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University of Southern Mississippi

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FAMILY COMMUNICATION MOTIVATING ATHLETICS OVER GENERATIONS:
A MIXED METHOD EXPANSION OF SELF-DETERMINATION THEORY

by
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A Dissertation
Submitted to the Graduate School
and the Department of Communication Studies
at The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

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ABSTRACT

FAMILY COMMUNICATION MOTIVATING ATHLETICS OVER GENERATIONS: A MIXED METHOD EXPANSION OF SELF-DETERMINATION THEORY

by Elizabeth Hanson Smith

May 2016

Mixed methods were utilized to test the communication within a model of self-determination (Deci & Ryan, 1985) in a multi-generational sports framework in order to argue for an update to self-determination theory (SDT) that includes a communication element. Fourteen qualitative research questions were posed to examine how communication functioned to move tennis players, golfers, and runners from the initial family influence in participating to integrating family values to the extent that participants modeled athletic values to offspring and community members. Three hypotheses correlating the variables of self-efficacy, autonomy-controlling, and autonomy-supportive family communication supported the argument that communication functioned to develop self-determined behavior in a sports context.

The Perception of Parents Scale (Grolnick, Ryan, & Deci, 1991), the Revised Family Communication Patterns Scale (Richie & Fitzpatrick, 1990), and the Self-Efficacy Scale (Schwarzer & Jerusalem, 1995) were used quantitatively, and qualitative interviews were conducted with 38 participants in the southern United States. Results indicated that in a family-based sports context, control does not always lead to introjection or rejection as predicted in SDT. In this setting, autonomy-control, when combined with involvement, led to integration of family sports values with autonomy-supportive communication such as support, validation, and rationale mediating SDT.
expectations of introjection. The conclusions were that 1) communication functioned to move participants between SDT elements supporting the need for SDT to be updated to include communication and a modeling effect; 2) mixed methodology was an effective approach to this case study; and 3) the variables of control and involvement merit further scrutiny beyond a family sports environment.
ACKNOWLEDGMENTS

Thank you to the faculty of The University of Southern Mississippi for being willing to gamble on a non-traditional student who preferred to do things the hard way.

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And Dr. John Meyer, thank you for always encouraging me and being ready to talk things through. I could not have navigated this journey without you all.

Without the influence and motivation of patient people in my life, I would never have integrated the value of education to such lofty completion and satisfaction. Thank you Karl Boysen and Nancy Wilson. You saw in me what I could not and gave me a chance to be more than what I had been. Dr. Steve Beebe, thanks for challenging me to believe in myself and reach higher than I had before (just as you had). Kudos to professors Don Olson and Susan Hanson, who modeled excellent teaching and compassion through a first-rate Honors program that encourages interdisciplinary thinking.

Motivation isn’t always driven by autonomy-support, and so I also thank Joe Walther. You know, there IS more than one way to do research. I tip my hat to Maureen Keeley in a salute to the psychologist within us all, and I give Larry Hosman a gold star.
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And finally, to my wonderful participants: thank you all for sharing your stories. Thanks for loving your sport so much and for allowing your families to influence you in (mostly) healthy and positive ways.
DEDICATION

Colleen, we did it! I will never forget the day or the feeling as I opened my door and there you stood with flowers. Thank goodness! I never, absolutely never could have gotten through without your example, wisdom, laughter, and friendship. After we lost Angela, well, it was just us, kid. We make her proud.

David, my love. I cannot promise I am done with getting degrees, but I can express here how much it means to me that you have walked alongside me through each of the last three. You are amazing and I never want to remove you from my hip. May you be as strengthened and joyful by my presence as I am by yours.

To my kids, who this and other projects have been about and for. Never stop dreaming. You already have all the skills that you need to be successful. Just figure out what that means to you. I will be proud to be your mom, now and forever, No Matter What.

Trevor, Azaniah, Eliora, and The One(s) on the Way, being educated means that you create the world that you want. You get to study new things, practice using different perspectives, and explore whatever you are interested in. I hope you love to learn as much as your Benka.
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LIST OF ABBREVIATIONS

Attny-Child Variable of autonomy support from POPS
Cntrl_Conv Variable of autonomy control from RFCP-C
Cntrl_Conv_Adult Variable of autonomy control from RFCP-P
Dad_Atnmy Variable of father autonomy support from POPS
Dad_Invlv Variable of father involvement from POPS
EM Estimated means
H Hypothesis
IBM International Business Machines
Invlv_Child Variable of involvement from POPS
LOC Locus of control
LOC_Adult Variable of locus of control
Mom_Atnmy Variable of mother autonomy support from POPS
Mom_Invlv Variable of mother involvement from POPS
NVIVO A qualitative data analysis software package
POPS Perception of Parents scale
RFCP Revised Family Communication Pattern scale Child/Parent
RQ Research question
SDT Self-determination theory
SES Self-Efficacy Scale
SES_Adult Variable of self-efficacy for adult
SES_Child Variable of self-efficacy for child
SPSS Statistical package for the social sciences
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CHAPTER I – INTRODUCTION

My father introduced me to the game of tennis when I was five years old. Some
of my earliest memories are of watching tennis on television with my family—my mother
with her loud exclamations of distress when there was a close call—and of taking
summer lessons at a local park when I was old enough to walk there. My family joined a
neighborhood tennis club that, when it opened each season, marked for me the beginning
of summer. I spent hours each sunny day playing, hitting for fun, competing against my
peers, and developing relationships that exist to this day. My mom and dad valued tennis
and communicated their beliefs to me by encouraging me to play, by making it possible
for me to have access to the resources necessary to become competent, and by creating an
environment where I was rewarded for participating. They attended my tennis events,
praised and encouraged me, supported me verbally and nonverbally when I struggled to
master the technique or control my emotions, and, overall, made learning about tennis
satisfying.

When I went away to college, one of my most treasured gifts was a new tennis
racquet that I used when I had time to play. I married a man who learned to enjoy tennis
as much as I, and we bought our first house in a neighborhood that had a tennis court just
a few doors away. Throughout my long marriage, I moved many times and in each new
place, tennis was one of the first activities I pursued, since it was a wonderful way to get
involved in the community and meet new friends. I had internalized the tennis values my
parents had given me so that I now autonomously sought out tennis for my own pleasure
and to serve my own purposes. As an example, one move brought me to a place where
several of my tennis-playing friends and I developed the idea of “Tennis Therapy,”
realizing that we got as much, or more, from talking and supporting each other than we did from the physical exercise. In short, tennis had become an important part of my identity and functioned communicatively to provide a sense of community, to develop my competence and confidence, and to offer the expected enjoyable form of exercise.

As my children grew, I determined to teach them about tennis, as my parents had taught me. What had begun as an external motivator—my parents pushing me towards tennis—had now become so integrated into my life that I wanted my offspring to benefit in the same way I had. I communicated this ideal to my three kids from a young age. We played tennis together, and they were given all the necessary resources such as equipment, lessons, and opportunities to compete on their own. I encouraged them to increase in competence by playing with them, praising their participation, supporting them, and communicating the importance of the lessons of tennis. In other words, I created an environment supportive of them playing and enjoying tennis, like my parents had, and this was accomplished primarily through the communication used: verbally through praise, encouragement, and instruction; nonverbally by touch, proximity, access to resources, and by modeling my behavior. I communicated the value that tennis is important to me, and therefore, it should be important to them. I was their external motivator.

Apparently the message got through, because now, another generation has been born and my grandchildren, too, play tennis. Of course I encourage them: verbally, by praising them and teaching them tennis life-lessons; nonverbally by buying equipment, spending time with them, and by using other affiliative nonverbal communication such as smiling, touch, and presence. But it isn’t only my influence that encourages tennis-
playing in my grandchildren. The two of my children who have children of their own also facilitate and encourage tennis-playing in their offspring. In a sense, what began for my children with me being an external motivating factor was internalized and then integrated to the point that they taught their own kids how to play tennis, just as my parents had been my external motivators. In other words, my kids had internalized the values I had learned so that they now modeled the behavior to the next generation.

Over the years, I added running and golf to my repertoire of interests, sports that I pursued depending on my free time or groups of friends. Recreational sports functioned to keep me healthy and connected; I wanted my kids to learn from me these important life lessons. This process of passing along values and behaviors by modeling has long been considered from a behavioral point-of-view, but I argue that my own and my children’s internalization and integration of family values was, at its essence, a communication process. Without the verbal and nonverbal communication that was shared between my children and me, and before, by my parents and me, it is arguable whether we would have decided to pursue athletics and then teach our children.

I became curious about the process of how my parents’ love for the game became their children’s own love, to the point that the values were communicated across generations. Further, I wondered if the communicative modeling process that occurred in my family might be applied to other behaviors for other families. These questions focused my approach to this research project.

One theory explaining the process of values being passed from parents to children was advanced in the 1970s by psychologists Edward Deci and Richard Ryan. Self-Determination Theory (SDT) has been developed and refined since then to more fully
explain gaps in the early iterations, such as developing the concept of informational contexts to be better conceptualized as autonomy-supportive contexts and breaking out the process of movement between external and internal motivation with additional subsets of the theory. Other theories address the phenomenon of values being passed between people, such as symbolic interaction (SI), a sociology theory credited to George Herbert Mead (Blumer, 1973) emphasizing socially constructed reality that moves people to act; systems theory of families (STF; Bowen, 1974), which considers how the family as a system impacts children adapting to their environment; and theory of reasoned action (TRA; Fishbein & Ajzen, 1975), a model for behavioral intentions. However, SDT speaks to the process of individual autonomy in a way that other theories do not.

Autonomy as articulated in SDT lies within the power of the individual, whereas co-constructed reality from a SI standpoint is only partially within one’s control and systems theories such as STF and TRA, as a whole, imply a myriad of other influences within the system itself. SDT’s focus on the individual, therefore, presents an opportunity that these other theories do not: to develop the communication aspect of the theory so that SDT can be heuristically applied to communication studies in a family or interpersonal context. For this reason, I have chosen to focus on SDT as the theoretical construct for this project.

Though valuable in many ways, SDT is incomplete. Communication is an undeveloped concept within SDT. The role that communication plays throughout the theory in influencing motivation, establishing climates that either support or thwart self-determination, and hence, creating the impetus to facilitate a person integrating external values is absent from the theory. However, SDT is a good fit for the communication
discipline in numerous ways, and, in fact, is referenced regularly in many areas of communication studies. Many parts of SDT—relatedness, competence, motivation, internalization, integration, perceptions of loci of control—are communicatively enacted. Yet, as a construct, communication is ignored in SDT.

SDT overlooks communication studies’ contribution to family relationships, individual motivation, and in promoting understanding of these contexts. Crossing the disciplinary boundaries of communication studies by refining and extending theory in fields such as psychology and sociology is warranted. The more cohesively scholars’ ideas overlap and seam together, the more comprehensive the understanding of the phenomena that make up people’s lives. This study seeks to extend the theory to include communication elements within an updated model of SDT. The context for this investigation is athletics, particularly tennis, running, and golf, using a mixed methods approach.

It is well-known that, in general, sports are good for physical health. Tennis and running both promote high cardiovascular activity which reduces the risk of heart disease, diabetes, and obesity (Groppel & DiNubile, 2009; Schneider & Greenberg, 1992) and have many other physical and psychological benefits (Groppel, n. d.). Athletics function in communicatively beneficial ways as well. For one, community and relatedness are articulated through sports in ways that transcend economic, educational, gender, and racial lines. Additionally, athletics promote a sense of identity in which competence and confidence are increased—not just in the physical aspects of a game but in important relational aspects as well. For instance, participating in athletics develops character traits such as honesty, fairness, kindness, and empathy, which are often
communicatively expressed. All of these benefits from athletics make them attractive to pursue.

SDT downplays the communication process that explains one of the most important contributions of SDT: the movement from external to internal motivation which leads to self-determination. This underestimation of communication is unfortunate because research supporting the family’s role in developing esteem and secure attachments in offspring is abundant, as is the evidence for the benefits of doing so. Yet, the importance of the communication environment is overlooked, thereby reducing the potential of a powerful tool for families to use in developing constructive family relationships and helping children to develop into productive, satisfied adults.

Parents’ encouragement and modeling of healthy behavior is very persuasive. While many factors may be involved in a child’s decision to follow a parent’s recommended course of action, the communication environment itself is a key component. A family’s supportive communication coupled with modeling creates a context in which children want to play. A parent’s ongoing encouragement and support help children internalize their parents’ values as their own. This leads to integration of values so that a child will practice and communicate those values willingly.

The transition from being motivated by an outside force to being internally motivated is the essence of self-determination. The more one is self-motivated to do something, the more determined one is to keep at it, even when it becomes challenging. When motivated internally, the need to be externally motivated is diminished. Self-determination helps narrow the gap between knowing what is good to actually practicing what is good, and self-determination is often facilitated by supportive communication and
hindered by a non-supportive communication environment. SDT explains this process from a behavioral standpoint, but the model must be updated theoretically if it is to include the important communication elements at play so that our basic understanding of how families are influential is more practical. This study was designed to better understand how the complexities of motivation, family influence, and communication function within the theory of self-determination. An updated model is proposed.

Qualitative interviews were conducted, and quantitative surveys were distributed, in Mississippi. Mississippi has one of the highest obesity rates in the nation (United States Center for Disease Control and Prevention, n. d.; Harbaugh, Kolbo, Molaison, Hudson, Zhang, & Wells, 2011), currently at 35.5% (Mississippi, 2015). Coupled with low rates of physical exercise, residents of the included communities are at risk for diabetes (currently affecting 13% of state’s adult residents; second in the nation in 2014), hypertension (impacting 40.2% of adult residents in 2013) and obesity-related cancers (Mississippi, 2015). The children, especially, are at great risk for long-term health problems with nearly 22% of ten to 17-year-olds in Mississippi already identified as obese.

Despite the high number of obese residents, active tennis, running, and golf associations exist that have many players who participate in competitive leagues, playing at the local parks and clubs. Even more unexpected is a large population of families who play together—even some which have three and four generations still actively participating in the sport. In this health-challenged region, active athletes function as positive deviants—those who persuasively communicate to the larger population by modeling uncommon practices to solve a local problem (see Mirivel, 2014, for more on
positive deviance). Their choices have enabled local athletes to find a better solution to the norms of Mississippi’s obesity and other health-related problems communicated, in part, by their active lifestyles.

As local athletes model new behavior in the community, tools need to be accessible so that others can make changes in their own lives. Understanding how communication functions for the active athletes in the studied community is important so that it can be replicated in other families. A study examining communication is needed, especially one that explores theoretically how communication functions within the SDT model. Theory is most beneficial when it explains phenomena pragmatically so that it can be applied to the populations meant to benefit.

In the community where the study was conducted, for instance, an updated model of SDT could explain the outcomes in families who proactively communicate about behaviors like tennis, running, and golf. When families communicate support for particular behavior, according to SDT, children are more likely to take in the values for themselves, participating and potentially internalizing healthy behaviors. Conversely, when families do not communicate support for certain behaviors, children learn to avoid the behavior. Developing the SDT model to explain the communication within the theory may result in parents and children understanding the actions they use to teach the importance of healthy behaviors to a new generation.

Developing an updated model with athletics as a case study could be an effective tool for residents because of the available tennis facilities and associations, organized running clubs, and private and public golf courses. While tennis and golf traditionally have been white, wealthy person’s sports (History of Tennis, n. d; Fjelstul, Jackson, &
Tesone, 2011), the benefits of participating can be extended to all people regardless of race and income (Schneider & Greenberg, 1992). Low participation rates are not necessarily because of access or cost but potentially are based on perceptions of these sports, which, in the cases of tennis and golf, include rich histories as upper-class sports and the assumption of country club membership which places these sports outside an average person’s income level (Fjeilstul et al., 2011).

In the studied communities, however, tennis, for one, is highly accessible (Hinton, 2009), with tennis courts in several areas of town, including mid-town, close to the downtown area that is more densely populated by low-income Black people who suffer disproportionately from obesity’s effects. Fees to play at the public tennis facilities are relatively inexpensive ($2 per hour at a local park) and equipment necessary to play tennis includes a racket and tennis balls, available locally and not costly. Potential golfers have a greater challenge, as many local clubs are private and have conservative membership policies. There are several public courses nearby, however, so golf can be an option for those who are motivated. For runners, a paved rail-to-trail running path is pedestrian only and local runners’ clubs meet regularly for group runs, making running a viable option for anyone interested in participating. A benefit of having athletes in a community is that the more often non-participating community members see others taking part in the activity, the more “normal” the behavior becomes; so rather than this athletic community being positive deviants, they could instead become the model for healthy living.

This dissertation research allows for a clearer understanding of communication’s role in motivating children who were first introduced by their families to participate in
athletics like tennis, running, and golf. Moreover, this study extends the SDT model to explain how communication impacts choices which influence others in the case of modeling identity and has implications beyond the individual into the larger community. In extending the current model, this work fills an important gap that exists in the literature. To better understand the scholarly work that has been completed in this area, and to identify important concepts related to this investigation, chapter two reviews relevant literature.
CHAPTER II – REVIEW OF LITERATURE

This project investigated family communication and its influence on motivation to participate in tennis, running, and golf across generations, using the theory of self-determination (SDT; Deci & Ryan, 1985). Quantitative and qualitative methods were employed to learn about the influences and motivating factors in participants’ decisions to take on external family values about sports. What follows are some situating assumptions and key concepts within SDT, and an updated model proposing communication’s influence throughout the theory with literature supporting communication’s inclusion.

Self-Determination Theory

Self-determination theory (SDT) originated with Richard Ryan and Edward Deci in the field of psychology in the late 1970s and early 1980s. SDT uses the concepts of competence, autonomy, and relatedness to explain the reasons people make the choices they do by assessing the internal or external motivation of an individual and explaining how this assigned motivation impacts an individual’s reasons for performing particular behaviors. SDT provides “empirically informed guidelines and principles for motivating people to explore experiences and events, and from that reflective basis, to make adaptive changes in goals, behaviors, and relationships” (Ryan & Deci, 2008, p. 186), which would lead, then, to self-determined behavior.

Assumptions

SDT is based on five assumptions:

1. Humans are “active organisms working to master their internal and external environments” (Deci & Ryan, 1985, p. 35).
Actively working to master the environment means that people are inherently motivated to take on and integrate the regulation of activities that are useful for effectively negotiating life (Deci, Eghrari, Patrick, & Leone, 1994). An assumption is that parents’ sport values have served a regulatory function in the child participants’ lives, so the participants must decide whether or not to take on and integrate the sports activities.

2. Competence, autonomy, and relatedness are innate psychological needs (Deci & Ryan, 1985; Ryan & Deci, 2000).

People have an innate desire to be capable and knowledgeable. While everyone has a need to interact with others, humans also desire the ability to be self-sufficient at some level. The degree to which the needs of competence, autonomy, and relatedness are met determines the level of self-determination and satisfaction one experiences in life. Participants in this study were interviewed about these factors and questioned about how relationships, autonomy, and satisfaction influenced self-determination.

3. Children need to internalize and integrate external motivators such as family values so they become actively committed or autonomous (Ryan & Deci, 2000).

The process of internalization and integration is key to incorporating external motivators into the self, thereby becoming autonomous and self-determined in action. In this study, participants were asked questions pertaining to the integration of family sports values in order to test this assumption.

4. Support for autonomy allows individuals to actively transform values into their own (Ryan & Deci, 2000).
People have a tendency to accept outside influences when individuals perceive that they have the freedom to accept or reject those values. If the autonomy to make decisions is subverted, people will generally only comply when sufficient rewards or punishments are offered. The participants in this study were interviewed about the process of transforming family values into their own.

5. Social contexts that allow people to satisfy the innate need for self-determination while engaging in even uninteresting behavior promote the internalization and integration of desired behavioral regulations (Deci et al., 1994).

Deliberation is enacted socially. When people perceive that they are freely participating in the exchange of ideas and the process of decision-making, they are likely to feel self-determined. For this study, the social context is conceptualized as the family communication environment. The participants in the study were qualitatively interviewed about how supportive their family environment was and further, quantitative correlations between autonomy and the family communication environment were conducted to gain a greater understanding of the context itself.

Though the theorists have argued that context plays a role in the initiation and regulation of behavior, they do not believe that the contextual factors determine behavior. Instead, a person gives psychological meaning to contextual factors that, then, become the determinant of action (Deci & Ryan, 1987). Most of the assumptions of SDT point to the field of communication but do not identify communication by name. For instance, social contexts in assumption five are created through communication, yet SDT does not identify communication, per se. Support for autonomy, assumption four, would only be
known by communicative acts such as verbal support or nonverbal affiliation. The absence of communication within SDT is an important omission.

**Key Concepts**

SDT has a language set unique to itself which can be confusing, especially in its use of multiple terms for one construct. In order to better understand the overarching theory, it is necessary to recognize key concepts within SDT.

*Self-determination* is a quality of human functioning that involves the experience of choice (Deci & Ryan, 1985). Choice is defined in the theory as the “experience of an internal perceived locus of control” (Deci & Ryan, 1985, p. 38) and is expressed both verbally and nonverbally: by our requests and by our participation in, or refusal to participate in, particular acts.

*Locus of control* (also referred to as locus of causality and self-efficacy) ranges on a continuum from internal to external. People with internal loci or high self-efficacy perceive they have high levels of control over outcomes—autonomy—whereas those with external loci or low self-efficacy perceive they are controlled from outside themselves (Rotter, 1966; 1990; Salzer, 1982).

*Autonomy*, noted in assumptions two, three, and four, relates to choice, and is defined as “the feeling of volition that can accompany any act (even one externally motivated)” (Ryan & Deci, 2000, p. 74) and as “regulation of the self” (Ryan & Deci, 2006, p. 1557). When autonomous, people experience themselves as initiators of their own behavior. They select desired outcomes and choose how to achieve them (Deci & Ryan, 1987).
Autonomy, or being self-efficacious or self-determined, is an innate psychological need which provides the motivation to act, part of assumption two. The opposite of feeling autonomous is to feel controlled. Control is “characterized by greater rigidity and the experience of having to do what one is doing. There is intention, but lacking is a true sense of choice” (Deci & Ryan, 1987, p. 1025).

Choice is not used as a cognitive concept in the theory, but rather in the sense of a fuller, more integrated functioning. The more autonomous the behavior, the “more it is endorsed by the whole self and is experienced as action for which one is responsible” (Deci & Ryan, 1987, p. 1025). In this project, choice is elevated to a communicative construct and, thus, added to the new model.

*Motivation*, defined as “to be moved to do something” (Ryan & Deci, 2000b, p. 54), is not a unitary phenomenon. Motivation is conceptualized on a continuum ranging from internal to external, or synonymously, from intrinsic to extrinsic.

*Internal motivation* is doing an activity for the “inherent satisfaction of the activity itself” (Ryan & Deci, 2000, p. 71). Assumption one posits that humans are driven to master their environment. Intrinsic needs, according to SDT, are innate to the human organism and function as an important energizer of behavior. Intrinsic motivation is based on the “inherent needs for competence and self-determination” (Deci & Ryan, 1985, p. 32), partially expressed in assumption two.

*External motivation* refers to performing an action to “attain a separable outcome” (Ryan & Deci, 2000, p. 71). If one is externally motivated, he or she may “act for an extrinsic reward or to comply with an external constraint” (Deci & Ryan, 1985, p. 49) such as rewards, avoidance of punishment, salient tokens and prizes, surveillance,
deadlines, evaluation, goal acquisition, or competition (pressure to win). An assumption of this study is that most participants have taken on their sport because of external motivation, such as parental pressures.

*Competence*—the final piece of assumption two, is the “accumulated result of one’s interaction with the environment, of one’s exploration, learning and adaptation” (Deci & Ryan, 1985, p. 27) and relates to motivation in that the “more competent a person perceives themselves to be, the more intrinsically motivated to perform the activity” (Deci & Ryan, 1985, p. 58). Think of the link between competence and motivation in a sports context: the better you get at golf, the more you want to play.

*Internalization*, referred to in assumptions three and five, is the “taking in” process of a value or regulation (Ryan & Deci, 2000, p. 71; Ryan & Deci, 2000b, p. 60). The development of values from an external source to internal motivation follows a general pattern in which one “distinguishes specific elements of one’s internal or external environment and then brings those elements into harmony with one’s existing structures, thereby elaborating and refining the structures” (Deci & Ryan, 1985, p. 114), essentially choosing to become more self-determined or not. SDT, in a general sense, views internalization as the “process of transforming external regulations into internal regulations and, when the process functions optimally, integrating those regulations into one’s sense of self” (Deci et al., 1994, p. 120).

Once a value or regulation (external motivator) is internalized, the process of *integration* begins, which is “full transformation of the regulation into one’s own so that it will emanate from a sense of self” (Deci, et al., 1994, p. 121; Ryan & Deci, 2000, p. 71;
Ryan & Deci, 2000b, p. 60). Burke’s (1962) explanation of identification in *A Rhetoric of Motives* is conceptually similar to the SDT model of internalization in that:

A is not identical with [A’s] colleague, B. But insofar as their interests are joined, A is *identified* with B. Or [one] may *identify oneself* with B even when their interests are not joined, if [one] assumes that they are, or is persuaded to believe so. (p. 20)

Burke (1962) goes on to explain further that:

A, in being identified with B is “substantially one” with a person other than [oneself.]. Yet at the same time [one] remains unique, an individual locus of motives. Thus [one] is both joined and separate, at once a distinct substance and consubstantial with another. To identify A with B is to make A “consubstantial” with B. (p. 21)

Consubstantiality, then, is an “acting together where [people] have common sensations, concepts, images, ideas, and attitudes which make them consubstantial” (Burke, 1962, p. 21). Similarly, SDT’s process of internalization and integration is a “coming together” of values that are then consubstantiated into a person’s action toward self-determination resulting in a full identification of the external value as one’s own.

Cheney (1983) broadened Burke’s concepts applying the concept of identification to include organizational settings as well. When an individual takes on the concerns of the organization or group, for instance, and accepts the concerns of the organization as his or her own, an employee is said to “identify” with an organization (Miller, 2003, p. 126). Organizations encourage employees to identify with company values through a variety of strategies communicated by employees and bosses, through training and
indoctrination to company regulations, and by encouraging certain behaviors via recognition of individual contributions (Cheney, 1983; Conrad & Poole, 1998).

Through overt persuasive efforts, organizations attempt to move employees toward identifying with them, because the more an employee identifies with an organization, and the more successfully an individual accepts the values of the organization, the more the interests of the individual and the organization will overlap or coincide (Cheney, 1983). People whose values overlap with their organization feel a sense of connection to the organization. Similarly, people who identify with others values in the SDT sense can also feel the same sense of connection and incorporation of the external value into one’s self.

The final definition, mentioned earlier, is relatedness, covered in assumption two. Relatedness, the “need to feel belongingness and connectedness with others” (Ryan & Deci, 2008, p. 189) and the sense of being cared for, is centrally important for internalization (Ryan & Deci, 2000), whether it is within an organization or another institution such as a family. Social connectedness is vital to well-being, and social deprivation can result in negative physical and psychological consequences. Long-term rejection has been associated with unhappiness. Loneliness accompanied by interpersonal rejection has been identified as “one of the most direct methods to threaten the sense of social connectedness” (Betts & Hinsz, 2013, p. 357).

The assumptions and key concepts of SDT argue that when one is the determinant of one’s own action, and feels control over outcomes, one then feels competent, connected to others, and self-determined in acting on their own behalf. The more that innate needs are met, the greater the sense of satisfaction in the act itself. From a
communication standpoint, scholars know an actor feels competent at whatever one puts effort towards, then becomes connected through communication, and acts to make choices on one’s own behalf leading to a sense of satisfaction with self and others. This, then, leads to continued enactment of the behavior, communicating one’s sense of identity to others, persuasively influencing observers. This spiraling effect repeats with a new generation of actors communicating by behavior and choices the values that are important.

**Figure 1.** A schematic representation of SDT.


SDT nicely articulates the process of becoming self-determined from a behavioral standpoint (Figure 1), but neglects the important communication elements at work. There are many opportunities to actively point to communication, yet its absence within the theory is important. For instance, relatedness is communicatively enacted, though the
behaviors that create the sense of relatedness are not distinguished within the theory.

Social connectedness in assumption five, too, is directly impacted by the quality of communication, but not recognized in the theory. Adding the communication elements at work within self-determination would enrich theoretical understanding in practical ways.

Now that the assumptions and key concepts of SDT have been provided, I will turn to the literature to explain the communication implications within an updated model of SDT. First, the new model as a whole will be presented (Figure 2). Then, each section will be broken out and explained, using relevant literature to support an argument for including communication in an updated model of SDT.

Figure 2. Self-determination with communication emphasized.


Influence

Influence within SDT is conceptualized as information inputs. Parents are often the influential information inputs for children, not only in sports, but in other contexts and environments as well, such as managing stress, decision-making, dieting, and consumer behavior. In the updated model proposed, parents are signified as influence and fall within the general sphere of communication. Parental influence often determines the quality of communication regarding values and the importance of relationships, which then influences motivation.

![Influence and Motivation Portion of Model](image)

Figure 3. Influence and motivation subset of communication model.

According to researchers in a recent longitudinal study examining third, sixth, and ninth grade students \((N = 692)\), parents were influential in their children’s ability to buffer stress (Hazel, Oppenheimer, Technow, Young, & Hankin, 2014). In particular, researchers asked whether positive, supportive relationships with parents can influence and mitigate the effects of depressive symptoms, especially against increasingly important peer stressors.

Students were assessed regarding stressors and depressive symptoms every three months over the course of a year. Both peer stressors (defined as negative events relating
to peer relationships) and non-peer stressors (i.e., academic concerns or financial concerns) were assessed to determine whether high levels of positive communication would buffer against the association between youths’ stressors, especially peer events, and any increases in depressive symptoms. Parents’ positive relationship quality with their youth indicated clear support for the buffering influence.

The study also demonstrated that although positive relationship quality with parents continues to be influential through adolescence, a larger number of older adolescents experience deficient levels of positive relationships with parents compared to younger adolescents. The research team concluded that parents who have “close, positive relationships with their children are more likely to influence their coping and problem-solving strategies” (Hazel et al., 2014, p. 2020), highlighting the important role of family communication’s influence, especially as children mature.

Similar support for the influence of family communication was found in a meta-analysis of 56 studies on family communication patterns (Schrodt, Witt, & Messersmith, 2008). Collapsing several theoretical constructs of family communication patterns into conversation-orientation versus conformity-orientation—structures very similar to the constructs of autonomy-supportive versus autonomy-controlling found in SDT—the researchers found that conversation orientation types of family communication predict a myriad of psychosocial outcomes such as general well-being, self-esteem, family cohesion and adaptability, relational satisfaction, closeness, and commitment more than conformity orientation. Further, the conclusion of the researchers was that “to the extent that families encourage unrestrained interactions of a variety of topics, participatory decision-making, and the freedom to express differing opinions and viewpoints, such
open family environments are somewhat more likely to influence the general well-being and health of individual family members” (Schrodt et al., 2008, p. 263).

Parental communication, and the contexts which are created, also influence and encourage children’s decision-making processes (Anderson, Hughes, & Fuemmeler, 2009; Hamel, 2014), including the decision to participate in physical activity and healthy behavior such as sports (Anderson et al., 2009; Baxter, Bylund, Imes, & Scheive, 2005; Cooley, Toray, Wang, & Valdez, 2008). In a study examining the intergenerational transmission of parental values regarding physical activity to their children, researchers examined how specific values and intensity of exercise influenced children’s decisions to become active or sedentary.

Anderson and colleagues (2009) hypothesized that parents’ values toward vigorous activities would have a positive influence on children’s leisure-time activity and participation in sports and an inverse relationship to children’s TV and computer usage. Four-hundred thirty-three children and one or both parents (N = 681) from elementary schools in Texas were surveyed about their physical activity, beliefs about activities, and their sedentary behaviors. Findings indicated that specific parental attitudes were positively associated with influencing child activity and protective against sedentary behaviors (Anderson et al., 2009).

