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Navigating the Noise: an Examination of the Relationship Between Introversion, Family Communication Patterns, Family Satisfaction, and Social Self-efficacy

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NAVIGATING THE NOISE: AN EXAMINATION OF THE RELATIONSHIP BETWEEN
INTROVERSION, FAMILY COMMUNICATION PATTERNS, FAMILY SATISFACTION,
AND SOCIAL SELF-EFFICACY

by

Kristine M. Nicolini

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ABSTRACT

NAVIGATING THE NOISE: AN EXAMINATION OF THE RELATIONSHIP BETWEEN INTROVERSION, FAMILY COMMUNICATION PATTERNS, FAMILY SATISFACTION, AND SOCIAL SELF-EFFICACY

by

Kristine M. Nicolini

The University of Wisconsin-Milwaukee, 2016
Under the Supervision of Professor Nancy Burrell, Ph.D.

This study examines how introversion, family communication patterns (FCP), and modified communication behaviors relate to perceived levels of social self-efficacy and family satisfaction. Participants ($N = 359$) were undergraduate students at a large Midwestern urban university. The proposed causal model suggests conversation and conformity levels within a FCP impact whether families employ facilitative or inhibitive communication modification behaviors in interactions with an introverted family member. An Ordinary Least Squares (OLS) method of estimation was used to test the causal model through a comparison of the expected and actual correlation matrix. The results indicated the data were consistent with the proposed theoretical model. The coefficients were all statistically significant at the $p < .05$ level. Tests based on the procedures outlined by Sobel (1982) were conducted to consider the possible impact of mediating effects for each sequence path represented within the model. The Sobel test demonstrated that each of the mediating variables act as significant ($p < .05$) sources of mediation between the variables represented within the model. Within the hypothesized path configurations, family satisfaction and social self-efficacy were used as the outcome measures. However, the results of the analysis indicate a significant path also exists between introversion and social self-efficacy. Findings suggest the implementation of modification behaviors do impact perceived levels of social self-efficacy and family satisfaction. Additionally, study

results suggest introversion positively impacts levels of social self-efficacy. The findings of the research study have implications for family communication and interpersonal communication research.

Keywords: introversion, family communication patterns, social self-efficacy, family satisfaction

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Navigating the Noise: Introversion, family communication patterns, family satisfaction, and social self-efficacy

This study examines how introversion and the enactment of family communication patterns (FCP) and facilitative or inhibitive communicative behaviors impact social self-efficacy and family satisfaction. The first section synthesizes the body of research surrounding the central variables, examines how introversion impacts each variable, and proposes a causal model illustrating how the integration of the two dimensions of FCP (communication and conformity) link to the use of facilitative communication behaviors (FCB) or inhibitive communication behaviors (ICB) potentially resulting in long term effects on social self-efficacy and family satisfaction. Approximately 50% of the population in the United States possess an introverted temperament despite a sociocultural preference for extraversion (Myers-Briggs Foundation, 2014). Individuals with introverted temperaments communicate differently than extroverts. The divergent communication behaviors and interaction levels demonstrated by introverts can differ greatly from the normative communicative behaviors of a specific family communication pattern (FCP). When such differences arise, families may integrate FCB to support the needs of introverted family members or instead engage ICB under the assumption that all family members must conform to the communication expectations set forth by the FCP. Assumptions of conformity may present distinct challenges for an introverted family member during formative years when social skill sets are formed. Conversely, the implementation of FCB may help support the development of critically important social interaction skills. Engaging either of the two communication behaviors within the FCP may impact social self-efficacy in adulthood and family satisfaction. By invoking and integrating the theoretical frames of introversion and family communication patterns, this study identifies and examines whether families employ specific communication behaviors or accommodations to better help assimilate introverts more smoothly

into a primarily extroverted society. Furthermore, the investigation seeks to determine if the enactment of such behaviors produces long term positive or negative effects on introverts' perceptions of their ability to be successful in social situations. The positive or negative effects may also impact feelings of satisfaction related to inter-family relationships. The outcome of the examination of these connections may significantly inform and impact family communications not only for the estimated 50 percent of the population with introverted temperaments but also for family members and friends of introverts throughout the United States. The establishment of key connections between certain family communication pattern behaviors related to communication and conformity and levels of social efficacy and relational satisfaction later in life may help to uncover support for the implementation of certain behavioral modifications related to communication and conformity.

Past research on temperament (Barrick & Mount, 1991; Boudreau, Boswell, & Judge, 2001; Judge, Bono, Ilies, & Gerhardt, 2002) suggests a cultural normative preference for communicative behaviors attributed to extroversion within the United States. Given the dominant normative expectations surrounding temperament and parents' desire to help their children succeed, many parents may expect children to demonstrate extroverted social tendencies signifying that they are properly socialized and prepared for success in school and work environments. Such expectations can be problematic for the 50 percent of the population within the United States (Myers-Briggs Foundation, 2014) with an introverted temperament.

Familial communication patterns play a distinct role in the social development of a child shaping conflict management styles, mental well-being, and social support (Bandura, 1977; Koerner & Fitzpatrick, 2002). The frequency and quality of communication, in addition to expectations surrounding conformity of values, attitudes, and behaviors, profoundly impact both

communicative patterns and interpersonal relationships within the family. Given their smaller circle of close connections, introverted children are significantly impacted by familial connections than extroverted individuals. Integrating research from the fields of communication, psychology and sociology, this literature review (a) analyzes the causality and communicative behavioral manifestation of introversion; (b) examines how introversion is either supported or inhibited within the two dimensions, communication and conformity, represented in family communication patterns extrapolated in the generalized theory of family communication (Koerner & Fitzpatrick, 2002a; 2002b); and (c) explores how the impact of FCP and facilitative/inhibitive communicative behaviors within the family impacts social self-efficacy and family satisfaction levels.

Introversion

Defined as “an inborn temperament based on genetic makeup” (Laney, 2005), introversion and extroversion represent end points on a continuum. As Jung (1921) first theorized, temperament serves as a central building block of personality. Captivated by an inner world of thoughts and feelings, introverts focus on understanding and making sense of the events unfolding in the world around them. Energized by people and activities, extroverts actively seek out and engage in activity. The clear distinction between each temperament centers on energy usage. Introverts recharge their energy in solitude, whereas extroverts need to interact with others in order to re-energize (Cain, 2013). Although all individuals exhibit tendencies of both temperaments, most are definitively categorized as either introverted or extroverted.

Causality: Nature versus Nurture

Psychologists clearly distinguish temperament and personality whereby “temperament refers to inborn, biologically based behavioral and emotional patterns that are observable in

infancy and early childhood; personality is the complex brew that emerges after cultural influence and personal experience are thrown into the mix” (Cain, 2013, p. 101). The central question of causality motivated scientists to compare the personality traits of identical and fraternal twins. In 1956, Eysenck’s research comparing such traits in both identical and fraternal twins provided proof that heredity is an essential component in the determination of temperament. In 1989, Kagen (2009) began a series of longitudinal studies to expand the body of knowledge surrounding the fundamental question pertaining to whether temperament is genetic or modifiable. Utilizing a series of longitudinal studies, Kagen and Snidman (2009) were able to predict “highly-reactive” infants were more likely to develop serious, careful personalities typically attributed to introversion. Incorporating both behavioral and biological measures, the researchers identified the cause of such reactions were dependent on the sensitivity of the amygdala which generates a “fight-or-flight” nervous system response to stimuli. Kagen and Snidman (2009) also noted highly reactive children are intimately focused on their environment and demonstrate increased eye movements to compare choices before making a final decision. Such alert attention transcends into social decision making regarding why and how other children engage in certain activities such as sharing toys and other areas of solitary interest such as puzzles or artistic endeavors. While such genetic evidence presents a compelling case, it does not tell the whole story.

Bouchard and McGue’s (2003) research demonstrates introversion is only inherited by 40 to 50 percent of offspring (Cain, 2013). Therefore, genetic factors account for only half of the variability. Returning to the nature versus nurture question years after his initial research was published, Kagen, Snidman, Arcus, and Reznick (1994) recognize and extrapolate how both genetics and environment intimately impact personality. The degree to which each factor

changes the outcome is yet to be determined. Regardless of the causality associated with introversion, the communicative manifestation of the temperament is evident in many aspects of family communication. The next section examines how introversion temperament characteristics manifest within the home.

Communicative Manifestation

Introversion tendencies manifest in several ways including: how introverts process information, how their bodies function, the memory system that they use, how they behave, how they communicate, where they focus their attention, and how their energy is restored (Laney, 2005). Communicative behaviors are intricately intertwined throughout each of these manifestations. For example, introverts may take longer to respond to a conversational prompt because they utilize a longer brain pathway to access information. During such delays, introverts may not make eye contact as they think through the request and their response.

Information and Emotional Processing

Research by leading scholars on introversion has demonstrated introverts have more blood flow and higher activity within the frontal lobe of the brain and are using faster beta brain waves (Cain, 2013; Tran, Craig, Boord, Connell, Cooper, & Gordan, 2006). Additionally, introverts use the acetylcholine pathway which is quite long and requires overnight processing to both store and retrieve information. The pathway extends to the amygdala, or emotional center, last which results in delayed emotional responses. The information and emotional processing through the acetylcholine pathway results in several key differentiators for introverts within communication including: (a) reduced eye contact when speaking; (b) increased eye contact when listening; (c) significant depth of knowledge; (d) glazed or detached appearance when tired or stressed; (e) use of preplanning functions of the brain; (f) increased learning in context; (g)

elevated sense of humor; (h) longer delay retrieving vocabulary; (i) forgetfulness when asked to recall instantly; and (j) clearer explanatory capabilities after extended time to think or consider an issue (Gale, 1983; Horne & Östberg, 1977; Laney, 2002; 2005; 2011). Scholars have clearly established key differentiating behaviors exhibited by introverts during the communication process.

Communicative Behaviors

Many distinct communicative behaviors can be attributed to introversion. From as early as four months of age, introverts demonstrate unique characteristics which impact their ability to communicate within the family structure. Preferring to focus their social energy on a small, close circle of family and friends, introverts often listen more than they talk, think before they speak, and often prefer to express themselves in writing (Cain, 2013). Additionally, introverts tend to avoid conflict situations and small talk, opting instead for deep discussions.

Introverts restore energy in solitude and expend energy from the moment they begin interacting with others until they return to a quiet environment. The effects of this energy depletion is seen in the desire of many introverts to be in more solitary, comfortable settings, such as home as opposed to engaging in more stimulating social settings (Cain, 2013). The need for restoration within the home environment is in direct opposition to the needs of more extroverted family members and may be the source of conflict regarding family plans.

Researchers describe increased attention spans and demonstrate enhanced capabilities to focus and notice intricate details in both their surroundings and others (Laney & Sheehan, 2011). Such attention to detail also transcends into work patterns as introverts work both slowly and deliberately, concentrating on one task at a time with increased focus and concentration (Cain, 2013).

Many of these important differentiators manifest communicatively in how an introverted child interacts within the familial unit. Introverted children are often quieter, preferring to focus for long periods of time on solitary activities and thoughts rather than engage other family members. Such periods of solitude allow introverts to develop leadership capabilities in theoretical and aesthetic fields. As Farrall and Kronborg (1996) note, phenomenal introverted leaders who have created innovative fields of thought or restructured existing knowledge, have spent long periods of time in solitude. The ability to focus in depth on a particular topic or individual can provide many benefits for other family members, if they are willing to invest the time necessary. Moreover, family members may need to work to engage introverts in discussions about their day and help draw them out of their interior worlds to share their thoughts and ideas (Laney, 2005).

These unique needs may baffle most parents with extroverted temperaments (Laney, 2005) and result in an attempt to “fix” the child through intensive social emersion activities including the enactment of planned social activities, outside support resources, or familial expectations regarding societal norms. Such interventions and normative behaviors often have a negative long-term impact on introverted children’s self-esteem and confidence levels regarding their ability to engage in and navigate large social situations such as school and work. Conversely, such behaviors may cause a shift in the family communication pattern pertaining to interactions between dyads including the introverted family member.

Family Communication Patterns

Communication within the family plays a crucial role in the development of a child’s social skills and conflict management style (Cummings, Goeke-Morey, & Papp, 2001), mental health (Schrodt & Ledbetter, 2007), and sense of social support (Gardner & Cutrona, 2004).

Although children may originally learn normative communication behaviors by modeling parental communication patterns (Noller, 1995), they are also influenced by the communicative behaviors of their siblings and extended family members (Laney, 2005).

Acknowledging the interdependent and intersubjective nature of family relationships, Koerner and Fitzpatrick (2002) utilize Baldwin's (1992) schematic model of interpersonal communication as a foundation from which to develop the generalized theory of family communication patterns. Specifically, Baldwin hypothesized that individuals utilize three distinct schemas to navigate interpersonal social interactions including: "(1) a self-schema comprised of self-knowledge (biographical information, attitudes, beliefs, goals, social perceptions, etc.), (2) an other-schema containing knowledge of others (general understanding of different individuals' attitudes, beliefs, goals, etc.), and (3) a schema made up of interpersonal scripts that outline typical interactions between the self and others" (Porreco, 2010, p.3). Schemas at each distinct level may be utilized to help individuals make sense of previous social encounters, while also aiding in the successful navigation of future social experiences.

To extrapolate on Baldwin's (2002) model, Koerner and Fitzpatrick (2002a) focus on the formation of the third distinct schema (i.e. interpersonal relations between self and others) within the context of family structures. The interpersonal relational schema can be further linked by relationship specificity whereby individuals may reference general social schema (i.e., knowledge applying to family relationships at large), relationship type schemas (i.e., knowledge applying to a specific family), or relationship-specific schemas (i.e., past experiences or knowledge with a specific family member) (Fletcher, 1993). Furthermore, several important family communication characteristics are also contained within the family relationship schema including: (a) the appropriate display and appreciation of family member individuality; (b) the

types and range of acceptable conversational topics that can be engaged in openly by all family members (also referred to as the family's conversation orientation); (c) principles regarding how intimacy and affection can be conveyed; and (d) the degree to which the family expects all members to conform to certain attitudes, beliefs, values, and behaviors (also referred to as the family's conformity orientation) (Porreco, 2010). Such relational knowledge derives from past communicative experiences within the family structure and conversations about relationships that transpire between family members.

