FAMILY COMMUNICATION PATTERNS AND CHILDREN’S SELF-EFFICACY

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ABSTRACT

DISSERTATION: Family communication patterns and children’s self-efficacy

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Family communication patterns influence the development of self-efficacy in children; learning how specific communication patterns impact various forms of self-efficacy may be helpful to inform interventions targeting self-efficacy. The current study is based in Family Communication Patterns Theory (Koerner & Fitzpatrick, 2002a) and analyzes multiple efficacy beliefs using Bandura’s (1997) conceptualization of self-efficacy. Six research questions are presented: three address the impact of specific forms of family communication (conversation and conformity orientation) on particular efficacy beliefs (i.e. self-regulatory, social, and emotional self-efficacy). The remaining questions target the possible moderating relationship between parental psychological control, family communication, and efficacy-beliefs. Participants included 140 undergraduate students (84% female) from a university in the Midwest United States. Results indicate conversation orientation in family of origin is related to higher levels of each type of self-efficacy as an adult (self-regulatory: $\beta = .419, p < .001$; social: $\beta = .393, p < .001$; emotional: $\beta = .386, p < .001$). Conformity orientation in family of origin is related to lower levels of emotional self-efficacy ($\beta = -.188, p = .050$). Psychological control was not correlated with any type of self-efficacy studied beyond variance accounted for by family communication patterns and did not moderate the effect of family communication on self-
efficacy. Findings add to theoretical models of family communication and the implications for self-efficacy into early adulthood.
Acknowledgments

To my family: thank you. To my parents, siblings, family, and friends who have cheered me on, brightened my life, and endured many more discussions of family communication than they ever thought they would, thank you. Your support means more to me than I can express. To my darling Verda (and any future siblings you might have), thank you for giving me motivation by putting this work into big-picture perspective. And to my dear Anna, your grace, patience, and encouragement have truly been invaluable gifts. I love you.

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Thank you.
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Chapter 1: Introduction

Children are profoundly impacted by perceived family functioning (Bronfenbrenner, 1977; Jozefiak & Wallander, 2016). Family functioning is complicated and multi-faceted (Olson, 2000). There are several different family functioning models, but most include dimensions of cohesion, flexibility, and communication (Olson, 2000). Family functioning continues to impact individuals into adulthood (Givertz & Segrin, 2014). Family functioning can, in part, determine children’s beliefs about themselves including self-efficacy (Bandura, 1994; Stubbs & Maynard, 2017). Beliefs about one’s own competencies and abilities may influence behaviors and performance in a wide variety of domains, including academic areas, social interactions, emotion regulation, and family interactions (Bandura, 1997). Behaviors in these domains, in turn, are related to a wide range of outcomes. Academic achievement alone is related to higher rates of employment, higher income, better overall health, lower rates of divorce, less likelihood of incarceration, and greater social and emotional well-being (Aud et al., 2013; Child Trends, 2014). In this way, overall family functioning can have a cumulative and meaningful effect on children throughout their development. Family communication is one of the most influential aspects of family functioning (Koerner & Schrod, 2014; Olson, 2000).

As one of the core dimensions of Olson’s (2000) widely used model of family functioning, communication within a family system is important to the overall functioning of a family. Family communication patterns influence a wide range of behavioral, cognitive, and psychosocial outcomes, including cognitive flexibility, perspective taking, relational satisfaction, sociability, critical thinking skills, and communication apprehension (Schrodt, Witt, & Messersmit, 2008). These psychosocial effects could reasonably be related to beliefs about one’s
own competencies in a variety of domains. For example, because family communication patterns are related to communication apprehension, they may also impact social self-efficacy beliefs. Self-efficacy beliefs, in turn, are theoretically more predictive of behavioral initiation and persistence than are the acquisition of abilities (Bandura, 1997), making efficacy beliefs a valuable focus of investigation. Research studying the relationship between family communication and the development of specific forms of self-efficacy beliefs, however, is sparse.

**Brief Literature Review**

**Family Functioning.** One of the most prevalent models of family functioning is Olson’s (2000) Circumplex Model of Marital and Family Systems. This model emphasizes three core dimensions of family functioning: cohesion, flexibility, and communication. Cohesion refers to the emotional bond family members experience toward one another, while flexibility refers to the amount of change present in a family’s leadership, role relationships, and relationship rules (Olson, 2000). According to Olson (2000), there is a curvilinear relationship between cohesion, flexibility, and overall family functioning. That is, families experience optimal functioning when they exhibit moderate amounts of cohesion and flexibility as opposed to too much or too little of either factor.

Communication, the third factor of family functioning in Olson’s (2000) model, is a facilitating dimension. It is through communication that family systems can adjust levels of cohesion and flexibility to reach optimal functioning (Olson, 2000). A criticism of Olson’s (2000) circumplex model, however, is that it conceptualizes communication as a unitary factor, describing communication simply as “good” or “poor” (Schrodt, 2005). In reality,
communication within families is much more nuanced and multi-faceted, as described by theories such as Family Communication Patterns Theory (Koerner & Fitzpatrick, 2002a).

**Family Communication Patterns Theory**. Family Communication Patterns Theory (FCPT) is a cognitive theory of communication based on relational schemata (Koerner & Fitzpatrick, 2002a). FCPT is one of few theories of family communication that can be considered a “grand theory” of family communication insomuch as it can be applied to a wide range of communication behaviors in families (Koerner & Schrodt, 2014). Because communication patterns within FCPT are determined by the psychosocial practices of sense making and cultivating shared social realities instead of simply describing observed family communication practices, one assumption of this theory is that communication patterns are fundamentally universal (Koerner & Schrodt, 2014).

FCPT conceptualizes family communication as composed of two main factors: *conversation orientation* and *conformity orientation* (Koerner & Fitzpatrick, 2002b). Conversation orientation is defined as the degree to which families cultivate a climate that encourages all family members to participate in unrestrained interactions concerning a wide array of topics. Conversation orientation is associated with the belief that open and frequent communication is necessary for an enjoyable family life. Low levels of conversation orientation reflect beliefs that the open and frequent exchange of ideas, values, and opinions is not necessary for family functioning or for children’s education and socialization (Koerner & Fitzpatrick, 2002b).

Conformity orientation is defined as the degree to which families emphasize a climate of homogeneity of values, beliefs, and attitudes (Koerner & Fitzpatrick, 2002b). This orientation is associated with traditional family structures, in which families are cohesive and hierarchical.
Families with low levels of conformity orientation exhibit less cohesive and hierarchically organized families. These families encourage personal growth for individual family members, even at the expense of the interdependence of the family unit (Koerner & Fitzpatrick, 2002b).

According to FCPT, a family’s unique communication pattern can be described in terms of the degree of conversation and conformity orientation present in the family environment. Figure 1.1 illustrates the four family types that can result from the combination of conversation and conformity orientations. Consensual families exhibit high levels of conversation orientation and high levels of conformity orientation. These families may exhibit a traditional hierarchical structure while simultaneously encouraging familial interactions regarding a wide range of topics. Protective families exhibit high conformity orientation and low conversation orientation. These families are typically extremely cohesive with rigid standards and rules set by parents. Children and parents in these families do not typically engage in conversation, and many topics of conversation may be off-limits. Laissez-faire families exhibit low conversation and conformity orientations. Parents and children interact very rarely in these families, and very little structure is present. Finally, pluralistic families are characterized by high levels of conversation orientation and low levels of conformity orientation. Children in these families are invited to discuss a wide range of topics with their parents and often have a vote in family decisions.

Conversation and conformity orientations have a wide range of behavioral, cognitive, and psychosocial impacts, particularly on children (Schrodt et al., 2008). More specifically, family communication patterns are associated with numerous outcomes for children including adult children’s mental and physical health (Rueter & Koerner, 2008; Schrodt & Ledbetter, 2007), resiliency (Fitzpatrick & Koerner, 2005), utilization of confirmation and affection as communicative acts (Schrodt, Ledbetter, & Ohrt, 2007), and parent-adolescent understanding
(Sillars, Koerner, & Fitzpatrick, 2005). Given the breadth of outcomes family communication patterns can have on children, FCPT possesses substantial predictive and explanatory power for researchers (Koerner & Schrodt, 2014).

Additionally, family communication patterns are predictive of distinct parenting styles (Hamon & Schrodt, 2012). Conversation orientation is positively correlated with an authoritative parenting style, in which parents balance warmth and control (Hamon & Schrodt, 2012). Conformity orientation is positively correlated with an authoritarian parenting style, in which parenting is characterized by high levels of control and low levels of warmth (Hamon & Schrodt, 2012). While communication between parents and children impacts overall family functioning (Olson, 2000), parenting styles marked by controlling behaviors (such as authoritarian or overinvolved parenting) may undermine the development of one’s personal sense of competency (Givertz & Segrin, 2014).

Figure 1.1 Family communication patterns typology
Psychological Control. Parent-child relationships are often described as a combination of warmth and control (Baumrind, 1971; Baumrind, Larzelere, & Owens, 2010). An imbalance of warmth and control can result in poor adjustment for college students and is predictive of lower GPA (Kenney, Lac, Hummer, Grimaldi, & LaBrie, 2015) as well as low levels of emotional well-being and low self-esteem (Love & Thomas, 2014). More specifically, some forms of control, such as psychological control, are consistently associated with negative outcomes. Parental psychological control refers to parental attempts to influence children’s psychological or emotional development via such tactics as manipulation or exploitation of the parent-child relationship, negative expressions and criticisms, and excessive control (Barber, 1996). Negative outcomes for adult children include difficulties relating with peers (Ingen et al., 2015), disrupted identity development (Ingoglia, Inguglia, Liga, & Lo Coco, 2017), anxiety and depression (Ingoglia et al., 2017; LeMoyne & Buchanan, 2011), and lower levels of self-efficacy (Ingen et al., 2015).

Parental psychological control is related to other aspects of parenting, such as communication between parents and children. For instance, Givertz and Segrin (2014) found that psychological control moderates the relationship between family communication and the development of self-efficacy in college-aged adult children. When high levels of psychological control are present, the relationship between family communication and self-efficacy is inversed, such that higher levels of communication are related to lower levels of self-efficacy. Self-efficacy is important for the initiation of behaviors and the maintenance of behaviors over time, especially when faced with obstacles. Because of the importance of self-efficacy, Givertz and Segrin’s (2014) finding merits further investigation.
Self-Efficacy. Bandura’s (1977) seminal article detailing the concept of self-efficacy has shaped the literature about understanding behavior and its connection to one’s beliefs about oneself. Bandura (2002) posited that one’s expectations of personal success in any given domain influences the initiation of behavior, the amount of effort an individual expends, and how long a person will maintain or persist in a behavior despite obstacles. Bandura (2002) elaborated on the ways self-efficacy influenced cognitive, affective, and motivational processes of human functioning.

Self-efficacy is occasionally measured as a broad construct referring to one’s general level of overall confidence (Brown & Lent, 2015). General self-efficacy may be predictive of an individual’s confidence in completing novel tasks for which they have a limited frame of reference (Sherer et al., 1982). However, examining general self-efficacy as opposed to domain-specific self-efficacy poses theoretical and methodological limitations. Bandura (1986, 1997) hypothesized that self-efficacy is domain-specific and should not be measured at broad levels. Methodologically, measures of general self-efficacy are likely tapping into similar, yet distinct, constructs such as general self-confidence (Brown & Lent, 2015). Confidence is a broader construct that refers to the strength of one’s feelings about something and is not necessarily agentic or goal-oriented, as is self-efficacy (Bandura, 1997). In contrast, context-specific self-efficacy is more predictive of one’s efficacy expectations for known tasks than is general self-efficacy (Brown & Lent, 2015). While there are infinite contexts in which self-efficacy domains may be measured, a narrower list of several theoretically relevant forms of self-efficacy exists in the literature. These include self-efficacy for self-regulated learning behaviors, social self-efficacy, and emotional self-efficacy.
**Self-efficacy for self-regulatory learning behaviors.** Self-efficacy for self-regulatory learning behaviors, hereafter referred to as self-regulatory self-efficacy, is conceptualized as one’s efficacy beliefs in planning and executing academic activities, structuring an environment conducive to academic productivity, and motivating oneself to engage in academic tasks (Affuso, Bacchini, & Miranda, 2017; Bandura, Barbaranelli, Caprara, & Pastorelli, 1996). Self-regulatory self-efficacy is categorized as an academic self-efficacy belief (Di Giunta et al., 2013). It is positively related to academic achievement (Bandura et al., 1996; Di Giunta et al., 2013; Zimmerman & Bandura, 1994) and negatively related to intent to drop out of school (Alivernini & Lucidi, 2011). Early experiences of success in academic domains are particularly important in the development of academic self-efficacy beliefs (Phan & Ngu, 2016).

**Social self-efficacy.** Social self-efficacy refers to one’s ability to initiate and effectively maintain social relationships (Smith & Betz, 2000). High levels of social self-efficacy are associated with lower levels of loneliness and social isolation (Tsai, Wang, & Wei, 2017). Bandura et al. (1996) initially theorized that high levels of social self-efficacy would lead to more favorable school environments, greater comfortability when asking for academic assistance from teachers and peers, and higher levels of academic achievement. Conversely, Bandura hypothesized that students who have poor social self-efficacy would experience repeated peer rejection, resulting in negative emotional states that impede academic achievement (Bandura et al., 1996). Indeed, social self-efficacy is positively related to academic achievement (Bandura et al., 1996). Additionally, social self-efficacy acts as a buffer, moderating the negative impact of peer victimization on academic performance (Raskauskas, Rubiano, Offen, & Wayland, 2015).

**Emotional self-efficacy.** Emotional self-efficacy refers to beliefs in one’s abilities to accurately perceive, use, understand, and manage emotions in the self and in others (Kirk,
Emotional self-efficacy is one component of emotional intelligence, which is positively related to mental and physical health (Schutte, Malouff, Thorsteinsson, Bhullar, & Rooke, 2007) and predictive of performance in academic and employment settings (Armum & Chellappan, 2016; Van Rooy & Viswesvaran, 2004). Emotional self-efficacy fits within several developmental cascade models, highlighting the reciprocal interactions between emotional self-efficacy, conduct problems, and academic achievement (Wigelsworth, Qualter, & Humphrey, 2017). Early conduct problems can result in academic difficulties and lower emotional self-efficacy (Wigelsworth, et al., 2017). Similarly, early difficulties in academic performance can result in more conduct problems and lower levels of emotional self-efficacy (Wigelsworth, et al., 2017). Conversely, high levels of emotional self-efficacy can enhance academic performance and reduce the likelihood of conduct problems (Wigelsworth, et al., 2017).

Self-efficacy beliefs impact nearly every domain of human behavior. Various types of efficacy beliefs, such as self-regulatory self-efficacy, social self-efficacy, and emotional self-efficacy, influence important areas such as academic performance in children and adolescents. Four sources of self-efficacy include mastery experiences, vicarious learning, verbal persuasion, and physiological effects (Bandura, 1977). Bandura (1994) posited that the family system provides individuals their first arena in which to develop self-efficacy beliefs, underscoring the importance of family in self-efficacy formation. Following is a review of research investigating the impact of family communication on self-efficacy beliefs in children.

