 2020). Results indicated that African American fathers emphasized the collective importance of communities and how their experiences and perspectives on community involvement impact raising African American children and adolescents. Another study examined the relations between mother's perceived community support and parenting practices in Korean families. Hong and Lee (2019) found that mothers' social interactive parenting was positively associated with mothers' perceived community

properness of childrearing in Korea. That is, Korean mothers tended to show more interaction with and provide more didactic/material stimulation to young children when they were more satisfied with their residential area for child rearing. It is understandable that community support is crucial in many Asian, African, and ethnic minority cultures in the US, especially for persons living in adverse conditions, given that collectivistic cultures are typically centered on the family and see group well-being as important as individual well-being (Barrio, 2000). Accordingly, different sources of support should be considered based on an individual's ethnicity, marital status, culture, and so on.

Social support has also been studied in terms of the three main contents of support: emotional, instrumental, and informational support (Hombrados-Mendieta et al., 2012). Emotional support refers to acts provided for empathy, love, trust, and caring; instrumental support refers to the provision of tangible goods, services, or help; and informational support refers to the information provided to another during a time of stress or during the problem-solving process (Langford et al., 1999; Tardy, 1985). Although emotional support sometimes has been viewed as the most important and been the sole focus of some studies (House, 1981, see Langford et al., 1999), some studies have found discrepancies in the degree to which different types of social support parents perceived and in the prediction of children's socioemotional adjustment between different types of support parents perceived (e.g., Nunes et al., 2021). Therefore, including different types of support may lead to better understanding of the experience of support among mothers.

In regard to different dimensions of support, studies have consistently indicated that perceived support, the subjective belief that one has a communicative and caring social network, showed stronger relations to mental health and well-being than structural



support (the organization and characteristics of individuals' social ties) and received support (the actual help from one's loved ones by providing either instrumental or informational assistance; Turner & Brown, 2010). For example, Ceballo and McLoyd (2002) investigated relations between mothers' social support and parenting behaviors in low-SES, African American, single-parent households. The result suggested that mothers' perceived social support from friends and relatives, but not the instrumental help they could obtain, positively predicted the support and affection they provided to their children. Given support has not been examined in mothers in Mozambique, in this study, mothers' perceived support regarding emotional, instrumental, and informational support from spouses, other family members, and communities was examined.

### **Social Support, Parenting Practices, and Children's Social Competence**

Researchers have found that even in challenging situations, maintaining family processes such as parent involvement and responsivity (McConnell et al., 2011; Rhoad-Drogalis et al., 2020) may lead to positive outcomes across diverse cultures. Belsky (1984) proposed a process model to address the determinants of parenting. This model suggests that parenting practices are multiply determined by contextual sources of stress and support (e.g., marital relationship, social network) as well as personal resources and characteristics of the child within the parent-child relationship, which in turn influences child development. To be more specific, mothers' perceived support may benefit their parenting behaviors through better managing stress or increasing self-efficacy (e.g., Izzo et al., 2008; Raikes et al., 2005); then, effective parenting practices may facilitate children's social competence. Although it has been suggested that parental social support has a direct effect on child development (Nath, 1991), empirical evidence

suggests that the mechanism transmitting this effect may be parenting. To be specific, the support parents receive through social networks may facilitate their parenting efficiency and skills (e.g., Suzuki et al., 2009), or it buffers the negative impact on living hardship for children (e.g., Sattler, 2022), which may result in better developmental outcomes for those children. In other words, such a direct effect may not exist after accounting for all mediating factors.

Izzo et al. (2008) studied the impact of parental self-efficacy and social support on parenting practices and children's socioemotional adjustment in first-generation immigrant families from Mexico to the United States. Their results suggested that parenting behaviors fully mediated the relationships between both social support and self-efficacy and children's social and academic behavior in middle childhood. Also, parental self-efficacy mediated the relation between parents' social support and parental warmth and control behaviors. Similar results were reported by Taylor et al. (2015). They conducted a three-time-point longitudinal analysis to examine the relations of parenting practices, perceived social support, and school-aged children's social competence in Mexican immigrant families in California. The findings showed that mothers' perceived social support predicted children's later social competence through its positive relation to maternal monitoring. Consistent with this line of findings, Serrano-Villar et al. (2017) found the indirect effect of positive parenting on the mothers' perceived familial support and pre-K and kindergarten children's socially adaptive behaviors (e.g., adaptability, social skills, functional communication) in Mexican American and Dominican American families.

Taken together, prior research suggests positive associations between parental

social support and parenting practices and the mediating role of parenting practices on the relations between parental social support and children's social outcomes during early and middle childhood. In line with the prior suggestion, no significant direct effects of social support to children's social competence were found from these studies.

### **Mozambique Context**

Mozambique is a country with a population of approximately 32 million located in southeast Africa (World Bank, 2021), with 63% of them living in rural areas (World Bank, 2022). Mozambique, a former Portuguese colony that gained independence in 1975, went through a civil war in the first fifteen years of its independence (Agadjanian et al., 2011). Although the country has had remarkable macroeconomic growth since the end of the war in 1992, Mozambique remains one of the poorest and least developed nations in the world (UNCTAD, n.d.), with a gross national income per capita of \$500.4 (World Bank, 2021) and the adult literacy rate of 61% (World Bank, 2017). Only 30.6% of the population is able to access electricity (World Bank, 2020) and only half of Mozambicans have access to improved water sources in rural areas (UNICEF, 2017). This difficult situation may be one of the reasons why so little research has been done in Mozambique.

Labor migration from rural areas of Mozambique to the mines in South Africa has been a crucial determinant of the family context for children (Chae, 2016; Yabiku et al., 2010). Parental, especially paternal labor migration is widespread and increasing in many developing countries (Chae, 2016). Although families can obtain better material and economic conditions through such labor migration, they are also more susceptible to HIV infection and death that changes the original family structure (Agadjanian et al., 2011). In fact, Gaza has the highest HIV prevalence of all Mozambique's provinces – around 25-

27% among adults aged 15-49 and up to 30% of women in that age group (Ministry of Health of Mozambique, 2008). In addition, the absence of a father due to work or death can also lead to transformations of family and gender systems. Prior research has suggested that father's migration status may directly and indirectly affect parenting and child outcomes in diverse developmental periods and cultural contexts (Daglar et al., 2011; Zhang et al., 2017). In Mozambique, mothers take on the primary role of childcare, directly or indirectly passing on culture and values to the children (McHale et al., 2006).

Compared to many Western urban societies, non-Western rural communities often educate children at home (Vogt et al., 2015). Though the number of children receiving a formal education is increasing in rural areas worldwide, the primary completion rate is relatively low. Most Mozambican children enroll in elementary school (94.0% in 2018), but less than 60% of them complete their primary education (Work Bank, 2020). An analysis of school dropout in Mozambique indicated that children who are older, who have work, whose families rely mostly on farming, and whose household heads in lower education level were less likely to continue to attend and complete school (Mambo, 2019). Furthermore, researchers usually focus more on children's literacy and academic performance in Mozambique (e.g., Vogt & Mastin, 2013), there is little research on children's socioemotional outcomes.

Marriages in less developed countries in sub-Saharan Africa, including Mozambique, are often still arranged by parents and accompanied by the transfer of cash and/or goods from the husband's to the wife's family, although this has declined over time (Chae, 2021). Bridewealth represents marriage as a transfer of sexual and reproductive rights from the wife to the husband's family. In addition, despite monogamy

being widespread in the region, polygamy is allowed in Mozambique (Hayford & Agadjanian, 2016). That is, males can marry more than one wife as long as they have sufficient wealth. High fertility rates in Mozambique lead to large families. Mozambican women have 4.6 childbirths on average (Macrotrends, 2022). Because mothers and other female adults at home usually undertake a lot of housework, older children usually play a role looking after younger siblings or other children (Colonna, 2012).

Gender inequality in Mozambique has been studied in several domains. Although the contemporary growth in men's labor migration leads to economic change and family change in households, which in turn increase women's independence and autonomy (Yabiku et al., 2010), gender inequality in Mozambique still exists in education (e.g., lower primary school enrollment and retention rate for girls; Chankseliani, 2008), employment (e.g., lower employment rate for women; Gradin & Tarp, 2019), and marriage (e.g., polygyny and higher rates of intimate partner violence for women; Jansen & Agadjanian, 2020). Literature indicates that the primary education completion rate of girls is much lower than that of boys (Chankseliani, 2008). One possible reason could be that schooling does not attract females in a society where women have few chances of employment (Tomasevski, 2003). Another possible reason could be that the opportunity costs of girls' education are higher than boys' because girls are expected to do most of the housework (Herz & Sperling, 2004). So, parents would rather keep girls at home than send them to school. This gender inequality extends into adulthood and marital systems (Jansen & Agadjanian, 2020). In Mozambique, women are not viewed as breadwinners, but traditionally as potential mothers. Therefore, they are often in inferior, dependent, and submissive roles in male-dominated families (Chankseliani, 2008).

Given such gender views in Mozambique, it remains to be further explored whether mothers enact different parenting practices for boys versus girls, or have different perceptions of the social competence of boys versus girls. To my knowledge, these possibilities have not yet been examined.

### **The Present Study**

The present study used data from the Family Migration and Early Life Outcomes (FAMELO) project, a longitudinal study focusing on the impact of parental migration on various aspects of children's and adolescents' development. It consists of 6,797 children and their families from three different countries (i.e., Nepal, Mexico, Mozambique). Data were collected from focal children and their primary caregivers via in-home surveys. Focal children were 5- to 17-years old at Wave 1 (W1) of data collection.

In this study, I focused on the data collected from 7- to 12-year-old children and their mothers to investigate the longitudinal relations between mothers' perceived social support, mothers' parenting behaviors, and children's social competence during middle childhood. I limited my investigation to the families in Mozambique because Wave 2 (W2) data are ready for analyses (Mexico and Nepal W2 were delayed by COVID-19 and data were still being processed).

This study extended previous research in several ways. First, most prior research examining social support, parenting behaviors, and child outcomes has been cross-sectional; it has been unable to assess the role of maternal parenting behaviors over time. Longitudinal data allows testing of cross-sectional relations as well as predictions across time. Second, the majority of previous studies that have linked parenting practices to children's social competence have done so in either early childhood or adolescence. The

present study investigated social competence and its associations with parenting practices for school-aged children, which is a crucial developmental stage in which parents continue to be important influences and at the same time there is an increasing reliance on peers (Collins & Laursen, 2000). Third, a large body of literature has focused on White and middle-class families (Fagan, 2000), whereas few studies have examined relations between parental factors and child social outcomes in families living in Mozambique. Thus, the present study provided a further understanding of associations between maternal parenting and child social adjustment for families living in Mozambique. Last, dissimilar to past research usually assessing risk and vulnerabilities (e.g., economic hardship) in Mozambican families, the present study focuses on positive functioning in Mozambican families, consistent with a family resilience perspective (Walsh, 2006).

My first aim was to test whether mothers' perceived social support predicted changes in parenting practices over 2 years, and whether parenting practices predicted changes in children's social competence in middle childhood. It was hypothesized that a) perceived social support (i.e., from spouses, families, communities) would positively predict parenting practices (i.e., parental engagement, parental modeling, parental monitoring), and b) that parenting practices would positively predict children's social competence (i.e., social harmony and manners, responsibility, deference and compliance, familial collectivism).

My second aim was to test bidirectional relations between maternal parenting practices and children's social competence. According to family system theory, family is a dynamic system, and bidirectional socialization processes occur between subsystems

(e.g., parents, children, siblings) within a family (Yu & Gamble, 2008). I could not capture the entire system with these data, but I was able to examine bidirectional processes between the mother and the focal child. I hypothesized that not only would mothers' parenting behaviors longitudinally predict children's social competence, but mothers' parenting behaviors would also be predicted by children's earlier social competence. In other words, maternal parenting practices and children's social competence are expected to predict each other over time.

My third aim was to explore whether child sex moderated the associations between mothers' parenting practices and children's social competence. Because few articles have been published in the field (none of which were conducted in Mozambique) and the results of current research are mixed, these analyses are exploratory and no hypotheses were proposed.



## CHAPTER 2

### METHOD

#### **Participants and Procedure**

Data from the Mozambique site for the FAMELO project were collected in Gaza Province located in southern Mozambique, which borders South Africa. The FAMELO project followed the logic of a diverse case selection approach in which cases were selected to maximize variability and provide evidence for future theory building (Axte et al., 2022).

The sampling region was Chibuto District in the Gaza Province. Clusters to sample were identified in Chibuto District by the data collection staff, Centro de Pesquisa em População e Saúde (CEPSA), and local authorities. Areas were selected proportionate to size using 2007 census estimates, and were stratified by urbanicity. Twenty-one (of 106) urban, and twenty-nine (of 275) rural enumeration units were selected to be sampled.

In the selected enumeration units, households were enumerated to identify eligible households. Families with at least one child aged 5-17 were eligible if they lived with an adult relative who was primarily responsible for the child's care (children who were heads of households were not eligible). From eligible households, random households were selected for recruitment (i.e., 18 households in urban enumeration units, 22 households in rural enumeration units). In eligible households, either one or two children were randomly selected. The number of children per household was also randomly determined.

The adult caregiver reporter (Adult), first 5-17-year-old (Focal Child 1; FC1), and second 5-17-year-old (Focal Child 2; FC2; if applicable) were interviewed by trained

interviewers at the participants' homes. These were one-on-one-interviews that were conducted verbally, given varying literacy rates. The adult and focal child questionnaires were programmed into tablets. Interviewers read the items aloud. Participants' responses were recorded in the tablets. Note that data analyzed in this dissertation were primarily collected only for Focal Child 1.

The aim was to conduct interviews in 2,000 households (3,000 children and their caregivers). In Mozambique, the initial phase of interviews did not reach the goal due to some difficulties such as technical issues with tablet computers, unstable internet access, or absence of adults from the households; thus, two phases of interviews took place for W1. The first phase collected 1,925 Adult, 1,925 FC1, and 784 FC2 interviews in November-December 2017. In February 2018, data were collected from 107 Adult, 107 FC1, and 232 FC2 participants. To increase the sample size of 14- to 17-year old, the selection of children ages 14-17 in the household were prioritized for inclusion in the second phase of W1 interviews.