Parental beliefs about the importance of vigorous intensity team sports, those that included “hard to very hard effort, involving running without stopping very much, e. g., basketball, soccer” (Anderson et al., 2009, p. 430), were most influential and had the strongest positive relationship with child activity (B = .28; b = .28; SE = .06 boys; B = .26; b- = .27; SE = .06 girls); this effect was seen in girls and boys. The authors
concluded that there was a “direct influential path found from parental attitudes on
diligent team sports to team sport participation in girls and boys and that parents directly
affect child behavior” (Anderson et al., 2009, p. 436). What is missing in the explanation
is how communication functioned to express the parental beliefs and values, important
information for parents trying to apply the findings to their own families.

The family communication context is also seen as a key influence on teens’ diets
because eating behaviors, along with attitudes about physical exercise, are embedded in
and influenced by the family. Concerned with how shared decision-making about food
choices within the household occur, Bassett and colleagues (2008) studied the processes
by which adolescents and parents negotiate adolescents’ increasing food choice
autonomy. Interviews, observations, and a grocery trip with 36 families from three
distinct ethnic groups (European, African, and Punjabi) revealed that while parents,
especially mothers, do control food choice, they also incorporated a number of explicit
influential strategies to encourage and direct their adolescent children towards making
their own, informed food-related decisions.

Parents, for instance, did the grocery shopping in the households, thus controlling
what food was available. However, they chose foods that they knew their child enjoyed
and were also good for them. Parents also allowed their children to make alternate
choices if they did not like the food being served, influencing a “relationship of trust
within which adolescents could resist and ignore their parents and safely make their own
food decisions” (Bassett, Chapman, & Beagan, 2008, p. 330). The context of trust is
what had significant long-term influence on teens’ diets. The parent-adolescent
interaction emerged as a communicatively enacted context co-constructing autonomy of
food choices for teens. The communication context, then, influenced the children to enact their own autonomy within the family.

Family communication contexts influence youths’ consumer behavior as well (Moschis, Prahasto, & Mitchell, 1986). In an early study examining youth consumer-related purchasing, 734 adolescents from a southern state answered questionnaires about purchasing attitudes, brand preference, shopping independence, conflict resolution, and family communication patterns. Family communication patterns were conceptualized along two dimensions: socio-oriented which characterizes “A-B relationships” producing deference, and concept-oriented which stresses “A-X relationships” emphasizing a child developing his/her own individual views of the world (Moschis et al., 1986, p. 366) by imposing positive constraints (similar to autonomy-controlling and autonomy-supportive contexts in SDT).

Findings indicated that parental encouragement and a child’s freedom to explore controversial issues and make up his/her own mind were likely to influence greater satisfaction with his/her choices in the consumer marketplace (Moschis et al., 1986). Further, the family’s emphasis on mutuality of respect and interests was likely to encourage more independence in purchasing decisions and in family decision-making patterns and conflict resolution styles. In other words, family communication patterns had significant influence on young people. In particular, the more concept-oriented communication within families (autonomy-supportive), the more the children developed competent consumer purchasing.

As is evident, family communication is influential in many ways, including behaviors and decision-making of offspring. SDT and many research studies do not
emphasize communication as an act, but take communication for granted. Recognizing that communication as an act is not necessarily as clear to the participants in the current study as it may be to me as a researcher, I asked the following research question:

RQ1: What first influenced participants to try their respective sport?

Motivation

Parental communication can influence the decision to begin a sport, but can communication function to motivate people to stick with it? An assumption of SDT is that people are motivated to take on and integrate regulations so that they can negotiate life (assumption one). What drives the motivation however? Communication can make the difference between forced motivation (do this and you get a reward, or do this or else) and motivation that begins as external but is transformed to internal motivation. The quality of motivation matters in that the more people are moved to do something willingly rather than by force, the more they persist and, potentially, become self-determined in action (assumption three).

Motivation within SDT is conceptualized as internal (intrinsic) or external (extrinsic) rather than in degrees of motivation. Those with an internal motivation drive themselves to perform actions and are, therefore, already self-determined, whereas those who perceive external motivation must be encouraged more to develop determination from outside the individual (Deci et al., 1994; Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982). Encouragement from outside, as noted in the previous section, can be influenced by family communication.

Intrinsic or internal motivation is the drive to perform an action for the pleasure of the action itself so no on-going communication from the parents is necessary. When
people are driven to perform an action simply by pleasure, the need for an external motivator lessens because the reward comes from the action itself. Intrinsic motivation meets the innate needs of competence, autonomy and relatedness. While internal motivation is the ideal, children, in particular, often require external motivation to perform behaviors. Parents usually play the role of being the external motivating factor in their children’s lives.

Children are not born acting in their own best interest. They must learn, which is why parents teach children to brush their teeth, complete their homework assignments, and go to bed at a certain time in order to be rested for the following day. Until children internalize these behaviors, parents take on the external motivating role of getting their children to perform certain actions for their child’s own good often using praise as reinforcement. Confirmation from external others can create a positive sense of self as well as be a tool for growth (Dailey, Richards, & Romo, 2010).

Challenge from others—external motivators—can persuade individuals to make healthy choices regarding diet and exercise depending on the communication. To test this hypothesis, Dailey and colleagues (2010), in assessing the combination of validation and challenge, completed two studies with college students and members of the community (N = 157). Participants were presented with a scenario and then asked to imagine their significant other stating the message. Following each message, they were asked to rate the message in terms of acceptance, challenge, and effectiveness. Findings indicated that both acceptance and challenge were typically positive predictors of participants’ health attitudes and behaviors. The second study suggested that messages higher in challenge may be more effective than messages higher in acceptance in
motivating healthy behaviors (Dailey et al., 2010, p. 664). In other words, communicating validation and support is important, but so is the extra push that may come from an external motivator.

In health contexts, having someone push another to actualize potential may convey positivity and caring more than just the verbal support of confirmation. The researchers (Dailey et al., 2010) concluded that confirmation is related to healthier weight management attitudes and behaviors such as greater body self-esteem, greater autonomy in exercising, and healthier eating habits, but individuals who felt actively pushed by their significant other felt “better about their bodies, believed they were more capable of enacting diet and exercise behaviors, and engaged in healthier eating” (Dailey et al., 2010, p. 664). This delicate balance between autonomy and control from an external motivator is facilitated, in many cases, by communication. Since children do not always recognize the benefits of parent’s “help,” teasing out the differences between internal and external motivators is complex. I approached this question qualitatively, asking participants about the initial motivation to participate in the second research question: RQ2: Was the initial motivation to participate in the sport internal or external?

Communication

Communication creates the contexts in which influence and motivation are at work. The communication itself can be characterized as autonomy-supportive or autonomy-controlling. For instance, if verbal messages employ “shoulds,” “musts,” and “have to’s,” the functional significance of the communication will be conveying a lack of choice, and be perceived as controlling, and “both internalization and integration will be impaired, since pressuring undermines the feeling of self-determination” (Deci et al.,
1994, p. 124). If, conversely, the “language does not pressure,” but liberates a “person to feel choice about doing an activity, the communication is likely to convey autonomy support and thus facilitate internalization and integration” (p. 124).

Communication also impacts the feelings of relatedness, competence, and autonomy necessary to become self-determined. Communication behaviors get at the heart of self-determined behavior, elevating the communication environment itself to a critical, but absent, element in the theory of self-determination.

**Definition and Impact**

Communication is distinguished by both verbal and nonverbal messages, though distinguishing the verbal from the nonverbal is “virtually impossible” (Knapp & Hall, 2010, p. 5). For the sake of simplicity, *verbal communication* refers to using words or language to express or exchange information or to express ideas, thoughts, feelings, etc. to another person, while *nonverbal communication* is defined as “aspects of communication, such as gestures and facial expressions that do not involve verbal communication but include nonverbal aspects of speech itself (rate, pitch, emotionality, etc.) and conveys emotional messages to the recipient” (Knapp & Hall, 2010, p. 10). It is important to remember that, according to Knapp and Hall (2010) “the verbal dimension is so intimately woven and subtly represented in so much of what has been previously labeled nonverbal that the term does not always adequately describe the behavior under study” (p. 10).

Communication is a great source of reinforcement. On the positive side, encouragement in the course of an interaction can include verbal reinforcers such as acknowledgment, agreement, and praise, while positive nonverbal reinforcers might
include the use of smiles, looking at the other, touching, proximity, and allocation of resources (Knapp & Hall, 2010, p. 66). Communication behaviors such as encouragement, smiling, touch, and physical proximity are parental communication strategies that affect a child’s overall sense of security and well-being (Family Involvement, 2013; Hamel, 2014) and build supportive environments encouraging autonomy. Further, security is fostered by social environments that are attentive, responsive, warm, and autonomy supportive (Ryan, Brown, & Creswell, 2007).

Interested in how aware the participants in the current study are of the communication which influenced their motivation prompted the following research question:

RQ3: What strategies (words or actions) were used to communicate the importance of participating in the sport?

Types of Communication

Current literature uses various terms to describe the construct of autonomy-supportive versus autonomy-controlling communication. Messages that convey valuing, for example, are considered encouraging, confirming, or supportive messages (with elements of emotional and instrumental support), while those that signal a lack of regard or caring are termed controlling, disconfirming, discouraging, and/or non-autonomy supportive communication (Betts & Hinsz, 2013).

Encouragement of Autonomy. Children who feel confirmed have more open communication with their parents, higher self-esteem, and lower levels of stress (Dailey, 2006; Dailey et al., 2010; Schrodt et al., 2008). Examining the relationship between the communication in parent-adolescent relationships and adolescents’ openness with their
parents \((N = 59)\), Dailey (2006) found that adolescents who perceived their parents as frequently attentive, validating of their experiences, and asking for their viewpoint reported greater openness. Conversely, those adolescents who found their parents to be critical, discounting of their communicative attempts, and more impersonal reported less openness.

Confirmation encourages communication so that adolescents can explore, develop, and process their thoughts or feelings. Confirming communication validates different perspectives and helps children build skills in expressing, clarifying, and arguing their perspectives (Dailey, 2006). Supportive communication, then, encourages children to experience greater autonomy in communicating with their parents.

On the other hand, communication not confirming autonomy discourages children who expect to have their disclosures rejected or negated (Dailey, 2006). Children who experience disconfirming communication climates are more likely to distrust their abilities and feel undermined in their innate need for competence, emphasizing the complexity and importance of the communication process.

**Verbal and Non-Verbal Dimensions.** When comforting others, verbal support expresses empathy and validates the recipient, while nonverbal immediacy behaviors such as smiling, eye gaze, and body orientation reflect empathy, interpersonal warmth, and psychological closeness (Jones & Guerrero, 2001). Verbal as well as nonverbal expressions of affection, care, and concern can create a supportive and caring communication climate (Jones & Guerrero, 2001). When comforting is needed, using high levels of nonverbal behavior such as head nods, smiles, forward leans, and eye contact, along with verbal messages, may be perceived as providing the best support.
The implication is that “nonverbal messages may be the primary vehicle through which empathy, liking, and warmth are communicated” (Jones & Guerrero, 2001, p. 591). Using both verbal and nonverbal signs of support, then, may be important for children as they attempt behaviors that are new or uncomfortable in attempts to increase competence.

**Emotional and Instrumental Support.** Supportive communication, according to MacGeorge and colleagues (2005) can be broken into at least two types: *emotional* support, which are messages targeting an individual’s emotions such as affection, attentive listening, validation, and expressions of positive regard and *instrumental* support, messages which are relevant to an individual’s problem-solving activities such as information, training, or advice (MacGeorge, Samter, & Gillihan, 2005). While both types of communication are important, informational support conveys a message of confidence in the other’s ability to be self-determined, implying “you can do it,” and, with resources available to facilitate success, informational support can be a powerful motivator from an external source. To be clear, supportive communication does not imply that messages are always happy, or intended to only make someone feel good, but supportive messages do convey caring and empathy.

**Outcomes of Communication**

Supportive communication can influence a child’s decision to participate in healthy activities. Children who perceive a sense of security often have higher levels of self-esteem and are more likely to perform behaviors (Rangarajan & Kelly, 2006) such as participating in sports that promote health. Supportive environments create contexts in which negative emotions can be effectively processed which can lead to a more positive and functional appraisal of stressors. Informational support, in particular, may be
associated with diminished physical illness for college students, for instance, because this form of support helps students engage in “health-protective activities including exercise, healthy eating, and sufficient sleep” (MacGeorge et al., 2005, p. 371).

The need for supportive communication is true even as children grow older, despite research that suggests that overall relationship quality with parents’ declines across the transition into adolescence with less positive parenting and parental warmth (Buhrmester & Furman, 1987; Loeber, Drinkwater, Yanming, Anderson, Schmidt, & Crawford, 2000; McGue, Elkins, Walden, & Iacono, 2005). In fact, a supportive communication context may be especially important as children transition to adolescence. This is a time in a child’s development when they may be in the greatest need of effective buffers against external stressors (Hazel et al., 2014) such as peer influence.

Family communication can mitigate teen pregnancy, for instance, by creating a communicative climate where teens are more likely to discuss sexual behavior. In early research demonstrating the influence of communication climates, Rozema (1986) gathered data from college students ($N = 194$) about the source of sex information and potential barriers that prevented sex education from occurring in their parents’ homes. Participants were surveyed about the verbal and nonverbal messages they received from their parents versus peers regarding sexuality. Findings indicated that the communication between parents and children is more defensive than the communication between peers, suggesting that “communication may be a contributing barrier to sex education in the home” (Rozema, 1986, p. 536).

One suggestion for improving the climate in the home to encourage more open dialogue was to “train parents in communication skills, helping them find a more positive
approach to conversations about sexuality with their children” (Rozema, 1986, p. 537). Building relationships with teens is another sound reason for extending SDT to include the necessary communication element. An updated model may give parents more tools to connect with and influence their children in healthy and positive ways.

Communication, as a complex process, however, can present challenges for families. Students suffering from stress, for example, benefit from supportive communication obviously, but there are differences in the effect of instrumental support versus emotional support based on the student’s level of autonomy. Examining whether the supportive communication that college students ($N = 739$) report receiving from close friends and family moderated the association between the academic stress they experience and the health variables of depression and physical illness, MacGeorge and colleagues (2005) found that both depression and physical symptoms were positively associated with academic stress, as expected.

However, while the association between stress and depression decreased as informational support increased, those students who already felt low levels of academic stress found that “advice, information, training, and other forms of informational support was unnecessary and even resented it” (MacGeorge et al., 2005, p. 369). In other words, the more autonomous the student, the less they needed informational support. The complexity of communication suggests the importance for any external motivator, whether it is a teacher, advisor, or parent, to recognize the communicative needs of the student or child so that the motivation is perceived as the most effective support. Understanding how communication functions to create autonomy-supportive, validating,
and appropriate contexts is another reason the SDT needs to be updated to include communication.

Communication Environment

When communication is supportive, one’s innate need for relatedness, a sense of competence, and autonomy are met so that a person is motivated to become self-determined. When people are self-determined, they are satisfied and motivated to continue that action and they therefore become a model to observers. However, as the research suggests, creating a positive, autonomy-supportive environment can be challenging.

Figure 4. Communication climate in communication model.

Definitions and Impact

Self-determination, the feeling of personal control, also known as autonomy or self-efficacy, is influenced by the communication context (Figure 4). The updated model
accounts for the communication climate impacting the choices an actor has to become self-determined. The communication environment plays an important role in how people act. SDT characterizes social context as the amount of choice that the behaver feels he has in performing a particular action, but continues to overlook the communication behaviors at play. The environment is important because attitudes and behaviors develop within a context and patterns may develop, whether positive or negative, especially communicatively, and take on a life of their own (Adler, Rosenfeld, & Proctor, 2015,).

SDT and the new model both characterize the social context as either autonomy-supportive or autonomy-controlling, similar to other theoretical constructs that look at communication climates as being either supportive or defensive (i.e., Adler et al., 2015; Mirivel, 2014; and Rozema, 1986). Autonomy supportive environments refer to the “attitudes and practices of a person or a broader social context that facilitates the target individual’s self-organization and self-regulation of actions and experiences” (Ryan & Deci, 2008, p. 188). Supportive communication environments “reduce ambiguity, complexity, and unpredictability—sources of uncertainty—and thus provide the recipient with increased feelings of personal control” (Rosenfeld, Richman, & Bowen, 1998, p. 310).

Autonomy supportive environments facilitate self-determined motivation, a sense of self-efficacy, healthy development, and optimal functioning. Supportive environments encourage autonomous behavior and the innate need to control one’s environment. Children’s increased autonomy is often a function of parents letting go of being the external motivators in their children’s lives and allowing children to become increasingly self-determined, referred to as ‘liberating’ in the grid (see Figure 5). Supportive
environments do not mean that they are permissive since permissive environments are ones that are not only without controls, but are also devoid of structure. Thus, functionally, they “amount to neglect” (Deci & Ryan, 1985, p. 96).

The notion of autonomy-supportive environments points to the communication environment. The communication climate, or the social tone of a relationship, clearly influences relationship quality. Perceptions of relationship quality communicate to others how they are regarded in the relationship (Dailey, 2006), and is, in part, determined by the degree to which people see themselves as valued. Perceptions of liking, appreciating, and respecting cause one to react positively, but those who feel unimportant or abused react negatively (Adler et al., 2015). These degrees are represented in Figure 5 as dimensions of feeling autonomy-supported (encouraging or liberating quadrants) or not supported (controlling or neglecting quadrants).

Figure 5. Grid of climate types.
Supportive communication environments increase a child’s sense of autonomy, such that the more choice a child feels they have in their activities, the more they will internalize and integrate the behavior for themselves, leading to more long-term satisfaction with the activity. Supportive communication has been considered in a variety of related contexts including family relationships (Cooley et al., 2008; Mansell, Evans, & Hamilton-Hulak, 2005; Rittenour, Myers, & Brann, 2007; Rittenour & Soliz, 2009; Schrodt, Miller, & Braithwaite, 2011; Trees, 2000), education (Froiland, 2011; Froiland, 2015; MacGeorge et al., 2005; Strom & Boster, 2011), and in health contexts (Arredondo, Morello, Holub, & Haughton, 2014; Baiocchi-Wagner & Talley, 2013; Doherty & MacGeorge, 2012; Floyd, Pauley, & Hesse, 2010; Toller, 2011).

However, as noted earlier, supportive communication must be consistent across the context in order to achieve successful outcomes since the process of internalization can have negative psychological effects as well. To illustrate, studying the potential interaction of corporal punishment, defined as “the use of physical contact intended to immediately curtail problem behavior by causing pain, but not injury” (Straus & Stewart, 1999, p. 57), and supportive parenting, researchers found that the simultaneous experiences of harsh and positive parenting may yield negative outcomes (Wimsatt, Fite, Grassetti, & Rathert, 2013).

High levels of supportive parenting and low levels of corporal punishment were associated with the lowest levels of depressive symptoms in children, as expected, but children were at increased risk for psychological distress when corporal punishment and supportive parenting were both high, suggesting that supportive communication builds a
climate of trust that, when broken by controlling acts, such as corporal punishment, is confusing and contradictory for a child (Wimsatt et al., 2013).

Specifically, children who experience corporal punishment in the presence of a positive parenting strategy are at “elevated risk for internalizing problems,” and this may be “due to inconsistent messages being relayed to the child” (Wimsatt et al., 2013, p. 229). The underlying message is that consistency in messages is important since they contribute to a child’s innate need for relatedness. It is essential, therefore, for external motivators to be mindful of the elements of persuasion that contribute to a supportive environment, another reason why creating a motivational model that includes communication is important.

Authority figures facilitate autonomy in other settings as well. Ryan and Deci (2008) found that healthy development can be either facilitated or thwarted within a patient’s therapeutic environment. The sense of feeling connected to a therapist, for instance, was conveyed through both a therapist’s warmth and genuine involvement in helping the patient. The more the therapist could take the patient’s perspective and not align with either side of the patient’s conflicts but instead “support the patient examining the conflict and clarifying his own goals, the more the patient experienced positive treatment outcomes that persist over time” (Ryan & Deci, 2008, p. 191). Involvement and connection were important contributors to increased autonomy. The researchers concluded that enhancing the perceived autonomy-support and volition of patients will enhance outcomes but, in their findings, did not emphasize how communication may have enhanced the environment supportive of autonomy. Noting the authors’ names will clarify and make sense of this omission.
Communication has a critical but overlooked function in academic articles. If the assumptions of SDT are correct, there ought to be an association between a supportive environment and autonomy. Uncertainty about whether participants in the current study perceived communication in their families influencing autonomy-support, prompted the following question:

RQ4: To what extent did participants perceive that communication within the family supported autonomy?

The research question was also tested quantitatively with the following hypotheses:

H1: Higher perception of the presence of a supportive communication climate is associated with higher perceptions of autonomy.

H2: Higher perception of the presence of a non-autonomy supportive communication climate is associated with lower perceptions of autonomy.

Involvement

In Ryan and Deci’s (2008) previously cited article, involvement conveyed a sense of caring in a therapeutic setting. The theorists had formerly defined involvement in families as parents devoting resources to their children—that is, being available to them, knowledgeable about their lives, and concerned about what is going on with them (Grolnick, Ryan, & Deci, 1991), similar to MacGeorge’s (2005) concept of instrumental support. Curious whether involvement as a variable, along with autonomy-supportive environments (Figure 5), may be influential in the communication environment and testing whether caring is perceived as involvement in family settings as well as therapeutic settings led to the following set of research questions and hypotheses:
RQ5: To what extent did participants perceive that communication reflected parental involvement?

RQ6: How is the communication of parental involvement associated with autonomy?

H3a: Higher perception of general mother involvement is associated with higher perceptions of autonomy.

H3b: Higher perception of general father involvement is associated with higher perceptions of autonomy.

H3c: Higher perception of my mother’s involvement is associated with higher perceptions of autonomy.

H3d: Higher perception of my father’s involvement is associated with higher perceptions of autonomy.

*Figure 6.* Internalization and communication.
The Process of Internalization

One of the assumptions of SDT argues that children need to internalize and integrate external motivators so they become actively autonomous (assumption three). Internalization, as previously explained, is a “taking in” of regulations or values from an external source and making them internal (Ryan & Deci, 2000, p. 71; Ryan & Deci, 2000b, p.60). According to SDT, when faced with internalization of external values, three choices exist which represent different degrees of self-determined behavior: rejection, introjection, or integration (Deci et al., 1994). This process is represented in Figure 6.

Rejection

A person who outright rejects the regulations or values of an external motivator refuses to internalize them. For reasons of their own, sometimes people refuse to internalize values. While there may be an argument that this, in itself, is self-determined behavior, discussion of rejection of family values is not the focus of this project since all participants in the current study, to some degree, have internalized the family athletic values.

Introjection

Introjection refers to internalization in which the person “takes in” a value but does not fully identify with and accept it as his or her own. Instead, it becomes an inner control, “enforced by sanctions and rewards such as threats of guilt or promises of self-approval that might be referred to as an internally controlling regulation” (Deci et al., 1994, p. 121). An example of introjection might be a student who does assignments because of external motivators like grades or fear of reprisals instead of the hoped-for
desire to learn for learning’s sake. In the current study, it might be a participant who participates in sports because everybody else in the family does. When internalizing extrinsic motivation only to the point of being introjected, self-determination is limited.

What is missing in the explanation of this part of the internalization process as articulated in SDT is what influences a person’s choice to internalize external values. I believe the communication climate makes a great difference. Participants in the current study were questioned about the process itself—how parental involvement influenced internalization and whether participants believed they had internalized external values—resulting in the next two research questions:

RQ7: How is the communication of parental involvement associated with the process of internalization?

RQ8: Did child participants internalize the external parental sports values?

Integration

Integration, on the other hand, refers to internalization in which the person fully identifies with the value of the activity and accepts responsibility for doing it; one’s behavior, in other words, has become self-determined. When the aforementioned student chooses to more fully research a topic for an assignment or extends class concepts beyond what is expected in order to gain greater understanding (rather than just earn good grades), then they have taken on a greater sense of ownership over their learning.

Integration of external values leads to autonomy and self-determination in action. These different types of internalized regulatory processes, introjection versus integration, have different outcomes, even though both are strong motivators of behavior and do not
require external contingencies (Deci et al., 1994). In other words, introjection leads to partial integration, while full integration leads to self-determined autonomous behavior.

Whether a person fully integrates or introjects an outside value as their own is argued to be mediated by the degree to which the following three behaviors are provided by an external motivator: 1) a meaningful rationale for why a behavior is expected; 2) acknowledging and validating the behaver’s point of view, especially if they don’t want to perform the behavior; and 3) conveying choice rather than control (Deci et al., 1994). These three values, each communication-based, relate to the innate need for competence, relatedness, and autonomy.

In a study testing these three motivating concepts, Deci and his colleagues (1994) hypothesized that rationale, acknowledgment, and choice would predict the amount of internalization of an external regulation, and in particular, to distinguish whether actors introjected or integrated internalization. One hundred ninety-two college students were given a boring computer task. They were then instructed to watch the screen. As soon as they saw a light appear, they were to press the space bar to make it disappear. This was repeated over a time period of five minutes. A reasonable rationale was presented, the feelings of being potentially bored were acknowledged, but choice was manipulated as either a high controlling environment (“you ‘must’ do this activity”) versus a low-controlling environment (“if you are willing to continue…”).

At the end of the experiment, the researcher left the room with the casual statement that the participant was welcome to continue the activity while the researcher went to get a questionnaire. Five minutes elapsed while the participant was recorded. If the participant worked with the activity at all during the free activity time period, the
computer recorded the number of times. The number indicated the degree of internalization (introjected or integrated) of the task for the experiment. Findings indicated that, indeed, people will continue an activity, even one perceived as boring. However, the subjects who felt controlled did the task because they thought they should; they “introjected the regulation rather than doing it for the enjoyment of the task itself” (Deci et al., 1994, p. 137).

The researchers concluded that when people do not feel controlled and when they feel validated, then they will discover for themselves the activities they find useful and important, essential for the development of autonomy. Unfortunately, the communication that the study was based on—rationale, validating another’s point of view, and communicating choice—were characterized as psychological constructs only and the communication behaviors did not get much attention, not a surprise when considering the authors of the study. Apparently, the communication portion of the study has been left for communication scholars to identify, interpret and explain.

Whether participants in the current study integrated values was unclear. The following research question was designed to better understand the internalization process: RQ9: To what degree did participants internalize parental values and behaviors to participate in the sport?

The role of communication in the internalization process was also unknown, prompting this research question: RQ10: How does autonomy supportive or non-supportive communication function in the internalization process?
Communicating choice appeared to be an important element in developing autonomy and is part of the proposed model, and so the following research question was proposed:

RQ11: Did communication influence the perception of choice about participating in the sport?

Self-Determination or Autonomy

Continuing to follow the flow of the model, the next section concerns the outcome of the communication climate and the internalization process. Autonomy is the process by which children begin to take more responsibility, and parents become less responsible for their child’s decision-making (Bassett et al., 2008). Beliefs about whether one can accomplish a goal, or competently perform an activity such as athletics, and beliefs about how much control one has over outcomes such as health, influences the choices about whether to attempt to reach (or even set) goals (Peterson et al., 1982; Weiner, 1985). In other words, the more parents communicate rationale for why they expect their child to play a particular sport, and the more they acknowledge and validate that child’s point of view, and the more they communicate to their child choice about participating, then the more a child develops autonomy, self-efficacy, and self-determination in their behavior. Clearly, communication is a foundational requirement of self-determination, though overlooked in SDT. Once self-determined, the next point in the model is satisfaction.

Rewards and Satisfaction

Since rewards and satisfaction are in the original model, I was curious about how this construct might fit into an updated communication model (Figure 7). I asked:

RQ12: What is the relationship between satisfaction and continued integration of values?
Parents who have close relationships with their children are more likely to model effective interpersonal skills that youth learn and use to resolve problems (Hazel et al., 2014). Importantly, a parent’s own participation in an activity communicates to children the priority the parent places on the behavior, which may influence whether children continue to play their sport. Parents encouraging healthy behavior and also modeling the desired behavior, then, can influence whether their children are self-determined in pursuing the behavior (Baxter et al., 2005).

Role models, such as parents, inspire and teach by example, so modeling our activities on individuals we admire is a common practice. In the medical profession, for instance, doctors historically have patterned their activities on those of practitioners.
whom they respect and trust (Cruess, Cruess, & Steinert, 2008). Medical students learn by observing and reflecting on the practices of established doctors and, through a complex mix of conscious and unconscious activities, translate what they see into principles and action incorporated into the beliefs and behaviors of the student.

Role models, however, as in other communicative settings, can demonstrate both positive and negative behaviors. Cruess and colleagues (2008) set out principles guiding medical doctors in their training of residents. Some important points for effective role modeling include being aware, encouraging dialogue, having a positive attitude, and, clearly communicating. These communication behaviors help doctors model the lifestyle they expect from residents. More, the authors concluded that role models do not only function in their role as doctor, but in “virtually any situation in which a student can observe a clinical teacher” (Cruess et al., 2008, p. 721).

Parents, even more than doctors, play an influential and important role teaching and modeling behavior for their children. Recognizing how behavior can act communicatively is a powerful tool for families. When parents actively model athletics, for instance, some children are naturally drawn to playing as well; convincing them to play poses little communication challenge. They happily participate for reasons of their own, and do not need to be reminded of the benefits of behavior. Self-motivation is ideal, but intrinsic motivation, as demonstrated in the literature, is not always the case. Examples of daily life where external motivation operates include children and teeth-brushing, students and homework, graduate students and dissertations. Self-motivation is often undergirded by strong external motivation in the form of reminders, grades, and deadlines. In those cases, motivation can become the responsibility of the family,
teacher, or advisor to encourage healthy behavior in the belief that someday, the one being influenced will internalize and integrate the desired behavior until it becomes their own. Often external motivation is most effective in the form of modeling the expected behavior. Children seeing their parents consistently brushing teeth, or students seeing instructors doing their own work, and advisees observing their advisor’s academic consistency can communicate more clearly the values and behaviors that words alone cannot.

In the instances where participation is not intrinsically motivated, family communication is, as already argued, influential; however, modeling behavior becomes persuasive as well. More, modeling behavior creates a communication loop, since behavior communicates identity to a larger community. I predict that the athletes in this population learned their athletic values from family who communicated its importance through language and modeling, and passed those values onto their children. The children then internalized the athletic values and integrated them into their own self-determined behavior to the point that the children model the behavior to a larger community, sometimes to a new generation of athletes. Testing this prediction led to the following research questions:

RQ13: Did participants introduce others to their sport?

RQ14: How did participants communicate athletic values to the community?
CHAPTER III – METHODOLOGY

This study used both qualitative and quantitative methods to test the flow of communication within the self-determination model. First, a rationale for using mixed methods will be presented. Next, the procedure that I used to conduct both the qualitative and the quantitative portion of the study will be described. Finally, the process used to develop the survey instrument for the quantitative portion of the study will round out this chapter.

The Use of Mixed Methods

A researcher’s epistemology, ontology, and axiology impact the “reality” of a given situation (and therefore, the methodology of a study), so getting out “in the field” where participants live and play allows a researcher to see the multiple realities which might be represented. The more “naturalistic” the setting, the more likely a researcher will observe valuable information about the issue or problem under study (Creswell, 2007, p. 37). However, getting out in the field and observing, even with the depth of talking directly to participants, lacks the richness that objective quantitative data adds. There is division within the field of communication studies about which methodology is best. Babbie’s (2010) words are apt when he describes the dilemma of choosing between quantitative and qualitative measures:

The good news is we don’t need to choose. In fact, we shouldn’t. Both qualitative and quantitative methods are useful and legitimate in social research. You will be a stronger researcher to the extent that you can use both approaches effectively. Certainly, all researchers, whatever their personal inclinations, should
recognize the legitimacy of both. A complete understanding of a topic often requires both techniques. (p. 25)

This both/and approach resonated with my outlook on the best way to understand and solve problems, which is the reason why I chose to use both qualitative interviews and a quantitative survey instrument to understand how communication influenced self-determined integration of family athletic values.

