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This work and its defense approved by:

Chair:  Ann Kathleen Burlew, Ph.D.
         Laura Nabors, Ph.D.
         Steven Howe, Ph.D.
         Lisa Mills, Ph.D.
         Kathy Burklow, Ph.D.
Increasing Self, Social and Physical Efficacy in Pre-Adolescent Girls

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Natasha D. Buchanan

B.A., Spelman College, Atlanta, Georgia 2002

M.A., University of Cincinnati, 2004

Committee Chair: Ann Kathleen Burlew, Ph.D
Abstract

The current study examined family functioning, parental efficacy, and racial differences associated with increased levels of pre-adolescent efficacy, among 203 eight-to-twelve-year-old girls. Family functioning, parental efficacy, child efficacy, and race were assessed using items from The McMaster Family Assessment Device (FAD), Parent Stress Index-Third Edition (PSI), Perceived Competence Scale for Children, and the present study’s intake form, respectively. Results revealed that an increase in family functioning alone did not predict an increase in child efficacy, nor was the relationship moderated by race. Increased parental efficacy was found to increase family functioning, while family functioning was subsequently found to increase child efficacy.
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Chapter 1

Introduction

Pre-adolescence marks a critical developmental period for the psychosocial well-being of children (Eccles, Barber, & Jozefowicz, 1999). During this phase of development, children are faced with unique challenges (i.e., change in sense of personal identity) that can potentially impact their life course (Hodges, Finnegan, & Perry, 1999). Studies examining gender differences during this developmental period have found that pre-adolescent girls often have a more negative self-image and lower self-esteem than boys (Winfield et al., 1991). Upon their emergence into pre-adolescence, girls may fail to recognize the importance of their own beliefs and outlooks on life (Stern & Kipnis, 1993). Often pre-adolescent girls are at risk for developing negative attitudes concerning their personal and social development, their ability to sustain motivation, and engage in physical activities such as exercise (Weiler, 1999). Such negative attitudes and perceptions may result in patterns of negative thinking about self and continue into adolescence and adulthood.

Perceptions of self-efficacy are related positively to psychosocial well-being (Bandura, 1977). Self-efficacy is a person’s belief in their ability to perform actions that are necessary for accomplishing goals (Bandura, 1986). Bandura (1986) argued that efficacy has the most profound influence on one’s belief in their ability to master personal tasks. Likewise, research has demonstrated that positive feelings of efficacy are predictive of positive personal development (Bullock, Ensing, Alloy, & Weddle, 2000). For example, efficacy has been linked to social skills (Moe & Zeiss, 1982); assertiveness
(Lee, 1983, 1984); positive health behaviors (O'Leary, 1985); and athletic performance
(Barling & Abel, 1983; Lee, 1982). Previous research supports the conclusion that
general self-efficacy, social efficacy, and physical efficacy have significant influences on
children’s performance, interpersonal involvement, and overall outcomes (Harter, 1978;
Moe & Zeiss, 1982; Barling & Abel, 1983; O'Leary, 1985). For example, children who
have high social efficacy believe in their abilities to have a lot of friends and to be liked
by and important to members of their family or social setting (Harter, 1979). Studies
examining social efficacy show that children who report high social efficacy also have
higher levels of peer interactions (Wheeler & Ladd, 1982), better social adjustment and
improved perceptions of their academic abilities (Connolly, 1989). Children’s beliefs in
their ability to successfully and routinely engage in physical activities (i.e., physical
efficacy) have been positively correlated with increased rates of physical activity
(Dzewaltowski, 1989; Moore, 1991). While the examination of physical efficacy is
important for all children, it is particularly important for girls. In one study comparing
rates of physical activity between girls and boys, girls were found to engage in less
physical activity and demonstrated greater declines in rates of physical activity that in
boys within a one year period (Sallis, 1993). Thus, further understanding of the influence
of physical efficacy on girl’s physical activity is warranted.

Theoretical Conceptualization

Bandura’s Social Cognitive Theory attempts to explain the development of
efficacy. The theory posits that efficacy is shaped by the interplay between
environmental factors and one's cognitive thought processes (Bandura, 1994). According
to Social Cognitive Theory, the ease with which one transitions developmentally depends
on the potency of efficacious beliefs built up through four main areas of influence: 
*mastery experiences, vicarious experiences, social/verbal persuasion, and interpretations of physiological and emotional states* (Bandura, 1995). The ideals outlined in Social Cognitive Theory are extended in the Social Ecological Model, which describes mastery experiences, vicarious experiences, social/verbal persuasion, and interpretations of physiological and emotional states as influential factors that mold strong efficacy and are apparent in a variety of influential social constructs (Bandura, 1995). Social constructs (i.e., neighborhood, school, family) act as either barriers or stepping stones (e.g., mentor, teachers, peers, and parents) that affect pre-adolescent efficacy and outcome expectations.