Surveys were conducted by trained local interviewers during the end of 2017 through the beginning of 2018 at W1 (including phase 1 and 2 described above), and during the end of 2019 through the beginning of 2020 at W2. The original sample included 2,220 Adults and 3,172 children (2,160 FC1, and 1,012 FC2). The analytic sample in the present study was limited to FC1 who were 7- to 12-years of age, and who had mothers as their primary caregivers at W1. Cases were included if they received at least one interview at either W1 or W2 (attrited cases were not omitted).

To identify the analytic sample, I first selected FC1 children who are 7- to 12-years of age ( $n = 1,112$ ). Then, I omitted those who did not have mothers' reporters. The

number of remaining cases were 760. Next, I omitted cases with conflicting child and adult names, which indicated the child may have been reporting on a different caregiver than the caregiver who provided the adult report on themselves and the child (e. g., the Adult's name given by the Adult and Focal Child1 at W1 and W2 did not match exactly or visually [name did not match and not just because of misspelling]). To be more specific, I first omitted conflicting names reported for FC1 across W1 and W2. It is expected that the same child names showed across the time points if they were FC1. In this step, there were 73 cases deleted and 687 remained. In addition, Adults with conflicting names were firstly omitted at W1 and W2 separately given that different adults may be purposely chosen at W2 ( $n = 669$ ). Note that adults who did not receive the interview at W2 were not excluded due to missing names and relationships. To ensure the data were accurate, I compared the data to adult names matched across W1 and W2 and found that the number of mothers was inconsistent between the two methods (i.e., omitting versus retaining mothers whose names matched versus did not across W1 and W2;  $n = 83$ ). Therefore, I explored this difference further and decided to keep those adults who had conflicting names across W1 and W2 but were reported to be the children's mothers and omit adults who reported other relationships to FC1 at W2 ( $n = 632$ ). From the remaining cases, two cases with unreasonable child age (i.e., child age differences reported at W1 and W2 were six and seven years) and 21 cases with unreasonable adult age (mother's age younger than 17-years old or older than 60-years old at W1 or W2) were excluded, the final sample consisted of 609 mothers and their 7- to 12-year old children, including 114 mothers who did not have interviews presented at W2.

A detailed description of demographic information is presented in Table 1 and Table 2. At W1, participating mothers were aged between 21 and 59 years, with an average age of 36.30 ( $SD = 7.13$ ) years. While two-third mothers were unmarried but cohabiting with a romantic partner in household, only 5.4% mothers were married (monogamous 3.9%, polygamous 1.5%). Mothers' highest levels of education ranged from early child education to bachelor's or equivalent level, but most [67.2%] reported primary education). Adults reported their household assets (see details in Measures section). Typical participating households had their own dwelling with cement blocks/bricks/masonry, sticks/mud, or reed/palm/branches/bamboo walls, a tin roof, and a concrete/cement/mud/dirt floor. The primary source of drinking water was public well/fountain or piped water. Half of them used a pit latrine, whereas one-fourth did not have toilets for households. Most families used wood as fuel for cooking. The focal children (FC1 only) had an average age of 8.96 years ( $SD = 1.68$ ). There were 302 (49.6%) girls. Most children (98.1%) were currently enrolled in school or were enrolled in the most recent school session if school was on break.

There were 495 Adults who received interviews at W2, and said they were FC1's mother. They were aged between 24 and 59 years, with an average age of 38.08 ( $SD = 7.00$ ) years. One-third of mothers were unmarried but cohabiting with a romantic partner in household, whereas four in ten mothers were married (monogamous 31.9%, polygamous 6.7%). Mothers' highest levels of education ranged from early child education to bachelor's or equivalent level, but most (65.3%) reported primary education, as their highest education level. Adults reported their household assets to be similar to W1. The focal children (FC1 only) had an age ranged between 8 and 15 years, with an

average age of 10.83 years ( $SD = 1.73$ ). There were 247 (49.9%) girls. Most children (94.7%) were currently enrolled in school or were in the most recent school session if school was on break.

## **Measures**

Social competence and parenting surveys used in this dissertation were developed as a part of the FAMELO project with the goal of developing age- and culture-appropriate measures. Pilot data on children's social competence were conducted in three steps. First, feedback was collected from local experts to make changes from an initial pool of items about socio-emotional competence. Second, four focus groups with parents and teachers in Mozambique were conducted to understand their ideas about social competence. Mozambique split male and female participants into groups to encourage more female participation in the discussions. Third, the revised social competence questionnaire was given to about sixty children and their primary caregivers. The primary investigator and one of her graduate students decided to omit, retain, or reword items based on the notes from the interview, cognitive lab interview results, or quantitative examination (e.g., descriptives). In addition, pilot data on adults' parenting practices were assessed through focus groups to determine the final set of child socialization items.

### ***Children's Social Competence***

Various aspects of children's Social Competence will be included in this study as dependent variables. Adults reported on a 34-item questionnaire about children's social, emotional, and value-related competence at both waves. To get a consistent and robust set of items/factors that work for the same age group at both waves, original data were divided into four age groups (i.e., 5-6, 7-9, 10-12, 13-17 years). Frequencies were

computed for each subsample separately. Items in any age group with highest/lowest scores showing higher than 80% of the sample with that same score (e.g., ceiling/floor effect) were omitted. Then, exploratory factor analyses (EFAs) by age group were conducted for the sample of FC1 at W1. Based on the EFA outcomes at W1, confirmatory factor analyses (CFAs) were conducted for the FC1 sample at W2.

The present study used the items retained for both age 7-9 and age 10-12 groups. Items from four factors were selected from the social competence scale: Social Harmony and Manners (six items, e.g., “Gets along with adults in your community”), Responsibility (three items, e.g., “Does the things s/he needs to do without adults reminding him/her”), Deference and Compliance (four items, e.g., “Asks for permission before doing things or going places”), and Familial Collectivism (three items, e.g., “Is willing to sacrifice things s/he wants for his/her family”). These four adult-reported subscales will be included to measure children’s social competence. Mothers rated each item for their child on a 5-point Likert-type scale of 1 = *Never* to 5 = *Always*. There were also options for mothers if they did not know the answers or did not want to answer the questions. Composites were formed by averaging items within subscale. Four subscales showed acceptable internal consistency at W1 ( $\alpha = .74$ ,  $\alpha = .81$ ,  $\alpha = .76$ ,  $\alpha = .77$ , respectively), but fair internal consistency at W2 ( $\alpha = .62$ ,  $\alpha = .73$ ,  $\alpha = .66$ ,  $\alpha = .65$ , respectively).

For the primary analyses, I formed latent variables with subscale composites given that they were moderately correlated to each other and all composites were associated with parenting practices in a non-conflicting way. Although the factor analyses were usually completed at the item level to determine the number and content of factors

(subscales), I analyzed the data using composites of items in the present study due to sample size versus model complexity. Composites for subscales were used as indicators of an overall latent variable indicating social competence.

### ***Mothers' Parenting Practices***

Adults reported on a 28-item questionnaire about various parenting behaviors, including support and guidance, structural strategies, modeling, discipline, positive reinforcement, communication, and monitoring. These parenting behaviors were categorized into three groups of items: positive parenting, harsh discipline, and control. Consistent with the procedure used for child social competence, EFA at W1 and CFA at W2 were conducted in each item category and each age group.

Based on the results, the present study included items from three factors of positive parenting and one factor from control (which reflects concepts of monitoring). Support and Guidance (seven items, e.g., "How often do you encourage or tell [child's name] to do things s/he is interested in?"), Modeling (three items, e.g., "How often do you try to model good behavior for [child's name] using your own behavior, for instance, use good manners or do other things you expect your child to do?"), Communication (three items, e.g., "How often do you talk about your thoughts and experiences with [child's name]?"), and Monitoring (six items, e.g., "How often does [child's name] tell you where he/she is going when he/she leaves the house?") were used to measure parenting practices. Mothers were asked to rate items on a 5-point Likert scale (1 = *Never* to 5 = *Always*). There were also options for mothers if they did not know the answers or did not want to answer the questions.

The composite of Engagement was formed by averaging items of the Support and

Guidance and the Communication subscale. Composites of Modeling and of Monitoring were formed by averaging items within subscales. Engagement, Modeling, and Monitoring subscales showed acceptable internal consistency at W1 ( $\alpha = .88$ ,  $\alpha = .93$ , and  $\alpha = .80$ , respectively) and mostly acceptable internal consistency at W2 ( $\alpha = .79$ ,  $\alpha = .70$ , and  $\alpha = .67$ , respectively).

***Mothers' Perceived Social Support.***

Mothers' perceived social support was self-reported by mothers at W1 and W2. The 9-item questionnaire assessed mothers' perceived social support from various sources, including their spouses, other family members, and communities. Respondents answered the following three questions regarding spouses: "How often does your spouse listen when you talk or express your feelings?," "How often does your spouse do things for you, for example, helping with housework or giving you money or other things you need?," and "How often does your spouse give you useful information to deal with questions, problems or everyday tasks?" Similar questions were asked regarding mothers' other family members and people in their communities. Responses ranged from 1 = *Never* to 5 = *Always*.

CFAs at the item level within W1 and W2 supported separate factors for each source of social support (i.e., spouse, family, and community). Spouse, Family, and Community composites were computed by averaging the three items assessing support from each source. A higher composite score represents a higher level of perceived social support. Good alphas for spouse support, family support, and community support were obtained at W1 (spouse  $\alpha = .87$ , family  $\alpha = .82$ , community  $\alpha = .86$ ) and W2 (spouse  $\alpha = .85$ , family  $\alpha = .76$ , community  $\alpha = .83$ ). I formed a latent variable at W1 and at W2 for



social support with these subscale composites used as three indicators. Factor analysis was done at the item level to determine the number and content of factors. However, in the present study, I used composites of items to analyze the data due to sample size versus model complexity. Composites for subscales were used as indicators of an overall latent variable indicating maternal social support.

***Covariates.***

In the present study, household migration status, mothers' education, household assets, total number of children in the home, child sex, child age, child school enrollment, and marital status were included as control variables. These variables were chosen as theory or existing studies suggest that these covariates are related to parenting or children's social adjustment.

**Fathers' Migration Status.** A larger goal of the FAMELO Project was investigating the role of familial migration in children's development. In the present study, fathers' current migration status was coded for the focal child's father if he had been living outside the household for at least six months and left for work-related reasons. This will be coded at both W1 and at W2 as (0 = *Not a currently migrating father*, 1 = *Currently migrating father*).

**Household Assets.** In the present study, SES was not measured per se, but a measure of household assets was administered as an indicator of long-term stable wealth, as well as a measure of food insecurity as an indicator of short-term deprivation. This measure is constructed based on the results of principal component analysis (PCA, Filmer & Pritchett, 2001). This asset index approach has been widely used in research in low- and middle-income countries (e.g., Alcaraz et al., 2022), and has been shown to represent

economic resources as effectively as other indicators such as income or expenditures (Vyas & Kumaranayake, 2006).

**Caring for Family Members Living Outside of Household.** In the study at W1, interviewers asked the question, “Are there any family members who don’t live in this household that you provide help to?” This variable was used to identify if a mother was taking care of family members who live outside of the household. The variable is coded as: 0 = *No* and 1= *Yes*.

**Household Dependency Ratio.** In the current study, the ratio was calculated as the number of children in the household over the number of adults in the household. The range of the dependency ratio was .25 to 8.

**Mothers’ Marital Status.** In Mozambique, mothers reported their marital status as *Unmarried/not cohabitating*, *Unmarried/cohabitating*, *Married/monogamous*, *Married/polygamous*, or *Separate/divorced/widowed*.

**Mothers’ Education.** Given that education systems vary across countries in terms of structure and curricular content and can be difficult to compare, I recoded Mozambican mothers’ education levels into the International Standard Classification of Education (ISCED, 2011), categorizing their highest education into *Early childhood education*, *Primary education*, *Lower secondary education*, *Upper secondary education*, and *Post-secondary education*.

**Child Sex.** In the study at W1, interviewers answered the question “are you talking to a boy or a girl” and this variable was used to identify child sex. The variable is coded as: 0 = *Boy* and 1= *Girl*.

**Child Age.** Child age was controlled in this study, measured by years and ranging

from 7- through 12-years old at W1 to adjust for age differences in children's social competence.

**Child School Enrollment.** Children who are not enrolled in school might have different social and peer-related experiences from children who are enrolled in school. A single question was asked adults regarding if their children were currently enrolled in school or were enrolled in the most recent school session if school was currently on a break. The answer is coded as 0 = *No* and 1 = *Yes*.

### **Analytic Plan**

Drawing from extant research, the primary goal of the study was to investigate the longitudinal relations between mothers' perceived social support, mothers' parenting behaviors, and children's social competence during middle childhood in Mozambique. First, attrition analyses were conducted. Then, descriptive statistics and correlations among study variables were computed. Finally, three hypotheses were examined using structural equation modeling (SEM).

## CHAPTER 3

### RESULTS

#### **Preliminary Analysis**

Primary analyses were preceded by attrition analyses and descriptive statistics. The strategy and results for each of these types of analyses are discussed.

#### *Attrition Analyses*

Participant attrition analyses were conducted to determine whether families who continued to participate in W2 of the study differed from families who dropped out. These groups were compared in terms of W1 study variables and measured demographic variables (e.g., household migration status, household assets, child sex). Chi-square tests were used to examine categorical variables, and t-tests were used to examine continuous variables.

Out of 609 participating households with FC1 children aged 7 to 12 years, 495 mother reporters had data at W1 and W2 (81.3%), and 114 mothers had data at W1 but not at W2 (18.7%).

In terms of demographic or control variables, I examined differences between attrited and non-attrited families in the fathers' migration status, household assets, adult/child dependency ratio, mothers' ages, mothers' education levels, mothers' marital status, mothers' caring for others outside the household, child sex, and child school enrollment (Table 3). The results of Chi-square test indicated the number of households with vs. without migrating fathers,  $\chi^2(1) = .87, p = .350$ , number of mothers who were vs. were not caring for others in a different household,  $\chi^2(1) = .22, p = .635$ , mothers' marital status,  $\chi^2(4) = 4.57, p = .335$ , mothers' education level,  $\chi^2(2) = 1.12, p = .571$ , child sex,

$\chi^2(1) = .10, p = .750$ , and whether the focal child was enrolled in school or not,  $\chi^2(1) = .51, p = .474$ , were not different between attrited and not attrited households. Note that monogamous and polygamous were combined for marital status and education level in secondary and above were combined to avoid cells with expected counts less than 5.