Using multiple modes of inquiry to study a phenomenon is considered “triangulation,” and there are many benefits to this form of data analysis (Frey, Botan, Friedman, & Kreps, 1991; Guion, Diehl, & McDonald, 2011). Methodological triangulation usually entails the use of a variety of methods to collect data, such as in-depth interviewing and participant observation, and it can encompass a combination of qualitative and quantitative methods (Sands & Roer-Strier, 2006). Triangulation allows a researcher the opportunity to “generate new descriptions, interpretations, explanations, and even predictions about human communication from several different kinds of research findings” (Chesebro & Borisoff, 2008, p. 475).

As research strategies, designs, and methods evolve (as they continually do), the use of multiple methods becomes necessary. As human communication becomes increasingly complex with mediated and multidimensional elements, closing the gap between quantitative and qualitative research methods becomes more important (Chesebro & Borisoff, 2008). A mixed methods approach maximizes the tools offered by various paradigms in order to more fully explore, describe, and understand the phenomena I am interested in: namely, families communicating athletic values to their
offspring in the form of the importance of tennis, golf, and/or running, and the transformation of external values to internal values.

**Qualitative Methods**

One overarching goal of the dissertation was to understand how communication functioned within the SDT framework. Understanding is facilitated by in-person interviews, so first, I interviewed participants. Tracy (2013) defines interviews as simply “conversations with a purpose” (p. 138), with the value being “mutual discovery, understanding, reflection, and explanation via a path that is organic, adaptive, and oftentimes energizing” (p. 132). A conversational approach is the strategy I opted to follow with my semi-structured interview protocol—using open-ended questions while probing for deeper explanations as the situation warranted.

Talking to participants about their lived experiences enriched my understanding of this particular group of participants. Qualitative researchers celebrate the subjectivity that creates a unique perspective which enhances understanding of the questions being examined (Tracy, 2013). Talking directly to people within their context, over time, face-to-face aided me in observing and understanding the topic more fully (Babbie, 2010).

As a tennis player in the community I was studying, I had a decision to make about the role I would take in the project: as a full participant or an outside observer. Full participation has its benefits such as full affiliation and access to a group, increased trust and participation from participants, and insight into motivations, insider meanings, and implicit assumptions rarely articulated (Babbie, 2010). The limitations of being a full participant, however, include being so closely identified with the group that it can
become difficult to notice the group’s unique values, which was a risk for me being so closely affiliated with Hattiesburg’s tennis community.

I knew I could not be only an observer because of my relationships with the participants, so a third choice became the best way to protect against the risk of being too close to be observant. I elected to become what Tracy (2013) terms a play participant, “explicitly researching, but also becoming an active member engaging in a range of cultural activities, with the membership as improvisational and unbound by many formal norms of the scene” (p. 109). The advantage was that I could opt in and out in ways unavailable to a complete participant. For example, actively engaging and explicitly researching the group with which I already had a close relationship allowed me access to a group who already trusts me. However, they also knew I was a doctoral student and that my research topic for my dissertation was athletics-based. I strategically revealed my interest in conducting a study so that those participating would know that the role I played was of a researcher playing tennis, or a tennis-playing researcher, whichever was appropriate in the moment.

Quantitative Methods

The concept of communication is vague for many individuals, as is awareness of individual character traits such as locus of control. Since perceptions of supportive environments are based on beliefs about the context, these constructs were best understood through quantitative measures. I created two surveys in Qualtrics, one for child participants and one for parent participants, using items from three valid and reliable survey instruments asking questions in order to better understand individual
factors such as motivation, autonomy, and perceptions of the family communication environment.

Wrench and colleagues (2008) define survey in a general sense as “a social scientific method for gathering quantifiable information about a specific group of people by asking the group members questions about their individual attitudes, values, beliefs, behaviors, knowledge, and perceptions” (Wrench, Thomas-Maddox, Richmond, & McCroskey, 2008, p. 213-14). Surveys are excellent vehicles for measuring attitudes and orientation in a large population (Babbie, 2010). The two surveys, child and parent versions, were designed in Qualtrics and distributed via email using hyperlinks for participants to click on and complete at home.

The data were analyzed using SPSS Statistics 23 to collect descriptive statistics and conduct various tests, including factor analysis and bivariate Pearson correlations. All reliability and validity tests were also conducted using SPSS.

Setting up the Study

Setting

The setting for the study is a mid-sized Mississippi city with approximately 45,000 residents that has one of the highest rates of obesity in the country at 35% (Mississippi, 2015) along with the highest rate of inactivity in the nation at almost 32% (United States Center for Disease Control, n. d.; Physical Activities Council, 2012). The county where the study was located has a slightly higher-than-average obesity rate than the rest of the state (City-Facts, 2014). Despite a higher-than-average obese population, there also exists active tennis, running, and golfing groups that deviate from the norms of
the community. The disparity within the community created an interesting opportunity to study the communication within the group who was active.

There are five tennis facilities within a 20-mile radius including two public tennis venues. There are two active running groups with social media presences, and there are private and public golf courses nearby. The studied city is a university town that has men’s and women’s tennis teams, cross country running teams, and men’s and women’s golf teams making access to athletic participants possible.

Recruitment

Following common practices of recruitment, purposive sampling those already known to me in the tennis and running communities resulted in a predominance of tennis players, and few runners. Snowball sampling ensued and more runners were recruited by word-of-mouth and through posts on the two Facebook pages the running groups manage. I also attended several local runs in order to familiarize potential participants with the project. Not a current golfer myself, I had no personal contacts for participation, so emails were sent to all athletes on the men’s and women’s golf teams at the local university. The emails resulted in two new participants and their agreeable family members. I also recruited athletes by visiting students in public speaking courses held during the fall semester at the local university.

Criteria for Inclusion

1. Participants in this study must be one of the following:
   a. a parent or grandparent who plays tennis and has at least one child or grandchild who plays tennis;
b. a child who plays tennis and whose parent or grandparent also plays tennis;

c. a parent or grandparent who runs and has a least one child or grandchild who runs;

d. a child who runs and whose parent or grandparent also runs;

e. a parent or grandparent who plays golf and has at least one child or grandchild who golfs; or

f. a child who plays golf and has at least one parent or grandparent who golfs

2. Participants must participate in the greater city area

3. Participants must be willing to be interviewed, be observed while participating in their sport, and to complete several individual assessments

The criteria for inclusion changed over the course of the project in that the observation criterion was eliminated, as was the geographic requirement. These changes were made for a variety of reasons. One, I realized that in order to keep the scope of the project within manageable boundaries, it would not be possible to conduct interviews and also observe 40 participants for several hours in the timeframe allotted for this dissertation research. Recognizing the myriad of nonverbal communication signals that might occur between athletes in their sports setting required training that I did not have adequate time for, and so observations were eliminated as a requirement for participation.

Two, several willing participants had family members who resided out of the immediate area, in other counties in Mississippi, in Louisiana, and in Michigan. In order to have an adequate number of participants for the study, and because observation was no longer part of the protocol, I decided to expand the criteria regarding where participants
could live. I purchased a high-quality voice recorder and was able to conduct interviews over the phone rather than only in person. The voice recorder allowed me to reach a larger geographic area than anticipated, so the criteria for inclusion was relaxed in order to gather participants whose family lived in other areas.

Participants

Eighteen families met the established criteria and were involved in this study, for a total of 40 participants ($M = 21; F = 19$). Of these 18 families, most units were one parent/one child pairings (83%), but three families (17%) were multi-generational with a grandparent, their child, and their child’s child, or some combination thereof. Two of the families (11%) had two parents and one child participating. The 18 family units, as illustrated in Figure 8, included 13 tennis families ($n = 29; 72\%$), three running families ($n = 7; 17\%$), and two golfing families ($n = 4; 11\%$). Most participants were over the age of 18 ($n = 36; 90\%$), even though 18 participants (45%) were considered children for the purposes of the study. Five participants (12%) were minors (see Appendix B for further participant information).

![Participants by Role](image1.png)

![Participants by Sport and Gender](image2.png)

*Figure 8.* Participants by sport, gender, and role.
Now that I have explained how the study was set up, I will move onto the explanation of the procedure I used to conduct the qualitative portion of the study.

Qualitative Procedure

The Institutional Review Board at The University of Southern Mississippi approved the project. Participants were contacted in the summer of 2015 via telephone, email, and social media sites such as Facebook and Twitter. A mutually agreeable time was set to meet either at their homes, my campus office, the local tennis club, or local restaurants; wherever was most convenient for them but also conducive to the recording of a personal interview. The interviews took place over a three-week period in the fall semester of 2015. Eight interviews were conducted over the phone, five tennis interviews (17%), a running interview (14%), and two golf interviews (50%).

The first step during the interview was to briefly explain the study and have participants sign an Informed Consent. For participants under the age of 18, a parent signed on their behalf. Since all interviews were audio-recorded using an unobtrusive digital Sony handheld device, each participant then also gave consent allowing me to audio-record, with the understanding that if I asked an uncomfortable question, they were able to request an alternative question, or to ‘pass’ on answering. One minor and one adult asked me during the course of the interview to either ‘pass’ on a question, or to ask it in an alternative form, which I obliged. All participants consented to participate and allowed me to audio-record the interviews.

The interview format originally consisted of 25 open-ended questions relating to the sport they participated in: how long they had played; how they began playing; the communication within the family about the sport; barriers impacting their decisions to
play; and how they may have influenced others within the community about their chosen sport, among others (See Appendix C for a full list of interview questions). However, after only a few interviews, I found that by just asking participants to tell me the story about their sport, I rarely had to follow the interview question format. I kept the format nearby in order to be certain that each category was covered, but most often, all the questions I had on the interview format were explored as the participant shared their story about their involvement in their particular sport, with only a few prompts by me. Since the goal was to encourage open dialogue about the communication process as experienced by the participant, it was a fine way to gather the stories and learn of their perspective.

Interviews lasted from 20 minutes to an hour and a half. The younger participants tended to have less to say, and I found that my analytic notes following these particular interviews centered on the need to ask more open-ended questions and encourage story-telling in the younger ones. This strategy worked well when, for instance, with one participant, I asked him to “tell a story about you and your dad playing tennis. What is your favorite memory?” This prompt provided more detail about how they communicated on the court and about his perspective on the sport of tennis.

The recordings of the interviews were transcribed verbatim, resulting in a total of 655 single-spaced pages of text, which were the interviews themselves and any transcribed analytic researcher notes pertinent to the interview process. Once the interviews were completed and I had thanked the participant for their time, I then confirmed an email address to which to send a link to a Qualtrics survey. This segue leads to the second portion of the study procedure.
Quantitative Procedure

In two cases, a participant was asked to complete both a parent survey and a child survey because they were in a three-generational family and they were the middle participant, so, in those cases, both survey links were sent to the confirmed email. (The third grandparent family was missing the middle link and so consisted of interviews with grandfather and grandson). In both cases, the participants were willing to fill out both surveys. In two instances where I conducted an interview, participants (one minor and one adult) did not complete the quantitative survey as agreed. However, it worked out that two family members of other participants (one mother and one father from separate families) did, unexpectedly, complete the Qualtrics survey, explaining the total number of participants being equal (interviews \( N = 38 \); surveys \( N = 38 \)). Because the child in most pairs was actually an adult, often with children of their own, the email instructions included with the survey link addressed this potential confusion by asking participants to recall the communication and relationships from when they still lived with their parents.

The Qualtrics survey was different for children and parents, as noted earlier. Because the surveys used different scales in dissimilar order, it will be easier to understand the procedure if I explain what I did based on the item numbers used in the Qualtrics survey. For this reason, I will first describe the procedure followed for the children’s survey. Then the method followed for the parents’ survey will immediately follow.
Child Constructs

General Information

The child version \( (N = 18) \) of the survey consisted of five demographic questions and fifty-six randomly distributed questions measuring family communication patterns, perceptions of parental communication, and perceptions of self-efficacy. The Revised Family Communication Patterns Scale-Children (RFCP-C; Ritchie & Fitzpatrick, 1990) was used in its entirety for survey questions 6-31 (item numbers follow the Qualtrics survey). The Perception of Parents Scale (POPS; Grolnick et al., 1991) contained twenty-two questions in total, eleven each for mother and father and were item numbers 32-51 in the survey. Child survey questions 52 through 61 were taken verbatim from the Self-Efficacy Scale (SES; Schwarzer & Jerusalem, 1995). Participants had been sent an email link to a Qualtrics survey which they could complete at their convenience on any computer. All data from the surveys were stored in Qualtrics with anonymous computer identifiers to protect the identity of participants.

The child data were downloaded from Qualtrics into IBM’s SPSS Statistics 23 into a SPSS.sav file with raw data, variable, and value labels and named Diss_Child. The resulting data were examined for obviously inaccurate values, and missing data. When I noticed inaccurate values were present, I went back into the survey data in Qualtrics and unlocked the survey to further investigate. For unknown reasons, Qualtrics was inconsistent in assigning values for multiple choice options, ranging from the expected 1-4 point values, to upwards of a 52-55-point range. This created a data mess which had to be corrected on the child dataset with each participant’s data being recoded. For example, on Q3, a demographic question regarding gender, the assigned inaccurate
values of nine (male) and ten (female) were recoded to zero and one, respectively.

Oddly, many items in Qualtrics were assigned extreme values as exemplified in Q32/33 where the incorrect range of 14-17 had to be recoded to one through four. This was an intense reworking process necessary to ensure that the data would compute in the expected ranges, so I paid careful attention to detail so that I could be confident of the results.

Once the child data were downloaded into SPSS, I began by running reliability analyses on the items from each scale to confirm reliability and validity for the new scale. I will begin by explaining the process used for the RFCP-C (two dimensions), then the POPS (two dimensions), and finally, for SES.

First, the process followed for conversational orientation in the RFCP-C will be explained.

Revised Family Communication Patterns Scale-Child

The RFCP (Ritchie & Fitzpatrick, 1990), assesses the degree to which participants perceive the family communication as conversational versus constraining and comes in both a parent and child version. Twenty-six items split questions into a conversational orientation (conceptualized as autonomy supportive; 15 items) and conformity orientation (translating to autonomy controlling; 11 items). For the purposes of this study, I am conceptualizing conversational orientation to be autonomy-supportive communication and conformity orientation to be non-autonomy supportive or autonomy-controlling communication.

The RFCP-C (Ritchie & Fitzpatrick, 1990) was used in its entirety for children’s survey questions 6-31 with only minor changes. Item choices on the original survey, for
instance, ranged from strongly disagree to strongly agree on a 5-point Likert scale. I eliminated the neutral choice and instead used a 4-point Likert scale with choices ranging from strongly disagree (1) to strongly agree (4).

Two different variables were created, an autonomy supportive variable, to be discussed first, followed by an autonomy-controlling variable. Both of these newly-created variables were used to conduct Pearson correlations on communication climate and autonomy in order to test the hypotheses in the study.

**Conversational Orientation.** After demographic questions (Q1-5), the first fifteen items of the child’s survey (Q6-20) concerned conversational orientation. Including all fifteen items in a reliability check within SPSS resulted in a Cronbach’s alpha of .897 with only one item improving the Cronbach’s alpha if removed. However, since the improvement was negligible (.904), I elected to keep all the items until further analysis could be conducted.

I then moved on to validity testing for this subscale, allowing SPSS to extract factors based on Eigenvalues greater than one. The factor analysis yielded five factors accounting for 84.615% of the variance, not a good sign that the scale was operating as intended. A Varimax rotation with Kaiser Normalization clearly supported the need to remove items. Since the scree plot displayed a sharp elbow, I elected to force the dimensions to one to determine which items were problematic. Forcing the factor to one only accounted for 44.209% of the variance and several items had low numbers on the component matrix, so item six (loading at .149) was removed. The variance improved to 47.234% but was still not high enough to be conservative.
Conservatively testing validity meant systematically removing items not loading to at least .60 on the principal component analysis to increase the validity of the measure being used in the athletic context. Item 11 (.436) was removed next, making no difference to the variance, so item 13 (.534) was removed, increasing variance to 50.406%, still lower than preferred. Item 14 (.573) was next to go, then 17 (.570), increasing variance to 55.145%. One final pass eliminating items 12 (.614) and 19 (.639), near the low range of the acceptable criterion of .60, brought the cumulative variance to an acceptable 60.540%.

Factor analysis with the Eigenvalue set to extract values greater than one still yielded two factors rather than the preferred one, so items eight (.203 on the first factor) and ten (.262 on the first factor) were removed, increasing the cumulative variance to 65.429% and decreasing the items in the conversational orientation to six, thereby creating a more efficient subscale. Reliability was measured with the new subscale including items 7, 9, 15, 16, 18, and 20 with Cronbach’s alpha measuring 88.5, with no items potentially increasing the alpha if removed. The subscale of conversational orientation was thereby found ready to use as a reliable and valid source of data. A new variable, Sptv_Conv, was created and added to the child dataset.

Conformity Orientation. The process was next repeated for the second half of the RFCP-C: conformity orientation. Reliability of eleven items (Q21-31) yielded a Cronbach’s alpha of .869 with only one item (Q26) raising the alpha if deleted. I then assessed the validity of items on the child’s survey, by allowing SPSS to load the dimensions using Eigenvalues greater than one. This resulted in four factors totaling 81.102% of variance with a clear elbow delineated on the scree plot. Forcing the
dimensions reduced to one, I thus began the process of culling items using the Varimax Rotation with Kaiser Normalization in order to get a better understanding of the items that needed to be removed. Item 26 was removed promptly, reducing the factors loading to only three, accounting for 74.404% of the variance. Recomputing the Varimax Rotation method revealed that items 22, 24, 27, and 30 were duds unrelated in my participants’ minds to the construct of conformity orientation. However, taking a conservative approach yet again, only item 27 was removed. Removing item 27 brought the variance up to 79.147% over three factors. I then forced the items back down to one factor to get a better look and noted that with two items removed, 50.804% of the variance was explained.

Not being high enough to be conservative, I considered other items still needing to be removed, still using the criterion of any item loading at less than .60 on the component matrix to be unacceptable. Item 21 was removed, resulting in an increase to 54.425% variance. Analyzing the items again revealed item 22 and 23 at less than .60 so they were subsequently removed from consideration in the data. The remaining six items boosted the variance to 63.391%. Reliability was reanalyzed with the six items resulting in a Cronbach’s alpha of .882. Removing no items would increase the Cronbach’s alpha, so the analysis of the subscale was complete and a new variable was created entitled Cntrl_Conv, which was then added to the child dataset table.

This completed the reliability and validity testing of the RFCP-C. Next, the POPS was analyzed in the same systematic way.
The POPS (Grolnick et al., 1991) is a scale designed for children only and concerns the degree to which parents provide what SDT considers an optimal parenting context (Grolnick et al., 1997). POPS (Grolnick et al., 1991) breaks out subsets of questions concerning autonomy-supportive behaviors (six items per parent) and involvement behaviors (four items per parent) for both mothers and fathers. POPS assesses children’s perceptions of the degree to which their parents are autonomy supportive and the degree to which their parents are involved. Factor analysis of POPS has revealed a clear four-factor solution with factors labeled mother involvement, mother autonomy-support, father involvement, and father autonomy-support.

The POPS contains twenty-two questions in total, eleven each for mother and father. Response choices in the original survey were lengthy and somewhat confusing, so the newly-created survey used only four items verbatim. The remaining eighteen items were rewritten to offer 4-point Likert responses with either a never (1) to always (4) range, or a strongly disagree (1) to strongly agree (4), depending on the wording of the question. To illustrate this, item 36 in the child’s survey was rewritten from the original:

a. Some mothers always ask their children what they did in school that day
b. Some mothers usually ask their children what they did in school that day
c. Some mothers usually don't ask their children what they did in school that day
d. Some mothers never ask their children what they did in school that day
Mothers ask their children what they did in school that day:

<table>
<thead>
<tr>
<th>Never</th>
<th>Sometimes</th>
<th>Usually</th>
<th>Always</th>
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with the intention of making the questions easier for participants to understand, especially for those under the age of eighteen.

Items 32-51 on the Qualtrics survey were separated into questions of mother (Q 32, 34, 36, 38, 40, 42, 44, 46, 48, and 50) and father (Q 33, 35, 37, 39, 41, 43, 45, 47, and 49). Further, as previously noted, the items were measuring two separate dimensions, involvement (Q32, 33 36, 37, 42, 43; 48, and 49) and autonomy-support (Q34, 35, 38-41, 44-47, and 50, 51). Initially, reliability and factor analyses were computed using only the two dimensions of involvement and autonomy; however, after later analysis, further reductions of the scale into mother and father became necessary, to be discussed in more detail below.

Involvement. The process for the involvement dimension began like the others: by testing the reliability of the subscale. Cronbach’s alpha for the eight items (Q32, 33, 36, 37, 42, 43, 48, and 49) was .720. Conducting a factor analysis allowing SPSS to compute based on Eigenvalues greater than one created three components explaining 77.404% of the variance with a scree plot less than desirable. A rotated Varimax with Kaiser Normalization converged in four iterations and revealed problems with items 36, 42, and 48. However, taking the conservative approach by systematically removing single items, I forced the dimensions down to one component, but since doing so only explained 36.522% of the variance, item 36 (.231) was consequently removed.
Fewer items increased the variance to 41.278%, but more work needed to be done in order to bring up the validity of the scale to an acceptable number. Items 48 (.400) and 49 (.404) were removed next, resulting in an improved variance of 52.392. Item 42 (.464) did not meet the .60 criteria set on all the other validity tests run so far, so it was removed, increasing the cumulative variance to 62.402%. Doing a final check on the items revealed that item 32 (.480) was still low on the component matrix, so it was removed, increasing variance to 78.124%. All items remaining (Q33, 37, 43) loaded at .84 or higher on the component matrix. Recalculating reliability on the three remaining items resulted in a .859 Cronbach’s alpha and a new variable Invlv_Child was created. Interestingly, the only items remaining in the subscale were in regards to fathers only; no mother items remained. The procedure to solve this potential problem will be discussed further below.

**Autonomy.** The same process was followed for the autonomy dimension of the POPS. Initial reliability for twelve items (Q34, 35, 38, 39, 40, 41, 44, 45, 46, 47, 50, and 51) was .379 Cronbach’s alpha. Only item 45 would make a difference in the Cronbach’s alpha if it was deleted, so it was removed and reliability recalculated to .526 with 11 items. Still low, reliability was recalculated and dropping items 44 and 47 would improve Cronbach’s alpha to .768 with nine items (Q34, 35, 38, 29, 40, 41, 46, 50, and 51). Factor analysis followed. SPSS calculated three dimensions accounting for 77.854% of the variance and the scree plot was fair.

Rotating using Varimax with Kaiser Normalization converged in five iterations. Forcing down to one dimension accounted for 45.632% of the variance and also identified items that were problematic, such as Q46 (-.406), which was removed,
increasing the variance to 49.732%. Item 50 (.600), though it met the conservative criteria set at .60 used with the other scales, was removed to increase the validity of the scale in the athletic context, thereby increasing the percent of variance to 52.798.

Extracting the items onto a component matrix identified items 39 (.565) and 51 (.516) as lower than the criteria, however, the systematic approach I had employed on the other scales dictated removing one item at a time, with item 51, once removed, increasing the variance to 58.241%. Reloading the items onto the component matrix still highlighted Q39 (.484) as marked for removal, which, after doing so, increased the variance to 66.376%.

Reliability for the remaining five items (Q34, 35, 38 41, and 41) was Cronbach’s alpha of .837 with no items increasing the alpha if removed. A new variable of Atnmy_Child was created and added to the child dataset.

All the items for the family communication scales were found to be valid and reliable with several newly-created variables ready to analyze. I then moved onto the final construct in the child dataset.

Self-Efficacy Scale

Self-efficacy was measured using SES (Schwarzer & Jerusalem; 1995) which consisted of ten items. This scale measures how much power and control one perceives they have over events in life. The higher the self-efficacy, the more likely a person believes they can control the events in their lives. Lower ratings of self-efficacy contribute to believing that tasks are more difficult than they are, seeing obstacles rather than opportunity, and quitting behavior. Child survey questions 52 through 61 were
taken verbatim from the SES using a 4-point Likert scale with options *strongly disagree* (1) to *strongly agree* (4).

Reliability testing within SPSS for the ten items revealed a Cronbach’s alpha of .784 with three items (Q54, 56, and 57) increasing the alpha to as high as .799 if removed. However, knowing that many items would be removed after analyzing the factors, I moved onto the dimension reduction right away. Allowing SPSS to conduct a factor analysis using Eigenvalues greater than one yielded four factors explaining 84.676% of the variance. The scree plot, however, did not have the preferred bent elbow but looked instead like someone with their arm at their side; not the preferred visual when conducting factor analysis. I rotated the component matrix using a Varimax Rotation with Kaiser Normalization but found 40% of the items seemingly measuring opposite constructs. Forcing all the factors onto one dimension resulted in extracted sums loading at only 37.114 of the variance, an unacceptable number.

I began to reduce items in order to bring the validity to an acceptable range. Using the criteria from the other analyses, I began to systematically remove items not loading to at least .60 on the principal component analysis. First Q57 (.166) came out, resulting in an improved 41.029% variance, still not acceptable. Next, Q53, 54, and 55 were removed since they loaded at .418 and below. This increased the extracted sums loading at 55.695%. Question 60, loading at .570 was removed, increasing the cumulative variance explained to 62.042%, an acceptable mark. Removing these items increased the efficiency of the subscale and, on the five remaining items (Q52, 56, 58, 59, and 61), the reliability of Cronbach’s alpha was .833, with no remaining items increasing the alpha if deleted. Therefore, with the subscale found to be reliable and valid, a new
variable was created, entitled IntLOC_Child, later renamed SES_child for clarity, and added to the dataset.

**Missing Value Analyses**

Once all the items in the scales used in the child quantitative survey were efficiently pared down and found to have high reliability and validity, the next step I took was preparing a Missing Values Analysis in SPSS for each subscale. First, the variables for Sptv_Conv (Q7, 9, 15, 16, 18, and 20) were moved into the Quantitative Variables table. EM estimation with normal distribution with up to 25 maximum iterations was saved into a new dataset named Dissertation_child_wMissing and a multivariate analysis explicated the mean and standard deviation for each of the six items. The missing values were computed based on the summary of estimated means of all six items using Little’s MCAR test ($X^2 = 2.557, df = 5; p = .768$), revealing item nine was missing one value.

Covariance and correlations were analyzed on the six items producing a new syntax for the subscale Sptv_Conv. The missing values output produced new values in a table for items 6-20 for participants, which was copied and pasted into the original child dataset.

The same procedure was followed for each of the new variables created from the scales in the survey (Cntrl_Conv; IntLOC_Child; Invlv_Child; and Autonomy_Child). All missing values were calculated and cut and pasted into the original child dataset. This later caused problems since the decimal placement was set to two rather than zero, so I went back in and manually entered the missing values as whole numbers and ran descriptive statistics once again to be certain that only whole numbers were registering for all 18 participants. In all, three of the eighteen participants (17%) had missing values totaling 10 items over 58 questions (.957%).

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A Special Problem: Mother and Father Dimensions

As mentioned previously, the child dataset items regarding mother and father within the POPS questions about involvement resulted in no reliable and valid items remaining for mother. This meant that I would not have any way to understand quantitatively the perceptions that participants had of their mother. Discovering why meant teasing out the mother/father dimensions within the subset involvement. As a precaution and to be as consistent as possible, I also included the subset autonomy. Creating new subsets required running reliability and validity statistics for all the mother questions and all the father questions. First, all mother involvement items (Q32, 36, 42, and 48) were included in the scale dimension for analysis. Cronbach’s alpha was .694 for four items. Factor analysis followed with two dimensions explaining 80.80% of the variance with a weak scree plot. Loading the two components onto the component matrix highlighted Q36 (.467) as problematic, becoming even more clear when rotated using the Varimax with Kaiser Normalization method (.098). Forcing all four items onto one factor extracted the sums of squared loadings to 55.807% of the variance. Item 36 was removed and the three remaining items (Q32, 42, 48) loaded onto one factor at 70.083% of variance.

Reliability was recalculated at Cronbach’s alpha of .785 with no items raising the alpha if eliminated. The mother involvement subscale was created in the child dataset and named Mom_Invlv and I now had items in the child dataset that measured involvement with mom.

The same procedure was followed for the father items on the involvement portion of the scale. Items 33, 37, 43, and 49 were tested for reliability and the four items had a
Cronbach’s alpha of .823. Factor analysis automatically loaded onto one component explaining 66.291% of the variance, however, the scree plot was weak. Extracting the components identified Q49 (.646) as a fairly low item, so it was removed to parse the subscale and increase validity to 78.124%. The three remaining items (Q33, 37, and 43) loaded at values exceeding .86 and reliability was .859. Removing item 37 would have increased the alpha to .864, but the difference was negligible and including it meant equal items for both the mother and father involvement subscales. A new variable was created named Dad_Invlv and added to the child dataset.

Knowing that involvement from mothers and fathers was perceived by participants in a significantly different way, I conservatively decided to create a new subset for the mother/father dimensions of autonomy. Mother items for autonomy included Q34, 38, 40, 44, 46, and 50. First, I tested the items for reliability and was surprised by the Cronbach’s alpha of -.045, which violated reliability model assumptions. I checked the item coding and found no errors in coding so dug deeper by removing items one at a time and rerunning reliability. Stepping through each variable by removing one and retesting, then adding back in a variable before removing the next, resulted in many combinations of negative reliability.

The first positive Cronbach’s alpha of .460 included items 34, 38, 40, 46, and 50. Item 44 seemed to be a problem for my participants. Next removing item 46 brought Cronbach’s alpha to .705, and then removing Q50 raised the alpha to .753. I retested reliability of the three items (Q34, 38, and 40) and they loaded onto one factor using Eigenvalues greater than one at a cumulative 75.277% of variance and all items
extracting at .80 or greater on the component matrix. A new variable entitled 
Mom_Atnmy was created and saved to the child dataset.

Similar issues arose with creating the subset for fathers’ autonomy items (Q35, 
39, 41, 45, 47, and 51). Reliability was a -.398 Cronbach’s alpha, but eliminating Q45 
would bring the alpha positive to .393 and removing Q47 raised the alpha to .791 with 
four items. No remaining items would increase the alpha if they were deleted. Validity 
testing was then conducted allowing the Eigenvalues to load at values over one, with a 
result of 64.227% of the variance explained by one component. The scree plot was 
unremarkable, and all four items (35, 39, 41, and 51) loaded at greater than .81 on the 
component matrix. The new variable Dad_Atnmy was created and added to the child 
dataset. This final variable completed the investigation and preparation of the child 
dataset so that analysis could begin using the child dataset on the research questions 
posed in this dissertation.

Next, I will turn to the procedure followed to create the Qualtrics survey for the 
parents in the study.

Parent Constructs

*General Information*

The parent survey \((n = 23)\) consisted of 54 questions measuring self-efficacy, 
family communication patterns, and locus of control. Self-efficacy was measured using 
all ten questions from SES (Schwarzer & Jerusalem, 1995) on Qualtrics items six through 
fifteen. Qualtrics items 16 through 40 concerned family communication patterns, using 
the Revised Family Communication Patterns Instrument-Parent’s Version (RFCP-P; 
Ritchie & Fitzpatrick, 1990) just as in the child’s survey. Conversational orientation was
tested on items 16-30 while conformity orientation was surveyed using questions 31 through 40. In order to maintain consistency, a four-point Likert scale was used, as in the child data with strongly disagree to strongly agree choices. Questions 41-51 included part of Rotter’s Locus of Control scale (1966), modified from its originally-written fourteen items, to be further discussed below.