Previous work examining influences of efficacy has drawn from the Social Ecological model, which stresses that the development of a child’s personal and social efficacy is contingent upon their exposure to social forces within their microsystem (Kumpfer & Turner, 1991). As a child’s social world rapidly expands, teachers, peers, and influential people in one’s neighborhood become increasingly important in the child’s developing self-knowledge of their capabilities (Bandura, 1995). However, the Social Ecological Model reiterates that one’s family environment, for example, may influence efficacy at any stage of development (Bandura, 1994). While the social ecological model describes a variety of environmental effects that have the potential to influence the outcomes of children, the interplay between children and their family environments is crucial.
Family Functioning and Efficacy in Children

The Social Ecological model proposes that families have protective qualities and the profound ability to bolster efficacious beliefs despite the existence of risk factors in a child’s surrounding environment (Kumpfer & Turner, 1990). The socializing and bonding experiences that children acquire within the family context shape a child’s efficacious beliefs and subsequent choices that they make for their future (Chase-Lansdale, 1998; Lerner, 1993). Elements of family functioning include family communication, problem solving techniques, affective involvement, responsiveness, family roles, and behavioral control (Epstein et al., 1993).

Family communication refers to the indirect and direct ways in which family members transfer verbal and non-verbal information to one another (Epstein et al., 1993). Problem-solving, a second variable of family functioning is a family's ability to discuss and decipher problems that may exist in the daily interworkings of the family unit (Epstein et al., 1993). Affective family involvement is also paramount for the establishment of family functioning (Epstein et al., 1993). Affective involvement refers to the level of interest, enthusiasm, and participation family members attribute to the goals & activities of its members (Epstein et al., 1993). Affective responsiveness is the level of emotional availability and openness that exists between members of the family unit (Epstein et al., 1993). Family roles, another functional quality which is vital to the implementation of family functioning, refers to the responsibilities that are allocated to each family member (Epstein et al., 1993). One last central construct of family functioning is the family’s behavioral patterns or control. Behavior control refers to
blueprint of behavior, or rules, that the family constructs for coping with family situations (Epstein et al., 1993).

Children have been found to be more efficacious when they come from families that are responsive (Davis & Phares, 1969; Skinner, 1986; Diethelm, 1991; Marcus, Eaton, Rossi, & Harlow, 1994), have flexible behavior control or rules (Davis & Phares, 1969; Nowicki & Schneewind, 1981; Schneewind, 1982), good problem solving skills (Schwarzer, 1986; National Network for Family Resiliency, 1993), positive communication (Olds, Hill, Mihalic, & O’Brien, 1998; Blake, Simkin, Ledsky, Perkins, & Calabrese, 2001), active involvement with its members (Bowlby, 1969; Bandura, 1994; Choo, 2000), and outlined family roles and responsibilities that promote independence training at an early age (Schneewind, 1995; Choo, 2000; Blake et al., 2001).

Impact of Parental efficacy on family functioning and child efficacy

Along with family characteristics, researchers have also identified parenting characteristics (e.g., parental efficacy) as a factor that influences both family functioning and child efficacy (Teti & Gelfand, 1991; Bandura, 1995). Parental efficacy refers to the parents’ beliefs about their parenting role and their capabilities to nurture and socialize their children (Miller, 1988; Goodnow & Collins, 1990). Parents’ beliefs about their abilities to parent effectively and manage parental responsibilities (e.g., parental efficacy) may affect parenting practices (Goodnow & Collins, 1990; Teti & Gelfand, 1991), which in turn, impact family functioning. Specifically parents who believe in their ability to influence and parent their child effectively are more communicative with, involved, and
responsive to their children and other members of the family unit (Smeriglio & Parks, 1983; Parks & Smeriglio, 1986; Luster, Rhodes, & Hass, 1989). Specifically, increased parental efficacy has a positive effect on the establishment of behavioral control, family routine, nurturance, and support within the family unit (Hamill, Fleming, & Neill, 2002). Increased parental efficacy has also been shown to have a positive effect on the establishment of behavioral control, family routine, nurturance, and support within the family unit (Hamill et al., 2002).

While parental efficacy has been shown to have a direct influence on family functioning (Hamill et al., 2002), parents who have a strong sense of efficacy also inform and influence their child’s development by providing an arena in which the child can experience and foster his or her sense of efficacy (Teti & Gelfand, 1991; Bandura, 1995). Additionally, parental efficacy has been shown in several studies to affect child development and efficacious beliefs (Teti & Gelfand, 1991; Elder, Eccles, Ardelt, & Lord, 1995; Teti, O’Connell, & Reiner, 1996; Bandura, 1997; Coleman & Karraker, 2000; Ardelt & Eccles, 2001). Moreover, a strong sense of parent efficacy serves as a protective factor against stressors that may disrupt a child’s emotional equilibrium (Cutrona & Troutman, 1986; Olioff & Abound, 1991) and overall ability to assume positive efficacious beliefs.