The results of independent *t*-tests indicated that families who dropped out at W2 and stayed in the study did not show significant differences in household assets score,  $t(607) = .60, p = .553$ , household dependency ratio,  $t(605) = .58, p = .561$ , and child age,  $t(607) = -1.03, p = .302$ . However, mothers who dropped out of the study at W2 are significantly younger,  $t(602) = -2.22, p = .027$ , than those who did not drop at W2.

With regard to study variables (i.e., parental social support, parenting practices, children's social competence), there were no significant differences between mothers with and without W2 data according to *t*-tests.

### ***Descriptive Analyses***

I examined outliers (i.e., values outside of  $\pm 3.29$  SDs from the mean) based on descriptive output. Both statistical and theoretical perspectives were considered to decide whether outliers should be omitted. All variables showed reasonable variance except six outliers for the dependency ratio variable. Five cases of were 3.5 SDs from the mean and one case was 5.29 SDs from the mean. I tested correlations between study variables and the dependency ratio with and without the outliers included. The result of having and not having the outlier did not seem to matter. Therefore, these outliers were retained in the study.

I also reviewed descriptive statistics for covariates and decided if they should be excluded based on insufficient variability. Father's migration status and child school

enrollment showed 85% and 98% of the sample with the same score, respectively. Furthermore, 96.4% of fathers didn't change their migration status across W1 and W2. Considering father's migration status has been suggested to directly and indirectly affect parenting and child outcomes in diverse developmental periods and cultural contexts (Daglar et al., 2011; Zhang et al., 2017), father's migration status at W1 was controlled in this study. Child school enrollment was not included as a covariate due to insufficient variability. Descriptive statistics and bivariate correlations of all study variables were computed in SPSS 27. Means, standard deviations, skewness, and kurtosis were computed to examine the distributions and normality of all study variables (Table 4).

Mean-level differences between boys and girls were examined for maternal parenting practices and children's social competence variables. Results of independent *t*-test indicated that mothers did not significantly differ in mean levels towards sons and daughters in engagement (W1:  $t(601) = -.41, p = .661$ , W2:  $t(553) = -.88, p = .378$ ) and modeling behaviors (W1:  $t(601) = -1.04, p = .298$ , W2:  $t(553) = -.13, p = .899$ ). However, mothers showed significantly higher scores in monitoring behaviors toward daughters than sons at W1,  $t(601) = -4.75, p < .001$ , and W2,  $t(553) = -3.21, p = .001$ .

Boys and girls did not show significant differences on their social harmony and manners (W1:  $t(601) = -.58, p = .564$ , W2:  $t(552) = -1.34, p = .181$ ) and familial collectivism (W1:  $t(526) = -.87, p = .383$ , W2:  $t(506) = -1.21, p = .227$ ), but girls showed significant higher scores in responsibility (W1:  $t(600) = -.44, p < .001$ , W2:  $t(552) = -4.96, p < .001$ ) and deference and compliance (W1:  $t(600) = -.44, p < .001$ , W2:  $t(552) = -3.83, p < .001$ ).

Zero-order correlations were estimated among all study variables at W1 and W2.

Table 5, Table 6, and Table 7 showed the bivariate correlations of all measured variables for boys and girls at W1 and W2, respectively. Most of the study variables at the same time point were significantly and positively correlated, regardless of whether they were computed for all focal children, boys, or girls. Variables across W1 and W2 were significantly correlated for all cases. When looking at child sex separately, most of the variables at W1 and W2 were significantly correlated for boys, but only a few for girls.

### **Hypothesis Testing**

All analyses for three research hypotheses were estimated in *Mplus* version 8.3 (Muthén & Muthén, 1998–2017). Missing data were handled with a full information maximum likelihood (FIML) estimator. FIML is the most pragmatic missing data estimation approach for structural equation modeling (SEM), and it produces unbiased parameter estimates and standard errors under the missing at random (MAR) and the missing completely at random (MCAR) missing data mechanisms (Enders & Bandalos, 2001).

To test model fit, I used the following indices to assess the global fit: maximum-likelihood chi-square statistic ( $\chi^2$ ; although final decisions did not consider significance of the statistic, given it was likely be sensitive to small deviations from perfect fit with this large sample size; Little, 2013, p. 115), the comparative fit index (CFI; Bentler, 1990), the root mean square error of approximation (RMSEA; Browne & Cudeck, 1993), and the standardized root mean square residual (SRMR). The CFI is an incremental fit index that estimates the relative improvement in the fit of the research model over a baseline model, with values greater than .90 and preferably greater than .95. Because I estimated longitudinal models and the CFI in the output utilizes an inappropriate null

model, I estimated null models that were appropriate for longitudinal (and, when applicable, multiple-group) models for each final model and hand computed the CFI to verify it was acceptable (Little, 2013). The RMSEA is an absolute index of fit, with values under .05 indicating close fit and .05 to .08 representing fair fit to the data. The SRMR reflects the mean absolute correlation residual, with values equal to or less than .08 indicating acceptable fit. In addition, I used local fit indices such as modification indices and residuals to facilitate model fit assessments when they were available.

In order to determine the appropriate measurement models, I examined the correlations between subscale composites determined by factor analyses. Latent factors of parental social support and children's social competence were formed with the subscale composites as indicators given that subscales within social support and social competence were at least moderately correlated. Then indicators were tested for measurement invariance (e.g., factor loadings) over time and across sex of the child before examining the structural models. However, parenting subscales did not form a latent variable. Instead, they were analyzed individually in the models given that engaged parenting, modeling, and monitoring did not measure the same construct.

***Hypothesis 1: Mothers' perceived social support positively predicts parental engagement, parental modeling, and parental monitoring, and these parenting practices positively predict children's social competence.***

It was hypothesized that maternal parenting practices would at least partially mediate the relations between mothers' perceived social support and children's social competence. To test this model, a half-longitudinal design for mediation was used, as suggested by Maxwell and Cole (2007) when only two waves of data are available.



Cross-sectional studies provide biased and potentially misleading estimates of mediational processes (Cole & Maxwell, 2003). To avoid such biases, fully longitudinal designs (i.e., time elapsed between the measurement of X [the presumed causal variable] and M [the presumed mediator] and between M and Y [the presumed dependent variable] and prior levels of variables are controlled) are needed to test for mediation effects. The product of lagged *a* path (i.e., regress M2 on X1) and lagged *b* path (regress Y3 on M2) indicates the indirect effect.

With only two waves of data, however, a fully longitudinal model is not possible. With two waves of data, the half-longitudinal design is suggested to estimate the path *a* in the regression of M2 onto X1 controlling for M1, and estimate the *b* path in the regression of Y2 onto M1 controlling for Y1. Then, the product of these two regression coefficients (i.e.,  $a*b$ ) can be viewed as an estimate of the indirect effect of X on Y through M. However, the half-longitudinal model assumes stationarity (for instance, the size of the *b* path found at W1 to W2 would be the same from W2 to W3, if W3 were collected), and this assumption cannot be tested.

Non-normal distributions result from the product term,  $a*b$ , which is used as the estimate of the indirect effect; this results in *p*-values that are not accurate. Thus, bias-corrected bootstrapped 95% confidence intervals were used to test the significance of the indirect effect (MacKinnon et al., 2004). Maternal engagement, modeling, and monitoring composites were examined as maternal parenting practices (See Figure 1 for the mediation model).

The measurement models were identified with the conventional marker variable approach<sup>1</sup>, where the factor loading of the first indicator of a latent variable is fixed to 1 and its intercept is fixed at zero (Little, 2013). First, the proper null model over time was computed in order to compute the CFI. The means and variances mothers' social support variables and children's social competence variables were constrained to be equal across W1 and W2. Variables were not allowed to covary. Then, a configural invariance model was tested by estimating the W1 and W2 measurement models in the same model and allowing the residuals of the same items to covary across time. The configural model demonstrated an acceptable fit to the data:  $\chi^2(64) = 225.32, p < .001$ ; RMSEA = .06; CFI = .92; and SRMR = .05. Afterward, a weak factorial invariance (i.e., invariance of the loadings) model was conducted in which all factor loadings were constrained to be equal across time. The full weak factorial invariance model fit the data fairly, with  $\chi^2(69) = 252.33, p < .001$ ; RMSEA = .07; CFI = .91; and SRMR = .06; and the fit was not different from the configural model ( $\Delta\text{CFI} = .01$ ). The results suggested that loadings invariant across time but the test was borderline.

Next, the hypothesized structural model was estimated (see Figure 2). The proper null for this model was firstly computed in order to obtain the correct CFI. In addition to the means and variances of mothers' social support variables and children's social

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<sup>1</sup> To avoid the potential arbitrariness of the marker variable method, measurement invariance was also tested by the effects coding method of scaling as it is only scale setting constraint that is nonarbitrary and provides a real scale (Little, 2013; Little, Slegers, & Card, 2006). The results based on the effects coding method fit the data well and suggested that measurement invariance existed. However, it disallows modification indices; thus, the traditional method of identification was utilized.

competence variables which were tested in the measurement model, the means and variances of observed parenting variables and covariates were also included in this null model. Social support, parenting practices, and social competence variables were constrained to be equal across W1 and W2. All variables were not allowed to covary.

Results indicated that the hypothesized model had fair fit according to most indices, with a slightly low CFI,  $\chi^2(273) = 933.15, p < .001$ , RMSEA = .06, CFI = .89, and SRMR = .05. However, no further model adjustment was done given the modification indices suggested estimates that did not make theoretical sense (e.g., covariance between two indicators within the social competence latent factor).

The model results (see Table 8) showed that mothers' perceived social support at W1 was not associated with their engagement ( $b = .21, p = .08$ ), modeling ( $b = .19, p = .110$ ), or monitoring behaviors ( $b = .04, p = .708$ ) at W2 controlling for the stability of parenting practices and for all control variables. Mothers' perceived social support at W1 was significantly associated with children's social competence at W2 ( $b = .15, p = .018$ ), indicating that mothers' reported higher children's social competence when they perceived more social support. Results also showed that mothers' modeling and monitoring behaviors at W1 were not associated with children's social competence at W2 ( $b = -.00, p = .944; b = -.06, p = .134$ , respectively) after controlling for children's previous social competence level and all covariates. Mothers' engagement behaviors at W1 was associated with children's social competence at W2 but in a negative way ( $b = -.06, p = .018$ ), meaning that mothers reported lower social competence in children when they provided more parental support and engagement.

Mediation test showed that there was no indirect effect of maternal engagement,

modeling, or monitoring on the relations between mothers' social support and children' social competence ( $b = -.01$ , CI[-0.04, 0.00];  $b = -.00$ , CI[-0.01, 0.01];  $b = -.00$ , CI[-0.03, 0.01], respectively).

Results of auto-regressive predictions of mothers' social support, maternal parenting practices, and children' social competence indicated that mothers' social support ( $b = .21$ ,  $p = .002$ ), modeling behaviors ( $b = .05$ ,  $p = .042$ ), and children's social competence ( $b = .25$ ,  $p = .073$ ) were somewhat stable in their rank order across time. However, mothers' engagement and monitoring at W1 did not significantly predict their engagement ( $b = .01$ ,  $p = .785$ ) and monitoring ( $b = .05$ ,  $p = .135$ ) at W2.

There were some significant predictions from the control variables to mothers' social support, maternal parenting practices, and children' social competence at W2. Child sex ( $b = .10$ ,  $p = .002$ ), child age ( $b = .05$ ,  $p < .001$ ), and whether mothers care other family members outside of home ( $b = .10$ ,  $p = .003$ ) significantly predicted children's social competence. Specifically, girls, older children, and children whose mothers were caring family members outside of home were more likely to be socially competent than boys, younger children, and children whose mother were not caring family members outside of home. In terms of parenting practices, child age and whether mothers care other family members outside of home positively predicted parental engagement ( $b = .06$ ,  $p = .001$ ;  $b = .18$ ,  $p = .002$ , respectively) and modeling ( $b = .14$ ,  $p = .002$ ;  $b = .13$ ,  $p = .003$ , respectively). Specifically, mothers tended to show more engaged and supportive parenting behaviors when their children were older and they had other family members outside of home need to care. Child sex ( $b = .19$ ,  $p = .004$ ) and child age ( $b = .05$ ,  $p = .010$ ) positively predicted parental monitoring. Specifically, girls

and older children were more likely to have mothers who exhibited more parental monitoring than boys and younger children.

***Hypothesis 2: Maternal parenting practices and children's social competence are expected to predict each other over time.***

It was hypothesized that longitudinal and reciprocal relations between parenting practices and children's social competence exist. To test these relations, the original models (Figure 3) were modified to include paths from earlier social competence to later parenting. That is, the cross-lagged paths from earlier children's social competence to parenting practices (i.e., M2 to Y1) were added to the previous model (see Figure 2 for the bidirectional model). Then, I compared this model to the model estimated for Hypothesis 1 using difference in CFIs. If adding the paths from earlier social competence to later parenting did not improve the CFI more than .002 (Little, 2013, p.154; Meade et al., 2008), the paths were not retained. It is important to notice that the prediction of earlier social competence to later social support and prediction of earlier parenting practices to later social support was not hypothesized. Although there is possibility that people provide support based on the way mothers raise their children or their children's behaviors, social support is usually determined by individual's characteristics (e.g., social network, Hall & Wellman, 1985; self-esteem, Kinnunen et al., 2008; personality, Belsky, 1984).

The measurement model was the same as the model in Hypothesis 1. The measurement invariance constraints were applied to this model as well. Next, the hypothesized structural model was estimated (see Figure 4). Results indicated that the hypothesized model fit the data well,  $\chi^2(270) = 909.55, p < .001$ , RMSEA = .06, CFI

= .90, and SRMR = .06. To compare the CFI values between the previous model (the model in Hypothesis 1) and this model, the CFI improved more than .002 ( $\Delta\text{CFI} = .003$ ). That is, the cross-lagged paths indicated that the reciprocal prediction between maternal parenting behaviors and children's social competence across times was supported.