Relational schemas derive over time from both interpersonal interactions and discussion about relationships. As Porreco (2010) notes, "because families represent the most primary source of socialization for all individuals, families undoubtedly contribute substantially to the overall shape and form of individuals' emergent schematic representations of the social world. In other words, because one's family represents the first accessible source of knowledge regarding human relationships, the ways in which family members regularly communicate and interact with one another should influence the contents of children's relational schemas, which in turn affect how children learn to behave as social actors" (p.4). Given the duration of time children spend observing and modeling the communicative interactions between family members, such internalization of normative communicative behaviors can have profound effects on their understanding of how to successfully navigate interpersonal relations within family structures. Indeed, past research (Koerner & Fitzpatrick, 1997; 2002a; 2002b) on family communication patterns demonstrates that FCP measures often generate similar indices between family members regarding how they interact and relate to one another.

The development of the generalized theory of family communication patterns (Koerner & Fitzpatrick, 2002a; 2002b), centers on the intersection of the two dimensions of conversation and

conformity resulting in the creation of four distinct family communication patterns. Utilizing a high or low distinction of each dimension, the researchers set forth criteria for each category. Families demonstrating high conversation orientation believe that extensive communication is essential to optimize ideal family functions. Therefore, all family members engage in active, dynamic, and frequent communicative behaviors regarding a diverse range of topics. Conversation often occurs spontaneously and is welcomed as part of the normative communication process within the family unit. Conversely, families exhibiting a low conversation orientation engage in infrequent communicative exchanges and may view certain topics as forbidden. Given the lack of conversational flow within such families, members may feel disconnected from each other and less informed about the values and beliefs represented within the family unit.

The conformity dimension examines the extent to which families feel compelled to share the same beliefs, attitudes and values (Koerner & Fitzpatrick, 2002a; 2002b). Families exhibiting high conformity orientations necessitate a uniformity of these underlying assumptions between all family members. High conformity often centers on the desire to achieve and maintain harmony within family interactions and avoid conflict within the family dynamic. Members of such families often adhere to a strict hierarchical structure in which certain family roles have a high status than others. Relationships within the family are valued and stressed as more important than external relationships. Individuals within families with a high conformity orientation often prioritize family needs above individual needs. Representing the inverse of a high conformity orientation, low conformity families demonstrate and value individual independence in thoughts, values, beliefs, and behaviors. Indeed, relationships outside the family may not only be cultivated but valued above interpersonal relationships with other family

members. Finally, members of families with low-conformity orientations are encouraged to pursue their own goals and interests, even if they deviate from the diverse value systems adopted by other family members. According to Koerner and Fitzpatrick, four distinct family communication patterns emerge due to the interaction between family orientations centering on conversation and conformity. The next section examines each of these unique communicative patterns.

Four Types of Family Communication Patterns

The four distinct family communication patterns (FCPs) represent the intersection and level (low, high) of conversation and conformity orientations (see Figure 1). Conversation orientation focuses on how freely members within the family unit feel about sharing their thoughts and feelings on discussion topics. Referencing both the amount and the extent of talk with the family unit, high conversation orientation indicates that members talk often and openly about diverse topics within the family structure. Conversely, conformity orientation centers on the homogeneity of the family climate related to attitudes, values, and beliefs (Koerner & Fitzpatrick, 2006). Within high conformity family units, members demonstrate little differences in beliefs and parents are responsible for establishing and enforcing family norms. The interaction of both dimensions result in the formation of the four family communication pattern family types: consensual, pluralistic, protective, and laissez-faire (Koerner & Fitzpatrick, 2002a).

Both high in conversation and conformity, consensual families value wide ranging and open discussions on diverse topics while reinforcing the family hierarchical structure, values, attitudes, and beliefs. While all members are encouraged to engage in conversations, the family members who wield the most power, typically parents or senior family members, ultimately make all decisions regarding family value systems and regulation within the family unit.

Members of consensual families convey that their opinions are valued and heard and discrepancies are often discussed and explained within the context of the rationale for the decision.

Pluralistic families (high conversation, low conformity) demonstrate a strong commitment to open conversation and collaboration in decision-making endeavors. Within this process, children often experience positive feedback when sharing their opinions and thoughts on the topics under discussion. Additionally, parents and other senior family members refrain from reframing children's opinions or attitudes to reflect their own. Instead, children are able to openly and honestly discuss a wide variety of conversational topics.

Protective families (low conversation, high conformity) expect obedience to familial norms with little opportunity for children to question parental decisions. This more traditional model of power within the family structure stems from parents' belief that they are responsible for both directing and controlling the activities of the family. Within such family types, conversation is minimal as family members are expected to understand the norms and values associated with their family and adhere to such expectations. Failure to comply often results in undesirable consequences executed by the more authoritative family members.

Laissez-faire families are low on both conversation and conformity orientation resulting in limited family member interaction and lack of cohesiveness. Koerner & Fitzpatrick attribute this disconnection to parents within the family unit holding different sets of values regarding interpersonal intimate relationships. Children from such households often establish and value external interpersonal relationships over family ties.

Interestingly, Koerner and Fitzpatrick (2002) posit that families may alter relationship-specific schema within the family communication pattern for a particular family member. Given

the unique communicative needs of introverted children within the family environment, it is reasonable to consider how a family might alter relationship-specific schema to more effectively address these needs. The next section further examines the unique communicative needs of the introverted child within the broader family communicative patterns present within the family unit.

Facilitative and Inhibitive FCP Attributes for Introversion

The typology of families into four distinct family communication patterns based on communication and conformity spectrums presents unique opportunities and challenges for introverts within each distinct classification. To understand the impact of each classification formed by the intersection of the communication and conformity spectrums, the significance of each spectrum is examined.

Communication spectrum. The measurement of low to high communication within the family unit focuses on the quantity of communication which transpires within the family unit. Introverts value deep conversation as opposed to small talk and are often viewed by other family members as excellent, attentive listeners (Laney, 2005). When invited into the conversation and given time to formulate their thoughts on a matter of interest, introverts engage in deep conversations with other family members. Such conversations are often between two individuals as opposed to the family unit as a whole. Families with high communication patterns provide a forum for introverts to discuss a wide breadth of topics where there is ample room for disagreement and varied opinions. Such environments, in which family members contribute to family decisions, challenge each other's thoughts and beliefs, and are open to diverse viewpoints, help introverts transition their internal thoughts into external explanatory experiences which improve social skills and minimize solitude. Conversely, families that enact a low

communication pattern can prove to be challenging for the social development of introverts. Within such family units, introverts can be perceived as withdrawn, disengaged, and aloof because there are minimal attempts to draw them out of their internally focused temperament. Additionally, the lack of communicated structure can cause introverts to experience heightened anxiety and an inability to express themselves.

Conformity spectrum. The role of conformity within the family communication pattern is both positive and negative for introverted family members. On one hand, the structure provided by clearly articulated and followed values and ideals provides a sense of stability for introverted children. However, the inability to voice opinions, embrace original thought patterns and engage in creative thinking may be significantly detrimental for introverts and result in an inward withdrawal. Furthermore, such regimented beliefs often stifle the internal ability to think deeply about issues and form individual value systems. Conversely, families who embrace low conformity communication patterns provide an environment where introverts are able to take time to consider all sides of an issue and develop their own opinions. Such strong internal values are consistent with introversion temperaments (Laney, 2005). This atmosphere is ideal for introverted children who prefer to think ideas through before arriving at a decision. The following section applies this conceptual integration of introversion and the two spectrums to each family communication pattern.

Pluralistic (high conversation, low conformity). Families who enact a pluralistic family communication pattern high in conversation and low in conformity offer a safe haven for introverts to feel comfortable sharing their creative ideas and opinions on a wide variety of topics. Although introverts may not actively partake in each conversation as it transpires, they are excellent listeners who absorb both the conversational ebb and flow of ideas and the intricate

nonverbal nuances and relational transactions unfolding within the family dynamic.

Additionally, within such an accepting family structure, introverts have an opportunity to share their ideas and be drawn into the conversation as pluralistic families often seek out opinions from all members before making family decisions. Drawing on their introspective nature and creativity, introverts will often provide a unique perspective on the conversation topic at hand.

Several potential inhibitions also exist within pluralistic families for introverted children. Given the nature of their temperament and the biological function of their brain patterns, introverts need time to think through the issue being discussed and time to formulate responses to the questions posed within the conversation. Family members who are more extroverted in nature or are unaware of this trait of introversion may assume the introverted family member is not interested in participating in the conversation or does not care to engage. Breaks from family communication and time in solitude, to re-energize, throughout the day is also a necessity, which pluralistic families may struggle to incorporate within the family schedule. This may mean families will need to set aside a certain period of time for the introverted child to be able to have some down time in a quiet location. Furthermore, the lack of structure regarding clear boundaries can be problematic for introverted children who desire a structured routine and schedule.

Consensual (high conversation, high conformity)

The consensual family communication pattern is defined as both high in conversation and conformity. Within this structure, introverted children may experience several challenges related to the expectations to continuously engage in conversation and the heightened pressure to conform to a preconceived set of ideals based on parental values. One of the most prominent challenges centers on turn-taking procedures. A lack of understanding by family members of the

increased processing time many introverts require results in fewer opportunities for introverted family members to contribute to the conversation. Reduced participation is interpreted as a lack of interest in the topic while the introverted family member experiences increased frustration at his or her inability to be heard and acknowledged.

Conformity expectations regarding social obligations and social circles of friends are problematic if introverted children are parented by extroverted parents. Parental worries associated with a small social circle of friends and the expectation to participate in a myriad of social activities results in exhaustion for introverted children.

Laissez-faire (low conversation, low conformity)

The lack of interaction within the family may initially seem like a good fit for an introverted child. Allowing the child to spend too much time introspectively without breaks of active engagement with another family member actually causes the child to retreat into his or her inner world and experience intense difficulties navigating social situations such as school and extracurricular activities. Moreover, in such situations introverted children feel that their opinions are not important and begin to question their self-worth. The minimal opportunities to express oneself and the lack of time devoted to such social development is especially detrimental for an introverted child.

Combining low conversation with a low conformity will also negatively impact introverted children as they struggle to decipher the social expectations and behavioral norms associated with family membership. The enactment of such family communication patterns often has significant detrimental effects on children raised in such environment resulting in depression, mental illness, and abnormal social behavioral manifestations.

Protective (low conversation, high conformity)

Protective families engage in a low conversation, high conformity family communication pattern. Within such structures, introverted children are allowed to engage in extended solitary play, further stunting their social skills. In such environments, the family only engages in discussions about “safe topics” or subjects that are not contrary to family value systems. Introverted children, who are often more intuitive than their extroverted counterparts, will quickly decipher that opinions that differ from the family value system are unwelcome or not allowed. Such normative communicative behaviors within the family stifles open communication which may engage an introverted child in an extended conversation about a topic they are passionate about discussing. These missed opportunities and family expectations surrounding communication also encourages more solitary introspective behavior without the opportunity to share and engage in interpersonal relational maintenance with other family members.

Facilitative and Inhibitive Communication Behaviors

To effectively address the distinct communication and conformity needs attributed to introversion, families may choose to enact FCB. Conversely, some families may not be aware of the different needs of introversion or be unwilling or unable to change, resulting in the enactment of ICB. Evidence of FCB includes communication within the family unit that demonstrates an intricate understanding of the physiological, emotional, and communicative manifestation of introversion (Laney, 2002; 2005; 2011). FCB communication behaviors focus on self-acceptance, alternative expressions of communication (e.g., journaling, drawing, role playing), technology usage to connect with others (i.e., texting), and changes to conversational patterns to provide opportunities for quieter family members to engage and share their ideas (Herrmann-

Nehdi, 2009; Talevski & Szota, 2006). FCB may also be exhibited in the facilitation of social interactions in a manner more conducive to introversion including not interrupting speakers during conversations, introducing family members slowly into large social situations, and enacting quiet periods during the day where family members can engage in individual activities.

The implementation of ICB is often due to a lack of understanding regarding the differences between introversion and extroversion. ICB are often demonstrated by the encouragement of communication behavioral modification to exhibit tendencies more typically associated with extroversion. Evidence of ICB within the family unit includes the discussion of more effective ways to interact with others, the encouragement of participation in social activities, the use of the word “shy” or other inaccurate descriptors, and the inability to detect levels of discomfort with social situations more geared toward extroversion.

In addition to the adoption of FCB and ICB related to the communication dimension of FCP, families may also adopt communication behaviors related to introversion and the conformity dimension. FCB that exhibit an enhanced awareness of introversion include the acceptance of a gradual introduction to new people, encouragement to pursue individual passions and activities, an inherent feeling of acceptance and love within the family, and the ability to engage in conversations in which diverse value systems and opinions are openly shared and discussed. In these behaviors, family members are illustrating an enhanced awareness for the unique and valuable perspective of introversion. Furthermore, the family may demonstrate FCB through the realization and approval of a smaller group of friends and limited social interactions. Such behaviors reinforce the underlying principle that each family member is valued for their individuality and contributions to the family unit.

When families are unaware or unwilling to modify communication behaviors related to

conformity expectations, ICB are evident within the family unit. ICB related to conformity include the expectation that all family members engage in activities and social interactions, adopt family value systems and ideologies, do not question the family value system, and adhere to expectations surrounding social interactions. Such expectations can be particularly stressful and harmful to the development of social self-efficacy.

Social Self-efficacy

The belief that one is capable of both initiating and developing new friendships is referred to as social self-efficacy (Gecas, 1989; Wei, Russell, & Zakalik, 2005). Strong levels of social self-efficacy provide the foundation for the formation of a strong circle of social support through friendships and romantic relationships. Individuals who do not believe that they are capable of initiating and forming strong friendship and intimate relationship bonds may suffer from loneliness and be unable to achieve happiness.

Conceptually, the term is rooted in Bandura's theory of self-efficacy which postulates that one's beliefs regarding level of competence in specific behavioral domains directly influences choice, performance, and persistence in endeavors which utilize such skillsets (Anderson & Benz, 2001; Bandura et al., 1977, 1997). Choice refers both to the decision and the desire to engage in social interactions which result in long term relationships. Performance encompasses how well one navigates such social situations using a variety of tools developed from past interactions. Persistence includes how willing one is to try again when a social interaction does not go according to plan. In such moments, individuals who are willing to engage the participant or initiate another social interaction are more likely to experience success and learn how to engage in positive social interactions.