Data from twenty-three parent participants ($n = 23$) were downloaded from Qualtrics into IBM’s SPSS Statistics 23 software, formatted as an SPSS.sav file with raw data, variable, and value labels, and named Dissertation_Adult. Responses from one participant were blank following Q5, so that data were removed, bringing the total number of participants to twenty-two ($n = 22$). Following the standard set by the child data, similar procedures were adhered to, such as reverse coding where necessary and examining the dataset for any obvious incorrect values. Once satisfied that the dataset was clean, missing value analyses, reliability, and validity testing began over the three scales used in the parent survey. Also consistent with the child dataset, I used .60 as a conservative minimum criterion for acceptance of an item for reliability and validity testing.

*Missing Value Analysis*

The process of validating the parent dataset began with a missing values analysis. Results indicated that Q12 was missing a value, so a summary of estimated means and standard deviations was run, along with estimated means and correlations. The missing value was calculated, saved to an output file, then copied and added into the parent database. Once satisfied that the data were ready for testing, I began, very much like with the child dataset, to systematically test each subset within the newly-created scale.
**Self-Efficacy**

SES measures how much power and control one perceives they have over events in life. The higher the self-efficacy, the more likely a person believes they can control the events in their lives. Lower ratings of self-efficacy contribute to believing that tasks are more difficult than they are, seeing obstacles rather than opportunity, and quitting behavior. Response options were changed from the original instrument (*not at all true* to *exactly true*) in order to maintain consistency with other scale responses used on the survey, measured on a four-point Likert scale with responses ranging from *strongly disagree* to *strongly agree*.

Testing on items 6-15 began first. The items were loaded into SPSS to test reliability, resulting in Cronbach’s alpha of .642. Items seven (.682), eight (.671), and 15 (.650) would raise the alpha if deleted but since this was early in the testing stage, all items were kept. Factor analysis was next. Including all ten items resulted in a warning label that “at least one of the variable has zero variance” and SPSS would not compute reliability. A factor analysis of smaller sets ensued, with items six, seven, eight, nine, and ten being tested together first, calculating Eigenvalues greater than one, and rotating on a Varimax. These items returned a variance of 33.861% loading on one factor with a weak scree plot. The extracted components identified item 6 (.109), item 7 (-.480), and item 8 (.386) as problematic.

Another factor analysis was administered, including items 11 and 12, computing 26.601% of the variance in one factor. Conservatively adding one more item, number 13, still showed results, with 30.513% of the variance explained using these items. These items showed an unusual scree plot and the component matrix with the items included.
redeemed item six (.587) but continued to identify item seven (.058) and item eight (.219) as problems. Item 14 was added back into the factor analysis and all items extracted values, indicating that item 15 was the item with perfect correlations.

With item 14 included and 15 excluded, 34.827% of the variance was explained, loading on one factor. Forcing the component matrix to one factor continued to highlight problems with items 7, 8, and now 10 (.396) and 12 (.390). Item 15 was included back into the factor analysis to triple-check the earlier calculations, but the warning label was given again. A correlation was conducted confirming the initial analysis: item 15 could not be computed as a correlation because all of the respondents answered in the same way.

Reliability was run once again, resulting in a Cronbach’s alpha of .641 with all ten items. Factor analysis, excluding item 15, was conducted allowing SPSS to load on Eigenvalues greater than one. Four factors loaded, accounting for 80.163% of the variance, with a short, sharp scree plot. A rotated Varimax confirmed the problem items (seven and ten especially) with the rotation converging in seven iterations. Forcing the items back onto one factor (34.781% of variance) identified items seven (.081), eight (.325), ten (.392) and 12 (.393) for removal. This left items six, nine, 11, 13, and 14 which together, explained 55.666% of the variance over one factor, with a greatly lengthened scree plot elbow. The component matrix noted items six (.560) and seven (.555) below the .60 criteria for inclusion, so those items were removed. The remaining three items (11, 13, and 14) accounted for 76.497% of variance and showed a more classic scree plot. All items loaded at .78 or higher on the component matrix.
Reliability was retested, including back in the perfectly correlated item 15 for a total of four items. Reliability had a Cronbach’s alpha of .720. Reliability was tested again, eliminating item 15 and the Cronbach’s alpha increased to .810. If item 11 was deleted, the alpha would increase to .889, but since the increase was small, I decided to keep all three items (11, 13, and 14) to have more data for analysis. The new variable SES_Adult was created and added to the parent dataset.

Now that this scale was found to be valid and reliable, testing on the RFCP-P began.

*Revised Family Communication Patterns Scale-Parent*

**Conversational Orientation.** As in the child dataset, I conceptualized conversational orientation to be autonomy-supportive communication and conformity orientation to be non-autonomy supportive or autonomy-controlling communication.

First, data from the *conversational* orientation dimension of the RFCP-P (items 16-30) were analyzed for reliability. A missing values analysis was run and one item was missing. A summary of estimated means and standard deviations were calculated to determine the estimated value of the missing item. The item was entered into the data for a complete dataset. Reliability for the 15 items was Cronbach’s alpha .826. Deleting item 27 would raise the alpha to .833 but, for now, it was left in for validity testing. Factor analysis ensued, allowing SPSS to calculate using an Eigenvalue greater than one, up to 25 iterations. Five factors were extracted accounting for 74.519% of the variance with a sharp, but fairly short scree plot. Rotating the variables using Varimax with Kaiser Normalization identified many items that didn’t load heavily on one factor.
Forcing all 15 items to load on one factor extracted a variance of 32.109%, with only eight items loading near or above the .60 criterion. Being conservative, items 20 (.374) and 27 (.229) were removed, bringing the variance up to 35.821%. Item 17 (.430), 22 (.429), 24 (.441) were removed next, increasing the variance to 41.627% with ten items. Systematically eliminating each item below .60 meant 19 (.522) and 29 (.520) were out next, leaving eight items explaining 46.365% of variance. Items 21 (.584) and 23 (.545) were next, raising the total variance explained to 53.649% with the scree plot lengthening to a sharp elbow. The remaining six items (Q16, 18, 25, 26, 28, and 30) were retested for reliability, measuring .814 Cronbach’s alpha with no items increasing the alpha if removed. Sptv_Conv_Adult was added to the parent dataset.

Conformity Orientation. Conformity orientation items from the RFCP-P were tested next. Items 31-40 were moved into the reliability analysis program of SPSS and renamed Cntrl_Conv_Adult. There were only 21 valid cases (n = 22) so a missing values analysis was conducted. A summary of estimated means and standard deviations was run to determine the means, covariances, and correlations of the missing item and then saved into an output folder and added back into the original dataset.

Reliability analysis followed. Cronbach’s alpha was .735 with all ten items with three items increasing the alpha if they were deleted, 32 (.743), 34 (.795), and 40 (.736). Taking a conservative, systematic approach, I only removed item 34, thereby increasing Cronbach’s alpha to .795. Question 40, if removed, would raise the Cronbach’s alpha to .799, so it was taken out.

To confirm this decision, a factor analysis was conducted, using the dimension reduction feature in SPSS, allowing Eigenvalues greater than one to compute variance.
and factors. Three factors loaded with a variance of 71.124% with a good-looking elbow on the scree plot. Rotating the variables using a Varimax with Kaiser Normalization identified item 35 (.072), 39 (.263), 40 (.007) and 34 (.195) as potentially problematic. In order to visualize more easily, I recalculated the Eigenvalue at one, accounting now for 36.378% of the variance over one factor. The principal component matrix highlighted items 32 (.042), and 34 (.365) as problems, so by removing them, 44.181% of the variance was accounted for over eight items. Rerunning the factor analysis, item 40 (.446) was removed to increase variance to 48.482%.

Systematically rerunning the analysis meant removing item 35, since at .566, it fell below the required .60 criteria. Variance increased to 52.615%, but running another analysis with the reduced items then focused attention on item 39 (.580). It was eliminated, increasing explained variance to 58.03 1% with all five remaining items (Q31, 33, 36, 37, and 38) loading at .66 or greater on the component matrix. Retesting reliability resulted in a .812 Cronbach’s alpha, with no items increasing the alpha if deleted. A new variable, Cntrl_Conv_Adult, was created and added to the parent dataset.

*Locus of Control*

Locus of control was measured using parts of Rotter’s (1966) original scale, which consisted of 29 items. Only 14 items were included, items 41-54 on the parent survey. Locus of control is the extent to which people believe they have power over events in their lives, a construct very similar to self-efficacy. A person with an internal locus of control believes that he or she can influence events and their outcomes, while someone with an external locus of control notes outside forces such as environment as responsible for outcomes. The continuum ranges from internal to external with different
degrees of strength (high versus low). The scale has an internal consistency score of 0.71. Rotter’s test-retest reliability is .82 (Beretvas, Suizzo, Durham, & Yarnell, 2008).

Rotter’s (1966) original scale had twenty-nine items. Questions were removed that pertained to leadership (3 items), politics (5 items), education (5 items), employment (1 item), and genetics (1 item) as they were irrelevant to the athletic context in which I was conducting the study. As an example, I elected not to use questions about leadership (e.g., Without the right breaks one cannot become an effective leader/Capable people who fail to become leaders have not taken advantage of their opportunities), citizenship (e.g., As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control/By taking an active part in political and social affairs the people can control world events), politics (e.g., Most of the time I can’t understand why politicians behave the way they do/In the long run the people are responsible for bad government on a national as well as on a local level), or school (e.g., There is too much emphasis on athletics in high school/Team sports are an excellent way to build character), choosing instead to include only questions that focused on children (e.g., Children get into trouble because their parents punish them too much/The trouble with most children nowadays is that their parents are too easy with them) and beliefs about personal efficacy (e.g., What happens to me in my own doing/Sometimes I feel that I don’t have enough control over the direction my life is taking).

To complete the testing of the parent dataset, items 41-54, the LOC items, were analyzed for missing data. Several items had missing values (Q 42-2; 43-1; 47-2; 51-1; 52-1; 53-1; and 54-1), so a summary of estimated means and standard deviations was run to determine the means, covariances, and correlations of the missing items. The items
were saved into an output folder and added into the original dataset. Reliability testing on the fourteen items resulted in a .360 Cronbach’s alpha. Though low, I moved onto validity testing, allowing all values to load on Eigenvalues greater than one.

I received a warning message “at least one of the variables has zero variance,” which meant I needed to know which item(s) had perfect correlations again. This time, I went straight to correlations rather than running through each item as I had done previously, and item 49 had perfect correlation with participants. Removing this item (Q49) from the dimension table allowed factors to load onto six factors explaining 79.182% of the variance. The scree plot was dismal, so I began the systematic process of paring down the items to increase validity.

Forcing the items down to one component only explained 20.027% of the variance but clarified problem areas, including items 44 (-.240), 45 (-.408), 47 (-.062), 50 (.191), 52 (-.067), and 53 (-.428). They were removed, leaving seven items accounting for 33.089% of variance. The component matrix criterion of .60 mean further elimination of items 43 (.392), 48 (.490), and 54 (.458), resulting in an increase to 46.315% of variance and a much-improved scree plot elbow. Four item remained, but item 51 (.532) didn’t make the cut, so on its removal, 56.657% of variance was explained and all items loaded at .70 or greater on the component matrix.

The three items were retested for reliability, and Cronbach’s alpha was .596, with no items increasing the alpha if deleted. Item 51 was moved back into the calculation column since it was perfectly correlated, reliability analysis was reconducted, increasing the alpha negligibly to .597. It was taken out once again in order to keep the LOC scale
as efficient as possible. A new variable was created, LOC_Adult, and added to the parent dataset.

**Correlation between Adult SES and LOC**

One of the initial goals of this research was to test the relationship between the constructs of self-efficacy and locus of control, since they are used interchangeably in many cases. High perceptions of self-efficacy should have correlated to high locus of control in the adult participants. For these particular participants, there was no correlation between the self-efficacy and locus of control items. Because the locus of control data was problematic for these participants and, since it was only used with the parents in the study, all data resulting from use of the LOC were eliminated from further analysis. Only SES data, therefore, was used for all participants.

**Table 1**

*Correlation between Self-Efficacy and Locus of Control*

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</table>

**Analysis**

Data analysis completes the research project so meaningful results can be shared with a broader community. I used the following processes for this project.
Qualitative Data

Creswell (2007) notes that the general process followed by qualitative research is to prepare and organize the data for analysis, then reduce the data into themes through a process of coding and condensing the codes, and finally representing the data in figures, tables, or a discussion. Using good qualitative methods such as taking consistent field notes, rich with description both of the scene and my own analytic reflections, helped make sense of the large volume of data. Tracy (2013) describes analytic reflection as “commentary about my insecurities, fears, or uncertainties; the way others are relating to the presence of research; initial theories or gut reactions about the scene; and interpretations related to research interests” (p. 121), essential for the reflective process necessary in qualitative research.

Reflective analysis of the qualitative data was based on Tracy’s (2013) “iterative” approach (p. 184) which developed out of grounded theory (Glaser & Strauss, 1967; Strauss & Corbin, 1998). An iterative approach, rather than grounding the meaning solely in the emergent data, also “encourages reflection upon the active interest, current literature, granted priorities, and various theories the researcher brings to the data” (Tracy, 2013, p. 184). Iteration, then, is a reflexive process in which the researcher visits and revisits the data, connecting them to emerging insights and progressively refines the focus and understanding, allowing the researcher to be scientific and creative at the same time, and allowing deep familiarization with recurrent themes.

Iteration in the data assessment in this particular study consisted of reading the transcripts and coding as I read. Many words and phrases aligned with the concepts being studied, namely autonomy, competence, and relatedness, so I coded for these. The
software program I used allows the researcher to create new codes as she works, code to already existing codes or to code in-vivo, which is assigning a code to a section of data using a short phrase. What that meant for this project is that, after coding the interview on one level, I would then return to the research questions being asked in the study. I would then consider the data from that perspective, resulting, often, in more coding based on the question being asked. For instance, RQ1 asked what first influenced participants to try their respective sport. So, after an initial coding for SDT concepts, I returned to the data and coded again for introduction and influence. This iterative process resulted in each participant’s interview data being coded completely, resulting in a range of 25-42 nodes per participant. The number of items coded per participant ranged from 94 items to 1268 items.

The role of iteration, not as a repetitive mechanical task but as a deeply reflexive process, is key to sparking insight and developing meaning. Reflexive iteration, according to Srivastava and Hopwood (2009), “is at the heart of visiting and revisiting the data and connecting them with emerging insights, progressively leading to refined focus and understandings” (p. 77). Creswell (2007) refers to this cycle as the “data analysis spiral,” suggesting that the back and forth between emic and etic approaches most resembles an analytic circle rather than linear process (p. 150). The interpretation stage is based on “hunches, insights, and intuition” (p. 154) guided by a “social science construct or idea” which nicely articulates the flexibility and creativity of the qualitative process.

In order to assist with the iterative approach while also systematically coding and recoding the volumes of qualitative data resulting from 38 interviews, the program
NVIVO Pro was used. NVIVO Pro is a qualitative data analysis computer software program developed by QSR International to assist with very rich text-based projects where deep levels of analysis on large volumes of data are required (NVIVO Pro, 2015). I first imported the transcribed interviews to NVIVO, then organized the information by creating in-vivo and thematic nodes, keeping track of additional thoughts and relevant analytic notes within the program. The program also allowed text and frequencies queries which allowed me to see connections I may have otherwise missed, illustrated using Word Tree and other visuals tools.

For this project, fourteen research questions were analyzed qualitatively to test the flow of the proposed model. Here is an overview of the questions that were asked and the guiding principles that directed the results.

RQ1: What first influenced participants to try their respective sport? This question was answered by asking who introduced participants and how they were introduced to the sport. The question was analyzed by individual sport and by gender and organized around the themes of competence, autonomy, and relatedness.

RQ2: Was the initial motivation to participate in the sport internal or external? Answering this question centered on the explanations that tennis players, golfers, and runners told about how they began to play initially.

RQ3: What strategies (words or actions) were used to communicate the importance of participating in the sport? Communicating the importance of participation varied depending on who introduced the sport to the participant. Reporting results based on individual sport, family members who already played the participant’s sport
communicated norms and expectations about the importance of participation. Family members also modeled the belief that participating was important.

RQ4: To what extent did participants perceive that communication within the family supported autonomy? This question was designed to test the communication constructs within the proposed model. Participants’ answers reflected their feelings about the communication in the family either supporting or controlling autonomy and influencing the choices they had in participating in their sport. This qualitative question was also answered quantitatively with H1 and H2, below.

RQ5: To what extent did participants perceive that communication reflected parental involvement? Parents in the study were all involved without question. Examining what involvement looked like to participants and the reasons why their parents were involved made a difference in perceptions of valance surrounding involvement.

RQ6: How is the communication of parental involvement associated with autonomy? The more a participant felt liberated or encouraged, the greater sense of autonomy they felt in the choice to participate in their sport. Conversely, the more controlled and neglected participants felt, the less autonomous they felt in their decision to participate in their sport. This question was also asked quantitatively in H3, below.

RQ7: How is the communication of parental involvement associated with the process of internalization? Continuing to test the flow of the proposed model, this question analyzed the internalization process relating parental involvement to supportive communication contexts. The greater the involvement and the more support a participant felt, the more likely they were to internalize parental sports values.
RQ8: Did child participants internalize the external parental sports values? This question looked at whether participants were still playing their individual sport.

RQ9: To what degree did participants internalize parental values and behaviors to participate in the sport? Evidence of the degree of internalization in this question was based on how many obstacles and barriers a participant had overcome in order to continue playing tennis or golf, or running. Several obstacles including growing families, jobs, and health were overcome for participants to stay active in their sport.

RQ10: How does autonomy supportive or non-supportive communication function in the internalization process? Communicating support in the form of validation and providing a rationale facilitated internalization.

RQ11: Did communication influence the perception of choice about participating in the sport? A continuum of low-controlling to high-controlling environments were influenced by the communication of choice from parents. Choice was examined, as proposed in the model, to understand what it meant for participants in terms of satisfaction.

RQ12: What is the relationship between satisfaction and continued integration of values? Participants shared stories about feelings of fulfillment, well-being, and joy that came from participating in their chosen sport.

RQ13: Did participants introduce others to their sport? In answer to this question, several participants told stories of how they had influenced others to begin participating.

RQ14: How did participants communicate athletic values to the community? Identity was explored in this question as participants described ways they communicated their affinity for sports to a greater community.
More details of the results of the research questions can be found in chapter four.

Quantitative Data

Three hypotheses were analyzed for this project. Hypotheses one and two followed RQ4, and are as follows:

H1: Higher perception of the presence of a supportive communication climate is associated with higher perceptions of autonomy.

H2: Higher perception of the presence of a non-autonomy supportive communication climate is associated with lower perceptions of autonomy.

These assumptions were tested for both parent and child participants using Pearson product-moment correlations in order to understand the relationship between the variables. First checking that parent participants differentiated a relationship between the constructs of autonomy support versus non-autonomy support, a bivariate Pearson correlation was conducted on the variables Sptv_Conv_Adult and Cntl_Conv_Adult. Once variance between the constructs was confirmed, then product-moment correlations were run on the parent variables of Sptv_Conv_Adult and SES to test H1. Next, bivariate Pearson correlations were run using the parent variables Cntl_Conv_Adult and SES to test H2.

It is important to note that many of the relationships in the data did not show statistical significance. For correlation results, statistical significance is only important in terms of generalizability. The correlation is the relationship for this particular set of participants. Generalizing beyond this population is not necessarily possible nor desirable. This case study is designed to understand this particular group of participants’
beliefs about their families’ athletic values and results are not intended to be generalized, necessarily, to a larger population.

After the parent variables were correlated with SES, tests were run on the child data. First, differentiation between perceptions of supportive versus controlling communication was established by correlating Sptv_Conv to Cntrl_Conv using a bivariate Pearson correlation. Variability, as expected, was noted. Then, for H1, a Pearson product-moment correlation was conducted using the RCFP-C variables of Sptv_Conv and SES_Child. Finally, bivariate Pearson correlations of the POPS variable of Atnmy_Child and SES_Child were analyzed for H1.

Deciding to break down H1 further, the POPS variables of Mom_Atnmy, Dad_Atnmy, and SES were correlated using a product-moment Pearson bivariate correlation. Then, the POPS variables of MyMom and MyDad were correlated to SES to understand H1 more finely.

To test H2 for the children, the variables Cntl_Conv and SES were correlated using a bivariate Pearson product-moment correlation.

The third hypothesis followed RQ6. H3, designed for children only, was intended to understand children’s perceptions of how involved their parents were and whether involvement related to autonomy. The hypothesis was divided into general mother/father and specific to my mother/father variables.

H3a: Higher perception of general mother involvement is associated with higher perceptions of autonomy. This hypothesis was tested using the variables of Mom_Invlv and SES and conducting a one-tailed Pearson product-moment correlation. It was also
conducted using a specific item, Q32, which asked a general question about mother involvement. The same procedure applied to fathers.

H3b: Higher perception of general father involvement is associated with higher perceptions of autonomy. This hypothesis was tested using the variables of Dad_Invlv and SES and by conducting a one-tailed Pearson product-moment correlation. Similar to the mother dimension, an enhancement of variables used Q33 to ask a general question about father involvement and then correlated this item to the variable SES.

In case there were perceptual differences between the general idea of involvement and involvement from a specific parent, the subsequent refinements of the hypothesis followed.

H3c: Higher perception of my mother’s involvement is associated with higher perceptions of autonomy. This question was answered using item 48 and a Pearson correlation to SES.

H3d: Higher perception of my father’s involvement is associated with higher perceptions of autonomy. This question was answered using item 49 and a Pearson correlation to SES.

More detailed results will be covered in chapter four.
CHAPTER IV – RESULTS

This project explored communication within the current model of SDT using families who play tennis, golf, and who run together as a test case. Fourteen qualitative research questions and three quantitative hypotheses were proposed. A new model has been suggested. A report on the results generated from the research questions and hypotheses will be structured following previous chapters.

The general organization of this chapter will be to 1) repeat the research question and any background necessary to situate the reader; 2) report results either quantitatively or qualitatively by sharing exemplars from the data where applicable; and 3) tie the results back to the communication model being proposed.

Qualitative Data General

Eighteen families participated in the study ($N = 40$). Thirteen were tennis families ($n = 29$), two were golfing families ($n = 4$), and three were running families ($n = 7$). Thirty-eight qualitative interviews were conducted. The interviews were audio-recorded and transcribed verbatim. Data from the interviews were stored and coded within the software program NVIVO Pro. Each interview was coded by creating nodes within NVIVO Pro that emerged as I became familiar with the data. Initially, 73 different nodes were used, but as I reflectively considered the data using an iterative approach, the nodes became progressively refined and focused. Ten general categories developed: access, barriers, choice/autonomy, communication, community/relatedness, competence, family, values, health, and stories with the 73 initial nodes collapsing into these ten general areas (see Appendix D for a complete table). For instance, items from some of the initial 73 nodes—introduction, place/home, money, time, vacation, and club—
were collapsed to create a more robust *access* category. Collapsing the nodes under a general classification made the data more manageable but kept the data accessible to analyze.

Each participant’s interview was coded completely, resulting in a range of 25-42 nodes per participant (see Figure 9 for an example). The number of items coded per participant ranged from 94 items to 1268 items based on the richness of the information and the length of the interview. Items consisted of single words, phrases, and full paragraphs, depending on the idea explored and how the participant expressed him/herself. In any examples used in the following text, all references will be repeated verbatim to accurately reflect the participant’s perspective.

*Figure 9. Visual representation of node structure for a participant.*
The process I followed included listening to the recording of each interview while reading the transcript to check for accuracy. I then reread each transcript, reliving the interview and adding any contextual information such as background noise and nonverbal signifiers that were not included. On the third reading of a transcript, I began coding each passage for relevant SDT themes such as autonomy, competence, and relatedness. This iterative process was repeated until I felt I had coded each interview as completely as possible. Finally, I reread the selected codes and refined them further, now coding to each particular research question. This process was repeated for each of the 38 interviews. Each coding category included one to 38 sources accounting for one to 1,676 references per category.

**Quantitative Data General**

The quantitative survey data consisted of response sets from 38 questionnaires imported from Qualtrics. The data were broken into a child dataset and a parent dataset. As noted in chapter three, data were downloaded into SPSS Statistics 23 so analysis could be conducted. Descriptive statistical analyses, factor analyses, and Pearson product-moment correlation analyses ensued. The details will be provided within results for each hypothesis presented.

What follows is a report of the results from each research question and hypothesis, following the order reported in chapter two. Each question and hypothesis was designed to test the flow of communication within a proposed updated model of SDT. This case study was also undertaken in order to better understand the communication within families who played sports together across generations.
Research Question One

*RQ1*: *What first influenced participants to try their respective sport?*

The first question concerned what influenced participants to try their respective sport. This question was designed to explore the questions of *who* influenced the start and *how* participants were influenced. Influence in general communicates importance of particular values or beliefs, often imparted by a parent. The literature reviewed for this project looked at contexts such as decision-making, stress management, dieting, and consumer behavior where parents and their communication behaviors were influential in convincing children to take on particular values and/or behavior.

In the current study, since I was looking at family pairings, I followed several assumptions from SDT; one, that most participants had been introduced to their particular sport by an outside influence, namely, a parent (the *who* of the introduction), and two, that *how* certain needs were met would influence how much participants took on the values of the outside influence. For instance, I was expecting that the psychological needs of competence, autonomy, and relatedness would be met with communicative instances of encouragement, sharing expectations, norming, language regarding family identity, and nonverbal dimensions that may have acted to influence participants to take on a particular sport.

I began each interview by asking a participant to tell their story of how they came to be identified with that particular sport. *Who* introduced the participant to their sport was a significant starting point in most interviews. For instance, in the 38 interviews, 87 references were coded to the node *introduction*. Only five participants (13%) did not begin the narrative of their sport story without first telling who introduced them. The
majority of participants prioritized the person who influenced them as noteworthy to their introduction to the sport.

The stories revealed a larger variance in who influenced the participants than I expected. The first assumption that participants were influenced by their parents was not entirely supported. Seventy-four percent of all participants recalled being introduced to their sport by a parent, with 12 of 38 participants (32%) recollecting that mom had introduced them while 16 of 38 participants (42%) credited dad with introducing them to their sport. Though the majority of participants were introduced by parents, other participants were introduced by a future spouse (n = 4; 11%), friends, (n = 5; 13%), proximity to a conducive location such as a local tennis court (n = 4; 11%), and grandparents, reported by one participant (3%). (Values exceed 100% since those who identified either mom or dad as their influence were counted in the parent category as well).

Tennis. Breaking down the results by individual sport differentiated the influence of who introduced participants to the sport. Sixty-three percent of tennis players credited mom (n = 8; 28%), dad (n = 6; 21%), or both parents (n = 4; 14%) for introducing them to the game. The remaining tennis players were introduced by their spouse (n = 3; 10%), friends (n = 3; 10%), or by the nearness to a court (n = 2; 7%). The tennis group is the only group in which a parent participant was introduced to the sport by a child. In describing this anomaly, the participant explained: “My daughter had been after me for years to play [tennis]. She kept after me and after me until I finally just gave in. Just to get her to hush.”
Golf. The golfers had variety in the results of who introduced them. None were introduced by mom. One golfer (25%) was introduced by dad, one (25%) was introduced by a grandfather, one by a friend (25%) and one (25%) was introduced by proximity to the game when caddying during college.

Runners. In the running group, none of the participants were introduced to the sport by mom, while five of the seven were introduced by dad or stepdad (71%). One participant was introduced by a running spouse (14%) and the final participant (14%) in this group took up running because of being forced to choose an off-season sport to complement soccer. Running cross country was the only option besides football to which the participant said, “no way I’m playing football.”

Gender. Curious to see if differences existed by gender, I tallied results for all sports. Fifty percent of females ($n = 9$) were introduced to their respective sport by their parents including four introduced by mom (22%), four by dad (22%), and one by both parents (5%). The remaining females were introduced to their sport by their future spouse ($n = 4; 22%$), a friend ($n = 4; 22%$), or by a child ($n = 1; 5%$).

Seventy-one percent of males ($n = 15$) were introduced to their sport by parents, including four by mom (19%), eight by dad (38%), and three by both parents (14%). The remaining introductory influences for males included proximity to a place conducive to participation ($n = 3; 14%$), a friend ($n = 1; 5%$), a grandparent ($n = 1; 5%$), or school forcing a choice ($n = 1; 5%$). Interestingly, no males were introduced by a spouse, and many fewer males than females were introduced to their sport by a friend (5% compared to 22%).
How they were influenced to try their sport was a more nuanced area to analyze. However, by organizing the data around the SDT themes of competence (653 coded references), autonomy (76 notations), and relatedness (275 references coded) from assumption two, the following how of the introduction became clearer.

**Competence.** Many tennis players narrated their introduction to the game from the perspective of wanting to improve, or to become competent in the sport. One explained, for example, that “we went to a bank convention and it had this tennis mixer thing, you know, and one of my friends who was there played in it and I said ‘oh, I want to go home and start playing tennis, too’.” For this participant, she wanted to learn to play tennis so she could be like her competent friend.

Another tennis player took up the game by watching her mom, who, she reported, was “not athletic at all.” Her mom sparked the participant’s interest to be a better player than her mother had been. Yet another tennis player who said she had “played a bit in high school,” but “not on a team or anything back then” started playing by watching her husband when he was playing for the local university tennis team. She said that “for several years during that time and after we were married, I watched. Then he decided he would teach me a little bit.” For this player, being competent enough to play with her husband influenced her to begin playing.

One golfer described his introduction from a competence perspective in this way: “I picked up a golf club when I was about two or three. I got serious into golf when my brother was playing it because he had been playing it for a while because of my grandpa.” This participant was inspired to be as good as his brother, who was ahead of him on the learning curve. A runner described his introduction by explaining “I wanted
to make select team for soccer and wanted to be more fit for spring tryouts. So I asked my dad if I could start running to be more fit.” Here, being competent in a different sport, soccer, influenced how he came to be a runner.

**Autonomy.** Some participants recounted their introduction to their sport from the perspective that they needed to be autonomous or to “experience themselves as initiators of their own behavior” (Deci & Ryan, 1987, p. 1025). In other words, these participants expressed their introduction to their sport as one in which they had choice in the decision. A runner, for example, explained that his step-father introduced him, but when asked whether they ran together, the participant chuckled and said, “Er, no, I wouldn’t say…well, we would leave at the same time, but he wouldn’t actually run with me necessarily.” Autonomy, in this case, was expressed as independence from the one who had introduced him to running. In a sense, autonomy extended beyond the initiation into participation for this interviewee.

Autonomy in running, more than golf or tennis, may be explained by the often solitary nature of the sport. However, two tennis players also viewed their introduction to the sport from an autonomy viewpoint. One stated that he started playing tennis by “just the tennis camps. I’d go in the summer.” And the other simply stated, “I went to a tennis camp. I went to a tennis camp.” Neither of these participants noted friends or family in the explanation of how they were influenced to begin playing, but, instead, described their introduction from the standpoint of being the initiators of their own behavior.

**Relatedness.** Many tennis players spoke of their introduction from the theme of relatedness, with one explaining that
Both my mother and father basically grew up in Memphis and when they moved down, they, most of their friends for a long time were from Memphis before they made local ones. Anyways, [mom] would have, about once every month, have three or four ladies come down [from Memphis] and play doubles and, uh, they started me off real young as a ball boy for them.

Another tennis player said that “some good friends and I decided we’d start just picking up a racket and playing tennis just for the exercise and because you can do it so much quicker than other sports.” Another explained that “when I met [his future spouse], we played in our neighborhood.” Their introduction to tennis was, for all these players, explained from a relational basis.