In addition to the significant findings from the first one model, the results of the bidirectional model (see Table 9) showed that children's social competence longitudinally predicted maternal modeling behaviors ( $b = -.28, p = .008$ ) and monitoring behaviors ( $b = .52, p = .001$ ). It indicated that mothers tended to show fewer modeling behaviors and more monitoring behaviors when they reported higher social competence in children at the earlier timepoint. Moreover, mother's perceived social support at W1 positively predicted maternal modeling behaviors at W2 ( $b = .26, p = .040$ ), meaning that mothers who perceived more social supported tended to show more modeling behaviors later. For the auto-regressive paths, maternal monitoring behaviors and children's social competence became significant in this model. However, while social competence showed stability over time ( $b = .35, p = .021$ ), maternal monitoring was negatively related between W1 and W2 ( $b = -.12, p = .040$ ).

***Hypothesis 3: Child sex moderates the associations between mothers' parenting practices and children's social competence.***

It was hypothesized that the pattern of associations between mothers' parenting practices and children's social competence varies for boys and girls.

To compute the correct CFI for the measurement models, the proper null model was first tested over time and across child sex. The means and variances of indicators of mothers' social support and children's social competence were constrained to be equal at

W1 and W2 and for boys and girls. Variables were not allowed to covary.

Next, measurement invariance of loadings was tested across time and between sexes to ensure the indicators were tied to latent constructs in a similar manner for boys and girls. To test this, a model with loadings constrained equal across W1 and W2 and for boys and girls was compared to a model with loadings freely estimated for boys and girls. Change in fit after constraining the loadings was examined using the CFI. If the change in CFI was .01 or less, the assumption of invariance holds, and the loadings are able to be constrained equal across W1 and W2 and for boys and girls.

The configural invariance model was then tested by freely estimated loadings for boys and girls and across time allowing the residuals for the same items to covary across time and child sex. The configural model demonstrated an acceptable fit to the data:  $\chi^2(128) = 294.44, p < .001$ ; RMSEA = .07; CFI = .92; and SRMR = .06. Afterwards, a loading invariant model was performed, where all factor loadings were constrained to be equal across time and child sex. The full weak factorial invariance model fit the data fairly, with  $\chi^2(143) = 330.36, p < .001$ ; RMSEA = .07; CFI = .91; and SRMR = .06; and the fit was not different from the configural model ( $\Delta\text{CFI} = .01$ ). The results suggested that loadings invariance was held across time and child sex but the test was borderline.

Next, to assess the hypothesis, I used the model tested in Hypothesis 2 but re-estimated it as a multiple-group model using child sex as the grouping variable (Baron & Kenny 1986). The results were shown on Figure 5.

The proper null for this model was firstly computed in order to calculate the correct CFI. The means and variances of mothers' social support variables, children's social competence variables, observed parenting variables, and covariates were included

in this null model. Social support, parenting practices, and social competence variables were constrained to be equal over time and across child sex. All variables were not allowed to covary.

I examined a fully constrained model in which regression estimates from study variables and covariates at W1 to all variables at W2 were constrained to be equal across groups. This fully constrained model fit the data well,  $\chi^2(606) = 1241.89, p < .001$ , RMSEA = .06, CFI = .90, and SRMR = .07. Then, an unconstrained model was estimated in which regression coefficients from parenting practices at W1 to social competence at W2 and from social competence at W1 to parenting practices at W2 (i.e., M1 to Y2, M2 to Y1) were freely estimated for girls and boys. Afterward, the moderation effect was tested by taking the difference in the two CFI values. Given that the CFI value did not change between the fully constrained model and the unconstrained model ( $\Delta\text{CFI} = .00$ ), the pattern of associations was not considered to be different for boys and girls. Because no omnibus differences between boys and girls were found, I did not examine specific path(s) between parenting practices and children's social competence.



## CHAPTER 4

### DISCUSSION

There is growing evidence in recent decades suggesting a salient role of parenting practices in children's social competence (e.g., Khaleque, 2013) and that having supportive relationships may help parents successfully raise their children (e.g., Izzo et al., 2008). However, longitudinal and reciprocal associations among mothers' social support, mothers' parenting, and children's social outcomes in non-Western European countries rarely have been investigated. Using data that tracked children and adolescents from 7- to-12-years old from the FAMELO project at two time points (2 years apart), this study was the first attempt to investigate the longitudinal and reciprocal relations among mothers' social support, parenting practices, and children's social competence in Mozambican families. I firstly hypothesized that mothers' earlier perceived social support would positively predict their later engaged parenting, parental modeling, and parental monitoring, and that these parenting practices would positively predict children's later social competence. I also hypothesized that children's social competence would predict later maternal parenting practices. I lastly hypothesized that child sex would moderate the associations between mothers' parenting practices and children's social competence.

Results indicated that there was no indirect effect of parenting practices on the relations between social support and children's social competence. In addition, both a "parent effect" and a "child effect" were found, although some of the relations were not in the expected direction. Moreover, participants' individual and familial factors (e.g., child sex, child age, caring family members outside of households) were associated with

maternal parenting practices and/or children's social competence. Sex did not moderate associations between parenting practices and children's social competence. Below, I summarized and discussed the main findings based on three hypotheses.

**The Prediction from Maternal Social Support to Parenting Practices and The Prediction from Mothers' Parenting Practices to Children's Social Competence: Evidence for an Indirect Effect?**

The first aim of the present study was to determine whether there is an indirect effect of mothers' perceived social support to maternal parenting practices to children's social competence. Results of the half-longitudinal mediation model did not support the hypothesis. That is, the predictions of mothers' earlier social support to children's later social competence were not mediated by maternal engagement, modeling, or monitoring behaviors. These findings were inconsistent with the prior literature focusing on Mexico and Dominican immigrant families, which demonstrated positive associations between parental social support and parenting practices, as well as the mediating role of parenting practices on the relations between parental social support and children's social outcomes from early childhood to adolescence (Izzo et al., 2008; Serrano-Villar et al., 2017; Taylor et al., 2015).

In the present study, mothers' perceived support from spouses, family members, and communities did not significantly predict the degree in which they engage with and monitor their children two years later after controlling for stability based on the final model (which included parent and child effects between parenting and children's social competence; see Figure 4). This study differed from previous studies in ways that may have led to obtaining different results. For example, previous studies focused on either

Mexican or Dominican families. Although they may have some dissimilar cultures and lifestyles from the majority in the United States, they still differ from cultures found in sub-Saharan Africa, such as in Mozambican families. Also, none of the previous studies focused on children in middle childhood. They either studied young children (e.g., Serrano-Villar et al., 2017) or across different developmental periods (e.g., age 3 to 9, Izzo et al., 2008), which may result in inconsistent outcomes.

Social support, parental engagement, modeling, and monitoring behaviors were associated within time. However, social support only predicted parental modeling across time after controlling for previous parenting practices and covariates. There are a few potential explanations for not obtaining significant prediction of engagement or monitoring from social support over time. One reason could be that the support mothers received did not directly promote change in their parenting behaviors across two years. Mothers in Mozambique are expected to generate income and have double burden as mothers and workers (Evans et al., 2008). While they spend a lot of time and energy on work and house chores, female family members (e.g., grandmothers, older sisters) often assist in childcare (Leonard et al., 2022), their life stress may not necessarily come from childcare. It is possible that social supports did not directly improve mothers' ability to invest time and efforts to guide and encourage children, show love and warmth to children, and monitor their children's daily life. In contrast, parental modeling did not necessarily require substantial investment in mothers' efforts with their children. Instead, mothers can model good behaviors for children by acting in their own ways (e.g., using good manners to others). That is, members of the mothers' support networks may serve as positive role models to remind mothers to act in good ways or make mothers more

capable to be aware of their own good behaviors due to less stress in life (Oraverce et al., 2008).

Another possible reason for lack of across time prediction from social support to mothers' engagement and monitoring is that current measures did not provide a concrete picture of what support and the extent to which mothers received support. For example, if mothers perceived that the support provided by family and friends was related to finances rather than childcare information, or that things relatives and neighbors provided involved directly caring for their children, then it may not increase mothers' availability to interact with their children, which in turn, is unlikely to enhance their engagement and monitoring behaviors.

In addition, it is worth noticing that in the zero-order correlations spousal support was not related to parenting practices over time, but family and community support were positively associated to two of the three parenting composites (engagement and modeling). Perhaps the indices of mothers' social support went together in the model as a factor, but were not related in the same manner to parenting over time. This may have dampened the relation between social support and maternal engagement.

In addition to some of the hypothesized "a paths" from social support to later mothers' parenting (engaging and monitoring) not being significant over time, some of the "b paths" from mothers' parenting to later children's social competence were either not significant (i.e., modeling to social competence) or were not as hypothesized (i.e., engagement and monitoring to social competence were negative in direction). This also contributed a lack of indirect effects. These paths were discussed in the next section.

Although no indirect effect was detected between social support and children's

social competence through parenting, the direct effect was significant from mothers' social support to children's later social competence controlling for children's earlier social competence, parenting, and covariates. This supports Nath (1991)'s conclusion that social support has a considerable direct impact on child development, especially the direct link between the social support of young parents and child development due to significant others in social networks (e.g., adult family members) being more involved in childcare. Mothers who perceived more support from their spouses, family members, and communities had children who demonstrated greater social competence than mothers who perceived less social support. Members of the mothers' support networks may serve as positive role models, enhance the family's sense of security and stability, and provide opportunities for children to develop social skills (Oraverce et al., 2008). In addition, these members may assist mothers in childcare, allowing children to have more opportunities to interact with other adults and children to facilitate children's social competence. Consistent with this line of findings, Oraverce et al. (2008) examined the role of community violence exposure, interpartner conflict, positive parenting, and informal social support in predicting the social skills and behavior problems of low-income African American preschoolers. The result showed that greater parents' informal social support predicted higher levels of children's social skills (self-control, cooperation, assertion, and responsibility), whereas mothers' responsiveness and control failed to predict children's assertion and responsibility.

Another reason social support may relate to social competence could be related to genetic factors of social support. One longitudinal twin study of social support indicated that the heritability of the stable component of all six factors of social support measured

in the study ranged from 43% to 75%, whereas environmental factors contributed to twin resemblance only for relative problems and relative support (Kendler, 1997). That is, genes may play an important role in the degree to which an individual receives social support, and these genes may be associated with social competence (Way & Taylor, 2011). It is not difficult to understand that socially competent people are more likely to obtain social support. These people are usually polite, responsible, willing to help others, and emotionally regular. Because they are easy to get along with and know how to deal with interpersonal conflicts, others are more willing to support them and provide them with assistance. Conversely, people who have difficulties in social interaction or are shy tend to isolate themselves and are less likely to receive social support. Certain genes have been suggested to be potentially associated with empathy, altruistic behavior, and social sensitivity, which may contribute to the social support process (Way & Taylor, 2011). Because genes are inherited, it may not be surprising that mothers with more social support tend to have children with better social competence.

### **The Prediction between Maternal Parenting Practices and Children's Social Competence: Evidence for "Parent Effects" and "Child Effects"?**

The second aim of the present study was to determine whether maternal parenting practices and children's social competence predicted each other over time. Results of the final (bidirectional) model supported this hypothesis (see Figure 4). That is, not only did mothers' parenting behaviors predict children's later social competence, but children's social competence predicted also mothers' later parenting behaviors. This is consistent with Bronfenbrenner's perspectives and the transactional models of parent-child relationships as well as previous empirical studies. Results suggest that not only do

children react to their parents' behavior, but parents also react to their children's behaviors.

The findings from the present study supported "parent effects" for parenting practices predicting children's later social competence; however, they were inconsistent with hypotheses. Mothers who were *lower* in engaged parenting (e.g., give the child a smile, hug, or kiss; talk about your thoughts and experiences with your child; give your child advice and guidance) had children with increased social competence two years later. This is unexpected, not in line with the within-time associations, and is inconsistent with previous studies. However, the negative prediction between mothers' parental engagement and children's social competence may be understandable when considering African cultures and controlling for previous social competence, other parenting behaviors, and covariates. Due to the out-migration of fathers, many women in Africa are forced to bear the responsibility of managing a household and raising their children without spousal help. However, these women are also expected to work outside the home (Evans et al., 2008). The absence of a father can have economic and social impacts on the lives of these mothers, making it difficult for mothers to balance work and family life (Mkhize & Msomi, 2016). As a result, other family members (e.g., children's grandmothers, older sisters) and the community may take over responsibility for childcare.

An old African proverb saying that "it takes a whole village to raise a child" may explain this idea. Unlike mother-centered childcare in Western countries, most societies in African cultures do not expect mothers or parents to raise their children alone. Mothers and their young children are usually entangled in larger kinship groups and communities

that help with childcare and other tasks (Seymour, 2013). In the traditional African context, a parent could be anybody who performed the role of parents-anybody who had taken over that responsibility to ensure that societal values and culture were respected, upheld, and enforced (Evans et al., 2008). Childcare from multiple caregivers was not only the norm but also the culturally valued expectation in these countries (Seymour, 2013). Caring for children, most commonly by extended family or kinship caregivers is widespread acceptable practice (Leonard et al., 2022). Although speculative, when a mother is less engaged in the parenting and caring of the child, the child may experience being taken care of by people with different roles during the two years of growing up and gain more opportunities for more diversified social interactions, and in turn, this facilitates growth in their social competence.

In line with this perspective, a longitudinal study examining the relationship between family caregiver influences and children's social competence found differences in such areas as children's communication, responsibility, engagement, and cooperation (Chau & Yuen, 2019). That is, children with grandparents as primary caregivers (versus parents and domestic helpers/maids) tended to use other people's property more carefully, were more able to join in group games, and were more likely to follow rules while playing games with others.