The levels of competence related to choice, performance, and persistence are developed from four distinct experiential sources: modeling, social support, anxiety, and performance accomplishments. Modeling is enacted when one recalls and utilizes communicative behaviors observed from others to help negotiate a social interaction. Social support is essential to the successful navigation of social situations in that individuals rely on positive feedback from others to help develop and hone social skills. Anxiety may become a factor in social self-efficacy when one encounters new situations or feels ill equipped to handle an unfolding social encounter. The willingness to try new strategies to successfully engage and overcome moments of anxiety increases levels of social self-efficacy. Furthermore, experiencing performance accomplishments or successful interactions greatly enhances social self-efficacy levels and provides the foundation to create a positive association between the social interaction and success (Bandura et al., 1977; 1997; Sherer et al., 1982).

Sources for the development of self-efficacy are particularly important because they form a compelling theoretical framework for the design of interventions or modifications which can increase and strengthen perceptions of social self-efficacy. Moreover, social self-efficacy expectations may theoretically affect one's social versus avoidance behaviors, performance, and persistence in social interactions. Positive performance accomplishments related to social self-efficacy may coincide with Bandura's (1997) findings that enactive mastery experiences are the most influential source related to increased levels of social self-efficacy. Therefore, when families engage in the use of FCB, they create opportunities for introverted individuals to experience positive performance accomplishments, hone social skills, and increase their level of social self-efficacy. Such positive experiences not only enhance the probability of introverted

family members successfully navigating social situations, they also correlate to higher levels of family satisfaction.

Family Satisfaction

Defined as “the degree to which one is generally satisfied with one’s family of origin and the constituent relationships imbedded therein (e.g. parent-child, siblings)” (Carver & Jones, 1992, p. 72), family satisfaction represents a key variable to assess if the enactment of facilitative or ICB results in a positive or negative impact on family relations. An outcome variable largely overlooked in the FCP body of literature (Baxter & Pederson, 2013), family satisfaction has been linked to enhanced communication levels and generated ambiguous conformity results based on contextualization. Koerner and Fitzpatrick (2006) have postulated there is no ideal family communication pattern and all four intersections are potentially functional. While such theorizing may discourage a viable link between FCP, FCB, ICB, and family satisfaction, limited studies (Schrodt, 2009; Punyanunt-Carter, 2008) that examine both FCP and family satisfaction suggest family satisfaction is positively predicted from expressiveness (similar to conversation orientation) and negatively predicted from structural traditionalism (similar to conformity orientation) especially when expressiveness is low (Baxter & Pederson, 2013).

Both interpersonal orientation and personality are attributed to the influence of one’s family of origin (Carver & Jones, 1992). The link between how interpersonal interactions within the family impact attitudes and feelings towards one’s family is still ambiguous, particularly in families with different temperament configurations. Individuals who experience positive interpersonal interactions will most likely demonstrate higher levels of family satisfaction. Conversely individuals who experience challenges related to interpersonal interactions within the family will most likely indicate lower levels of family satisfaction. Therefore, the examination

of whether families implement FCB or ICB within a current FCP and the resulting impact of such alternations on levels of social self-efficacy and family satisfaction provides an important contribution to the current body of literature.

Proposed Causal Model

The interaction of conversation and conformity dimensions results in specific communication behaviors typically implemented with each family communication pattern. Such behaviors provide both facilitative and inhibitive consequences for introverted family members. Families that understand cognitively or intuitively the unique communicative needs of introversion may implement or adjust certain family interactions to provide a more facilitative or constrained environment for introverted family members. These decisions may impact overall levels of social self-efficacy and family satisfaction reported by introverted family members. Based on Koerner's and Fitzpatrick's (2002) and Laney's (2002; 2005; 2011) research, a theoretically conceptualized causal model is proposed (see Figure 2).

The proposed model suggests conversation and conformity levels within a FCP impact whether families employ FCB or ICB in interactions with an introverted family member. The implementation of FCB may result in increased social self-efficacy levels and greater family satisfaction within the family unit. Conversely, the use of ICB results in lower social self-efficacy levels and reduced family satisfaction levels. Therefore, the following hypotheses reflect the causal model diagrammed:

H1: FCBs mediate a positive effect on introversion, conformity, social self-efficacy, and family satisfaction.

Increased levels of conversation within the family communication pattern leads to enhanced interactions and greater understanding of the unique communicative needs related to introversion. Within families high in conversation, family members have a greater opportunity to learn how to communicate more effectively with introverted family members and adopt facilitative communication behaviors. The adoption of such behavior modifications offers the opportunity for greater social self-efficacy due to positive social interactions and greater family satisfaction between individuals.

The H1 hypothesis breaks down into the following:

H1a: Introversion positively effects the conversation dimension of the family communication pattern.

The use of divergent communication behaviors exhibited by introverted family members during conversational interactions will lead to greater conversation within the family as family members seek to understand why such behaviors are taking place. The increase of conversation will also provide opportunities for introverts to contribute to the conversations unfolding within the family.

H1b: The conversation dimension of family communication patterns positively effects the implementation of FCB.

Given the increase in interactions associated with the conversation dimension of family communication patterns, introverts will experience many more opportunities to participate in the flow of conversation. Greater interaction also provides ample opportunities for other family members to recognize divergent communication behaviors and adjust their communication behavior to facilitate conversation with the introverted family member. The use of FCB in turn

continues to provide additional opportunities for interaction between introverted family members and other individuals within the family.

H1c: The conversation dimension of family communication patterns negatively effects the implementation of ICB.

Increased conversation leads to greater understanding regarding the unique communicative needs of introverts. Therefore, families with heightened conversation will be more likely to adopt FCB rather than use ICB which will result in stifled conversational opportunities.

H1d: FCB positively effects perceived levels of family satisfaction.

Adopting FCB provides opportunities for introverted family members to participate in family interactions and conversations without having to drastically alter their communication behaviors. Families who use FCB create more opportunities for family members to form close relationships that ultimately lead to a more fulfilling interpersonal bond both this individual family members and the family as a unit.

H1e: FCB positively effects perceived levels of social self-efficacy.

In addition to forming closer bonds with other family members, introverts who are in a family that uses FCB also have more positive, frequent interactions. The repetition of positive interactions increases levels of social self-efficacy and provides long term benefits for introverted family members when navigating social situations.

H1f: Perceived levels of social self-efficacy positively impact perceived levels of family satisfaction.

Introverts who are able to develop strong levels of social self-efficacy will have stronger bonds with other family members resulting in higher levels of family satisfaction. Increased positive interactions coupled with heightened opportunities to practice successfully navigating social situations will provide stronger bonds within the family unit.

H2: ICBs mediate a negative effect on introversion, conformity, social self-efficacy, and family satisfaction.

Heightened levels of conformity within a family communication pattern result in decreased conversation and fewer interactions between family members. Minimal interactions and amplified expectations for conformity regarding value systems, social expectations, and behavior lead to the adoption of ICB. Such behavioral modifications may stifle normal social development, resulting in lower levels of social self-efficacy and cause friction between family members causing lower levels of family satisfaction.

H2a: Introversion negatively effects the conformity dimension of the family communication pattern.

Introverts communicate differently than other family members which may not conform to many family member's expectations. Families high in conformity expect all members will behave in accordance with set behavioral expectations. Introverts may contradict this expectation by not participating in family conversations or seeking isolation away from the normal functions of family life.

H2b: The conformity dimension of family communication patterns negatively effects the implementation of FCB.

Families who demonstrate high levels of FCP –CY have the expectation that all family members will conform to the behavioral patterns established within the family. Therefore, such

families will be reticent to employ the use of FCB to accommodate the differenced in communication behaviors demonstrated by an introverted family member.

H2c: The conformity dimension of family communication patterns positively effects the implementation of ICB.

Families who are reluctant to employ FCB are more likely to implement ICB as a result of the expectation that all family members need to conform their communication behaviors to those exhibited by more powerful family members. This expectation indicates that family members will continue to communicate using the models set forth by such family members and will not alter their communication behaviors to meet the unique needs of introverted family members.

H2d: ICB negatively effects perceived levels of family satisfaction.

The use of ICB within the family limits the conversational opportunities between introverted family members and other individuals. The limitation of interactions stifles the development of long term relational bonds necessary to establish and maintain family satisfaction.

H2e: ICB negatively effects perceived levels of social self-efficacy.

The failure to engage introverts in conversational exchanges increases levels of disconnection within the family and also limits the opportunities for introverts to model and practice communication behaviors outside of the family. Lack of practice coupled with lower interaction positions introverts to be at a distinct disadvantage when navigating social interactions outside of the family.

Significance of Proposed Research

The distinct communicative behaviors demonstrated by introverted individuals may have a significant influence on the family communication pattern enacted within the family. How families choose to react to such distinct differences through the use of facilitative or ICB may have a lifelong effect on the introverted child's ability to develop necessary social skills resulting in high levels of social self-efficacy. Additionally, such decisions may also impact levels of family satisfaction as the child transitions into adulthood. Understanding the direction and the strength of the relationship between these significant variables can serve as a catalyst for future research into this essential facet of family communication.

Methods

Overview

The following section describes the research process utilized for the study and includes the following: (a) reiteration of the overarching and specific hypotheses for the study; (b) discussion of the research design; (c) description of the participant characteristics; (d) examination of the survey instruments; (e) description of the implementation procedures; and (f) explanation of the data analysis plan. The next section will reiterate the overarching and specific hypotheses guiding this research project.

Hypotheses

The following hypotheses for this study were developed based upon the theoretical model.

H1: FCBs mediate a positive effect on introversion, conformity, social self-efficacy, and family satisfaction.

H1a: Introversion positively effects the conversation dimension of the family communication pattern.

H1b: The conversation dimension of family communication patterns positively effects the implementation of FCB.

H1c: The conversation dimension of family communication patterns negatively effects the implementation of ICB.

H1d: FCB positively effects perceived levels of family satisfaction.

H1e: FCB positively effects perceived levels of social self-efficacy.

H1f: Perceived levels of social self-efficacy positively impact perceived levels of family satisfaction.

H2: ICBs mediate a negative effect on introversion, conformity, social self-efficacy, and family satisfaction.

H2a: Introversion negatively effects the conformity dimension of the family communication pattern.

H2b: The conformity dimension of family communication patterns negatively effects the implementation of FCB.

H2c: The conformity dimension of family communication patterns positively effects the implementation of ICB.

H2d: ICB negatively effects perceived levels of family satisfaction.

H2e: ICB negatively effects perceived levels of social self-efficacy.

Research Design

To examine the proposed hypotheses a quantitative research design was employed through the use of an online survey. A survey was developed to measure introversion levels, family communication patterns, facilitative/ICB, social self-efficacy, and family satisfaction levels. The survey requested that participants respond to the question prompts based on their

own experiences within their immediate family. The survey contained primarily Likert scale items (1=Strongly Disagree; 5=Strongly Agree) as well as limited multiple choice and open-response items prompting participants for a brief response.

Participants

Following IRB approval, participants were recruited using several different pathways including announcements made by course instructors of basic communication courses at a large university in the Midwest, CRTNET recruitment announcements, and snowball sampling using social media posts within the researcher's personal network. The criteria to participate in the research project included the ability to speak English, read at a fifth grade level or higher, and be 18 years of age or older. Undergraduate students were sent a recruitment message from their course instructors inviting them to participate in the research project and providing a link to the online survey. At the discretion of each individual course instructor, some participants received extra credit for participation in the research. An alternative assignment was also offered for students who chose not to participate in the survey but still wanted to earn the extra credit associated with survey completion.

Three hundred and fifty-nine participants completed the online survey. One hundred and fifty-nine respondents were male (42 percent) and two hundred and seven were female (58 percent). The average age of respondents was 24 years old ($M = 24.44$, $SD = 9.08$).

The education level represented within the sample was diverse including: 21 percent with high school diplomas ($N = 75$), 57 percent with some college but had not completed a degree to date ($N = 204$), 12.6 percent with an associate college degree ($N = 45$), 6.2 percent with a bachelor degree ($N = 22$), and 3 percent with a masters degree or higher ($N = 10$).

Participants were from diverse ethnic backgrounds although the majority of respondents self-reported Caucasian descent. Two hundred and fifty-three participants (71.3 percent) were Caucasian, 35 were African American (9.9 percent), 28 were Asian (7.9 percent), 18 were Hispanic (5.1 percent), and 21 represented other ethnicities (6 percent).

Instruments

The online survey tool included six distinct instruments and was created to capture participants' perceptions of the key variables measured within the research project. Once developed and approved by IRB, the tool was recreated in Qualtrics online survey software for distribution to the participants through three unique recruitment pathways. Below is a short synopsis of each of the instruments utilized within the online survey.

Introversion scale. The introversion scale measures the enactment of specific behaviors associated with introverted temperaments. The 30-item scale encapsulates the communication and behavioral manifestations of introversion based on the body of research conducted by Marti Olsen Laney (2001; 2002; 2003; 2005). In addition to her theoretical work on introverted temperament, Laney also has developed a scale to measure introversion (Laney, 2002). Examples of items included within this scale include: "When I need rest, I prefer to spend time alone or with one or two close people rather than a group"; "When I work on projects, I like to have large uninterrupted periods of time rather than smaller chunks"; "I sometimes rehearse things before speaking, occasionally writing notes for myself"; and "In general, I like to listen more than I like to talk". The scale demonstrates strong internal consistency ($\alpha = .86$).

Facilitative/inhibitive communication behaviors. Based on the body of research regarding how introversion manifests within family communication (Cain, 2013; Laney 2001; 2003; 2005) a 42 item scale was developed to measure the use of FCB and ICB addressing both

the conversation (22 items) and conformity (20 items) orientations of family communication patterns within families. Given that no scale measuring this variable exists, this scale was developed by the researcher utilizing characteristics identified by researchers related to introversion communication behaviors and family communication patterns. The scale is designed to identify if families engage in modified communication behaviors based on the communication behaviors typically exhibited by introversion.

Four sub-scales exist within the larger scale to allow for more detailed analysis of the impact of FCB and ICB on the two dimensions, conversation and conformity, of family communication patterns. The first sub-scale, ICB-CN, includes six items measuring the use of ICB within the conversation dimension. Examples of items within the scale include: “My parents have discussed with me a better way of interacting with others to gain more friends”; “My parents encourage joining extracurricular activities and engaging in group activities”; “My parents frequently shared stories about their personal negative childhood interactions (e.g., being bullied by neighborhood children or not having friends”; and “My parents often pressure me to engage in more social situations”. Reliability for these six items was acceptable ($\alpha = .65$).

The second sub-scale, ICB-CY, measures the use of ICB within the conformity dimension of family communication patterns. The seven item scale demonstrates adequate reliability ($\alpha = .68$). Examples of items from this sub-scale include: “In our family we were never permitted to explore different values contrary to our family value system”; “I feel that my family expects me to have a large quantity or circle of friends”; “My parents do not discuss why my family holds certain cultural, religious, or political values”; and “Growing up, we were not allowed to offer an opposing opinion”.

The third sub-scale, FCB-CN, was developed to measure the use of FCB associated with the conversation dimension of family communication patterns. Examples of the 16 items within the scale include: “My parents have demonstrated the importance of self-acceptance in their interactions with their children and others”; “My parents have encouraged family members to get in touch with their feelings by writing in a journal, drawing, or role playing”; “Important discussions in our family are held after family members have been given time to think about the issue”; and “We seldom interrupt family members when they are speaking”. The internal consistency of the sub-scale was high ($\alpha = .91$).

The fourth sub-scale, FCB-CY, measures the use of FCB representative of the conformity dimension of family communication patterns. The 12 item sub-scale demonstrates good reliability ($\alpha = .85$). Examples of scale items include: “In my family, children are encouraged to express diverse opinions on family values”; “My family values and incorporates quiet time to individual members”; “I am encouraged to develop my own value system”; and “Family members were encouraged to take their time getting to know new people and situations”.

Family communication pattern scale. The Revised Family Behavior Pattern Questionnaire (RFCP) was developed by Ritchie and Fitzpatrick (1990). The RFCP consists of 26 items utilizing a five point Likert scale (1=strongly disagree; 5=strongly agree). The scale includes two sub-scales representing the two dimensions, conversation and conformity, of family communication patterns. Several examples of scale items include: “In our family we often talk about topics like politics and religion where some persons disagree with others”; “In our family, parents often ask children’s opinions when the family is talking about something”; “In our family, parents encourage their children to challenge their ideas and beliefs”; “Our family often has long, relaxed conversations about nothing in particular”; and “I encourage my family

members to express their feelings”. The conversation dimension sub-scale consists of 15 items and demonstrates a high level of reliability ($\alpha = .92$).

The conformity dimension sub-scale includes 11 items. This sub-scale includes the following types of items: “In our family, parents often say something like “My ideas are right and you should not question them”; “In our family, parents often say something like “There are some things that just should not be talked about”; “When anything really important is involved, our family expects the children to obey without question”; and “In our family, parents sometimes become irritated with the children’s ideas if they are different from their own”. The sub-scale demonstrates an acceptable reliability ($\alpha = .89$).

Family satisfaction. The revised Family Satisfaction Scale (FSS) developed by Carver and Jones (1992) was utilized to measure family satisfaction levels. The FSS is a 19 item instrument utilizing a five point Likert scale (1=strongly disagree; 5=strongly agree) measures family attitudes related to cohesion and task acceptance. The scale also assesses interpersonal functioning and attitudes (e.g. loneliness, social support). The scale includes items such as: “In their treatment of one another, my family was consistent and fair”; “I would do anything for a member of my family”; “I had a good time with my family (Reverse coded)”; “I always felt my parents supported me”; “I always knew what I could and couldn’t “get away with” at my house”; “I was never sure what the rules were from day to day”; “My family was the one of the least important aspects of my life. (Reverse Coded)”. The measure reported high internal consistency ($\alpha = .94$).

Social self-efficacy. Social self-efficacy measures include the integration of the Social Self-Efficacy subscale (SSES) from the Self-Efficacy Scale (SES; Sherer et al, 1982). The 6-item subscale evaluates one’s social competence levels. Sample items of social self-efficacy

include, “It’s difficult for me to make new friends” and “I have acquired my friends through my personal abilities at making friends”. Participants respond to each item on a 5-point Likert scale (1=strong disagree; 5=strongly agree). Reliability for these six items was acceptable ($\alpha = .67$).

Demographic information. Participants were asked to share their age, gender, family structure composition, birth order position in the family, and highest attained education level (see Appendix 1 for a complete version of the survey). These questions were utilized to provide a profile of the participants and allow for further in depth analysis of how demographic information may impact the fit of the model for certain subgroups.

Procedures

To ensure a robust sample size, individuals were recruited for the study through three distinct pathways. All pathways were pursued simultaneously to ensure the efficient collection of the necessary sample size.

Pathway 1: Researcher contacts. A recruitment message was sent to personal contacts of the researcher via email and social media. A link to an online Qualtrics survey, including consent form, was included in the recruitment message.

Pathway 2: CRTNET listserv. A recruitment message was posted to the listserv of the Communication, Research, and Theory Network, managed by the National Communication Association. A link to an online Qualtrics survey, including consent form, was included in the recruitment message.

Pathway 3: Contacts of UWM undergraduate students. A recruitment message was distributed to course directors and instructors for undergraduate communication courses at the University of Wisconsin-Milwaukee. The researcher requested the message be forwarded as an extra credit opportunity to students. A link to the online survey, including consent form, was

included in the recruitment message. Upon completion of the survey, participants indicated if they completed the survey for a student at the University of Wisconsin – Milwaukee. If the answer was yes, the participant was redirected to a separate survey, where the student's name was entered by the personal contact, or the student who meets eligibility criteria, so the student can receive extra credit. Extra credit was awarded at the discretion of the undergraduate course director.

Data Analysis

After the data collection phase was completed through the use of Qualtrics online survey software, data was exported for analysis. Data analysis for this investigation was conducted through the use of the SPSS statistical software package. The first step in the research process was to clean the data by removing all incomplete entries. The final number of complete cases included in the analysis was 359. The researcher then reverse coded appropriate items to ensure the scales were ready for analysis and integration into a single variable. A series of confirmatory factor analyses were conducted to test the reliability of each scale. Additionally, a series of scatterplots were then generated to determine if the hypothesized linearity between variables within each hypothesis was demonstrated within the data set.

To begin analyzing if the proposed theoretical model would be a good fit with the data, a correlation matrix was constructed to determine the direction and strength of dependence of the relationship between variables. The correlations were corrected for attenuation in preparation for the causal model analysis.

Tests of hypotheses specifying the relationships among observed and latent variables (Hoyle, 1995) were accomplished through the use of structural equation modeling (SEM). SEM is a methodology designed to represent, estimate, and test a theoretical network of (mostly) linear

relationships between variables (Rigdon, 1998) and tests hypothesized patterns of directional and nondirectional relationships among a group of observed (measured) and unobserved (latent) variables (MacCallum & Austin, 2000). The goal of utilizing this procedure was to understand the patterns of correlation/covariance among the variables and to explain as much of their variance as possible utilizing the specified model (Kline, 1998).

The research process was designed to test the validity of the theoretical model through the use of structural equation modeling. The next section describes the results of the analysis and the goodness of fit of the model.

Results

An Ordinary Least Squares (OLS) method of estimation was used to test the causal model through a comparison of the expected and actual correlation matrix. Four criteria are necessary for a model to fit the available data: (1) lack of difference between actual and expected correlations; (2) significant coefficients for each path; (3) predicated and actual correlations are within the sampling error; and (4) each mediating variable contributes a significant level of mediation (Turkiewicz, Allen, Venetis, & Robinson, 2014).

A second-order analysis was conducted to investigate whether or not the derived scales measuring inhibitive and facilitative communication had relationships that would be more accurately represented as a second-order factor. The initial structure, presented as unidimensional scales, developed a series of ordered predictable relationships (Anderson, Gerbing, & Hunter, 1987). The emergent relational pattern then can be used to evaluate the identified scales to establish whether a higher order underlying factor pattern is present (Gerbing, Hamilton, & Freeman, 1994; Rindskopf & Rose, 1988). The examination evaluated whether an

underlying second-order factor may explain the relationships between the observed scales (Levine & McCroskey, 1990).

A chi-squared test examined whether the three measures of ICB – conversation, FCB – conversation, and FCB – conformity formed a single factor second-ordered model. The single factor model demonstrated a second order structure whereby each of the individual errors was less than expected by chance, $p < .05$, and a test of the overall fit of the model demonstrated a nonsignificant value $\chi^2(10, N = 359) = 13.55, p > .05$, indicating a second order single factor model was an adequate explanation for the relationships among the scales. Given this result, the three variables (ICB-CN, FCB-CN, and FCB-CY) were treated as a single entity, conversation communication behaviors (CNCB) in all subsequent tests. The two communication modification behavior variables going forward are referred to as conversation communication behaviors (CNCB) and conformity communication behaviors (CYCB).

The path model was tested using an ordinary least squares solution (OLS) method (Kenny, 1979; McPhee & Babrow, 1987; Pedhazur, 1982). The procedure generates an expected matrix compared to the actual observed values of the correlations. Discrepancy between the expected and actual values was tested using a chi-square statistic. A significant chi-square value signifies that the proposed model is significantly different from the observed data. The results indicated the data were consistent with the proposed theoretical model. The coefficients, all statistically significant at $p < .05$ are displayed in Table 3. Within the hypothesized path configurations, family satisfaction and social self-efficacy were used as the outcome measures. However, a significant path also exists between introversion and social self-efficacy.

Tests based on the procedures outlined by Sobel (1982) were conducted to consider the possible impact of mediating effects for each sequence path represented within the model. For

any sequence of three variables where A causes B causes C, the mediating effect of the middle variable should be considered significant. The Sobel tests demonstrated significance for all mediating effects (see Table 4). Therefore, the Sobel test demonstrated that each of the mediating variables act as significant ($p < .05$) sources of mediation between the variables represented within the model.

Each of the path coefficients for the model (see Figure 3) demonstrates that each can be considered significant, $p < .05$. The path from introversion to conversation ($\rho = .25$) and from conversation to CNCB behaviors ($\rho = .78$) ending at social self-efficacy ($\rho = .17$) supports hypothesis 1a with the exception of the negative path between CNCB and family satisfaction ($\rho = -.40$). The path from introversion to conformity ($\rho = .11$) and from conformity to CYCB ($\rho = .49$) to family satisfaction ($\rho = .65$) indicates a pathway relationship that is positive instead of negative as proposed in hypothesis 1b. However, the path from conformity to both CNCB ($\rho = -.31$) and CYCB ($\rho = .49$) does support the original negative relationship within the proposed theoretical model. Additionally, a direct path between introversion and social self-efficacy ($\rho = .34$) is noteworthy.

The results of the analysis demonstrate the proposed theoretical model is a good fit with the data. The findings suggest introversion impacts family communication patterns resulting in the implementation of modified communication behaviors. The introduction of such behaviors produces long term outcomes for perceptions of both social self-efficacy and family satisfaction. Additionally, the proposed hypotheses outlined in the study were supported, however, the second pathway did deviate from the hypothesized direction for certain variables. What follows is a discussion of the implications of this investigation and directions for future research.

Discussion

The results of the study indicate the proposed theoretical model provides a good fit. The relationships between the variables in the proposed model are evident in the outcome of the tested model. Hypothesis 1 is supported through a positive causal path between introversion, conversation, CNCB, and social self-efficacy. The differences in communication behaviors between introverts and extroverts are observed through interpersonal interactions within the family and create opportunities for enhanced conversation. Increasing the number and frequency of conversational interactions triggers early detection of communication behaviors attributed to introversion and signals the need for CNCB. The implementation of CNCB increases the effectiveness of such interactions and shapes the social development of the individual (Bandura, 1977; Koener and Fitzpatrick, 2002).

Families who engage in high conversation are willing to alter their communication patterns when conversing with introverted family members. Such CNCB support Koerner and Fitzpatrick's (2002) assumption that an individual family member may adapt his or her communication style to accommodate the needs of a specific family member. The adoption of modified CNCB results in a positive impact on an introverted family member's social self-efficacy levels. Modified communication behaviors support researchers' assumptions that successful social interactions help to raise levels of social self-efficacy (Bandura, 1997; Cummings, Goeke-Morey, & Papp, 2001, Laney, 2005; Noller, 1995) through both modeling and successful outcomes.

One point of differentiation between the proposed and outcome model is reflected in the negative relationship between CNCB and family satisfaction. Perhaps the negative relationship is indicative of the need for introverts to have down time between social interactions and the

consequences of not recognizing or supporting the re-energizing process. Utilizing CNCB increases the number and frequency of communication interactions between introverts and other family members. The amplification of interaction without the integration of restorative breaks is counterintuitive to the introverted temperament resulting in negative long term family satisfaction levels. Additionally, increased expectations regarding conversation frequency may cause introverted family members to feel misunderstood. Introverts may decide to distance themselves from family members or construct boundaries to ensure they are better able to protect needed restorative time.

In support of the proposed theoretical relationship, the outcome model demonstrated a negative link between conversation and CYCB. High conversation within the FCP provides ample opportunities for the discussion of many diverse topics. Increased conversation often leads to the sharing of diverse opinions on the topic and a robust discussion regarding support for beliefs. Families engaged in high conversation often discuss many different perspectives on such topics, a behavior that directly contradicts conformity of belief and value structures. For example, a family high in conformity with a clearly defined political ideology would not support conversations that express deviant beliefs. The negative link affirms the relationship between conversation and CYCB originally posited within the predicted model.

The proposed causal path reflected in H2 was supported, however, the directionality of the relationship between certain variables deviated slightly from the proposed model. The relationship between introversion and conformity was positive instead of negative. Introverts dislike conflict (Laney, 2002; 2005) and seek to avoid disputes when possible. Conforming is a mechanism to avoid conflict situations and affords a sense of structure also preferred by introverts (Cain, 2013). As predicted, conformity within the family communication pattern

evokes the use of CYCB. In such circumstances, there is little discussion about divergent opinions or topics and family members are expected to conform to the family hierarchical value system (Koerner & Fitzpatrick, 2002a; 2002b). A clearly defined value system provides a sense of security and expectations surrounding family communication that leads to increased levels of family satisfaction. The positive relationship between conformity and family satisfaction offers an alternative to previous findings in limited studies (Schrodt, 2009; Punyanunt-Carter, 2008) suggesting family satisfaction is positively predicted from expressiveness (similar to conversation orientation) and negatively predicted from structural traditionalism (similar to conformity orientation) especially when expressiveness is low (Baxter & Pederson, 2013). Given the communication attributes linked to introversion, the positive finding between conformity and family satisfaction provides new evidence that temperament may impact the outcome variable.