Income, Indicators of Family Functioning, and Parental Efficacy

One socioeconomic factor that has been shown to have implications for family functioning and parental efficacy is family income. Family income can affect feelings of parental efficacy and parental involvement with their children (Shumow & Lomax,
2001). For example, mothers who reside in higher income families have been shown to have stronger beliefs in their parenting abilities and are more communicative, responsive to, and involved with their children (Tulkin, 1977; Bandura, 1995). In several large-scale, studies of ethnically diverse populations, family income was found to promote family problem solving skills, consistent implementation of family roles, and the overall control of behavior in the family (Mandara & Murray, 2000; Shumow & Lomax, 2001, Meyers, Varkey, & Aguirre, 2002)

Race as a Moderator

According to the classic work of Baron and Kenny (1986), a moderator alters the pattern of association between two variables. Race might moderate the relationship between family functioning and child efficacy. This has been supported by studies showing that parental influence on child beliefs about their abilities can vary based on racial differences (Davis-Kean, Peck, & Eccles, 2004). One study found African American children’s feelings of competence and well-being to be associated to their connection with their microsystem (e.g., families) because their families often include people that are of their own racial background (Carter, 1991; Feagin & Sikes, 1994). While this may be true for people of all races, it is especially important for African Americans, people of traditionally collectivist racial group (Markus & Kitayama, 1991). People from collectivist racial groups, more so than traditionally individualistic racial groups (e.g., Caucasian people), are influenced by members of their family (Markus & Kitayama, 1991). Children who identify with a collectivist racial group may primarily look to vicarious learning and mastery experiences found within their family context to validate or defuse their efficacious beliefs (Rosenhotlz & Rosenholtz, 1981; Markus &
Kitayama, 1991). On the contrary, children from individualistic racial groups may tend to focus on personal successes or failures in all environments as the most important determinate of their efficacious beliefs (Wade & Tavris, 1998). For these reasons, it is important to examine whether African American children, who might generally have limited self-affirming mechanisms or vicarious experiences outside of their family unit that promote efficacy, may benefit more from positive family functioning than Caucasian children.

The Current Study

The aim of the current study is to examine contextual factors that may influence efficacious beliefs of girls ages 8 to 12. This study contributes to the existing body of literature by examining the relationships among child efficacy, family functioning, and parental, in addition to showing how these relationships may be moderated by race. The four objectives of this study are: (a) to explore the impact family functioning could have on child self, social, and physical efficacious beliefs; (b) to investigate potential moderating effects of race on the direct relationship between family functioning and child efficacy; (c) to examine the ways in which parental efficacy beliefs contribute to family functioning and child efficacious beliefs; and (d) to observe the ways in which income is related to the parental efficacious beliefs and indicators of family functioning. The following hypotheses were tested: (a) As the level of family functioning\(^1\) increases, child efficacy will increase (see Figure 1), (b) The relationship between family functioning and child efficacy will be stronger for African American pre-adolescents as compared to Caucasian pre-adolescents (see Figure 2), and (c) As the level of parental efficacy

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\(^1\) The levels of Family Functioning originate from *The McMaster Family Assessment Device (FAD)* (Epstein et al., 1983).
increases, family functioning and child efficacy will increase (see Figure 3). Additional analyses examined potential correlations between family income, parental efficacy, and indicators of family functioning.

Figure 1. The model depicts the relationship between family functioning and child efficacy.
Figure 2. The model depicts the relationship between family functioning and child efficacy with race as a moderator.

Figure 3. The model depicts the relationship among parental efficacy, family functioning, and child efficacy.
Chapter 2

Method

Participants

This study analyzed baseline data from a sample recruited for a study on female pre-adolescent psychosocial well-being, funded by the Harmony Foundation. Parents \( N = 203 \) and their female children \( N = 203 \), ages eight to twelve years, were recruited from elementary schools located in the greater Cincinnati-Northern Kentucky metropolitan area. While most of the parents were female (89.5%), all preadolescent responders were female. The participants were representative of diverse ethnic and socioeconomic backgrounds. Fifty-five percent of the families that participated in this study were Caucasian, 35% were African American, 4% were Hispanic, 1% were Asian, 2% were bi-racial, and 3% represented other racial and/or cultural backgrounds. Parent participants provided written consent for their own participation and for the participation of their child. Child participants of the study also provided verbal assent. The mean age of the child participants was 10 \( (SD = 2) \) and this was representative of children from low- and high- income families.

Instruments

*The McMaster Family Assessment Device (FAD).* Family functioning was assessed using *The McMaster Family Assessment Device (FAD)*, which uses a 4-point scale ranging from Strongly Agree to Strongly Disagree (Epstein, Baldwin, & Bishop, 1983). The FAD consists of 53 items measuring family functioning, and yields one scale of General Functioning and six subscales: Problem Solving, Communication, Roles, Affective Responsiveness, Affective Involvement, and Behavior Control. The General
Functioning scale, which is composed of 12 items, was not be used for this study. The 5-item Problems Solving Scale was used to measure the family’s ability to effectively and efficiently solve problems as they arise (e.g., "We usually act on our decisions regarding problems"). The 6 item Communication scale was used to assess the family’s perceived ability to communicate about their actions and emotions (e.g., "When someone is upset the others know why"). The 8 item roles scale measured the perceived responsibilities and roles of family members (e.g., "When you ask someone to do something, you have to check that they did it"). The 6-item Affective Responsiveness scale measured the family’s level of emotional responsiveness (i.e., "We are reluctant to show our affection for each other"). The 7-item Affective Involvement scale assessed the level of involvement family members have in each other’s lives (e.g., "You only get the interest of others when something is important to them"). Lastly, the 9-item Behavior Control scale measured the behavioral guidelines and ramifications which exist in the family (e.g., "You can easily get away with breaking the rules"). The reliability for these seven scales ranges from .87 to .89.

*Parent Stress Index-Third Edition (PSI).* Parental Efficacy was assessed using a subscale of *The Parent Stress Index- Third Edition* (PSI), which uses a 5-point scale ranging from Strongly agree to Strongly Disagree (Abidin, 1994). This measure was designed for use with parents of children between the ages of 1 month to 12 years. The PSI consists of 101 items measuring parental stress in two different domains; the child domain, which is composed of 6 scales, and the parent domain, which is composed of 7 scales. For this study, only the Competence scale in the parent domain was used to assess parental efficacy. While other scales in the PSI look at parental beliefs, the Competence
scale is the only scale in the *PSI* that looks distinctively at parental efficacy. The 13-item Competence scale was used to measure the parent’s beliefs about their parenting abilities (e.g. "I feel that I am a good parent"; \( \alpha = .83 \)).

*Perceived Competence Scale for Children.* Child efficacy was assessed using the Perceived Competence Scale for Children, which uses a 4-point likert scale ranging from Sort of True for me to Really True for me (Harter, 1979). The constructs of perceived self-efficacy, social efficacy, and physical efficacy were measured respectively by the General Self-Esteem (4-items, \( \alpha = .64 \)), Social Competence (7-items, \( \alpha = .61 \)), and Athletic Competence Scales (6-items, \( \alpha = .62 \)). Items utilized in this measure are arranged in a “devised structured format” which encourages each respondent to first determine which statement they identify with most and then to delineate if the statement is “sort of true” or “really true” for them (Harter, 1979, p. 2). The described presentation format also encourages the child to respond to each question with accuracy and decreases the opportunity for responses that are perceived by the child as socially preferable (Harter, 1979). This measure was normed on a racially diverse sample, including African American children.

*Demographic Information:* Income and culture were evaluated by a measure developed for the purposes of the current study. Income was measured by one item adapted from the United States Census Bureau (2000), which asked the respondents to indicate their range of monthly family income. Measurement of family income is based on a 10-point scale from (1) Less than $10,000 to (10) $200,000 or more. Culture was measured by one item asked on the study’s parent demographic form, which asks each parent to report the race of their child.
Procedure

Baseline data were collected by clinical psychologists and trained graduate researchers at Cincinnati Children’s Hospital Medical Center over a period of six weeks in conjunction with a program evaluation of a local community outreach program. Participating families were recruited from parochial, private and public elementary schools throughout the Greater Cincinnati-Northern Kentucky Metropolitan area. For a family to be eligible to participate in this study, at least one parent or guardian respondent was required and children assessed were required to be female, enrolled in an elementary school in the greater Cincinnati-Northern Kentucky Metropolitan area, and be between the ages of 8 and 12. Participants, who agreed to these terms, were asked by trained graduate researchers to review and sign a written parental consent form. Child participants provided verbal assent, in addition to parents signing a written consent form agreeing to their child’s involvement in the study. Participants were informed of their confidentiality rights and their rights to refuse or withdraw their consent. Trained graduate research assistants administered packets containing a battery of measures and a demographic questionnaire to the parents who signed consent forms.

Instructions informed parents to report their perceptions on their family’s functioning, their own parental efficacy, and other demographic information. Parents were asked to complete these packets and if they wished to do so, they could discuss any questions with trained graduate researchers over the phone or in person. It took parents from 60 to 90 minutes to complete study measures. After parents completed the
measures, they were asked to return packets to trained research assistants who collected the data at the child’s school.

Measures used to assess child participants’ opinions were administered by trained graduate researchers and psychologists in a group setting at local schools and were administered after the collection of parent measures. Children were asked to complete a battery of measures that gauged their perceptions about their overall self-efficacy. All instructions and test items were read to children by psychologists and trained research assistants in group settings. The data collection for children took about 1 hour to complete. Child participants in this study were compensated for their time with logo girls!CAN T-shirts, and pencils, while parental participants were given gift certificates.

**Design**

Descriptive statistics were computed and carefully examined for all of the variables examined in this study. The distributions were examined to determine if any transformations needed to be conducted. Tabachnick and Fidell’s (1996) criteria for determining the normality of the distribution were utilized. These authors suggested that skewness index values less than 2 and greater than -2 and kurtosis values less than 4 and greater than -4 indicate normally distributed variables. Preliminary analyses were conducted on each scale to examine the internal consistency (Cronbach Alphas). The standardization samples for several scales did not include representative numbers of African Americans. Therefore, when Cronbach alphas were low, additional analyses were performed to determine if the omission of one or more items improved the reliability.
Structural Equation Modeling (SEM), was used because SEM allows for simultaneous examination of multiple relationships in the same analyses. Goodness of fit indices, such as chi-square, was performed to test the fit between the proposed model and the data. Based upon the guidelines developed by Garbing and Anderson (1988), the analyses were carried out in two stages. In stage one, confirmatory factor analyses was conducted to test whether the data support the proposed relationships between latent variables and their indicators. In the second stage, AMOS was used to examine the proposed relationships among the two latent variables and parental efficacy and income. The moderating effects of race were examined in AMOS by conducting a multiple group analysis. The multiple group analysis of both African American and Caucasian children looked at the differences between parameter estimates of both the constrained and unconstrained models (see Figure 2) Due to the influence of sample size on chi-square, other fit indices were evaluated such as the Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), and Tucker-Lewis Index (TLI).

Chapter 3

RESULTS

The Hypothesized Models

The first hypothesized model was illustrated previously in Figure 1. The circles represent the latent variables, family functioning and child efficacy. The measured variables, including problem solving, communication, affective involvement, affective responsiveness, family roles, behavior control, self-efficacy, social efficacy, and physical efficacy, are represented by rectangles. A line between two variables indicates the presence of a proposed relationship. Likewise, the absence of a line indicated that no
proposed relationship exists. The model suggests that as the level of family functioning increases, child efficacy will increase. In the second hypothesized model (Figure 2), the measured variable of race was added and is represented by a rectangle. The measured variable of race was added to the model in order to represent the hypothesized presence of a moderated relationship. This model demonstrates the hypothesis that the relationship between family functioning and child efficacy will be stronger for African American pre-adolescents as compared to Caucasian pre-adolescents. The third hypothesized model (Figure 3) suggests that as the level of parental efficacy increases, family functioning and child efficacy will increase.

**Preliminary Analyses**

Preliminary analyses revealed that no substantial outliers existed in the data. The data were examined for values of skewness outside the range of −2 to 2 and values of kurtosis outside the range from −4 to 4 (Tabachnik & Fidell, 2001). Since no variable had values of skewness or kurtosis outside of these ranges, a decision was made to conduct no further transformations. Further descriptive information, including means, standard deviations and reliabilities are listed in Table 1.

**Model Evaluation**

Structural Equation Modeling (SEM) was used to evaluate the proposed models involving family functioning, child efficacy, parent efficacy, ethnicity, and income. In stage one, Confirmatory Factor Analysis (CFA) was used to test the relationship between the latent variable family functioning and its six observed indicator variables (problem solving, communication, affective involvement, affective responsiveness, family roles,
and behavioral control) in an identified model. When testing this relationship, the results initially indicated a poor fit between the model and the data. To further explore this measurement model, an Exploratory Factor Analysis (EFA) was performed to examine whether all six measures of family functioning loaded on one latent variable. Results from the EFA yield a strong confirmation that all variables of family functioning loaded on one latent variable. For this reason, the modification indices for the initial CFA model were examined. These indices suggested that one pair of error terms, between communication and affective responsiveness, be allowed to correlate. The model was then re-estimated with the correlated errors. Results indicated that the test was not significant, $\chi^2(3, N = 203) = 6.27, p = .09$, suggesting the existence of a good fit between family functioning and problem solving, communication, affective involvement, affective responsiveness, family roles, and behavioral control. The root mean square error of approximation (RMSEA) of .07 was also indicative of a moderately good fit, as were high values on the comparative fit index (CFI = .99) and the Tucker-Lewis Index (TLI = .99; Arbuckle & Wothke, 1999).

CFA was also used to test the measurement model for the latent variable of child efficacy, formed from three observed indicator variables (self-efficacy, social efficacy, and physical efficacy). The test was not significant $\chi^2(1, N = 203) = 1.74, p = .19$, suggesting the existence of a good fit between child efficacy and self-efficacy, social efficacy, and physical efficacy, as did the values of RMSEA = .06, CFI = 1.00, and TLI = 1.00. Thus, the measurement models for each latent variable appear adequate.

In stage two, the structural models were tested, with the modifications in the family functioning model previously discussed. When testing the first hypothesized
model (see Figure 4), the results indicated that the test for the structural model was non-
significant $\chi^2 (26, N = 203) = 36.20, p = .09; CFI = 1.00; TLI = 1.00; RMSEA = .04$, indicating evidence of a good fit. (see Table 2). Results, however, showed that the relationship between family functioning and child efficacy was not significant ($z = 1.19, p < .05$), thus failing to support the hypothesis that as family functioning increases, efficacy in children also increases.

A second model (see Figure 5) was created and evaluated to observe a potential moderator affect of race on the relationship between family functioning and child efficacy. In order to test moderator effects, a multisample SEM was conducted, which examined differences in parameter estimations across two racial groups (African American and Caucasian; Byrne, 2001). In order to test the potential moderating effects of the two levels of race, the two group model was estimated without any parameter constraints. That is, a baseline chi-square value was derived by computing model fit for the two-group (African American and Caucasian children) freed model. The proposed model fit the data well for both groups $\chi^2 (52, N = 203) = 59.71, p = .22; CFI = .99; TLI = .99; RMSEA = .02$. The regression weights for the parameters of the measurement and the structural model were then constrained so that all model parameters were equal across both groups. The chi-square value was then computed for the constrained model (see Table 2). A chi-square difference test was then conducted to see if there was a significant difference between the constrained and freed models tested for both groups. Results revealed significant differences in parameter estimations across racial groups ($\Delta df = 9, N = 192, \chi^2 \Delta = 17.39, p = .04$. Upon further examination of links in the model, results showed that the measured variables of problem solving, family roles, affective
responsiveness, and affective involvement had a stronger association to the latent variable of family functioning for African American children than Caucasian children (see Figure 5). The measure variables of self-efficacy and physical efficacy also had a stronger association to the latent variable of child efficacy for African American children than Caucasian children (see Figure 5). Additionally, the measured variables of behavioral control and communication had a stronger association to the latent variable of family functioning and the measure variable of social efficacy had a stronger association to the latent variable of child efficacy for Caucasian children than African American children (see Figure 5). While several racial differences were found, the multisample analysis for the hypothesized model revealed that the estimated correlation between family functioning and child efficacy was not significantly different for African American and Caucasian children (see Figure 5).

Results for the third hypothesized model (see Figure 6) indicated a good fit between the model and the data $\chi^2 (26, N = 203) = 36.20, p = .09; \text{CFI} = 1.00; \text{TLI} = 1.00; \text{RMSEA} = .00$ (see Table 2). Results showed that the relationship between parental efficacy and family functioning was significant ($z = 3.37, p > .05$). This supports the hypothesis that as parental efficacy increases, family functioning increases. Results also revealed that the relationship between family functioning and child efficacy was significant ($z = 2.51, p > .05$). Lastly, results indicated that the relationship between parental efficacy and child efficacy was not significant ($z = 1.76, p > .05$).

After testing all proposed models, it was concluded that hypothesis one (as family functioning increases, child efficacy will increase), was not supported. Hypothesis two (the relationship between family functioning and child efficacy will be stronger for
African American children as compared to Caucasian children) was not supported. Hypothesis three (as parental efficacy increases, family functioning and child efficacy will increase) was supported.

**Additional Analyses**

Previously discussed research supports a direct relationship between income, indicators of family functioning, and parental efficacy. In order to further examine the relationships between income, indicators of family functioning, and parental efficacy, a bivariate correlations procedure was run to compute Spearman’s correlation coefficients. Results from the Spearman’s correlations suggested that there was a significant correlation between income and family communication, between income and affective responsiveness, and between income and parental efficacy (see Table 3).

Chapter 4

**DISCUSSION**

The purpose of the present study was to examine the relationships of family functioning, race, and parental efficacy to efficacy in pre-adolescent girls. While three major hypotheses were proposed and tested, additional analyses looking at the relationship between income, indicators of family functioning, and parental efficacy were also examined. The following is a discussion of the findings for each tested hypothesis and additional analyses.

The first set of assumptions for the first hypothesized model argued that Family functioning would significantly affect efficacy in pre-adolescent girls. This hypothesis is consistent with previous research which shows that the ways in which
families function have a direct effect on the efficacious development of children (Lerner, 1993; Chase-Lansdale, 1998). Counter to the proposed hypothesis, no apparent support was found for showing that an increase in functional characteristics of families (e.g., communication, effective problem solving techniques, allocation of roles with the family construct, affective responsiveness, affective involvement, and behavioral control) alone significantly increased self, social, and physical efficacy in pre-adolescent girls.

In addition to these findings, the study did not support the hypothesis that race moderates the direct relationship between family functioning and child efficacy. While it was disappointing that race did not present as a moderator, this was not unexpected, considering there was no significant relationship to moderate. Family Functioning was, however, found to be significantly different for African American and Caucasian children. While research examining racial differences in family functioning has been limited and equivocal in nature (Warren, Davidson & Arrignton, 2004) the present study findings support literature showing that the functional characteristics of families may be different depending on race (Smith & Krohn, 1995). The current study revealed that the association between the functional characteristics of problem solving skills, family role allocation, responsiveness, and involvement and the overall construct of family functioning are stronger for African American children. These findings are in line with one study showing African American children who have families comprised of efficacious parents, maintain more stable family roles and problems solving skills as compared to Caucasian families (Elder et al., 1994). The current study also shows that the association between behavioral control and communication was stronger for Caucasian children than African American children. While speculative in nature, it is possible that
differences in characteristics of family functioning found between Caucasians and African Americans are due to the possibly due to nonequivalence in the measures of family functioning are not equivalent across racial groups. The measurement of problems solving, allocation of family roles, responsiveness and involvement were potentially more consistent with the values that dictate positive family functioning in African American families. Likewise, the styles of communication measured in this study might be more in line with communication values that contribute to positive family functioning in Caucasian families.

While the initial hypothesis did not support the idea that family functioning predicted child efficacy, literature does support the idea that an increase in family functioning characteristics and child efficacy occurs when increased levels of parental efficacy are present (Teti & Gelfand, 1991, Bandura, 1995). Specifically, parents who feel efficacious are more likely to contribute positively to the functional characteristics of their family (e.g. communicate more effectively) and to the efficacious development of their children (Eccles et al., 1993; Schneewind, 1995; Teti & Gelfand, 1991). Findings from hypothesis three of the current study revealed that an increase in parental efficacy does significantly increase family functioning, which then increased child efficacy. However, the relationship between parental efficacy and child efficacy was not supported. These findings show that a parent’s belief in their abilities to parent effectively can either positively or negatively impact the ways in which the entire family problem solves, communicates, controls behavior, maintains family roles, responds to each other, and sustains involvement with in the family structure. The impact that parents and their beliefs have on family functioning is an important realization that continues to be supported by previous literature (Teti & Gelfand, 1991; Bandura, 1995). While the research has also
supported the significant relationship between increased parental efficacy and increase child efficacy (Bandura, 1995), it is possible that the impact of parental efficacy affects a child’s efficacious development through the functional qualities of their family.

The impact of income was also tested in the current study. Correlations between income, parental efficacy, family communication, and responsiveness were supported. These findings are consistent with previous literature showing that family income is positively correlated with family process and parental beliefs (Dearing, McCartney & Taylor, 2001).

As evidenced by the aforementioned findings, this study makes several contributions to the existing literature. This study was unique in that it focused on specific efficacious beliefs of pre-adolescent girls, while existing literature tends to focus on efficacy in older adolescents and adults. The current study also looks at specific efficacious beliefs (self, social, and physical efficacy) while previous research tends to lump all efficacious beliefs in children together or fixate on academic efficacy. Additionally, research tends to look at the effects of efficacy on child outcomes, while focusing less attention on what molds efficacy in children. The present study examines how family functioning affects efficacy in girls. While there is a larger body of research examining family functioning’s relationship to child outcomes, its relationship to efficacy in children is a topic that has received limited exploration. This present study not only examines this relationship, but also looks at the moderating effects of race. Few empirical studies have looked at the racial differences in the impact family functioning has on child outcomes (Mistry, Biesanz, Taylor, Burchinal, & Cox, 2004), while even less have looked at racial influences on family functioning and efficacy. In addition, this study was different from the majority of existing literature surrounding this topic, in that it used
structural equation modeling to explore the implications of a variety of family functioning factors and their effects on child efficacy.

This study, which explores family functioning, parental efficacy, and child efficacy, also has several relevant clinical implications. The findings of the current study, which show that parental efficacy impacts family functioning, highlight the importance of supporting not just children, but also parents. Study results reinforce the importance of conducting family therapy, involving parents and family members in community outreach programs to increase efficacy in children and to increase moral and efficacy in parents who might experience difficulties. While strengthening efficacy in girls has been an ongoing focus for parent and community outreach programs, many programs do not put an equal emphasis on parental and child support. Providing support to both parents and children can help to sustain the initiatives of intervention programs.

Although important findings were revealed in this study, some limitations to which these finding can be generalized must be acknowledged. All children tested in this study were pre-adolescents. This may affect the ability to generalize these findings to children of other ages. Future studies could benefit from using a cross-sectional and/or longitudinal approach to ascertaining this information. Additionally, measures of family functioning were based on self perceptions, which might vary based on respondent gender. The fact that the majority of parent responders were female may affect the generalizability of this study to a population utilizing all male responders and should be done with care. Likewise, the current study explored the perceptions of mothers about their families significantly more than fathers’ perceptions. It is possible that mothers and fathers may describe their families differently, which may also affect the generalizability
of this study. Additionally, the current study looked at racial differences among preadolescent girls in order to examine group differences. Looking at cultural differences in family functioning and efficacious development would be a more effective way of exploring different beliefs, which may influence functional qualities of children and their families.

Overall, the current study found that parental efficacy does significantly impact family functioning, which then subsequently impacts child efficacy. While this study contributes to the understanding of this area of research, further research is needed to determine other combinations of family characteristics that can cause a family to have good functioning when efficacious parents are present. Future studies might benefit from examining several indicators of family functioning, in conjunction with family functioning factors already explored in this study. It might also be effective to explore reciprocal relationships between individual factors of family functioning, parental efficacy, and specific types of efficacy. Further exploration of parental and child gender affects on family functioning and child efficacy is also needed. Some research has found that family structure effects may be limited to boys (Stevenson & Black, 1988). Numerous studies showed that fathers and mothers interact with their girls and boys differently (Jenkins & Guidubaldi, 1997; Leve & Fagot, 1997). It may also be important to compare the differences in family functioning and parental efficacy among single parent and two parent families and subsequent effects on child efficacy. There have been longitudinal studies whose findings showed that African American children in two-parent homes had more positive self-belief and less behavioral problems (Teachman et al., 1998). In addition to examining quantitative data, exploring qualitative data would add to
the research by providing a more comprehensive and well-rounded view of family functioning and efficacious development. Lastly, longitudinal analyses should be conducted on girls in order to examine the long-term effects of parental efficacy factors and family functioning on child efficacy. Literature has advised researchers to use longitudinal designs that examine long-term effects (Prevatt, 2003).
References


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Latent constructs are shown in ellipses and observed variables are shown in rectangles. The displayed model shows the influence of family functioning (problem solving, communication, roles, affective responsiveness, affective involvement, and behavioral control) on child efficacy (self-efficacy, social efficacy, and physical efficacy).

* $p = .08$
Latent constructs are shown in ellipses and observed variables are shown in rectangles. The displayed model shows the influence of family functioning (problem solving, communication, roles, affective responsiveness, affective involvement, and behavioral control) on child efficacy (self-efficacy, social efficacy, and physical efficacy) as moderated by race. Regression weights were constrained in the above model to examine ethnicity differences in the same model. Estimates for African American Children are depicted above the estimates for Caucasian children.

*p = .04
Latent constructs are shown in ellipses and observed variables are shown in rectangles. The displayed model shows the influence of family functioning (problem solving, communication, roles, affective responsiveness, affective involvement, and behavioral control) on child efficacy (self efficacy, social efficacy, and physical efficacy). The displayed model also shows the influence of parental efficacy on family functioning and child efficacy.

*p = .09
Table 1

*Descriptive Statistics for Observed Variables and Sample Characteristics*

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<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
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<td>Physical Efficacy</td>
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<td>1.00-19.00</td>
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<tr>
<td>Family Communication</td>
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<td>4.18</td>
<td>1.00-28.00</td>
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<td>Family Roles</td>
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<td>1.00-36.00</td>
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<td>Family Affective Responsiveness</td>
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<td>1.00-19.00</td>
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<td>Family Affective Involvement</td>
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<td>Family Income</td>
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### Table 2

Fit Statistics for Models

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Note. df = degrees of freedom; χ² = chi-square; TFI= tucker-lewis index; CFI= comparative fit index; RMSEA= root mean square error of approximation. * p > .05
Table 3

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<td>6. Behavioral Control</td>
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<td>-.07</td>
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Note. ** $p < .01$.  
* $p < .05$.  