In addition, results indicated that mothers' who reported more monitoring of their children (e.g., usually talk with child about what he/she actually did during the day) had children who were less socially competent 2 years later. Previous findings regarding the relations between parental monitoring and children's social competence have been mixed. Although some studies suggested parental monitoring was either positively related or was



not significantly related to child social outcomes (e.g., Nigige et al., 2020; Taylor et al., 2015), other studies indicated that higher parental monitoring of child's whereabouts, activities, and friends was negatively related with children's social competence (e.g., Brajsa-Zganec et al, 2019). It may be due to high parental control and pressure undermining children's intrinsic motivation, sense of personal value, and responsibility (Areepattamannil, 2010), thus adversely affecting children's social competence. It is worth mentioning that parental monitoring and children's social competence were positively correlated within time, meaning that mothers who showed more parental monitoring behaviors had children who showed better scores in social competence concurrently. However, such relation from parental monitoring to social competence was negative across time while controlling for previous social competence, other predictors, and covariates. Perhaps the strong associations between maternal monitoring and children's social competence within Time 1 (see Table 10) contributed to instability in prediction (multicollinearity issues). In zero-order correlations Time 1 monitoring was positively correlated with 2 of the 4 indicators of Time 2 social competence.

It is worth paying attention to the correlations of the exogenous (Table 10) and the correlations of the endogenous variables (Table 11). Within time, the correlations at Wave 1 were positive, which was in line with the hypotheses in the current study. In addition, the within-time correlations of residuals at Wave 2 were also positive. The Wave 2 correlations illustrate that there were relations among the constructs even after controlling stability from Wave 1 to Wave 2, as well as controlling for prediction from the covariates and Wave 1 predictors. However, the cross-time predictions often were not consistent with the expectations, within-time correlations or residual correlations in the

SEM model, or the zero-order correlations. The zero-order correlations across time sometimes were positive and significant but were not very large in size.

One possible reason for the inconsistency of cross-time prediction versus the concurrent relations is multicollinearity. Multicollinearity is a statistical phenomenon in which two or more predictors in a multiple regression model are highly correlated. Due to the increased standard error of the coefficients, the coefficient estimates of the multiple regression may change erratically in response to small changes in the model or the data, which contributes to the instability of the predictions (Daoud, 2017). Although I offered potential reasons for cross-time prediction being inconsistent with hypotheses, it is likely negative relations that were obtained were due to multicollinearity.

The findings from the present study supported “child effects.” Children’s social competence at an earlier time predicted mothers’ later modeling and monitoring behaviors. Although modeling and social competence were positively correlated within time, results showed that when children were socially competent, their mothers were less likely to model good behaviors for their children or to talk about good behaviors of other people two years later, after controlling previous social support, modeling behaviors, and covariates. It is not difficult to understand that maternal modeling behaviors and children’s social competence had a positive association without controlling any variables. Modeling refers to parents acting in their own particular ways to raise child. Individuals’ styles or patterns of behaviors have been linked to genes and temperament (Fox et al., 2008). Such shared genes between mother and child may affect children’s social competence (Laible, 2004). That may also be the reason of the moderate stability of mothers’ modeling behaviors. However, while controlling other significant predictors

such as social support and child age, children's social competence negatively predicted mothers' later modeling behaviors. It is reasonable that socially competent children are usually polite, kind, respectful to adults, and get along with others so that their mothers do not need to exhibit such good behaviors that their children already did. In contrast, mothers may feel that they need to model more with their children who do not show good manners, social skills, and peer relationships. That said, multicollinearity issues due to the correlation between Time 1 social competence and modeling may have contributed to this finding (see Table 10).

Further, results showed that mothers were more likely to monitor their children's schedule and daily activities when their children were socially competent. This finding is consistent with the within-time relations. One possible reason is that socially competent children usually have better peer relationships and are more accepted by others so that they have more opportunities to hang out with friends than children who are not socially competent (Ladd, 1999). Therefore, their mothers need to know their plans for the coming day, what time they will be home, and if they will be done with their study or house chores.

### ***Relations between Covariates and Parenting Practices and Children's Social Competence***

With regard to covariates, child sex, child age, and whether mothers were caring for family member outside of home were found to be significantly related to certain parenting behaviors and children's social competence. After controlling for prediction from other substantive predictors, other control variables, and stability of parenting or social competence [which was typically modest]), mothers' and children's individual

characteristics had additional prediction to mothers' parenting behaviors and children's social competence. Specifically, results showed that mothers monitored daughters more than sons. This finding is not surprising. Violence is prevalent in primary schools in many African countries and is almost always gendered. There are many examples of boys being the perpetrators of school violence, while most victims of violence are girls (Bhana et al., 2015). Parental monitoring serves as a protective shield against becoming a victim of violence and rape (Petersen et al., 2005).

As expected, girls showed better social competence than boys, which was consistent with many studies (e.g., Brody et al., 2000; Dunsmore et al., 2008; Murphy and Eisenberg, 2002). In middle childhood, social understanding has been suggested to benefit girls with robust gender differences (Spruijt et al., 2019). Girls tend to develop social information processing skills more rapidly, allowing them to interpret and learn social interactions earlier than boys (Bennett et al., 2005). Similarly, Hajovsky and colleagues (2021) examined gender differences in children's social skill development trajectories and found that girls scored slightly higher in social skills from kindergarten to sixth grade, while boys' social skills generally exhibited greater variability over time.

Additionally, older children were reported to have better social competence, more maternal engagement, and more maternal modeling behaviors. The relation between child age and social competence is consistent with earlier evidence (e.g., Vahedi et al., 2012). Older children tend to interpret information in social situations more accurately and generate appropriate and valid responses more frequently than younger children, which results in more social competence and acceptance (Mayeux & Cillessen, 2003). Further, older children tend to have better emotion regulation, show more prosocial behaviors, and

are expected to be like adults, so that mothers may be more committed to guide and communicate with their children as well as become role models for their children (Sanchis-Sanchis et al., 2020; Yavuz et al., 2022).

Children whose mothers were caring for family members outside of home were also reported to have better social competence, more parental engagement, and more parental modeling behaviors from their mothers. The possible reason for the positive relation between mothers' caring for family members outside of home and social competence could be similar to the negative association between maternal engagement and children's social competence. When a mother does not have much time to raise the child because she takes care of other family members, the child may have more social interaction experience because of being cared for by different adults. It is also possible that socially competent mothers are more cognizant of their role caring for others, and invest more in caring for their children and others outside the home.

### **Similarities and Differences in Child Sex: What Do They Tell Us About Maternal Parenting Practices and Children's Social Competence?**

The third aim of the present study was to explore whether child sex moderated the associations between parenting practices and children's social competence. Results of the moderation model did not support this hypothesis. That is, the pattern of associations between mothers' parenting practices and children's social competence fit equally well when estimates were constrained to be equal for boys and girls. As was discussed previously, Mozambican mothers monitored daughters more than sons. In addition, daughters had higher social competence than sons. However, the relation between monitoring and social competence (and the other parenting variables and social

competence) did not differ for boys and girls. This finding did not support the differential susceptibility hypothesis (based on child sex) but provide partial evidence for the differential socialization model as an explanation for parental influence on sex differences in social competence for this sample of 7- to 12-year-olds in Mozambique.

The differential socialization model emphasizes that sex differences in social competence may be explained by parents using different parenting strategies toward sons and daughters (Spruijt et al., 2019). Gender-differentiated socialization has been suggested to only be true for some aspects of parenting in relation to social competence. For example, Endendijk and his colleagues (2016) conducted a meta-analysis to examine mechanisms leading to differential parenting of boys and girls. They found that only parental control, but not autonomy-supportive, strategies were different with boys and girls that have been associated with social competence, which is consistent with current findings that there was no gender-differentiated engaged or modeling behaviors in mothers for sons and daughters. However, despite observing mean-level differences in maternal monitoring and children's social competence for boys and girls in the present study, the relation between monitoring and social competence did not differ by child sex.

### **Strengths, Limitations, and Future Directions**

The study contributes novel information regarding the longitudinal and reciprocal associations among mothers' social support, maternal parenting practices, and 7- to 12-year-old children's social competence in Mozambique. Although parenting practices have been commonly studied as important contributors to children's social outcomes, researchers have rarely investigated how mothers' social support predicted their parenting behaviors, which in turn, predicted children's social competence in middle childhood,

especially in sub-Saharan African regions. The following are several strengths of this study.

First, this study provided one of the first comprehensive and systematic investigations of the associations among mothers' perceived social support, parenting practices, and children's social competence. Although the findings were not consistent with earlier evidence that parenting practices mediated the relations between mothers' social support and children's social competence, our findings demonstrated the prediction of earlier social support to children's later social competence controlling for covariates and stability of social competence. This direct relation between mothers' social support and children's social competence may require further exploration, such as what kind of support Mozambican mothers perceived, how these supports affect children's behaviors, and what role the support provided by different resources (e.g., spouses, families, neighbors) plays in children's social competence. Further understanding of mothers' perceived social support predicted later higher maternal modeling may also be needed. For example, what support perceived by mothers from their spouses, families, and/or communities may increase maternal modeling behaviors and whether support from spouses plays a different role than support from other sources in parental modeling across time.

Second, by examining the reciprocal relations between maternal parenting behaviors and children's social competence, this study suggested that parenting behaviors and children's social competence predicted each other over time. Although causality cannot be inferred, the results may mean that children not only passively accept parental behaviors, but children also play an active role in reinforcing or diminishing certain

parenting practices (Kuczynski, 2003). Although some findings were not consistent with previous results from American studies, findings did point toward the reciprocal nature of parenting and child behaviors, in this collectivistic culture. Future research needs to further explore *what* combination of parenting behaviors may improve children's social competence, and *how* these combinations of parenting behaviors may improve children's social competence in this context. For example, literature has demonstrated the positive associations between authoritative parenting, consisting of high warmth and control, and child social outcomes across many ages and cultures (e.g., Baumrind, 1978; Jabaghourian et al., 2014; Ren et al., 2015). When mothers monitor their children and provide appropriate warmth and responsiveness, it may have a positive impact on children's social competence. Conversely, excessive monitoring and the lack of parental affection may lead to children's poor social outcomes (e.g., low self-esteem, Ngige et al., 2020). The survey items used in the present study did not adequately capture excessive monitoring, and more research is needed to explore differences in child outcomes associated with various parenting typologies in the context of Mozambique.

Third, this study was one of the first examinations of the role of child sex in the relations between maternal parenting practices and children's social competence in Mozambique. The study found that in families in Mozambique, the relations between maternal parenting behaviors and 7- to 12-year old children's social competence did not differ by child sex. At the same time, the study also found that girls had better social competence than boys, and girls' mothers paid more attention to their children's daily routine than boys' mothers. This finding was supported by prior research from other countries (Leaper, 2002; Zeman et al., 2010), showing that these sex differences may be



universal across cultures. As boys and girls in Mozambique have very different lives from children in European American countries, future research is needed to piece together the full picture of life for boys and girls in Mozambique. For example, in some collectivistic societies in Asia, boys are expected to be self-reliant in middle childhood. In one study, most Alor boys in middle childhood had formed play groups and had begun to roam in small groups, hunting, planting, and cooking. In contrast, girls of nine or ten years were helping their mothers grow food and were assisting in caring for younger siblings (Seymour, 2013). To further knowledge about Mozambican children's life experiences and social expectations, qualitative research methods (e.g., observation, interviews) may be helpful.

Fourth, this study is one of the first to explore parenting and social outcomes of 7- to 12-year-old children in sub-Saharan Africa. Most of the research in Africa in the past has focused on the impact of war and AIDS/HIV on children (e.g., Honwana, 2018; McNairy et al., 2013). Few studies have looked at the parent-child relationships and social development of children in middle childhood. The results of the study tell us that the age of children in middle childhood not only relates to parents' parenting behavior, but also relates to differences in mothers' perceptions of children's social competence. Middle childhood is a broad age group. While a seven-year-old child may often need adult companionship and help, a twelve-year-old child may be self-reliant and even considered ready for marriage in some cultures (Evens et al., 2008). To further understand the role of child age on parent-child relationships, future research may narrow the age range of the study or examine whether age moderate mothers' parenting behaviors and children's social competence.

Although this study has several strengths, there were also limitations that should be considered. The lack of prior research on parenting and children's social outcomes in Mozambique to inform theoretical conceptualizations or data processing and analysis procedures for the current study is an issue. Although I tried to conceptualize individuals from this culture or sociocultural context based on available literature and information, there is still a gap between research models and local families and environments. For example, the influence of the extended family and community was likely to be underestimated on a child's development. In most Western cultures, the mother is regarded as the primary caregiver and attachment figure of the child (Keller, 2016), directly affecting the child's development and various outcomes. However, in Mozambique and other sub-Saharan African countries, mothers are not necessarily expected to be the primary provider of childcare (Seymour, 2013). Instead, other factors may play a more critical role in shaping a child's development. Future research is needed to explore the impact of different systems (e.g., extended families, neighbors, schools) and the interaction of systems based on Bronfenbrenner's ecosystem theory on children's social competence, and at the same time try to employ more culturally viable concepts from a framework based on an indigenous approach of each culture.

Second, all the measures relied on mothers' reports, which may lead to statistical bias. Although the larger study collected child reports of mothers' parenting and children's social competence, these reports were not collected for children of all ages. Thus, the present study used mothers' reports only. Single raters may harm both the reliability and validity of constructs and their associations due to shared sources of variance or potential social desirability effects (Tehseen et al., 2017). In addition, Hoyt

(2020) suggested that a single observer rating a unique target may lead to a situation where target variance is confounded with both rater variance and dyadic variance. In other words, when each mother rates her child's social competence, variance of social competence may be due to the variance of mothers and the variance of each mother-child dyad instead of the variance of social competence per se. Thus, future studies adopting multiple sources of information would provide robust indicators of parenting practices and social competence. It is likely that future studies utilizing multiple measures may obtain lower correlations between parenting and children's social competence which could reduce multicollinearity issues.

Last but not the least, genetic factors likely play a role in the relation between parenting and their children's social competence but investigation of this was beyond the scope of the current study. For example, Scarr (1992)'s family and twins study suggested that most children in European, North American, and developed Asian countries grow up to be individually different based on their individual genotypes rather than common family and the larger environmental context. Based on the genotype-environment effects theory, children's social competence may be not only be affected by parental socialization styles and practices but also affected by the genes transmitted from their parents. These genes also affect their parents' parenting. Therefore, future research may include genetic and environmental variables together to better understand children's development.