Conversely, no relationship exists between the use of CYCB and social self-efficacy levels. Increased conformity creates an environment that does not promote the need to develop social self-efficacy competencies since relationships within the family are valued more highly than external relationships (Koerner & Fitzpatrick, 2002a; 2002b). An outcome of this magnitude may situate introverts at a distinct disadvantage regarding the development of necessary social skills to be successful in a culture that values extroversion.

One finding that deviated significantly from the proposed theoretical model is the direct path between introversion and social self-efficacy. The direct link between the two variables may be attributed to the analytical process introverts employ when engaging in a social interaction. Before interacting with others, introverts spend time observing the situation. During this observation period, they are engaging in a meaning making process to make sense of the

unfolding interactions (Cain, 2013; Laney, 2005; Laney & Sheehan, 2011). They also spend time analyzing the situation and determining with whom they may want to interact in a one-on-one setting. Finally, introverts engage conversationally after completing both the observation and analysis phases of the process. This deliberate approach to social interactions allows introverts time to assess the situation and determine how and when they will interact with those present (Laney & Sheehan, 2011). The opportunity to engage in a deliberate analytical process increases confidence regarding how to navigate the social situation successfully. If such interactions are successful, the results increase levels of social self-efficacy regarding similar future interactions (Anderson & Benz, 2001; Bandura 1977; 1997) and provide support for the assumption that introverted communication behaviors are successful albeit different from extroverted communication behaviors.

Theoretical Implications

Koerner and Fitzpatrick's (2002) generalized theory of family communication patterns posits the interaction effect between conversation and conformity is a key factor in the development of specific family communication patterns. The findings support the positive link between conversation and conformity. The results indicate increased conversation leads to greater conformity. Introverts spend time formulating and evaluating perceptions.

Conversations centered on the family value system provide differing perspectives on why family members hold certain beliefs or why the family functions according to a specific code of ethics. Participation in such discussions provides introverts with an opportunity to reevaluate their own value system and results in greater conformity with the family value system. Additionally, introverts actively seek to avoid conflict (Cain, 2013; Laney 2005). By adopting a value system

that aligns with other family members, introverts effectively avoid disagreements centered on topics related to points of controversy.

Situating family communication patterns within the context of introversion examines the boundaries of the theory by exploring Koerner and Fitzpatrick's (2002) suggestion that family members may alter their communication behaviors with certain family members. Communication behavior modifications are intended to enhance the interaction, not change the family communication pattern. However, modified communication behaviors often deviate from the typology and, if successful, may result in a long term adoption of the behavior. The theoretical issue that must be addressed is how such deviations from the typology impact the family communication pattern. Investigating this issue would move the theory from a family communication perspective into the realm of interpersonal and examine the interaction between the two communication contexts.

Another important theoretical implication to consider is the outcomes associated with specific family communication patterns. The study linked family satisfaction and social self-efficacy to the implementation of specific communication modification behaviors but in very different ways. Family satisfaction was an outcome of both paths however the link to CYCB was positive whereas the link to CNCB was negative. Perhaps the finding suggests additional efforts by family members to engage introverts in communicative interactions have drastically different results. Efforts to reach out to try to enhance conversational interaction were negatively associated with long term family satisfaction levels. Efforts to stifle the understanding of the family value system and the development of individual value systems resulted in increased levels of family satisfaction. The results support the assumption that structure and set expectations are more indicative of an introvert's long term family satisfaction levels than efforts to engage in

conversational interactions that support the communicative behaviors of introversion. It may be that having clearly stated expectations and structure is critical to introverted family members.

The following segment outlines the practical application of this research.

Practical Implications

Through the examination of modified communication behaviors, the researcher applies practice to build a theoretical model explaining the observed phenomenon. Given the divergent communication behaviors attributed to introversion and the prevalence of introversion, understanding how the use of modified communication behaviors provides a platform for enhancing communication is paramount for families, educators, and parents.

Families that engage in conversation and CYCB realize several long term positive outcomes for introverted children including increased levels of social self-efficacy and family satisfaction. Families who demonstrate high conversation tendencies within the family communication pattern may benefit from the adoption of CNCB, specifically related to social self-efficacy levels. However, high conversation families need to be especially cognizant of the needs of quieter, more introverted family members. Modifying FCP behaviors centered on high conversation to create opportunities for more introverted participants to enter the conversation will provide opportunities for positive modeling of such interactions. Additionally, creating down time for family members and helping prepare them for larger family discussions will also provide additional support for successful interactions. Providing time to recharge allows introverts to successfully navigate social interactions. Conversely, high conversation families must also balance the need to engage introverted children with the recognition of the child's needs. The negative association with family satisfaction suggests a disconnection between high levels of engagement and the quality of the relationships within the family over time. Balancing

the needs of the child with the goal of high levels of social self-efficacy is a challenge each family must undertake.

Families with high conformity tendencies may achieve high levels of family satisfaction over time but do not help children develop necessary skills related to social self-efficacy. Creating space for children to voice opinions and modeling behaviors associated with the successful navigation of social settings is vital to help children increase social skills and confidence. An undertaking of this magnitude may take place between individual family members and may not impact the overall family communication pattern. However, the recognition of the need for an intervention resulting in modified communication behaviors centered on conformity is necessary to achieve a more beneficial outcome for the child. For example, a parent may recognize that a child is frustrated with a certain family decision and ask the child to explain how he/she is feeling and why. This simple exchange allows children to successfully process emotions, voice feelings, and articulate the cause of the reaction. The interaction also helps children successfully navigate through a potentially difficult conversation.

Educators would benefit from the enactment of modified communication behaviors within the classroom. The education system is structured to benefit extroversion (Laney, 2002; Cain, 2013) yet over half of the students are introverted. Making small adjustments in the way teachers communicate with students would provide an environment more conducive to both temperaments. For example, instructors could provide a prompt, then ask each student to reflect individually on the question in writing. Students would then share their responses in pairs and then in a large group setting. Providing additional time for an introverted student to reflect on the question and formulate a response will allow for a more robust class discussion. Teachers could also invite quieter students into the conversation through the use of teaching techniques

such as community writing. In community writing exercises, each student writes a response on the board and all answers are discussed as a large group. Such activities allow quieter students to participate in a supportive way and provide additional time for reflecting and formulating responses.

Moreover, the findings suggest parents' adoption of modified communication behaviors may provide a more supportive environment for introverted children. Some behaviors may already be utilized by parents, however understanding the rationale and positive outcomes associated with behavior modifications would enhance the usage. Additional education related to how introverts communicate differently than extroverts and support mechanisms to evaluate a child's temperament would also be helpful. If parents choose to enact some modification strategies, the positive outcomes associated with the behaviors may provide a rationale to adopt more strategies over time. Educators may also help this process by identifying children who would benefit from modified communication behaviors and assisting parents in learning and implementing successful strategies. Parents serve as a model for children in the development of social skills. Recognizing the need to help children navigate different types of social situations, parents can both model and support introverted children in such endeavors.

Limitations and Future Research

There are several limitations to consider when evaluating the results of the study. Data were collected from individuals reflecting on their experiences within their family-of-origin. While family-of-origin can provide a powerful indicator of future behavior, individuals may also choose to reject family-of-origin value systems and adopt a different set of values in adulthood. Additionally, Ritchie and Fitzpatrick (1990) have expressed reservations about the assumption that all perceptions of family communication patterns are interchangeable. Given this assertion,

special attention should be paid to individual family member's experiences within the same family unit. Thus, dyadic or family unit of analysis may provide more clarity on the enactment of a specific family communication pattern and its effects on individual family members.

While the proposed model is a good fit, there are other models that may also be created and tested. The outcome variables, social self-efficacy, and family satisfaction, represent only two of the many potential effects associated with family communication. Identifying and investigating other outcome variables would provide additional insights into how a specific family communication pattern impacts children both within the family of origin and as they transition into parenthood.

There are several promising lines of inquiry researchers may pursue to better understand how family communication patterns impact long term communication outcomes. The examination of additional outcome variables in conjunction with communication modification variables would provide new insights into how family communication patterns impact children into adulthood and parenthood. As children become adults and parents themselves an examination of whether family communication patterns are contingent on temperament or family-of-origin would identify the boundaries that may be associated with the generalized theory of family communication patterns. An additional premise requiring investigation is whether individual family members share the same perceptions about the perceived family communication pattern enacted within the family unit. Evidence from previous studies indicate mixed family types (Afifi & Olson, 2005; Baxter & Pederson, 2013; Saphir & Chaffee, 2002; Sillars et al., 2005) may be more prevalent and impactful in conjunction with an examination of long term outcomes associated with each FCP type.

Finally, the direct path between introversion and social self-efficacy cannot be ignored. More research is needed to determine if the communication behaviors associated with introversion support the development of social self-efficacy. If the introversion behavioral pattern (i.e. observing, analyzing, and then engaging in social situations) increases introverted children's level of social self-efficacy, parents, family members, and teachers should work to reinforce the behavioral sequence instead of modifying the behavior. More research is needed to establish the viability and effectiveness of the "observe, analyze, and engage" sequence associated with introversion social interactions and how it impacts long term social self-efficacy levels.

Contributions to Family Communication

Family communication research focuses on how interactions unfold within the family unit, influencing variables for both positive and negative communication interactions, and the ramifications of different types of interactions on individual family members and the family as a cohesive unit. Understanding how temperament impacts the individual communication behaviors of each family member is essential to the development of a holistic understanding of the communication patterns that unfold in family communication. If temperament is not well understood or included as a significant variable, the probability of miscommunication increases substantially. Those who deviate from the expected normative communication behaviors practiced within the family unit may be silenced, resulting in the family not benefiting from their individual contributions.

The findings of the current study suggest a need to expand family communication research to explore how temperament impacts family communication patterns. Moving beyond the family unit as a whole to examine individual relationships and deviations from the assigned

family communication pattern would help move this path of inquiry forward and would offer a welcome response to researchers who have called for a more complex examination of how family communication patterns unfold within the individual family unit. For example, a parent and child may disagree on which family communication pattern is enacted within their family. Such deviations warrant further exploration and examination.

Furthermore, a broader examination of normative expectations surrounding specific communication behaviors associated with extroversion is also necessary to create an ongoing conversation in which introversion is viewed as a normative temperament. The results of the current study suggest the behavioral pattern of observation, analysis, and engagement enacted by introverts results in higher levels of social self-efficacy. Further studies might focus on whether the pattern results in greater levels of relationship satisfaction and closeness for both introverts and extroverts.

Conclusion

The proposed theoretical model demonstrates the relationship between introversion, family communication patterns, modified communication behaviors, social self-efficacy and family satisfaction. The results of the study indicate families do modify communication behaviors to adjust to the communication behaviors associated with introversion. The implementation of modified behaviors impacts both social self-efficacy and family satisfaction, albeit with very different results. Understanding the impact of behavior modifications designed to support introversion is a powerful tool that can help parents, educators, and families engage in more meaningful interactions and designed to achieve higher levels of social self-efficacy. Conversely, failure to implement modified behaviors may impact the ability of introverted children to develop the skills necessary to successfully navigate social situations. The

communicative behaviors demonstrated by introverted individuals may have a unique and significant impact on the family communication pattern enacted within the family. The reaction of family members to communication differences may have a significant effect on the ability of introverted children to develop necessary social skills resulting in high levels of social self-efficacy. Additionally, such decisions may also impact levels of family satisfaction as the child transitions into adulthood. Understanding the direction and the strength of the relationship between these significant variables serves as a catalyst for future research into this essential facet of family communication.

The study offers a valuable contribution to family communication research by drawing attention to how individual differences, such as temperament, impact communication behaviors within the family. Given the interdependence of relationships within a family structure, small but significant changes in communication behaviors between two family members may result in larger, more systemic transformation. Taking time to focus on and understand why a family member communicates differently may have many positive results on interpersonal relationships within the family and on the social development of each individual family member.

Furthermore, creating awareness of the differences between how introverts and extroverts communicate may lead to additional studies on the effectiveness of each set of communication behaviors on long term outcome variables. The study clearly demonstrates the need for additional research focused on mixed-model families both in temperament and family communication patterns. Understanding how temperament impacts family communication patterns and having a more clearly defined method of classifying a family communication pattern will provide greater understanding of how families communicate.

Figure 1: Family Communication Pattern Dimensions

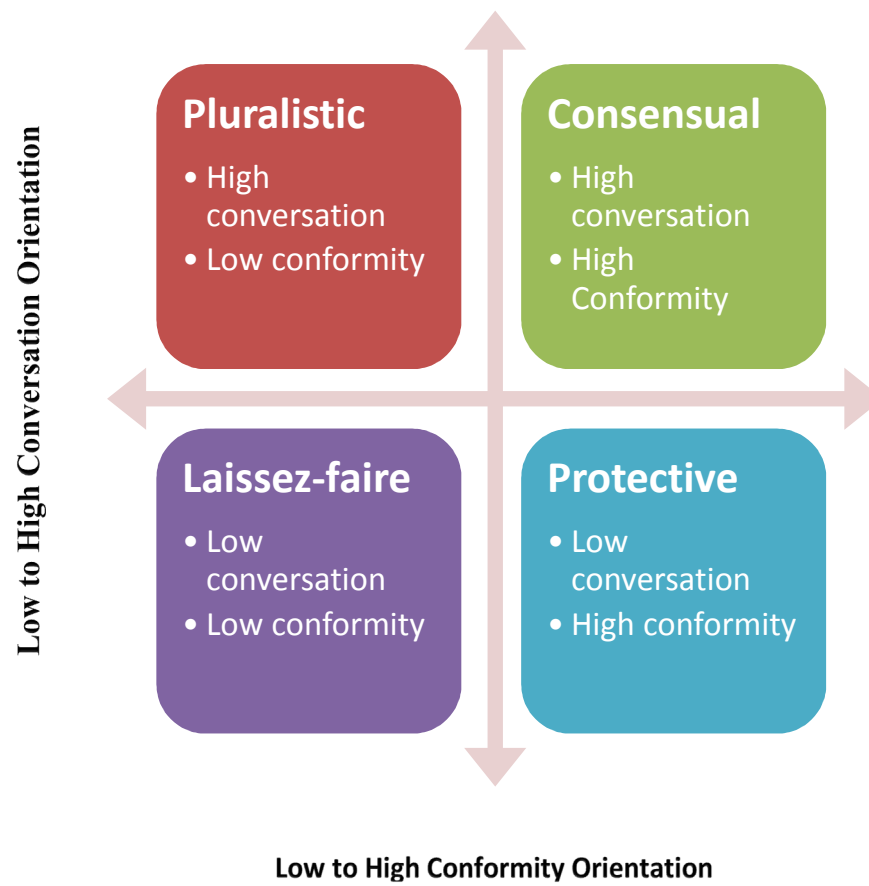
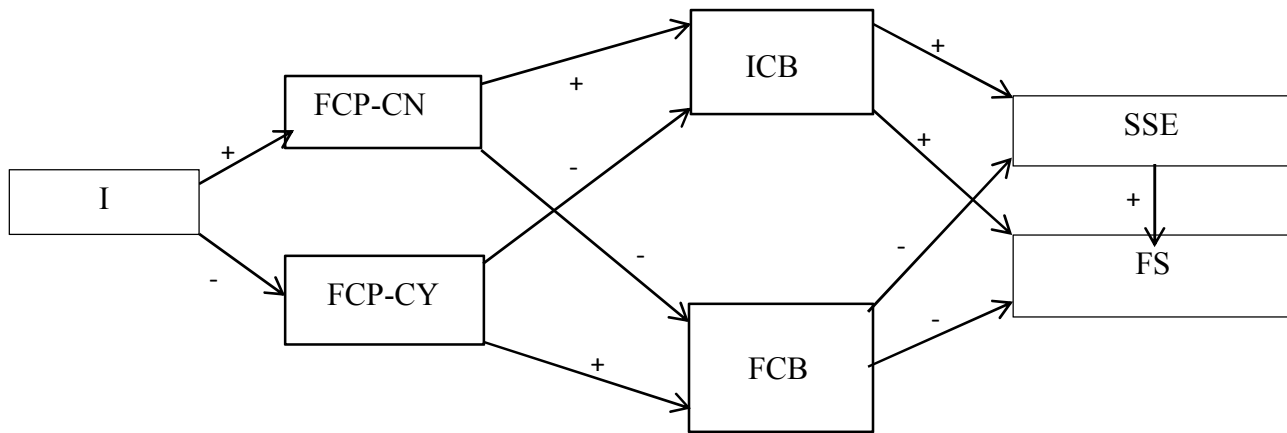
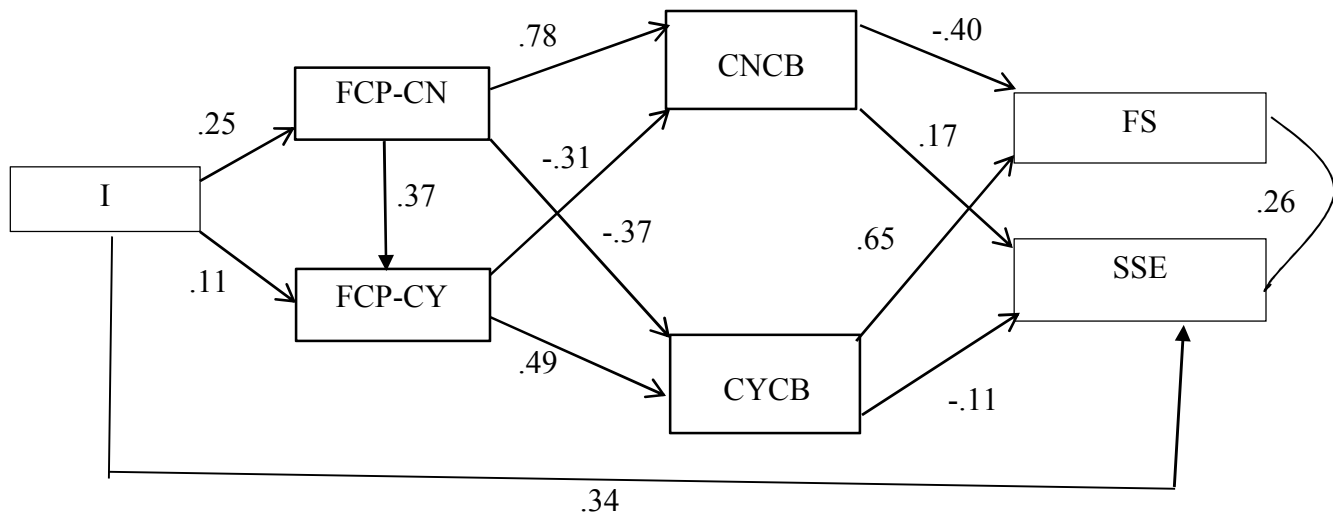


Figure 2: Proposed Causal Model



I=Introversion, FCP-CN= Family Communication Patterns – Conversation, FCP-CY – Family Communication Patterns – Conformity, FS = Family Satisfaction, SSE = Social Self-efficacy, FCB = Facilitative Communication Behaviors, ICB = Inhibitive Communication Behaviors

Figure 3: Final Causal Model



Outcome of tested model. All paths significant at $p < .05$; I=Introversion, FCP-CN= Family Communication Patterns – Conversation, FCP-CY – Family Communication Patterns – Conformity, FS = Family Satisfaction, SSE = Social Self-efficacy, CNCB = Conversation Communication Behaviors, CYCB = Conformity Communication Behaviors

TABLE 1
Survey Instrument Measures

<i>Name</i>	<i>α</i>	<i>M</i>	<i>SD</i>	<i>Items</i>
Introversion (Laney, 2002)	.86	102.83	13.67	<ol style="list-style-type: none"> 1. When I need rest, I prefer to spend time alone or with one or two close people rather than a group. 2. When I work on projects, I like to have large uninterrupted periods of time rather than smaller chunks. 3. I sometimes rehearse things before speaking, occasionally writing notes for myself.
Revised FCP- Conversation (Ritchie & Fitzpatrick, 1990)	.92	50.11	11.62	<p>CN1. In our family we often talk about topics like politics and religion where some persons disagree with others.</p> <p>CN2. In our family, parents often say something like “Every member of the family should have some say in family decisions.</p> <p>CN3. In our family, parents often ask children’s opinions when the family is talking about something.</p>
Revised FCP – Conformity (Ritchie & Fitzpatrick, 1990)	.89	33.13	8.73	<p>CY1. In our family, parents often say something like “You’ll know better when you grow up”.</p> <p>CY2. In our family, parents often say something like “My ideas are right and you should not question them”.</p> <p>CY3. In our family, parents often say something like “There are some things that just should not be talked about”.</p>

All measurement scales were 5 point Likert: 1 = *Strongly Disagree*, 5 = *Strongly Agree*

<i>Name</i>	<i>α</i>	<i>M</i>	<i>SD</i>	<i>Items</i>
Family Satisfaction (Carver & Jones, 1992)	.94	70.69	14.99	<ol style="list-style-type: none"> 1. In their treatment of one another, my family was consistent and fair. 2. I would do anything for a member of my family. 3. I have had a good time with my family. 4. I always felt my parents supported me.
Social Self-efficacy(Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982)	.67	19.60	3.70	<ol style="list-style-type: none"> 1. It is difficult for me to make new friends. 2. If I see someone I would like to meet, I go to that person instead of waiting for him or her to come to me. 3. If I meet someone interesting who is hard to make friends with, I'll soon stop trying to make friends with that person.
CNCB	.93	110.31	20.12	<ol style="list-style-type: none"> 1. My parents have demonstrated the importance of self-acceptance in their interactions with their children and others. 2. My parents have encouraged family members to get in touch with their feelings by writing in a journal, drawing, or role playing. 3. Important discussions in our family are held after family members have been given time to think about the issue.
CYCB	.68	20.50	4.94	<ol style="list-style-type: none"> 1. My parents have never explained the origins of my family's cultural, religious, or political values. 2. In our family we were never permitted to explore different values contrary to our family value system. 3. My family requires participation in social activities (e.g., family days/outings).

All measurement scales were 5 point Likert: 1 = *Strongly Disagree*, 5 = *Strongly Agree*

TABLE 2
Corrected Correlation Matrix

	1	2	3	4	5	6	7
I	---	---	---	---	---	---	---
FCP-CN	.10	---	---	---	---	---	---
FCP-CY	.24**	-.49**	---	---	---	---	---
FS	-.19	.74**	-.48**	---	---	---	---
SSE	-.42**	.24**	-.07	.26**	---	---	---
CNCB	.12*	.83**	-.35**	.69**	.22**	---	---
CYCB	.07	-.47**	.64**	-.50**	-.11	-.38**	---

All values have been corrected for attenuation; **Correlation is significant at the .01 level; *Correlation is significant at the .05 level; I=*Introversion*, FCP-CN= *Family Communication Patterns – Conversation*, FCP-CY – *Family Communication Patterns – Conformity*, FS = *Family Satisfaction*, SSE = *Social Self-efficacy*, CNCB = *Conversation Communication Behaviors*, CYCB = *Conformity Communication Behaviors*

TABLE 3
Uncorrected Correlation Matrix

	1	2	3	4	5	6	7
I	---	---	---	---	---	---	---
FCP-CN	.09	---	---	---	---	---	---
FCP-CY	.21**	-.44**	---	---	---	---	---
FS	-.02	.69**	-.44**	---	---	---	---
SSE	-.32**	.19**	-.06	.21**	---	---	---
CNCB	.11*	.78**	-.32**	.65**	.17**	---	---
CYCB	.05	-.37**	.49**	-.40**	-.07	-.31**	---

All values have been corrected for attenuation; **Correlation is significant at the .01 level; *Correlation is significant at the .05 level; I=*Introversion*, FCP-CN= *Family Communication Patterns – Conversation*, FCP-CY – *Family Communication Patterns – Conformity*, FS = *Family Satisfaction*, SSE = *Social Self-efficacy*, CNCB = *Conversation Communication Behaviors*, CYCB = *Conformity Communication Behaviors*

TABLE 4
Path Coefficient Matrix

	1	2	3	4	5	6	7
I	---	---	---	---	---	---	---
FCP-CN	.25	---	---	---	---	---	---
FCP-CY	.11	.37	---	---	---	---	---
FS	---	---	---	---	---	---	---
SSE	.34	---	---	---	---	---	---
CNCB	---	.78	-.31	-.40	.17	---	---
CYCB	---	-.37	.49	.65	---	---	---

All coefficients are significant at the .05 level; I=*Introversion*, FCP-CN= *Family Communication Patterns – Conversation*, FCP-CY – *Family Communication Patterns – Conformity*, FS = *Family Satisfaction*, SSE = *Social Self-efficacy*, CNCB = *Conversation Communication Behaviors*, CYCB = *Conformity Communication Behaviors*

TABLE 5
Mediation Results (Sobel Test)

<i>Predictor</i>	<i>Mediator</i>	<i>Outcome</i>	<i>Test Statistic</i>
I	CN	CNCB	2.24
I	CN	CYCB	-3.43
I	CN	CY	3.92
I	CY	CNCB	-1.61
I	CY	CYCB	1.70
CN	CNCB	FS	-6.57
CN	CYCB	FS	-6.07
CN	CNCB	SSE	2.28
CY	CNCB	FS	3.82
CY	CNCB	SSE	-2.06
CY	CYCB	FS	9.04

All mediating variables were significant ($p < .05$) sources of mediation between the variables represented within the model. I=Introversion, FCP-CN= Family Communication Patterns – Conversation, FCP-CY – Family Communication Patterns – Conformity, FS = Family Satisfaction, SSE = Social Self-efficacy, CNCB = Conversation Communication Behaviors, CYCB = Conformity Communication Behaviors

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APPENDIX A: Survey Communications and Survey Instrument

Survey Communications

Consent to Participate in Online Survey Research

Study Title: Navigating the Noise: An Examination of the relationship between introversion, family communication patterns, family satisfaction, and social self-efficacy

Person Responsible for Research: Kristine M. Nicolini will be the primary investigator. Dr. Nancy Burrell will be the co-investigator on this study.

Study Description: The purpose of this research study is to examine how family communication impacts introversion. Specifically, the investigators are interested in whether the enactment of facilitative communication within the family is linked to family satisfaction and social self-efficacy. Approximately 150 subjects will participate in this study. If you agree to participate, you will be asked to complete an online survey that will take approximately 20 minutes to complete. The questions will ask about communication within the family, temperament, levels of family satisfaction and how comfortable one is in social situations.

Risks / Benefits: Risks to participants are considered minimal. Collection of data and survey responses using the internet involves the same risks that a person would encounter in everyday use of the internet, such as breach of confidentiality. While the researchers have taken every reasonable step to protect your confidentiality, there is always the possibility of interception or hacking of the data by third parties that is not under the control of the research team. There will be no costs for participating, nor will you benefit from participating other than to further research.

Limits to Confidentiality: Your responses are completely confidential and no individual participant will ever be identified with his/her answers. Students who wish to receive extra credit for participating in the survey will be asked to click on a link at the end of the survey directing them to a separate survey where their name, instructor's name, and course section information will be collected. While your name is not being collected on the main survey, there is a small chance that the two surveys could be linked. Students will be eligible to earn extra credit points based per instructor discretion (Allen/Gross/Nicolini/Stoll – 10 /1000 points; Timmerman – 2/455 points; Ahn – 5/500 points) for participation. An alternative extra credit assignment is available if students do not wish to participate in the survey. The following alternative extra credit opportunity will be offered to students enrolled in COM 101, 103, and 105 and will be worth the same amount of extra credit points based on instructor listed above: The students will write a complaint letter to a company for a service/product that the student was not satisfied with following the guidelines in chapter 14 of the textbook for a professional business letters. A 2-3 paragraph summary will follow the letter summarizing the tips and techniques recommended from two outside credible sources. Students may use their textbook as one of the sources.

Data from this study will be saved on a password protected computer for one year. Only Kristine Nicolini, Doctoral Student, Department of Communication, at the University of Wisconsin - Milwaukee will have access to the information. Identifying information such as your name, email address, and the Internet Protocol (IP) address of this computer will not be asked or available to the researchers. Data will be retained on the Qualtrics website server for two years and will be deleted by the research staff after this time. However, data may exist on backups or

server logs beyond the timeframe of this research project. Data transferred from the survey site will be saved on a password protected computer for two years. Only the PI and co-investigator will have access to the data collected by this study. However, the Institutional Review Board at UW-Milwaukee or appropriate federal agencies like the Office for Human Research Protections may review this study's records.

Voluntary Participation: Your participation in this study is voluntary. You may choose to not answer any of the questions or withdraw from this study at any time without penalty. Your decision will not change any present or future relationship with the University of Wisconsin Milwaukee.

Who do I contact for questions about the study: For more information about the study or study procedures, contact Kristine Nicolini, Doctoral Student at nicolin2@uwm.edu or Dr. Nancy Burrell at nburrell@uwm.edu.

Who do I contact for questions about my rights or complaints towards my treatment as a research subject? Contact the UWM IRB at 414-229-3173 or irbinfo@uwm.edu

Research Subject's Consent to Participate in Research: By completing and submitting the attached survey, you are voluntarily agreeing to take part in this study. Completing the survey indicates that you have read this consent form and have had all of your questions answered, and that you are 18 years of age or older. Thank you!!!

Recruitment Materials

Online Facebook Posting Inviting Participants to Complete the Survey:

Hello!

The purpose of this research study is to examine if temperament and family communication impact social skills and levels of family satisfaction. One hundred and fifty individuals will participate in this study. Participation is voluntary. If you agree to participate, you will be asked to complete an online survey that will take approximately 20 minutes. The questions will ask about communication within the family, temperament, levels of family satisfaction and how comfortable one is in social situations. In order to participate, you must be at least 18 years of age and must be able to speak and to read English at a fifth grade level. All survey results will remain confidential. For more information on this study please contact: Kristine Nicolini:

nicolin2@uwm.edu.

Thank you!

Kristine Nicolini

Message Distributed by Communication Instructors Offering Extra Credit:

Hello!

The purpose of this research study is to examine if temperament and family communication impact social skills and levels of family satisfaction. One hundred and fifty individuals will participate in this study. Participation is voluntary and students who choose not to participate may complete an alternative assignment (see below) in order to earn equivalent extra credit of 10 points on a 1000 point scale. If you agree to participate, you will be asked to complete an online survey that will take approximately 20 minutes. The questions will ask about communication within the family, temperament, levels of family satisfaction and how comfortable one is in

social situations. In order to participate, you must be at least 18 years of age and must be able to speak and to read English at a fifth grade level. All survey results will remain confidential. For more information on this study please contact: Kristine Nicolini: nicolin2@uwm.edu.

If you choose not to complete the survey, you may still earn extra credit by completing an alternative assignment. Alternative assignment description: The students will write a complaint letter to a company for a service/product that the student was not satisfied with following the guidelines in chapter 14 of the textbook for a professional business letters. A 2-3 paragraph summary will follow the letter summarizing the tips and techniques recommended from two outside credible sources. Students may use their textbook as one of the sources.

Thank you!

Kristine Nicolini

APPENDIX B: Survey Instrument

Scale A: Facilitative/Inhibitive Family Communication Behaviors

Data variables:

FCB 1- FCB 27, confirmatory factor analysis =.93

ICB 1- ICB 15, confirmatory factor analysis = .58

DIRECTIONS: The following questions are centered on family communication and ask you to think about how you and other family members were encouraged to respond and interact with one another in the past and currently. Please indicate the degree to which you believe each statement applies to your family communication by marking whether you:

1=Strongly Disagree, 2=Disagree, 3=Undecided, 4= Agree, 5=Strongly Agree

Communication Behaviors

4. My parents have demonstrated the importance of self-acceptance in their interactions with their children and others.
5. My parents have discussed with me a better way of interacting with others to gain more friends. (RC)
6. My parents have encouraged family members to get in touch with their feelings by writing in a journal, drawing, or role playing.
7. Important discussions in our family are held after family members have been given time to think about the issue.
8. My parents encourage the use of mobile technology tools such as texting to connect with friends and family.
9. We seldom interrupt family members when they are speaking.
10. We summarize the ideas presented by other family members to check for understanding and allow opportunities for clarity.
11. My parents support and encourage my efforts to experience new situations.
12. My parents admire my efforts to meet new people and initiate new friendships.
13. My parents often pressure me to engage in more social situations. (RC)
14. My parents encourage joining extracurricular activities and engaging in group activities.(RC)
15. In the past, my parents insisted that I participate in social activities (e.g. sports teams, clubs) regardless of my comfort level with the situation. (RC)
16. My parents often used the word 'shy' to describe quieter individuals. (RC)
17. My parents have encouraged their children to reframe negative traits as positive characteristics (e.g., reframing being shy as analyzing situations before engaging with others).
18. My parents have encouraged me to arrive early to check things out if I am nervous about a new experience.
19. My parents frequently shared stories about their personal negative childhood interactions (e.g., being bullied by neighborhood children or not having friends).(RC)

20. In our family, we help quieter family members engage in conversation in social settings.
21. My family takes time to understand and acknowledge the feelings of quieter members.
22. When I was younger and encountered a difficult situation, my parents helped me rehearse how to be more assertive.
23. My family often uses prompts within the conversation to involve quieter members (e.g., “Sophie, what do you think?”).
24. We often ask questions to draw all family members into the conversation.
25. Sometimes we show affection through the use of nonverbal gestures such as hugs, shoulder pats, and hand-holding.

Conformity Behaviors

1. My parents have never explained the origins of my family’s cultural, religious, or political values. (RC)
2. My parents do not discuss why my family holds certain cultural, religious, or political values. (RC)
3. Family members were encouraged to take their time getting to know new people and situations.
4. My parents encouraged me to pursue activities and ideas to which I was deeply committed.
5. Through family interactions, I know that my family loves and accepts me.
6. In our family we were never permitted to explore different values contrary to our family value system. (RC)
7. Growing up, we were not allowed to offer an opposing opinion. (RC)
8. Growing up, I was expected to conform to family value systems (RC).
9. I am encouraged to develop my own value system.
10. Family members are encouraged to learn about different thoughts and ideas regarding diverse cultures, religious ideologies, and political systems.
11. In my family, children are encouraged to express diverse opinions on family values
12. Within family discussions, family members are encouraged to support their diverse opinions
13. I feel that my family expects me to have a large quantity or circle of friends. (RC)
14. I feel that my family recognizes the value of having a small number of quality friends.
15. My family expects each member to participate in large number of extracurricular activities. (RC)
16. In my family, I am allowed to not participate or engage in social activities.
17. My family requires participation in social activities (e.g., family days/outings). (RC)
18. My family values and incorporates quiet time to individual members.
19. We have quiet time in our family where members may engage in solitary activities while still in the company of others.
20. My family recognizes when certain family members need to take a break from social interactions.

RC=inhibitive scale items related to each dimension

Scale B: Introversion Scale (Laney, 2002)

Data Variables: IL 1 – IL 30, confirmatory factor analysis = .87

DIRECTIONS: Below are statements that people sometimes make about themselves. Please indicate whether or not you believe each statement applies to you by marking whether you:

1=Strongly Disagree, 2=Disagree, 3=Undecided, 4= Agree, 5=Strongly Agree

4. When I need rest, I prefer to spend time alone or with one or two close people rather than a group.
5. When I work on projects, I like to have large uninterrupted periods of time rather than smaller chunks.
6. I sometimes rehearse things before speaking, occasionally writing notes for myself.
7. In general, I like to listen more than I like to talk.
8. People sometimes think I am quiet, mysterious, aloof, or calm.
9. I like to share special occasions with just one person or a few close friends rather than have a big celebration.
10. I usually need to think before I respond or speak.
11. I tend to notice details many people don't see.
12. If two people have just had a fight, I feel tension in the air.
13. If I say I will do something, I almost always do it.
14. I feel anxious if I have a deadline or pressure to finish a project.
15. I can "zone out" if too much is going on.
16. I like to watch an activity for a while before I decide to join it.
17. I form lasting relationships.
18. I don't like to interrupt others; I don't like to be interrupted.
19. When I take in lots of information, it takes me a while to sort it out.
20. I don't like over stimulating environments. I can't imagine why folks want to go to horror movies or go on roller coasters.
21. I sometimes have strong reactions to smells, tastes, foods, weather noises, etc.
22. I am creative and/or imaginative.
23. I feel drained after social situations, even when I enjoy myself.
24. I prefer to be introduced rather than to introduce others.
25. I can become grouchy if I am around people or activities too long.
26. I often feel uncomfortable in new surroundings.
27. I like people to come to my home, but I don't like them to stay too long.
28. I often dread returning phone calls.
29. I find my mind sometimes goes blank when I meet people or when I am asked to speak unexpectedly.
30. I talk slowly or have gaps in my words, especially if I am tired or if I am trying to speak and think at once.
31. I don't think of casual acquaintances as friends.
32. I feel as though I can't show other people my work or ideas until they are fully formulated.
33. Other people may surprise me by thinking I am smarter than I think I am.

Scale C: Family Communication Patterns (Ritchie & Fitzpatrick, 1990)

Data variables:

CN 1 – CN 15 (conversation)

CY 1 – CY 11 (conformity)

Directions: Please indicate the degree to which you believe each statement applies to your family by marking whether you:

1=Strongly Disagree, 2=Disagree, 3=Undecided, 4= Agree, 5=Strongly Agree

CN1. In our family we often talk about topics like politics and religion where some persons disagree with others.

CN2. In our family, parents often say something like “Every member of the family should have some say in family decisions.

CN3. In our family, parents often ask children’s opinions when the family is talking about something.

CN4. In our family, parents encourage their children to challenge their ideas and beliefs.

CN5. In our family, parents often say something like “You should always look at both sides of an issue”.

CN6. In our family, children usually tell parents what they are thinking about things.

CN7. In our family, children can tell parents almost anything.

CN8. In my family we often talk about our feelings and emotions.

CN9. Our family often has long, relaxed conversations about nothing in particular.

CN10. Our family really enjoys talking with each other, even when we disagree.

CN11. I like to hear my family members’ opinions, even when they don’t agree with me.

CN12. I encourage my family members to express their feelings.

CN13. I tend to be very open with my family members about my emotions.

CN14. We often talk as a family about things we have done during the day.

CN15. In our family we often talk about our plans and hopes for the future.

CY1. In our family, parents often say something like “You’ll know better when you grow up”.

CY2. In our family, parents often say something like “My ideas are right and you should not question them”.

CY3. In our family, parents often say something like “A child should not argue with adults”.

CY4. In our family, parents often say something like “There are some things that just should not be talked about”.

CY5. In our family, parents often say something like “You should give in on arguments rather than risk making people mad”.

CY6. When anything really important is involved, our family expects the children to obey without question.

CY7. In our home, parents usually have the last word.

CY8. In our family, parents feel that it is important to be the boss.

CY9. In our family, parents sometimes become irritated with the children’s ideas if they are different from their own.

CY10. If the parents in our family don’t approve of it, they don’t want to know about it.

CY11. When the children in our family are at home, they are expected to obey the parents’ rules.

Scale D: Family Satisfaction Scale (Carver & Jones, 1992)

Data variables: FS 1 – FS 19

Directions: Please indicate the degree to which you believe each statement applies to your family by marking whether you:

1=Strongly Disagree, 2=Disagree, 3=Undecided, 4= Agree, 5=Strongly Agree

1. In their treatment of one another, my family was consistent and fair.
2. I would do anything for a member of my family.
3. I have had a good time with my family.*
4. I always felt my parents supported me.
5. I always knew what I could and couldn’t “get away with” at my house.
6. I was never sure what the rules were from day to day.
7. My family has been one of the least important aspects of my life.*

8. I would do anything necessary for any member of my family.
9. There has been too much conflict in my family.*
10. I usually felt safe sharing myself with my family.
11. I was happy with my family just the way it was.
12. Members of my family treated one another consistently.
13. There was a great deal about my family that I would have changed if I could.*
14. With my family I could rarely be myself.*
15. I have been very unhappy with my family.*
16. I was deeply committed to my family.
17. I often have found myself feeling dissatisfied with my family.*
18. My family always believed in me.

19. I found great comfort and satisfaction in my family.

** reverse coding needed

Scale E: Social Self-efficacy (Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982)

Data variables: SSE 1 – SSE 6

Directions: Please indicate the degree to which you believe each statement applies to your family by marking whether you:

1=Strongly Disagree, 2=Disagree, 3=Undecided, 4= Agree, 5=Strongly Agree

4. It is difficult for me to make new friends.
5. If I see someone I would like to meet, I go to that person instead of waiting for him or her to come to me.
6. If I meet someone interesting who is hard to make friends with, I'll soon stop trying to make friends with that person.
7. When I'm trying to become friends with someone who seems uninterested at first, I don't give up easily.
8. I do not handle myself well at social gatherings.

9. I have acquired my friends through my personal abilities at making friends.

Scale F: Additional Questions

Do you consider yourself an introvert or an extrovert?

- a. Introvert
- b. Extrovert

Please explain why you consider yourself an introvert or an extrovert.

Scale G: Demographic Information

What is your age?

_____ years

Please indicate your biological sex

- a. Male
- b. Female

What is your race/ethnicity? (Drop down selection list)

2. Please list the age of your siblings in order from oldest to youngest
3. What is your position in the family birth order?
 - a. Oldest child
 - b. Middle Child
 - c. Youngest Child
 - d. Only Child
4. What is the highest level of education you have completed?
 1. Less than high school
 2. Some high school
 3. High school/GED
 4. Some college
 5. College (2 year Associate's degree)
 6. College (4 year BS/BA)
 7. Graduate degree

CURRICULUM VITAE

KRISTINE M. NICOLINI

EDUCATION

Ph.D., Communication, University of Wisconsin – Milwaukee, 2016
Concentrations: Interpersonal Communication & Health Communication
Advisor: Dr. Nancy Burrell

M.A., Mass Communication, Marquette University, 2003
Concentrations: Organizational Communication & Health Communication
Professional Project: Boys & Girls Club Strategic Communication Plan
Advisor: Dr. Joyce Wolburg

B.A., Public Relations, Marquette University, 2000
Concentrations: Public Relations (Major), Marketing (Minor)

AWARDS AND HONORS

Organization for the Study of Communication, Language and Gender Travel Grant
Graduate School Research Travel Grant – University of Wisconsin - Milwaukee
Chancellor's Graduate Student Award - University of Wisconsin-Milwaukee
Graduate Teaching Assistantship – University of Wisconsin – Milwaukee
Adjunct Faculty of the Year Nominee – Marian University
National Dean Leadership Council – ITT Technical Institute, Midwest District Representative
Dean of the Year – ITT Technical Institute, Midwest District Nomination
STAR Re-Entry Campaign Award (8 Time Recipient) - ITT Technical Institute
Employee of the Year - ITT Technical Institute
Key Contributor Award - Children's Health System, Inc.
Outstanding Graduate Student of the Year - Marquette University

RESEARCH

Publications in Press

Burrell, N. and Nicolini, K. M. (In Press). Pronominal Use-Solidarity. In Allen M (Eds.), *The SAGE Encyclopedia of Communication Research Methods*. Thousand Oaks, CA: SAGE Publications Inc.

Burrell, N. and Nicolini, K. M. (In Press). Scales, Open-Ended. In Allen M (Eds.), *The SAGE Encyclopedia of Communication Research Methods*. Thousand Oaks, CA: SAGE Publications Inc.

Burrell, N. and Nicolini, K. M. (In Press). Survey Instructions. In Allen M (Eds.), *The SAGE Encyclopedia of Communication Research Methods*. Thousand Oaks, CA: SAGE Publications Inc.

Revise and Resubmit Manuscripts

Nicolini, K.M., Victor, A., Willes, K. Developing an HIV Activist Identity: A Narrative Analysis. *Health Communication*.

Nicolini, K.M. & Burrell, N. (En)Gendering Work-Life Balance: Why parents still can't have it all. *Women & Language*.

Manuscripts under Review

Fisher, V. & Nicolini, K.M. (under review). *Care, Control, and Disability: Reclaiming the American birthing process*.

Priddis D. & Nicolini, K.M. (under review). *Male Mystique: Work-life balance for fathers in today's workplace*.

Raiche, A.K., Nicolini, K.M., & Zmyslinski-Seelig, A. N. (under review). *Examining the Interplay of Adult Children's Dialectical Discourse Surrounding Conflict*.

Conference Presentations

Nicolini, K.M., Victor, A., & Willes, K.L. (2016). Paper Presentation (Top Paper). *Sustaining HIV Activism: The Foundations of HIV Activism: The role of self-care in igniting and inspiring innovative solutions*. Central States Communication Association, Grand Rapids, MI.

Nicolini, K.M. (2016). Paper Presentation. *Examining the Traumatic Effects of Navigating Infertility Discussions*. Central States Communication Association, Grand Rapids, MI.

Allen, M., Donohue, W., Miller, V., Buzzanell, P.M., Turner, L.H., Vogl-Bauer, S., Valde, K.S., Maier, M.A., & Nicolini, K.M. (2016). Discussion Panel. *Interpersonal and Small Group Communication Interest Group Spotlight Panel: Celebrating the Foundational Legacy of Nancy Burrell*. Central States Communication Association, Grand Rapids, MI.

Priddis, D., Nicolini, K.M. (2016). Paper Presentation. *Male Mystique: Examining Work-Life Balance for Fathers in Today's Workplace* Central States Communication Association, Grand Rapids, MI.

Priddis, D., Nicolini, K.M., Korn, J., Klein, M., Weismann, K., Willes, K. (2015) Panel Presentation. *Blazing a New Path: Embracing opportunities on the unconventional PhD journey*. National Communication Association Convention. Las Vegas, NV.

Nicolini, K.M., Priddis, D., Myerchin, A., Phelps, R., Johnson, M., Helens-Hart, R., and Detrinidad, A. (2015). Panel Presentation. *Convergence: The power of intergenerational mentoring*. Central States Communication Association, Madison, WI.

Nicolini, K.M., Victor, A., Willes, K. (2015) Paper Presentation. *Developing an HIV Activist Identity: A narrative analysis*. Organization for the Study of Language, Communication and Gender Convention. Bowling Green, KY.

Willes, K., Hawkins, J., Lambertz, M., Manning, J., McBride, C., Nicolini, K.M., Turner, L., Victor, A. (2015). Panel Presentation. *The Same Sex Marriage Debate: How the Supreme Court ruling affects communication*. Organization for the Study of Language, Communication and Gender Convention. Bowling Green, KY.

Benson, L., Nicolini, K.M., and Burrell, N. (2014) Top Paper Panel Presentation. *The Impact of Technology on College Students' Difficult Conversations*. Central States Communication Association Conference. St. Paul, MN.

Nicolini, K.M., Mabry, E.A. Kim, S. (2014). Paper Presentation. *Public Speaking Students' Perception of the Value of Peer Feedback within a Blended Learning Environment*. National Communication Association Convention: Chicago, IL.

Nicolini, K.M., Stache, L., Davidson, R., Turkiewicz, K., and Priddis, D. (2014) Paper Presentation. *Understanding Constructions of Parenthood in Popular Culture*. Central States Communication Association Conference. St. Paul, MN.

Nicolini, K. (2013, November 21). Paper Presentation. *The Rising Professional Costs of Motherhood: Perceptions, choices, and advancement*. National Communication Association Convention. Washington, D.C. ****Exemplar paper sample for COM 900 at the University of Wisconsin – Milwaukee.**

Omachinski, K.M., Weismann, K., Priddis, D., and Nicolini, K.M. (2015) Panel Presentation. *Converging Student Groups: Integrating non-traditional students in the classroom and in the campus community*. Central States Communication Association, Madison, WI.

Raiche, A.K., Nicolini, K.M., & Zmyslinski-Seelig, A. N. (2014). Paper Presentation. *Examining the Interplay of Adult Children's Dialectical Discourse Surrounding Conflict*. National Communication Association Convention, Chicago, IL.

Stache, L., Davidson, R., Priddis, D. M., and Nicolini, K. (2013, October 18). Panel Presentation. *Understanding Gender Studies in the Context of Parenthood*. WI Women's Studies LGBTQ Conference. University of Wisconsin – Madison.

Invited Presentations

Nicolini, K. (2012). *Understanding and Utilizing Client Needs*. Presented at Marian University, COM 315.

Nicolini, K. (2007). *Setting High Expectations*. Presented at the faculty in-service at ITT Technical Institute.

Nicolini, K. (2005). *Handling Difficult Classroom Situations*. Presented at the faculty in-service at ITT Technical Institute.

Nicolini, K. (2005). *Creative Teaching Techniques*. Presented at the faculty in-service at ITT Technical Institute.

Nicolini, K. (2005). *Teaching Across Cultures and Generations*. Presented at the faculty in-service at ITT Technical Institute.

Nicolini, K. (2005). *Nonverbal Communication*. Presented at the faculty in-service at ITT Technical Institute.

TEACHING EXPERIENCE

University of Wisconsin Oshkosh – Oshkosh, Wisconsin **2016 – present**

Assistant Professor of Journalism (Public Relations Focus)

- Developed and enhanced curriculum for new public relations major including: learning outcome development, assessment creation, and textbook selection.
- Provided an engaging, interactive, focused learning environment designed to provide upper division public relations students with the skills necessary to be successful in their chosen career field.
- Instructed three upper division public relations courses each semester in conjunction with active scholarship and professional production.

University of Wisconsin – Milwaukee – Milwaukee, Wisconsin **2012 - 2016**

Course Instructor

- Responsible for developing course material, teaching, grading and evaluation for two sections of COM 105 Online – Business and Professional Communication
- Teaching Assistant for three sections of COM 103 – Public Speaking
 - Responsible for teaching discussion sections, mentoring students to improve public speaking skills, grading, and evaluation.

Marian University – Fond du Lac, Wisconsin **2007 - 2016**

Adjunct Faculty

- Developed and provided an engaging interactive learning environment for both traditional and accelerated-learning courses
- Received exceptional student survey scores for all courses taught to date
- Created and implemented curriculum in the following courses in online, hybrid, and face-to-face classroom formats:
 - COM 100 Introduction to Communication
 - COM 101 Fundamentals of Communication
 - COM 102 Electronic Student Newspaper
 - COM 207 Newspaper Editorship
 - COM 215 Introduction to Public Relations
 - COM 232 Public Speaking
 - COM 302 Intercultural Communication
 - COM 324 Interpersonal Communication
 - COM 334 Discussion and Small Group Interaction
 - COM 401 Legal Issues in Communication
 - COM 416 Crisis Communication (fully developed online course)

ITT Technical Institute – Green Bay Campus **2002 - 2010**

Full Time Faculty

- Supervised and inspired students to reach career and life goals resulting in outstanding student performance and survey results
- Provided quality instruction in Adobe Flash, Director, Illustrator, and Photoshop, Group Dynamics, Professional Procedures and Portfolio Development, and Capstone Multimedia Project coursework

- Developed industry labs and materials to supplement curriculum
- Created and implemented curriculum in the following courses in online, hybrid, and face-to-face classroom formats:
 - BU271 Principles of Professional Communication
 - GD340 Creative Writing and Storyboarding for Games
 - GE184 Problem Solving
 - GE347 Group Dynamics
 - TB133 Strategies for the Technical Professional
 - TB332 Professional Procedures and Portfolio Development
 - VC100 Introduction to Design
 - VC215 Interaction Communication Design
 - VC240 Visual Design for the Web
 - VC250 Design Capstone Project

Marquette University - Milwaukee, Wisconsin

2001 - 2003

Interactive Teaching Assistant

- Supervised staff of eight lab aides overseeing two campus multimedia labs.
- Created and implemented Adobe Photoshop, QuarkXpress and DreamWeaver workshops providing undergraduate students with additional graphic design knowledge.

SERVICE

Professional

NCA Paper Reviewer - G.I.F.T. Division	2016-present
NCA Paper Reviewer - Feminist and Women Studies Division	2016-present
Reviewer - North Dakota Journal of Communication, Speech & Theatre	2015-present
CSCA Paper Reviewer - Communication Education Interest Group	2014-2015
CSCA Paper Reviewer - G.I.F.T. Interest Group	2014-2015
CSCA Paper Reviewer - Interpersonal and Small Group Interest Group	2014-2015
NCA Masters Education Sections Outstanding Thesis award Reviewer	2013-2014
University of Wisconsin – Milwaukee Doctoral Program Mentor	2013-present
Faculty Fellow Online Committee – Marian University	2013-present
NEW North Educational Board Member	2010-present

Community

Inter-parish Religious Education Formation Volunteer – St. Joseph Parish	2013-present
Salvation Army Bell Ringer	2013-present
ACES Xavier Educational System Marketing Committee	2010-2013
ACES Xavier Celebrate Volunteer	2010-2012
Christmas Stars Volunteer	2009-present

MEMBERSHIPS

Central States Communication Association (CSCA) – Member	2012-present
National Communication Association (NCA) - Member	2010-present
Organization for the Study of Communication, Language, and Gender (OSCLG)	2015-present

ACADEMIC EXPERIENCE

St. Francis Xavier Catholic School System - Appleton, Wisconsin

2010 - 2012

Director of Admissions

- Designed and implemented communications plans to exceed marketing, enrollment, and retention goals resulting in 4.3% increase in enrollment
- Fostered collaborative stakeholder relationships across all aspects of the organization including: administrators, faculty, parents, donors, volunteers and prospective families
- Created and produced marketing materials and social media campaigns utilizing cutting edge technology and innovative use of online advertising
- Served as media spokesperson for ACES Xavier Educational System. Trained administrators on effective media strategies to ensure positive media coverage across the organization

ITT Technical Institute - Green Bay, Wisconsin

2002 - 2010

Dean of Academic Affairs

2007 - 2010

- Led Academic Affairs department consisting of two Associate Deans, five School Chairs, and 65 faculty members in providing an environment of academic excellence within 15 programs serving over 900 students
- Achieved 3.6 percent year-to-date attrition and managed \$3 million budget
- Facilitated compliance with national accreditation standards and corporate regulations resulting in "Excellent" internal audit rating and successful re-accreditation visit
- Mentored School Chairs to become leaders within their area of expertise through the development of exceptional leadership, teambuilding, and interpersonal communication skills

Associate Dean of Academic Affairs

2005 - 2007

- Managed instructional pedagogy resulting in consistently positive retention trend. Instrumental in faculty hiring, orientation, and ongoing professional development
- Stimulated campus wide improvements through Institutional Effectiveness Plan Committee participation.
- Facilitated compliance with national accreditation body and corporate regulations
- Exceeded student expectations through superior customer service from orientation to graduation
- Inspired improved inter-departmental relations resulting in higher retention rates
- Collaborated with Career Services in Advisory Committee development and management
- Launched training opportunities including: Academic Affairs budgetary management, Director-level job shadowing, attrition/retention analysis, leadership development, and Associate Dean district-wide training

PROFESSIONAL EXPERIENCE

Boys & Girls Club of Oshkosh - Oshkosh, Wisconsin

2002 - 2004

Director of Marketing

- Spearheaded corporate fundraising and marketing "Join the Club" campaign resulting in over \$425K to support organizational mission
- Designed and implemented comprehensive marketing plan including media relations, marketing, special events, web design, and public relations
- Supervised and recruited the Board of Directors Marketing Committee
- Led team in interpersonal communications training to create a positive work environment

Prevea Health - Green Bay, Wisconsin

2003 - 2004

Communication Consultant

- Led the initiative to integrate EPIC electronic health record software into the organizational website to provide access points for both healthcare providers and patients.
- Facilitated design and functionality of website to ensure a positive, intuitive, end user experience.

Children's Health System, Inc. - Milwaukee, Wisconsin

2000 - 2002

Communication Coordinator

- Led development team and implemented the roll out of two organizational websites
- Created and designed all promotional material for distribution to various media
- Chief Editor and designer for quarterly newsletter distributed to 3000 advocates statewide
- Planned, developed and organized statewide children's health conferences and summits