Self-efficacy and family communication. There is some evidence that conversation orientation in family communication is positively related to children’s self-efficacy (Anvari, Kajbaf, Montazeri, & Sajjadian, 2014). When children are engaged in a wide variety of topics
frequently, they are likely utilizing skills such as communicative abilities, cognitive flexibility, and complex informational processing (High & Scharp, 2015; Koesten, Schrot, & Ford, 2009; Ledbetter & Schrot, 2008). Consequently, these children may be more likely to experience a personal sense of mastery using these skills. Because personal successful experiences are a significant predictor of the development of self-efficacy over time (Phan & Ng, 2016), the importance of such mastery experiences in the family system cannot be underrated. Efficacy in domains characteristic of conversation orientation may be related to self-regulatory efficacy which impacts academic performance in college students (Richardson, Abraham, & Bond, 2012). Early family experiences also impact the formation of social self-efficacy in adult children (Wei, Russell, & Zakalik, 2005) which goes on to impact academic performance (Raskauskas et al., 2015).

Not all forms of family communication, however, encourage the development of self-efficacy. Current evidence suggests conformity orientation is negatively related to self-efficacy (Anvari et al., 2014). High levels of conformity orientation are correlated with stress and mental health symptoms (Schrodt et al., 2007), intellectual inflexibility (Ledbetter & Schrot, 2008), lower levels of self-esteem (Schrodt et al., 2007), and lower levels of communicative abilities (High & Scharp, 2015). High levels of conformity orientation may interfere with a personal sense of mastery and favorable physiological, emotional, and social conditions, inhibiting the development of self-efficacy (Bandura, 1977). This negative relationship may also be influenced by psychological control; parental psychological control can impede children’s individuation, competence, and efficacy formation (Barber, Olsen, & Shagel, 1994; Givertz & Segrin, 2014).
Rationale for Study

**Contribution to Research.** Family communication patterns are associated with several behavioral, cognitive, and psychosocial outcomes in children (Schrodt et al., 2008) and specifically self-efficacy in adult children (Anvari et al., 2014). Research findings in the field of family functioning, however, contain unexpected findings given outcomes in the field of family communication. For instance, while studying the effects of parental psychological control and communication on self-efficacy, Givertz and Segrin (2014) found that increased family communication was related to lower levels of self-efficacy in adult children when high levels of psychological control were present. These findings likely reflect a moderating effect of psychological control on the relationship between communication and self-efficacy formation in children. However, it is difficult to identify the specific mechanisms of such a moderation because family communication was measured as a unitary construct and general self-efficacy was decontextualized as an outcome measure. Self-efficacy is a domain-specific construct (Bandura, 1997). When measured in general terms without the context of a specific behavior or set of behaviors, researchers are likely measuring overall confidence instead of self-efficacy (Sherer et al., 1982). Additionally, because Givertz and Segrin (2014) measured family communication as “good” or “poor,” it is difficult to make inferences about the kinds of communication that may lead to increased self-efficacy development. The design of how Givertz and Segrin studied the constructs brings some methodological and theoretical limitations for interpreting the findings (Bandura, 1997; Schrod, 2005). A more detailed study of the specific aspects of family communication would help clarify the research base if a more complex and contextualized set of variables is included in the study. By measuring specific types of self-efficacy, it will be possible to analyze the impact of family communication and psychological
control in various domains of efficacy beliefs. Additional research studies that include more specific points of data in a way that is more consistent with the theories will provide greater insight into the relationship between family communication patterns and adult children’s self-efficacy formation in ways relevant to academic performance.

**Practical Implications.** Because of its role as a facilitating factor of family functioning (Olson, 2000) and the wide range of outcomes in children associated with family communication patterns, communication within families may be viewed as one of the most important factors in family functioning. Additionally, because communication skills and strategies can be taught, family communication is a field in which interventions can be employed to maximize family functioning. Furthermore, if there is an association between adult children’s self-regulatory, social, and emotional self-efficacy and family communication patterns, several practical implications exist, including the prospect of interventions targeting family communication to enhance lasting self-efficacy beliefs, and consequently academic performance, in children. See Figure 1.2 for the model representing questions in this study.

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**Figure 1.2** Brief overview of study proposal
Research Questions

1. Are conversation and conformity orientations predictive of self-regulatory self-efficacy in adult children?

2. Does parental psychological control moderate the relationship between communication patterns and self-regulatory self-efficacy in adult children?

3. Are conversation and conformity orientations predictive of social self-efficacy in adult children?

4. Does parental psychological control moderate the relationship between communication patterns and social self-efficacy in adult children?

5. Are conversation and conformity orientations predictive of emotional self-efficacy in adult children?

6. Does parental psychological control moderate the relationship between communication patterns and emotional self-efficacy in adult children?
Chapter 2: Review of the Literature

Family functioning is complex and multifaceted. Communication within a family system is a pivotal aspect of family functioning that can influence the overall system (Olson, 2000). Parenting styles, while related to communication, are a distinct construct that also impact relationships within the family system and children’s development (McKinney, Morse, & Pastuszak, 2016). Both communication and parenting styles impact the development of self-efficacy in children (Anvari et al., 2014; Givertz & Segrin, 2014; Llorca, Richaud, & Malonda, 2017). The relationships between family communication patterns, parenting styles, and self-efficacy development are complex. Researchers have studied these constructs both independently and concurrently. Below is a review of the literature related to family functioning in general, family communication specifically, parenting styles, and three specific types of self-efficacy (self-regulatory, social, and emotional).

Family Functioning

There are multiple dimensions of family functioning (Olson, 2000). The primary models of family functioning include: the Beavers Systems Model, the McMaster Model, and the Circumplex Model of Marital and Family Systems. The common facets of family functioning included across the most widely researched models will be reviewed to convey main ideas within the broad literature, but the focus of the current study is on family communication. This aspect will be discussed in more detail than the other dimensions of family functioning.

Models and theories of family functioning. There are several models of family functioning in the research literature, and most models include constructs of cohesion, flexibility, and communication (Olson, 2000). Three prominent models will be reviewed below and in Table 2.1. The Circumplex Model will be discussed in more detail due to the central role of
communication in this model as well as research concurrent with Family Communication Patterns Theory.

Table 2.1 *Overview of Models of Family Function*

<table>
<thead>
<tr>
<th>Model</th>
<th>Cohesive factor</th>
<th>Flexible factor</th>
<th>Communication factor</th>
<th>Conceptualization of healthy families</th>
<th>Conceptualization of dysfunction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beavers Systems Model</td>
<td>Family style</td>
<td>Family competence</td>
<td>Family affect</td>
<td>Balanced family style; high family competence</td>
<td>High or low family style; low family competence</td>
</tr>
<tr>
<td>McMaster Model</td>
<td>Affective involvement</td>
<td>Behavior control</td>
<td>Communication; Affective responsiveness</td>
<td>Positive functioning on six dimensions</td>
<td>Dysfunction in any of the six dimensions; dysfunctional transactional patterns</td>
</tr>
<tr>
<td>Circumplex Model</td>
<td>Cohesion</td>
<td>Flexibility</td>
<td>Communication</td>
<td>Balanced cohesion and flexibility; high levels of communication</td>
<td>Very high or very low levels of cohesion and/or flexibility; low levels of communication</td>
</tr>
</tbody>
</table>

**Beavers Systems Model.** The Beavers Systems Model conceptualizes family functioning as the product of a stylistic dimension and its interaction with a competence dimension (Beavers & Hampson, 2000). Family style refers to whether members in the family turn inward or outward for support (Goldsmith, Pinsof, Lebow, & Chambers, 2016). Families turning exclusively inward are enmeshed and interdependent, while families turning exclusively outward seek support outside of the family. Healthy family functioning is found between these extremes, with either end of the spectrum representing dysfunction in the family (Goldsmith et al., 2016).

Family competence refers to the family’s ability to function as a healthy system. Balancing structure and flexibility is emphasized in family competence (Goldsmith et al., 2016). Healthy boundaries and an ability to adapt when needed are signs of highly competent families.
High levels of family competence are indicative of adaptive family functioning, while low levels of family competence suggest dysfunction in the family.

Unlike the other models reviewed here, the Beavers Systems Model does not conceptualize communication as a distinct facet of family functioning. However, aspects of communication are emphasized in both the stylistic and competence dimensions. For example, part of family style includes how families manage conflict and assertion and how they express positive and negative feelings. Similarly, family competence includes family affect—the range of feelings expressed, how they are expressed, and empathy conveyed between family members. Finally, communication behaviors within family systems are observed to obtain levels of family style and competence, indirectly emphasizing the importance of family communication (Beavers & Hampson, 2000).

McMaster Model of Family Functioning. The McMaster Model of Family Functioning uses various dimensions to conceptualize family functioning including problem solving, communication, roles, affective responses, affective involvement, and behavior control. Affective involvement refers to the level of interest family members show for each other’s activities (Epstein et al., 1978). This construct includes a spectrum ranging from lack of involvement to symbiotic involvement. Families with a lack of involvement are those in which members show no investment in each other. Symbiotic involvement includes pathological states in which boundaries are blurred and involvement is too intense.

Behavior control is a dimension of the McMaster Model that refers to patterns established by families to manage behaviors in physically dangerous situations, expressing physical and psychological needs, and in socializing situations inside and outside the family (Epstein et al.,
1978). Four styles of behavioral control are identified including rigid behavior control, flexible behavior control, laissez-faire behavior control, and chaotic behavior control.

Communication in the McMaster Model is defined as the way in which a family verbally exchanges information (Goldsmith et al., 2016). Communication is delineated into instrumental and affective communication. The McMaster Model postulates that families may have deficits in affective communication (i.e., accurately communicating emotions) while maintaining instrumental communication (i.e., accurately communicating information), but the reverse is rare (Epstein et al., 1978). Communication in the McMaster Model is further delineated using two continuaums: clear vs. masked and direct vs. indirect (Miller, Ryan, Ketner, Bishop, & Epstein, 2000). Clear vs. masked communication refers to the level of ambiguity present in communicative acts. Direct vs. indirect communication refers to whether communication is directed at the person for whom it is intended. Effective communication within a family according to this model occurs when communication is clear and direct (Epstein et al., 1978).

In summary, the Beavers Systems Model uses dimensions of family style and family competence to conceptualize family functioning. Communication is not explicitly identified in this model, but aspects of communication, such as family affect, are included in the family competence dimension. A balanced family style and high levels of family competence indicate healthy family functioning, while an unbalanced family style and low levels of family competence indicate a dysfunctional family system.

The McMaster Model includes six dimensions of family functioning. Communication is included as its own dimension and is defined as instrumental or affective, clear or masked, and direct or indirect. While family communication plays a role in each model, neither model highlights communication as a mechanism of change for overall family functioning. The
Circumplex Model, reviewed below, is widely used in the field of family functioning research and emphasizes the importance of family communication within the context of the overall family system. Additionally, the Circumplex Model has been studied in conjunction with Family Communications Pattern Theory (Schrodt, 2005); this is the theory used to conceptualize family communication in the current study.

**Characteristics of the Circumplex Model of Marital and Family Systems.** Olson’s (2000) Circumplex Model of family functioning was originally developed to bridge the gap between research, theory, and practice (Olson, Russell, & Sprenkle, 1989). This system-focused model integrates three dimensions considered very relevant across many family theory models and family therapy approaches (Goldsmith et al., 2016). After clustering over 50 concepts describing marital and family systems, family cohesion, flexibility, and communication emerged as overarching dimensions of family functioning (Olson, 2000).

**Cohesion.** Family cohesion refers to the emotional bond family members feel towards one another (Olson, 2000). This construct is similar to the family style dimension in the Beavers Systems Model and the affective involvement dimension in the McMaster Model. Specific variables used to measure cohesion in the Circumplex Model include emotional bonding, boundaries, decision-making, interests, recreation, time, and space. Family cohesion is determined by measuring how family systems balance separateness and togetherness. Levels of cohesion include disengaged (very low levels of cohesion), separated (low to moderate levels of cohesion), connected (moderate to high levels of cohesion), and enmeshed (very high levels of cohesion). According to the Circumplex Model, unbalanced levels of cohesion (disengaged or enmeshed) are problematic to overall family functioning; moderate levels of cohesion (separated and connected) are indicative of optimal family functioning (Olson, 2000).
Families with moderate levels of cohesion are characterized by members who are autonomous while remaining connected to one another (Olson, 2000). These families typically remain more functional across the life-cycle than families with unbalanced levels of cohesion. Families with separated relationships value time apart from each other; however, these families still spend time spent together, engage in joint decision-making, and display marital support. Some interests and activities are shared, but most are enjoyed by family members separately. Families with connected relationships value emotional closeness and loyalty. Time spent together is important, although individuals in these families still spend some time alone, with separate friends, and engaging in separate activities (Olson, 2000). Healthy levels of family cohesion are related to a variety of positive outcomes including increased marital satisfaction (Pedro, Ribeiro, & Shelton, 2015), family satisfaction and competence (Olson, 2011), and academic self-efficacy in children (Idan & Margalit, 2014; Stubbs & Maynard, 2017).

Unbalanced levels of cohesion are problematic for family members and the development of relationships between family members (Olson, 2000). Families with disengaged relationships (very low levels of cohesion) experience extreme emotional separateness. Members of these families are typically very independent and pursue individual interests at separate times and in different places than their family members. Disengagement is negatively related to parental monitoring and overall family satisfaction (Everri, Mancini, & Fruggeri, 2016).

Families with enmeshed relationships (very high levels of cohesion) experience extreme emotional closeness with one another. Loyalty is required, and family members are often dependent on and reactive to one another. Privacy is scarce in such families, and very few separate friends or interests exist (Olson, 2000). Unbalanced levels of cohesion are related to
various forms of clinical pathology, with enmeshment being specifically related to anxiety and eating disorders among family members (Pepe, Tortolani, Gentile, & Di Ciommo, 2015).

**Flexibility.** Flexibility in a family system refers to the amount of change in leadership, relationships between roles, and rules that guide these relationships (Olson, 2000). This construct is similar to the family competence dimension in the Beavers Systems Model and the behavior control dimension in the McMaster Model. Specific variables within family flexibility include leadership (i.e. control and discipline), styles of negotiation, role relationships, and relationship rules. Family flexibility is determined by the balance of stability and change within a family system. Levels of flexibility include rigid (very low flexibility), structured (low to moderate flexibility), flexible (moderate to high flexibility), and chaotic (very high flexibility). Like levels of cohesion, optimal family functioning is thought to occur with moderate levels of flexibility (Olson, 2000).

Families with balanced levels of flexibility are typically more functional than families with extremely high or low levels of flexibility (Olson, 2000). Families with structured relationships typically include an aspect of democratic leadership and some negotiations in which children are involved. While some roles are shared, they tend to be stable over time. Rules are firmly enforced and are not changed often. Families with flexible relationships exhibit more egalitarian leadership styles. Children are actively engaged in negotiations, and there is fluid change in roles when necessary. Rules are easily changed and tend to be age-appropriate (Olson, 2000). Balanced levels of family flexibility are related to higher levels of family satisfaction and family competence (Olson, 2011), child autonomy and academic self-efficacy (Idan & Margalit, 2014), and authoritative parenting styles (Givertz & Segrin, 2014).
Families with unbalanced levels of flexibility are typically problematic for the system and the individuals in it over time (Olson, 2000). Families with rigid relationships may have one individual in charge exhibiting a high degree of control over the family. Negotiations are scarce as most decisions are made by the leader. Rules and roles remain unchanged. Rigidity may serve adaptive functions in some family cultures in which it is viewed as a protective emotional relationship and associated with positive dimensions of family functioning (Everri et al., 2016). Families with chaotic relationships have limited or erratic leadership. Decision making tends to be impulsive; roles are not well-defined and change often (Olson, 2000). Unbalanced levels of flexibility are related to various forms of clinical pathology, with chaotic structures being specifically related to eating disorders among family members (Pepe et al., 2015). Chaotic family structures are also related to lower levels of family satisfaction and family competence (Olson, 2011).

Communication. Communication, the final component of family functioning according to Olson (2000), is the focus of the current study due to its facilitating role in the Circumplex Model. It is the vehicle by which cohesion and flexibility within a family system can change. Its key role in overall family functioning make communication an obvious focus for interventions targeting family functioning. Indeed, positive communication within a family system is related to more balanced levels of flexibility and cohesion as well as family satisfaction and the development of self-efficacy in children (Givertz & Segrin, 2014). While various behavioral aspects of communication are addressed in the Circumplex Model (i.e., listening skills, speaking skills, self-disclosure, clarity, continuity tracking, and respect and regard), it is essentially reduced to a unitary construct. Families are described as exhibiting overall “good” or “poor” communication without considering nuances of communication unique to every family system.
This oversimplification of family communication limits its utility within this model.

Although there are several theories and models of family functioning, most include conceptualizations of adaptability, cohesion, and communication. The Circumplex Model is often used in family functioning research and is related to Family Communications Pattern Theory, described below (Schrodt, 2005). None of the models or theories of family functioning reviewed here present a grand theory of family communication within a social-cognitive framework that yields explanatory and predictive power. Koerner and Fitzpatrick’s (2002a) theory of family communication patterns adds to our understanding of overall family functioning and is used in the current study in order to better conceptualize family communication and add explanatory power.

**Family Communication**

Family communication is central to overall family functioning (Olson, 2000). While some individual differences in communication stem from factors of “nature” in the nature vs. nurture debate (McCrskey & Beatty, 2000), the present study is focused on those factors of communication contributed by “nurture,” specifically the family environment. Communication between parents and their children provides initial and lasting socialization contexts that are a key component in the development of self-efficacy (Bandura, 1994). Family communication is also related to a wide range of behavioral, cognitive, and psychosocial outcomes in children (Schrodt et al., 2008). For these reasons, family communication is an important construct and the focus of the present study. Many theories of family communication exist. Following is a brief review of the unique contributions and theoretical perspectives of Communication Accommodation Theory (CAT), Relational Dialectics Theory, and Symbolic Convergence
theory. Family Communication Patterns Theory (FCPT) is then reviewed in-depth as it is used in the present study to conceptualize family communication.

**Theories of family communication.** There are many theories of family communication including Communication Accommodation Theory (CAT), Relational Dialectics Theory, and Symbolic Convergence Theory. A brief review of these theories follows. While each theory provides unique perspectives on communication within a family, they lack the combination of necessary components required to be considered grand theories of communication with robust explanatory and predictive power.

**Communication Accommodation Theory.** First, Communication Accommodation Theory (CAT) examines the ways in which individuals adjust communication behaviors depending on the relationships of those participating in the conversation (Harwood, Soliz, & Lin, 2006). This theory draws largely on Social Identity Theory which posits that people establish group identities based on similar or dissimilar communication styles with others (Gallois, Ogay, & Giles, 2005). Matching someone’s communication style engenders a group identity, while discrepancies in communication styles between individuals begets distance. For instance, if an adolescent wants to establish a group identity with her peers, she may use similar communication techniques as her peers when communicating with them (rate and volume of speech, slang, etc.). If this adolescent wanted to establish a social identity separate from her parents, she may distance herself by using different communication techniques than her parents when communicating with them (faster rate of speech, louder speech, slang that is not used by her parents, etc.).

Recently, the construct of inferred motive has been added to CAT in an attempt to take into account the subjective experiences of the individuals involved in the communications with
each other (Gasiorek & Giles, 2015). This is especially pertinent when communication techniques between two people do not match, a situation referred to as “nonaccommodation” in CAT. Nonaccommodation can occur in order to distance someone (as described above), to intentionally hinder comprehension, or as the outcome of cultural differences. When nonaccommodation occurs, the motives for this poor communication are inferred by at least one party and can change the impact nonaccommodation has on the relationship. Nonverbal communication behaviors also play a prominent role in CAT as these are often adjusted to match those of people with whom an individual is communicating (Morgan, Occa, Mouton, & Potter, 2017). This theory attempts to explain family communication and how intergroup influences impact interpersonal behaviors (Harwood et al., 2006). In other words, the relationships and group identities of individuals within a family will dictate specific communication behaviors and whether or not these behaviors are congruent across family members. CAT is primarily related to observed communication practices within the family. One drawback to CAT is it does not focus on the psychosocial processes of creating a shared social reality and meaning, which are important dimensions in key relationships (Koerner & Schrodt, 2014).

**Relational Dialectics Theory.** Relational Dialectics Theory is based on the belief that relationships are formed through communication and are malleable by changing communication patterns (Rogers, 2006). Founded on theory explaining the pragmatic meaning of communication within cultural systems, Relational Dialectics Theory holds that communication is a formative social process. This theory focuses on the process of meaning-making between individuals through the use of competing discourses (Baxter & Braithwaite, 2008). Discourses refer to cultural systems of meaning that are common to group members and help people understand communication. For instance, the discourse of individualism in the United States gives meaning
to the phrase “Be true to yourself.” Relational Dialectics Theory posits that communication is full of tension from discourses that are competing. For instance, competing discourses may be prevalent in a parent-child relationship as parents attempt to foster intimacy and connection with their children while simultaneously encouraging autonomy and independence. Relational Dialectics Theory further identifies tension in communication surrounding three sets of mutually exclusive goals: integration vs. separation, stability vs. change, and expression vs. privacy (Johnson, Jensen, Sera, & Cimbora, 2018).

This theory describes communication as a series of symmetric or complimentary exchanges. Symmetric and complimentary exchanges are further differentiated by one-up control messages (communication that asserts a directive such as making an order or talking over someone), one-down acceptance and request messages (communication that supports or requests the other’s expressed discourse), and one-across control-leveling messages (communication that involves an assertion or elaboration of what someone said) (Rogers, 2006). Like CAT, this theory of communication is focused on specific communicative behaviors as opposed to more general psychosocial processes of creating a shared social reality. The goal of Relational Dialectics Theory is to understand specific communication within a relationship qualitatively, not to explain or predict communication on a large scale.

Symbolic Convergence Theory. Finally, Symbolic Convergence Theory (SCT) is a general theory of communication based on overarching contexts and cultures (Braithwaite, Schrodt, & Kellas, 2006). This theory focuses on the use of dramatizing messages in communication. Dramatizing messages are those acts of communication that involve imaginative language and are less tied to the present. These include dramatic retellings of past memories or imaginative predictions or dreams about the future. When the content of dramatized messages
has become part of the group consciousness, they are labeled fantasy chains. These are evident when others engage in and respond to dramatizing messages. Such responses, according to this theory, are only possible through symbolic convergence, in which family members share a fantasy (Braithwaite et al, 2006). Shared fantasies include such communication acts as inside jokes or retelling stories that have become part of the lore of a group. Symbolic convergence is evident when common word-plays, puns, narratives, and analogies surface in a variety of family contexts across time (Braithwaite, et al., 2006).

According to Symbolic Convergence Theory, fantasy metanarratives are then formed and include shared interpretations that fulfill some psychological need of a group (Coryell, 2013). Examples of fantasy metanarratives include how individuals learning a second language understand their multilingual identities or how members of cultural minority groups understand the role of prejudice in their lives. Fantasy metanarratives may be used to fulfill psychological needs of families or cultural groups as members create meanings from their shared experiences (Coryell, Clark, & Pomerantz, 2010). Fantasy themes emerging from symbolic convergence can both facilitate and inhibit group cohesion depending on the nature of those themes (Zanin, Hoelscher, & Kramer, 2016). While this theory of communication explains more general psychosocial processes, it lacks explanatory power about why individuals are inclined to engage in the creation of shared fantasies (Olufowote, 2006). Additionally, measures of social convergence are limited to observational techniques of specific groups, hindering the practical usability of this theory on a large scale across several groups. Finally, because this theory is primarily descriptive of communication that occurs within a specific group, research is limited regarding its utility in analyzing multiple family systems.
In summary, CAT is primarily descriptive of specific communication behaviors that illustrate group and individual identities. Relational Dialectics Theory is similarly descriptive of communication behaviors and is focused on finding meaning in individual relationships. Symbolic Convergence Theory takes a broader approach in explaining group communication through the use of dramatizing messages and metanarratives. While these theories represent a portion of the broad scope of communication theories that can be applied to families, they all lack explanatory and predictive power. CAT and Relational Dialectics Theory are based on observations of specific behaviors instead of more broad processes of creating shared social realities. While Symbolic Convergence Theory does address more general processes of creating a shared social reality, it lacks robust social-cognitive theoretical foundations that give explanatory and predictive power. There is one theory, Family Communication Patterns Theory (FCPT), which offers more in some of the ways the other communications theories fall short. FCPT is grounded in a social-cognitive model and focuses on the shared reality created in a family by specific psychosocial processes, is not primarily descriptive, and it includes the elements of explanation and predictions based on communication patterns (Koerner & Schrodt, 2014).

**Family Communication Patterns Theory.** Family Communication Patterns Theory (FCPT) conceptualizes family communication as those processes that create shared social realities within a family system. To this end, communication patterns are assumed to be universal, basic patterns that, while influenced by the cultures in which they occur, are not bound to culture as are other theories of family communication (Koerner & Schrodt, 2014). FCPT does not assume one superior method of functional communication and is not descriptive of observed communication practices; rather, it recognizes differences in adaptive communication between
families. That is, specific communicative behaviors are not seen as functional or dysfunctional; their utility is determined based on the way they function within the unique communication contexts created by different family types (Koerner & Fitzpatrick, 2006).

This theory also stands apart from other communication theories in that it is based on a well-established cognitive model that provides explanatory power for communication patterns within families (Koerner & Fitzpatrick, 2006). Because FCPT uniquely addresses social-cognitive components of shared realities, it is related to a wide range of behavioral, cognitive, and psychosocial outcomes, solidifying its place as a grand theory of communication. Finally, FCPT is associated with a history of strong empirical measures of underlying communicative patterns and resulting family types that have been established as both reliable and valid, providing researchers with a powerful measure to analyze family communication (Hesse, Rauscher, Goodman, & Couvrette, 2017; Ritchie & Fitzpatrick, 1990). For these reasons, the current study will conceptualize family communication within FCPT. FCPT has evolved overtime and originated in mass media research and the concept of co-orientation (McLeod & Chaffee, 1972).

![Conceptual model of co-orientation](image)

*Figure 2.1. Conceptual model of co-orientation. Solid lines represent person A’s perceptions of object X and person B. Dashed lines represent person A’s inferences about person B’s perceptions about object X and person A. Adapted from McLeod and Chaffee (1973).*
History of Family Communications Pattern Theory. FCPT finds its foundation in research occurring as early as 1972. McLeod and Chaffee (1972) studied how parents and children process media messages using the concept of co-orientation (Newcomb, 1953). Co-orientation is the process of multiple people attending to one object and involves an individual’s own beliefs and opinions about the object as well as the individual’s perception of the other person’s beliefs and opinions about the same object. Figure 2.1, for example, represents the social reality of person A.

Three factors of co-orientation include agreement, accuracy, and congruence. Agreement refers to the similarity in person A’s and person B’s beliefs or opinions about object X. Accuracy refers to whether or not person A’s inferences about person B’s perceptions of object X are correct. Congruence is a combination of these factors and refers to whether or not person A’s perceptions of object X match person A’s inferences about person B’s perceptions of object X (McLeod & Chaffee, 1973). Theoretically, for individuals to create a shared social reality, all three aspects of co-orientation must be present. This can be accomplished either by focusing on the object’s perceived attributes via direct observation and discussion or by focusing on the other individual’s evaluation of the object. These two strategies are known in contemporary FCPT as conversation orientation and conformity orientation respectively.

Conversation orientation. Conversation orientation is defined as the degree to which families cultivate a climate that encourages all family members to participate in unrestrained interactions concerning a wide array of topics. Families high in conversation orientation will engage freely, frequently, and spontaneously conversing a wide range of topics. Activities that affect the family are typically discussed as a family unit. Conversation orientation is associated with the belief that open and frequent communication is necessary for an enjoyable family life.
The exchange of ideas is valued, and parents view frequent conversation as the main means to educate and socialize their children. Families with low levels of conversation orientation interact less frequently and only discuss a few topics openly. Exchange of private thoughts, feelings, and activities is limited when low levels of conversation orientation are present. These families do not typically engage as a unit, and only certain members’ input is sought in family decision making. Low levels of conversation orientation reflect beliefs that the open and frequent exchange of ideas, values, and opinions is not necessary for family functioning or for children’s education and socialization (Koerner & Fitzpatrick, 2002b).

**Conformity orientation.** Conformity orientation is defined as the degree to which families emphasize a climate of homogeneity of values, beliefs, and attitudes (Koerner & Fitzpatrick, 2002b). Families with high levels of conformity orientation exhibit interactions emphasizing conflict avoidance, conformity, and obedience to parents and other adults. This orientation is associated with traditional family structures, in which families are cohesive and hierarchical. Families with low levels of conformity orientation emphasize interactions that focus on heterogeneous attitudes and beliefs while encouraging individuality and independence. Communication with low levels of conformity orientation reflects the equality of all family members regardless of generational status, and children are typically involved in decision making. Families with low levels of conformity orientation exhibit less cohesive and hierarchically organized families. These families encourage personal growth for individual family members, even at the expense of the interdependence of the family unit (Koerner & Fitzpatrick, 2002b).

Several outcomes are associated with conversation orientation, conformity orientation, and their interaction including self-esteem (Curran & Allen, 2016; Hamon & Schrodt, 2012),
emotion regulation strategies (Jones, Bodie, & Koerner, 2017), emotional intelligence (Keaten & Kelly, 2008), communicative ability (High & Scharp, 2015), cognitive flexibility (Koesten et al., 2009), informational reception apprehension (Ledbetter & Schrodt, 2008), and general self-efficacy (Anvari et al., 2014). A meta-analysis, reviewed more thoroughly below, found a wide range of behavioral, cognitive, and psychosocial outcomes related to FCPT (Schrodt et al., 2008). Such a range of outcomes adds to this theory’s predictive and explanatory power (Koerner & Schrodt, 2014). Researchers are continuing to identify specific interpersonal behaviors that mediate the effects of conversation orientation and conformity orientation on family outcomes in an effort to explain why family communication patterns are associated with such a broad range of outcomes. FCPT is considered a grand theory of communication and likely boasts a wide range of outcomes due to its social cognitive theory framework. Using a social cognitive framework has direct implications for the conceptualization of family communication as a broad process of creating shared social realities as opposed to studying individual behavioral components of communication which are more bound to specific cultural norms (Koerner & Schrodt, 2014).

*Social cognitive theory of family communication.* Using McLeod and Chaffee’s (1973) model of co-orientation as a foundation, Koerner and Fitzpatrick (2002a) set out a theory of family communication based on a cognitive schematic representation of relational knowledge. This theory is illustrated in Figure 2.2 and is also based on Fletcher’s (1993, Fletcher & Thomas, 1996) model which posits three basic levels of interpersonal communication: an overarching general social schema, more specific relationship type schemata, and individual nuanced relationship-specific schemata. The general social schema contains knowledge about social norms that are true for all relationships, presumably relative to each culture (Koerner &
Fitzpatrick, 2002a). The relationship type schema contains information relative to different categories of relationships (e.g., friendships, romantic relationships, collegial relationships; Koerner & Fitzpatrick, 2002a). Knowledge at this level is more specific than knowledge in the general social schema and, therefore, allows individuals to make causal inferences explaining their own and others’ behaviors (Koerner & Fitzpatrick, 2002a). Finally, relationship-specific schemata contain knowledge that applies to specific, individual relationships a person has with one other particular person (Koerner & Fitzpatrick, 2002a). Knowledge in this schema includes experiences, memories, and attributions made only in the context of a specific relationship (Koerner & Fitzpatrick, 2002a). Fletcher (1993) posits that knowledge and beliefs held in this schema are what make each relationship unique and distinguishable.

Figure 2.2. “The hierarchical organization of a person’s social knowledge for three different types of relationships.” Koerner and Fitzpatrick (2002a, p. 76)

Koerner and Fitzpatrick (2002a) propose that family communication behavior is the result of cognitive processes determined by a relationship type schema, specifically a family
relationship schema. Information in this schema is based on both socializing factors as well as direct experiences within a family, and it applies to all relationships one has with family members (Koerner & Fitzpatrick, 2002a). Knowledge held in the family relationship schema include beliefs about intimacy, individuality, affection, and external factors as well as conversation and conformity orientations (Koerner & Fitzpatrick, 2002a).

Because it is rooted in a social-cognitive theoretical framework of communication, FCPT is related to a wide range of behavioral, cognitive, and psychosocial outcomes. To illustrate the range of these outcomes, a meta-analysis of studies analyzing the relationships between communication patterns (i.e., conversation and conformity orientation) and several outcome variables is reviewed below.

**Impact of family communication on children.** Schrodt and colleagues (2008) reviewed 56 studies (N = 19,645) and examined the relationships between family communication patterns (i.e., conversation orientation and conformity orientation) and information-processing, behavioral, and psychosocial outcomes. Studies examined were limited to those in which quantitative data was gathered in such a way that permitted the calculation of an effect estimate; additionally, studies examined had to include at least one dimension of family communication patterns (Schrodt et al., 2008).

Some variables used when observing information processing outcomes included cognitive flexibility and complexity; informational reception apprehension; perceived influence for product purchases; attitudes toward advertising, TV violence, and music videos; skepticism and message persuasiveness; materialism, motives for consumption, and socialization goals; characteristics of family secrets, family communication standards, family health rules, and interpersonal motives; political identity; literary evaluations; and religious particularism.
Variables used when observing behavioral outcomes included demand/withdraw patterns, confirmation and affection, conflict styles, conflict behaviors, discussions and consumption of alcohol, discussion and control of TV viewing, discussion of news stories, use of media, political involvement, shopping behaviors, deception, use of power, physical and symbolic aggression, concealing secrets, self-disclosure, individual speech acts, interpersonal skills, perspective-taking behaviors, family conflict, family expressiveness, and family rituals. Some variables used when observing psychosocial outcomes included physical and mental health symptoms, anxiety, depression, perceived stress, general well-being, self-esteem, self-concept, positive affect, family cohesion, family adaptability, relational satisfaction, relational commitment, shyness, sociability, reticence, communication apprehension, and unwillingness to communicate.

Schrodt et al. (2008) found a small but meaningful relationship between general family communication patterns and overall outcome variables. The average effect size for conversation orientation and psychosocial outcomes ($r = .460$) was larger than the average effect sizes observed for conversation and information processing ($r = .238, p < .01$) or behavioral ($r = .276, p < .05$) outcomes (Schrodt et al., 2008). Similarly, the effect size observed for conversation orientation and psychosocial outcomes ($r = .460$) was greater than the effect size observed for conformity orientation and psychosocial outcomes ($r = .280, p < .05$), suggesting that conversation orientation is a stronger predictor of psychosocial outcomes than is conformity orientation (Schrodt et al., 2008).

The breadth of outcomes that have been linked to family communication patterns supports the notion that Koerner and Fitzpatrick’s (2002a) theory of family communication schemata constitutes a truly general theory of family communication. While many of the outcomes related to family communication likely also impact the development of self-efficacy
beliefs in children (e.g., interpersonal skills, perspective-taking behaviors, self-esteem, self-concept), research investigating such a connection is sparse. Furthermore, no research to date has investigated the impact family communication patterns may have on specific forms of self-efficacy such as self-regulatory self-efficacy, social self-efficacy, or emotional self-efficacy.

FCPT has a rich history of valid and reliable measures designed to analyze family communication patterns. The history of these measures is outlined below along with justification for the measures used in the present study.

**Assessment of family communication patterns.** Measures of family communication patterns within the FCPT framework have evolved across four main generations (Schrodt, et al., 2008). The first represents McLeod and Chaffee’s (1973) theory of co-orientation which serves as the foundation for contemporary FCPT. Co-orientation theory was primarily used in marketing research to investigate how parents impact the ways in which children process, consume, and use mass media messages (e.g. Chaffee, McLeod, & Atkin, 1971). McLeod and Chaffee (1972) developed the Family Communication Patterns (FCP) scale. The FCP measured two dimensions of family communication labeled concept-orientation and socio-orientation. These orientations are illustrated in Figure 2.1 and refer to the ways in which multiple individuals create a shared social reality by forming a belief or opinion about something. The FCP was used by researchers to create a family typology using a median-split technique. Researchers identified four family types: consensual families (high concept- and socio-orientations), protective families (high socio-orientation and low concept-orientation), pluralistic families (high concept-orientation and low socio-orientation), and laissez-faire families (low concept- and socio-orientations). Co-orientation theory and the FCP provided the initial framework for contemporary FCPT, but they also produced several inconsistent research
findings that necessitated an updated scale of measurement and theoretical framework (Ritchie, 1991).

Reports of inconsistent findings brought about the second generation of this field, and contemporary FCPT was established (Ritchie, 1991). Concept-orientation and socio-orientation were reconceptualized and relabeled as conversation orientation and conformity orientation, respectively. This shift in theory better represented strategies used by parents to address differing values and beliefs with children. The FCP was revised to increase reliability and validity and to reflect the newly conceptualized conversation and conformity orientations, and the Revised Family Communication Patterns (RFCP) scale was established (Ritchie & Fitzpatrick, 1990). The RFCP emphasizes behavioral components of family communication while the FCP highlighted patterns in information processing due to its use in marketing research. The RFCP is the most common scale used in current research within the FCPT framework.

The third generation of measurement in FCPT represents a combination of the RFCP and Fitzpatrick’s (1988) research concerning marital types. During this evolution of FCPT, median splits used to establish a family typology fell out of favor due to methodological concerns (Koerner & Fitzpatrick, 2002b). While the RFCP is still used in current research of family communication, the Family Communication Environment Instrument (FCEI) was also introduced during this generational shift (Fitzpatrick & Ritchie, 1994). The FCEI measures three dimensions of family communication environment: expressiveness, structural traditionalism, and conflict avoidance. Expressiveness is very similar to conversation orientation as measured on the RFCP. Structural traditionalism and conflict avoidance similarly represent two components of conformity-orientation measured on the RFCP. Research utilizing the FCEI results in similar patterns as research using the RFCP (Schrodt et al., 2008). Although the FCEI represents a
conceptually evolved measure combining both marital and parental communication, it is empirically similar to the RFCP as both measure the underlying constructs of conversation and conformity orientations (Schrodt et al., 2008). In the present study, conversation and conformity orientation are measured using the RFCP as it is a valid and reliable measure of family communication and more closely aligned theoretically with family communication patterns theory.

**Cultural application of Family Communication Patterns Theory.** FCPT does not primarily describe specific communicative behaviors. Instead, it deduces communication patterns within a family system through psychosocial procedures such as creating shared realities and sense making (Koerner & Schrodt, 2014). While these psychosocial processes are certainly influenced by the culture in which they take place, they are largely assumed to be fundamental ubiquitous patterns of communication. A unique strength of FCPT is that it is less influenced by Western culture than other widely used theories of family communication. FCPT has been successfully applied to research in many non-Western cultures.

Zhang (2007) used FCPT to analyze communication patterns in Chinese families. On average, Chinese families exhibited higher levels of conversation-orientation than conformity orientations. Conversation-orientation in Chinese families is related to positive conflict styles such as collaboration and compromise while conformity-orientation is related to negative conflict styles such as competition and avoidance (Zhang, 2007). Similarly, Koroshnia and Latifian (2007) found the RFCP to be a valid and reliable measure of family communication patterns for Iranian families.

The RFCP was also used to compare communication patterns between families in Japan and families in the United States. Some differences between cultures were evident. For instance,
higher levels of conversation orientation were reported in the United States than in Japan. Interestingly, higher levels of conformity orientation were also reported in the United States than in Japan. More consensual family types were reported in the United States than in Japan, while more laissez-faire family types were reported in Japan than in the United States. Several similarities between cultures were also revealed. The frequency of protective and pluralistic family types were similar across cultures. Conversation orientation was related to integrating and compromising conflict strategies in both cultures, while conformity orientation was related to obliging and avoiding conflict strategies in both cultures. Furthermore, conversation orientation was strongly and positively correlated with communication satisfaction in young adults in both cultures (Shearman & Dumlao, 2008). While culture certainly influences specific communicative acts, FCPT is less influenced by Western culture than other theories of family communication. Furthermore, the RFCP has been validated as a measure of family communication in a variety of cultures.

Self-Efficacy

Bandura (1977) first outlined the theoretical construct of self-efficacy as part of a unifying theory of behavior. In his original manuscript, Bandura (1977) hypothesized that expectations of efficacy would predict a host of behavioral qualities such as whether or not behavior was initiated, how effortful an individual would be, and how much perseverance would be displayed. Bandura (1977) went on to propose four distinct sources of self-efficacy: past performance accomplishments, vicarious experience, verbal persuasion, and physiological states.

According to Bandura’s (1977) theory, behavior can be more accurately predicted by the beliefs individuals hold about their capabilities than by actual skills or knowledge because of the activating role such self-beliefs have on individual skills and knowledge (Pajares & Schunk,
2001). That is, individuals have a tendency to engage in tasks in which they feel confident and competent and avoid tasks for which they lack self-efficacy (Pajares & Schunk, 2001). Efficacy beliefs also inform outcome expectations, with higher expectations held when higher levels of self-efficacy are present (Pajares & Schunk, 2001).

To this end, self-efficacy beliefs are directly related to one’s sense of agency (Bandura, 2002). Agency refers to one’s influence on one’s own functioning and life circumstances (Bandura, 2002). This includes personal agency, proxy agency, and collective agency (Bandura, 2002). Direct personal agency refers to circumstances in which one directly influences one’s self and environment in an effort to bring about a desired outcome (Bandura, 2002). Proxy agency refers to circumstances in which one is not able to directly bring about desired outcomes and relies on those who have access to necessary resources, expertise, or influence (Bandura, 2002). Collective agency refers to the process of multiple individuals combining their resources, knowledge, and skills in order to secure a desired outcome (Bandura, 2002). Bandura (2002) posited that everyone needs a combination of all three types of agency to successfully function on a day-to-day basis. Furthermore, while levels of each type of agency may differ between cultures, all types of agency are universal and present to some degree in every culture (Bandura, 2002).

Sources and development of self-efficacy. The development of self-efficacious beliefs involves the interaction of four primary sources of information: personal experiences of mastery, vicarious experiences, verbal persuasion, and physiological or emotional states (Bandura, 1977). Personal experiences of mastery refer to past occurrences of success in a given domain and are most effective in developing one’s self-efficacy in specific situations (Bandura, 1977; Phan & Ngu, 2016; Usher & Pajares, 2006). Vicarious experiences refer to witnessing someone else,
preferably someone relatable, experience success in a given domain (Bandura, 1977; Usher & Pajares, 2006). Verbal persuasion refers to feedback individuals receive from others regarding their performance in a given domain (Bandura, 1977; Usher & Pajares, 2006). Finally, physiological and emotional states such as anxiety or stress can be interpreted by individuals as an indicator of their competence in a given domain (Bandura, 1977; Usher & Pajares, 2006).

According to Bandura (1994), the primary source of self-efficacy for children early in life is the family. Families provide opportunities for children to develop, explore, encounter new experiences, master challenges, and begin developing confidence in their own abilities (Bandura, 1994). This early enactive learning experience is facilitated by responsive parents who allow children to experience success in exercising some degree of personal control (Bandura, 1994). Indeed, family environments impact general levels of self-efficacy in children (Anvari et al., 2014; Givertz & Segrin, 2014; Lian & Lin, 2007).

As children grow, Bandura (1994) posited they develop self-efficacy through peer influences in addition to family influences. Peer influences are especially important for children to gain insight about their own abilities compared to the abilities of others their own age. When children enter school, they gain more access to various sources of self-efficacy development in the forms of teachers, additional peers, and formal evaluations of their academic performance. Finally, upon entering adolescence, individuals continue to develop self-efficacy through various transitional experiences. As adolescents gain more independence, their sense of efficacy is expanded as they navigate novel life events (Bandura, 1994).

In order to analyze whether individuals are impacted differently by the four sources of self-efficacy as they age, Phan and Ngu (2016) conducted a longitudinal study. Sixth grade students were surveyed at three time points across the academic year to determine if the four
main sources of self-efficacy differentially impacted them throughout the year as individuals transitioned from childhood to adolescence. At Time 1, both enactive learning experiences and vicarious experiences significantly impacted self-efficacy. At Time 2, only enactive learning experiences remained a significant factor in the development of self-efficacy. At Time 3, enactive learning experiences remained significant, and verbal persuasion, emotional states, and physiological states were also found to be significant factors in the development of self-efficacy (Phan & Ngu, 2016). These findings suggest that vicarious experiences may be a significant contributor to self-efficacy in elementary school and loses some level of significance throughout middle and high school. Conversely, the importance of physiological and emotional states along with verbal persuasion may be amplified as individuals transition into adolescence and progress through middle and high school. Enactive learning experiences, however, remained a significant factor in the development of self-efficacy across time.

**Contextualized self-efficacy.** Self-efficacy is widely recognized as a domain-specific belief and can be measured at various levels of specificity (Brown & Lent, 2015; Choi, 2005; Pastorelli et al., 2001). However, some researchers propose a form of generalized self-efficacy that may influence an individual’s performance on novel tasks (Sherer et al., 1982). For instance, individuals with a wide variety of frequent success experiences may be more likely than individuals who frequently experience failure or have a limited number of success experiences to have positive self-efficacy in a wider range of situations (Sherer et al., 1982). This generalized self-efficacy is believed to inform efficacy expectations in new and unfamiliar situations (Sherer et al., 1982). While measuring global self-efficacy may provide some insight to individuals’ efficacy predictions in novel situations (Sherer et al., 1982) and more domain specific levels of self-efficacy (Choi, 2005), by itself general self-efficacy is limited in utility. Bandura (1997)
posited that when self-efficacy is decontextualized and measured globally, it is likely other constructs are also being tapped by the measurement such as confidence or self-esteem. Because of its hierarchical nature, self-efficacy holds more predictive power when its specificity matches the level of specificity in an outcome (Choi, 2005). Indeed, self-efficacy is multi-faceted and domain-specific (Pastorelli et al., 2001). Three self-efficacy domains that may be especially important to overall academic performance include self-regulatory self-efficacy, social self-efficacy, and emotional self-efficacy.

**Self-regulatory self-efficacy.** Academic self-efficacy refers to the belief that one is able to succeed in academic settings, and it is a positive predictor of academic achievement (e.g. Affuso et al., 2017; Pajares & Schunk, 2001; Phan & Ngu, 2016; Siriparp, 2015). Academic self-efficacy continues to impact students throughout college (Choi, 2005) and mediates the relationship between parenting style and academic achievement (Llorca et al., 2017). One component of academic self-efficacy is self-efficacy for self-regulated learning behaviors (Bandura et al., 1996).

Self-regulated learning refers to the idea that students are active agents in their own learning process (Zimmerman & Martinez-Pons, 1988). Self-regulated learning behaviors include activities such as planning, organizing, self-evaluating, and creating social and physical environments to optimize learning. Self-regulatory self-efficacy, then, refers to perceptions about one’s own abilities to engage in self-regulatory learning behaviors (Bandura et al., 1996). Self-regulatory self-efficacy is a unidimensional construct across genders and grades (Usher & Pajares, 2008). Self-regulatory self-efficacy is related to academic skills and outcomes such as academic achievement, assertiveness, and communication skills (Choi et al., 2001). Self-regulatory self-efficacy is also related to psychological outcomes such as hope and optimism.
Self-regulatory self-efficacy is also negatively related to academic procrastination and academic anxiety (Yerdelen, McCaffrey, & Klassen, 2015) as well as loneliness (Feldman et al., 2016).

Various empirically-validated measures of academic self-efficacy for a range of ages exist (Minter & Pritzker, 2017; Owen & Froman, 1988; Pastorelli et al., 2001). Many scales include an academic self-efficacy subscale, measuring perceptions of one’s own abilities to succeed in specific academic subjects (e.g. mathematics, foreign language, science; Owen & Froman, 1988; Pastorelli et al., 2001). Because the participants in the current study are in a college setting, it is unlikely all students will be enrolled in the same classes. Measuring academic self-efficacy (students’ beliefs about their abilities to succeed in specific classes or subjects) would not be as relevant to the current study as measuring students’ beliefs in their abilities to engage in behaviors that facilitate learning across various classes and subjects. The self-regulatory self-efficacy subscale from Bandura’s (1989) Multidimensional Scales of Perceived Self-Efficacy (MSPSE) was isolated in the current study in order to more accurately measure a wide range of students in various classes. This scale is a valid and reliable measure of self-regulatory self-efficacy and has been validated for use with college students (Choi, Fuqua, & Griffin, 2001).

Social self-efficacy. Social self-efficacy refers to confidence in one’s ability to initiate and maintain interpersonal relationships (Smith & Betz, 2000). Bandura (1996) posited that efficacy beliefs in this domain are key to students’ academic success. High levels of social self-efficacy, he reasoned, would be positively related to social skills that influence the school environment and make it more conducive to learning. Indeed, Bandura (1996) found social self-efficacy was positively related to prosocial behavior, negatively related to depression, negatively
related to problem behaviors, and positively related to academic achievement. Social self-efficacy can also help individuals navigate social challenges and resist negative peer pressure (e.g. Ludwig & Pittman, 1999; Zullig, Teoli, & Valois, 2011). Individuals with low levels of social self-efficacy report more social anxiety (De Castella et al., 2015) and loneliness (Tsai et al., 2017), while high levels of social self-efficacy play a protective role against peer victimization (Buser, Peterson, & Kearney, 2015).

The Scale of Perceived Social Self-Efficacy (PSSE) was originally developed for use in studying vocational behaviors and career domains (Smith & Betz, 2000). The PSSE is an improvement psychometrically compared to the widely-used social-self efficacy subscale of the Generalized Self-Efficacy Scale (Sherer et al., 1982). The College Interaction Self-Efficacy Questionnaire (CISEQ; Fichten, Bourdon, Amsel, & Fox, 1987) measures college students’ social self-efficacy specifically in interactions with individuals of the same sex. This scale’s scope of behaviors related to social self-efficacy are too narrow for the current study. Bandura and colleagues developed a social self-efficacy scale for use in middle school adolescents, but this scale was not developed for use with college students (Bandura, Pastorelli, Barbaranelli, & Caprara, 1999). The PSSE is a valid and reliable scale of social self-efficacy measuring a broad range of beliefs related to establishing and maintaining relationships, and it was developed for use in college students.

**Emotional self-efficacy.** Emotional intelligence refers to adaptive emotional functioning (Kirk et al., 2008) and is related to a host of positive mental health, psychosomatic health, and physical health outcomes (Schutte et al., 2007) as well as cognitive ability (Van Rooy & Viswesvaran, 2003). According to Mayer’s theory of emotional intelligence, four distinct functions related to adaptive emotional functioning exist (Mayer, Salovey, & Caruso, 2004).
These include the ability to perceive emotion, utilize emotions to facilitate thoughts, understand emotions, and regulate emotions (Mayer, Salovey, & Caruso, 2004). Emotional self-efficacy refers to beliefs about one’s ability to successfully engage in these domains of emotional intelligence (Kirk et al., 2008). Emotional self-efficacy is related to higher levels of academic achievement (Armum & Chellappan, 2016). Indeed, Nightingale et al. (2013) analyzed the impact of emotional self-efficacy on first-year college students using latent growth modeling and found that emotional self-efficacy is positively related to emotion regulation and academic achievement and negatively related to loneliness and depression. Students with a low, stable profile of adjustment to college exhibited low levels of emotional self-efficacy and lower levels of academic achievement than their peers, even when controlling for past academic achievement.

Instruments measuring emotional self-efficacy are scarce. Caprara et al. (2008) created a scale of regulatory emotional self-efficacy (RESE) that measures individual’s efficacy beliefs at managing negative emotions and expressing positive emotions. The RESE was originally constructed using a sample of college-aged Italian students and was then translated and validated with samples from other countries. The use of the RESE with students from the United States may pose methodological concerns, however, as factor loadings for items in the English version of the RESE were as low as .30 (Caprara et al., 2008).

Mayer et al.’s theory of emotional intelligence provides an empirically supported and theoretically rooted conceptualization of emotional intelligence. Using this theory and Bandura’s (2001) guidelines for assessing self-efficacy, Kirk et al. (2008) constructed the Emotional Self-Efficacy Scale (ESES). The items used in the ESES are based in the four functions of emotional intelligence and measure individuals’ efficacy beliefs about their abilities to perceive emotion, use emotion to aid thinking, understand emotion, and regulate emotion. The ESES, therefore,
measures a broader range of efficacy beliefs regarding emotional intelligence and has better psychometrics than the RESE. For these reasons, the current study will operationalize emotional self-efficacy using the ESES.

**Psychological Control**

Parenting acts have historically been delineated into two categories: parenting practices and parenting styles (Darling & Steingberg, 1993). Parenting practices refer to specific behaviors that occur in particular contexts. Parenting styles are less context-specific and refer to more general values and patterns in parenting. Family communication as measured in the current study, for example, refers to a facet of parenting style and denotes broadly perceived patterns of communication.

In Baumrind’s (1971) classic typology of parenting styles, parental control interacts with parental warmth; moderate to high levels of both control and warmth are necessary for optimum parenting (Baumrind et al., 2010). Parental levels of warmth and control continue to impact emerging adults’ efficacy beliefs (Turner, Chandler, & Heffer, 2009). Excess control can either result in authoritarian parenting in which parents show little warmth and are unresponsive to their children’s needs (Baumrind et al., 2010) or overparenting in which parents exhibit a high amount of psychological control and are simultaneously overly responsive to their children’s needs (Segrin, Woszidlo, Givertz, Bauer, & Murphy, 2012). Both outcomes are indicative of an imbalance in the family system as conceptualized by Olson’s (2000) circumplex model. An excess of parental control can often occur in families with high levels of cohesion, even to the point of enmeshment (Munich & Munich, 2009).

While some degree of parental control is necessary for optimal parenting (Baumrind et al., 2010), certain forms of control in any amount are detrimental to children’s development.
Psychological control, for example, involves parental attempts to manipulate their children’s psychological and emotional development using tactics such as manipulation or exploitation of the parent-child relationship, criticism, and excessive control or overprotectiveness (Barber, 1996). The use of psychological control impedes the fundamental human drive for increased autonomy, limiting the development of self-efficacy and moderating the impact of parental communication on children’s self-beliefs (Givertz & Segrin, 2014).

The impact of psychological control is evident at several different stages of development. Children who experience psychological control and authoritarian parenting styles exhibit lower levels of academic achievement (Pinquart, 2016). Similarly, adolescents whose parents support their children’s autonomy are better able to manage their time and show less procrastination, while adolescents whose parents are psychologically controlling show poorer time management (Won & Yu, 2018). The effects of psychological control continue into emerging adulthood. College students who experienced psychological control reported disruptions in identity development as well as symptoms of anxiety and depression (Ingoglia et al., 2017) and report lower levels of self-efficacy (Givertz & Segrin, 2014).

Because of its profound effect on the development of identity and autonomy as well as its inhibitory role in the development of self-efficacy, psychological control is an important aspect to examine when analyzing family characteristics related to the development of self-efficacy beliefs. Even if parents display optimal communication patterns with their children, the presence of psychological control could moderate the relationship between family communication and self-efficacy beliefs. Psychological control may be more likely to occur in families with high levels of conformity orientation due to the nature of this communication style. However, it is
FAMILY COMMUNICATION AND SELF-EFFICACY

possible that the presence of psychological control will intensify the negative relationship between conformity orientation and self-efficacy development in children.

**Discrepant Findings in the Literature**

In an effort to examine how family communication patterns are related to self-beliefs in emergent adults, Givertz & Segrin (2014) studied the dyadic effects of several psychological and communication variables and their association with perceptions of self-efficacy. Using the Circumplex Model, they hypothesized that family environments characterized by high levels of family communication and balanced cohesion and adaptability would be related to higher levels of family satisfaction for adults and their parents. Furthermore, Givertz & Segrin (2014) thought authoritative parenting would be positively correlated with adult and parent satisfaction, while authoritarian and permissive parenting would be associated with lower family satisfaction. Concerning self-efficacy beliefs, researchers thought factors involved in parental control, such as psychological control, authoritarian parenting styles, and low levels of family flexibility, would be negatively correlated with self-efficacy and positively correlated with a sense of entitlement in adult children. The final hypothesis stated that open family communication would moderate the association between parental control and children’s self-beliefs.

Participants included 339 young adult children (130 male, 209 female; 75% White) and their parents. Parent-child dyads were recruited through classrooms at two universities in the United States. Young adults were offered extra credit in exchange for their participation. Adult children provided contact information for their parents who were then contacted through the mail. Measures in the survey packets included the Family Adaptability and Cohesion Evaluation Scales, Version IV (FACES IV), the Family Communication Scale, the Family Satisfaction Scale, the Parent-Adolescent Communication Scale, the Parental Authority Questionnaire, the
Psychological Autonomy versus Psychological Control scale, the Psychological Control Scale-Youth Self-Report, the Self-Efficacy Scale, and the Psychological Entitlement Scale.

Results indicated more balanced levels of family flexibility, cohesion, and communication were positively correlated with levels of family satisfaction for both parents and children as the Circumplex Model suggests. Additionally, researchers found a positive correlation between authoritative parenting and family satisfaction for parents and children. Furthermore, higher levels of parental control were related to lower levels of general self-efficacy in adult children. Interestingly, the relationship between parental control and adult children’s self-efficacy was found to become stronger and more negative with higher levels of open parent-child communication. This finding is new to the literature and requires more research. More specifically, research is needed to further delineate specific factors of family communication, such as conversation orientation and conformity orientation, in order to better understand the amplifying effect family communication was found to have on the negative relationship between parental control and self-efficacy.

Limitations of Givertz and Segrin’s (2014) study include the conceptualizations of family communication and self-efficacy. Family communication was measured as a unitary construct and is an oversimplification that limits the utility of the findings. Additionally, self-efficacy was measured as broad, general self-efficacy taken out of context. Decontextualizing self-efficacy poses theoretical and methodological concerns as self-efficacy as a construct is domain-specific and holds more predictive power when measured within a specific context (Brown & Lent, 2015).

These limitations could be addressed by utilizing FCPT to conceptualize communication and by measuring several types of self-efficacy beliefs. Because FCPT conceptualizes
communication within the family system as comprised of two distinct factors (i.e. conversation orientation and conformity orientation), utilizing this theory would provide insight about how different kinds of family communication interact with psychological control within the family system. Parental psychological control will be viewed as a moderator in the present study in order to replicate and further explain the unexpected relationship between communication, psychological control, and self-efficacy development investigated by Givertz and Segrin (2014). Furthermore, measuring several types of self-efficacy beliefs (i.e. self-regulatory self-efficacy, social self-efficacy, and emotional self-efficacy) would further explain how family communication and psychological control impact the development of efficacy beliefs in these specific domains. This would provide more practical utility for researchers as they seek to generate interventions to enhance family functioning and encourage the development of specific self-efficacy beliefs.

**Research Questions & Hypotheses**

1. Are conversation and conformity orientations predictive of self-regulatory self-efficacy in adult children?
   
   a. Hypothesis: Conversation orientation is a significant positive predictor of self-regulatory self-efficacy in adult children while conformity orientation is a significant negative predictor of self-regulatory self-efficacy in adult children.

2. Does psychological control moderate the relationship between communication patterns and self-regulatory self-efficacy in adult children?
   
   a. Hypothesis: Parental psychological control will intensify the negative relationship between conformity orientation and self-regulatory self-efficacy and weaken the
positive relationship between conversation orientation and self-regulatory self-efficacy.

3. Are conversation and conformity orientations predictive of social self-efficacy in adult children?
   a. Hypothesis: Conversation orientation is a significant positive predictor of social self-efficacy in adult children while conformity orientation is a significant negative predictor of social self-efficacy in adult children.

4. Does psychological control moderate the relationship between communication patterns and social self-efficacy in adult children?
   a. Hypothesis: Parental psychological control will intensify the negative relationship between conformity orientation and social self-efficacy and weaken the positive relationship between conversation orientation and social self-efficacy.

5. Are conversation and conformity orientations predictive of emotional self-efficacy in adult children?
   a. Hypothesis: Conversation orientation is a significant positive predictor of emotional self-efficacy in adult children while conformity orientation is a significant negative predictor of emotional self-efficacy in adult children.

6. Does psychological control moderate the relationship between communication patterns and emotional self-efficacy in adult children?
   a. Hypothesis: Parental psychological control will intensify the negative relationship between conformity orientation and emotional self-efficacy and weaken the positive relationship between conversation orientation and emotional self-efficacy.
Figure 2.3 Theoretical model of research questions
Chapter 3: Method

Participants

Participants for the current study were undergraduate students at a Midwestern state university (Ball State University). Approximately 16,100 undergraduate students were enrolled at Ball State University during the Fall 2018 semester. Of these students, approximately 15,000 were enrolled on-campus and 5,500 were enrolled off-campus. Ethnic and racial proportions of the 16,100 total undergraduate students include: 78.3% White (n = 12,648), 8.2% African American (n = 1,328), 5.4% Hispanic (n = 867), 3.6% Bi-Racial (n = 581), 1.3% Asian (n = 215), .1% Hawaiian or other Pacific Islander (n = 19), < .01% American Indian or Alaskan Native (n = 2), and 1.8% other or unknown (n = 289). Gender proportions include 40.4% male (n = 6,528), 59.6% female (n = 9,630), and < .01% Other (n = 2) (Ball State University, 2018).

Undergraduate students were chosen as the sample for the current study in order to further replicate the methods utilized by Givertz and Segrin (2014) and to better clarify their unexpected results.

A sample-size power-analysis was conducted using a power-analysis calculator for multiple regression (Faul, Erdfelder, Buchner, & Lang, 2009). With a required statistical power level of 0.8 (Cohen, 1988), a moderate anticipated effect size ($t^2 = .15$), seven predictors, and the probability level at .017 following Bonferroni’s adjustment, the minimum suggested sample size was 130.

Participants in the current study were recruited through the Department of Educational Psychology research participant pool and the Ball State University Communication Center. Students in a variety of courses may choose to participate in research as one of many options to fulfill a course requirement. To protect the rights of all research participants, Ball State
University’s Institutional Review Board reviewed and approved the proposed study prior to data collection (IRB number: 1383989-1).

Sample Demographics

Table 3.1

*Participant Demographics*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sample % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>16.4 (23)</td>
</tr>
<tr>
<td>Female</td>
<td>83.6 (117)</td>
</tr>
<tr>
<td>Race</td>
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</tr>
<tr>
<td>White</td>
<td>85.7 (120)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>3.6 (5)</td>
</tr>
<tr>
<td>Asian</td>
<td>2.9 (4)</td>
</tr>
<tr>
<td>Black</td>
<td>4.3 (6)</td>
</tr>
<tr>
<td>Two or More</td>
<td>3.6 (5)</td>
</tr>
<tr>
<td>Year</td>
<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>25.7 (36)</td>
</tr>
<tr>
<td>Sophomore</td>
<td>25.0 (35)</td>
</tr>
<tr>
<td>Junior</td>
<td>24.3 (34)</td>
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<tr>
<td>Senior</td>
<td>23.6 (33)</td>
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<tr>
<td>5th year +</td>
<td>1.4 (2)</td>
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<tr>
<td>Family Composition</td>
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<tr>
<td>Mother and father</td>
<td>66.4 (93)</td>
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<tr>
<td>Two mothers/fathers</td>
<td>4.3 (6)</td>
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<tr>
<td>One parent and step-parent</td>
<td>22.1 (31)</td>
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<tr>
<td>Single parent</td>
<td>6.4 (9)</td>
</tr>
<tr>
<td>Other</td>
<td>2.1 (3)</td>
</tr>
<tr>
<td>Age</td>
<td>M (SD)</td>
</tr>
<tr>
<td></td>
<td>20.52 (1.995)</td>
</tr>
</tbody>
</table>

Measures

**Demographic questionnaire.** Each survey began with basic demographic questions designed for this study (Appendix A). Background information including age, sex, and race were be gathered; race categories used in this study are those defined by the United States Census.
Bureau (2018). Participants were asked to report their GPA in order to triangulate the impact of self-regulatory self-efficacy. Participants were also asked if they are international students; two participants indicated they are international students, and both identified their home country as China. Participants were also instructed to identify their primary caregiver. The primary caregiver was defined as the adult who was most actively involved in their upbringing (e.g. a parent, grandparent, foster parent, etc.). Finally, participants were asked to list the members of their immediate families using Galvin, Braithwaite, and Bylund’s (2015) definition of family: a group of “people who share their lives over long periods of time bound by marriage, blood, or commitment…who consider themselves a family,” (p. 8).

**Revised Family Communication Patterns Instrument.** Conversation orientation and conformity orientation were measured using the Revised Family Communication Patterns Instrument (RFCP; Appendix B; Ritchie & Fitzpatrick, 1990). The conversation orientation subscale of the RFCP contains 15 items designed to measure patterns of communication observed by children within a family system (e.g., “My caregivers encourage me to challenge their ideas and beliefs.”). The conformity orientation subscale contains 11 items designed to measure conformity orientation in family communication observed by children within a family system (e.g. “My parents sometimes become irritated with my views if they are different from theirs.”). All items are measured using a seven-point Likert-type scale (1 = Strongly Disagree, 7 = Strongly Agree). The RFCP is a valid and reliable measure of family communication patterns (Koerner & Fitzpatrick, 2002b; Ritchie & Fitzpatrick, 1990; Schrodt et al., 2008). Five recent studies using the RFCP reported an average alpha coefficient for the conversation orientation subscale of .93 (range = .90 — .97) and an average alpha coefficient for the conformity
orientation subscale of .83 (range = .79 – .89) (Curran & Allen, 2016; Horstman, Colaner, & Rittenour, 2016; Jones et al., 2017; Schrodt & Shimkowski, 2017; Young & Schrodt, 2016).

In order to aid in clarity and account for diverse family compositions, participants were instructed that the term “parents” used in the items on the RFCP could refer to any adult in their immediate family who was actively involved in their upbringing.

**Self-Efficacy for Self-Regulated Learning.** The self-efficacy for self-regulated learning subscale in Bandura’s (1989; Appendix C) Multidimensional Scales of Perceived Self-Efficacy is a valid and reliable measure of confidence in one’s own self-regulatory behavior related to academic performance (Usher & Pajares, 2008; Williams & Coombs, 1996). This scale includes 11 items measuring respondents’ efficacy beliefs regarding their ability to regulate their own learning behaviors (e.g. “How well can you study when there are other interesting things to do?”). Each item is answered using a seven-point Likert-type scale (1 = Not well at all, 7 = Very well). Although this subscale is currently included in the Children’s Self-Efficacy Scale (Bandura, 2006), it remains psychometrically sound when used with undergraduate students (Choi, et al., 2001; Feldman et al., 2016; Yerdelen et al., 2016). In their validation study examining the use of this subscale in undergraduate populations, Choi et al. (2001) reported an alpha coefficient of .88.

**Scale of Perceived Social Self-Efficacy.** The Scale of Perceived Social Self-Efficacy (PSSE; Appendix D) is a 25-item scale used to measure social self-efficacy beliefs across a wide range of social behaviors (Smith & Betz, 2000). Items present social tasks (e.g. “Make friends in a group where everyone else knows each other”), and participants respond to each item using a five-point Likert-type scale to indicate their confidence in successfully performing these tasks (1 = No Confidence at all, 5 = Complete Confidence) (Smith & Betz, 2000). The PSSE is a valid
and reliable measure of social self-efficacy in adults (Smith & Betz, 2000). Five recent studies using the PSSE reported an average alpha coefficient of .93 (range = .90 — .96) (Buser et al., 2015; De Castella et al., 2015; Fan & Lai, 2014; Field, Tobin, & Reese-Weber, 2014; Ksinan & Vazsonyi, 2016).

**Emotional Self-Efficacy Scale.** The Emotional Self-Efficacy Scale (ESES; Appendix E) is a 32-item scale used to measure a wide range of emotional self-efficacy beliefs (i.e. accurately perceiving, understanding, and regulating emotions in oneself and others and using emotions to aid thinking) (Kirk et al., 2008). Items present emotional intelligence tasks (e.g. “Calm down when feeling angry”), and participants respond to each item using a five-point Likert-type scale to indicate their confidence in successfully performing these tasks (1 = Not at all Confident, 5 = Very Confident). The ESES is a valid and reliable measure with a reported alpha value of .96 (Kirk et al., 2008).

**Psychological Control Scale—Youth Self-Report.** The Psychological Control Scale—Youth Self-Report (PCS-YSR; Appendix F) is a 16-item scale used to measure the presence of psychological control in the caregiver-child relationship (Barber, 1996). Items present examples of psychologically controlling behaviors (e.g. “My caregiver is a person who is always trying to change how I feel or think about things”), and individuals are asked to describe their primary caregiver’s behavior using a three-point Likert-type scale (1 = Not like my caregiver, 2 = Somewhat like my caregiver, 3 = A lot like my caregiver). The PCS-YSR is a valid and reliable measure of psychological control (Barber, 1996). Five recent studies using the PCS-YSR reported an average alpha coefficient of .81 (range = .78 – .86) (Bosmans, Dujardin, Field, Salemink, & Vasey, 2015; Frazer & Fite, 2016; Givertz & Segrin, 2014; Missotten, Luyckx, Leeuwen, Klimstra, & Branje, 2016; Reilly, Stey, & Lapsley, 2016).
Procedure

All data collection occurred in a manner consistent with procedures approved by the university’s Institutional Review Board (IRB number: 1383989-1). Data collection was completed online, and all participants were asked to carefully read and digitally sign an informed consent document. Participants were informed that they could withdraw from the study at any time and for any reason. After agreeing to the conditions of the study, participants were directed to the study materials. Participants were first asked to provide demographic information. Participants then responded to the following self-report instruments: the Revised Family Communication Patterns Instrument (RFCP; Ritchie & Fitzpatrick, 1990), the self-efficacy for self-regulated learning behavior subscale (Bandura, 1989), the Scale of Perceived Social Self-Efficacy (PSSE; Smith & Betz, 2000), the Emotional Self-Efficacy Scale (ESES; Kirk et al., 2008), and the Psychological Control Scale—Youth Self-Report (PCS-YSR; Barber, 1996). All participants completed these scales in this order. Participants had the option of receiving one quarter hour of research participation credit (0.25) for eligible courses.

Research Questions, Analyses, & Hypotheses

Research Question 1. Are conversation and conformity orientations predictive of self-regulatory self-efficacy in adult children?


Hypothesis 1b. Conformity orientation negatively predicts self-regulatory self-efficacy in adult children.
Table 3.2

*Hierarchical Regression Model for Questions 1 and 2*

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<th>Dependent Variable</th>
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<td>Self-regulatory self-efficacy</td>
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<td>Sex</td>
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<tbody>
<tr>
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<td>Self-regulatory self-efficacy</td>
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<td>Conversation orientation</td>
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<td>Conformity orientation</td>
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<table>
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<th>Block Three Predictor Variables</th>
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<tbody>
<tr>
<td>Block two predictor variables</td>
<td>Self-regulatory self-efficacy</td>
</tr>
<tr>
<td>Psychological control</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Block Four Predictor Variables</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block three predictor variables</td>
<td>Self-regulatory self-efficacy</td>
</tr>
<tr>
<td>Conversation X Control interaction</td>
<td></td>
</tr>
<tr>
<td>Conformity X Control interaction</td>
<td></td>
</tr>
</tbody>
</table>

*Analyses for Research Question 1.* A hierarchical regression was used to address the first research question. Race, sex, and family composition were entered as predictor variables in block one to control for variance in self-regulatory self-efficacy accounted for by demographic variables. The conversation and conformity subscales from the RFCP were entered in block two to predict scores on the self-efficacy for self-regulated learning subscale.
**Research Question 2.** Does psychological control moderate the relationship between communication patterns and self-regulatory self-efficacy in adult children?

*Hypothesis 2a.* Parental psychological control intensifies the negative relationship between conformity orientation and self-regulatory self-efficacy.

*Hypothesis 2b.* Parental psychological control weakens the positive relationship between conversation orientation and self-regulatory self-efficacy.

**Analyses for Research Question 2.** Additional blocks were added to the hierarchical regression used in Question 1 to address the second research question. The third block included scores from the PCS-YSR while the fourth block included interactions with the conversation and conformity subscales. All interaction terms were mean-centered to reduce multicollinearity.

**Research Question 3.** Are conversation and conformity orientations predictive of social self-efficacy in adult children?

*Hypothesis 3a.* Conversation orientation positively predicts social self-efficacy in adult children.

*Hypothesis 3b.* Conformity orientation negatively predicts social self-efficacy in adult children.

**Analyses for Research Question 3.** A hierarchical regression was used to address the third research question. Race, sex, and family composition were entered as predictor variables in block one to control for variance in social self-efficacy accounted for by demographic variables. The conversation and conformity subscales from the RFCP were entered in block two to predict scores on the PSSE.

**Research Question 4.** Does psychological control moderate the relationship between communication patterns and social self-efficacy in adult children?
Hypothesis 4a. Parental psychological control intensifies the negative relationship between conformity orientation and social self-efficacy.

Hypothesis 4b. Parental psychological control weakens the positive relationship between conversation orientation and social self-efficacy.

Table 3.3

Hierarchical Regression Model for Questions 3 and 4

<table>
<thead>
<tr>
<th>Block One Predictor Variable</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race</td>
<td>Social self-efficacy</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td>Family composition</td>
<td></td>
</tr>
<tr>
<td>Block Two Predictor Variables</td>
<td>Dependent Variable</td>
</tr>
<tr>
<td>Block one predictor variables</td>
<td>Social Self-efficacy</td>
</tr>
<tr>
<td>Conversation orientation</td>
<td></td>
</tr>
<tr>
<td>Conformity orientation</td>
<td></td>
</tr>
<tr>
<td>Block Three Predictor Variables</td>
<td>Dependent Variable</td>
</tr>
<tr>
<td>Block two predictor variables</td>
<td>Social self-efficacy</td>
</tr>
<tr>
<td>Psychological control</td>
<td></td>
</tr>
<tr>
<td>Block Four Predictor Variables</td>
<td>Dependent Variable</td>
</tr>
<tr>
<td>Block three predictor variables</td>
<td>Social self-efficacy</td>
</tr>
<tr>
<td>Conversation X Control interaction</td>
<td></td>
</tr>
<tr>
<td>Conformity X Control interaction</td>
<td></td>
</tr>
</tbody>
</table>
Analyses for Research Question 4. Additional blocks were added to the hierarchical regression used in Question 3 to address the fourth research question. The third block included scores from the PCS-YSR while the fourth block included interactions with the conversation and conformity subscales. All interaction terms were mean-centered to reduce multicollinearity.

Research Question 5. Are conversation and conformity orientations predictive of emotional self-efficacy in adult children?

Hypothesis 5a. Conversation orientation positively predicts emotional self-efficacy in adult children.

Hypothesis 5b. Conformity orientation negatively predicts emotional self-efficacy in adult children.

Analyses for Research Question 5. A hierarchical regression was used to address the fifth research question. Race, sex, and family composition were entered as predictor variables in block one to control for variance in emotional self-efficacy accounted for by demographic variables. The conversation and conformity subscales from the RFCP were entered in block two to predict scores on the ESES.

Research Question 6. Does psychological control moderate the relationship between communication patterns and emotional self-efficacy in adult children?

Hypothesis 6a. Parental psychological control intensifies the negative relationship between conformity orientation and emotional self-efficacy.

Hypothesis 6b. Parental psychological control weakens the positive relationship between conversation orientation and emotional self-efficacy.
Table 3.4

*Hierarchical Regression Model for Questions 5 and 6*

<table>
<thead>
<tr>
<th>Block One Predictor Variables</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race</td>
<td>Emotional self-efficacy</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td>Family composition</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Block Two Predictor Variables</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block one predictor variables</td>
<td>Emotional self-efficacy</td>
</tr>
<tr>
<td>Conversation orientation</td>
<td></td>
</tr>
<tr>
<td>Conformity orientation</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Block Three Predictor Variables</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block two predictor variables</td>
<td>Emotional self-efficacy</td>
</tr>
<tr>
<td>Psychological control</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Block Four Predictor Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block three predictor variables</td>
</tr>
<tr>
<td>Conversation X Control interaction</td>
</tr>
<tr>
<td>Conformity X Control interaction</td>
</tr>
</tbody>
</table>

*Analyses for Research Question 6.* Additional blocks were added to the hierarchical regression used in Question 5 to address the sixth research question. The third block included scores from the PCS-YSR while the fourth block included interactions with the conversation and conformity subscales. All interaction terms were mean-centered to reduce multicollinearity.
Table 3.5

**Research Questions and Scales**

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Predictor Variable(s) Scale</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Are conversation and conformity orientations predictive of social self-efficacy in adult children?</td>
<td>Revised Family Communication Patterns Instrument</td>
<td>Scale of Perceived Social Self-Efficacy</td>
</tr>
<tr>
<td>5. Are conversation and conformity orientations predictive of emotional self-efficacy in adult children?</td>
<td>Revised Family Communication Patterns Instrument</td>
<td>Emotional Self-Efficacy Scale</td>
</tr>
</tbody>
</table>
Chapter 4: Results

All analyses were conducted using IBM’s SPSS, Version 26. Descriptive statistics and correlations for the three main predictor variables and three predicted variables are located in Table 4.1. Data sets that only included demographic responses were not included in analyses, and the online survey did not allow participants to skip items, limiting missing data.

Table 4.1

Descriptive Statistics and Correlations of Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>M(SD)</th>
<th>Conv.</th>
<th>Conf.</th>
<th>Parent</th>
<th>SRSE</th>
<th>SSE</th>
<th>ESE</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conversation orientation</td>
<td>4.30 (1.52)</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Conformity orientation</td>
<td>4.10 (1.34)</td>
<td>-.58**</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Psych. control</td>
<td>1.60 (.52)</td>
<td>-.58**</td>
<td>.63**</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Self-regulatory self-efficacy</td>
<td>4.99 (1.21)</td>
<td>.47**</td>
<td>-.32**</td>
<td>-.37**</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Social self-efficacy</td>
<td>3.18 (.85)</td>
<td>.45**</td>
<td>-.31**</td>
<td>-.24**</td>
<td>.51**</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Emotional self-efficacy</td>
<td>3.62 (.74)</td>
<td>.49**</td>
<td>-.38**</td>
<td>-.34**</td>
<td>.61**</td>
<td>.60**</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>GPA</td>
<td>3.26 (.57)</td>
<td>.12</td>
<td>-.18*</td>
<td>-.27**</td>
<td>.44**</td>
<td>.11</td>
<td>.21*</td>
<td>--</td>
</tr>
</tbody>
</table>

* < .05    ** < .01

Assumptions for multiple regression analyses include scale of measurement, linearity, multivariate normality, homoscedasticity, independence, and lack of multicollinearity (Hayes, 2018). Linearity was tested using scatterplots to detect non-linear relationships between predictor and predicted variables. No evidence of non-linearity was present. Assumptions of normality, homoscedasticity, and independence were tested using histograms, P-P plots, and residual plots. Evidence of multicollinearity was measured using correlation data and tolerance statistics. While
correlation between predictor variables fell within an acceptable range (Brace, Kemp, & Snelgar, 2013), predictor variables were mean-centered to reduce effects of possible multicollinearity.

**Research Questions 1 and 2**

The first regression analysis was designed to determine the predictive value of family communication patterns and psychological control on self-regulatory self-efficacy (see Table 4.2). The first model including race, gender, and family composition was not significant. Assumptions for regression were met for the overall analysis and are detailed in Appendix G. The Durbin-Watson test statistic was 1.99, indicating no first-order autocorrelation. Because of a significant, moderate correlation between conversation orientation and conformity orientation \((r = -.58)\), these variables were mean-centered to reduce effects of possible multicollinearity. Large tolerance values (.61 and .59, respectively) and low VIF values (1.64 and 1.68, respectively) suggest multicollinearity is not a concern for this model.

A significant model emerged after adding conversation and conformity orientations as predictor variables: \(F(11,128) = 4.907, p < .001\). The model explains 23.6% of the variance (Adjusted \(R^2 = .236\)). Regression coefficients for predictor variables entered in this model are noted in Table 4.2. Single-parent family composition was negatively predictive of self-regulatory self-efficacy when compared with family compositions including a mother and a father and accounted for 2.9% of the variance for this form of self-efficacy \((\beta = -.178, p = .023)\).

Conversation orientation was predictive of higher levels of self-regulatory self-efficacy and accounted for 10.7% of the variance \((\beta = .419, p < .001)\). Additionally, there was a significant moderate correlation between GPA and self-regulatory self-efficacy \((r = .44, p < .01)\), suggesting criterion validity for this construct.
Psychological control was not a significant predictor of self-regulatory self-efficacy, and interactions between psychological control and communication patterns in model four did not account for any additional variance (Adjusted R² = .234). Additionally, the AIC and BIC for model two (26.4 and 61.7, respectively) were lower than the AIC and BIC for model four (29.5 and 73.6, respectively), indicating model two is a more statistically sound model than model four. Psychological control does not predict self-regulatory self-efficacy beyond family communication patterns and therefore is not a significant moderator of self-regulatory self-efficacy.

Table 4.2

*Multiple Regression Analysis Predicting Self-Regulatory Self-Efficacy*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>β</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>5.009</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>.078</td>
<td>.025</td>
<td>.742</td>
</tr>
<tr>
<td>Two or more races</td>
<td>.455</td>
<td>.070</td>
<td>.365</td>
</tr>
<tr>
<td>Hispanic</td>
<td>.293</td>
<td>.045</td>
<td>.553</td>
</tr>
<tr>
<td>Asian</td>
<td>1.049</td>
<td>.145</td>
<td>.060</td>
</tr>
<tr>
<td>Black</td>
<td>.718</td>
<td>.121</td>
<td>.120</td>
</tr>
<tr>
<td>Two mothers or fathers</td>
<td>-.764</td>
<td>-.129</td>
<td>.100</td>
</tr>
<tr>
<td>Parent and step-parent</td>
<td>-.295</td>
<td>-.102</td>
<td>.191</td>
</tr>
<tr>
<td>Single parent</td>
<td>-.873</td>
<td>-.178</td>
<td>.023</td>
</tr>
<tr>
<td>Other family comp.</td>
<td>-.437</td>
<td>-.053</td>
<td>.491</td>
</tr>
<tr>
<td>Conversation orientation</td>
<td>.333</td>
<td>.419</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Conformity orientation</td>
<td>-.074</td>
<td>-.082</td>
<td>.395</td>
</tr>
</tbody>
</table>

*F* = 4.907, *p* < .001

**Research Questions 3 and 4**

The second regression analysis was designed to determine the predictive value of family communication patterns and psychological control on social self-efficacy (see Table 4.3). The first model including race, gender, and family composition was not significant. Assumptions for regression were met for the overall analysis and are detailed in Appendix H. The Durbin-Watson
test statistic was 1.815, indicating no first-order autocorrelation. Because of a significant, moderate correlation between conversation orientation and conformity orientation, these variables were mean-centered to reduce effects of possible multicollinearity. Large tolerance values (.61 and .59, respectively) and low VIF values (1.64 and 1.68, respectively) suggest multicollinearity is not a concern for this model. A significant model emerged after adding conversation and conformity orientations as predictor variables: \( F(11,128) = 4.932, p < .001 \). The model explains 23.7% of the variance (Adjusted \( R^2 = .237 \)). Regression coefficients for predictor variables entered in this model are noted in Table 4.3. Conversation orientation was predictive of higher levels of social self-efficacy and accounted for 9.5% of the variance (\( \beta = .393, p < .001 \)).

Table 4.3

<table>
<thead>
<tr>
<th>Variable</th>
<th>( B )</th>
<th>( \beta )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Sex</td>
<td>-.008</td>
<td>-.003</td>
<td>.064</td>
</tr>
<tr>
<td>Two or more races</td>
<td>-.564</td>
<td>-.123</td>
<td>.113</td>
</tr>
<tr>
<td>Hispanic</td>
<td>.338</td>
<td>.074</td>
<td>.334</td>
</tr>
<tr>
<td>Asian</td>
<td>.615</td>
<td>.120</td>
<td>.117</td>
</tr>
<tr>
<td>Black</td>
<td>.636</td>
<td>.152</td>
<td>.052</td>
</tr>
<tr>
<td>Two mothers or fathers</td>
<td>-.524</td>
<td>-.125</td>
<td>.109</td>
</tr>
<tr>
<td>Parent and step-parent</td>
<td>-.044</td>
<td>-.021</td>
<td>.784</td>
</tr>
<tr>
<td>Single parent</td>
<td>-.516</td>
<td>-.149</td>
<td>.056</td>
</tr>
<tr>
<td>Other family comp.</td>
<td>.190</td>
<td>.032</td>
<td>.671</td>
</tr>
<tr>
<td>Conversation orientation</td>
<td>.221</td>
<td>.393</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Conformity orientation</td>
<td>-.070</td>
<td>-.110</td>
<td>.255</td>
</tr>
</tbody>
</table>

\( F = 4.932, p < .001 \)

Psychological control was not a significant predictor of social self-efficacy, and interactions between psychological control and communication patterns in model four did not account for any additional variance (Adjusted \( R^2 = .228 \)). Additionally, the AIC and BIC for
FAMILY COMMUNICATION AND SELF-EFFICACY

model two (-71.0 and -35.7, respectively) were lower than the AIC and BIC for model four (-66.7 and -22.5, respectively), indicating model two is a more statistically sound model than model four. Psychological control does not predict social self-efficacy beyond family communication patterns and is not a significant moderator of social self-efficacy.

**Research Questions 5 and 6**

The third regression analysis was designed to determine the predictive value of family communication patterns and psychological control on emotional self-efficacy (see Table 4.4). The first model including race, gender, and family composition was not significant. Assumptions for regression were met for the overall analysis and are detailed in Appendix I. The Durbin-Watson test statistic was 2.059, indicating no first-order autocorrelation. Because of a significant, moderate correlation between conversation orientation and conformity orientation, these variables were mean-centered to reduce effects of possible multicollinearity. Large tolerance values (.61 and .59, respectively) and low VIF values (1.64 and 1.68, respectively) suggest multicollinearity is not a concern for this model. A significant model emerged after adding conversation and conformity orientations as predictor variables: \( F(11,128) = 5.214, p < .001 \). The model explains 25% of the variance (Adjusted \( R^2 = .250 \)). Regression coefficients for predictor variables entered in this model are noted in Table 4.4. Conversation orientation was predictive of higher levels of emotional self-efficacy and accounted for 9.1% of the variance (\( \beta = .386, p < .001 \)). Conformity orientation was predictive of lower levels of emotional self-efficacy and accounts for 2.1% of the variance (\( \beta = -.188, p = .050 \)).

Psychological control was not a significant predictor of emotional self-efficacy, and interactions between psychological control and communication patterns in model four did not account for any additional variance (Adjusted \( R^2 = .236 \)). Additionally, the AIC and BIC for
model two (-114.9 and -79.6, respectively) were lower than the AIC and BIC for model four (-109.5 and -65.4, respectively), indicating model two is a more statistically sound model than model four. Psychological control does not predict emotional self-efficacy beyond family communication patterns and is not a significant moderator of emotional self-efficacy.

Table 4.4

*Multiple Regression Analysis Predicting Emotional Self-Efficacy*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>$\beta$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
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<tr>
<td>Sex</td>
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<td>-.024</td>
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</tr>
<tr>
<td>Two or more races</td>
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<td>-.033</td>
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<tr>
<td>Hispanic</td>
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<td>.781</td>
</tr>
<tr>
<td>Asian</td>
<td>.569</td>
<td>.129</td>
<td>.090</td>
</tr>
<tr>
<td>Black</td>
<td>.252</td>
<td>.070</td>
<td>.364</td>
</tr>
<tr>
<td>Two mothers or fathers</td>
<td>-.489</td>
<td>-.135</td>
<td>.081</td>
</tr>
<tr>
<td>Parent and step-parent</td>
<td>-.155</td>
<td>-.088</td>
<td>.256</td>
</tr>
<tr>
<td>Single parent</td>
<td>-.291</td>
<td>-.097</td>
<td>.206</td>
</tr>
<tr>
<td>Other family comp.</td>
<td>.392</td>
<td>.077</td>
<td>.306</td>
</tr>
<tr>
<td>Conversation orientation</td>
<td>.187</td>
<td>.386</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Conformity orientation</td>
<td>-.104</td>
<td>-.188</td>
<td>.050</td>
</tr>
</tbody>
</table>

$F = 5.214$, $p < .001$
Chapter 5: Discussion

The fields of family communication and self-efficacy development have been widely studied and are well-established. Much, however, remains unknown about the interactions between these fields. The present study aims to build on the body of research examining the relationship between family communication patterns and self-efficacy development. By investigating more nuanced and specific variables than those used in previous studies, we hope to add more depth to both fields and better inform interventions for self-efficacy development.

The present study yielded mixed results regarding the impact of specific communication patterns within families on various forms of self-efficacy. Overall, conversation-orientation positively predicted all forms of self-efficacy, explaining between 9.1% and 10.7% of the variance. Conformity orientation negatively predicted emotional self-efficacy but did not predict self-regulatory or social self-efficacy. Additionally, while conversation orientation predicted 9.1% of the variance of emotional self-efficacy, conformity orientation accounted for only 2.1% of the variance. Psychological control did not predict a significant amount of the variance beyond that predicted by communication patterns and, therefore, could not moderate the relationship between communication patterns and self-efficacy.

Research Questions 1 & 2

Research questions one and two address the impact of conversation orientation, conformity orientation, and psychological control on the development of self-regulatory self-efficacy. Race and sex did not explain significant variance of self-regulatory self-efficacy. However, single-parent family structures negatively predicted self-regulatory self-efficacy, accounting for 2.9% of the variance ($\beta = -.178, p = .023$). This finding was surprising, though not unprecedented. Hill and Roberts (2019) similarly found lower levels of general self-efficacy in
adolescents from single-parent homes. One hypothesis is that single parents will have fewer opportunities to encourage self-efficacy development in children, resulting in lower overall levels of self-efficacy. Indeed, a single-parent family may present fewer opportunities for vicarious experiences and verbal persuasion, two of the four sources of self-efficacy outlined by Bandura (1977). This hypothesis does not, however, explain why self-regulatory self-efficacy was impacted by single-parent families in the present study while social and emotional self-efficacies were not.

Findings from the current study support the hypothesis that conversation orientation positively predicts the development of self-regulatory self-efficacy beyond variance predicted by single-parent family structures. These findings are consistent with research that conversation orientation is positively correlated with overall self-efficacy (Anvari et al., 2014). Self-regulatory self-efficacy in the current study was positively correlated with reported GPA, triangulating the data and providing construct validity for the self-efficacy for self-regulated learning subscale. Because self-regulatory self-efficacy predicts academic performance (Choi et al., 2001) and behaviors related to academic performance such as procrastination and academic anxiety (Yerdelen et al., 2015), interventions to increase conversation-oriented communication patterns in families may also improve academic performance via development of self-regulatory self-efficacy.

Surprisingly, conformity orientation did not predict a significant amount of the variance of self-regulatory self-efficacy. It is likely that, due to the strong negative correlation between conversation and conformity orientations and the well-demonstrated higher effect sizes attributed to conversation orientation in the existing literature (Schrodt et al., 2008), any significant variance predicted by conformity orientation was already captured by that predicted by
conversation orientation. Post-hoc analyses support this hypothesis. When conversation orientation was removed from block two, conformity orientation became a significant negative predictor of self-regulatory self-efficacy ($p < .01$).

Additionally, psychological control did not predict variance for self-regulatory self-efficacy beyond that predicted by conversation orientation. Thus, psychological control did not moderate the relationship between communication patterns and self-regulatory self-efficacy. It is likely that surprising findings by Givertz and Segrin (2014) may be explained in the current study by the delineation between conversation and conformity orientation. It is highly unlikely that a family would demonstrate high levels of conversation orientation and high levels of parental psychological control given the strong negative correlation between these constructs. Those participants in Givertz and Segrin’s (2014) study who reported high levels of communication and high levels of control were likely reporting conformity-oriented communication leading to lower levels of general self-efficacy.

**Research Questions 3 & 4**

Research questions three and four address the impact of conversation orientation, conformity orientation, and psychological control on the development of social self-efficacy. Race, sex, and family structure did not account for significant variance in predicting social self-efficacy.

Findings from the current study support the hypothesis that conversation orientation positively predicts the development of social self-efficacy. These findings are consistent with research that conversation orientation is positively correlated with overall self-efficacy (Anvari et al., 2014). Though not correlated with reported GPA in the current study, social self-efficacy is related to a number of positive outcomes including prosocial behaviors and academic
achievement (Bandura, 1996), resistance against peer pressure (Ludwig & Pittman, 1999; Zullig et al., 2011), decreased social anxiety (De Castella et al., 2015), decreased loneliness (Tsai et al., 2017), and protection against peer victimization (Buser et al., 2015). Interventions to increase conversation-oriented communication patterns in families may also lead to a host of positive outcomes via development of social self-efficacy.

As with self-regulatory self-efficacy, conformity orientation did not predict a significant amount of the variance of social self-efficacy beyond that predicted by conversation-orientation. Post-hoc analyses indicate conversation orientation was accounting for variance that could have been explained by conformity orientation. When conversation orientation was removed from block two, conformity orientation became a significant negative predictor of social self-efficacy ($p < .01$). Additionally, psychological control did not account for variance of self-regulatory self-efficacy beyond that predicted by conversation orientation or moderate the relationship between communication patterns and social self-efficacy.

**Research Questions 5 & 6**

Research questions five and six address the impact of conversation orientation, conformity orientation, and psychological control on the development of emotional self-efficacy. Race, sex, and family structures were not found to explain significant variance of emotional self-efficacy.

As with self-regulatory self-efficacy and social self-efficacy, current findings support the hypothesis that conversation orientation positively predicts the development of emotional self-efficacy. Emotional self-efficacy in the current study was also found to be positively correlated with reported GPA, supporting Bandura’s (1996) original theory that emotional self-efficacy would be an important predictor of academic success. Additionally, because emotional-self
efficacy is related to emotion regulation, decreased loneliness and depression, and academic achievement, (Nightingale et al., 2013), interventions to increase conversation-oriented communication patterns in families may also result in a host of positive outcomes via development of emotional self-efficacy.

Additionally, conformity orientation negatively predicted emotional self-efficacy in the current study. It is likely that, because conformity orientation is positively related to depressive symptoms and low self-esteem (Curran & Allen, 2016), there may be a bidirectional relationship between low emotional self-efficacy, low self-esteem, and depressive symptoms. Indeed, high levels of conformity-oriented communications were found to negatively predict emotional self-efficacy beyond the variance explained by conversation orientation. Therefore, interventions to decrease levels of conformity-oriented communication within families may result in increased development of emotional self-efficacy in children.

As with self-regulatory self-efficacy and social self-efficacy, psychological control did not account for variance of emotional self-efficacy beyond that accounted for by conversation and conformity orientations. Thus, psychological control could not moderate the relationship between communication patterns and emotional self-efficacy.

**Study Limitations**

The present study has several limitations that inform the interpretation of results. Firstly, the sample consisted exclusively of undergraduate students at a midwestern university and was largely made up of white females. The homogeneity of the sample inhibits generalizability to the population at large. Furthermore, while substantial demographic information about the sample was gathered and largely found to be unrelated to self-efficacy development, the present study did not account for socioeconomic status (SES) in the sample. It is possible that SES is a stronger
predictor of self-efficacy development than family structure and may better explain why participants from single-parent families reported lower levels of self-regulatory self-efficacy.

Additionally, conformity orientation as measured in the present study may not be as true to FCPT as it was when the RFCP was established. According to FCPT, conformity orientation is not inherently good or bad. The conformity-orientation subscale on the RFCP may have been more benign when it was created, but many of the items carry a negative connotation currently. An updated scale like that created by (Hesse et al., 2017) may be more accurate theoretically due to more neutral items that still measure a traditional hierarchical family structure. This update also further delineates “warm” conformity and “cold” conformity, adding to the theoretical understanding of FCPT. However, this update currently lacks robust validation studies and is not formatted for use in adult children.

It is difficult to infer a causal relationship between family communication patterns and self-efficacy development based on data gathered at a single point in time. While conversation-orientation’s predictive power on positive outcomes is commensurate with previous research (Anvari et al., 2014; High & Scharp, 2015; Jones et al., 2017; Keaten & Kelly, 2008; Koesten et al., 2009, Schrodt et al., 2008), it is possible a bidirectional relationship exists between family communication and self-efficacy. For instance, a child with higher levels of social self-efficacy may be a stronger advocate for conversation-orientation in her family, while a child with low social self-efficacy may be more comfortable engaging in conformity-orientation.

Additionally, asking adult children to report their family’s current communication patterns may not accurately reflect communication patterns they experienced growing up. College-aged participants were selected intentionally for the present study in order to best
replicate results from Givertz and Segrin (2014) in an attempt to explain surprising findings. Doing so, however, may have limited the generalizability of present findings with children. 

Finally, according to Bandura’s (1986, 1997) theory of self-efficacy, more specific measures of self-efficacy will yield more predictive power about performance. The present study measured moderately specific forms of self-efficacy in order to increase generalizability. In order to do this, specific predictive power was sacrificed. While this is a theoretical improvement compared to Givertz and Segrin’s (2014) study in which global self-efficacy was measured, a natural limitation is less predictive power when considering performance in specific domains. For instance, self-regulatory self-efficacy is theoretically a better predictor of academic success than global self-efficacy, but mathematic self-efficacy is a stronger predictor of academic performance in a math class than self-regulatory self-efficacy.

**Future Research Directions**

In order to gain a more robust understanding of the potential causal nature of family communication on self-efficacy, longitudinal studies tracking changes in communication and self-efficacy development in children may be an area for future research. To this end, positive outcomes associated with conversation orientation found in this and several other studies (Anvari et al., 2014; High & Scharp, 2015; Jones et al., 2017; Keaten & Kelly, 2008; Koesten et al., 2009, Schrodt et al., 2008) suggest potential utility of parent training interventions designed to adjust family communication patterns. Specifically, interventions should focus on increasing conversation-orientation in families in order to achieve a wide range of positive outcomes in children.

Further research may also investigate the relationship between family communication patterns and various family structures. Single-parent family structures negatively predicted self-
regulatory self-efficacy in the present study beyond variance accounted for by family communication. It is possible this is due to an extraneous variable not measured in the present study, such as SES. However, limited research currently exists exploring potential relationships or moderating factors between family structure and family communication patterns.

Lastly, in order to understand the lack of significance of parental psychological control in the current study, future research should investigate the relationship between family communication patterns and parenting dimensions using the updated factors of parenting outlined by Baumrind et al. (2010). This new conceptualization of parenting factors adds autonomy support, the antithesis to psychological control, to the traditionally studied responsiveness and demandingness. Researching relationships between family communication and all three dimensions of parenting styles may provide new insight not found in research limited to responsiveness and demandingness (Hamon & Schrodt, 2012).

**General Conclusions and Implications**

Communication within a family system is an important factor within various theories of family functioning and for several outcomes in children. Conversation orientation specifically, as defined by FCPT, is related to many psychosocial outcomes in children (Schrodt et al., 2008). The current study contributes to existing literature by adding another psychosocial outcome related to conversation-orientation: self-efficacy development. Specifically, conversation orientation in families is positively correlated with self-regulatory self-efficacy, social self-efficacy, and emotional self-efficacy.

Findings of the current study suggest family communication patterns play a significant role in the formation of self-efficacy in children, even into adulthood. Conversation orientation alone in the present study accounts for 9-10% of the variance of self-efficacy development—a
process that is complicated and multifaceted. This particular facet of communication is an important factor in theory and in practice.

Understanding how family communication can impact children’s development, specifically self-efficacy development, can help individuals involved in parent training target interventions for a wide range of positive outcomes in children. This research has implications for parents who wish to establish an optimal home environment for their children, counselors and school psychologists who are directly involved in parent training, and researchers formulating evidence-based interventions to teach parenting skills. Furthermore, findings from the current study may have implications for other sources of authority in the lives of children. Conversation orientation in a classroom, for example, may lead to similar positive outcomes in students.

How adults communicate with children has long-lasting effects on children’s development. Because a child’s family is her first arena of social interactions, family communication patterns are particularly important. Family communication impacts what people believe about their own abilities to self-regulate, initiate and navigate social interactions, and manage emotions. The present study represents an important step in better understanding the scope of effects family communication has on individuals.
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Appendix A

Demographic Questionnaire

Age: ____________

Sex: ____________

Year in school:

Freshman  Sophomore  Junior  Senior  5th year +

GPA: ____________

Race/Ethnicity:

___ Hispanic  ___ Native Hawaiian or Other Pacific Islander
___ American Indian or Alaska Native
___ Asian  ___ White (non-Hispanic)
___ Black or African American  ___ Two or more races

Self-description in addition to the above is encouraged: ________________________________

Are you an international student?  Yes_____  No_____

If so, what is your home country? ____________________________
Please identify your primary caregiver (this is the adult who played the most active role in your upbringing):

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother</td>
<td>Foster Mother</td>
</tr>
<tr>
<td>Father</td>
<td>Foster Father</td>
</tr>
<tr>
<td>Grandmother</td>
<td>Aunt</td>
</tr>
<tr>
<td>Grandfather</td>
<td>Uncle</td>
</tr>
</tbody>
</table>

Other: _____________________________

Please list the members (e.g. “older sister,” “younger brother”) of your immediate family (your family is defined as a group of “people who share their lives over long periods of time bound by marriage, blood, or commitment…who consider themselves a family”) : __________

________________________________________________________________________

______________________________________________________________________________
Appendix B

The Revised Family Communication Pattern Instrument

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Conversational Orientation

1. In our family we often talk about topics like politics and religion where some persons disagree with others.
2. My parents often say something like “Every member of the family should have some say in family decisions.”
3. My parents often ask my opinion when the family is talking about something.
4. My parents encourage me to challenge their ideas and beliefs.
5. My parents often say something like “You should always look at both sides of an issue.”
6. I usually tell my parents what I am thinking about things.
7. I can tell my parents almost anything.
8. In our family we often talk about our feelings and emotions.
9. My parents and I often have long, relaxed conversations about nothing in particular.
10. I really enjoy talking with my parents, even when we disagree.
11. My parents encourage me to express my feelings.
12. My parents tend to be very open about their emotions.
13. We often talk as a family about things we have done during the day.
14. In our family, we often talk about our plans and hopes for the future.
15. My parents like to hear my opinion, even when I don’t agree with them.

Conformity Orientation

1. When anything really important is involved, my parents expect me to obey without question.
2. In our home, my parents usually have the last word.
3. My parents feel that it is important to be the boss.
4. My parents sometimes become irritated with my views if they are different from theirs.
5. If my parents don’t approve of it, they don’t want to know about it.
6. When I am at home, I am expected to obey my parents’ rules.
7. My parents often say things like “You’ll know better when you grow up.”
8. My parents often say things like “My ideas are right and you should not question them.”
9. My parents often say things like “A child should not argue with adults.”
10. My parents often say things like “There are some things that just shouldn’t be talked about.”
11. My parents often say things like “You should give in on arguments rather than risk making people mad.”
Appendix C

Self-Efficacy for Self-Regulated Learning

<table>
<thead>
<tr>
<th>Not well at all</th>
<th>Not too well</th>
<th>Pretty well</th>
<th>Very well</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

How well can you:

1. finish homework assignments by deadlines?
2. study when there are other interesting things to do?
3. concentrate on school subjects?
4. take class notes of class instruction?
5. use the library to get information for class assignments?
6. plan your schoolwork?
7. organize your schoolwork?
8. remember information presented in class and textbooks?
9. arrange a place to study without distraction?
10. motivate yourself to do schoolwork?
11. participate in class discussions?
12. stop yourself from skipping school when you feel bored or upset?
Appendix D

Scale of Perceived Social Self-Efficacy

Instructions: Please read each statement carefully. Then decide how much confidence you have that you could perform each of these activities successfully. Mark the appropriate number for your level of confidence.

<table>
<thead>
<tr>
<th>No Confidence at all</th>
<th>Little Confidence</th>
<th>Moderate Confidence</th>
<th>Much Confidence</th>
<th>Complete Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. Start a conversation with someone you don’t know very well.
2. Express your opinion to a group of people discussing a subject that is of interest to you.
3. Work on a school, work, community or other project with people you don’t know very well.
4. Help to make someone you’ve recently met feel comfortable with your group of friends.
5. Share with a group of people an interesting experience you once had.
6. Put yourself in a new and different social situation.
7. Volunteer to help organize an event.
8. Ask a group of people who are planning to engage in a social activity (e.g., go to a movie) if you can join them.
9. Get invited to a party that is being given by a prominent or popular individual.
10. Volunteer to help lead a group or organization.
11. Keep up your side of the conversation.
12. Be involved in group activities.
13. Find someone to spend a weekend afternoon with.
14. Express your feelings to another person.
15. Find someone to go to lunch with.
16. Ask someone out on a date.
17. Go to a party or social function where you probably won’t know anyone.
18. Ask someone for help when you need it.
19. Make friends with a member of your peer group.
20. Join a lunch or dinner table where people are already sitting and talking.
21. Make friends in a group where everyone else knows each other.
22. Ask someone out after s/he was busy the first time you asked.
23. Get a date to a dance that your friends are going to.
24. Call someone you’ve met and would like to know better.
25. Ask a potential friend out for coffee.
Appendix E

Emotional Self-Efficacy Scale

Using the scale below, rate your *confidence* in being able to carry out the following functions:

<table>
<thead>
<tr>
<th>Not at all confident</th>
<th>Very confident</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

1. Understand what causes your emotions to change
2. Correctly identify your own positive emotions
3. Know what causes you to feel a negative emotion
4. Realize what causes another person to feel a negative emotion
5. Realize what causes another person to feel a positive emotion
6. Correctly identify when another person is feeling a positive emotion
7. Figure out what causes another person’s differing emotions
8. Use positive emotions to generate good ideas
9. Recognize what emotion is being communicated through your facial expression
10. Notice the emotion your body language is portraying
11. Generate the right emotion so that creative ideas can unfold
12. Notice the emotion another person’s body language is portraying
13. Change your negative emotion to a positive emotion
14. Figure out what causes you to feel differing emotions
15. Understand what causes another person’s emotions to change
16. Help another person to regulate emotions when under pressure
17. Correctly identify your own negative emotions
18. Know what causes you to feel a positive emotion
19. Help another person calm down when he or she is feeling angry
20. Correctly identify when another person is feeling a negative emotion
21. Get into a mood that best suits the occasion
22. Create emotions to enhance cognitive performance
23. Regulate your own emotions when close to reaching a goal
24. Create a positive emotion when feeling a negative emotion
25. Use positive emotions to generate novel solutions to old problems
26. Recognize what emotion another person is communicating through his or her facial expression
27. Create emotions to enhance physical performance
28. Help another person change a negative emotion to a positive emotion
29. Calm down when feeling angry
30. Regulate your own emotions when under pressure
31. Help another person regulate emotions after he or she has suffered a loss
32. Generate in yourself the emotion another person is feeling
Appendix F

Psychological control Scale

Instructions: Think about your primary caregiver (the adult who played the most active role in your upbringing). Using the scale below, respond to the following statements about your primary caregiver.

<table>
<thead>
<tr>
<th>Not like my caregiver</th>
<th>Somewhat like my caregiver</th>
<th>A lot like my caregiver</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

My caregiver is a person who…

1. changes the subject whenever I have something to say.
2. finishes my sentences whenever I talk.
3. often interrupts me.
4. acts like she (he) knows what I’m thinking or feeling.
5. would like to be able to tell me how to feel or think about things all the time.
6. is always trying to change how I feel or think about things.
7. blames me for other family members’ problems.
8. brings up my past mistakes when she (he) criticizes me.
9. tells me that I am not a loyal or good member of the family.
10. tells me of all the things she (he) had done for me.
11. says, if I really cared for her (him), I would not do things that cause her (him) to worry.
12. is less friendly with me if I do not see things her (his) way.
13. will avoid looking at me when I have disappointed her (him).
14. if I have hurt her (his) feelings, stops talking to me until I please her (him) again.
15. often changes his (her) moods when with me.
16. goes back and forth between being warm and critical toward me.
Appendix G

Assumption Checks for Model Predicting Self-Regulatory Self-Efficacy
Appendix H

Assumption Checks for Model Predicting Social Self-Efficacy
Appendix I

Assumption Checks for Model Predicting Emotional Self-Efficacy