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APPENDIX A

TABLES

**Table 1***Demographic Information at Wave 1*

Country	Total	Boys	Girls	
<b>Household-Level Variables</b>				
Fathers' migration (% currently migrating)	15.1%	13.7%	16.6%	
Household assets score	-0.01 (0.98)	-0.02 (0.99)	0.00 (0.97)	
Household dependency ratio	2.02 (1.14)	2.01 (1.13)	2.03 (1.14)	
<b>Mother-Level Variables</b>				
Age (Years)	36.30 (7.13)	36.75 (7.10)	35.84 (7.15)	
Marital status	Unmarried/not cohabitating	5.4%	5.2%	5.6%
	Unmarried/cohabitating	65.7%	63.5%	67.9%
	Married/mono	3.9%	4.9%	3.0%
	Married/poly	1.5%	2.0%	1.0%
	Separate/divorced	8.9%	8.5%	9.3%
	Widowed	14.6%	16.0	13.2
Education level	Early childhood	21.5%	23.1%	19.9%
	Primary	67.2%	64.5%	69.9%
	Lower secondary	7.7%	8.1%	7.3%
	Upper secondary	2.6%	3.6%	1.7%
	Post-secondary	1.0%	0.7%	1.3%
Caring family members outside home	44.0%	43.6%	44.3%	
<b>Child-Level Variables</b>				
Sex (% boys)	50.4%	-	-	
Age (Years)	8.96 (1.68)	8.92 (1.71)	9.00 (1.64)	
School enrollment rate	98.1%	98.3%	97.8%	

*Note.* If value was not a percentage, means were presented and standardized deviations were presented in parentheses.

**Table 2***Demographic Information at Wave 2*

Country	Total	Boys	Girls
<b>Household-Level Variables</b>			
Father migration status (% currently migrating)	11.9%	12.4%	11.4%
Household assets score	0.00 (1.03)	0.01(1.08)	-0.02 (0.99)
<b>Mother Level Variables</b>			
Age (Years)	38.43 (7.12)	38.94 (7.01)	37.90 (7.21)
Marital status			
Unmarried/not cohabitating	6.3%	6.7%	5.9%
Unmarried/cohabitating	32.8%	28.4%	37.4%
Married/mono	31.2%	35.1%	27.1%
Married/poly	7.2%	7.1%	7.3%
Separate/divorced	6.8%	6.4%	7.3%
Widowed	15.7%	16.3%	15.0%
Education level			
Early childhood	23.6%	25.5%	21.6%
Primary	64.7%	61.7%	67.8%
Lower secondary	7.6%	7.8%	7.3%
Upper secondary	3.1%	3.9%	2.2%
Post-secondary	1.1%	1.1%	1.1%
<b>Child-Level Variables</b>			
Sex (% boys)	50.4%	-	-
Age (Years)	10.90 (1.75)	10.85 (1.74)	10.94 (1.75)
School enrollment rate	94.7%	94.6%	94.8%

*Note.* Means were presented and standardized deviations were presented in parentheses when appropriate.

**Table 3***Variable Information for Attrited and Non-attrited Families at Wave 2*

Wave 1 Variables	Non-attrited (n = 495)	Attrited (n = 114)
<b>Study Variables</b>		
Spouse Support	3.83	4.00
Family Support	3.16	3.08
Community Support	3.01	2.86
Engagement	3.40	3.31
Modeling	3.97	3.75
Monitoring	3.33	3.27
Harmony	4.15	4.14
Responsibility	3.09	3.13
Deference	3.88	3.85
Collectivism	3.20	3.13
<b>Household-Level Variables</b>		
Father migration status (% currently migrating)	15.8%	12.3%
Household assets score	0.01	-0.06
Dependency ratio	2.03	1.96
<b>Mother Level Variables</b>		
Age (Years)	35.99*	37.64
Marital status	Unmarried/not cohabitating	4.8%
	Unmarried/cohabitating	66.3%
	Married	5.7%
	Separate/divorced	9.5%
	Widowed	13.7%
Education level	Early childhood	21.0%
	Primary	67.1%
	Secondary and above	11.9%
Caring family members outside home	44.4%	42.0%
<b>Child-Level Variables</b>		
Sex (% boys)	50.1%	51.8%
Age (Years)	8.93	9.11
School enrollment rate	98.3%	97.2%

*Note.* Categorical variables were tested by Chi-square and presented as percentages;

continuous variables were tested by independent *t*-test and presented as means.

\**p* < .05.

**Table 4***Descriptive Statistics for Study Variables at Wave 1 and Wave 2*

Variable	Mean	Std. Deviation	Skewness	Kurtosis	Minimum	Maximum
Social Support W1						
1.Spouse	3.86	1.11	-0.91	0.09	1.00	5.00
2.Family	3.14	1.11	-0.08	-0.58	1.00	5.00
3.Community	2.98	1.10	0.00	-0.58	1.00	5.00
Parenting Practices W1						
4.Engagement	3.39	0.87	-0.05	-0.88	1.50	5.00
5.Modeling	3.93	1.23	-1.20	0.41	1.00	5.00
6.Monitoring	3.32	0.97	-0.31	-0.32	1.00	5.00
Social Competence W1						
7.Harmony	4.15	0.64	-0.47	-0.54	2.00	5.00
8.Responsibility	3.10	1.19	-0.03	-0.90	1.00	5.00
9.Deference	3.88	0.88	-0.57	-0.09	1.00	5.00
10.Collectivism	3.19	1.15	-0.11	-0.89	1.00	5.00
Social Support W2						
11.Spouse	4.04	1.07	-1.06	0.31	1.00	5.00
12.Family	3.51	1.09	-0.55	-0.38	1.00	5.00
13.Community	3.33	1.22	-0.27	-0.95	1.00	5.00
Parenting Practices W2						
14.Engagement	3.90	0.67	-0.41	0.03	1.00	5.00
15.Modeling	4.41	0.71	-1.19	1.30	1.00	5.00
16.Monitoring	3.80	0.78	-0.70	0.49	1.00	5.00
Social Competence W2						
17.Harmony	4.36	0.52	-0.82	0.71	2.17	5.00
18.Responsibility	3.77	1.06	-0.74	-0.10	1.00	5.00
19.Deference	4.25	0.72	-1.10	1.40	1.00	5.00
20.Collectivism	3.39	1.10	-0.43	-0.59	1.00	5.00

**Table 5**

*Correlations for All Measured Variables for Total Sample (n = 609) at Wave 1 and Wave 2*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
SS W1																			
1.Spouse																			
2.Family	.24***																		
3.Community	.20***	.57***																	
PP W1																			
4.Engagement	.14**	.35***	.30***																
5.Modeling	.13**	.18***	.15***	.61***															
6.Monitoring	.15***	.22***	.13**	.41***	.27***														
SC W1																			
7.Harmony	.17***	.16***	.12**	.50***	.56***	.42***													
8.Resposibility	.15***	.07	.08	.24***	.14***	.55***	.23***												
9.Deference	.17***	.23***	.13**	.50***	.49***	.63***	.64***	.44***											
10.Collectivism	.13**	.16***	.17***	.45***	.41***	.47***	.34***	.45***	.41***										
SS W2																			
11.Spouse	.28***	.10*	.09	.03	.03	.02	.08	.03	.07	.03									
12.Family	.11*	.12**	.11*	.04	.01	.03	.01	.03	.03	.03	.25***								
13.Community	.07	.10*	.14**	.04	.03	.02	.01	.02	.01	.04	.20***	.39***							
PP W2																			
14.Engagement	.00	.09*	.10*	.12**	.00	.11**	.06	.14**	.10*	.12**	.23***	.22***	.15***						
15.Modeling	.01	.09*	.13**	.15***	.13**	.02	.05	.07	.04	.08	.13**	.13**	.20***	.50***					
16.Monitoring	.01	.03	.03	.14**	.13**	.10*	.13**	.12**	.14**	.14**	.10*	.16***	.18***	.41***	.39***				
SC W2																			
17.Harmony	.04	.02	.08	.06	.06	.02	.12**	.11**	.07	.06	.13**	.20***	.18***	.43***	.28***	.39***			
18.Resposibility	.03	.09*	.09*	.08	.06	.14**	.09*	.21***	.14***	.14**	.14**	.12**	.11*	.39***	.24***	.40***	.31***		
19.Deference	.04	.09*	.05	.10*	.10*	.07	.12**	.15***	.11**	.14**	.16***	.16***	.23***	.40***	.38***	.49***	.50***	.52***	
20.Collectivism	.03	.15***	.12**	.17***	.18***	.13**	.21***	.14**	.17***	.12*	.08	.17***	.05	.35***	.19***	.38***	.31***	.43***	.29***

*Note.* SS = Social support; PP = Parenting Practices; SC = Social Competence.

\* $p < .05$ . \*\* $p < .01$ . \*\*\*  $p < .001$ .

**Table 6**

*Correlations for All Measured Variables for Girls (n = 302) at Wave 1 and Wave 2*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
SS W1																			
1.Spouse																			
2.Family	.21***																		
3.Community	.24***	.60***																	
PP W1																			
4.Engagement	.23***	.43***	.41***																
5.Modeling	.16*	.17**	.20***	.60***															
6.Monitoring	.24***	.19***	.12*	.42***	.27***														
SC W1																			
7.Harmony	.25***	.12*	.16**	.44***	.52***	.41***													
8.Resposibility	.22***	.05	.05	.26***	.13*	.53***	.19**												
9.Deference	.27***	.22***	.17**	.49***	.44***	.59***	.62***	.40***											
10.Collectivism	.16*	.15*	.16**	.42***	.41***	.47***	.29***	.43***	.32***										
SS W2																			
11.Spouse	.23**	.00	.04	.04	.08	.02	.15*	.04	.14*	-.01									
12.Family	.09	.11	.06	.01	.00	-.06	.00	-.05	-.01	-.05	.26***								
13.Community	.01	.09	.09	.00	.07	-.02	.01	-.08	.01	-.03	.16*	.35***							
PP W2																			
14.Engagement	.00	.06	.07	.09	.03	.02	.02	.10	.02	.10	.22***	.26***	.18**						
15.Modeling	-.04	.12	.14*	.18**	.16**	.00	-.03	.09	.03	.13*	.12	.09	.21***	.56***					
16.Monitoring	-.07	.00	-.01	.07	.08	.01	.00	.03	.05	.06	.20**	.13*	.17**	.41***	.37***				
SC W2																			
17.Harmony	.06	.02	.08	.07	.08	-.01	.08	.06	-.02	.01	.16*	.23***	.19***	.40***	.25***	.34***			
18.Resposibility	.00	.07	.10	.06	.06	.06	.06	.06	.04	.19***	.12	.07	.13*	.30***	.27***	.34***	.21***		
19.Deference	-.02	.08	.08	.11	.10	.03	.06	.12	.04	.16*	.23***	.11	.29***	.41***	.40***	.35***	.45***	.46***	
20.Collectivism	.05	.17**	.11	.18**	.20**	.04	.17**	.10	.12	.06	.14*	.12*	-.04	.25***	.17**	.33***	.29***	.40***	.22***

*Note.* SS = Social support; PP = Parenting Practices; SC = Social Competence.

\* $p < .05$ . \*\* $p < .01$ . \*\*\*  $p < .001$ .

**Table 7**

*Correlations for All Measured Variables for Boys (n = 307) at Wave 1 and Wave 2*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
SS W1																			
1.Spouse																			
2.Family	.27***																		
3.Community	.15*	.53***																	
PP W1																			
4.Engagement	.07	.27***	.18**																
5.Modeling	.09	.18**	.10	.63***															
6.Monitoring	.06	.24***	.13*	.42***	.28***														
SC W1																			
7.Harmony	.09	.20***	.07	.55***	.59***	.45***													
8.Resposibility	.06	.07	.10	.23***	.14*	.53***	.26***												
9.Deference	.08	.22***	.09	.51***	.53***	.64***	.67***	.44***											
10.Collectivism	.11	.16*	.18**	.48***	.41***	.47***	.40***	.47***	.49***										
SS W2																			
11.Spouse	.32***	.19**	.14*	.03	-.01	.02	.01	.02	.01	-.06									
12.Family	.12	.14*	.16**	.06	.03	.10	.02	.09	.06	.11	.25***								
13.Community	.13*	.10	.19**	.08	.00	-.03	-.04	.03	-.03	.11	.24***	.42***							
PP W2																			
14.Engagement	-.01	.13*	.12*	.14*	-.02	.18**	.09	.16**	.15*	.15*	.24***	.18**	.12*						
15.Modeling	.06	.07	.12*	.13*	.10	.04	.12*	.05	.07	.03	.15*	.16**	.20***	.46***					
16.Monitoring	.03	.05	.05	.19**	.16**	.14*	.24***	.16**	.18**	.21***	.01	.18**	.19**	.42***	.42***				
SC W2																			
17.Harmony	.01	.02	.08	.05	.05	.02	.15*	.13*	.12*	.10	.10	.17**	.18**	.46***	.31***	.43***			
18.Resposibility	.04	.09	.07	.09	.04	.14*	.12*	.27***	.17**	.08	.15*	.14*	.09***	.45***	.23***	.43***	.37***		
19.Deference	.06	.08	.01	.09	.10	.05	.16**	.12*	.13*	.11	.11	.19**	.19**	.39***	.38***	.57***	.54***	.53***	
20.Collectivism	.01	.13*	.13*	.16*	.16*	.19**	.25***	.16*	.21***	.18***	.02	.20**	-.06	.44***	.22***	.42***	.33***	.46***	.34***

*Note.* SS = Social support; PP = Parenting Practices; SC = Social Competence.

\* $p < .05$ . \*\* $p < .01$ . \*\*\*  $p < .001$ .