For golfers, too, many participants reported that relationships made a difference in beginning to play. One golfer, introduced by friends, said that “through some acquaintances that, you know, went to go play golf and invited me to go one day,” this participant then “went on vacation with another couple that we were very close with, and they played a little golf, so I went with them on that endeavor.” Another golfer noted that his wife learned to play golf in college and that influenced him. Yet still another said “all my buddies played golf so I got golf clubs.” For golfers, relationships made the difference in how the golfer was introduced to their sport.

The running group approached their introduction less from a relatedness theme than the other two groups. Only one runner, introduced to the sport by a future spouse, expressed that beginning the sport was due to a relationship: “Because he was a runner, and I want to, you know, I wanted to run with him occasionally.” The smaller percentage of runners responding from a relatedness theme may be simply mathematical since the
running group had the smallest number of participants, but there could be culturally
gendered factors as well, since this group had only one female participant.

Research question one asked what first influenced participants to try their
respective sport. Participants answered this question by telling stories of who initiated
them and how they began. How each participant was introduced to their respective sport
was considered from three different themes: competence, autonomy, and relatedness.

Though different expressions of psychological need, what each theme has in
common is communication. Most participants were influenced to play by family, but
also by friends and work associates. Without communication, parents, friends, and future
spouses could not have expressed their desire for the participant to begin. Whether it was
a friend inviting, a parent’s (or child’s) expectation that a participant begins the sport, or
the desire to spend more time near someone who already participated, communication
functioned to express the psychological needs of competence, autonomy, and relatedness
and influence motivation to begin a new sport.

Research Question Two

**RQ2: Was the initial motivation to participate in the sport internal or external?**

The second research question endeavored to discern motivation from a qualitative
perspective. Internal motivation, as explained in earlier chapters, is the drive to perform
an activity for the inherent satisfaction of the activity itself. Internal motivation
communicates to outsiders that the actor is self-determined. External motivation, on the
other hand, is performing an action to comply with an external constraint, such as
parental approval, or meeting expectations.
Motivation at its simplest is challenging to pick apart; it becomes even more complex once a child has grown and is asked to reflect back upon a time in the distant past. Most of the participants in this study had been participating in their sport for years, sometimes decades. Tennis players in the study had played from five years to more than 50 years, golfers had participated for eight to 63 years, and the runners had the fewest years of participation with a range of one to more than 40 years. I asked participants to look back to the beginning of their experience learning their sport. Remembering was a challenge for even the youngest participants who had only been participating a few years.

I did not ask a direct question of the participants about internal or external motivation, mainly because I did not want to assume that the participants had an understanding of the language of SDT. Since it was also a possibility that participants would vary in their awareness of personal motives, I combined the qualitative questions with quantitative data. I tested adult participants’ perceptions of locus of control (Rotter, 1966) and all participants’ self-efficacy (Schwarzer & Jerusalem, 1995). I used the data to correlate to communication climate, to be discussed later, but not for this question about their initial motivation to participate in their sport. Instead, I looked to the stories and descriptions of the participants’ introduction to the sport, anticipating communication clues, such as references to choice/autonomy (coded 1,133 times over the 38 interviews), as to whether the motivation to begin was internal or external. Results are based on individual sports.

*Tennis.* Twenty-seven tennis players (eleven males and sixteen females) told their story of how they began playing. Twenty-five (93%) noted that external influences like family, future spouses, or friends encouraged them to begin playing. The other two
tennis players noted proximity to the tennis facility as their main reason for beginning to play. One child participant lived just doors from a local tennis club and explained that he would go to tennis camp in the summer. I probed deeper about his motivation to begin playing by asking “So, did you just see a sign and say ‘hey mom and dad, I want to go play tennis?’” He qualified his reasons for beginning to play by answering, “Well, we were members of the [local club] and my parents said that it was a good sport.” In this case, the participant originally credited himself (internal motivation) for beginning to play, but had the external influences of proximity to the club coupled with his parents’ approval of the sport not been operative, then one might question whether this participant would have played after all.

The second tennis participant who mentioned closeness to the courts as the reasons for beginning to play seemed, at first glance, to be more classically internally motivated. His explanation was that

They were building some city courts a block from my house…rubico. That’s um some clay type of stuff. And I got a tennis racket for Christmas and I dragged it down to the courts and went to the summer program and started playing and I came...I won. I won the eight and unders, even though even though I was only six. I won the eight and unders and and got me a little trophy and was hooked.

This participant exhibited initial internal motivation to play more than the other participants. However, the initial motivation was reinforced by external factors. For instance, an unmentioned somebody gave the gift of a tennis racket which made his participation possible. Further, external motivation is characterized by “performing an
action for a separable outcome” (Ryan & Deci, 2000, p. 71) which, in this case, could have been acquisition of that “little trophy.”

This player demonstrated the complexity of motivation by highlighting the blend of internal drive and external reinforcement that most, if not all, of the participants exhibited in their motivation to begin their sport. My intention is not to minimize the inherent drive that many participants exhibited. In motivational terms, factors inside the person are always involved in intentional behavior, but vary in degree of relative autonomy (Deci & Ryan, 1987). Indeed, children are often exposed to actions that they do not pick up. For all these participants, who did begin playing a sport that had been introduced by an external motivator, to some degree, there is both external and internal motivation at play.

_Golf._ Four golfers (three males and one female) shared their stories of how they began playing and all credited external sources (dad, friend, grandfather, and work) for being the reason they started. The golfer, mentioned earlier, whose brother had been playing with grandpa already, said, “I began playing right where I could pick up a golf club, about two or three [years old] I guess,” pointing directly to the access to equipment, instruction, and encouragement that he had from others already playing.

_Runners._ All runners (six males and one female) explained their initial motivation to begin running as being externally driven. Six of the seven (86%) credited males, mostly father figures, as their motivators. The seventh runner did not take up running as a family value but instead took up the sport because his school required athletes to have a sport each semester. Since the preferred sport of soccer was only one semester, he chose running over football. Choosing to participate due to school
requirements would fall within SDT’s explanation of acting “to comply with an external constraint” such as “goal acquisition” (Deci & Ryan, 1985, p. 49) even though the reason to begin was not directly influenced by a person. For this participant, being able to compete in soccer made running worth doing, even if, initially, the participant did not want to.

Motivation communicates our reasons for acting. In this study, motivation to participate across all three sports groups came mainly from external influences in the form of family and friends. Motivation, however, also contained an internal element of autonomy where participants desired to learn something new or to be part of a family system. External motivators communicated the desire for participants to begin a sport, using techniques such as invitations, control of choices, access to resources, and showing by example. Participants responded by communicating a willingness to learn and by enacting family identity. Communication behaviors such as these are the topic of the third research question.

Research Question Three

*RQ3: What strategies (words or actions) were used to communicate the importance of participating in the sport?*

Family and friends invited participants to try the sport and requested that they give it a chance. Once participants began trying the sport, external motivators offered encouragement and instruction so that participants became more competent. These words and actions communicated the importance that external motivators placed on participation in the sport. It was evident that external influencers, both parents and
others, were communicating the importance of participating, with 248 separately coded references to communication.

The most influential communication strategy across all sports, however, was modeling of the desired behavior. Modeling, especially by family members, can be very persuasive. Observed behaviors are, often unconsciously, incorporated into the belief patterns and behaviors of individuals (Cruess et al., 2008) and, therefore, persuasive and communicatively influential. Family norms, such as routinely watching family members play a sport, for instance, establish expectations about what is accepted behavior, and for children, this can be a powerful strategy in communicating family values. Because of the persuasive communicative influence of modeling, it has been included in the proposed updated SDT model.

Tennis. Tennis players understood the importance of playing tennis by the persuasion inherent in their parents’ or other family members’ participating. In 22 of 27 cases (81%), family members already played and introduced participants to the game. This population, in general, implied that tennis was a family norm.

Golf. Fifty percent (n = 2) of participants were introduced to golf by family members. A golfer, introduced to the game by her father, said

He used to golf a whole lot. We lived in Arkansas. Like I said, it was the only thing to do. That’s what we did. The whole family would go out. My mom doesn’t golf but she might as well. She’s like a coach.

In this explanation of the family, persuasion was at work in the norming expectation of “that’s what we did,” which functioned to argue the importance of the sport. Further,
mom acting “like a coach” implied instruction and critique, both behaviors that communicated the value that this sport was important to learn.

**Runners.** Most runners (86%) were also introduced to the sport by a family member. One runner who was introduced by his father said that “my dad was a runner. He didn’t do races and that kind of thing. He’d just run around the block a little bit, I guess. I guess I felt, ‘hey, I can do this.’ (laughs).” The dad communicated the importance of participating by making it a priority in his own life, even though the participant focused on the fact that his dad was not a competitive runner. His dad showed the participant that running was accessible and that running was important enough in his dad’s life to make it a priority.

Another runner, introduced initially by a spouse but explaining the difficulty in sticking with the sport, recognized the encouragement from friends in staying with it, noting “it was a friend who talked me into it.” Having a friend persuade this participant came up several times during the interview, including “it makes a huge difference to have a friend there,” and “there was a lot of talking” during the “ten, twelve, fourteen, sixteen, eighteen, twenty, twenty-two [miles of running].” This participant even aligned with a group that trained together for a marathon and “had a banquet the night before [the race] where people shared stories.” For this participant, influence modeled by a spouse was strengthened by others who prioritized the importance of running.

Motivation, as illustrated in an updated model of SDT, is influenced by communication. Communicating the importance of continuing their sport was accomplished through verbal messages of encouragement and by modeling family norms and expectations, traditions which children and spouses accepted. Whether parents or
other externals persuaded participants to begin a sport, to continue in a sport, or to prioritize the sport as important, communication was the tool creating the context in which influence and motivation were at work.

Research Question Four

**RQ4: To what extent did participants perceive that communication within the family supported autonomy?**

Family communication is constructed as either supportive of autonomy or not. Autonomy, defined earlier, is a feeling of volition, or choice, about how to act. Research question four asked whether participants considered communication to be supportive and encouraging of their choice to participate in their chosen sport. Communication that does not support autonomy could be considered controlling and results in limiting choice.

Thirty-seven participants (97%) were coded 1,133 different times making reference to the theme of choice/autonomy. Subcategories for this question (and others) used the keywords *forced*, which generated 174 references from 32 sources, and *no choice*, which generated 39 references from 18 sources.

One father exemplified communication that was not supportive of autonomy and limited the choices available to his son. His son, he thought, had potential as a tennis player. Dad said that he “kind of wanted to push that” since he “always had visions of my kids playing tennis.” The family located themselves near a tennis club, because, as he stated, “I’ve always grown up next to a tennis court” and his “aunt and uncle, where we grew up, had a tennis court so I had one in my own yard.”

The father, later in the interview, communicated his belief that, if his son is “bored, he’ll go work on his serves, he’ll go hit on the backboard, you know that…to me
that’s better than sitting on the couch.” He didn’t want his kids “to sit around the house all day, complaining about, mom, I’m bored.” The father pushed tennis as an alternative to what he considered an unacceptable behavior, controlling his son’s autonomy and limiting choice.

The child of this participant, when asked about the family communication regarding tennis, noted that “I can see my dad’s competitiveness in tennis when I’m around. You know. It’s really important to him….” When asked further about how he could tell tennis was important to his dad, he asked if we could skip the question. This child, who also gave no answer when asked directly about whether he had a choice to play, admitted that in “this past two years I stopped playing football and baseball” and wasn’t quite sure why except that “I really try to stay focused on tennis now.” Communication within this tennis family supported autonomy only to the extent that the father’s values were upheld. This communication could be considered controlling.

On the other side of the autonomy-support spectrum, one runner’s family encouraged his decision to run. The participant described his brother and dad, who ran together, as “welcoming” when he told them he “just felt I wanted to go too.” His dad would get up early to run with the participant before school, communicating support for the boy’s choice to prepare for local races. A golfer, too, described communication that encouraged autonomy from his grandfather, who introduced him to the sport. The participant now plays golf for his college, and still talks to his grandpa “three or four times a week to update him on how it’s going and all that.”

This golfer’s more immediate family communicated support for autonomy as well. He described his upbringing as an all-around athlete, but that “when I was ten, I
kind of thought, ‘you know, I, if it’s something I want to do in college, and for the rest of my life, it’d be golf.’” He gave up his other sports and “started playing golf seriously.”

His parents supported his decision to play golf and embraced the resulting travel: “I mean, we travel almost every week over the summers for golf,” and “my mom and my dad would switch off taking me to tournaments. Whoever was free that week.” This participant’s parents and grandfather communicated encouragement for his decision to prioritize golf by providing the necessary resources for his success.

Encouragement alone was not the only way communication supported autonomy. Communication within several families went beyond encouragement supportive of autonomy and liberated participants to decide for themselves how much to participate in their sport. Many parents, for instance, gave up the coaching and training of their child to qualified coaches, who could then help the participant make their own decisions about participating. Sixteen participants (42%) made 57 references to coach or coaching within their interviews. Coaching or camps helped the participants develop their competence without parental influence, communicating a parent’s support of autonomy as liberation for their child.

One last example of how communication influenced perceptions of autonomy was from a tennis child’s perspective. She described an environment where “literally, if I wanted to have my parents present for something I was doing, I realized I needed to be playing tennis.” I asked her what she meant and she told the story of being dropped off for gymnastics when she was much younger and then waiting for her mother to pick her up. “I’d be sitting on the steps, you know. I mean she has lots to do, no doubt. But I was just like, oh, I guess she’ll be here soon.” The participant rationalized that “if I was going
to the tennis club, you know, getting a lesson while she was there playing tennis with her friends, I didn’t have that feeling of, um, is my Mom going to come pick me up.” This participant did not feel as if her mother communicated support for autonomy, but rather, communicated neglect.

In answer to this research question from a qualitative stance, some participants felt controlled with little choice, neglected even, if they didn’t participate. This was most apparent in the tennis families. Other participants felt encouraged by their parents and others in the decision to participate. Yet others were left to decide for themselves whether they would continue to participate in their sport. There were several different types of communication that influenced perceptions of autonomy for these participants, illustrated earlier in the grid in Figure 5 and again, ahead, in Figure 13.

In order to better understand how communication influenced autonomy from a quantitative stance, the following two hypotheses were posed:

Hypotheses One and Two

\textit{H1: Higher perception of the presence of a supportive communication climate is associated with higher perceptions of autonomy.}

\textit{H2: Higher perception of the presence of a non-autonomy supportive communication climate is associated with lower perceptions of autonomy.}

Communication more supportive of autonomy was hypothesized to influence autonomy positively, and communication less supportive of autonomy was hypothesized to decrease perceptions of autonomy. These hypotheses were tested by running correlations between self-efficacy and the variables of communication climate using both
the RFCP and POPS items. Results from both hypotheses for parents then for children follow.

**Parents.** To confirm that adult participants differentiated the association between the variables of autonomy-supportive and autonomy-controlling in the communication climate, a Pearson product-moment correlation \( n = 22; r = -.360; r^2 = .130 \) was conducted. As is clear from the graph in Figure 10, parent participants did differentiate communication that was autonomy-supportive versus –controlling. Differentiation was a required first step to begin the analyses.

![Graph showing correlation between supportive and controlling conversation.](image)

**Figure 10.** Correlation between supportive and controlling conversation.

The first hypothesis was analyzed by conducting a one-tailed bivariate Pearson correlation between autonomy-supportive communication and self-efficacy for parents. H1 was supported \( (r = .463; r^2 = .214) \). Parents \( (n = 22) \) who perceived the communication climate as supportive had higher perceptions of self-efficacy or autonomy as illustrated in the following graph in Figure 11:
Figure 11. Relationship between supportive communication and self-efficacy.

H2 asked participants if perception of a non-autonomy supportive communication environment was associated with lower perceptions of autonomy. A Pearson product-moment correlation was conducted. There was a very weak relationship between controlling conversation and self-efficacy for adults. The graph in Figure 12 clarifies this relationship. H2 for adults was weakly supported \((n = 22; r = -.041; r^2 = .002)\).

Figure 12. Results from controlling conversation and self-efficacy.
**Children.** Following the same process for the children participants as was followed for the adults, first I administered a quick check to determine that child participants differentiated between the variables of autonomy-supportive versus controlling communication climates. Children had been surveyed using both the RFCP and POPS, so there were two sets of autonomy-supportive and autonomy-controlling variables to test.

First, correlations between the RFCP variables of supportive communication and controlling communication were run and displayed the anticipated results (\( n = 18; r = -0.778; r^2 = .605 \)).

Child participants differentiated between supportive conversations and controlling conversations in the RCFP-C (Figure 13).

![Figure 13. Correlation between RFCP-C variables.](image)

Analysis of the POPS scale was more complicated. The POPS scale was broken into several variables of autonomy support and involvement. Items for mother and father made it possible to break out the analysis by role. I began by running correlations...
between the RFCP variable of supportive communication and all the POPS autonomy items (autonomy generally, autonomy mom, and autonomy dad). The rationale was, if the variables were all measuring the same constructs, then there should be similarities in responses. I found unexpected relationships between the RFCP variable of Sptv_Conv and the POPS variables of autonomy (see Table 2).

However, all the POPS items correlated as expected with autonomy for a child correlating with mom items \( (r = .925; r^2 = .856) \) and dad items \( (r = .723; r^2 = .523) \). I, therefore, elected to test the hypotheses by conducting separate correlation tests for RFCP and POPS in order to mitigate potential problems with the variables.

Table 2

*Correlation is significant at the 0.05 level (1-tailed).

**Correlation is significant at the 0.01 level (1-tailed).
Since child participants differentiated between the variables of supportive and controlling conversation, analysis could begin on the hypotheses. First testing H1’s supposition that higher perceptions of supportive communication is associated with higher perceptions of self-efficacy, I conducted a one-tailed Pearson correlation with the variables Sptv_Conv and SES. H1 was not supported using RFCP-C ($n = 18; r = -.235; r^2 = .055$). Child participants reported a negative relationship between autonomy-supportive communication and self-efficacy when using the RFCP-C (Table 3), counter to SDT literature.

Table 3  

| Correlation between Supportive Communication and Self-Efficacy RFCP-C |
|-----------------|-----------------|
| Supportive Conversation | Sptv_Conv | SES |
| Pearson Correlation | 1 | -.235 |
| Sig. (1-tailed) | .174 |
| N | 18 | 18 |
| Self-Efficacy | Pearson Correlation | -.235 | 1 |
| Sig. (1-tailed) | .174 |
| N | 18 | 18 |

SES is the self-efficacy variable from SES.

When running the same analysis using the POPS scale, however, the results were quite different (Table 4). A bivariate Pearson correlation between the variables Atnmy_Child and SES showed a moderate positive relationship ($n=18; r = .297; R^2 = .089$). H1 was supported using the POPS scale. Children participants, in other words, reported a positive relationship between autonomy-supportive communication and self-efficacy on the POPS items.
As previously mentioned, many of the relationships in the data are not showing statistical significance. For correlation results, statistical significance is only important in terms of generalizability. The correlation is the relationship for this particular set of participants. Generalizing beyond this population is not a goal of this research.

In order to investigate further, I decided to break out the POPS data even further to include the roles of mom and dad. A bivariate one-tailed Pearson correlation between autonomy support for both moms and dads along with self-efficacy was conducted (Table 5). Results indicated a moderate positive relationship for both mom \( r = .249, r^2 = .062 \) and dad \( r = .371; r^2 = .138 \). Thus, H1 was supported for the POPS when breaking out mom’s versus dad’s autonomy-supportive communication. Participants reported a positive relationship between mom’s and dad’s autonomy-supportive communication and self-efficacy.
Table 5

**POPS Correlation between Mom versus Dad Supportive Communication**

<table>
<thead>
<tr>
<th></th>
<th>Mom_Atnmy</th>
<th>Dad_Atnmy</th>
<th>SES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mom Autonomy</strong></td>
<td>Pearson Correlation</td>
<td>1</td>
<td>.489*</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.020</td>
<td>.020</td>
<td>.160</td>
</tr>
<tr>
<td>N</td>
<td>18</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td><strong>Dad Autonomy</strong></td>
<td>Pearson Correlation</td>
<td>.489*</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.020</td>
<td>.020</td>
<td>.065</td>
</tr>
<tr>
<td></td>
<td>Pearson Correlation</td>
<td>.249</td>
<td>.371</td>
</tr>
<tr>
<td><strong>Self-Efficacy</strong></td>
<td>Sig. (1-tailed)</td>
<td>.160</td>
<td>.065</td>
</tr>
<tr>
<td>N</td>
<td>18</td>
<td>18</td>
<td>18</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.05 level (1-tailed).

Delving further into the differences between mothers and fathers, I tested items for general mom autonomy support and also specific to my mom autonomy support. I did the same for dads. Results indicated that H1 was supported when perceptions of a supportive communication climate were generally about parents (General Mom: \( r = 0.389; r^2 = 0.151 \); General Dad: \( r = 0.308; r^2 = 0.095 \)), listed in Table 6.

Table 6

**POPS Correlation General Mom/Dad and Self-Efficacy POPS**

<table>
<thead>
<tr>
<th></th>
<th>Q34.</th>
<th>Q35.</th>
<th>SES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Q34 General Question about Mom.</strong></td>
<td>Pearson Correlation</td>
<td>1</td>
<td>.604**</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.004</td>
<td>.055</td>
<td></td>
</tr>
<tr>
<td><strong>Q35 General Question about Dad.</strong></td>
<td>Pearson Correlation</td>
<td>.604**</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.004</td>
<td>.107</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>18</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td><strong>Self-Efficacy</strong></td>
<td>Pearson Correlation</td>
<td>.389</td>
<td>.308</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.055</td>
<td>.107</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>18</td>
<td>18</td>
<td>18</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (1-tailed).**
H1 was not supported when participants thought specifically about my mom or my dad (My Mom: \( r = -0.149; r^2 = 0.022 \); My Dad: \( r = -0.207; r^2 = 0.043 \)), as illustrated in Table 7.

Table 7

*Correlation between My Mom/Dad and Self-Efficacy POPS*

<table>
<thead>
<tr>
<th></th>
<th>Q46.</th>
<th>Q47.</th>
<th>SES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q46 My mother thinks it is OK if I make a mistake.</td>
<td>Pearson Correlation</td>
<td>1</td>
<td>.690**</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td>.001</td>
<td>.277</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Q47 My father thinks it is OK if I make a mistake.</td>
<td>Pearson Correlation</td>
<td>.690**</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td>.001</td>
<td>.205</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>Pearson Correlation</td>
<td>-.149</td>
<td>-.207</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td>.277</td>
<td>.205</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>18</td>
<td>18</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (1-tailed).

To recap, H1 was not supported using the RFCP-C and not supported when using the POPS to ask about perceptions of my parents’ supportive communication and self-efficacy. H1 was supported when using the POPS to ask general questions about the presence of a supportive communication climate and general questions about parents.

Continuing on to test H2 which supposed that higher perceptions of a non-autonomy supportive communication climate, or controlling climate, would be associated with lower perception of autonomy, I conducted a Pearson product-moment correlation between the RFCP-C construct of controlling conversation and self-efficacy and found that H2 was not supported (\( r = 0.309; r^2 = 0.095 \)). In fact, participants reported a positive relationship between controlling communication and self-efficacy. To better visualize this unexpected relationship, a graph was created (Figure 14): There is a slight, weak
positive relationship between controlling communication and self-efficacy for these participants.

**Figure 14.** Correlation between controlling conversation and self-efficacy.

Discussion of this unexpected finding will be continued later in this chapter and in chapter five.

**Research Question Five**

*RQ5: To what extent did participants perceive that communication reflected parental involvement?*

Involvement is defined as conveying a sense of caring such as willingness to devote resources or time to others, particularly to children. Being available to others, knowledgeable about their lives, and concerned about what is going on with them (Ryan, & Deci, 1991). Involvement, as illustrated in Figure 15, might be better understood when conceptualized as a continuum from *low* to *high*. The more that people see themselves as
valued, as noted previously in chapter two, where they perceive themselves as liked, appreciated and respected, the more that involvement is perceived as supporting autonomy. Conversely, those who feel unimportant or abused react negatively (Adler et al., 2015) and will feel neglected or controlled.

Figure 15. Involvement.

For the participants in the current study, that their parents were involved in their sporting lives was unquestioned. Fifty-two direct references to involvement were noted by 19 participants in the data, and most of the 126 story references were about things families had done together. All of the child participants across all three sports noted their families’ presence at events, interest in their progression in the sport, and the abundance of available resources such as money for lessons and travel to races and tournaments. The observation of why the parents were involved mattered to the participants and influenced the valence of the communication reflecting involvement from their parents.
For the eldest participant representing a three-generational sports family, involvement included his parents having a tennis court in the yard, a tradition which he then carried on for his own children. His children, grandchildren, and even, now, his great-grandchildren, come to visit regularly and enjoy playing as a family. The middle participant in this three-generational family pointed to the annual six-week vacation to Michigan in the summer with the extended family, a tradition still carried on today. She spoke of having “lessons two or three times a week starting at [age] eight” which her son, the youngest from this group of participants, confirmed. Fond memories of the vacations up north, with lessons beginning at a young age, now continue for his own children to enjoy. The participants in this family constructed a positive valence of the communication that encouraged family traditions of building relationships and competence five-generations deep.

For the golfers in the study, the communication of involvement also held a positive valence. Family involvement often meant golfing together, or being there for important events. A grandfather participant told the story of how

When those kids were small [the two grandsons, one of whom is a participant in the current study], probably around three, we bought the big, plastic golf clubs. We live on a golf course and my next door neighbor just played on the senior tour. They seemed to like it, so, for [the two boys], I cut down one club. I had my neighbor cut down a seven iron for their height. And I, I would take them out on the course.
He followed this story with the advice to “spend time with your grandkids. Get to know them. Get to be a part of their lives because if you birthed their parents, and, you know, you love them, you know.” Involvement for this family, too, had a positive valence.

Runners described parental involvement positively as well, with the two children runners who still live at home explaining that their running routine included their parents. One participant, who “normally runs three to four miles with dad,” explained that he “sometimes runs alone, but mostly with my folks.” When asked if he had a preference of which parent, he admitted “usually dad, but not because I prefer my dad, but he is just faster [than mom].” The other young runner (aged ten) would get up early to run “like once or twice every weekend” with his dad, and they also entered races together “like maybe once a month or twice, or like once every two months or something we’ll do a 5k. Not a lot,” he says, “but I enjoy it.” Involvement communicated encouragement and carried a positive valence.

However, a positive assessment of involvement was not true for all participants. For instance, in another three-generational group of participants, the youngest member of the group told how, after tournaments, “[the parents] they’re constantly teaching me new thing, new techniques and stuff” and followed up with “oh well, my dad, he points out what I did wrong. And then we go work on it.” When asked how his dad’s involvement made him feel, the participant was quick to point out, “Well, I mean, he points out [the mistakes] in a way that doesn’t make me feel bad. It’s in a way that motivates me to do better.”

The middle participant from this family, the dad being referred to above, recalled stories of his own mother’s involvement in his tennis upbringing. “You know my mom
got me playing junior tournaments. She got me going with lessons with this pro and that pro.” When he starting working at a job with his dad in the summers, cutting into his tennis life, his mom “talked [dad] into letting me try to get another job, somewhere else so I can actually have a life for summer. That’s when I started, I worked with the city teaching kids for the city, teaching tennis lessons.”

The mother, the eldest participant from this three-generational group, recalled deciding with her sister, “Look, we need to get them some tennis lessons.” She was willing to “drive them over to [a local town]” after school to “get the tennis all, instruction and so forth” and recalled “carting them back and forth, and back and forth.” She said she was “always pushing you know, to get them to do something” because “just don’t come home and look at me and bug me, you know what I’m saying, get out and do something.” These parents were certainly involved, across generations, but for the youngest participant (and, perhaps, his father), the communication of involvement might be perceived as control.

Lack of involvement from a child’s perspective was not always perceived with a negative valence, as might be expected. For one runner, a child now grown who runs track recreationally for his college, his recollection was that for his dad, who is “more of a relaxed person,” it “didn’t matter if I did sports or not. He didn’t play football or anything in high school really.” His dad worked at the local recreational club so “first grade through about 14 years old, I was there every day after school and then every day during the summer” doing “every sport I could, because my dad was the director, so I just did them all.” He recognized his dad’s lack of involvement, but he perceived it as communicating liberty, so that, “in the eighth grade, cross country was something I was
good at.” His dad had not necessarily encouraged him, nor controlled his choices, but allowed the participant to decide for himself what he pursued. The outcome was that the child experienced a climate supportive of autonomy through his father’s communication of trust in his son’s judgment.

A final perspective on involvement came from the view of a now-adult child tennis player. Conceptualizing hers as a “tennis family,” she recalled the story of going to her first camp–tennis camp–as a young girl. A friend “hated it and kept calling home and wanting, you know, her mom to come pick her up.” The friend got the participant to say she, too, wanted to go home, “which I did, because they were running you a lot,” but “the big joke was why was I not calling my mom? And my mom would say ‘you know because she knows I won’t come get her.’ And that’s true. Not if it was tennis.” She explained that her mom’s attitude was “you know you’re not going to get any sympathy from me.” The friend’s mother drove up to camp to check on them, but “I mean, I knew my mom wouldn’t drive up. You know, I mean she’s not going to do that.” This low involvement from mom, rather than liberating for the participant, was perceived with a negative valence that communicated neglect.

Research Question Six

*RQ6: How is the communication of parental involvement associated with autonomy?*

Involvement, according to SDT, leads to autonomy when children feel both supported and encouraged, or, on the other end of the involvement spectrum, liberated to pursue their own choices. If children feel controlled or neglected, their sense of autonomy can be impaired.
To adequately answer this research question which is accompanied by a hypothesis, it is helpful to begin first with the quantitative results. I will then return to the qualitative data to make better sense of the hypotheses.

First, a general overview of the self-efficacy of the child participants is included in Table 8.

Table 8

*Descriptive Statistics of Child Self-Efficacy*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Efficacy Child</td>
<td>18</td>
<td>14</td>
<td>20</td>
<td>16.34</td>
<td>1.844</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Range of 5-20 (5 questions with values from 1-4)

These participants are mid- to high-range self-efficacy

The self-efficacy of child participants as a group is in the mid- to high-range (\(M = 16.34; \ SD = 1.84\)). This means that these participants felt they had a fairly high level of control and choice in their lives. Higher levels of self-efficacy may be partly explained by the fact that 78% of the child participants (\(n = 18\)) were actually adults chronologically, with only four child participants who took the quantitative survey under age 18 (22%; \(M = 12\)). There is evidence that children exhibit greater signs of self-efficacy as they gain mastery and maturity (Bandura, 1977), so the higher levels of self-efficacy may be partly due to age. Higher levels of self-efficacy were also noted on the SES for adults, but not as consistently using the LOC (Table 9). The adult descriptive statistics are intended merely as a means of comparison, and will not be used for the correlation tests of child self-efficacy and perceptions of parental involvement.
Table 9

*Descriptive Statistics of Locus of Control and Self-Efficacy for Adults*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locus of Control Adult</td>
<td>22</td>
<td>3</td>
<td>12</td>
<td>8.71</td>
<td>2.914</td>
</tr>
<tr>
<td>Self-Efficacy Adult</td>
<td>22</td>
<td>8</td>
<td>12</td>
<td>9.27</td>
<td>.985</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LOC range 3-12 based on 3 items with values from 1-4. P’s are low to high

SES range 3-12 based on 3 items with values from 1-4. Ps are mid- to high range of SES.

Involvement had already been a difficult construct in this study because of the previously noted problems with the mother/father dimensions in chapter three. The first variable created, Invlv_Child, had no valid or reliable items for mother. Involvement was reduced to mother (Mom_Invlv) and father dimensions (Dad_Invlv) with three items each.

In order to understand the construct of involvement better and to distinguish to the finest degree possible the differences between gender roles, correlations for these hypotheses were run in several layers of detail. First, involvement by gender role (Mom_Invlv and Dad_Invlv) was tested. Second, correlations were tested with involvement and a *general* mother and father involvement variable. Third, tests were refined further to correlate specifically to *my* mother or *my* father using single items from the POPS scale.
Hypothesis Three

**H3a: Higher perception of general mother involvement is associated with higher perceptions of autonomy.**

First testing perceptions of mother’s involvement and self-efficacy (Table 10), results indicated that, for these participants, self-efficacy is negatively related to mom’s involvement ($r = -0.385; r^2 = .148$). When mom was more involved, perceptions of self-efficacy were reduced, counter to predictions in SDT literature.

Table 10

**Correlation between General Mother Involvement and Self-Efficacy**

<table>
<thead>
<tr>
<th></th>
<th>Mom_Invlv</th>
<th>SES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mom_Invlv</td>
<td>1</td>
<td>-.385</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.057</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>-.385</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.057</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>18</td>
<td>18</td>
</tr>
</tbody>
</table>

Mom_Invlv = variable of mother involvement from POPS

A visual representation of the relationship between mother’s involvement and self-efficacy demonstrates the negative relationship perceived by participants (Figure 16).

*Figure 16. Mother involvement and self-efficacy.*
Wanting to be certain of these results, I tested the relationship between the variable \( \text{Mom\_Invlv} \) from the RFCP-C and a general question about mom from POPS (Table 11). There was agreement that the general mom involvement variable related to item 32, a general mother item.

Table 11

*Correlation between General Mother Involvement and Item 32*

<table>
<thead>
<tr>
<th></th>
<th>Q32.</th>
<th>Mom_Invlv</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q32 Mothers have enough time to talk to their children.</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>18</td>
</tr>
<tr>
<td>Mom Involvement</td>
<td>Pearson Correlation</td>
<td>.833**</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>18</td>
</tr>
</tbody>
</table>

After confirming agreement between the constructs, I next conducted a one-tailed Pearson correlation coefficient with a general question (item 32; Mothers have enough time to talk to their children) and SES (Table 12). Results indicated that there was little relationship between involvement from mom in general and self-efficacy \((r = -.045; r^2 = .002)\). These participants did not perceive a positive relationship between a mother’s involvement and self-efficacy as hypothesized. In fact, participants noted a negative relationship, though slight, between a mother’s involvement and self-efficacy.

Table 12

*Correlation between General Mother Item and Self-Efficacy*

<table>
<thead>
<tr>
<th></th>
<th>Q32.</th>
<th>SES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q32 Mothers have enough time to talk to their children.</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td></td>
</tr>
</tbody>
</table>
Table 12 (continued).

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>18</th>
<th>18</th>
</tr>
</thead>
<tbody>
<tr>
<td>N18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>-0.45</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.429</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N18</td>
<td></td>
<td>18</td>
<td>18</td>
</tr>
</tbody>
</table>

H3a was not supported.

The same tests were then conducted for general father involvement.

*H3b: Higher perception of general father involvement is associated with higher perceptions of autonomy.*

Table 13

**Correlation between General Father Involvement and Self-Efficacy**

<table>
<thead>
<tr>
<th></th>
<th>Dad_Invlv</th>
<th>SES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dad Involvement</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td>.229</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>18</td>
</tr>
<tr>
<td>N180</td>
<td></td>
<td>.187</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td></td>
<td>.229</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>18</td>
</tr>
</tbody>
</table>

First, correlations between Dad_Invlv and self-efficacy indicated that these participants perceived a negative relationship between self-efficacy and father’s involvement also ($r = -.187; r^2 = .035$) but to a lesser degree than with mother’s involvement as captured in Table 13.

Next, the same correlation test was run for the general father item 33 (Fathers have enough time to talk to their children) and SES with similar results ($r = -.065; r^2 = .004$) shown in Table 14.
Table 14

*Correlation between General Father Item and Self-Efficacy*

<table>
<thead>
<tr>
<th></th>
<th>Q33.</th>
<th>SES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q33 Fathers have enough</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td>time to talk to their</td>
<td>Sig. (1-tailed)</td>
<td>.399</td>
</tr>
<tr>
<td>children.</td>
<td>N</td>
<td>18</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>Pearson Correlation</td>
<td>-.065</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td>.399</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>18</td>
</tr>
</tbody>
</table>

In both tests, participants reported a negative relationship between a father’s involvement and self-efficacy. H3b, therefore, was not supported either. The visual representation in Figure 17 clarifies the relationship between father involvement and self-efficacy.

Refining results further, the following two hypotheses tested involvement specific to *my* mother and *my* father using items 48 and 49 (My mother/father thinks it is OK if I make a mistake), represented in Table 15.

![Figure 17. Father involvement and self-efficacy.](image)
H3c: Higher perception of my mother’s involvement is associated with higher perceptions of autonomy.

H3d: Higher perception of my father’s involvement is associated with higher perceptions of autonomy.

Table 15

**Correlation between Involvement Specific to My Mother or My Father**

<table>
<thead>
<tr>
<th>Q48 My mother wants to know what I am doing.</th>
<th>Pearson Correlation</th>
<th>Q49.</th>
<th>SES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sig. (1-tailed)</td>
<td>-261</td>
<td>.148</td>
<td>.006</td>
</tr>
<tr>
<td>N</td>
<td>18</td>
<td>18</td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q49 My father wants to know what I am doing.</th>
<th>Pearson Correlation</th>
<th>Sig. (1-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sig. (1-tailed)</td>
<td>-.261</td>
<td>.148</td>
<td>18</td>
</tr>
<tr>
<td>N</td>
<td>18</td>
<td>18</td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Self-Efficacy</th>
<th>Pearson Correlation</th>
<th>Sig. (1-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-.580**</td>
<td>.006</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>.256</td>
<td>.153</td>
<td>18</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (1-tailed).

Perceptions by participants of their own mother’s involvement was negatively associated with self-efficacy (r = -0.580; \( r^2 = .336 \)), following the earlier trends with involvement. Thus, H3c was not supported.

Interestingly, the first positive statistical relationship appears on the question of whether their own father being involved influences perceptions of self-efficacy (r = 0.256, \( r^2 = .066 \)), though the relationship is moderate. H3d was supported.
Correlation of my mother versus my father variables and self-efficacy.

A visual comparison (Figure 18) demonstrates the marked difference with my mother, depicted on the left, and my father when correlated with self-efficacy.

To summarize the results from hypothesis three and its subsets, participants reported a negative relationship between their mother’s involvement and self-efficacy across all types, whether it was general involvement or involvement specific to their mother. Participants also reported a negative relationship between father’s involvement and self-efficacy except for the when the relationship was specific to their own father. In that case, participants reported a positive relationship between their father’s involvement and self-efficacy. Participants perceived involvement from parents in a complex pattern of results.

Involvement and Control Post-Study Analysis

The variable of involvement did not have the expected result, nor did the variable of control for the child population. Control within the current study was explored through hypothesis two which stated that higher perceptions of a controlling climate would be associated with lower perceptions of autonomy, as predicted by SDT. The results from H2, however, indicated that, for children in this study, a controlling...
communication climate increased self-efficacy. In order to confirm how participants in
the current study understood involvement and control, a post-study Pearson product-
moment correlation was conducted (Table 16).

Table 16

*Correlation between Control and Involvement*

<table>
<thead>
<tr>
<th></th>
<th>Cntrl_Conv</th>
<th>Mom_Invlv</th>
<th>Dad_Invlv</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>Pearson Correlation</td>
<td>1</td>
<td>-.371</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td></td>
<td>.065</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Mom Involvement</td>
<td>Pearson Correlation</td>
<td>-.371</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td>.065</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Dad Involvement</td>
<td>Pearson Correlation</td>
<td>-.455*</td>
<td>.246</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td>.029</td>
<td>.162</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>18</td>
<td>18</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.05 level (1-tailed).

The following graph in Figure 19 makes it easier to recognize the relationships
between the variables.

![Graph](image)

*Figure 19. Control correlated to mom versus dad involvement.*

In the current study, participants did not necessarily interpret involvement as
control (Mom: $r = -.371; r^2 = .138$; Dad: $r = -.455; r^2 = .207$). Participants differentiated
involvement and control; however, involvement was less negatively correlated to control for mothers than for fathers. In other words, participants perceived mother involvement more closely related to control than they perceived father involvement as control, illustrated above in a comparison graph. So, participants may be conceptualizing mother involvement as control.

If participants viewed mom’s involvement as control, then the quantitative results from H3 regarding involvement make more sense. Mom’s involvement lowers self-efficacy. However, if mom’s involvement is perceived as control, then the results from H2 complicate things further. H2 from this study found that child participants perceived increased self-efficacy when parents used controlling conversation ($r = .309; r^2 = .095$). If participants perceived mom’s involvement as control, then for these participants, mom’s involvement/control was beneficial to perceptions of self-efficacy (see Figure 20 for a visual representation of this argument). Understanding the findings in this way is counter to SDT assumptions that control decreases self-determination.

![H2: Control and Self-Efficacy](image1)

![H3: Involvement and Self-Efficacy](image2)

**Figure 20.** Post-study analysis of counter-SDT predictions.

This topic will be discussed further in chapter five.
I will now return to the qualitative results for research question six, which explored how parental involvement communicated autonomy. I have organized these results into an autonomy-supportive axis and an involvement axis with feeling liked, respected, and appreciated populating the liberating/encouraging quadrants and feeling unimportant and abused populating the controlling/neglecting quadrants.

*Autonomy-Supportive.* There are two quadrants represented on the autonomy-supportive axis: encouraging (high involvement/high autonomy-support) and liberating (low involvement/high autonomy-support).

A tennis participant summed up involvement this way:

I don’t think my parents intentionally sat down and said ‘we’re going make sure that our kids have a foundation for tennis.’ I think it’s just something that, you know, it’s kind of a family thing, you know. With families that spend a lot of time together and you’re out there together at the club, then you know the kids love being…there’s other kids around. It’s, you know, it’s kind of a natural progression that they end up liking it fortunately.

Involvement for this participant meant spending time together with the family encouraging tennis. The quadrant of encouraging is high in autonomy-support and high in involvement. Encouraging to this family meant not pushing kids into things the children had not decided on, intentionally communicating that “we’ll just kind of introduce them to different sports” and let them know “we respect their judgment.”

A golf participant experienced the encouraging quadrant in the form of a parent advocating a golf scholarship after deadlines had passed and even though the participant had formerly been a competitive softball player. After blowing out a knee at a softball
tournament, this participant started playing golf for her high school in the spring of senior year. Tied in a state golf tournament with two other players who had already signed scholarship agreements with a local university, the participant turned to her mom and said, “I think I want to play golf in college.” Her mom, she said, “was like, ‘you’re insane. Stop. You’re insane.’” But the participant said, “No, I think I can.” She convinced her mom to call the coach at the university where the other players had signed. “We’d love to have her,” said the coach, but since the local school was private, and “really expensive,” the participant knew that the academic scholarship offered at another university she had already agreed to attend would be a better decision.

Heartened by the response from the golf coach at the private school, the participant’s mother “was really encouraged and so she said, ‘I’m just going to email the coach at [university] and see what comes of it.’ And here I am!” The participant’s mother communicated appreciation for her child’s talent enough to get involved. She supported autonomy for her child, and communicated respect for the child’s decision to play golf. Mom’s involvement facilitated the participant’s desire to play.

The concept of liberation, high on autonomy-support and low on involvement, communicated choice for participants to decide for themselves what they would like to spend their time doing. The runner whose father allowed him to make his own decisions about the sports he enjoyed as a boy was an excellent example of this. The father, a participant in this study, took a low-key attitude toward running, saying, while he “would get the out on the road to practice when the other people were practicing, we didn’t do a whole lot of, of heavy parenting, pushing.”
When asked about parent pushing, he said, “You know, ‘you got to get out of here at five in the morning and run’ and that kind of thing. But knowing that he needed to do more than he was doing, we’d probably encourage him a little bit to get on out there.”

This dad believed it was not his involvement that made the difference in whether his son kept running. He communicated appreciation for the success his son experienced while running, stating “he had something that he was really good at,” and felt that running “helped build self-esteem.” The father’s attitude demonstrated the Liberating quadrant, which communicates high autonomy support but low involvement.

**Autonomy-Controlling.** This axis included the control and neglect quadrants. The control quadrant included those participants who found conditions low in autonomy support but high in involvement. One child tennis player who plays “just about every day” commented that his dad, who, he said, has “just been hitting with me a lot” takes tennis seriously. His dad “always has his attitudes” meaning that “sometimes my dad gets a little frustrated when he sees how good he used to be and now he sees where he’s at, where he’s at, and it is kind of motivation to him.” His parents were “very, very encouraging” about the participant’s tennis and “are at tournaments,” they “go to all my matches” and “they they’re constantly teaching me new things, new techniques and stuff.” This father pointed out the participant’s mistakes “in a way that motivates me to do better.”

The father, another participant, confirmed his communication style, noting, “I said, ‘just go work on your serves,’ and that’s what my son goes and does. Now, if he’s bored, he’ll go work on his serves, he’ll go hit on the backboard, you know that….to me, that’s better than sitting on the couch.” He explained, “I just don’t want to see kids waste
away on the couch because I don’t sit down much. You know I’m always doing something. I don’t like to be idle, because I just...I don’t like to park on the couch very long.” I asked how he motivated his kids and he said “it very, very much helps when you can reach the TV power button and can just walk in and say, “Tck!” All right, let’s go! I just turn it off.” This father communicated involvement by spending time with his son playing, but also limited autonomy by directing his son’s choices. The communication, therefore, did not support autonomy and controlled choice.

The final quadrant, neglecting, included participants who felt communication was low in autonomy support and involvement from parents was low as well. One tennis participant whose parents were very active with officiating local tennis tournaments “used to just like to play any sport I could” but explained that, now, “most of the time I’m watching my little brother or there [at the tennis courts] watching my little brother because we’re out here all the time.”

His parents, he said, “encourage me to do what I like to do,” but attended his school tennis tournaments only “sometimes, unless they’re busy.” If they cannot attend, he said, he would “just ride with the coach or a different player.” When asked whether his parents encouraged him to get better at playing tennis, his response was “yeah, kind of. I mean if they, if I want to then they’ll, they would like, if I wanted to go play tennis and we weren’t doing nothing, mom would be like ‘get your racquet, we’ll go.’”

When I followed this comment with a question about what the participant liked about tennis, his response was “nothing.” Queried further, the participant compared tennis to running, saying “I used to run a lot. I used to run for fun and now I hate it.” Persisting in my questioning in order to understand, he simply said “it’s just because I’m
better at it than some.” This participant seemed to feel unimportant to his parents and to not really enjoy tennis. He participated in tennis because he felt he had to, since his parents were at the courts and needed help with the youngest child.

Research Question Seven

RQ7: How is the communication of parental involvement associated with the process of internalization?

Internalization is the process by which one “takes in” a regulation or value from an external source and makes them internal (Ryan & Deci, 2000, p. 71), eventually leading to self-determination. Parental involvement lies along a continuum of more or less, moderated by the amount of autonomy-supportive communication. The more a parent is involved in a child’s participation in a sport, and the more the communication supports autonomy, the more internalized the family values will become. Conversely, the less that autonomy is supported, and the less involved the parent, the less the child will internalize the values of the family, leading to rejection or a partial internalization of family values like participation in sports. The data were coded to dad/father (32 sources with 290 references), mom/mother (34 sources with 273 references), and family (33 sources with 341 references). All of the following examples came from tennis participants.

One memory from a tennis participant got at the heart of how parental involvement led to a child internalizing family values. Some of his earliest memories were at [the local club]. They were at night. They were under the lights. I remember and, still do to this day, love the smell of a fresh open can of tennis balls. There was that, you know, ‘Dad had a new can.’ I mean, it was, it
it it’s somehow...I don’t know. It seemed to symbolize, you know, something. This, it was worth this new can.

For this participant, his dad’s willingness to invest in the cost of opening a new can of tennis balls when they played together really mattered. The participant’s relationship with his father had always been one where his dad “fostered following my passion. There’s not a pressure to be something that I’m not. And so when we went to play tennis that translated into having a lot of fun.”

The participant now has children of his own. His daughter, aged six, “wants to play tennis with Grandy [her grandmother] and she wants to play tennis with me. She’s not really interested in, like a tennis clinic or a tennis camp. And it’s interesting because I can relate to that completely because it was really all about hanging out with Dad.” Now another generation has begun the process of internalizing tennis values in this family.

Another excellent illustration of how involvement influenced the internalization process was the story of a participant who was the impetus for this project. She is the captain of a mother/daughter tennis team in Hattiesburg. Her daughters, mothers themselves, both play. The team, initially, was made up of six mother/daughter combinations and “no one expected us to do anything and we ended up getting second place out of nine teams!” The daughters, this season, have both “come up pregnant” so are sitting out, but both have children who “take lessons during the summer” and who will continue the tradition of tennis in this family.

A final example of how an involved tennis family led to internalization of family values was one in which three generations participated for this study. In actuality, there
are five generations of tennis players currently in the family. Recently, to celebrate the matriarch’s 80th birthday, everyone gathered for Camp Granny. Grandma, the participant explained, though not a player herself, wanted “everybody up there. She just wanted all activities, lots of activities.” So, “everybody came. Twenty-two of us.” As it turned out, there we “equal numbers of men and women so the participant organized a tennis tournament with eight teams of mixed doubles.” Tennis, according to the participant, “bonds us together.”

But involvement had a darker side as well, especially if not accompanied by communication that supported autonomy. For those who felt forced to play, or not valued enough for reasons other than tennis, internalization was thwarted, as was the case for a child tennis player. She has played tennis for more than 30 years, but said “I’m on my way out of tennis now (laughs).” When I pointed out that she has been pretty serious about tennis for a long time, she agreed, stating, “I mean, I grew up in a tennis family and that’s really all we did. I really wasn’t exposed to anything else.” Now she wanted to explore biking and kayaking, “anything other than tennis.”

Part of what this participant remembered about tennis was that My dad was, you know, really great. When he’d get off from work, he’d go and we’d hit balls with each other. That was just a great, you know, period of time. My mom, though, um, we had a deal that you would win, you could win $50 if you beat mom. Yeah, so I worked really hard to beat mom. The participant’s brother, “the most successful out of all of us” was good enough after playing college tennis at a Louisiana university (like his father before him) that he joined a professional tennis circuit where “he got a sponsor and all those things.”
To develop his game, the participant explained, her brother was allowed to take a year off between high school and college and attend a prestigious tennis camp in Florida. When the participant visited with her parents, she recalled walking around looking at the camp. She passed a court with a player who “was hitting moon balls just like I would hit.” She said to her mother, “Well, Mom, if that kid can be here at this camp, I can be here at this camp.” When I asked if she got to attend the camp in Florida, she laughed and said, “That might have been the reason why I went to a local tennis camp.” This player assured me, though, that she “didn’t play tennis because my brother played tennis, you know. I played tennis because, like I said, it was what you did. I tried to do gymnastics. I tried to do soccer. Um, it just seemed like it would go better for me in the family if I played tennis.”

For this participant, her mother’s involvement with her brother’s success to a greater degree than her own communicated disregard for the participant and lack of validation for what was important to her. The communication did not support autonomy. This player now looks for sports other than her family-valued tennis.

Research Question Eight

*RQ8: Did child participants internalize the external parental sports values?*

All participants internalized the parental sports values to some degree or another, evidenced by the participants’ continued participation in the sport. Codes were organized using key words such as *love for the sport* (28 sources referenced *love* 111 times), and *play* (the query returned 419 references from 33 sources).

*Tennis.* Of the 29 participants who identified tennis as their sport, only one did not actively play. He explained that “I haven’t played competitively for a little over a
year now.” However, during our interview he revealed that “just a couple of days ago, I ran into the last person that I played on a team with, and he was, um, sort of nudging me to kind of get back in the game.” He had stopped playing for the usual reasons, “work, family,” but was open to the influence of this former teammate who he described as “the type of person I admire in the tennis world” because this person “seemed to be able to navigate the ‘club mentality’ really well.” He defined ‘club mentality’ as the assumption that tennis is a sport that “is perhaps for a certain affluent individual group” and, he did not like being identified that way. His friend, however, opened the door to the possibility of playing again.

*Golf.* Of the four golfers, all currently play. Two play for a local university on scholarship, another participant used to “play every day, literally, every day that wasn’t raining” and has “recently gotten back into it,” influenced by his daughter’s playing for the university, and the last participant, a grandfather, “lives on a golf course” and “throws the clubs in the car” because “the upper half of Michigan is loaded with golf courses.” His view about playing golf was “it’s just like eating. You know, you can’t live without it.”

*Runners.* Of the seven runners, all but one currently run seriously, meaning they train for and compete in races. The remaining runner said he was running “a little. Very little. Very little,” especially compared to the “road racing” he used to do when he regularly ran “weekend races. 5k’s, 10k’s, that sort of thing.” However, the results of the degree to which participants internalized the sports values will be discussed in the next section.
Research Question Nine

*RQ9: To what degree did participants internalize parental values and behaviors to participate in the sport?*

A golfer philosophized, “I’m 74. I think you can play it until you drop dead.” A 16-year-old tennis player declared that he planned on playing “until I get old.” When queried specifically about what *old* meant to him, he answered “til I stop moving, til I’m like, til I’m on a walker.” These participants have clearly internalized the family sports values and plan to keep playing until they no longer have a choice.

Actors are presented with three options when faced with an external influence: outright rejection, partial internalization, known as introjection in SDT language, or integration, a full identification of external values which leads to an acceptance of an external value as one’s own. Only integration is argued to lead to self-determined behavior and a full internalization of an external influence. The decision on how much to internalize family values was influenced in this study by perceptions of how encouraging, liberating, controlling, or neglecting was the communication. Those who felt liberated or encouraged were more likely to integrate parental sports values, whereas those who felt parents neglected or controlled were more likely to introject or reject family sports values.

In the study population, all of the participants internalized external values regarding sports evidenced by their continued desire to participate. So, in this population, none outright rejected the external value. The degree to which family values in sports had been internalized was evidenced by how many obstacles and barriers had been overcome in order to continue playing. In other words, how high of a priority was the
sport to the participants? All 38 participants across all three sports mentioned barriers to participation, with 1,676 references noted, making barriers the most referenced topic among participants. Categories such as children, work, and health were among the most-often mentioned. Along with the frequent mention of barriers were as many references of overcoming barriers in order to continue in the sport.

*Children.* For most of the adult participants, both male and female, growing families had been a barrier to participation at different phases in their lives. A runner, when asked why he didn’t run during his college years explained, “I don’t know why. I didn’t think of it as something to do and then we had, you know, we had kids and it…. when they were young, I didn’t do much.” A golfer with six children shared that his wife learned to play in college. She took it as an elective course. And then literally never played it again until our oldest son was probably 6th, 7th grade. I can’t really you know, tell you the obvious. With six kids in the house, we had six kids in eight years.

Now that the kids are grown though, they “bought a place down there [Florida] and we, you know, both joined men’s leagues, women’s leagues, couples’ leagues.” They now make a practice when they travel to “throw our clubs in the car” because golf has “always been a part of our lives.”

Female tennis players, more than any other group, mentioned young children as a barrier, but overcame the challenges to continue playing. References to barriers, such as “my daughter had the baby then she got pregnant again and couldn’t play,” “the kids are involved in so many different things that I didn’t have time to go hit,” and “no, I couldn’t play. I had babies. It was (pause) babies. All…. the only time I had to do was exercise
for 30 minutes, you know,” were offset by references of managing the obstacles such as
“my child was starting kindergarten, so it was the perfect time for me to start playing
again,” “now that the kids were in school, I had the time, so I started playing,” and even
“when my daughter was born, I’d take the babies out there [to the tennis courts] because
my husband played competitively.”

The one female runner also noted children kept her from running, in that “there
was just a, a long series of years, probably [when I didn’t run]. Kids came along.” Males
felt the burden of raising families too. One male tennis player, who “stopped doing all
the league tennis” noted “we were having to travel on a Tuesday night [for matches] and I
have babies at home and I was getting home at 11:00pm and stuff like that.”

Overcoming barriers that growing families presented to the athletes meant being
creative in organizing schedules. When his children were young, one runner said “it took
more management among all of us,” and he organized his running schedule around his
wife’s availability. For a tennis-playing family with small children, “it [having kids]
really doesn’t ever seem to be an issue for us.” There were weekends where both parents
were playing a local tournament with several matches a day, and “occasionally the state
tournament sometimes gets to be a little bit much, you know, when you’re on three
different teams and they all go to state.” He explained that, “you know, my wife might
be playing on two or three different leagues. But, I mean, really it’s not you know, I
don’t we just, I don’t I don’t ever feel like there’s not time for that.” The family
reconceptualized the barrier of small children as an opportunity for other family members
to step in.
His multi-generational tennis-playing family helped. The participant noted “we’re pretty lucky. We have, you know, both of our parents here in Hattiesburg, and my dad, you know, he’s at my house all the time so if we ever need something, you know.” The participant’s father, also a tennis player, understood the importance of participation and was willing to help his son overcome barriers to participation.

Work. Employment was also mentioned as a barrier to participation, but participants still prioritized their sport. An 84-year-old tennis player remembered when “I was farming it just wasn’t convenient to play. I worked pretty late so I just quit [playing].” Once he retired he “didn’t play for a good while. But I hated going to the gym and decided, well, I’ll play tennis. And that’s how it started again. I needed to get some exercise.” A golfer, aged 74, realizing that he could “work my tush off and miss a lot of stuff,” started “taking Wednesdays off [work] to play golf.” When he “got to be about 66” his wife, also a golfer, said “hey, before you become all crippled up, why don’t you start taking some more time off?” “So,” he said, “I took a month off one year and then the next year I took two months off and then the next year I took three months offs.” Work was important, but playing golf was a priority too.

Health. Many participants overcame injuries or illness in order to continue playing. Twenty-four participants (63%) mentioned health in their interviews, with 265 separate references recorded. Two tennis players and one golfer (8%) mentioned recovering from cancer and playing again. In fact, one player said, “when I started recovering [from the cancer], tennis was a big part of that…of how I rebounded from it.” A recovered golfer credited his illness for deciding that “I was no longer going to work
seven days a week, so I cut down to five, then to four, then to three. That’s where I am now.”

Most of the long-term, older participants across all sports had incurred injuries that kept them from playing at various times in their lives. For instance, one tennis player, in her 60s, said “I have had everything you can imagine. Let’s see. My first injury I tore my gastroc. I had to wear a cast for a while.” She lamented “I shouldn’t have played in a tournament” because “then I pulled the other one. Then I had two elbow surgeries.” She continued to play, though “I only play once a week, two times at the most. I can’t just…. it’s a body thing. My body is telling me.” Injuries slowed the participant down, but did not prevent her from continuing to play tennis.

*Introjection.* Despite barriers such as families, work and illness, participants overcame challenges in order to prioritize the sports values passed on by parents. However, as noted in previous results, four child participants (22%) might be described as falling into the controlling/neglecting spectrum of the axes of involvement and autonomy-support. When communication climates were controlling or neglecting, then choices led, not to self-determined behavior, but, rather, to an introjected acceptance of values. The adult child in this group recently decided to try sports other than the one her tennis-playing family introduced her to.

The other three possible candidates for introjected values were all minors, so time will tell if they choose to fully integrate their family values. An interesting case was a three-generational tennis family who fell into the controlling quadrant. If the offspring in this family felt controlled and therefore, theoretically, had little autonomy in choosing to
play tennis, why have they continued to pass the values onto their own children? This question may be understood by looking at the results from the next research question.

Research Question Ten

*RQ10: How does autonomy-supportive or non-supportive communication function in the internalization process?*

Communication created the climate in which the choice to internalize values was processed. The more autonomy-supportive the communication, the more likely actors integrated values and became autonomous. Encouragement, verbal and non-verbal support, and perceptions of emotional and instrumental support all influenced self-determined motivation. Thirty participants made references to supportive and encouraging communication 93 times.

Providing a rationale for participation, validating participation, and conveying choice rather than control also, according to the literature covered in chapter two, creates an autonomy-supportive environment more likely to facilitate the internalization process. Assuming each participant had internalized the sport behavior to a certain degree, results for this question centered on the communication used to enable the process of internalization in the liberating and encouraging quadrants of the communication grid.

*Support.* Various forms of support were felt for nearly all participants. For instance, nonverbal support took the form, for one tennis participant, of playing “two or three tournaments a year” with his dad. He said that “I go play now with some of the same guys that he played with when I was, you know, when I was born.” A golfer, who regularly took his kids out of school in order to golf, explained “I’ve always encouraged them [the kids] to play. [Golf is] just a great, recreational tool.” This participant showed
nonverbal support by providing access to vacations which allowed time away from the routine of school, and verbal support of kids playing golf. Another golfer’s mom “traveled with me whenever I had a tournament. I was at the age I could drive but she wouldn’t let me; she wanted me to be rested and ready to compete.” The participant’s mother demonstrated nonverbal support in her concern for his safety and ability to be competitive.

Validation. Validation was an important factor in continuing to participate. Validation, often expressed interpersonally by external motivators, also took the form of intrapersonal communication, by which participants developed autonomy by mentally communicating their own successes. One young participant said, “I’m getting better by the year, and the day, every time I practice.” She recognized that getting better kept her playing. She said, “I used to not even be able to hit a backhand,” but now, glad of her increasing competence, it “makes me feel like, the more I practice, the better my backhand will get. So it just makes me feel like practicing more.” A golfer, too, ascribed the mental message of “joy of thinking you get better” as one reason he continued to play. A runner, already having completed two marathons, told of reducing “my time by fifty minutes” in her last marathon and now being “obsessed with getting below five,” her goal for her “third marathon, which [she ran] in December.” Validating to themselves that they were improving in their sport functioned communicatively to develop autonomy and persuaded the participants to stick with it.

Rationale. Rationale, the communication of why one participates, was often expressed as “it’s what we do” and “we are just sports people.” In fact, 24 participants made 71 references to their sport being “what everybody did.” This subtle
communication of identity was most often seen in the golfing and tennis families, more than in the running families. Seven of the thirteen tennis families (54%) explicitly identified tennis as a family tradition, and both golfing families (100%) described golfing as something their families identify with. Eleven of thirteen tennis families (85%), and all the golfing families (100%) verbalized family traditions such as vacationing, going to summer camp, or participating together in tournaments in their interviews. One running family (33%) identified running as something carried on over generations.

Doing their sport for some participants was rationalized as being “good,” especially if they had children. One multi-generational participant said “tennis was something to pass the time, and to me that’s better than sitting on the couch watching TV.” Others said their sport was good because it was “something you could play your whole life.” Good was expressed by a young runner as

Even if you’re too tired or if you aren’t a great runner or if it’s not easy. It’s always more important to get out there and do it, one a day, or once a week, than not running. It’s just about keeping going. Getting out the door. Because you can easily put it off, but once you’re out the door, it’s harder [to put off].”

Running for this participant was a good thing to do, and this internal communication functioned to keep him motivated to run.

Generational transmission of values presented an interesting test of SDT. On one hand, the expectation that future family members take on particular values limited autonomy which should then, theoretically, lead to introjection or rejection of the values. Yet, in the study population, family expectations were rarely perceived as controlling of autonomy. More often, expectations from family were perceived as communicating care
and connectedness. Limited autonomy for these participants led to internalization of family values to the degree that values were integrated. Not only were participants satisfied with their choice to embrace family traditions of sports, but the participants then modeled and influenced future generations. Communicating support, validation, and rationale may mediate the potential control felt when sports are an ingrained family tradition.

Conveying choice was also an important precursor to internalizing external values, and the subject of the next research question.

Research Question Eleven

*RQ11: Did communication influence the perception of choice about participating in the sport?*

Choice, expressed both verbally and nonverbally, is the “experience of an internal perceived locus of control” (Deci & Ryan, 1985, p. 38). Choice, in other words, is the amount of control one feels in deciding what to do. Choice is influenced by communication that spans a continuum of low- to high-controlling environments. The less choice a participant felt in deciding to play their sport, the less likely they will continue to play over time. Research question eleven asked whether participant’s felt they had a choice in participating in their sport and, if so, at what level they would participate, using the nodes of *choice/autonomy, competence*, and the queries *no choice, fun, and serious*.

*A Continuum.* One participant, who used to “play like anytime we would come out here,” recognized the lack of choice in having time to play now that his little brother had been born. “Back then, I never watched my baby brother, because he wasn’t born
yet. So anytime we were out here, I would go out and I’d hit with anybody. Anybody who would hit.” The participant had a lot of choice in deciding whether to play. But “then, um, my brother was born and I stopped playing a few months before that and then mom and dad stopped playing for about a year.” He doesn’t get to play as often now because “most of the time I’m watching my brother or they’re watching him, so we don’t have a lot of time.” His choices were now dependent on and controlled by his parents’ prioritizing tennis along with the duties they all had with a baby brother.

Another young tennis player said “I didn’t really want to play when I was little but, I mean, I had to and at one point I got into it but then as I got older I kind of lost interest and I, like, recently picked it back up.” His participant mom confirmed that “we would make them during the summer do camp from time to time. He was not wild about it.” Mom stopped making her son go to camp and he chose to play football instead. He has “recently actually gotten into it [tennis] because all my friends have actually started wanting to play tennis.” Having the choice to play football over tennis, even though his parents are tennis players themselves, helped this participant realize “it was actually fun hitting with, like, your friends and such.” This communication environment began as controlling but adapted to allow the participant more choice. The participant, when given the choice, could see the personal benefits of playing tennis.

A golfer who “played pretty much anything except football. We played everything but that,” said “when I was 10, I kind of thought, ‘you know, I, if it’s something I want to do in college, and for the rest of my life, it’d be golf.’” His dad, “[had] always taught us to, you know, go after whatever you love.” The family, communicating choice, gave the participant freedom to play whatever sport he liked and
he ended up choosing golf. He currently plays for a university team. Another participant said, “If they don’t want to play, don’t make them. And if they don’t really love, love it you know, it maybe is something else that they love. You know.” An older participant said, “at this age, I do it [the sport] for exercise mainly and the social fun. And if it’s not, if it’s not fun, I don’t want to do it.” Another concluded, “time is too precious to go out there because you have to, not because you want to.” Choice for these participants was a common denominator for the ongoing enjoyment of the sport.

One participant who said she is “not going to spend money and time and effort convincing” her children to participate, articulated the complexities of choice:

“When ever my kids have their bags backed, their homework done…when I see that spark…when they have shown some initiative, where they don’t have to have a tennis lesson every time they want to play,” then she knows that her kids are choosing the sport because they want to and not just going along with what mom wants. Choice in this case was the responsibility not only of the parent, but also of the children. This participant believed it was important to convey the costs and benefits of participating, and then leave the decision to the children about whether they would make the necessary effort.

For many participants, having a choice meant not only deciding whether they would play, but choice also meant deciding the level at which they participated, whether just for fun or at a more competitive level. For instance, one young child “doesn’t like all the competitiveness.” She just “wants to have fun, not worry about it.” On the other end of the spectrum, the female golfer (the only female in her high school to play golf), “would not be denied” the chance to compete for a scholarship at a local university to play golf at a more competitive level. A male tennis player, who used to play college
soccer, fell in the middle of the choice continuum. He said, “After playing a sport at a highly competitive level like [college],” he now enjoyed just being out playing tennis with his wife or his dad.

You get a little bit of a taste of that competitiveness, but you know, you walk off the court, you’re sitting there with your wife and your kids and there’s a beer truck and it’s a beautiful day so you get the best of both worlds.

Deciding whether to play and being in control of the level of competition communicated a sense of autonomy for these participants and influenced the level of satisfaction they felt when participating in their sport.

Research Question Twelve

*RQ12: What is the relationship between satisfaction and continued integration of values?*

The SDT model points to the satisfaction of the psychological needs of autonomy, competence, and relatedness. Satisfaction of needs can be vitalizing and SDT posits that need satisfaction can actually enhance energy available for self-regulation (Ryan & Deci, 2008b). The SDT conceptualization of satisfaction fall short of explaining the feelings of fulfillment, well-being, and joy that the participants expressed when questioned about the reasons they continued to participate. Twelve participants (32%) were coded 33 times making explicit reference to the satisfaction they feel when participating in the sport. The updated model of SDT incorporates the communication element of satisfaction.

Satisfaction for a golfer was “remembering my wife when she got her first hole in one,” and having the attitude that “playing together helps your marriage.” Satisfaction was the “great enjoyment when you hit a sweet shot, when you get a great chip.” It was remembering the “goddamn draw I had where I shot my first 73. I was just, I was just
tickled.” The participant’s joy stemmed from satisfaction and was expressed in his language and attitude.

One young player conceptualized satisfaction as “what I’m doing is completely worth it because, I don’t know, I feel like it’s something good for me to be able to say I accomplished, I accomplished this. I won this match, or in the future, I accomplished this, I won this tournament. It’s important to me to be able to say I actually did it.” The satisfaction and sense of accomplishment this participant felt was something to be expressed to others.

For another young participant, satisfaction was communicated relationally. He said

The nice thing is you see people 80-years-old and 8-years-old play and different physical capabilities and everybody can play tennis. You can find people of about your own level but you can still play with people who aren’t at your level and have fun. It’s just a good sport.

Satisfaction from a runner’s point of view was akin to life, and communicated essential truth.

It’s the recognition that there are always going to be things in life that you’re not going to be able to control and accepting that and accepting the lack of control is something that marathon racing allows me to fully confront and get to that point of acceptance.

Another runner was satisfied by the “small percentage of people who have run a marathon.” “You know,” she said, “the fact that you work on it a little bit at a time and
achieve it. It can’t be taken away. I think that’s a pretty big deal.” Satisfaction was communicated as growth and success for this runner.

Satisfaction for these participants was feeling fulfilled by holes-in-one or winning tournaments, building relationships, or recognizing growth and success, all psychological needs communicatively expressed. From an SDT standpoint, fulfilling personal needs would only influence one’s own choice about continuing to participate in a sport. Unless satisfaction is communicated outwardly, however, no one else would be influenced. To strengthen the argument for including satisfaction within the realm of communication in an update SDT model, I asked participants the following research question.

Research Question Thirteen

*RQ13: Did participants introduce others to their sport?*

When asked the question about whether they influenced others, most participants had to stop and think. Thirteen direct stories were coded for the group about the others they had influenced, but most took for granted the influence that playing their sport had on those in the community. For instance, the young tennis play whose baby brother intrudes on his tennis life smiled when I asked the question. This participant recognized the influence he had on his sibling. During the course of our interview, the little boy, aged two, wandered in and out of the interview room dragging a racket and a ball. He proudly showed off his ability to hit the ball, and the participant confirmed that his brother’s first word was “ball.” The participant, though reluctant to admit it, knew he was a motivator for his little brother to play tennis.
For another tennis player recently back to playing, a “buddy of mine, he decided he wanted to hit tennis balls and everybody was against it. And then him and another friend went out to hit and they had fun doing it and so they sucked everybody else into it.” Now, “when we do go hit we spend hours out there, like every, every…we hit probably two to three times a week and on the weekends.” Because of this participant’s influence, a “couple of [friends] have already actually tried out.” This participant influenced even football players to try out for the high school tennis team.

My favorite story of influence ran four generations deep. Many years ago, a participant, who comes from a tennis family, had begun dating a man when her dad called me said, “Hey, I’ve been meaning to tell you I knew somebody named BB in [the town where the daughter lived].” The participant confirmed that it was the new boyfriend’s father. Her dad then told the story of how, when he was only 18-years-old, his “best tournament ever” had been when he was in college and he stayed with a host family. The new boyfriend’s family had been her dad’s host family. Her dad won the tournament. The host family continued to come watch him play and supported him throughout his college tennis career, even “cutting out newspaper articles. They just kept up with him.”

What the participant had not known until this project began was that the boyfriend’s older sister started playing tennis just after her dad had visited. She “remembers my dad coming to stay with them. It kind of sparked some interest in them. The fact that, if you’re a 13-year-old girl and you have an 18-year-old male tennis player come stay at your house.” The participant’s dad had made tennis exciting for a young girl, who then influenced her little brother to play, who then met a girl who played, and
now they have children who play. Influence, for this family, came full circle. For these participants, influence included introducing future family members to a sport.

Communicating satisfaction by our actions influences those outside our immediate families as well. People in the communities in which we live learn who we are by the identity we project. The next research question asked how participants communicated their identities as athletes to the larger communities in which they lived.

**Research Question Fourteen**

*RQ14: How did participants communicate athletic values to the community?*

One runner, when asked if she communicated athletic values to the community, passed on advice from a friend who said, “You need to call yourself a runner. People get too caught up in ‘well, I don’t really run consistently,’ or ‘I’m really slow, blah, blah, blah.’ You need to think of yourself as a runner.” This advice caused the participant to reconsider her own sense of identity and call herself a runner.

Many players noted wearing athletic garb that identified them as tennis players, golfers, or runners in the community. One 10-year-old said that wearing clothes “like the pros gives me a good luck charm.” Another older tennis player recalled a time when they “had uniforms. We had little, umm, we had the skirts, and we had the shirts.” And it got expensive, she said because “you got all these people and they wanted some of them just like, you know, they don’t want just one outfit, they wanted, you know, if they got a top, they’d say well, okay, well, then we can get two skirts.” The uniform, more than just a fashion choice, communicated their identity as a team to a larger community.

Some participants recognized physique as being communicative of their being an athlete. One mother described her daughter who plays as having “just the perfect tennis
body.” But most who mentioned body distinguished they do not look like an athlete. For instance, one 16-year-old participant recognized that “I don’t look like the idea of a tennis player, like you don’t think somebody of size would be a tennis player.” He confirmed he is “stocky” and “5’5” on a good day.” His mother, another participant, said, “Like my son, I don’t look like the prototypical tennis player. I’m not skinny and lean and young and fit, so.” One participant described her granddaughter, a non-player, as not “quite as athletically, you know, accomplished to do the tennis. As she is, she loves her dancing.” Body physique, whether ideal or not, communicated athletic identity to a larger community.

Some participants were involved in the community promoting events such as tournaments and races or active in ways that identified them to others as athletes. One participant, when asked whether people in the community knew they were a tennis family said,

Oh gosh. I think that everybody in Hattiesburg. If you went up to, say you went to a home football game and put up a sign that said, “Anybody know the [family], and you had ten people walk up, I would say that out of those ten people, nine and a half of them would definitely say ‘tennis.’

When asked why that would be the case, the participant explained that “I mean, me and my dad are both on the board at the club, and with five brothers, a wife who plays, and all…people just know.”

Almost all participants also talked about being identified by their sport in subtler forms of expression. “If you’re trying to get to know a person,” said a high school-aged tennis player, “it might come up that I play tennis.” Another said that “during the
summer I’m playing tennis most of the time or I’m at tennis for my parents or something, so they’ll be like ‘what are you doing’ and I’ll be like ‘at tennis.’” An active mother explained that, though she doesn’t talk directly about tennis, per se, it comes up in conversation when she plans the activities she can volunteer for. “I’ve got tennis that day, or a lesson that day.” A college professor revealed that his hashtag on social media combines his profession as an economist and his identity as a runner. He said that when he introduces himself to students each new semester, he tells them they will likely see him in running gear out on the local trails around town. Identity as an athlete for these participants was enacted in the mundane details of daily life.

A multi-generational tennis player said “everybody” in the community where she lived knew she was a tennis player because “I’ve played all my life. I was singles champion in high school and was singles champion and doubles champion at the club, so, yeah, I would say people who know me, hometown people know it.” An attorney golfer said, “When you walk into my office you know within 30 seconds I like golf” and that golf often came up in conversation with clients when he “will ask them, you know, if there was a tournament on, you know, did you watch it. It’s a way to start a conversation.” Participants in this study communicated to people in their publics that they identified themselves as athletes, whether by their dress, their space, or their talk.

Now that the results from each research question and hypothesis have been discussed, I next explore the meanings and conclusions in the final chapter.
CHAPTER V – DISCUSSION

In the final chapter, the findings from this test case of SDT within a context of families who play tennis, play golf, and run together will be discussed. The format will be to first summarize the findings with the applicable research question and/or hypothesis. Next, there will be discussion of three areas of interest: one, whether updating the current model of SDT to include a communication element is warranted; two, the value of mixed methodology; and three, the discrepant findings regarding the variables of involvement and control and how they function within a communication theory of SDT. Finally, discussion of some limitations of the study as well as areas that would benefit from future research will conclude this project.

Summary

Participants in this multi-generational sports context were externally influenced to begin running, playing tennis or playing golf by parents in nearly 75% of cases (friends and significant others: 24%). Family members and external others communicated their interest, encouragement, and support of the participants taking on sports values and these were influential communicative practices. Family members modeling the expected behaviors by participating themselves strongly communicated to children the importance of participation in the chosen sports of tennis, golf, and running. The following research questions guided this portion of the study:

RQ1: What first influenced participants to try their respective sport?
RQ2: Was the initial motivation to participate in the sport internal or external?
RQ3: What strategies (words or actions) were used to communicate the importance of participating in the sport?
Parents made it beneficial for children to take on family identity and participate, even if the children felt they had to, or felt it was what their family did. Families communicated involvement by attending events and offering resources such as time, money, and lifestyle enrichments (e.g., belonging to a club or vacationing while participating in sports together), thereby meeting children’s psychological needs for competence and relatedness/acceptance. The generational expectations and control potentially limited autonomy thereby thwarting self-determination, but for this population, the costs of limited autonomy were worth it because of the benefits of family identity and access to resources. The following research questions and hypotheses shaped this portion of the project:

RQ4: To what extent did participants perceive that communication within the family supported autonomy?

H1: Higher perception of the presence of a supportive communication climate is associated with higher perceptions of autonomy.

H2: Higher perception of the presence of a non-autonomy supportive communication climate is associated with lower perceptions of autonomy.

The internalization process was facilitated by communication of family norms and expectations of identity, such as “We don’t play pregnant;” “We prioritize family values;” “We DO play our sport [despite barriers].” The integration process, an affirmation of family values, was influenced by family involvement. Integration was influenced, also, by the communication of choice. Communicating support, validation, and rationale all functioned to increase autonomy, but if participants heard only the rationale for participating, but did not feel supported and validated, internalization of
family values may lead to introjection. These research questions influenced the findings for this portion of the study:

RQ5: To what extent did participants perceive that communication reflected parental involvement?

RQ6: How is the communication of parental involvement associated with autonomy?

H3a: Higher perception of general mother involvement is associated with higher perceptions of autonomy.

H3b: Higher perception of general father involvement is associated with higher perceptions of autonomy.

H3c: Higher perception of my mother’s involvement is associated with higher perceptions of autonomy.

H3d: Higher perception of my father’s involvement is associated with higher perceptions of autonomy.

RQ7: How is the communication of parental involvement associated with the process of internalization?

RQ8: Did child participants internalize the external parental sports values?

RQ9: To what degree did participants internalize parental values and behaviors to participate in the sport?

RQ10: How does autonomy supportive or non-supportive communication function in the internalization process?

RQ11: Did communication influence the perception of choice about participating in the sport?
Integrated acceptance of family sports values led to greater satisfaction in participation. Satisfaction influenced modeling in that the more participants integrated the sport, the more they positively communicated their sports values to others.

Participants in this study modeled athletic identity to their communities in various ways including by their participation, dress, activism, and everyday talk. This last group of research questions were used to develop this portion of the study:

RQ12: What is the relationship between satisfaction and continued integration of values?
RQ13: Did participants introduce others to their sport?
RQ14: How did participants communicate athletic values to the community?

This quick synopsis of the results offers opportunities to explore the findings more closely.

Updating the SDT Model

One of the main goals of this dissertation research was to argue for updating the current model of SDT to include a communication element. This athletic, family-based context was well-suited to using SDT as a theoretical lens because sports met the basic psychological needs for the participants as articulated in SDT (competence, autonomy, and relatedness) and the SDT model’s processes of influence, motivation, and integration of family values were observable. However, psychological processes alone did not account for movement from the initial parental influence to motivation onto autonomously chosen behavior. Instead, communication, too, functioned to move participants between the SDT elements.

Communication also added depth to the theoretical explanation of key concepts such as social context. The social context in this study was not simply psychologically
constructed as theorized in SDT. Communication also developed the social context to become either autonomy-supportive or -controlling. To date, SDT has overlooked the important communication behaviors that create social contexts.

Communication, for this particular population, also brought into question the SDT assumption that control thwarts autonomy. In this study, the perceptions of parental control were mediated by communication when participants perceived their parents were involved. Counter to expectations of SDT, control of participants’ choices by parental influencers led not to introjection or rejection, but to self-determined behavior. Communication, then, clearly plays an important role within SDT.

The decision to update the current model followed Berger’s (2010) call to “pay greater heed to the necessity of explaining important communication phenomena so that greater intellectual coherence can be achieved and practical problems approached in a more nuanced and effective manner” (p. 449). SDT, though widely used in practical applications, is incomplete as a theory without recognizing the “not-immediately apparent regularities” (p. 446) of communication. Communication, in other words, is a construct easily overlooked, but critical to everyday interactions such as becoming autonomous after being introduced to behaviors and values by others.

I began theorizing an update by rewriting the original model to include an overarching communication context. Communication encircles the entire process of self-determination because I believe, as do others, that communication is inherently embedded in behavior and action (e.g., Andersen, 1991; Bavelas, 1990; Watzlawick, Beavin, & Jackson, 1967). Parenthetically, I also believe this to be true of psychology. In the proposed model, communication is deliberately depicted as an encompassing
phenomenon because communication flows throughout the model in tandem with the psychological mechanisms that induce self-determination.

Influence, for instance, was communicatively enacted in this study, either interpersonally by the behaviors of external others, or intrapersonally in the self-talk that internally motivated actors to action. Motivation led to the internalization process which was regulated by the communication climate being either autonomy-supportive or autonomy-controlling. The support from involved others influenced the choice to become more (or less) autonomous in action. The more that movement was enacted in the direction of self-determined behavior, the more that satisfaction was developed. Satisfaction was communicated to observers by behaviors that modeled values and beliefs. Modeling influenced others so that they, in turn, chose to be influenced or not, and the process cycled back to the beginning.

These processes were all communicatively enacted and so communication must encircle the process of self-determination. Communication, in sum, was the mechanism by which influence was made known, the tool used to motivate, the conveyance of choice, the means by which others knew of one’s satisfaction, and it was by communicating values that beliefs were modeled to others who may then be influenced.

Each subset of the model also depended on communication. For instance, the influence and motivation subset was included because, without communication, how would influence operate? How would influence influence without a communicative act? The internalization process, too, was a communicative act as its essence. Communication determined the climate in which internalization was processed. The current iterations of
SDT point, often, to the environment being conducive to autonomy, but fall short of naming the obvious communication that must be taking place.

In the health context, for instance, practitioners are advised to “provide effectance relevant inputs and feedback” to support competence for patients undergoing lifestyle changes (Ryan, Patrick, Deci, & Williams, 2008, p. 3). Translating their own psychological language to communication terms within the article, supporting competence referred to practitioners “providing relevant information,” ongoing “support,” along with presenting a “meaningful rationale for making changes,” in order to help patients “identify effective pathways to health” (p. 3). Though the original theorists (and others who employ SDT) use communication constructs frequently, communication as an influential process is not recognized.

Continuing to follow the model’s flow, communication influenced the choices actors perceived they had in becoming self-determined. When choice was derived from autonomy-supportive contexts, participants felt more self-determined, whereas if choice was influenced by controlling communication, self-determined behavior was limited. Communication moderated control when participants felt their parents were involved and encouraging. Satisfaction with their sport was expressed communicatively by participants who were joyful and wanted share that feeling with others. Satisfaction was communicated to others by the process of modeling. Modeling communicated participants’ satisfaction with their sport to external others in the community who could, then, know the beliefs and values of the participant. Actions, modeled to others, communicated the importance the participant placed on the activity and functioned to persuade others to join. The external other, then, had been influenced by the actor’s
actions and was now, potentially, the external influencer for others. Communication, clearly, operated throughout the model of self-determination. This small project within a specific context illustrated the usefulness of updating the SDT model to include communication.

There is good reason to advance this line of inquiry. Communication scholars have used SDT as a theoretical basis in areas of research such as education (Furlich, 2014; Gardiner, 2013), intercultural studies (Hinkson, 2002; Jandt & Tanno, 2001), digital technologies (McMahon, 2014; Peng, Lin, Pfeiffer, & Winn, 2012), and health contexts for quite some time. Agne and Robinson (2014), for instance, recognized the beneficial relationship between SDT and health communication in that outcomes for patients are often dependent on messages and social situations that facilitate self-determined behavior in promoting health. Practitioners, as a result, are taught how to apply SDT in health contexts often using specific communication practices.

Health interventions, especially, combine the theoretical construct of SDT with communication practices in order to motivate behavior change. A recent study, for instance, highlighted the importance of nurses using effective communication in order to encourage and support patients to make healthy lifestyle choices (Davies, 2011). SDT, indeed, has “emerged as a popular theoretical framework to explain the motivational dynamics behind the regulation of health behaviors” (Silva, Marques, Teixeira, 2014, p. 171). In fact, the originators of SDT have proposed a new model of health behavior change where the basic psychological needs of competence, autonomy, and relatedness are “affected by autonomy-supportive health care climates” (Ryan et al., 2008, p. 3). As has been consistent throughout their articulation of self-determination theory, however,
the communication inherent in the development of an autonomy-supportive climate was minimized (see Figure 21 with encircled communication-based element).

![SDT model of health behavior change.](image)

**Figure 21.** SDT model of health behavior change.


To be fair, SDT already uses many communication concepts albeit uncredited. For instance, in an early article, Deci and Ryan (1987) wrote of the phenomenon of constraining behavior not being interpreted as controlling (of interest in the current study). They noted that, though limits are controlling by nature, they may be perceived as less controlling if they are set in a way that minimizes the use of “control-related locution” and “acknowledges the probable conflict” between what the limits require and what the person would rather do. “Acknowledgement,” they admit, “conveys an appreciation for the perspective of the actor, thus decreasing his or her experience of being controlled” (p. 1029). Again, the theorists have demonstrated an appreciation for communication’s function since acknowledgement is conveyed by verbal and nonverbal
communication, but have fallen short of properly crediting the important work of the communicative act.

SDT also relies heavily on the concept of contextual or social environment. Rather than conceptualize contexts as communicatively enacted, however, the lens employed is a psychological one. Thus, “contextual factors cannot be disembedded from the psychological meaning given them by the individual” (Deci & Ryan, 1987, p. 1033). Yet Grolnick and Ryan (1987) recognized that controlling conditions were not necessarily about the limits that are placed on children, but “the style in which they are conveyed” (p. 891) suggesting an understanding of the communicative function within an environment. They endorsed that, in school environments, grades be administered in more “informational styles,” that is, in a way that “emphasizes competence feedback rather than control” (p. 897), alluding to the importance of communication in creating an autonomy-supportive climate.

Other examples of how SDT researchers employ communication constructs without acknowledgement include a study of physical education teachers. Researchers concluded that autonomy-supportive teachers are more likely to foster intrinsic motivation and behavioral continuity in students outside of school. They explained that “tasks presented in autonomy-supportive fashion” are more likely to develop environments in which self-determination is nurtured (Hagger, Chatzisarantis, Culverhouse, & Biddle, 2003, p. 784). Gagne, Ryan, and Bargmann’s (2003) study on gymnasts reported that the “way training is carried out has an influence on the well-being of athletes,” suggesting that parents and coaches “encourage initiative and choice in the athlete, and share in his/her perspective when solving problems or offering advice” (p. 171).
These studies take for granted the communication which necessarily functions to develop environments supportive of autonomy.

The psychological focus, of course, makes sense since the theorists are psychologists by training. However, social science and the humanities are recognizing the value to interdisciplinary constructs and methodologies that bridge theory and practical differences in the field (Creswell, 2007; Mason, 2006). Clearly, the creators of self-determination theory as well as researchers employing SDT as a theoretical construct are aware of the communication that functions to create the social contexts in which actors behave. It is a small step, then, to codify and legitimate communication’s functionality within SDT.

I have argued in this project that communication courses throughout the entire model of self-determination and is a significant absent element. There is ample evidence that SDT is applicable to many domains where communication scholars are actively working. The model is past due for an update to include the necessary communication components. SDT has already been updated several times over the last thirty years with six theoretical additions so adding a communication component would be in line with current practice.

Updates include fleshing out the complexities of intrinsic and extrinsic motivation in Cognitive Evaluation Theory and Organismic Integration Theory. Causality Orientations Theory updated SDT to consider individual differences in people’s tendencies to orient toward the environment. With a strategic turn toward wellness, the Basic Psychological Needs Theory and Goal Contents Theory focused attention on the contexts that support versus thwart basic needs, but, typically, neglected communication.
Relationships Motivation Theory, concerned with the development and maintenance of close personal relationships, comes nearest to recognizing communication studies’ contributions by positing that close personal relationships are “not only desirable for most people but are in fact essential for adjustment and well-being” (SDT, 2015). The newer iterations of SDT focus more on contextual elements containing communication variables; good news for those interested in how communication influences self-determined behavior.

The movement by the original theorists to continually update the model is encouraging. The recognition of the influence of the environment will undoubtedly lead to a more complete embracing of communication contributions. Finally connecting the assets of communication studies within research using SDT is only a matter of time. It is my goal that this research contributes to the conversation about how to extend the heuristic application of SDT to include the communication processes that facilitate self-determined behavior.

There is value in updating the SDT model to account for theoretical, methodological, and disciplinary advances. Berger (1991; 2010; 2011) has long advocated for communication theory making a difference. I am advocating for updating current SDT theory to include the missing communication element. Ryan and Deci have established a research agenda that continues to modernize the model to account for its application to more contexts in order to explain broader questions. Adding communication, either as a subset as has been done for several other contextual updates, or as a collaborative effort between two or more disciplines, is timely and necessary.
It is not enough to just continue to use SDT within communication domains as is the current practice. Berger (2010), for one, cautions against merely “communicationalizing” psychological theories. The “unique contributions our discipline makes in focusing on message features and the effect they produce” (p. 446) should be recognized by psychology scholars and evidenced with an update to SDT. Condit (2009), too, warns against more of the same “transmission, copying, or minor modification of work done in other disciplines” (p. 4) and suggests that communication studies, “invent instead approaches that fit the distinctive phenomenon we would like to study—and whose practice we might like to improve” (p. 5). I agree with both of these well-regarded scholars and suggest an update to SDT.

The update would require scholars from communication studies and psychology to collaborate in interdisciplinary collegiality. The academic climate now embraces interdisciplinary studies to a greater extent than ever before. The ability of academicians from varied disciplines to “think outside the box” to see things differently and creatively will nurture the climate necessary to “mesh methods,” one answer, perhaps, to the criticism of how the fragmented descriptions of social experience resulting from fractioned academic disciplines leave us “no real explanation of anything” (Mason, 2006, p. 20). Collaboration could be possible through interdisciplinary programs on campuses or by conducting cross-disciplinary studies.

Communication studies has, as Berger (2010) aptly pointed out, a “substantial theoretical trade deficit” with allied disciplines such as psychology, with communication studies in the “debtor role” (p. 445). One specific way to collaborate would be to consider how the language set from communication studies could aid psychology
scholars in reframing psychological terms. For instance, positive feedback is a communicative act, not only a “positive competence feedback event” (Deci & Ryan, 1987, p. 1027), nor is “locution” (p. 1029) separate from verbal communication.

While traditional scholars may prefer to keep walls between academic disciplines, it makes sense, as Condit (2009) says, to “consider promoting broader vision of academic practices, and begin spending more effort generating both observations of what is constructive for people and communities . . . to improve the world” (p. 7). Mason (2006) terms interdisciplinary approaches as “multi-nodal” and argues that social practices are best understood using different axes and dimensions of theoretical orientations. “If the social world is multi-dimensional,” contends Mason, “then surely our explanations need to be likewise?” (p. 20). The more academic theories are able to explain the social world, the more practical and accessible the ideas become to a larger audience. When theory is useful to the general public, as a communication-based motivational theory would be, then the more likely academic knowledge can be diffused to a broader population who can benefit. Many emergent scholars are open to accepting fluid boundaries between disciplines.

Now that a case has been made for the value of updating the model, I turn next to the second discussion point within this chapter: the method used to understand the data. Within the current study, both qualitative and quantitative methodologies were mixed to understand the parental influence on children in a sports context. The data had surprising results with two variables, to be discussed later. Uncovering differences is one benefit of conducting a mixed methods study.
Importance of Mixed Methodology

In this study an intentional decision was made to use both interview and survey data for two reasons. One, there is still fairly limited engagement with methodological integrative research strategies (Mason, 2006) and this project would add to the volume of mixed methods’ studies. Mixed methodology adds greater depth to either quantitative or qualitative research and is a useful lens to study underlying sentiment and reduce uncertainty in the results from a single-strand study (Robinson & Harris, 2014). Two, using mixed methods allows a researcher to triangulate data results.

Methodological triangulation is the use of multiple qualitative and/or quantitative methods to study the population (Guion et al., 2011). There is gathering support for using mixed methods employing qualitative research and quantitative data (e.g., Creswell, Shope, Plano Clark, & Green, 2006; Hanson, Creswell, J. W., Plano Clark, Petska, & Creswell, J. D; 2005; Klassen, Creswell, Plano Clark, Clegg Smith, & Meissner, 2012; Robinson & Mendelson, 2012). Mason (2006), for instance, argues for the value of mixed-method approaches for researching questions about social experience and lived realities. She suggests that there is “enormous potential for generating new ways of understanding the complexities and contexts of social experience, and for enhancing our capacities for social explanation” (p. 10). Mixed methodology increases utility and adds depth to results that would not have been possible using a single-strategy study.

This study involved the intentional collection of both quantitative and qualitative data in order to capitalize on the strengths of each in order to answer the research questions (Klassen et al., 2012). The study was predominantly qualitatively-driven as it
was based on fourteen questions that asked participants about their lived experience as athletes who were influenced by their families to play. The strength of a qualitative approach is in its focus on the “dynamics of social processes, change and social context, and in its ability to answer ‘how’ and ‘why’ questions” (Mason, 2006, p. 16). The qualitative questions were supplemented with three quantitative hypotheses in order to gain a better understanding of the association between self-efficacy and communication variables such as involvement, and autonomy-supportive versus -controlling conversation. The discovery of differences between the qualitative and the quantitative findings is one reason using mixed methods is worthwhile.

*Differences between Qualitative and Quantitative Findings*

The sixth research question and the third hypothesis in this project considered the construct of involvement from a communication standpoint. The research question asked *To what extent did participants perceive that communication reflected parental involvement?* The hypothesis that more involvement would be associated with higher perceptions of autonomy was generated based on the assumption that more involvement from families would relate to more autonomy in children, a foundational supposition in the development of the POPS (Grolnick et al., 1991). The rationale was that the more parents were interested in, knowledgeable about, and spent time with their children, the more they were perceived to be involved with and communicating care to their children (Gagne et al., 2003; Grolnick et al., 1991).

In the current study, however, there were different outcomes between the quantitative results and the qualitative results. On one hand, the quantitative results indicated that, except in one instance, participants felt *less* autonomy when parents were
involved, counter to expectations. On the other hand, the qualitative results reflected the satisfaction that participants felt when their families were involved. Validity in triangulation studies is established when findings from all of the methods triangulate, or draw the same or similar conclusions (Guion et al., 2011) so these contradictions would be problematic in a single-strand study.

However, though a paradigmatic shift away from traditional schools of thought advocating singular methodology, using both quantitative and qualitative strategies in the same study is a viable option to obtain complementary findings and to strengthen research results (Mason, 2006; Thurmond, 2001). Qualitative methodology, especially, provides opportunities to explore variables and constructs that are unknown or that operate in unexpected ways (Creswell et al, 2006). Inconsistencies between the qualitative and quantitative data then, rather than mere inconveniences that damage validity, are opportunities to uncover deeper meanings in the data such as understanding the concept of involvement and how it functioned in these participants’ lives.

Since real lives rarely fall neatly into a Likert range of *always* to *never*, it makes sense that there are inconsistencies in results when using different methodologies while looking at the same context. Using diverse methods allows a researcher glimpses into a context by both objectively testing participants on their beliefs, and then also asking qualitative questions to better understand the participants’ lived experiences. Rather than considering differences in results as inconsistencies, reframed they become opportunities to understand the real lives of the participants better.

Mixed method approaches to research enhance the capacity for theorizing beyond traditional boundaries of academia. They allow triangulation of data results but, more,
mixing methods allows researchers to view the relationships between complex variables such as social experience and lived experience multi-dimensionally. Mason (2006) contends that our “understandings are impoverished and may be inadequate if we view these phenomena only along a single dimension” (p. 10) and I agree. A mixed methodology allowed exploration of variables in ways that would have been more difficult had I elected to conduct an experimental design or only qualitative interviews.

If only correlations had been conducted, for instance, this chapter would be discussing the results that indicated participants’ self-efficacy was higher when they perceived controlling conversation but not if they perceived autonomy-supportive conversation from their parents, counter to all predictions of SDT. Results also indicated that when their mothers were involved, participants’ self-efficacy was diminished, but that when their dads were involved, self-efficacy was increased. While interesting and valuable perhaps, conducting only a quantitative study would create a situation where the results paint a very different picture from what emerged with the addition of qualitative data.

On the other hand, if only a qualitative study had been conducted, it would have been difficult to assess levels of self-efficacy and associate self-efficacy to communication variables. Qualitative research is valuable in understanding participant’s perspectives, but may miss patterns and averages that exist within a given population and associations like this study’s involvement variable with self-efficacy. Together, quantitative and qualitative methods offer “enormous potential for exploring new dimensions of experience in social life, and intersections between these two” (Mason, 2006, p. 13).
Now that an argument has been made for the value of mixed methods, I next turn to the third discussion point of this chapter, the variable of parental involvement.

Parental Involvement

Parental involvement in this study had been conceptualized using Grolnick, Ryan and Deci’s (1991) definition of parents devoting resources to their child by being available to them, knowledgeable about their lives, and concerned about what is going on with them. It makes sense, using that definition, that children would be more likely to initiate behavior if they felt secure because their parents were involved. Parents’ involvement has been the subject of many studies that link parents’ styles and outcomes for children. More involved parents, for instance, provided “emotional resources essential to a sense of self-direction and confidence as well as more concrete resources that could aid in achievement” (Deci & Ryan, 1987, p. 145). Grolnick and Ryan (1989) found parental involvement significantly and positively associated with self-efficacy. It was suggested that children of highly involved parents will “feel more competent, display greater control understanding, and have more autonomous academic motivational orientations than will those of less involved parents” (Grolnick et al., 1991, p. 509).

Young gymnasts were more autonomously motivated dependent on their perceptions of involvement from parents and coaches (Gagne et al, 2003).

The quantitative results from the present study, however, suggest that involvement from parents is a complicated issue. Hypothesis three, following the assumptions from the previously cited literature, supposed that involvement from parents would be positively associated with self-efficacy. The hypothesis was broken into several iterations: one, general involvement from both parents; two, involvement
generally from a mother or father; and three, involvement specifically from my mother or my father. General involvement and general parent involvement were correlated negatively to self-efficacy. In other words, participants felt that when parents were involved, whether mom or dad, they were limited in their choice to initiate their own behavior. These results are counter to previous research that found parental involvement to be associated with higher levels of self-efficacy (Grolnick & Ryan, 1989; Grolnick et al., 1991).

The results became even more complex when asked about their own parents. When participants were asked specifically about their own mother being involved, self-efficacy dropped greatly. For their father, though, the opposite result occurred and participants reported a positive relationship between their father’s involvement and their sense of self-efficacy. The graph in Figure 22 repeats the one shown previously in chapter four in order to visually represent the large difference between participants’ perceptions of their own mother, on the left, and their own father’s involvement.

![Figure 22. Comparison of my mother’s versus my father’s involvement.](image)

That there are differences between parenting styles is nothing new. Grolnick and Ryan (1989) also found differences between mom and dad, but mom was perceived to be
more influential than dad. In their study of elementary students, mother influence was found to be related to achievement, teacher-rated competence, and behavioral adjustment, but no significant findings were obtained for father involvement. Grolnick’s research team (1991) found further distinctions between moms and dads while developing the POPS scale. In that study, looking at children’s perception of their parents’ autonomy support and involvement and the ways in which those perceptions predict motivation and achievement in school, children reported more autonomy support and more involvement for mothers than for fathers. Likewise, Kernis, Brown, and Brody (2000) found that perceptions of mothers’ communication styles were more consistently related to children’s self-esteem level. These studies all found mother involvement to be more positively related to achievement, autonomy-support, and motivation, counter to the findings in the current study which found dad’s involvement to have the only positive correlation to self-efficacy for the participants.

The discrepancies in the present study were made clearer because of the mixed methodology employed. Differences were found in the associations between the involvement variables and self-efficacy in the quantitative data and then, qualitatively, in the stories participants told of how their parents interacted with them in their lives. In essence, the quantitative results told one part of the story and the qualitative data fleshed out the explanations. However, quantitative results were based on only a single question asked of participants, *My mother/father thinks it is OK to make a mistake*. It is with caution, then, that one might apply findings from any single-answer correlation to a broader context or to attempt to draw conclusions.
Some reasons these quantitative results differed from previous studies may be that the current study did not measure the amount of parental involvement but only perceptions of involvement. Nor were there qualitative questions differentiating the involvement of mom versus dad. Both sets of data would have been useful to have when confronted with surprising results. Another explanation for the quantitative results from these participants could be based on perceptions. For instance, perhaps participants felt mom did not think it was okay to make a mistake, whereas they believed dad did think it was okay. Or perceptually participants could be stating that when mom did not think it was okay to make a mistake, the participant’s self-efficacy was impeded, but when dad thought it was okay to make a mistake, self-efficacy was supported. The qualitative data supported the quantitative results in that several participants made reference to enjoying playing their sport with dad more than mom, or preferring to run with dad over mom.

Different perceptions of parental involvement might also be explained by how involvement is often conceptualized as control. Other studies have seen the conflation of parental involvement, especially in sports contexts, where involvement from parents can be perceived as more controlled forms of motivation compared to, say, coaches’ involvement (Gagne at al., 2003). Control within SDT is hypothesized to thwart self-determination, so it would make sense, then, that self-efficacy would have been lower if participants perceived involvement as control but this explanation would not account for the differences in the mother/father dimension.

Because control had been explored in another hypothesis within the current study, the possibility of participants conflating involvement and control was verified. This analysis was completed post-study and reported in chapter four. Participants in this study
considered control and involvement variables to be closely aligned, but were not necessarily perceiving control as involvement. However, their concept of control, like their interpretation of involvement, was counter to current literature that uses SDT as a lens in research. The figure depicts the encircled findings counter to SDT literature.

**Figure 23. Counter-hypotheses**

There are likely many reasons why control and involvement did not align with current literature, some of which have already been discussed. Family involvement, especially interacting with controlling communication, are variables that merit further study in order for researchers and families to better appreciate how children perceive their parents’ participation in their choices and decisions.

Understanding parental involvement is a complex issue. In a comprehensive assessment of parental involvement in education, for example, Robinson and Harris (2014) recognized that though parents influence a child’s most important learning
environment at home, “research remains unclear about how exactly parents can contribute to the success of their children” (p. 220). Using 63 parental involvement measures from previous studies and running analyses on more than 1,500 cases, the researchers concluded that the variable of parental involvement did not suggest the clear positive connection to academic outcomes one might expect. In fact, in only one-fifth of the 1,556 cases analyzed did parental involvement relate to increases in achievement.

When discussing the variance between results on parental involvement in their study, Grolnick et al. (1991) speculated that children’s perceptual differences may stem, in part, from the “differences between mothers and fathers in their expectations for children’s behavior” (p. 514) or that “children’s feelings that their fathers are concerned with and involved with them is more critical than more objective ratings would suggest” (p. 515). In the current study, participants demonstrated that father involvement increased their self-efficacy whereas mom’s involvement lowered it. These results may be attributed to different parenting style; however, assessing parenting styles in the current study was limited to self-reports and children reports of autonomy-supportive or autonomy-controlling conversation, so no further assumptions about differences between mother versus father involvement can be made at the present time.

Parental involvement and other variables such as control “do not exist in a vacuum. Their relationship exists in a boarder context of influences that shape what parents do and how children respond” (Robinson & Harris, 2014, p. 227). The context includes the influence of communication. In order to effect positive change for children in educational settings, for example, a “non-punitive parenting philosophy” is
recommended in which parents “suggest rather than explicitly demand exchanges” from their children that would benefit them academically (p. 228).

The idea of exchange from Robinson and Harris’s work may be another explanation for the surprising findings regarding parental involvement in the current study. Quantitatively, participants did not associate parental involvement with self-efficacy except when their father was involved. Yet, qualitatively, parental involvement had a positive valence with the participants recognizing the potential loss of autonomy in deciding whether they would participate in the family’s sport as an exchange. The concept of exchange may explain the positive valance of parental involvement/control if considered from the perspective of a simple communication-based cost/benefit analysis.

Benefits that their families provided offset the potential cost of loss of autonomy when participants in this study took on the family’s sporting values. Kernis and colleagues (2000) refer to the giving of material rewards or extending special privileges to children as tangible rewards. The families in the current study made the potential costs of loss of autonomy attractive with the tangible rewards that participants gained. Most participants, for instance, had access to lessons and camps which met the psychological need to increase in competence. Many of the participants competed at their desired level, so their autonomy needs were met. Vacations and family traditions met the need for relatedness. In the current study, then, involvement from their families in the form of generational participation limited the autonomy and choice many participants had in initially taking up the sport. However, the potential negatives of parental involvement were offset by an exchange in which the benefits of membership outweighed the costs of family control.
Kernis et al. (2000) found that tangible rewards, when experienced as control, can be mediated by how they are administered. In the present study, participants qualitatively interpreted tangible rewards as benefits to their competency and relatedness needs because of the way their parents communicated their interest in and care for their children. This account would explain the results from H2 where controlling communication actually increased perceptions of self-efficacy in children. Explained in another way, if children experienced their parents’ expectations to participate in the family sport as control, then how their parents conveyed their interest and care for their children functioned to mediate the control the participants felt.

This chapter has argued for both updating the current model of SDT to include a communication element and recognizing the value of mixed methodology. I have also presented interpretations of the discrepant findings regarding the variables of involvement and control. Finally, limitations of the study along with suggestions for future research will round out this chapter.

Limitations of the Study

A limitation of this study was that the argument was mainly theoretical. This will be addressed by suggesting future research areas. Other limitations included the chosen scales, the child construct, non-generalizability of the results because of the small sample size, the difference between sports, a priori assumptions, and lack of familiarity of the software program NVIVO. These limitations will be addressed in the following section.

Scales

One of the challenges of using established measures to create a survey was the difficulty of validating reliable items for the sports context. The scales were chosen
based on the variables of autonomy-support, autonomy-control, and communication climate. The POPS scale used the variables of autonomy-support and involvement, which were not conceptualized as bi-polar constructs, despite other SDT scales using bi-polar variables, such as the RFCP which uses conversational- versus conformity-orientation. The different ways the scales were conceptualized added to the complexity of the variables of control and involvement. While the POPS had been found to be reliable and valid in other studies (Gagne et al, 2003; Grolnick et al., 1991), validating the items in this study meant removing many items in order to get a decent Cronbach’s alpha. More, there were differences in results based on which scale was used, either the POPS or the RFCP. The discrepancies created opportunities in better understanding how participants related items to each other but also complicated interpretation of the data. The disparities also made clear the need to carefully select scales and test items for consistency, especially when multiple scale are utilized.

Child Participants

Participants in this study were designated as either parents or children. However, many of the children were adults chronologically. Indeed, there were only five participants under the age of 18 and only four of these participated in the quantitative portion of the study. The possible effect of adults answering items designed for children may have skewed the results on the quantitative data. The age range of the “children” participants may have influenced results in immeasurable ways, thereby creating a limitation in analyzing results.
Non-Generalizability

There were a total of 40 participants in this case study. With such a small sample size, it is not possible to generalize to any other group. If the model were to be more fully developed, it would be important to gather a much larger sample size. This project studied individuals within families. An alternative would be to consider the whole family as a unit in order to study interaction effects and to validate the perception process.

Type of Sport

There was also variability between the different groups of sports. For instance, only tennis players had been introduced to their sport by a mother. Results differed in the need for autonomy as well, with runners exhibiting higher levels of autonomy and less relatedness needs that either tennis players or golfers. One reason for these differences may be accounted for by the fact that running, much more so than tennis or golf, is an individual sport. This was a potential limitation in the design of this study.

NVIVO

Learning NVIVO Pro took a lot more time than expected. The first six weeks of this dissertation project ended up being devoted to understanding the nuances of using NVIVO. Though there are great tutorials available, there were few people in my home college familiar with using the program. A timely seminar on qualitative research put me in touch with a few researchers who were familiar with NVIVO, but I caution any inexperienced qualitative researchers not to underestimate the time necessary to learn a new software program. NVIVO did allow me to organize all my data, keep an updated collection of codes, and analyze the data in helpful ways, but I would recommend only taking on a new software package if time and resources allow for it.
A Priori Assumptions

I made an assumption that, based on the theory itself which supposes inputs and influences, parents were going to be the motivators of children’s sports values. And while I was mostly correct, assumptions limit a researcher’s openness. I also assumed, based on my proposed communication model, that communication would facilitate movement between the elements of SDT. And while I believe I am correct, assumptions in research can lead to self-fulfilled expectations rather than allowing the data to speak for itself. I was only looking for communication. While a worthwhile endeavor, I may have overlooked other valuable information. This is another limitation to this study.

Though some limitations existed in the way the research study was conducted, valuable information was gathered about families who pass sports values onto children using the theory of self-determination. There are several areas that would benefit from future research including quantitative analysis of the proposed model itself, development of the communication grid with involvement/autonomy-support axes, and more in-depth study of family traditions and the sporting context. The current study would also benefit from follow-up interviews of minor participants to confirm whether the findings regarding introjected behavior are correct.

Future Research

One main objective of this project was to advocate for a communication component being added to the current SDT model. What I have suggested is to develop SDT so that the model incorporates communication behaviors as mediating variables. This is simply a theoretical proposal. Testing the flow of the proposed model needs more attention. Further quantitative studies would be useful as would qualitative inquiry using
larger sample populations that are not specific to one context, such as this study that looked only at a family sports. Studies which incorporated communication variables within traditional SDT contexts would be especially useful.

The proposed model depicts the internalization process ending with the choices of rejection and introjection. However, another way to conceptualize these processes would be to consider their communication outcomes. Even an actor who rejects external values communicates something to the public. The same is true when one partially internalizes values by introjecting. The current model is written as if these two choices have no communicative outcomes. An area of future research would be to test whether it is the case that rejected or introjected values are not communicatively enacted. I expect that they do have communication consequences and that the model would need to be updated to account for these processes.

Development of the grid of communication climate styles which hypothesizes encouraging, liberating, neglecting, and controlling communication along axes of involvement and autonomy-support warrants greater attention. Involvement and control had unexpected quantitative results so further testing of how participants perceived involvement could increase understanding of how involvement functions, therefore assisting families so that their communication is more effective. Creating communication-based theoretical constructs advances Berger’s call for more communication theory.

The influence of family values and traditions also deserves a deeper look, especially in connection to passing on values that might be considered part of a family’s identity, as was the case in the project. Testing the hypotheses that liberation and
encouragement lead to integration, whereas control and neglect lead to introjection or rejection would clarify the internalization process.

Some future research areas pertaining specifically to the sporting context include examining differences by sport, gender, and length of participation. In the first research question participants were asked who first influenced them to try their sport, and it was interesting that in both running and golf, no mothers introduced their offspring to the sport. An area that warrants further research is on the differences between parental roles in initially introducing sports to children. Are there any sexed differences between the sports themselves? Are there more female tennis players versus female golfers or female runners? What messages might be sent to young people considering taking on a new activity if only one or the other parent is willing to participate? Another area to explore would be whether the length of time an athlete has participated makes a difference on outcomes and on the sense of self-efficacy.

This study had participants with small children just coming to decision-making age. A multi-generational longitudinal study would allow a better understanding of the influential process of passing family values and also how modeling influences new generations of participants. Sports values, though important to this study, are not the only values that families pass. In the current study, other values were passed as well, including names, career paths and college attendance choices, but the scope of this project did not allow discussion of these values. A broader context looking at all values would be instructive.

Finally, future research projects would benefit from grouping sports together based on the nature of the sport. For instance, grouping individual sports like running or
swimming together and grouping team or group sports like baseball, golf, volleyball together would make interpreting results less complicated.

Conclusion

This study examined families who play sports together to test how communication functions within a model of self-determination. A new model has been proposed that would explain movement between the elements of self-determination from a communication perspective while maintaining the model’s current psychological emphasis. This proposal benefits social science disciplines such as psychology and communication studies by promoting interdisciplinary theory development.

In a broader sense, applying communication to SDT explains the complicated journey an actor begins when first influenced to take on a new behavior. In my case, my parents’ liberating and autonomy-supportive communication created the climate in which I integrated their sports values. I increased in competence, built relationships, and felt so satisfied with my participation that I happily modeled the sport to my offspring. They now are growing the next generation of athletes. Self-determination theory explains lived experiences from both a psychological and communication standpoint.
APPENDIX A – IRB Approval Letter

THE UNIVERSITY OF SOUTHERN MISSISSIPPI

INSTITUTIONAL REVIEW BOARD
118 College Drive #3147 | Hattiesburg, MS 39406-0001
Phone: 601.266.5997 | Fax: 601.266.4377 | www.usm.edu/research/institutional.review.board

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.

Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 12345678
PROJECT TITLE: How to Achieve IRB Approval at USM
PROJECT TYPE: New Project
RESEARCHER(S): Jonas Doe
COLLEGE/DIVISION: College of Education and Psychology
DEPARTMENT: Psychology
FUNDING AGENCY/SPONSOR: N/A
IRB COMMITTEE ACTION: Expedited Review Approval
PERIOD OF APPROVAL: 01/02/2016 to 01/01/2019

Lawrence A. Hosman, Ph.D.
Institutional Review Board

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APPENDIX B – Participants in Study

Table A1.

*Breakdown of Participants in the Study*

<table>
<thead>
<tr>
<th>Name</th>
<th>Qual</th>
<th>Quant</th>
<th>Sport</th>
<th>Gender</th>
<th>Unit</th>
<th>Years</th>
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<td>5</td>
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<td>G</td>
<td>m</td>
<td>gp</td>
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<td>11</td>
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</table>

T = tennis; R = running; G = golf; m = male; f = female; p/P = parent; c/C = child; gp/GP = grandparent; gc/GC = grandchild
APPENDIX C – Interview Questions

1. How did you decide to start playing tennis?
2. Who introduced you to the game? Tell me that story.
3. How long have you played tennis?
4. What do you remember about first learning to play tennis?
5. How much time did you spend playing tennis with mom/dad (w/ kids)?
6. Relate a story about playing tennis with a family member.
7. How often do you play tennis now?
8. How high a priority is tennis in your life now? How important is tennis? Why?
9. How did your family influence you in your decision to play tennis?
10. How much choice do you feel you had in being a tennis player?
11. Describe the communication in your family regarding tennis.
12. How supportive was your family in your decision to play tennis?
13. How was/is language used in your family to communicate about tennis/exercise?
14. How encouraging was your family about your interest in tennis?
15. How much time did your family/parent spend with you playing tennis?
16. How much time did your family/parent spend watching you play tennis?
17. What impact does tennis have on your life?
18. How easy/difficult has it been to pursue tennis?
19. What is your parent’s (child’s) attitude about tennis? How do you know?
20. How supportive was your family in your decision to play tennis?
21. How was/is language used in your family to communicate about tennis/exercise?
22. How encouraging was your family about your interest in tennis?
23. How much time did your family/parent spend with you playing tennis?
24. How much time did your family/parent spend watching you play tennis?
25. What behaviors taught you how your family felt about playing tennis?
26. What behaviors does your family use to show their approval of you playing tennis?
27. Do others know you play tennis? If yes, how?
28. How much time do you spend talking about tennis with others?
### General Categories for Nodes in NVIVO

<table>
<thead>
<tr>
<th>Code</th>
<th>Similar Terms</th>
<th>Definition/Explanation</th>
<th>Examples (Hypothetical unless in direct quotes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access</td>
<td>introduction, place/home, money, time, vacation, club</td>
<td>accessibility to the sport</td>
<td>where they lived, who introduced them, how they access their sport</td>
</tr>
<tr>
<td>Barriers</td>
<td>role modeling, shy, work, quit, folks don't play, initiative</td>
<td>availability to the sport</td>
<td>anything that influenced participation</td>
</tr>
<tr>
<td>Choice/Autonomy</td>
<td>motivation, challenge, participation, grew up playing, love, influence, practice, fun, summer, priority</td>
<td>choice in participating in the sport</td>
<td>&quot;happier running on my own,&quot; divine hand,</td>
</tr>
<tr>
<td>Communication</td>
<td>approval?</td>
<td>behaviors influencing participation</td>
<td>any reference to communication; talk; valance about participation</td>
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<tr>
<td>Community/Relatedness</td>
<td>race, partner, school, friends, golfing family, high school, relationship, team, social, tennis, running</td>
<td>external factors influencing participation</td>
<td>community-based references, team-based references</td>
</tr>
<tr>
<td>Competence</td>
<td>competition, effort, success, tournament</td>
<td>improvement in the sport</td>
<td>&quot;serious,&quot;</td>
</tr>
<tr>
<td>Family</td>
<td>children, father, generations, grandchildren, grandparents, mother, parents, spouses</td>
<td>family roles</td>
<td>any quote having to do with a family member</td>
</tr>
<tr>
<td>Health</td>
<td>benefits, exercise, lifestyle, active, body</td>
<td>health aspects of the sport</td>
<td>&quot;life time sport,&quot; references to body, age</td>
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<tr>
<td>Stories</td>
<td></td>
<td>stories told about the sport</td>
<td>&quot;weird,&quot; &quot;full circle,&quot; &quot;start playing again,&quot;</td>
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<tr>
<td>Values</td>
<td></td>
<td>values</td>
<td></td>
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</tbody>
</table>
APPENDIX E – Qualtrics Child Survey

Thank you so much for being willing to take part in my research. This section is a survey with about 50 questions. It should take about 20 minutes.

Read each question then select the best answer. There is a 'next' button at the bottom of each page. If a question doesn't quite apply to you, then answer to the best of your ability. For instance, if you live with only one parent, think of how the other parent might behave based on the question.

Demographics

Please identify your biological gender: Male/Female/Other
Age: below 18/above 18
The sport I believe I am being interviewed about is: Golf/Tennis/Running

Questions

6. In our family, we often talk about topics where some of us disagree with each other.

   Strongly Disagree Agree Disagree Strongly Agree

7. My parents say things like "every member of the family should have some say in family decisions."

8. My parents often ask my opinion when the family is talking about something.

9. My parents encourage me to challenge their ideas and beliefs.

10. My parents say things like "You should look at both sides of an issue."

11. I usually tell my parents what I am thinking about things.

12. I can tell my parents almost anything.

13. I really enjoy talking to my parents, even when we disagree.

14. I often have long, relaxed conversations with my parents about nothing in particular.

15. In our family, we often talk about our feelings and emotions.

16. My parents encourage me to express my feelings.

17. We often talk as a family about things we have done during the day.

18. My parents tend to be very open about their emotions.

19. In our family, we often talk about our plans and hopes for the future.

20. My parents like to hear my opinion, even when I don't agree with them.

21. When anything really important is involved, my parents expect me to obey me without question.

22. In our home, my parents usually have the last word.

23. My parents feel that it is important to be the boss.

24. My parents sometimes become irritated with my views if they are different from theirs.

25. If my parents don't approve of it, they don't want to know about it.

26. When I am at home, I am expected to obey my parents' rules.

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27. My parents often say things like "You'll know better when you grow up."
28. My parents often say things like "My ideas are right and you should not question them."
29. My parents often say things like "A child should not argue with adults."
30. My parents often say things like "There are some things that just shouldn't be talked about."
31. My parents often say things like "You should give in on arguments rather than making people mad."
32. Mothers have enough time to talk to their children.
   Never Usually Sometimes Always
33. Fathers have enough time to talk to their children.

Select the statement that you agree with the most.
34. Mothers always explain to their children the way they should behave.
   Mothers sometimes explain to their children the way they should behave.
   Mothers sometimes make their children behave because they're the boss.
   Mothers always make their children behave because they're the boss.
35. Fathers always explain to their children the way they should behave.
   Fathers sometimes explain to their children the way they should behave.
   Fathers sometimes make their children behave because they're the boss.
   Fathers always make their children behave because they're the boss.
36. Mothers ask their children what they did in school that day.
   Never Usually Sometimes Always
37. Fathers ask their children what they did in school that day.
38. Mothers get very upset if their children don't do what they're supposed to right away.
   Strongly Disagree Agree Disagree Strongly Agree
39. Fathers get very upset if their children don't do what they're supposed to right away.
   Select the statement that you agree with the most.
40. Mothers never punish their children. They always talk to them about what was wrong.
    Mothers sometimes punish their children. They usually talk to them about what was wrong.
    Mothers usually punish their children. They sometimes talk to them about what was wrong.
    Mothers always punish their children. They never talk to them about what was wrong.
41. Fathers never punish their children. They always talk to them about what was wrong.
    Fathers sometimes punish their children. They usually talk to them about what was wrong.
    Fathers usually punish their children. They sometimes talk to them about what was wrong.
    Fathers always punish their children. They never talk to them about what was wrong.
42. Mothers have the time to talk about their children's problems.
   Never Usually Sometimes Always
43. Fathers have the time to talk about their children's problems.
   Choose the answer that is more true.
44. Mothers tell their children what to do.
    Mothers like their children to decide for themselves what to do.
45. Fathers tell their children what to do.
    Fathers like their children to decide for themselves what to do.
46. My mother thinks it is OK if I make a mistake.
    Strongly Disagree Agree Disagree Strongly Agree
47. My father thinks it is OK if I make a mistake.
48. My mother wants to know what I am doing.
    Never Usually Sometimes Always
49. My father wants to know what I am doing.
50. My mother gets upset when I do not do well at school.
    Strongly Disagree Agree Disagree Strongly Agree
51. My father gets upset when I do not do well at school.
52. I can always manage to solve problems if I try hard enough.
53. If someone doesn't do what I want, I can find ways to get what I want anyway.
54. It is easy for me to stick to my goals.
55. I know how to handle things I didn't expect.
56. I can solve most problems if I try hard enough.
57. I remain calm when facing trouble because I know I can handle whatever comes.
58. When I am faced with a problem, I can usually find several ways to fix it.
59. If I am in trouble, I can usually think of a solution.
60. I can usually handle whatever comes my way.
61. I am sure that I can deal with unexpected events.
APPENDIX F – Qualtrics Parent Survey

Thank you so much for being willing to participate in my research about families who share values through athletics. This portion is a survey with about 50 questions. It should take about 20 minutes.

Read each question then select the best answer. There is a 'next' button at the bottom of each page. When the question asks about a child, think about the child who is participating with you in this study, even if s/he is an adult child.

Demographics

Please identify your biological gender: Male/Female/Other
Age: below 18/above 18
The sport I believe I am being interviewed about is: Golf/Tennis/Running

Questions:
6. I can always manage to solve difficult problems if I try hard enough.
   Strongly Disagree Agree Disagree Strongly Agree
7. If someone opposes me, I can find the means and ways to get what I want.
8. It is easy for me to stick to my aims and accomplish my goals.
9. I am confident that I could deal efficiently with unexpected events.
10. Thanks to my resourcefulness, I know how to handle unforeseen situations.
11. I can solve most problems if I invest the necessary effort.
12. I can remain calm when facing difficulties because I can rely on my coping abilities.
13. When I am confronted with a problem, I can usually find several solutions.
14. If I am in trouble, I can usually think of a solution.
15. I can usually handle whatever comes my way.
16. In our family, we often talk about topics like politics and religion where some of us disagree with each other.
17. I often say things like "every member of the family should have some say in family decisions."
18. I often ask my child's opinion when the family is talking about something.
19. I encourage my child to challenge my ideas and beliefs.
20. I often say things like "You should look at both sides of an issue."
21. My child usually tells me what s/he is thinking about things.
22. My child can tell me almost anything.
23. I think my child really enjoys talking with me, even when we disagree.
24. My child and I often have long, relaxed conversations about nothing in particular.
25. In our family, we often talk about our feelings and emotions.
26. I encourage my child to express his/her feelings.
27. I tend to be very open about my emotions.
28. We often talk as a family about things we have done during the day.
29. In our family, we often talk about our plans and hopes for the future.
30. I like to hear my child's opinion, even when s/he doesn't agree with me.
31. When anything really important is involved, I expect my child to obey me without question.
32. In our home, the parents usually have the last word.
33. I feel that it is important for the parents to be the boss.
34. I sometimes become irritated with my child's views if they are different from mine.
35. If I don't approve of it, I don't want to know about it.
36. When my child is at home, s/he is expected to obey the parents' rules.
37. I often say things like "You'll know better when you grow up."
38. I often say things like "A child should not argue with adults."
39. I often say things like "There are some things that just shouldn't be talked about."
40. I often say things like "You should give in on arguments rather than risk making people mad."

Select the statement that you agree with the most.

41. Children get into trouble because their parents punish them too much.
   The trouble with most children nowadays is that their parents are too easy with them.
42. Many of the unhappy things in people's lives are due to bad luck.
    People's misfortunes result from the mistakes they make.
43. In the long run, people get the respect they deserve in this world.
    An individual's worth often passes unrecognized no matter how hard s/he tries.
44. No matter how hard you try, some people just don't like you.
    People who can't get others to like them don't understand how to get along with others.
45. I have often found that what is going to happen will happen.
    Trusting to fate has never turned out as well for me as deciding to follow a definite course of action.
46. There are certain people who are just no good.
    There is some good in everybody.
47. In my case, getting what I want has little or nothing to do with luck.
    Many times we might just as well decide what to do by flipping a coin.
48. Most people don't realize the extent to which their lives are controlled by accidental happenings.
    There really is no such thing as "luck."
49. One should always be willing to admit mistakes.
    It is usually best to cover up one's mistakes.
50. It is hard to know whether or not a person really likes you.
    How many friends you have depends upon how nice a person you are.
51. In the long run, the bad things that happen to us are balanced by the good ones.
    Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
52. Many times I feel that I have little influence over the things that happen to me.
    It is impossible for me to believe that chance or luck plays an important role in my life.
53. People are lonely because they don't try to be friendly.

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There is not much use in trying hard to please people. If they like you, they like you.

54. What happens to me is my own doing.
Sometimes I feel that I don't have enough control over the direction my life is taking.
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