Abstract

THOMPSON, JULIE A. Pathways to Sibling Jealousy: The Influence of Parents’ Self-Reported Beliefs and Reactions and Children’s Implicit Theories (Under the direction of Amy G. Halberstadt).

The goal of the current study was to examine how parents’ reported beliefs about children’s emotions and parents’ reactions to children’s expression of negative emotions relate to children’s implicit theories about relationships and sibling jealousy experience. Participants were 102 sixth-grade children from two local middle schools and one of their parents (n = 82). Children were interviewed about their implicit theories about relationships; their reasons for feeling sibling jealousy, frequency, duration; the intensity of their jealousy toward a sibling; and their coping strategies in response to a recalled sibling jealousy event. Parents completed questionnaires regarding their beliefs about children’s emotions, their reactions to their own children’s negative emotion expression, and their demographics. Parents’ beliefs that negative emotions are good and parents’ problem-focused and encouraging expression reactions were positively related to children’s implicit theories about parents, and to the duration and intensity of sibling jealousy. Parents’ encouraging reactions were negatively related to children’s passive/avoidant coping with jealousy. Also, children’s implicit theories about parents were positively related to children’s duration and intensity of jealousy, behavioral action coping, and negatively related to children’s passive/avoidant coping. Findings suggest that parent socialization is important in the development of children’s implicit theories, as well as children’s jealousy experiences and coping strategies.
PATHWAYS TO SIBLING JEALOUSY: THE INFLUENCE OF PARENTS’ SELF-REPORTED BELIEFS AND REACTIONS AND CHILDREN’S IMPLICIT THEORIES

by

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Biography

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Introduction

The purpose of the current study was to explore parent socialization of children’s experience and coping reactions during sibling jealousy events. Specifically, this study attempted to examine how parents’ beliefs about emotions and reactions to children’s negative emotion expression relate to children’s implicit theories about relationships and their experiences with sibling jealousy. As a secondary question, the relationship between implicit theories and children’s coping with sibling jealousy was investigated.

The study of children’s experiences (cognitive, affective, and behavioral) during sibling jealousy events is a new field of psychological inquiry. Consequently, it is not surprising that researchers in the field of emotion are only now beginning to include the examination of family influences on sibling jealousy. Most children in previous studies report that they have indeed felt jealous of their sibling. It is readily apparent in infants (Hart & Carrington, 2002), easy to activate in toddlers (Volling, Miller, & McElwain, 2002), and reported as occurring fairly often by school-aged children (Thompson & Halberstadt, 2006). Thus, the exploration of parent influences on children’s views of relationships and sibling jealousy in middle-childhood represents a promising new line of investigation for understanding the experience of complex emotions in childhood.

Regarding the relationship between children’s implicit theories and their coping with sibling jealousy, limited empirical work has examined associations between implicit theories about relationships and subsequent coping during a relationship conflict. These studies suggest that constructive coping with challenging relationship events is related to theories that relationships are changeable (Kamrath & Dweck, 2005; Knee, 1998). However, no
research has examined the effect of implicit theories on non-romantic relationship events, nor has the impact of implicit theories on coping been studied with adolescents or children.

The proposed study brings together these two lines of research by examining the influence of parents’ beliefs and reactions on children’s views of relationships and sibling jealousy, as well as describing the association between children’s views of relationships and coping strategies during sibling jealousy events. The following two sections provide an overview of the theoretical and empirical work in the areas of children’s jealousy, implicit theories, and coping with stressful events, as well as parents’ beliefs and reactions. I then offer a description of the primary goals and hypotheses of this study.
Sibling Jealousy

There are many events in everyday life that potentially involve emotion. In middle and late childhood, emotional events within family settings are likely to occur within the sibling context, because siblings spend more time with each other than with parents during this period (Bank & Kahn, 1997). Many parents’ anecdotal reports suggest sibling jealousy to be an important aspect of sibling relationships. Additionally, because sibling relationships can impact future relationships, the study of siblings has predictive value (Bank, Patterson, & Reid, 1996; Brody & Stoneman, 1990; Buhrmester & Furman, 1990; Dishion, Patterson, & Griesler, 1994; Dunn, 1992; Stocker & Dunn, 1990).

The systematic investigation of sibling jealousy has been limited. This is unfortunate considering the frequency, pervasiveness, and easy activation among young children (Hart & Carrington, 2002; Miller, Volling, & McElwain, 2000; Parrott, 1991; Volling, Miller, & McElwain, 2002) and even fifth- and sixth-grade children (Thompson & Halberstadt, 2006). It is a major concern for families, partly because siblings spend a good deal of time together and also because their fighting is aversive to parents (Faber & Mazlish, 1999; Goldenthal, 2000).

Although sibling jealousy has received attention in families with very young children (Hart, Field, DelValle, & Letourneau, 1998; Miller et al., 2000; Pietropinto, 1985; Wisdom, 1976), it has not garnered much attention in middle childhood (see Thompson & Halberstadt, 2006 for an exception). Recent findings suggest that children in their elementary years experience jealousy somewhat often, and rather intensely (Thompson & Halberstadt, 2006), supporting the notion that it is useful for studying children’s emotional experience and expression.
On the Social Nature of Jealousy

This research is concerned with the social emotion of jealousy, specifically in the sibling context. Although all emotions can serve as social signals to other people and are typically affected by the sociality of the context, social emotions are social in a number of additional ways. Social emotions always seem to involve a real or perceived other. Also, the concerns of these emotions are believed to be primarily socially constructed (Fridlund, 1991). Thus, the study of jealousy considers relationships to be central, as opposed to just studying the individual.

Sibling Jealousy Defined

Following conventions in both the child and adult literature, jealousy is considered an “interpersonal jealousy system” (White & Mullen, 1989). There are three relationships within the system: (1) the relationship between the jealous individual and the beloved, (2) the relationship between the beloved and the rival, and (3) the relationship between the jealous individual and the rival. For sibling jealousy, the sibling is defined as the rival, and the beloved as the parent (Miller et al., 2000; Volling et al., 2002). See Figure 1 for a schematic diagram of the jealousy system.

Although laypersons tend to use jealousy and envy interchangeably, many scientists regard jealousy as distinct from envy (Barker, 1987; Sullivan, 1953). Envy occurs when a person lacks another’s superior quality, achievement, or possession and either desires it or wishes that the other lacked it (Salovey & Rodin, 1984). On the other hand, jealousy occurs when a person fears losing important attention from another person to a rival (Hupka, 1991). Both emotions are characterized by a constellation of several
Figure 1

*The Interpersonal Jealousy System.*
affective elements, but these elements are different for each emotion. The experience of envy is best characterized by longing and ill will toward the envied person, whereas the experience of jealousy include resentment of the circumstances, anger about betrayal, and fear of loss (Mathes, Adams, & Davies, 1985; Parrott, 1991). And, because envy and jealousy co-occur frequently, it is easy to confuse them as the same emotion. Envy may easily occur without jealousy, but jealousy often is accompanied by envy (Parrott & Smith, 1993; Schmitt, 1988). Acknowledging the difficulty in distinguishing the two emotions, I have worked to ensure that participants report on jealousy experiences, and not feelings of envy.

The experience of jealousy, although frequent, is not accorded great legitimacy (Stearns, 1989) and thus, most individuals might feel jealous, but not express it outwardly. Emotions that have a stigma attached to them, such as jealousy, are likely to be regulated more so than emotions that might be more accepted in society (sadness, frustration, etc.) Thus, it is very difficult to create observational measures of jealousy, especially following the cognitive advances that occur in middle childhood, such as children’s development of the ability to identify and experience mixed emotions (Steele, Steele, Croft, & Fonagy, 1999), and to mask their jealous feelings (Brody & Stoneman, 1990). Instead of observing jealousy, the proposed study will measure jealousy using children’s reports of a recalled event.

Factors influencing Jealousy Experiences

It is likely that a variety of factors play a role in children’s reactions to jealousy events. One set of factors are demographic variables such as child gender, age interval between siblings, gender composition of the siblings (whether same-sex or mixed-sex), and birth order. Though well-studied, there is little evidence that these variables ultimately impact jealousy. Thus, although I collect and analyze these variables in relation to sibling
jealousy, I do not include them in the theorized model. The current examination of sibling jealousy will, instead, focus on parent socialization and cognitive aspects of jealousy that develop over time, including cognitive processes.

*Parents’ Beliefs about Children’s Emotions*

Parents’ beliefs about emotion have a long history in psychology (e.g., Becker, 1964; Mayr, 1982; Symonds, 1939) and are important in studies on children’s beliefs and behaviors for many reasons. First, they are a component in guiding parents’ choices of behaviors. Second, they likely infuse socialization climates because they are the background context for parents’ behavior. And third, parents’ beliefs impact children’s schemas, which then affect their understanding and evaluation of events. Therefore, measuring parent’s beliefs, in addition to parents’ behaviors, allows for a more in-depth examination of parents’ influences on children.

Parents’ emotion-related socialization behaviors tend to reflect parental beliefs and values with regard to their children’s experience, expression, and modulation of emotion. Consistent with this suggestion, there is a growing body of research linking parents’ beliefs to parenting behaviors (Darling & Steinberg, 1993; Dunsmore & Halberstadt, 1997; Eisenberg et al., 1998; Gottman et al., 1996; Halberstadt, Thompson, Parker, & Dunsmore, 2006). Baumrind’s (1968) conceptualization of parenting style notes that the values and beliefs parents hold help define naturally occurring patterns of parental affect and practices. Furthermore, Dunsmore & Halberstadt (1997) argue that family attributions about emotions play a part in determining children’s understanding of when emotion expressions are meaningful, which behaviors are important to attend to, and which experiences and expressions of emotion are appropriate. Ultimately, this affects children’s understanding and
Parents’ Beliefs and Reactions

Parents’ Beliefs and Reactions

evaluation of themselves, the social world (including relationships), and their own emotional experience. Work with the construct of parental meta-emotion indicates associations between parents’ beliefs and a wide assortment of important outcomes for children, including peer relations, academic achievement, and child illness (Gottman et al., 1996; Katz, Wilson, & Gottman, 1999; Katz & Windecker-Nelson, 2004). However, because the meta-emotion construct includes a broad mixture of belief and behavior, it is important to identify specific beliefs and behaviors, and their subsequent impact on children (Cowan, Cowan & Schulz, 1996).

Parents’ Emotion Beliefs

Halberstadt & Dunsmore (2004) proposed three broad dimensions of parents’ beliefs: value (emotions are valuable or dangerous), control (emotions can/cannot be controlled), and guidance (parents have a role in socializing children’s emotions). Preliminary empirical work with these dimensions is promising. For example, mothers’ beliefs about their role in socializing children’s emotion language development, and about children’s readiness for emotion language development are related to children’s emotion understanding and peer relationships (Dunsmore & Karn, 2001). And, parents’ belief that emotion can be dangerous was associated with children’s use of avoidant/withdrawing and distraction coping following the terrorist attack of 9/11/01 (Halberstadt, Thompson, Parker, & Dunsmore, 2006). Thus, Halberstadt and colleagues pursued questionnaire development to assess parents’ beliefs about children’s emotions with a measure that would be reliable and valid across multiple ethnicities and income levels.

First, they conducted focus groups, which revealed an additional two dimensions of beliefs: developmental process (children’s emotions are changeable) and privacy (children’s
emotions can/should be private; Parker, Halberstadt, Dunsmore, & Bryant, 2006). Next, they generated new items and then administered a new beliefs questionnaire to over 1000 African-American, European-American, and Lumbee Native American parents to provide construct, discriminant, and predictive validity. Exploratory factor analysis and Cronbach’s alphas were used to determine dimensions and subscales (Halberstadt, Dunsmore, Beale, Thompson, Parker, & Bryant, 2006). Three of these five dimensions were of interest to the current study: value, guidance, and developmental process.

**Value.** Exploratory factor analysis identified four subscales: *negative emotion is good, positive emotion is good, all emotions are bad,* and *emotion “just is”*. The analysis suggested these factors to be distinct, although not necessarily orthogonal, in accordance with what Halberstadt et al. (2006) hypothesized. Beliefs about the value and danger of emotions may form separate, orthogonal dimensions rather than a single dimension with positive and negative poles. As Halberstadt & Dunsmore (2004) note, some people may not value emotions in one direction or another, believing that emotions simply exist, with no need for evaluation, analogous to breathing (see Potter, 1988, re: rural Chinese), or are *laissez-faire* about emotion (see Gottman, et al., 1997).

**Guidance.** Parents’ beliefs about their role as socializers of children’s emotional experience and expression is measured by the subscale, *guidance.* For example, parents who hold essentialist or maturational viewpoints about emotions will be unlikely to believe that they need to play an active role in encouraging their children’s development of emotional

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1 Exploratory factor analysis suggested two separate factors for guidance: “parents must guide” and “kids can do it on their own.” Because only the “parents must guide” subscale was theorized to fit the goals of this study, only that subscale was administered.
skills, whereas parents who hold a learning viewpoint will be likely to believe that their teaching and guidance are important for their children’s emotional development.

*Developmental Process.* This subscale reflects the degree to which parents believe that emotions are changeable in the moment or over longer periods of time and also how emotional styles can change as children develop. These beliefs, in conjunction with parents’ reactions to children’s emotion expression, are likely to influence children’s implicit theories about relationships because if parents believe in changeability of emotions, then they are likely to react to emotions in a way that reflects those beliefs. If children use these reactions to formulate their own beliefs, it is likely that they will develop more malleable theories regarding emotions and relationships, than children who do not have parents who believe emotions are changeable. And, as previous work suggests, children who strongly endorse malleable theories will report more enduring and more intense jealousy than children with less malleable theories.

*Parents’ Reactions to Children’s Emotion Expression*

Children first learn about emotions within the family. Parents’ emotion-related behaviors, (especially those involving negative affect) have important implications for children’s socio-emotional functioning (Bretherton, 1990; Dunsmore & Halberstadt, 1997; Eisenberg, Cumberland, & Spinrad, 1998; Gottman, Katz & Hooven, 1996; Hoffman, 1983; Parke, 1994). Eisenberg, et al. (1998) organized parents’ emotion-related socialization behaviors into three groupings: Parental emotion expressiveness, parental discussion of emotions, and parental reactions to emotions.

Research consistently demonstrates strong associations between parents’ typical expressiveness in the family, or prevalent style of exhibiting positive and negative emotions,
and a variety of socio-emotional outcomes (Halberstadt, Crisp & Eaton, 1999; Halberstadt & Eaton, 2003). Children from families that are more expressive of positive emotions are themselves more socially competent, more popular with peers, and better adjusted (Halberstadt et al., 1999). The picture is more complex for negative family expressiveness; possible curvilinear relationships according to age and intensity have been suggested in reviews (Halberstadt, et al., 1999; Halberstadt & Eaton, 2003). Extant research also consistently demonstrates associations between parent-child discussion of emotion and children’s socio-emotional outcomes, including emotional competence, emotional understanding, peer relationships, and conduct problems (e.g., Denham, 1997; Dunn, Brown & Beardsall, 1991; Gottman, Katz, & Hooven, 1997; Katz, Wilson, & Gottman, 1999; Katz & Windecker-Nelson, 2004).

Of interest to the current study are parental reactions to children’s emotion expression. After all, many parents choose not to express jealousy all that often, which makes it difficult to capture as an influence on children. In addition, discussion of jealousy may also be infrequent. The quality of parents’ reactions to emotions likely affects children’s feelings and cognitive schemas about social interactions, which probably then influence the quality of children’s emotions and behaviors in social encounters (Burleson & Goldsmith, 1998; Davies & Cummings, 1994; Thompson, R. 1997). Thus, parents’ reactions are likely to be the most visible way in which parents socialize children’s emotion-related beliefs and behaviors. Two broad categories of reactions regarding children’s emotion expression have been described as: supportive and non-supportive (Fabes, Poulin, Eisenberg, & Madden-Derdich 2002).
Supportive Parental Reactions

Supportive parental reactions include problem-focused reactions, emotion-focused reactions, and expression encouragement. *Problem-focused* responses reflect the degree to which a parent helps a child solve the problem that caused the child's distress. In contrast, *emotion-focused* responses reflect the degree to which a parent responds with strategies that help a child feel better (i.e., oriented towards affecting the child's negative feelings).

Parental reactions to children’s negative emotions that provide instrumental (e.g., problem-solving) or emotional (e.g., comforting and validating) support will likely foster children’s social and emotional competence through the child’s openness to explore emotional events and meanings, and focus and shift attention to emotional stimuli in meaningful ways (Bretherton, 1990; Gottman et al., 1996). Although both problem-focused and emotion-focused reactions to children's negative emotions contribute to children's outcomes in similar ways, they are distinguished because parents indicate that they do not use these two responses to the same extent (Altshuler & Ruble, 1989; Roberts & Strayer, 1987). They are especially important to distinguish in regard to children’s implicit theories. Problem-focused reactions will likely predict more malleable theories, because they encourage children to take action, whereas emotion-focused reactions will likely predict less malleable theories because they encourage children to focus inward, on the emotion, rather than outward, on the event.

A third type of supportive reaction is actively *encouraging children's expression* of negative emotions. This reflects the degree to which parents are accepting of children's negative emotional displays. Parental encouragement of children's expression of negative emotions is positively related to children's perspective-taking and empathy (Bryant, 1989).
Parents’ Beliefs and Reactions

and complex thinking about emotionally expressive behavior (Saarni, 1990). By acknowledging and validating children’s negative emotion expression, parents are helping children develop a sense of how to go through the process of dealing with negative emotions.

Non-supportive Parental Reactions

Non-supportive reactions include punishing, minimizing, and distressing responses to emotion expression. **Punishing** represents the degree to which parents use verbal or physical punishment to control children's negative emotional display. **Minimizing** reflects the degree to which parents discount the seriousness of their children's emotional reactions or devalue their problem or distressed responses. When parents discourage or punish children’s expression of emotion, children may learn to view their own and other’s emotions as threatening and may avoid opportunities to explore the meaning of emotions and ways to deal with them. Thus, studying parents' reactions, such as suppressing, punishing, or discouraging children's negative emotions, is important because it is in the family that children first express their needs and desires, and where socialization of this communication first takes place (Eisenberg et al., 1998; Eisenberg & Fabes, 1990; Halberstadt, 1983). And indeed, both minimizing and punishing have been related to children's non-optimal outcomes, such as lower levels of empathic and social responsiveness (Eisenberg & Fabes, 1990; Fabes et al., 2002; Roberts & Strayer, 1987) and increased anxiety (Buck, 1988).

Another non-supportive parent reaction is **distress**. This reflects the degree to which parents experience distress when children express negative affect. Children whose parents react negatively to emotional displays may view emotions as threatening, avoid emotionally challenging situations, and ultimately miss opportunities to learn about and cope with negative emotions (Bretherton, 1990; Eisenberg, et al., 1998). As such, parental distress
Parents’ Beliefs and Reactions

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Concerning children’s negative emotions has been associated with lower levels of emotional understanding (Denham, Mitchell-Copeland, Strandberg, Auerbach, & Blair, 1997; Garner, Jones, & Miner, 1994) and more problematic social interactions (Fabes, Leonard, Kupanoff, & Martin, 2001).

Parents’ reactions have been a useful resource for explaining children’s understanding of emotion and behaviors regarding emotion. Thus, parental reactions to children’s emotion expression are an excellent way to capture parents’ socialization of children’s emotion-related beliefs, including implicit theories, and behaviors.

Implicit Theories

An important cognitive component that emerges in middle childhood is one’s implicit theory. Because the relationship aspect is central to the emotion of jealousy, implicit theories about relationships are thought to be important predictors of children’s reactions to jealousy situations (Thompson & Halberstadt, 2006), and thus are included in the proposed study.

Implicit Theories Defined

Implicit theories have been powerful predictors of children’s and adults’ behavior in a variety of domains. Two types of implicit theories have been identified: fixed and malleable. According to the paradigm, each theory leads to a pattern of thoughts, feelings, and behaviors in response to challenging (academic, moral, and social) experiences. Fixed theories consist of beliefs that relationships cannot be changed and thoughts such as, “Nothing that I do will impact the situation.” Fixed theorists believe that circumstances are unchangeable and thus, are likely to feel a sense of shame and may exhibit depressed affect (e.g., sadness) or a more defensive response when facing something that is viewed as a failure. In addition, they tend to withdraw from a challenging situation because they believe that actions will not change
the circumstance. In contrast, malleable theorists believe that relationships can be changed, if one wants to give effort to effect change. Children with malleable beliefs are likely to feel determined to change the situation. Behaviors would likely include confronting the challenge and attempting to find the best strategy to deal with it. Thus, these two belief systems create a framework for individuals to interpret (cognition) and then respond (affect and behavior) to challenging events that occur. Because they pertain particularly to social challenges (Erdley & Dweck, 1993), they provide an appropriate paradigm with which to examine sibling jealousy, which is inherently socially challenging.

Parent socialization is suggested to be the primary reason that a child holds a fixed or malleable implicit theory (Kamins & Dweck, 1999). How we develop our models of relationships is important to our subsequent behaviors during challenges in relationships. Thus, linking implicit theories and children’s reactions to sibling jealousy can have strong implications for parent socialization practices. In moving toward the more distal antecedents of sibling jealousy, the next step is to understand the factors that influence the formation of these implicit theories in children.

**Origins of Implicit Theories**

Implicit theories probably have a variety of origins and researchers have begun the process of understanding their development in the intelligence and personality domains. Lewis (1995) suggests that temperament plays the primary role in development of implicit theories. However, Dweck and colleagues have been able to manipulate theories in many of their studies, speaking to the potential of the environment to influence them. Although temperament might set children along a path to one theory or the other, socialization practices are also likely to play a key role in theory development. Dweck (1991) suggested
that socialization might foster different theories. Follow-up studies demonstrated that the feedback children received significantly affected the way they judged themselves, the affect they reported, and how constructively they responded to a challenging scenario (Heyman, Cain, & Dweck, 1992; Kamins & Dweck, 1999; Mueller & Dweck, 1998). Feedback that conveys personal judgment might suggest to the child that individuals have permanent qualities of certain traits (e.g., basic goodness, adequacy, or worth). Feedback that conveys strategy suggests that “traits” (e.g., intelligence) can be altered through effort.

The development of implicit theories within more social situations, specifically those involving emotion obstacles is much less understood in the field. Implicit theories about relationships are likely to have many factors that play a role in their development. One factor might be parents’ reinforcement/punishment of certain behaviors of the child during interpersonal events (Kimble, 1993). Reactions to children’s behavior during a challenging intellectual task are related to children’s implicit theories about intellectual ability (Kamins & Dweck, 1999), thus, reactions to children’s emotion expression during interpersonal events are likely to shape their implicit theories about relationships. If a parent responds to a conflict with attempts to help the child resolve it constructively, then that parent may be helping to foster a theory in the child that relationships might have “down” times, but that people can work through those times. On the other hand, a parent who immediately interrupts to stop a conflict might teach a child that conflict is “bad” and should be avoided. Over time, this idea of conflict as something that is “bad” may progress into thoughts that relationships with conflict are also bad, and there is no way to fix them.

If implicit theories are knowledge structures that are available to us and which become differentially accessible depending on the domain or situation, it is important to
understand the development of implicit theories within more social domains. And although these implicit theories have shown powerful effects of children’s behavior in many domains (intelligence, morality, personality, and relationships), the investigation of how these theories develop is limited. At this point, preliminary work (e.g., Kamins & Dweck, 1999) suggests family experiences to be an important factor in the development of implicit theories. Thus, I chose to examine parents’ reactions to children’s emotions in relation to children’s implicit theories.

*Children’s Coping with Negative Interpersonal Events*

Children often experience stressful interpersonal events in the home and in school settings (Cummings & Davies 1994; Grych & Fincham, 1990; Saarni, 1999). How children respond to these stressful events can have long-term effects on their interpersonal relationships, as well as their mental and physical health (Repetti, McGrath & Ishikawa, 1999; Spirito, Stark, Grace & Stamoulis, 1991). There is sizeable literature on coping that suggests a variety of dimensions. For example, children’s coping abilities have been conceptualized by some as ‘problem-focused’ or ‘emotion-focused’ (Lazarus & Folkman, 1984) and by others as approach or avoidant strategies (Causey & Dubow, 1993). Others argue for more than a two-dimension distinction to include strategies that may not fit into two categories. For example, in the specific area of children’s coping with peer rejection, four types of strategies have been distinguished: active, denial, ruminative and aggressive (Sandstrom, 2004). Although some may consider coping ability to be a trait-like phenomena, it is more appropriate to consider it a situationally-based response (Eisenberg, Spinrad, Fabes, Reiser, Cumberland, Shepard, et al., 2004). Therefore, understanding children’s
coping within the context of friends or peers is not likely to develop our understanding of children’s coping with sibling stressors.

Of particular interest to this study is how implicit theories about relationships influence children’s coping abilities regarding sibling jealousy events. Implicit theories have been found to be a robust predictor of college students’ responses to conflict in a romantic relationships (Kammrath & Dweck, 2005; Knee, 1998). Previous findings suggest that malleable theorists (regarding personality) have more adaptive reactions to relationship challenges than children with more fixed theories.

In one study, researchers asked people who were in serious relationships to report a major conflict they had had with their partner in the last few months (Kammrath & Dweck, 2005). They were told to focus on the one conflict that made them the most upset and then to report their strategies for conflict resolution. The degree of malleability did not influence how serious they thought the conflict was or in how upset they were following the conflict. However, it did influence how they handled the conflict. Participants who held a more malleable theory of personality were significantly more likely to voice their feelings. Relative to less malleable theorists, they gave higher endorsements than entity theorists to statements such as: “I openly discussed the situation with my partner,” “I tried to work with my partner to find a solution to the problem,” and “I tried to bring my concerns out into the open so that the issue could be resolved in the best possible way.” Less malleable theorists, not believing in change, showed little motivation to work towards a solution. They gave stronger endorsements to items like: “I accepted his faults and didn’t try to change him” and “I learned to live with it” (Kammrath & Dweck, 2005). These findings suggest that more malleable theories promote more ‘active’ coping than fixed theorists.
Theories about relationships have also been examined in relation to coping strategies in adult romantic relationships. Research with college students indicated that the greater the belief in malleability, the more students predicted endorsement of relationship-maintenance strategies, including more active coping, planning, and a more positive reinterpretation of the event, as predicted (Knee, 1998). These findings, along with Kammrath & Dweck’s, suggest that the degree of malleability influences one’s choice of coping strategies during relationship challenges. However, these investigations have been limited to adult, romantic relationships. The current study will expand on the existing work with implicit theories and coping in relationship stressors by applying it to childhood sibling relationships.

Summary

The current study attempted to bring together two lines of research, parent socialization of children’s implicit theories and behaviors during sibling jealousy, and children’s implicit theory associations with their jealousy experience and jealousy coping strategies. The following section provides a detailed description of the specific aims and questions driving the current investigation as well as speculation regarding the expected results.

Statement of the Problem

Aim 1: Links between Parents’ Beliefs and Behaviors and Children’s Implicit Theories and Sibling Jealousy Experience

1a. Do Parents’ Beliefs and Reactions Regarding Children’s Emotions Influence Children’s Implicit Theories about Relationships and Sibling Jealousy Experiences?

The first objective is to test a model of parent socialization of children’s beliefs and behaviors regarding sibling jealousy in middle childhood. Specifically, the guiding
theoretical model of the current research is that parents’ beliefs about emotion and parents’
reactions to children’s emotion expression predict children’s implicit theories about
relationships and the frequency, duration, and intensity in sibling jealousy events (Figure 2).
Although this model does not reflect the bi-directionality of parent-child relationships
(Belsky, 1984; Lollis & Kuczynzki, 1997), the current study was interested in first testing a
model to see if parents’ beliefs and behaviors influence children’s outcomes. The next step
will be to examine the bi-directionality of parent-child relationships regarding sibling
jealousy.

Hypotheses for parents’ beliefs and reactions. Drawing from previous research
reporting associations between parents’ beliefs and parents’ behaviors, I expected: (a)
Parents’ belief that negative emotion is good will be positively related to parents’ problem-
focused, emotion-focused, and encouraging reactions to children’s expression
and negatively related to punitive and minimizing reactions, whereas parents’ belief that
emotions are bad will be negatively related to problem-focused, emotion-focused and
encouraging reactions and positively related to punitive and minimizing reactions
(Halberstadt, Duff, Dunsmore, Beale, Cox, & Miller, 2005); (b) Parents who believe that
their role is to “guide” children’s emotion experience will report more emotion-focused and
problem-focused reactions than parents who believe that children naturally learn how to deal
with emotional experiences (Halberstadt, Duff, Dunsmore, Beale, Cox, & Miller, 2005); (c)
Parents who hold developmental process beliefs will be more likely to encourage and offer
strategies (problem-solving) to children for dealing with emotional events than parents who
see emotion styles as fixed and unchangeable (Halberstadt, Dunsmore, & Bryant, 2006). I
had no predictions regarding the beliefs that emotions are bad or emotion “just is”.
Hypotheses for parents’ beliefs and children’s implicit theories. I expected:

(d) Parents’ belief that negative emotion is good would be positively related to children’s theories about relationships. If a parent believes negative emotions are good, then that parent is likely to allow a child to process and deal with any negative emotion rather than try to halt (or even prevent) it. Thus, children will learn that emotions are okay and can be worked out, supporting beliefs about malleability; (e) Parents’ belief that emotions are bad will be negatively related to children’s theories about relationships. If a parent believes emotions are bad, then that parent is likely to respond to a child’s emotion expression in ways that lead the child to believe that jealousy in a relationship is an indication of a “bad” relationship, and likely, one that is not worth the effort to change it; (f) Parents who believe in emotions as a developmental process will foster similar beliefs in children about interpersonal emotional events. Thus, parents who report believing in the changeability of emotional styles will have children who report more malleable theories about relationships than parents who do not believe emotional styles are changeable (Kamins & Dweck, 1999);

Hypotheses for parents’ beliefs and children’s jealousy experience. I expected:

(g) Parents’ belief that negative emotion is good will be positively related to children’s reports of jealousy duration and intensity, in that children in these families will not be discouraged from expressing their feelings (h) Parents’ belief that emotions are bad will be negatively related to children’s reports of jealousy duration and intensity, because children in these families will be advised to hide or suppress feelings.

Hypotheses for parents’ reactions and children’s implicit theories. I expected:

(i) Parents’ problem-solving and encouraging expression reactions will be positively related to children’s implicit theories (Kamins & Dweck, 1999), whereas parents’ emotion-focused,
Figure 2

*Model of Parent Socialization of Children’s Implicit Theories and Sibling Jealousy.*
punishing and minimizing reactions will be negatively related to children’s implicit theories. If parents show supportive reactions to children’s negative emotion expression, then children are more likely to believe that negative emotions are okay. And if negative emotions are okay, then encountering a negative emotion in a relationship is not a disaster, but rather, something that can be approached. On the other hand, if parents show non-supportive reactions to children’s negative emotion expression, then children are more likely to believe that negative emotions are bad. An encounter with a negative emotion, then, reflects an ill-fated relationship, and children will work to avoid these negative emotions. Thus, events involving negative emotions, such as jealousy, will go unresolved.

**Hypotheses for parents’ reactions and children’s jealousy experience.** I expected: (j) Parents’ encouraging expression reactions will be positively related to children’s jealousy duration and intensity, whereas parents’ punitive and minimizing reactions will be negatively related to children’s duration and intensity. If a parent responds to a child in a way that indicates negative emotions are okay, then the child is likely to admit the experience of jealousy. On the other hand, if a parent responds to a child in a way that indicates negative emotions are bad, then the child is likely to deny or suppress the experience of jealousy. Distress reactions are more about the parents’ own experience, compared to the other reactions which are direct actions toward the child. Thus, the current study did not include hypotheses for distress reactions.

**Hypotheses for children’s implicit theories and their jealousy experience.** Given the explanatory power of implicit theories in other domains (Chiu, Dweck, Tong, & Fu, 1997; Erdley & Dweck, 1993), children’s theories about relationships as fixed versus malleable may provide an organizing framework for understanding the meaning of events in
relationships, and how one experiences those events. In the parent-child-sibling triangle, this means that children’s implicit theories may help children to decide whether or not a relationship with the parent is being threatened and if triggered, the duration and intensity of the jealousy. Originally, I hypothesized that the degree of malleability would be negatively related to children’s duration and intensity. This inverse relationship was predicted because if children believe relationships are changeable, then negative events within relationships are seen as “another bump in the road” and thus, not a big deal. However, two studies with 10-12 year olds found a positive relationship between malleability and duration and intensity of jealousy (Halberstadt & Thompson, 2006). Thus, for this study I expected: (k) the degree of malleability of implicit theory will be positively related to children’s duration and intensity of jealousy.

*Aim 2: Implicit Theories in relation to Sibling Jealousy Coping Strategies*

2a. Are children’s implicit theories about relationships associated with their endorsement of certain coping strategies in response to a sibling jealousy event?

Implicit theories have generally been defined as schematic structures that involve specific beliefs about the stability of an attribute or the nature of relationships (Ross, 1989). These theories guide the way information about the self and other people is processed and understood, and how individuals react to situations, based on this understanding. Thus, those who believe that relationships are fixed may be sensitive to any indication that the relationship is not going well, and thus, may give up easily during challenges. In this way, a fixed theorist may emphasize having conflict-free relationships, whereas a malleable theorist may see conflict as a normal part of relationships.
Studies on sibling jealousy have demonstrated the influence of implicit theories on subsequent thought, behaviors, and feelings during a sibling conflict event. Specifically, fixed theories about relationships are associated with disengagement from a jealousy event, whereas a theory of changeability is associated with attempts to engage with family members to effect change (Thompson & Halberstadt, 2006). As to whether or not these attempts to engage are actually adaptive needs further investigation. Thus, the current study is including a measure of children’s coping in response to a sibling jealousy event.

*Hypotheses for children’s implicit theories and coping with jealousy.* Extrapolating from research on implicit theories and adults’ coping with challenges in romantic relationships, I expected that: (1) the degree of malleability of children’s implicit theories will be positively related to their duration, intensity of jealousy, and active coping (e.g., social support, behavioral action, and cognitive reframing) scores, whereas children’s belief in malleability will be negatively related to their passive/avoidant coping.
Method

*Design and Overview*

Three child and two parent measures were utilized to test hypotheses. The Sibling Jealousy Interview (SJI; Thompson & Halberstadt, 2006), an interviewing tool used to measure the children’s frequency, duration, and intensity of sibling jealousy, was used to obtain descriptive data (i.e., frequency, duration, and intensity) for sibling jealousy. The Coping Orientations to Problems Experienced Scale (COPE; Carver, Scheirer, & Weintraub, 1989) assessed children’s levels of different coping strategies in response to a recalled jealousy event. The COPE was used to obtain children’s scores for the four coping subscales: social support, behavioral action, cognitive reframing, and passive/avoidant.

The “Ideas about Relationships” Questionnaire (Thompson & Halberstadt, 2006) assessed children’s implicit theory about relationships with their parents and with one sibling. Children’s data were collected during a designated Science Day at their middle school.

The Parent’s Beliefs about Children’s Emotions Questionnaire (PBACE, Halberstadt, et al., 2006), the Coping with Children’s Negative Emotions Scale (CCNES; Fabes, Eisenberg, & Bernzweig, 1990), and a demographics questionnaire were given to the parent to complete. The PBACE provided the parents’ scores for the following sets of beliefs: negative emotion is good, positive emotion is good, emotions are bad, emotion just is, parents need to guide, and emotions involve a developmental process. The CCNES provided parents’ scores for six types of reactions: problem-focused, emotion-focused, encourage, punitive, minimize, and distress. Parents received and filled out their packets at home.
**Participant Recruitment**

Parents and their children were recruited to participate in the Im.P.A.C.T Study (Importance of Parents across Children’s Transitions) as part of a collaboration between a local middle school and researchers at North Carolina State University. The study was part of a learning experience about psychology for 6th graders. The learning experience was titled “Science Day” and was proposed by the author to the school as a way to give students an opportunity to learn about different areas of psychology, to allow the students to get a first-hand view of the process of research by being participants, and to follow the aggregate data they produced from collection to analysis to interpretation. Because Science Day had multiple goals and thus multiple activities and measures, only the measures relevant to goals of the current study are described and discussed below.

**Participants**

Participants were 102 sixth-grade children (52 boys, 50 girls; Mean age = 11.63 years, SD = .67 years) interviewed in Northwestern Granville County (n = 29) and Southern Granville County (n = 73) and one of their parents (n = 75 mothers, 7 fathers). Some children and parents chose not to respond to certain questions, thus, ns for the analyses varied from 62 to 102.

The participating families were from predominantly lower middle-class backgrounds and lived in the Southeastern region of the United States. Of the participants in Northwestern Granville who reported their ethnicity, 44.4% were African-American, 50% were European-American, and 5.6% were Hispanic-American. For Southern Granville County participants who reported their ethnicity, 31% were African-American, 59.5% were European-American, 7.1% were Hispanic-American, and 2.4% were Native American. Parents’ mean age was
36.83 years. Parents reported marital status as single, 14.8%; married, 62.3%; divorced, 11.5%; separated, 6.6%; widowed, 3.3%; cohabiting, 1.6%. Parents reported their religion as Protestant (Baptist, Methodist, etc.), 87.3%; Catholic, 10.9%; not religious, 1.8%. The average age of participants’ siblings was 11.73 years old (range = 1 to 29, $SD = 4.94$ years), with a mean age difference of 4.02 years from the target child. Fifty-two percent had a younger sibling ($M$ age = 8.47, range = 2 to 11) and 48% had an older sibling ($M$ age = 14.55, range = 12 to 29). Forty-four percent reported that their sibling was male, and 56% percent reported their sibling to be female. Fifty-one percent of participants reported different-gender dyads, and 49% reported same-gender dyads.

**Measures**

**Sibling Jealousy Interview (Appendix A)**

The Sibling Jealousy Interview (Thompson & Halberstadt, 2006) opened with rapport-building items (e.g., hobbies, siblings, and what they like to do). Jealousy was then defined for the children as “loss or threat of loss of parental attention to a sibling,” and children were asked to report the overall frequency of their sibling jealousy with the sibling closest in age. Three children reported never experiencing jealousy in their families and another child reported no jealousy with the sibling closest in age. This child was asked to report jealousy with any sibling. Two kinds of time estimates were used. First, traditional Likert-type scales were used. For frequency, the range was from 1 (very rarely) to 7 (quite a lot). For duration, the range was from 1 (a really short time) to 7 (a really long time). Second, real-time estimates were used. The frequency checklist had the following options: 1 = once or twice a year, 2 = every 2-3 months, 3 = once a month, 4 = two-three times per month, 5 = once a week, 6 = two to three times per week and 7 = about once a day. The duration
checklist had the following options: 1 = one to five minutes, 2 = ten to fifteen minutes, 3 = thirty to fifty minutes, 4 = one to four hours, 5 = five hours to one day, and 6 = more than one day. These groupings were established based on the naturally occurring groupings from children’s open-ended reports of the frequency and duration of jealousy in a previous study (Thompson & Halberstadt, 2006). Both measures have benefits but also drawbacks. Likert-type scales, although traditionally used, are still ordinal scales with numbers that have different meanings for different children, even with clearly stated anchors. Although “real time” has clear, ratio-based anchors, children are not always consistently accurate regarding “real time” reports (Friedman, Gardner, & Zubin, 1995), even though some children are able to judge the time of an event relative to other events accurately at age nine. Thus, we wanted to have two kinds of measures of time.

Next, children were asked to identify the most recent jealousy experience with the sibling closest in age to them, and then to describe it. Specifically, they were asked to close their eyes and to think of the most recent time that they remembered feeling jealous of that sibling. Then they were asked to describe the cause, the duration, and the intensity of their jealousy. Intensity was assessed with just one item: a 7-point Likert-type scale, ranging from 1 (very mild) to 7 (very strong). Finally, children were asked “What did you do?” for reports of specific behavioral reactions to the event. The SJI in the present form and in its preliminary form has demonstrated construct validity in two studies (Thompson & Halberstadt, 2006).

Cope (Appendix B)

An abbreviated version of the 56-item Coping Orientations to Problems Experienced Scale (COPE; Carver et al., 1989) was used for the current study. The short version, the Brief
COPE (Carver, 1997), is used to assess the different ways in which people respond to stress. Although developed with a sample of college undergraduate students, the COPE has been used with other age groups (e.g., adolescents, Phelps & Jarvis, 1994). It requires respondents to think of a recent stressful situation with their peers, which occurred in the past 2 months, and to rate their use of coping behaviors in response to that event. Children were prompted with the following “We are trying to find out how people deal with different problems and stresses with their siblings (adapted from peers). Think about a situation with your sibling that has made you feel jealous during the last 2 months. Please describe the situation.” Children indicated on a 4-point scale (1=very little; 4=a great deal) a) how much the situation mattered to them, and b) how much control they felt they had over the situations. Children then indicated the degree to which they used the 26 coping strategies (brief version) in dealing with the sibling jealousy event using a 4-point Likert scale (1= I didn’t do this at all; 4= I did this a lot). Past factor analyses using the longer version have identified 4 factors (Washburn, Hillman, & Sawilowsky, 2004). Active coping includes planning (“I tried to come up with a strategy about what to do”), suppression of competing activities, and seeking social support for instrumental reasons (“I got help and advice from other people”). Avoidant coping included denial (“I pretended that it didn’t really happen”), behavioral disengagement, and alcohol/drug disengagement. The third coping factor was emotion-focused, which included seeking social support for emotional reasons (“I got emotional support from others”), focus on and venting of emotions (“I said things to let my unpleasant feelings escape”). The acceptance factor included restraint, positive reinterpretation and growth (“I tried to see it in a different light, to make it seem more positive”), and acceptance (“I accepted the reality of the fact that it happened”), and mental disengagement. Test-retest
reliability in the original study over six to eight weeks for the Brief COPE was good, ranging from .46 to .81. Children also reported on peer stressors with the COPE. For the purpose of this study, only sibling problems were analyzed.

*Ideas about Relationships Questionnaire (Appendix C)*

The six-item Ideas about Relationships Questionnaire (Thompson & Halberstadt, 2006; adapted from Erdley & Dweck, 1993), assesses children’s implicit theories about family and sibling relationships. The items are: “Relationships with siblings (parents) are something that I cannot really change”, “Brother/sister (Family) relationships tend to stay the way they are no matter what people do”, and “My actions don’t have any effect on my relationship with my brother/sister (parent).” Children were asked to show their degree of agreement with each item on a 6-point Likert scale ranging from 1 (strongly agree) to 6 (strongly disagree). Construct validity and internal reliability for this measure has been established in two studies (Thompson & Halberstadt, 2006). Although implicit measures were initially measured categorically, Knee (1998) and Kammrath & Dweck (2005) have demonstrated that continuous assessment is also possible. Therefore, I used the scale continuously. Thus, the higher the score, the more a belief in relationships as malleable is demonstrated.

*Parents’ Beliefs about Children’s Emotion (Appendix D)*

The Parents’ Beliefs About Children’s Emotions Questionnaire (PBACE; Halberstadt, et al., 2006) was developed to assess parents’ beliefs about children’s emotions. There are five dimensions in the current questionnaire with eleven subscales, however only 6 subscales are relevant to the current study: (1) *negative emotion is good* (‘It is good for children to feel sad at times’); (2) *positive emotion is good* (‘It's good for the family when
children share their positive emotions”); (3) *emotions are bad* (“Children who feel emotions strongly are likely to face a lot of trouble in life”); (4) *emotion just ‘is’* (“Being sad isn't "good" or "bad" – it is just a part of life”); (5) *guidance* (“It’s a parent’s job to teach children how to handle their emotions”) and (6) *developmental processes* (“Children can change their emotional styles as they grow up”). Parents responded to the 78-item questionnaire using a Likert-like scale ranging from 1 (strongly disagree) to 6 (strongly agree). Alphas in previous work were excellent for these subscales, mean $\alpha = .83$ for the four subscales for “value”; $\alpha = .85$ for “guidance”; and $\alpha = .78$ for “developmental processes” (Halberstadt et al., 2006).

*Coping with Children’s Negative Emotions Scale* (Appendix E)

Self-report measures of parental socialization appear to be most valid when parents are asked to respond to questions about their behavior in specific situations (Holden & Edwards, 1989). Thus, parental reactions to their children’s negative emotions were assessed with the Coping with Children’s Negative Emotions Scale (CCNES; Eisenberg & Fabes, 1994). Parents were presented with 9 typical situations in which children are described as experiencing distress and negative affect (e.g., being scared of injections, being nervous about embarrassment in public). All situations involve relatively normative expressions of negative emotion for children aged 4 to 12; only one vignette pertains to anger. For each situation, a parent indicates how likely (on a 7-point scale from very unlikely to very likely) they would be to react in each of six different ways: *Problem-focused* (“tell my child that I'll help him/her practice so that he/she can do better next time”), *emotion-focused* (“comfort my

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2 There are 12 scenarios in the CCNES. The current study used only nine of those 12 vignettes, which could have impacted internal reliability for the subscales.
child and try to make him/her feel better”), expressive encouragement (“encourage my child to talk about his/her feelings”), punitive (“tell my child straighten up or we’ll go home”), minimization (“tell my child to quit overreacting”), and distress (“feel uncomfortable and embarrassed myself”).

In previous research, internal reliability ranged from .69 for the Punitive Reactions subscale to .85 for the Expressive Encouragement subscale. Test-retest reliability demonstrated consistent responding over time, $r_s (33) = .77, .57, .56, .83, .77, \text{ and } .68, \text{ all } p_s < .01$ for the problem-focused, emotion-focused, encouraging, punitive minimizing, and distress subscales, respectively (Fabes et al., 2002). CCNES has also demonstrated appropriate construct validity (Eisenberg & Fabes, 1994; Fabes et al., 2002).

Socio-Demographics (Appendix F)

Each parent also completed a personal data questionnaire. Parents reported their age, gender, marital status, educational level, ethnicity, and religious affiliation, and they provided ages of all their children, and occupations of household members.
Procedure

Permission to organize a two-class module entitled “Science Day” was granted by two schools. For each school, consent forms and a flyer offering information about the Im.P.A.C.T Study were sent home with students one week before the scheduled Science Day. Students were asked to have their parents look over the packet and return the Consent form within a week. For the first school location, 175 forms were sent out, and 42 were returned; for the second location, 165 forms were sent out and 127 were returned. Thus, a total of 169 children were granted permission from parents for their children to participate in the research center of Science Day. Four families refused to participate. It was challenging to create a Science Day program that fit within the middle school schedule and to include all 169 children with permission; thus, only 102 children were interviewed for sibling jealousy.

The interviews took place during the first sessions of a two-class module Science Day. Students who were given permission from parents were asked to go to the Research Center. During their time in the Research Center, children were interviewed for the current study and thus responded to the three questionnaires above. For the interview, children were asked to read and sign a Child Assent. Next, they responded to the Sibling Jealousy Interview (Appendix A), the COPE (Appendix B) and the Ideas about Relationships Questionnaires (Appendix C) in a counter-balanced order. Children also completed other questionnaires regarding peer relationships that were not analyzed in this study. All interviews were videotaped and transcribed for analyses.

The Activity Center consisted of different activities which taught children about different areas of psychology. A graduate student conducted a series of activities to introduce the children to areas such as perception, social psychology, and cognitive psychology. For
example, each student was handed a paper with five optical illusions on it and was asked to experiment with each one of them. After the children had a few minutes to try them out on their own they were given an explanation of optical illusions. Other activities, such as the Stroop Task were also shown to the class. Both the Research and Activity Centers were approximately one hour in length. At the end of the class, students were brought together and informed that the researchers would be returning to share the process of collecting, coding, analyzing, and interpreting data from the research activities. The return to the schools is set for late May.

**Interviewer Training**

Interviewer training was provided to enhance interviewer consistency and accuracy. As an introduction to this research, interviewers were asked to read summaries of pilot work on sibling jealousy, as well as literature regarding parents’ beliefs about children’s emotions. Following this, the 12 interviewers in the present study attended a 90-minute training session conducted by the principal investigator. The session began with a brief overview of the study and a discussion of the ImPACT Study Interviewer Manual created by the author. The range of interviews completed by each interviewer during each Science Day was three to seven, with a mode of three interviews. All interviewers were students at North Carolina State University; 25% were male; 75% were European American. A large group of interviewers was needed in order to conduct interviews in a timely manner for Science Day. One-third of the interviews were examined to assure that all interviewers accurately followed the interviewing template; of that sample 100% did follow protocol.

The parents completed the PBACE, CCNES, and a demographics questionnaire at their home in reference to the child participant. Parents received packets from their children
after Science Day and returned them to the classroom teacher in a sealed envelope conveyed by their child. Each packet contained directions on completing the questionnaires with sample questions and answers and contact information of the researcher. Parents were given approximately two weeks to complete the questionnaire with two follow-up reminders to their children, one at three days and another at one week. Eighty-two parents of the 102 children who were interviewed for sibling jealousy spent the time filling out questionnaires for their part of the study. Families received twenty dollars for completion of the study. Children received the educational experience and an illustration of scientific method using the example of the current study from beginning (stating problem) to end (interpreting results).

**Coding**

*Reasons for Jealousy*

Videotapes were transcribed so as to ensure accuracy of children’s report. Two coders used inductive analysis to independently develop categories to the reported response to “Try to remember a time when you felt jealous of your sister/brother. Can you tell me what it was?” One coder found five categories: (1) more time with sibling, (2) attention to the sibling because of ability, (3) attention to the sibling by giving them gifts, (4) jealousy because of special privilege, and (5) attention by attending events/activities) and the other found four categories: (1) more time with sibling, (2) attention to the sibling because of ability, (3) attention to the sibling by giving them gifts, (4) jealousy because of special privilege. After discussion it was agreed that one of the five categories (attention by attending events/activities, e.g. camping with the sibling, taking the sibling to the race track, etc.) was subsumed under one of the other four (more time with sibling), and the coders
concurred to proceed with four categories (see Results for these categories). Interrater agreement for the four categories was excellent, $\kappa = .94$. 
Results

Overview

First, I present descriptive statistics for the measures used in analyses (Sibling Jealousy Interview, COPE, Implicit Theories about Relationships, PBACE, and CCNES). Second, I examine the results relating to the goals in Aim 1, which is testing a mediation model of parents’ beliefs and reactions in relation to sibling jealousy, with children’s implicit theories as a mediator. Third, I examine the results relating to the goals in Aim 2, which is assessing the relationship between children’s implicit theories and sibling jealousy coping.

Descriptive Statistics

Table 1 reports descriptive statistics for child and parent variables.

Sibling Jealousy

Reasons for sibling jealousy. Of the 102 children interviewed, three children reported never experiencing jealousy in their families. One child listed a reason that applied to peer jealousy, rather than sibling jealousy. Reasons for sibling jealousy coalesced around four main topics: (1) more time with sibling, (“He takes my brother to the races and I don’t get to be with him”), n = 29; (2) attention to the sibling because of ability (“They go to her games and I don’t really play sports”), n = 27; (3) attention to the sibling by giving them gifts (“My brother got a stereo from my dad at the mall and I didn’t get one”), n = 22; and (4) allowing sibling more privileges (“He always gets to go to arcade and I can’t”), n = 20. These reasons are comparable to those reported in previous studies, with one exception. Children in previous studies reported favoritism in conflict, whereas children in the current study did not report favoritism as a specific
Table 1

Descriptive Statistics for Child and Parent Variables

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<td>α = .78</td>
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<td>Cognitive Reframing</td>
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<td>1-4</td>
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<td>1-4</td>
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<td>73</td>
<td>1-4</td>
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<td><strong>Child Implicit Theories</strong></td>
<td></td>
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<tr>
<td>Implicit theory- Parent</td>
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<td>1-6</td>
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<td>Implicit theory-Sibling</td>
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<td><strong>Parents’ Beliefs</strong></td>
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<td>α = .94</td>
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<td>Emotion Just Is</td>
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<td>α = .91</td>
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<td>1.00</td>
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<td>Parents must Guide</td>
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<td>.79</td>
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<td>1-7</td>
<td>α = .72</td>
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<tr>
<td>Encourage Expression</td>
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<td>1-7</td>
<td>α = .81</td>
<td>3.81</td>
<td>1.51</td>
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<tr>
<td>Punitive</td>
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<td>α = .57</td>
<td>2.60</td>
<td>1.08</td>
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<td>Minimize</td>
<td>80</td>
<td>1-7</td>
<td>α = .52</td>
<td>2.57</td>
<td>.74</td>
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<td>Distress</td>
<td>80</td>
<td>1-7</td>
<td>α = .61</td>
<td>2.95</td>
<td>.69</td>
</tr>
</tbody>
</table>
reason. Rather, allowing the sibling more privileges, which could encompass favoritism, was reported.

**Frequency.** Children reported experiencing jealousy “sometimes,” $M (SD) = 3.29$ (1.86) on the 7-point Likert scale and “about once a month” on the real-time checklist, $M (SD) = 2.88$ (1.91). Responses to these two items turned out to be highly related, $r (97) = .70, p < .001$, and the Tukey’s test for non-additivity was non-significant, $F (1, 97) = .22, p = .64$, thus, these two items were averaged to create a more stable combined score, $M (SD) = 3.15$ (1.76).

**Duration.** The average duration of specific jealousy events that the children reported was of short duration, “a little bit of time”, $M (SD) = 2.96$ (1.94), on the 7-point Likert scale and about “thirty to fifty minutes” $M (SD) = 2.79$ (1.64) on the real-time checklist (range 1 to 6). Responses to these two items turned out to be highly related, $r (97) = .71, p < .001$, and the Tukey’s test for non-additivity was non-significant, $F (1, 97) = 2.93, p = .09$, thus, these two items were averaged to create a more stable combined score, $M (SD) = 2.81$ (1.38)

Regarding similarity across measurement type, there was a significant relationship between frequency and duration using the Likert scale format, $r (97) = .32, p < .01$, and between the variables using real-time reports, $r (97) = .24, p < .05$. Frequency and duration, combined across Likert-scale and real-time reports, were also related, $r (97) = .30, p < .01$.

**Intensity.** Intensity of jealousy was measured using only a Likert-type scale ranging from 1 (not at all strong) to 7 (very strong). The average intensity of the specific event was reported to be “somewhat strong,” $M (SD) = 3.21$ (1.55).

The Likert scales of frequency, duration, and intensity were moderately correlated; for frequency with duration and with intensity, $rs (97) = .32, p < .01$ and $.26, p < .05$,
respectively; for duration and intensity, \( r(97) = .44, p < .01 \). The combined scales of frequency and duration with the Likert scale for intensity were correlated; for frequency with intensity, \( r(97) = .26, p < .05 \); for duration with intensity, \( r(97) = .47, p < .001 \).

**Coping Reactions**

Coping reactions were measured using a Likert-type scale ranging from 1 (I didn’t do this at all) to 4 (I did this a lot). Children’s responses (\( n = 73 \)) were subjected to an exploratory factor analysis. I used the following criteria to determine the number of factors to extract: the scree test, the incremental variance explained, and interpretability of the factors. A scree test suggested five meaningful factors. Principal components method was used to extract the factors, and this was followed by promax (oblique) rotation. A factor analysis forcing five factors was conducted. In interpreting the rotated factor pattern, an item was said to load on a given factor if the loading was .40 or greater for that factor, and was less than .40 for another. Using these criteria, four items were found to load on the first factor, which was labeled ‘social support’. Three items loaded on the second factor labeled ‘behavioral action’. Six items loaded on the factor labeled ‘cognitive reframing’. Three items loaded on the ‘passive’ factor, and four items on the fifth factor, which was labeled ‘avoidant.’ The ‘passive’ and ‘avoidant’ factors had items suggesting a single underlying theoretical construct (similar to Washburn et al. 2004), and were highly correlated, \( r(72) = .70, p < .001 \). This was in sharp contrast to the other intercorrelations, (median \( r(72) = .15 \), range = -.07 to .28), thus, these two factors were combined to create a superordinate ‘passive/avoidant’ factor (7 items).

Questionnaire items and the corresponding factors and factor loadings are presented in Table 2. Next, reliability analyses on each factor were conducted. For (a) *social support*
Parental Beliefs and Reactions

(e.g., “I got emotional support from others,” $\alpha = .78$), (b) behavioral action (e.g., “I took action to try to make the situation better”, $\alpha = .63$), (c) cognitive reframing (e.g., “I thought hard about what steps to take”, $\alpha = .73$), and (d) passive/avoidant (e.g., “I gave up trying to deal with it”, $\alpha = .60$ after dropping items 1 and 17. Items 1 and 17 were deleted to improve Cronbach’s alpha and reach an adequate internal reliability score). Subscales were created by averaging ratings across the number of items per subscale. Means and standard deviations for each coping strategy are reported in Table 1. Children reported behavioral action as the most common coping strategy, $M (SD) = 2.64 (.90)$ and passive/avoidant as the least common, $M (SD) = 2.12 (.79)$.

Intercorrelations among the subscales revealed only one significant relationship. There was a positive association between social support and cognitive reframing, $r (72) = .28, p < .05$. Not surprisingly, behavioral action was positively related to cognitive reframing, $r (72) = .18, p = .14$. However, cognitive reframing was not predicted to be positively related to passive/avoidant coping, $r (72) = .12, p = .33$. Although non-significant, these relationships suggest that children who report using active coping strategies often, such as behavioral action and cognitive reframing, might also report using passive/avoidant coping strategies for the same event. A more in-depth examination of jealousy experiences from beginning to end might reveal that some children use active coping throughout their experience, whereas other children start out using active coping, and then turn to other strategies later in the process.
Table 2

**Variables loading on COPE Factors**

<table>
<thead>
<tr>
<th>Factors and Items</th>
<th>Factor Loading</th>
<th>Percent of Variance Explained</th>
</tr>
</thead>
</table>

**Factor 1: Social Support**
- 21. I tried to get advice or help from other people about what to do: .77
- 13. I got comfort and understanding from someone: .73
- 9. I got help and advice from other people: .72
- 4. I got emotional support from others: .65

16.98%

**Factor 2: Behavioral Actions**
- 19. I expressed my negative feelings: .52
- 6. I took action to try to make the situation better: .50
- 2. I concentrated my efforts on doing something about the situation I was in: .48

8.96%

**Factor 3: Cognitive Reframing**
- 25. I prayed or meditated: .63
- 23. I thought hard about what steps to take: .59
- 12. I tried to come up with a strategy about what to do: .55
- 20. I tried to find comfort in my religion or spiritual beliefs: .45
- 15. I looked for something good in what is happening: .42

8.34%

**Factors 4 and 5 combined: Passive/Avoidant**
- 11. I reduced the amount of effort I put into solving the problem: .70
- 24. I pretended that it didn’t really happen: .62
- 26. I made fun of the situation: .58
- 14. I gave up the attempt to cope: .55
- 22. I learned to live with it: .48
- 17. I did something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping: .43
- 1. I turned to school or other activities to take my mind off things: .41

8.06%

*Note.* Factor 4 is a combination of the items from factors 4 (11, 24, 26) and 5 (14, 22, 17, 1) according to rotated factor pattern. They were combined for theoretical reasons and were highly correlated ($r (72) = .70, p < .01$). Six items that cross-loaded or had factor loadings less than .40 were omitted.
Descriptive Statistics involving Measures of Implicit Theories

Implicit Theories about Relationship with Parents

Intracorrelations between the three items assessing implicit theories about the parental relationship ($n = 98$) ranged from .31 to .57, all $ps < .05$. Internal reliability was acceptable, given that the scale was only three items, $\alpha = .71$. The average of these three items created a continuous variable, as per Knee (1998) and Kammrath & Dweck (2005). Children used the full range of the item scales (range = 3.00 to 18.00). Distribution for this variable fell into a bell-shaped curve, as opposed to the bi-modal distribution in previous studies (Thompson & Halberstadt, 2006).

Implicit Theories about Relationships with Siblings

Intracorrelations between the three items assessing implicit theories about the sibling relationship ($n = 97$) ranged from .26 to .43, all $ps < .05$. Internal reliability was acceptable, given that the scale was only three items, $\alpha = .69$. The average of these three items created a continuous variable. Children used the full range of the item scales (range = 3.00 to 18.00). Distribution for this variable also fell into a bell-shaped curve.

Intercorrelations among the six items (3 parent and 3 sibling) ranged from -.11 to .23, thus, the scales were kept separate for the current study (See Table 3). Children’s belief in the malleability of the parental relationship was positively associated with belief in the malleability of the sibling relationship, $r (96) = .22, p < .05$. Although significant, this association is weaker than previous studies have found (Thompson & Halberstadt, 2006), which is surprising given the similarities between the samples for the previous studies and the current study.
Descriptive Statistics involving Parent Measures

**Parents’ Beliefs about Children’s Emotions**

For this study, I was interested in six subscales of the PBACE: *Negative emotion is good* (“It is good for children to feel sad at times”, \( \alpha = .94 \)), *positive emotion is good* (“Children who feel emotions strongly are likely to face a lot of trouble in life”, \( \alpha = .87 \)), *emotions are bad* (\( \alpha = .94 \)), *emotion just is* (\( \alpha = .91 \)), *guidance* (\( \alpha = .82 \)), and *developmental process*, (\( \alpha = .82 \)). As shown in Table 4, intercorrelations among the value subscales were moderate, median absolute \( r (79) = .36 \), \( p < .01 \). Value subscales related to guidance in sensible ways; parents who believe emotions are bad indicate a need to guide children’s emotional lives, \( r (79) = .36 \), \( p < .01 \), whereas parents who believe emotion just is did not indicate a need to guide, \( r (79) = -.29 \), \( p < .05 \). Also, it is reasonable that parents who believe emotions are changeable indicate the importance of guiding children’s emotions, \( r (79) = .35 \), \( p < .01 \). An unexpected, and confusing finding was that parents who believe positive emotions are good also believe that children’s emotions are changeable, \( r (79) = .36 \), \( p < .01 \).

**Parents’ Reactions**

All six subscales of the CCNES were of interest: (a) *problem-focused reactions* (e.g., “help my child think about places he/she hasn’t looked yet”, \( \alpha = .60 \)), (b) *emotion-focused reactions* (e.g., ” encourage my child to express his/her feelings of anger and frustration”, \( \alpha = .72 \)), (c) *encouraging expression* (e.g., “soothe my child and do
Table 3
Correlations among Parent and Child Items on the Ideas about Relationships Questionnaire

| Items       | Parent Items | Sibling Items | |
|-------------|--------------|---------------|----------------|---|---|---|---|---|---|
| Parent Items|              |               |               | 1 | 2 | 3 | 4 | 5 | 6 |
| 1           |              |               |               | .57** | -- | | | | |
| 2           |              |               |               | .31** | .48** | -- | | | |
| 3           | .57** | -- | | | | | | | |
| Sibling Items|        |               |               | .21* | .12 | .05 | -- | | |
| 4           | .20* | .20* | .13 | .41** | -- | | | | |
| 5           | .20* | .20* | .13 | .41** | -- | | | | |
| 6           | -.11 | .15 | .23* | .26** | .43** | -- | | | |

Note. $n = 98$ for parent; $n = 97$ for sibling because one child did not respond to the questions regarding sibling relationships. *$p < .05$. **$p < .01$. 
something fun with him/her to make him/her feel better”, \( \alpha = .81 \), (d) **punitive reactions** (e.g., “send my child to his/her room to cool off”, \( \alpha = .57 \)), (e) **minimizing reactions** (e.g., “tell my child that he/she is over-reacting”, \( \alpha = .52 \)), and (f) **distress** (e.g., feel upset and uncomfortable because of my child's reactions”, \( \alpha = .61 \)). Cronbach’s alphas for this sample were lower than those in previous work (Eisenberg & Fabes, 1994; Fabes et al., 2002), possibly because the scale was reduced in length. Subscales were created by averaging ratings across the 9 vignettes.

As shown in Table 4, intercorrelations between supportive reactions were low, except that problem-focused and encouraging reactions were highly positively correlated, \( r (79) = .61, p < .001 \). Intercorrelations between non-supportive reactions were also low, though significant, with minimizing reaction relating to both punitive and distress reactions, \( r_s (79) = .29 \) and \( .30, ps < .05 \); respectively. Correlations between supportive and non-supportive reactions also tended to be low, with the one exception of emotion-focused with distress, \( r (79) = -.24, p < .05 \).

**Intercorrelations Among Measures**

Correlations across the two parent questionnaires (Table 4) reveal that, as hypothesized, parents who believe negative emotion is good reported more emotion-focused reactions, \( r (79) = .37, p < .01 \). Other value subscales also related to emotion-focused coping beliefs in sensible ways. Parents who believe positive emotion is good report using emotion-focused reactions, \( r (79) = .45, p < .01 \), whereas parents who believe emotions are bad do not endorse emotion-focused reactions, \( r (79) = -.32, p < .01 \). It is surprising that parents who believe emotion just is also report emotion-focused reactions, \( r (79) = .30, p < .01 \).
Reactions

Table 4

*Intercorrelations between Parents’ Beliefs and Parents’ Reactions*

<table>
<thead>
<tr>
<th>Parent Variables</th>
<th>Parents’ Beliefs</th>
<th>Parents’ Reactions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1. Negative is Good</td>
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<td>.37**</td>
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<tr>
<td>2. Positive is Good</td>
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<tr>
<td>3. Emotions are Bad</td>
<td>-.29*</td>
<td>-.36**</td>
</tr>
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<td>4. Emotion Just Is</td>
<td>.38**</td>
<td>.36**</td>
</tr>
<tr>
<td>5. Guidance</td>
<td>-.10</td>
<td>.24*</td>
</tr>
<tr>
<td>6. Developmental Process</td>
<td>.03</td>
<td>.36**</td>
</tr>
<tr>
<td>7. Problem-Focused</td>
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<td></td>
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<tr>
<td>8. Emotion-Focused</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Encourage Expression</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Punitive</td>
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<tr>
<td>11. Minimize</td>
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<tr>
<td>12. Distress</td>
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</tr>
</tbody>
</table>

Note. n= 80 for parents’ beliefs and reactions variables. *p < .05. **p < .01.
As shown in Table 5, implicit theories about parents were not related to jealousy frequency, but were positively related to duration and intensity of jealousy, $r_s = .51$ and $.40, p_s < .01$, respectively. Also, implicit theories about parents related positively with behavior action coping, but negatively with passive/avoidant coping, $r_s = .45$ and $-.23, p_s < .01$ and $=.05$, respectively. However, theories about siblings were not related to jealousy or coping strategies.

Do parents’ beliefs and reactions relate to children’s jealousy and implicit theories?

As predicted, parents’ belief that negative emotion is good was positively related to children’s duration and intensity of jealousy, and parents’ belief that emotion just “is” was also related to children’s duration of jealousy. However, parents’ belief that emotion is bad was not significantly related to jealousy indices. Although no direct relations were posited between parents’ beliefs about emotion and children’s coping strategies, two beliefs, that emotions are bad and that children’s emotional styles are part of a developmental process were related to children’s behavioral action coping (see Table 6). I did hypothesize that parents’ belief that negative emotion is good would be positively related and that emotions are bad would be negatively related to children’s theory about malleability of parent-child relationships, and that parents’ belief in developmental processes would also relate to children’s theory about malleability. These predictions were partially supported in that parents who believe negative emotions are good have children who report more malleable implicit theories about parents, $r (79) = .30, p < .01$. However, it is puzzling that parents who believe emotion just is would have children with more malleable theories about parents, $r (79) = .26, p < .05$. It is also surprising that parents’ belief in the changeability of emotions
Table 5

**Intercorrelations of Child Measures**

<table>
<thead>
<tr>
<th>Children’s Variables</th>
<th>jealousy Variables</th>
<th>Coping Strategies</th>
<th>Implicit Theories</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Jealousy Variables</td>
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<td></td>
<td></td>
</tr>
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<td>1. Frequency</td>
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<tr>
<td>2. Duration</td>
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</tr>
<tr>
<td>3. Intensity</td>
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<td>.26*</td>
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<tr>
<td>Coping Strategies</td>
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<td></td>
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<td>5. Behavioral Action</td>
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<td>.02</td>
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<tr>
<td>6. Cognitive Reframing</td>
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<td>.09</td>
<td>.07</td>
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<td>7. Passive/Avoidant</td>
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<td>-.07</td>
<td>-.01</td>
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<td>Implicit Theories</td>
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<td></td>
</tr>
<tr>
<td>8. Implicit-Parent</td>
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<td>.51**</td>
<td>.40**</td>
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<tr>
<td>9. Implicit-Sibling</td>
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<td>.01</td>
<td>.16</td>
</tr>
</tbody>
</table>

*Note.* ns = 98 for jealousy variables, 73 for coping strategies, 98 for implicit theories about parents, and 97 for implicit theories about siblings. *p < .05. **p < .01.
### Table 6
*Intercorrelations between Parents’ Beliefs and Children’s Jealousy, Coping, and Implicit Theories*

<table>
<thead>
<tr>
<th>Children’s Variables</th>
<th>Parents’ Beliefs</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negative is Good</td>
<td>Positive is Good</td>
<td>Emotions are Bad</td>
<td>Emotion Just Is</td>
<td>Guide</td>
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<td><strong>Jealousy Variables</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
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<td>-.00</td>
<td>.06</td>
<td>-.13</td>
<td>-.08</td>
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<tr>
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<td>.18</td>
<td>-.14</td>
<td>.27*</td>
<td>.01</td>
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<td><strong>Coping Strategies</strong></td>
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<td>.03</td>
<td>-.19</td>
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<td>.02</td>
<td>.29*</td>
<td>-.08</td>
<td>.08</td>
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<td>Implicit-Parent</td>
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<td>.15</td>
<td>-.11</td>
<td>.26*</td>
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<td>.04</td>
<td>-.17</td>
<td>.04</td>
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</table>

is not related to children’s belief in the changeability (malleability) of relationships regarding parents, $r (79) = .02, ns$.

For reactions (see Table 7), problem-focused reactions were positively related to frequency, duration, and intensity of jealousy, behavioral action coping, and implicit theories (parent), as predicted. Also as expected, parents’ encouraging reactions were positively related to jealousy duration and intensity, and children’s implicit theories about parents, as predicted. Parents who minimize their children’s emotion expression tend to have children who use passive/avoidant coping, $r (72) = .28, p < .05$. Parents who punish emotion expression have children who do not seek social support during sibling jealousy events, perhaps because emotions are seen as weak or because children are smart enough to avoid getting punished, and thus, learn not to approach anyone regarding their emotion experience, $r (72) = -.32, p < .01$. Overall, parents’ reported beliefs and reactions are related to children’s reported beliefs and behaviors in sensible ways.

*Parent demographics.* Parent age was not associated with parents’ beliefs or reactions, $r_s (70)$ ranged from .16 to -.20, all $p > .10$. A MANOVA with parent sex, education level, ethnicity, and marital status as predictors and parents’ beliefs and reactions as dependent variables was not significant, Wilks’ $\Lambda = .11$ to .55, all $p > .05$. Thus, no main effects or interaction effects were significant for any parent demographic variables in predicting parents’ beliefs and reactions. In addition, there were no main effects or interaction effects for any parent demographic variables in predicting children’s jealousy, coping, or implicit theories, Wilks’ $\Lambda = .12$ to .86, all $p > .05$. 

Table 7

Intercorrelations between Parents’ Reactions and Children’s Jealousy, Coping, and Implicit Theories

<table>
<thead>
<tr>
<th>Children’s Variables</th>
<th>Parents’ Reactions</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Problem-Focused</td>
<td>Emotion-Focused</td>
<td>Encourage</td>
<td>Punitive</td>
<td>Minimize</td>
<td>Distress</td>
</tr>
<tr>
<td>Jealousy Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency</td>
<td>.45**</td>
<td>-.10</td>
<td>.14</td>
<td>-.13</td>
<td>-.07</td>
<td>-.02</td>
</tr>
<tr>
<td>Duration</td>
<td>.37**</td>
<td>.16</td>
<td>.34*</td>
<td>-.04</td>
<td>-.05</td>
<td>-.03</td>
</tr>
<tr>
<td>Intensity</td>
<td>.31*</td>
<td>.02</td>
<td>.31*</td>
<td>-.08</td>
<td>-.04</td>
<td>-.06</td>
</tr>
<tr>
<td>Coping Strategies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Support</td>
<td>.07</td>
<td>.01</td>
<td>.10</td>
<td>-.32**</td>
<td>.22</td>
<td>.09</td>
</tr>
<tr>
<td>Behavioral Action</td>
<td>.29**</td>
<td>.17</td>
<td>.20</td>
<td>.10</td>
<td>-.18</td>
<td>.04</td>
</tr>
<tr>
<td>Cognitive Reframing</td>
<td>.02</td>
<td>.18</td>
<td>.09</td>
<td>-.11</td>
<td>.03</td>
<td>-.14</td>
</tr>
<tr>
<td>Passive/ Avoidant</td>
<td>-.21</td>
<td>.04</td>
<td>-.28*</td>
<td>-.09</td>
<td>.28*</td>
<td>.24</td>
</tr>
<tr>
<td>Implicit Theories</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implicit - Parent</td>
<td>.39**</td>
<td>.12</td>
<td>.28*</td>
<td>.08</td>
<td>-.09</td>
<td>-.01</td>
</tr>
<tr>
<td>Implicit - Sibling</td>
<td>.07</td>
<td>-.14</td>
<td>-.12</td>
<td>.18</td>
<td>-.23</td>
<td>-.05</td>
</tr>
</tbody>
</table>

Note. *p < .05. **p < .01.
Sample differences. A MANOVA comparing Northeastern Granville and Southern Granville County on child outcome variables (frequency, duration, intensity, the four coping factors, and implicit theories) was non-significant, Wilks’ $\Lambda = .84$, omnibus $F (9, 52) = 1.13$, $p = .36$ for all child variables. Thus, location did not appear to influence reports of jealousy experience, coping, or implicit theories.

Relations between various components of jealousy. A MANOVA with children’s reasons for jealousy (more time, attention due to talent, attention with gifts, and more privilege) revealed no significant effects on frequency, duration, intensity, coping strategies, or implicit theories, Wilks’ $\Lambda = .64$, $F (27, 146) = .88$, $p = .64$.

Gender, sex composition, age interval, and birth order in relation to jealousy. A 2 (target child gender) x 2 (sibling gender) MANOVA revealed no gender influences on frequency, duration, and intensity measures, Wilks’ $\Lambda$s = .94 for sibling gender, .85 for target child gender, and .85 for the interaction term, $Fs (3, 74) = .50, .27, and .64$, all $ps > .05$. A MANOVA revealed no effect for gender composition influencing jealousy measures, Wilks’ $\Lambda$s = .88, $F (5, 69) = 1.32$, $p > .05$. The age interval between siblings was not related to any of the dependent variables of frequency, intensity, or duration, $rs (97) = .10$ to .18, all $ps > .05$, nor did birth order matter, in a 2 x 3 MANOVA with birth order as the independent variable and children’s frequency, duration, and intensity measures of jealousy as the dependent variables, Wilks’ $\Lambda = 1.00$, $F (3, 74) = .10$, $p = .96$. Thus, gender, age interval, and birth order do not affect the sibling jealousy experience; sex composition has a marginal effect on duration reports, but no significant effect on frequency or intensity of jealousy. Gender, sex composition, and birth order were analyzed for relation to children’s reasons for
becoming jealous. Chi-square tests revealed that gender, sex composition, and birth order did not influence reasons for jealousy, $\chi^2$s (4) = 5.22, 3.52, and 6.58, respectively (all $ps > .05$).

**Gender, sex composition, age interval, and birth order in relation to coping strategies.** A 2 (target child gender) x 2 (sibling gender) MANOVA revealed no gender influences on coping measures, Wilks’ $\Lambda$s = .96 for sibling gender, .93 for target child gender, and .92 for the interaction term, $F$s (4, 65) = .73, 1.33, and 1.39, all $ps > .05$. A MANOVA revealed no effect of gender composition influencing coping, Wilks’ $\Lambda$s = .98, $F$ (4, 67) = .34, $p = .85$. The age interval between siblings was not related to any of the coping strategies, $r$s (72) = -.03 to .20, all $ps > .05$, nor did birth order matter, in a 2 x 3 MANOVA with birth order as the independent variable and children’s coping strategies as the dependent variables, Wilks’ $\Lambda = .96, F$ (4, 63) = .74, $p = .57$. 
Hypothesis Testing

Aim 1: Links between Parents’ Beliefs and Behaviors and Children’s Implicit Theories and Sibling Jealousy Experience

Hierarchical multiple regressions were conducted to examine whether parents’ beliefs and reactions, and children’s implicit theories predicted children’s jealousy experience.3 Only variables that met the criteria (Baron & Kenny, 1986) for the hypothesized mediation model were analyzed. These included parents’ beliefs that negative emotion is good, parents’ reactions that were problem-focused and encouraging, children’s implicit theories about parents, and children’s duration and intensity of jealousy. After conducting regression analyses, the Sobel test (1982) was used to verify whether or not the indirect effect of parents’ beliefs and reactions on children’s duration and intensity of sibling jealousy, through the mediator of implicit theories, is significantly different from zero.

I expected parents’ developmental process beliefs and punitive and minimizing reactions would be related to children’s implicit theories and sibling jealousy, however these variables were not significantly related. Therefore, they were not included in the model. I ran separate models for duration and intensity of jealousy.

In the model for duration, child demographic variables (age, gender, location) were entered on the first step, parents’ beliefs and reactions on the second, and children’s implicit theory for parent and sibling on the last step. Results of these analyses are reported in Table 8. After controlling for demographic variables, parents’ belief that negative emotion is good and

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3 The sample size for the current study was inadequate for testing the latent model in my dissertation proposal, thus, I chose to test a mediation model
parents’ problem-focused and encouraging reactions significantly predicted children’s jealousy duration, $F_{\text{change}} (3, 39) = 4.98, p < .01$, accounting for an additional 24% of the variance in duration. Above and beyond parents’ beliefs and behaviors, implicit theories about ability to change one’s relationship with parents significantly predicted jealousy duration, $F_{\text{change}} (2, 37) = 4.91, p < .05$, accounting for an additional 12% of the variance in jealousy duration. A follow-up Sobel test (1982) indicated that implicit theories significantly mediated the relationship between parents’ beliefs that negative emotion is good and jealousy duration, $t = 2.47, p = .01$, and a trend effect for implicit theories as a mediator between encouraging reactions and jealousy duration, $t = 1.75, p = .07$.

Table 8

*Hierarchical Regression Equations Predicting Children’s Jealousy Duration*

<table>
<thead>
<tr>
<th>Predictor measure and $R^2$</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>$SE$</td>
<td>$\beta$</td>
</tr>
<tr>
<td>Child Age</td>
<td>-.36</td>
<td>.29</td>
<td>-.17</td>
</tr>
<tr>
<td>Gender</td>
<td>-.73</td>
<td>.39</td>
<td>-.25</td>
</tr>
<tr>
<td>Location</td>
<td>-.51</td>
<td>.48</td>
<td>-.14</td>
</tr>
<tr>
<td>Belief: Neg. is Good</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reaction: PF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reaction: EE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implicit: Parent</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$R^2$ .12 .36 .48
$\Delta R^2$ .12 .24** .12**

*Note.* For Beliefs: Neg. is Good = Negative Emotion is Good. For Reactions: PF = Problem-Focused. EE = Encourage Expression. *$p < .05$. **$p < .01$. 
Results of model for intensity are reported in Table 9. After controlling for child demographic variables, parents’ belief that negative emotion is good, and parents’ problem-focused and encouraging reactions significantly predicted children’s jealousy intensity, $F_{\text{change}} (3, 39) = 5.96, p < .01$, accounting for an additional 22% of the variance in jealousy intensity. Above and beyond parents’ beliefs and behaviors, children’s implicit theory about parents significantly predicted intensity, $F_{\text{change}} (2, 40) = 11.04, p < .001$, accounting for an additional 16% of the variance in children’s jealousy intensity (see Table 9).

Table 9

<table>
<thead>
<tr>
<th>Predictor measure and $R^2$</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>$\beta$</td>
</tr>
<tr>
<td>Child Age</td>
<td>-.21</td>
<td>.26</td>
<td>-.11</td>
</tr>
<tr>
<td>Gender</td>
<td>-.15</td>
<td>.34</td>
<td>-.06</td>
</tr>
<tr>
<td>Location</td>
<td>-.56</td>
<td>.42</td>
<td>-.18</td>
</tr>
<tr>
<td>Belief: Neg. is Good Reaction: PF</td>
<td>.28</td>
<td>.14</td>
<td>.25*</td>
</tr>
<tr>
<td>Reaction: EE</td>
<td>.10</td>
<td>.14</td>
<td>.11</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.05</td>
<td></td>
<td>.27</td>
</tr>
<tr>
<td>$\Delta R^2$</td>
<td>.05</td>
<td></td>
<td>.22**</td>
</tr>
</tbody>
</table>

Note. For Beliefs: Neg. is Good = Negative Emotion is Good. For Reactions: PF = Problem-Focused. EE = Encourage Expression *$p < .05$. **$p < .01$. 
A follow-up Sobel test (1982) indicated implicit theories significantly mediated the relationship between parents’ beliefs that negative emotion is good and jealousy intensity, $t = 2.00, p < .05$, and the relationship between encouraging reactions and jealousy intensity, $t = 2.10, p < .05$.

**Aim 2: Implicit Theories in relation to Sibling Jealousy Coping Strategies**

The implicit theory paradigm suggests that different theories will predict different behavioral reactions to relationship challenges. The results from Aim 1 revealed that implicit theories (about parents) predict duration and intensity of sibling jealousy. Previous research suggests that this time (duration) is spent actively engaging in “effecting- change” behaviors (Thompson & Halberstadt, 2006). For the current study, I wanted to determine if there are associations between the implicit theories and coping strategies, even when taking duration and intensity into account. To test the hypothesis of Aim 2, I conducted partial correlations between implicit theories and the four coping strategies, controlling for duration and intensity. As predicted, behavioral action coping and passive avoidant coping were related to implicit theories about parents (but not about siblings), even after controlling for duration and intensity of jealousy, $r_s (72) = .51$ and $-.26$, $p_s < .05$. Attempts to acquire social support and use cognitive reframing strategies were not related to implicit theories about parents, however, nor to implicit theories about siblings when controlling for duration and intensity, $r_s (72) = -.01$ (social support) and $-.06$ (cognitive reframing) for parents and $r_s (72) = -.09$ (social support) and $-.10$ (cognitive reframing) for siblings, all $p_s > .05$. 
Discussion

This final section, organized into three major segments, provides a review of the major findings of this study, followed by attempts to interpret these findings. First, the major results for each of the study’s specific aims will be reviewed, with a particular focus on findings that were consistent with, or surprising in light of, prior research. Second, a brief consideration of the limitations of the current study will be considered. Finally, directions for future research on parent socialization of children’s behaviors during sibling jealousy events are suggested.

Review of Findings

Preliminary analyses indicated that parent demographics including age, gender, ethnicity, and marital status were not related to parents’ beliefs about children’s emotions or reactions to children’s emotion expression. In addition, none of the constellation variables (birth order, age interval between siblings, and sex composition in sibling dyads) were significantly related to children’s jealousy experiences, coping strategies, or implicit theories. These findings are especially interesting in that previous work on sibling jealousy has mainly focused on so-called “constellation” variables, such as birth order, age interval between siblings, and sex composition of the dyad (e.g., Abramovitch, Corter, & Pepler, 1980; Buunk, 1997; Corter, Pepler, & Abramovitch, 1982; Dunn & Kendrick, 1979; Minnett, Vandell, & Santrock, 1983).

The primary aims of the current investigation pertained to parent influences on children’s beliefs and behaviors. Chief among these questions were (a) how parents’ beliefs and behaviors influence sibling jealousy, as mediated by children’s implicit theories about relationships; and (b) whether implicit theories about relationships with parents and siblings
Parental Beliefs and Reactions

relate to children’s choice of coping strategy when they feel jealous. I hypothesized that parents’ belief that negative emotion is good would be positively related to emotion-focused and encouraging reactions, and negatively related to punitive and minimizing reactions. As expected, parents who believe negative emotion is good reported more emotion-focused reactions than parents who did not believe negative emotion is good. However, this belief was not related to any other parenting reactions, including encouraging, minimizing, and punishing. This is somewhat surprising given the strong links between beliefs that negative emotion is good and encouraging reactions in a previous study (Halberstadt et al., 2006).

I also predicted that parents who believe that their role is to guide children’s emotion experience would report more problem-focused and emotion-focused reactions than parents who believe that children must naturally learn how to deal with emotional experiences. Prior research has suggested a positive relationship between parents’ guidance beliefs and these types of parent reactions (Halberstadt et al., 2006). It was quite surprising, then, that the results from this investigation indicated that guidance beliefs are not related to any of the reported parent reactions.

I also expected relations with parents’ belief about developmental process. Specifically, parents who believe that children’s emotion styles can change over time (are part of a developmental process) will be more likely to encourage and offer strategies to deal with emotional events than parents who see emotion styles as fixed and unchangeable. However, this hypothesis was not supported. Perhaps parents who believe that children’s emotional styles are changeable are, in essence, lay stage theorists, who choose not to offer strategies because they believe children are just going through a certain stage. For example, if a child is throwing a tantrum in the grocery store, a parent who believes that this is just a
“stage” might not offer strategies because s/he assumes that the child will develop new behaviors over time and, thus, the strategy may not be useful in the near future.

For parent-child hypotheses, only parents’ belief that negative emotion is good was related to children’s implicit theories about relationships. This finding contradicts previous work that links parents’ and children’s beliefs (Halberstadt, Duff, Dunsmore, Beale, Cox, & Miller, 2005), although that study examined beliefs about specific conflict situations, as opposed to the more general relationship domain the current study examined. I also predicted that parents who report believing in the changeability of emotional styles would have children who report more malleable theories about relationships; however, parents’ belief in developmental processes was not related to children’s implicit theories. In addition, finding a relationship between internal, psychological constructs, such as beliefs, might be difficult given that beliefs are not necessarily manifested in one’s behaviors (Ajzen & Fishbein, 1972), and a belief in developmental processes may be particularly amorphous and difficult for children to infer. For example, children of parents who believe emotions are bad might not know the parent’s beliefs if the parent does not act in accordance with his/her beliefs. Thus, there is considerable possibility that parents’ and children’s beliefs are not significantly related.

Based on earlier work by Dweck and colleagues on the relationships between parent feedback and children’s development of implicit beliefs, problem-focused reactions and encouraging reactions were predicted to be positively related to malleable scores regarding relationships with parents. Pearson correlations supported this hypothesis. However, parents’ emotion-focused reactions were not related to malleable scores, as predicted. Parents’ reactions were not related to jealousy duration and intensity as predicted, either. Only
problem-focused and encouraging expression reactions were related to jealousy. Because the situations in the CCNES involves relatively normative expressions of negative emotion for children (sadness, anger, frustration), it is possible that these reactions will not necessarily relate to jealousy as strongly as they would to emotions presented in the CCNES vignettes.

A surprising finding in the current study was the differing pathways from implicit theories about parents to jealousy compared to implicit theories about siblings to jealousy. The results suggest that more malleable theories about parents are positively related to jealousy duration and intensity, whereas theories about siblings are not related to jealousy at all. The importance of the triadic context is revealed by these results. Children do not have the same theories about parents as siblings, necessarily, and given that sibling jealousy involves both siblings and parents, the differing theories are important to consider. According to the interpersonal jealousy system, the parent is the beloved and the sibling is the rival. These results suggest that malleable theories about the beloved are positively related to jealousy duration and intensity, whereas theories about the rival are not. Previous studies did not find differences between parent and sibling implicit theories in relation to duration and intensity of jealousy. Children in this study were, on average, six months older than those in previous studies. Thus, it is unlikely that developmental changes could account for these differences. In addition, data were collected in the same region, suggesting that community and culture are not reasons for these differences. Socioeconomic status differences might account for these varying outcomes in that children in the current study were middle-class whereas those in previous studies were lower to lower-middle class.

Although malleable theories are linked to more enduring and more intense jealousy, previous work suggests that malleable theories also lead to effecting change behaviors
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(Thompson & Halberstadt, 2006). The current study sought to replicate these findings using a more stringent test of children’s coping with jealousy. Children’s implicit theories scores were correlated with children’s coping scores, controlling for duration and intensity. As expected, children’s theory about the malleability of their relationship with their parent was related to two of the four kinds of coping strategies. Children’s malleability theory was positively related to behavioral action coping, and negatively related to their passive coping, even when controlling for duration and intensity. It is likely that social support was not related to implicit theories because it could be considered both an active (seeking out someone for help) or a passive (depending on someone else to make you feel better) means of coping, and thus, children who are low and high on malleability will report social support as a strategy. Also, cognitive reframing in this study included items that involve reorganization of the uncontrollable, which is indicative of less malleable theories, and items that involve processing related to making change, which is indicative of more malleable theories. Thus, cognitive reframing is unlikely to have a linear relationship with implicit theories. It is not necessarily the duration or intensity of jealousy, but rather the implicit theory that one holds, that creates more active coping responses. These results indicate that implicit theories, as suggested by Dweck’s paradigm, create a framework for interpreting (“I (don’t) think I can change this relationship”) and responding (coping) to challenging events.

Negative Situations: Can they have a Positive Impact?

Studies of disturbed family relationships have documented lifelong consequences of severe conflict and negative interactions (Kessler, Gills-Light, Magee, Kendler & Eaves, 1997). In light of these findings, it is not surprising that researchers have tended to disregard
the possibility that good might also come from bad, and that people may gain as well as suffer from negative interpersonal experiences.

Jealousy, a form of conflict, has been suggested to be intensified in Western families due to the nuclear family structure and individualistic culture values (Stearns, 1989). Because jealousy is characterized by a variety of feelings (e.g., sometimes sadness and frustration, other times anger and unappreciation; Bringle & Williams, 1979), it is likely that children can actually gain an awareness of the large repertoire of feelings that go along with different situations. In this study, children were not asked to recall the feelings that accompanied the jealousy event, but previous studies have suggested that children have differing patterns of feelings associated with jealousy (Thompson & Halberstadt, 2006).

In addition to tapping a variety of emotions, jealousy of a sibling can also lead to a process of drawing attention to differences between individuals. Children are encouraged to individuate when they compare themselves to siblings, a process that Schacter refers to as “deidentification” (Schachter, Shore, Feldman-Rotman, Marquis, & Campbell, 1976). This self-differentiation helps children form a sense of identity, and an understanding of who one is. Because children could suffer consequences by taking a stand in jealousy events, this emergence of understanding of self within social contexts might actually help make children aware of the tension between concern of self and concern of others.

A number of empirical studies of very young children suggest that siblings develop greater social competence as a result of how they handle disputes with their siblings. For instance, children’s argument styles with siblings relates to their affective perspective taking (Dunn & Munn, 1986). And, children with negative sibling relationships are better at recognizing ambivalent emotions (Dunn, 1992). Thus, negative experiences maybe useful in
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developing children’s social understanding. These findings indicate that sibling conflict events may actually be related to the experience and awareness of a greater emotional repertoire, development of self and identity formation, and children’s social and emotional competence. However, the mechanisms that allow children to gain these benefits are not yet delineated.

The findings of the current study suggest that children’s implicit theories about relationships might be one of many mechanisms related to their experience of complex emotions and their ability to cope with jealousy. Furthermore, jealousy events, although viewed as negative in valence, provide situations for which children can “test” different coping strategies and develop their social competence.

Limitations of the Current Study

Regarding the child variables, this study relied solely on reports of jealousy behavior by the child, which may be affected by recall biases. Even so, the reasons for jealousy are comparable with previous studies suggesting construct validity. There was one different reason reported by children in this study compared to previous studies (Thompson & Halberstadt, 2006). Children in this study reported more privilege by parents, whereas children in previous studies reported favoritism in conflict as a reason for jealousy.

It may be useful in the future to create a jealousy paradigm in an experimental setting to see if these differences in intensity and duration remain. Although a definition of sibling jealousy was given at the beginning of the interview, it is still not clear how, or indeed, whether children determined the difference between envy of their sibling and jealousy of their sibling. Furthermore, convergent reports by other members of the family regarding the child’s duration and intensity (if expressed) and physiological measures during a real-life
jealousy evocation may assist in validating children’s reports of intensity and duration of jealousy.

*Alternative Explanations of Sibling Jealousy*

The main goal of this study is to understand parents’ emotion-related beliefs and behaviors in relation to children’s implicit beliefs and jealousy-related behaviors. However, there are other variables that might impact children’s emotional experience. For example, parents’ marital satisfaction has also been linked to sibling conflict, including jealousy. Volling et al. (2002) found the marital relationship to be significantly related with young children’s reactions to a manipulated sibling jealousy event, but the effects of marital conflict on children’s experience and expression of emotion are believed to be a form of indirect socialization (Harold, Shelton, & Goeke-Morey, & Cummings, 2004), because children are observing the conflict, as opposed to being a participant in the conflict. Also, parents’ dispositional jealousy may have an impact on children’s jealousy (Bringle & Williams, 1979). Thus, parent-parent jealous interaction and parent personality influences on jealousy might be fruitful areas of investigation.

Perhaps a social comparison mechanism is activated when a child feels that a sibling is gaining attention that is taking away from their own attention. Thus, in addition to whether or not they think that the relationship can change, jealousy might be based on how similar a child feels they are to their sibling. There are reasons to predict findings either way. For example, children who perceive themselves to be similar to their sibling, or have a possible self (Cross & Markus, 1991) that is similar to their sibling, might have less frequent jealousy than children who perceive themselves to be very different from their sibling. On the other
hand, sibling deidentification suggests that children who perceive themselves to be different than their sibling are likely to have less frequent jealousy (Schachter et al., 1976).

Self-concept is also likely to have an important role in children’s responses to jealousy events. Mead (1934) stressed that the basis of self-concept is the individuals’ perception of the reactions of others. According to Erikson (1959), middle childhood is the stage of self-development that can be best characterized by the conviction, “I am what I learn.” Depending on the experience of this period, children develop views of themselves as productive or inadequate. Middle childhood, as the time when individuals become most intensely aware of the evaluation of others, can be seen as a critical period for the development of the social self. Therefore, children might regulate behaviors by the social system (what other people expect for them). Using this relational self-concept paradigm, I would predict that children who rank their relationship with a parent or guardian as very important might report more frequent, enduring, and intense jealousy than children who rank it less important because the relationship is not very relevant. I would also hypothesize that children who are “satisfied” with the nature of the relationship with parents might report less frequent, enduring, and intense jealousy than children who are not as satisfied with the current relationship standing.

**Future Directions**

By utilizing parents’ and children’s self-reports in the current research I hoped to obtain a representative assessment of emotion socialization and experience in the family, in that participants were able to draw upon a wide spectrum of experiences. Future research, however, should supplement self-reports with observations of parent-child dyads and parent-child-sibling triads. Although setting up experimental paradigms with middle school children
might be possible; real life events might also provide natural quasi-experiments. For example, I am currently developing a plan for a study involving observation of mother-child interactions and how these interactions relate to children’s subsequent sleep patterns, mental health, and general coping during non-normative stressful events that involve jealousy (i.e., having a parent and sibling with chronic illness move away temporarily). In such cases the parent and sibling who is ill will move away temporarily and the child at home has “lost his/her parent to a rival.”

In addition, this study suggests the importance of parents’ beliefs about children’s emotion, including negative emotion is good and parents must guide children’s emotion, in relation to parents’ reactions and children’s jealousy. However, future studies should consider a more person-centered approach, as opposed to the variable-centered, exploratory approach of the current study regarding parents’ beliefs.

Another important follow-up to the current study is the investigation of the long-term impact of positive versus negative coping strategies on the child’s view of relationships and relationship quality with siblings and parents. Specifically, answering the question, “do behaviors that indicate the desire to effect-change actually effect change?” Work in interdependence theory suggests that conflict/tension, when resolved in a way that is satisfactory to the involved parties, leads relationships to evolve (R. Nacoste, personal communication, 2005). Thus, jealousy and its resolution, although causing tension for a temporarily, might actually lead siblings to advance their relationship.

Overall, these findings suggest subsequent studies regarding the relationship between implicit theories and experiences in the family, especially for children in middle- to late-childhood. Do parents’ behaviors allow children to develop (or at least maintain) malleable
views of relationships? Does active coping set in motion a course of interactions that increases the quality of the sibling relationship? These questions and many more are important in grasping the developmental implications of implicit theories and behaviors in the family setting.
References


Appendices
Appendix A: Sibling Jealousy Interview

Okay- I want to talk to you about jealousy for a little bit. And just so we all share the same idea bout what jealousy is, I mean when you feel like your mom or dad is giving your brother/sister attention that is taking away from attention you would normally get.

So…about how often do you feel jealous of your sibling?

1  2  3  4  5  6  7
Almost never  sometimes  often  very often

Now using this checklist tell me how often:

___ Every few months to once a year
___ once a month to every other month
___ two to three times per month
___ once to twice a week
___ three to five times a week
___ almost every day
___ many times a day

Now I am going to ask you to think back to a specific time when you might have felt jealous of your sibling. Try to remember a time. Can you tell me what it was?

How long did you stay jealous

1  2  3  4  5  6  7
Very short time  a little bit of time  a medium amount  a long time  a really long time

And using the checklist:
___ less than 10 minutes
___ less than one hour
___ more than one hour less than a day
___ a few hours
___ about a day
___ a few days or more

How strong was your jealousy?

1  2  3  4  5  6  7
Not at all  a little bit  a medium amount  quite strong  really strong

What did you do?
Appendix B: COPE

ID: ______
Date: ______

Instructions: We are trying to find out how people deal with different problems and stresses. Think about a situation that has bothered you during the last month. Please describe the situation (Interviewer, write answer in space).

How much did the situation mattered to you? Circle (1=very little and 4=a great deal)

1  2  3  4

How much control did you feel that you had over the situation? Circle (1=very little and 4=a great deal)

1  2  3  4
Appendix B: COPE (contd).

There are lots of ways to try to deal with stress. We are trying to find out how people deal with different problems and stresses with their peers. Think about a situation with your siblings that has made you feel jealous during the last 2 months. Please describe the situation (it can be the same as the sibling jealousy inventory situation) then circle the number that best fits you. There are no "right" or "wrong" answers, so choose the most accurate answer for YOU—not what you think "most people" would say or do. Indicate what YOU did when YOU experienced this event.

1 = I didn’t do this at all
2 = I did this a little bit
3 = I did this a medium amount
4 = I did this a lot

1. I turned to school or other activities to take my mind off things. ___
2. I concentrated my efforts on doing something about the situation I was in. ___
3. I said to myself "this isn't real.". ___
4. I got emotional support from others. ___
5. I gave up trying to deal with it. ___
6. I took action to try to make the situation better. ___
7. I refused to believe that it had happened. ___
8. I said things to let my unpleasant feelings escape. ___
9. I got help and advice from other people. ___
10. I tried to see it in a different light, to make it seem more positive. ___
11. I reduced the amount of effort I put into solving the problem. ___
12. I tried to come up with a strategy about what to do. ___
13. I got comfort and understanding from someone. ___
14. I gave up the attempt to cope. ___
15. I looked for something good in what is happening. ___
16. I made jokes about it. ___
17. I did something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping. ___
18. I accepted the reality of the fact that it happened. ___
19. I expressed my negative feelings. ___
20. I tried to find comfort in my religion or spiritual beliefs. ___
21. I tried to get advice or help from other people about what to do. ___
22. I learned to live with it. ___
23. I thought hard about what steps to take. ___
24. I pretended that it didn’t really happen. ___
25. I prayed or meditated. ___
26. I made fun of the situation. ___
Appendix C: Ideas about Relationships

I’d like to ask you some questions about your relationship with members of your family. Please tell me how much you agree or disagree with the following ideas about relationships with 1 being strongly agree and 6 being strongly disagree.

1. My relationship with my parent is something that I cannot really change.
   1  2  3  4  5  6

2. Family relationships tend to stay the way they are no matter what people do.
   1  2  3  4  5  6

3. My actions don’t have any effect on my relationship with my parents.
   1  2  3  4  5  6

4. My relationship with my brother/sister (name) is something that I cannot really change.
   1  2  3  4  5  6

5. Brother/sister relationships tend to stay the same no matter what people do.
   1  2  3  4  5  6

6. My actions don’t have any effect on my relationship with my sibling.
   1  2  3  4  5  6

* Parent form is Items 1-3 only. **
Appendix D: Parents’ Beliefs about Children’s Emotions Scale (PBACE)

Instructions: These statements express different beliefs about children’s emotional development and about parents’ roles in helping children with their emotions. Please read each statement and write in the number that shows how much you agree with the statement. Because children’s abilities develop over time, please pick a child age (somewhere between the ages of 4 and 10) that you are familiar with, and respond to these statements for children of that age.

<table>
<thead>
<tr>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>strongly</td>
<td>somewhat</td>
<td>slightly</td>
<td>slightly</td>
<td>somewhat</td>
<td>strongly</td>
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<tr>
<td></td>
<td>disagree</td>
<td>disagree</td>
<td>disagree</td>
<td>agree</td>
<td>agree</td>
<td>agree</td>
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</table>

1. It's good for the family when children share their positive emotions.
2. It is important for children to be able to show when they are happy.
3. It is important for children to express their happiness when they feel it.
4. It is important for children to develop lots of ways to be happy.
5. Joy is an important emotion to feel.
6. Having lots of joy is very important for a child.
7. When children show pride in what they have done, it is a good thing.
8. It is important for children to share their positive emotions with others.
9. It is important for children to feel pride in their accomplishments.
10. It is important for children to be proud of a job well done.
11. It is okay when children feel angry, and it is okay when they don't.
12. Showing emotions isn't a good thing or a bad thing, it's just part of being human.
13. Feeling sad sometimes is just a part of life.
14. Feeling angry sometimes is just a part of life.
15. Showing sadness is neither bad nor good, it is just part of being human.
16. Being sad isn't "good" or "bad" -- it is just a part of life.
17. Being angry isn't "good" or "bad" -- it just is a part of life.
18. It is okay when children feel happy, and it is okay when they don't.
19. Feeling all emotions is a part of life, like breathing.
20. It is okay when children feel sad, and it is okay when they don't.
21. Getting mad can help children do things they need to, like sticking with a task that’s hard, or standing up for themselves.
22. It is good for children to feel sad at times.
23. It is important for children to show others when they feel upset.
24. Children’s anger can be a relief to them, like a storm that clears the air.
25. It is useful for children to feel angry sometimes.
| 26. Sometimes it is good for a child to sit down and have a good cry. | 27. It is good for children to let their anger out. |
| 28. When children show anger, they are letting you know that something is important to them. | 29. Feeling sad helps children to know what is important to them. |
| 30. The experience of anger can be a useful motivation for action. | 31. Being angry can motivate children to change or fix something in their lives. |
| 32. Expressing anger is a good way for a child to let his/her desires and opinions be known. | 33. Feeling negative emotions is sort of a dead end street, and children should do whatever they can to avoid going down it. |
| 34. Showing anger is not a good idea for children. | 35. When children get angry they create more problems for themselves. |
| 36. Feeling sad is just not good for children. | 37. When children are too loving others take advantage of them. |
| 38. Children who are too loving can get walked all over. | 39. When children get angry, it can only lead to problems. |
| 40. When children are too happy, they can get out of control. | 41. It is important for children to avoid feeling sad whenever possible. |
| 42. When children express anger, someone in the family ends up having to deal with the consequences. | 43. Anger in children can be emotionally dangerous. |
| 44. Children who feel emotions strongly are likely to face a lot of trouble in life. | 45. The experience of anger can be a useful motivation for action. |
### Appendix D (contd.) PBACE- Guidance Beliefs

<table>
<thead>
<tr>
<th>1. When children become sad or upset, parents can let them manage their feelings on their own.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. How and when to show positive emotions is something that children have to figure out for themselves.</td>
</tr>
<tr>
<td>3. Children can figure out how to express sad feelings on their own.</td>
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<tr>
<td>4. It's usually best to let a child work through their negative feelings on their own.</td>
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<tr>
<td>5. Children can learn to manage their emotions without help from parents.</td>
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<tr>
<td>6. When children are angry, it is best to just let them work it through on their own.</td>
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<tr>
<td>7. Children can figure out how to express their feelings on their own.</td>
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<tr>
<td>8. Children generally learn how to deal with their angry feelings, without parents telling them how.</td>
</tr>
<tr>
<td>9. It's the parent's job to teach children how to handle negative feelings.</td>
</tr>
<tr>
<td>10. It's the parent's job to help children know when and how to express their positive emotions.</td>
</tr>
<tr>
<td>11. It's important for parents to help a child who is feeling sad.</td>
</tr>
<tr>
<td>12. It is important for parents to teach children when and how to show pride in themselves.</td>
</tr>
<tr>
<td>13. It's a parent's job to teach children about happiness.</td>
</tr>
<tr>
<td>14. When children are feeling angry, parents can help them work through those feelings.</td>
</tr>
<tr>
<td>15. An important role for parents is to help their children understand the children’s feelings.</td>
</tr>
<tr>
<td>16. It is a parent's job to teach their children how to handle their emotions.</td>
</tr>
<tr>
<td>17. Parents should spend time helping children develop their own positive feelings.</td>
</tr>
<tr>
<td>18. It's important for parents to teach children the best ways to express their feelings.</td>
</tr>
<tr>
<td>19. It's a parent's job to teach children how to deal with distress and other upsetting feelings.</td>
</tr>
</tbody>
</table>
Appendix D (contd.) PBACE- Developmental Process Beliefs

<table>
<thead>
<tr>
<th>1. Children can change their emotional patterns over time.</th>
</tr>
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<tbody>
<tr>
<td>2. Children's feelings can change quickly from sad to happy and back again.</td>
</tr>
<tr>
<td>3. Children's emotions don't change quickly from moment to moment.</td>
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<tr>
<td>4. Children can change their emotional styles as they grow up.</td>
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<tr>
<td>5. How children express emotions when young can change over time.</td>
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<tr>
<td>6. Over time, there is room for change in how children feel emotions.</td>
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<td>7. Children can grow and change in how they approach emotional situations.</td>
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<tr>
<td>8. How children feel can change throughout their childhood.</td>
</tr>
<tr>
<td>9. Children's emotions change faster than adults, like from angry to happy.</td>
</tr>
<tr>
<td>10. Children can be happy one moment and sad the next.</td>
</tr>
<tr>
<td>11. Children's emotional styles tend to stay the same over time.</td>
</tr>
<tr>
<td>12. One moment a child can be very upset and the next moment they can be happy.</td>
</tr>
<tr>
<td>13. Children's emotional styles can change a great deal as they mature.</td>
</tr>
<tr>
<td>14. Emotions can change quickly in children.</td>
</tr>
<tr>
<td>15. As children grow up, they can change how they express emotions.</td>
</tr>
</tbody>
</table>
Appendix E

COPING WITH CHILDREN'S NEGATIVE EMOTIONS SCALE (CCNES)

ID ______________

Instructions: In the following items, please indicate on a scale from 1 (very unlikely) to 7 (very likely) the likelihood that you would respond in the ways listed for each item. Please read each item carefully and respond as honestly and sincerely as you can. For each response, please circle a number from 1-7.

------------------------------------------------------------------------------------------------------------

Response Scale:
1  2    3         4   5  6  7
Very Unlikely              Medium                 Very Likely

------------------------------------------------------------------------------------------------------------

1. If my child becomes angry because he/she is sick or hurt and can't go to his/her friend's birthday party, I would:
   a. send my child to his/her room to cool off    1 2 3 4 5 6 7
   b. get angry at my child 1 2 3 4 5 6 7
   c. help my child think about ways that he/she can still be with friends (e.g., invite some friends over after the party) 1 2 3 4 5 6 7
   d. tell my child not to make a big deal out of missing the party 1 2 3 4 5 6 7
   e. encourage my child to express his/her feelings of anger and frustration 1 2 3 4 5 6 7
   f. soothe my child and do something fun with him/her to make him/her feel better about missing the party 1 2 3 4 5 6 7

2. If my child falls off his/her bike and breaks it, and then gets upset and cries, I would:
   a. remain calm and not let myself get anxious 1 2 3 4 5 6 7
   b. comfort my child and try to get him/her to forget about the accident 1 2 3 4 5 6 7
   c. tell my child that he/she is over-reacting 1 2 3 4 5 6 7
   d. help my child figure out how to get the bike fixed 1 2 3 4 5 6 7
   e. tell my child it's OK to cry 1 2 3 4 5 6 7
   f. tell my child to stop crying or he/she won't be allowed to ride his/her bike anytime soon 1 2 3 4 5 6 7

3. If my child loses some prized possession and reacts with tears, I would:
   a. get upset with him/her for being so careless and then crying about it 1 2 3 4 5 6 7
   b. tell my child that he/she is over-reacting 1 2 3 4 5 6 7
   c. help my child think of places he/she hasn't looked yet 1 2 3 4 5 6 7
   d. distract my child by talking about happy things 1 2 3 4 5 6 7
   e. tell him/her it's OK to cry when you feel unhappy 1 2 3 4 5 6 7
   f. tell him/her that's what happens when you're not careful 1 2 3 4 5 6 7
4. If my child is about to appear in a recital or sports activity and becomes visibly nervous about people watching him/her, I would:
   a. help my child think of things that he/she could do to get ready for his/her turn (e.g., to do some warm-ups and not to look at the audience) 1 2 3 4 5 6 7
   b. suggest that my child think about something relaxing so that his/her nervousness will go away 1 2 3 4 5 6 7
   c. remain calm and not get nervous myself 1 2 3 4 5 6 7
   d. tell my child that he/she is being a baby about it 1 2 3 4 5 6 7
   e. tell my child that if he/she doesn't calm down, we'll have to leave and go home right away 1 2 3 4 5 6 7
   f. encourage my child to talk about his/her nervous feelings 1 2 3 4 5 6 7

5. If my child receives an undesirable birthday gift from a friend and looks obviously disappointed, even annoyed, after opening it in the presence of the friend, I would:
   a. encourage my child to express his/her disappointed feelings 1 2 3 4 5 6 7
   b. tell my child that the present can be exchanged 1 2 3 4 5 6 7
   c. NOT be annoyed with my child for being rude 1 2 3 4 5 6 7
   d. tell my child that he/she is over-reacting 1 2 3 4 5 6 7
   e. scold my child for being insensitive to the friend's feelings 1 2 3 4 5 6 7
   f. try to get my child to feel better by doing something fun 1 2 3 4 5 6 7

6. If my child is panicky and can't go to sleep after watching a scary TV show, I would:
   a. encourage my child to talk about what scared him/her 1 2 3 4 5 6 7
   b. get upset with him/her for being silly 1 2 3 4 5 6 7
   c. tell my child that he/she is over-reacting 1 2 3 4 5 6 7
   d. help my child think of something to do so that he/she can get to sleep (e.g., take a toy to bed, leave the lights on) 1 2 3 4 5 6 7
   e. tell him/her to go to bed or he/she won't be allowed to watch any more 1 2 3 4 5 6 7
   f. do something fun with my child to help him/her forget 1 2 3 4 5 6 7

7. If my child is at a park and appears on the verge of tears because the other children are mean to him/her and won't let him/her play with them, I would:
   a. NOT get upset myself 1 2 3 4 5 6 7
   b. tell my child that if he/she starts crying then we'll have to go home 1 2 3 4 5 6 7
   c. tell my child it's OK to cry when he/she feels bad 1 2 3 4 5 6 7
   d. comfort my child and try to get him/her to think about something happy 1 2 3 4 5 6 7
   e. help my child think of something else to do 1 2 3 4 5 6 7
   f. tell my child that he/she will feel better soon 1 2 3 4 5 6 7
8. If my child is playing with other children and one of them calls him/her names, and my child then begins to tremble and become tearful, I would:
   a. tell my child not to make a big deal out of it 1 2 3 4 5 6 7
   b. feel upset myself 1 2 3 4 5 6 7
   c. tell my child to behave or we'll have to go home right away 1 2 3 4 5 6 7
   d. help my child think of constructive things to do when other children tease him/her (e.g., find other things to do) 1 2 3 4 5 6 7
   e. comfort him/her and play a game to take his/her mind off it 1 2 3 4 5 6 7
   f. encourage him/her to talk about how it hurts to be teased 1 2 3 4 5 6 7

9. If my child is shy and scared around strangers and consistently becomes teary and wants to stay in his/her bedroom whenever family friends come to visit, I would:
   a. help my child think of things to do that would make meeting my friends less scary (e.g., to take a favorite toy with him/her when meeting my friends) 1 2 3 4 5 6 7
   b. tell my child that it is OK to feel nervous 1 2 3 4 5 6 7
   c. try to make my child happy by talking about the fun things we can do with our friends 1 2 3 4 5 6 7
   d. feel upset and uncomfortable because of my child's reactions 1 2 3 4 5 6 7
   e. tell my child that he/she must stay in the living room and visit with our friends 1 2 3 4 5 6 7
   f. tell my child that he/she is being a baby 1 2 3 4 5 6 7
Appendix F: Parent Demographics

We hope to have a diverse set of children and parents. Please tell us about your family.

Sex: Male or Female
Age? ______

Education:
Highest grade completed ______

How would you describe your ethnic background? (check as many as apply):

African-American ____  Hispanic-American______
Asian-American_____   Native American_____
European-American______ Other_______

What is your marital status? Single  Married  Divorced  Separated  Widowed  Cohab.

What, if any, religion are you affiliated with? ______________________________

Please list the age and sex of all of the children in your family.

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
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<tbody>
<tr>
<td>Child 1: ______</td>
<td>____</td>
</tr>
<tr>
<td>Child 2: ______</td>
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<td>Child 3: ______</td>
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<td>Child 4: ______</td>
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<td>Child 5: ______</td>
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<tr>
<td>Child 6: ______</td>
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