**Table 8***Summary of Parameter Estimates for the SEM Model for Hypothesis 1*

Structural Paths	Estimates	S.E.	<i>p</i>	STDYX/STDY
Social Competence W2				
← <b>Social support W1</b>	<b>0.15</b>	<b>0.06</b>	<b>.018</b>	<b>.17</b>
←Social competence W1	0.25	0.14	.073	.31
← <b>Parental engagement W1</b>	<b>-0.06</b>	<b>0.02</b>	<b>.018</b>	<b>-.14</b>
←Parental modeling W1	0.00	0.02	.944	-.01
←Parental monitoring W1	-0.06	0.04	.134	-.18
← <b>Child sex</b>	<b>0.10</b>	<b>0.03</b>	<b>.002</b>	<b>.15</b>
← <b>Child age</b>	<b>0.05</b>	<b>0.01</b>	<b>&lt;.001</b>	<b>.23</b>
←Mother's age	0.00	0.00	.721	-.02
← <b>Care outside of home</b>	<b>0.10</b>	<b>0.03</b>	<b>.003</b>	<b>.14</b>
←Father immigration status	0.02	0.05	.689	.02
←Family assets	-0.03	0.02	.088	-.09
←Dependency ratio	0.00	0.02	.918	-.01
←Unmarried <sup>a</sup>	0.10	0.09	.309	.06
←Cohabiting <sup>a</sup>	-0.02	0.07	.806	-.03
←Divorce <sup>a</sup>	0.07	0.09	.395	.06
←Widow <sup>a</sup>	-0.04	0.09	.682	-.04
←Early childhood education <sup>b</sup>	-0.03	0.04	.437	-.04
←Secondary education and above <sup>b</sup>	0.05	0.06	.407	.04
Parental Engagement W2				
←Social support W1	0.21	0.12	.078	.12
←Parental engagement W1	0.01	0.04	.785	.01
←Child sex	0.03	0.06	.587	.02
← <b>Child age</b>	<b>0.05</b>	<b>0.02</b>	<b>.001</b>	<b>.14</b>
←Mother's age	0.00	0.00	.626	.02
← <b>Care outside of home</b>	<b>0.16</b>	<b>0.06</b>	<b>.003</b>	<b>.12</b>
←Father immigration status	0.00	0.09	.975	.00
←Family assets	-0.02	0.03	.645	-.02
←Dependency ratio	0.00	0.03	.891	.01
←Unmarried <sup>a</sup>	0.30	0.18	.090	.10
←Cohabiting <sup>a</sup>	0.22	0.13	.076	.16
←Divorce <sup>a</sup>	0.28	0.16	.076	.12
←Widow <sup>a</sup>	0.23	0.15	.118	.12
←Early childhood education <sup>b</sup>	-0.07	0.07	.301	-.05
←Secondary education and above <sup>b</sup>	0.13	0.09	.158	.06
Parental Modeling W2				
←Social support W1	0.19	0.12	.110	.10
← <b>Parental modeling W1</b>	<b>0.05</b>	<b>0.03</b>	<b>.042</b>	<b>.09</b>
←Child sex	-0.03	0.06	.652	-.02
← <b>Child age</b>	<b>0.06</b>	<b>0.02</b>	<b>.001</b>	<b>.14</b>
←Mother's age	0.00	0.01	.749	-.02
← <b>Care outside of home</b>	<b>0.18</b>	<b>0.06</b>	<b>.002</b>	<b>.13</b>
←Father immigration status	0.09	0.08	.278	.05
←Family assets	0.03	0.03	.357	.04
←Dependency ratio	0.01	0.03	.823	.01
←Unmarried <sup>a</sup>	-0.09	0.21	.665	-.03

**Table 8** (continued).

Structural Paths	Estimates	S.E.	<i>p</i>	STDYX/STDY
Parental Modeling W2				
←Cohabiting <sup>a</sup>	-0.08	0.13	.550	-.05
←Divorce <sup>a</sup>	0.02	0.17	.911	.01
←Widow <sup>a</sup>	0.08	0.15	.599	.04
←Early childhood education <sup>b</sup>	-0.16	0.08	.056	-.09
←Secondary education and above <sup>b</sup>	0.10	0.10	.306	.04
Parental Monitoring W2				
←Social support W1	0.04	0.11	.708	.02
←Parental monitoring W1	0.05	0.04	.135	.07
← <b>Child sex</b>	<b>0.19</b>	<b>0.07</b>	<b>.004</b>	<b>.12</b>
← <b>Child age</b>	<b>0.05</b>	<b>0.02</b>	<b>.010</b>	<b>.11</b>
←Mother's age	0.01	0.01	.168	.07
←Care outside of home	0.12	0.07	.071	.08
←Father immigration status	0.01	0.10	.905	.01
←Family assets	-0.06	0.04	.109	-.08
←Dependency ratio	0.00	0.03	.905	.01
←Unmarried <sup>a</sup>	-0.06	0.21	.785	-.02
←Cohabiting <sup>a</sup>	0.08	0.11	.481	.05
←Divorce <sup>a</sup>	0.00	0.17	.990	.00
←Widow <sup>a</sup>	0.05	0.14	.739	.02
←Early childhood education <sup>b</sup>	-0.15	0.09	.084	-.08
←Secondary education and above <sup>b</sup>	0.17	0.11	.136	.07
Mother's Social Support W2				
← <b>Social support W1</b>	<b>0.21</b>	<b>0.07</b>	<b>.002</b>	<b>.24</b>
←Child sex	0.02	0.04	.646	.03
←Child age	-0.01	0.01	.343	-.05
←Mother's age	0.00	0.00	.644	.03
←Care outside of home	0.03	0.04	.466	.05
←Father immigration status	-0.03	0.06	.602	-.03
←Family assets	0.01	0.02	.728	.02
←Dependency ratio	0.02	0.02	.371	.06
←Unmarried <sup>a</sup>	-0.03	0.14	.815	-.02
←Cohabiting <sup>a</sup>	0.09	0.08	.274	.12
←Divorce <sup>a</sup>	-0.03	0.10	.763	-.03
←Widow <sup>a</sup>	-0.07	0.09	.426	-.08
←Early childhood education <sup>b</sup>	0.07	0.05	.197	.08
←Secondary education and above <sup>b</sup>	-0.12	0.07	.080	-.11

*Note.* S.E. = Standard Error. Standardized results were provided in STDYX

standardization for continuous predictors and STDY standardization for binary predictors.

<sup>a</sup> The dummy variable for mother's marital status. The reference group is married.

<sup>b</sup> The dummy variable for mother's education level. The reference group is primary education.

**Table 9***Summary of Parameter Estimates for the SEM Model for Hypothesis 2*

Structural Paths	Estimates	S.E.	<i>p</i>	STDYX/STDY
<b>Social Competence W2</b>				
← <b>Social support W1</b>	<b>0.13</b>	<b>0.06</b>	<b>.038</b>	<b>.15</b>
← <b>Social competence W1</b>	<b>0.35</b>	<b>0.15</b>	<b>.021</b>	<b>.43</b>
← <b>Parental engagement W1</b>	<b>-0.06</b>	<b>0.02</b>	<b>.014</b>	<b>-.15</b>
←Parental modeling W1	0.00	0.02	.927	.01
← <b>Parental monitoring W1</b>	<b>-0.09</b>	<b>0.04</b>	<b>.036</b>	<b>-.27</b>
← <b>Child sex</b>	<b>0.10</b>	<b>0.03</b>	<b>.002</b>	<b>.21</b>
← <b>Child age</b>	<b>0.04</b>	<b>0.01</b>	<b>&lt;.001</b>	<b>.21</b>
←Mother's age	0.00	0.00	.713	-.02
← <b>Care outside of home</b>	<b>0.09</b>	<b>0.03</b>	<b>.006</b>	<b>.13</b>
←Father immigration status	0.02	0.05	.673	.02
←Family assets	-0.03	0.02	.100	-.09
←Dependency ratio	0.00	0.02	.968	.00
←Unmarried <sup>a</sup>	0.09	0.09	.363	.06
←Cohabiting <sup>a</sup>	-0.02	0.07	.817	-.02
←Divorce <sup>a</sup>	0.07	0.09	.399	.06
←Widow <sup>a</sup>	-0.04	0.09	.679	-.04
←Early childhood education <sup>b</sup>	-0.04	0.04	.382	-.04
←Secondary education and above <sup>b</sup>	0.05	0.06	.428	.04
<b>Parental Engagement W2</b>				
←Social support W1	0.19	0.12	.121	.11
←Social competence W1	0.09	0.10	.369	.06
←Parental engagement W1	-0.01	0.04	.884	-.01
←Child sex	0.02	0.06	.728	.02
← <b>Child age</b>	<b>0.05</b>	<b>0.02</b>	<b>.006</b>	<b>.12</b>
←Mother's age	0.00	0.00	.624	.02
← <b>Care outside of home</b>	<b>0.16</b>	<b>0.05</b>	<b>.003</b>	<b>.12</b>
←Father immigration status	0.00	0.09	.984	.00
←Family assets	-0.02	0.03	.585	-.03
←Dependency ratio	0.00	0.03	.881	.01
←Unmarried <sup>a</sup>	0.30	0.18	.093	.10
←Cohabiting <sup>a</sup>	0.23	0.13	.068	.17
←Divorce <sup>a</sup>	0.29	0.16	.072	.12
←Widow <sup>a</sup>	0.23	0.15	.114	.13
←Early childhood education <sup>b</sup>	-0.08	0.07	.263	-.05
←Secondary education and above <sup>b</sup>	0.13	0.09	.162	.06
<b>Parental Modeling W2</b>				
← <b>Social support W1</b>	<b>0.26</b>	<b>0.12</b>	<b>.040</b>	<b>.14</b>
← <b>Social competence W1</b>	<b>-0.28</b>	<b>0.11</b>	<b>.008</b>	<b>-.16</b>
← <b>Parental modeling W1</b>	<b>0.12</b>	<b>0.03</b>	<b>&lt;.001</b>	<b>.21</b>
←Child sex	0.00	0.06	.988	.00
← <b>Child age</b>	<b>0.08</b>	<b>0.02</b>	<b>&lt;.001</b>	<b>.18</b>
←Mother's age	0.00	0.01	.688	-.02
← <b>Care outside of home</b>	<b>0.18</b>	<b>0.06</b>	<b>.004</b>	<b>.12</b>
←Father immigration status	0.07	0.09	.400	.04
←Family assets	0.04	0.03	.225	.06
←Dependency ratio	0.00	0.03	.877	.01
←Unmarried <sup>a</sup>	-0.09	0.21	.665	-.03
←Cohabiting <sup>a</sup>	-0.09	0.13	.490	-.06

**Table 9** (continued).

Structural Paths	Estimates	S.E.	<i>p</i>	STDYX/STDY
Parental Modeling W2				
←Divorce <sup>a</sup>	0.02	0.17	.910	.01
←Widow <sup>a</sup>	0.08	0.15	.584	.04
←Early childhood education <sup>b</sup>	-0.15	0.08	.071	-.09
←Secondary education and above <sup>b</sup>	0.12	0.10	.243	.05
Parental Monitoring W2				
←Social support W1	-0.04	0.12	.717	-.02
← <b>Social competence W1</b>	<b>0.52</b>	<b>0.16</b>	<b>.001</b>	<b>.28</b>
← <b>Parental monitoring W1</b>	<b>-0.12</b>	<b>0.06</b>	<b>.040</b>	<b>-.15</b>
← <b>Child sex</b>	<b>0.19</b>	<b>0.07</b>	<b>.004</b>	<b>.12</b>
←Child age	0.04	0.02	.079	.08
←Mother's age	0.01	0.01	.163	.06
←Care outside of home	0.09	0.07	.206	.05
←Father immigration status	0.02	0.10	.807	.01
←Family assets	-0.06	0.04	.132	-.08
←Dependency ratio	0.01	0.03	.776	.01
←Unmarried <sup>a</sup>	-0.11	0.22	.617	-.03
←Cohabiting <sup>a</sup>	0.08	0.12	.487	.05
←Divorce <sup>a</sup>	-0.01	0.17	.968	.00
←Widow <sup>a</sup>	0.04	0.14	.761	.02
←Early childhood education <sup>b</sup>	-0.17	0.09	.055	-.09
←Secondary education and above <sup>b</sup>	0.16	0.11	.157	.06
Mother's Social Support W2				
← <b>Social support W1</b>	<b>0.21</b>	<b>0.07</b>	<b>.002</b>	<b>.24</b>
←Child sex	0.02	0.04	.649	.03
←Child age	-0.01	0.01	.344	-.05
←Mother's age	0.00	0.00	.643	.03
←Care outside of home	0.03	0.04	.461	.05
←Father immigration status	-0.03	0.06	.603	-.03
←Family assets	0.01	0.02	.736	.02
←Dependency ratio	0.02	0.02	.370	.06
←Unmarried <sup>a</sup>	-0.03	0.14	.815	-.02
←Cohabiting <sup>a</sup>	0.09	0.08	.274	.12
←Divorce <sup>a</sup>	-0.03	0.11	.762	-.03
←Widow <sup>a</sup>	-0.07	0.09	.427	-.08
←Early childhood education <sup>b</sup>	0.07	0.05	.195	.08
←Secondary education and above <sup>b</sup>	-0.12	0.07	.080	-.11

*Note.* S.E. = Standard Error. Standardized results were provided in STDYX

standardization for continuous predictors and STDY standardization for binary predictors.

<sup>a</sup> The dummy variable for mother's marital status. The reference group is married.

<sup>b</sup> The dummy variable for mother's education level. The reference group is primary education.

**Table 10**

*Correlations for Exogenous Latent Variables and Composites for Hypothesis 2*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. SS W1																	
2. Engagement W1	.44***																
3. Modeling W1	.23***	.61***															
4. Monitoring W1	.25***	.42***	.27***														
5. SC W1	.31***	.64***	.62***	.78***													
6. Child sex (girl=1)	.07	.02	.04	.19***	.17***												
7. Child age	-.06	.08*	.02	.21***	.26***	.03											
8. Migration (Yes=1)	.15**	.09*	.09*	.07	.03	.04	-.04										
9. Asset PCA	.08	.05	-.01	.10*	.08	.01	-.02	.05									
10. Dep. ratio	-.12*	-.08	-.02	-.03	-.08	.01	-.04	.17***	-.20***								
11. Mom's age	-.04	-.06	.00	.00	.04	-.06	.30***	-.10*	-.16***	-.12**							
12. Care (Yes=1)	.16**	.12**	.08	-.05	.05	.01	-.07	.01	.21***	-.10*	-.07						
13. Mar. Unmarried	-.06	.07	.08	.00	.06	.01	.02	-.10*	-.06	-.04	.03	-.05					
14. Mar. Cohabiting	.16**	-.06	-.03	-.06	-.05	.05	-.07	.25***	.19***	-.10*	-.21***	.18***	-.33***				
15. Mar. Divorced	-.11*	.03	-.01	.00	-.02	.01	-.03	-.12**	-.12**	.10*	.03	-.08	-.08	-.43			
16. Mar. Widowed	-.12*	.01	-.01	.05	.03	-.04	.11**	-.18***	-.15***	.13**	.18***	-.15***	-.10*	-.57	-.13**		
17. Edu. Early Childhood	-.13**	-.13**	-.01	-.01	.00	-.04	.04	-.08	-.23***	.00	.24***	-.14**	.03	-.10*	.01	.08	
18. Edu. Secondary	-.03	.14**	.01	.07	.05	-.03	-.08	-.08	.36***	-.11**	-.21***	.08*	.01	.04	.00	-.02	-.19***

*Notes.* SS = Social support; SC = Social Competence; Migration = Father's migration status; Dep. ratio = Dependency ratio; Care

= Mother's caring for family members outside of home; Mar. = Marriage status, the reference group is married; Edu. = Highest

education level, the reference group is primary education. Results were provided from "with" estimates in the STDYX

standardization. \* $p < .05$ . \*\* $p < .01$ . \*\*\*  $p < .001$ .

**Table 11***Correlations for Endogenous Latent Variables and Composites for Hypothesis 2*

Variable	1	2	3	4
1. SS W2				
2. Engagement W2	.34***			
3. Modeling W2	.28***	.50***		
4. Monitoring W2	.29***	.40***	.39***	
5. SC W2	.44***	.62***	.48***	.65***

*Note.* SS = Social support; SC = Social Competence. Results were provided from the “with” estimates in the STDYX standardization.

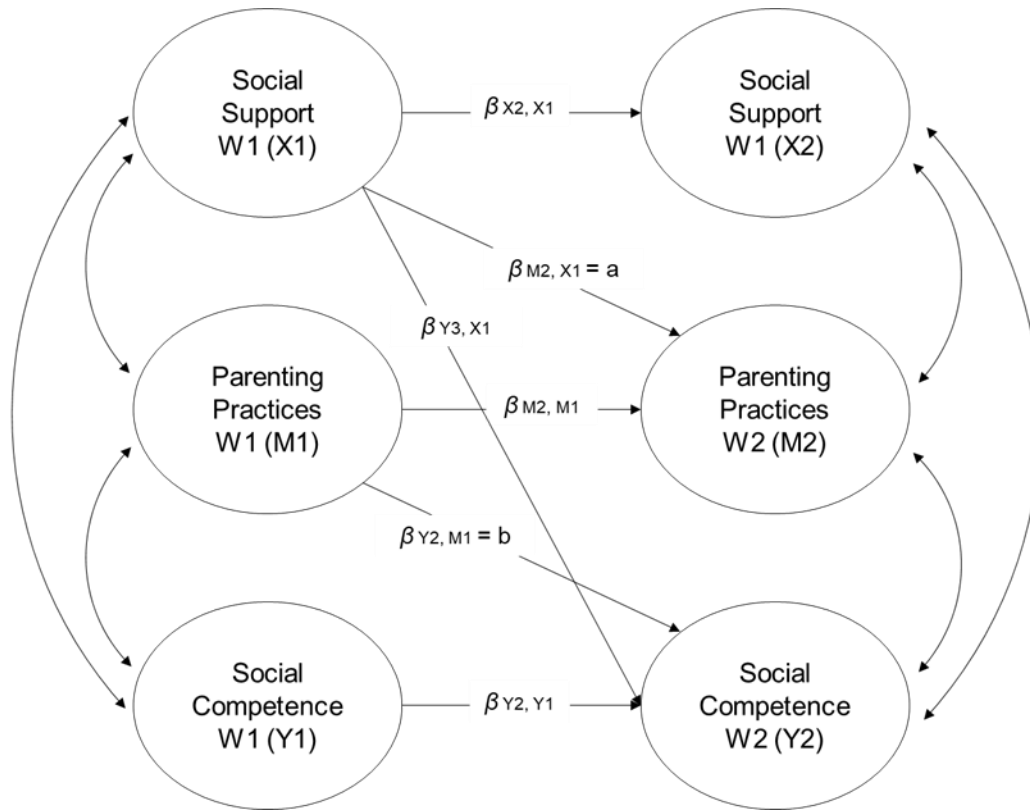
\*\*\*  $p < .001$ .

APPENDIX B

FIGURES

**Figure 1**

*Proposed Model to Test the Indirect Effect from Social Support to Maternal Parenting Practices to Children's Social Competence.*



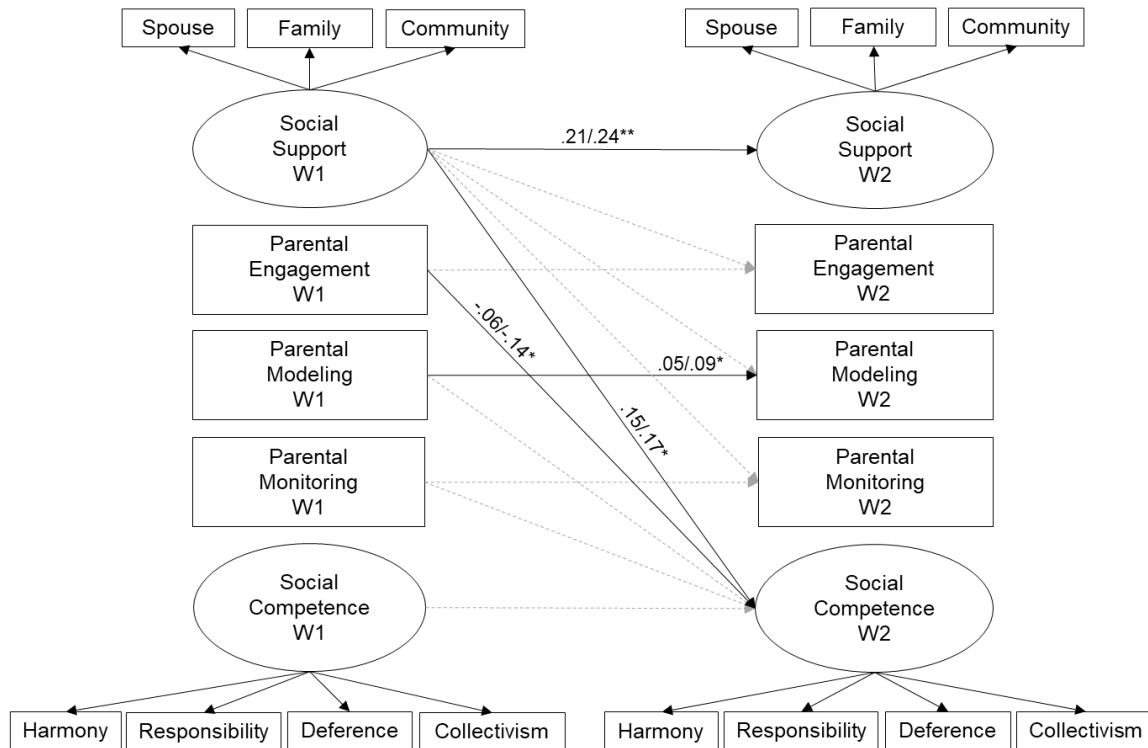
*Notes.* Indicators and control variables were not presented for clarity.



**Figure 2**

*Model Results of The Indirect Effect from Social Support to Maternal Parenting*

*Practices to Children's Social Competence*

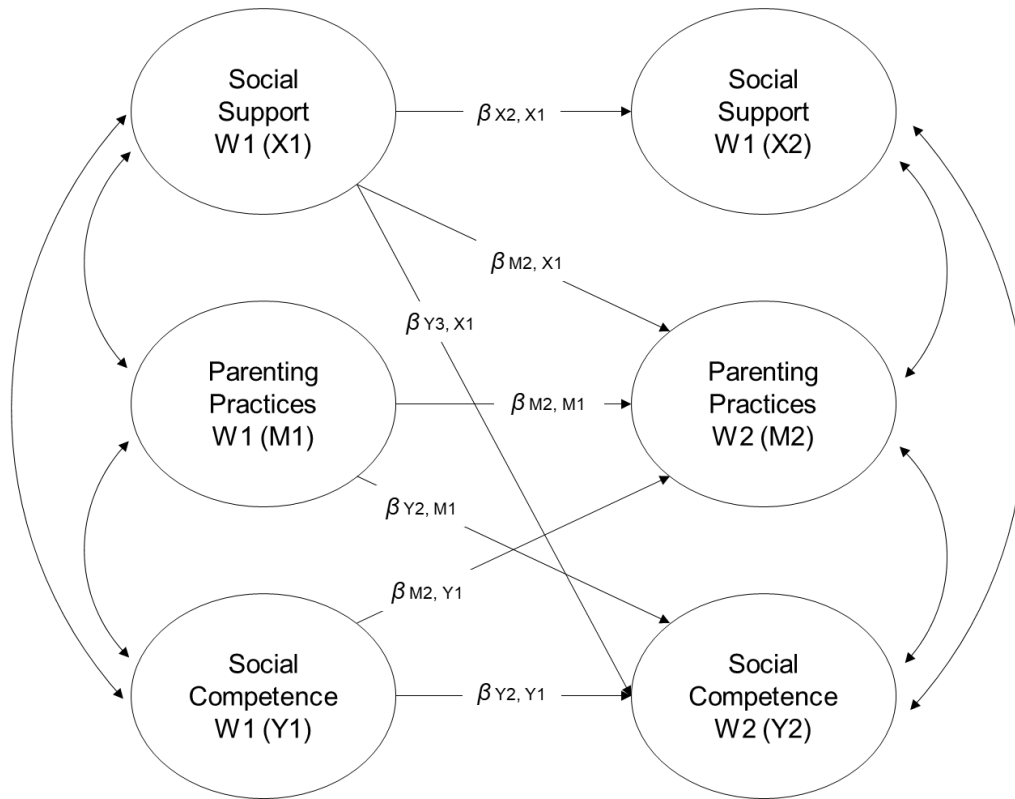


*Notes.* Unstandardized coefficients were presented first and standardized coefficients were presented after the slash. Dashed lines indicated non-significant predictions. The covariates, covariances, and residual covariances between variables were not presented for clarity.

\* $p < .05$ . \*\* $p < .01$ .

**Figure 3**

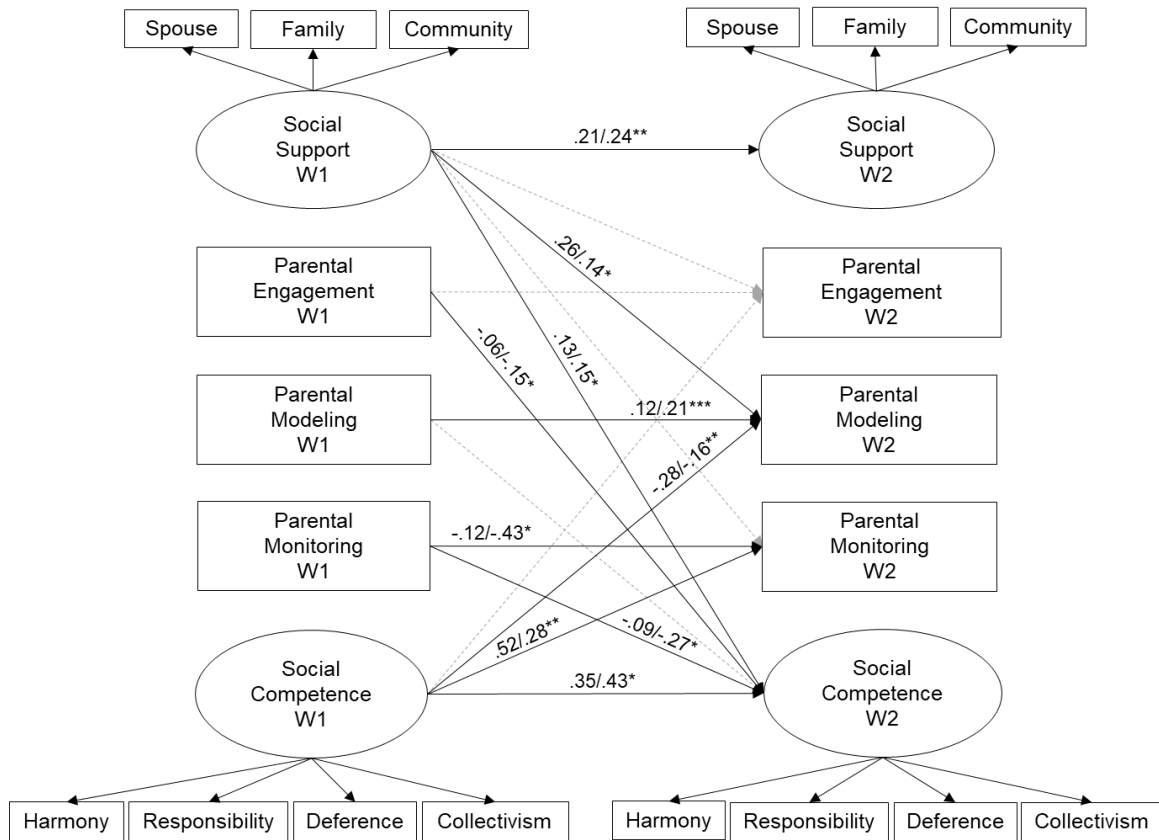
*Proposed Model of the Longitudinal and Bidirectional Analysis of Mothers' Social Support, Maternal Parenting Practices, and Children's Social Competence.*



*Notes.* Indicators and control variables are not presented for clarity.

**Figure 4**

*Model Results of the Longitudinal and Bidirectional Model of Mothers' Social Support, Maternal Parenting Practices, and Children's Social Competence.*



*Notes.* Unstandardized coefficients were presented first and standardized coefficients were presented after the slash. Dashed lines indicated non-significant predictions.

The covariates, covariances, and residual variances between variables were not presented for clarity.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .