An Exploratory Study of Family Characteristics
as Predictors of
Communication Apprehension

by

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Abstract

The purpose of this study was to explore the relationship between family characteristics and communication apprehension. McCroskey (2009) has argued that communication apprehension is the brain's response to a threat to self. Hsu (1998) asserts that the family of origin is one of the primary factors influencing an individual's proclivity to develop communication apprehension. That is, one's family of origin has the power to shape the development of positive and negative affects including anxiety about communication. Consequently, this study examined the influence of familial factors, such as birth order and family communication patterns, on communication apprehension. Results suggest that there is a relationship between family communication patterns, birth order, and communication apprehension. Future research should continue to examine birth-order from both a traditional and modified perspective and its relationship to an individual's tendency to develop trait anxiety and how a family's communication pattern reinforces the development or prevention of such.

Keywords: Birth order, Communication Apprehension, Family Conflict, Family Communication Patterns, Stage Fright, State Anxiety

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Apprehension

"All the world's a stage and all the men and women merely players" (Shakespeare, 1998, pp. 444). The vast majority of humans will face situations in which they are thrust onto the proscenium of life where they must become the central actors. During these times many will experience *stage fright* also referred to as speech anxiety, a form of communication apprehension (CA) (McCroskey, 2009).   Individual differences in CA are attributable to each person's genetic make-up, expressed or triggered when particular conditions arise.   Consequently although the same conditions may be present for all individuals within a group, the levels of anxiety differ greatly from person to person. To some the feeling of anxiousness is barely noticeable, or even welcomed, while for others it can be completely debilitating. Learning to deal with the anxious reactions caused by stressful situations, including public speaking, can be daunting. Despite previous research which has shown that repetitive practice before live audiences or exposure can reduce speaking anxiety (Finn, Sawyer, & Schrodt, 2009), many students simply avoid public speaking courses and activities, thereby prolonging their suffering.   Moreover, this problem is exacerbated by a lack of understanding as to the root causes of speaker anxiety. That is, students often incorrectly assume that they have no control over their anxious reactions, simply because they don't understand why they are experiencing them. Recently, Hsu (2009) has argued that communication apprehension is greatly influenced by one's family of origin. The ultimate question then becomes in what ways, if any, could Hsu's (1998, 2009) observations be true?

McCroskey, Daly, Richmond, & Falicione (1977) suggest that explanations for how CA develops can be grouped into one of four potential causal agents: genetics, reinforcement, skills acquisition, and modeling.   While there are obvious overlaps between the groups, only genetics can influence CA independent of home and school environments (Daly & Friedrich, 1981). Despite Hsu's (1998) argument for a direct association between family of origin and communication apprehension, little research has been conducted into this explanation.

Theoretical Perspective

Creation of the Self

The self is viewed as a "comprehensive social construct emerging from one's roles in society" (Pearson, Child, DeGreeff, Semlak, & Burnett, 2011, p. 4). This definition of self is in line with social identity theory (Tajfel & Turner, 1986) which suggests that as individuals grow and mature they are shaped into the person that they are based on the way that that they see their role in society and the family. Individuals thus create and assign their own roles depending on how they see themselves fitting into the world around them. The earliest world that an individual is exposed to is their family of origin. According to Pearson et al. (2011) "identity theory links role identities to behavioral outcomes, and acknowledges some identities have more self-relevance to an individual than others do" (p. 4).

Mead's (1934) symbolic interactionism theory complements social identity theory by explaining how the meanings people assign to the world around them are based on how the self combines, language, and thought (Griffin, 2009). Specifically, an

individual's sense of self is created through interaction with the world starting with the family. How individuals relate to others is derived from how they see their roles in society, thereby contributing to the creation of self. As a direct result, individuals may experience diverse levels of communication apprehension (Pearson et al., 2011). Research has suggested that family ties, including maternal attachment, can influence children throughout their entire lives (Holtzman, 2008). Consequently, families provide a shared reality (Koerner & Fitzpatrick, 2006), thereby shaping the communicators that children will become.

Neurobiology of communication apprehension

McCroskey (2009) first coined the term *communication apprehension* to describe the anxiety experienced surrounding communication. Anxiety is the result of the body's natural response to any stimulus that the brain sees as a threat, short of death, due to its potential for negative reinforcement (Harris, Sawyer & Behnke, 2006). Anxiety is the emotional state caused by an array of stimuli including threat, novelty, and frustration (Gray, 1978; Gray & McNaughton, 2000). A speaker's anxiety can affect bodily sensations in several ways -- such as heart palpitations, sweating, distress, and nausea -- as well as cause behavioral and cognitive reactions (McCullough, Russell, Behnke, Sawyer & Witt, 2006). These reactions occur in conjunction with the onset of the action of public speaking, or the expectancy of such an occurrence.

Heller and Nitschke (1998) stated, "A fundamental assumption in cognitive neuroscience is that various regions of the brain perform different roles in the organization of human behavior" (p. 421).   As these regions work together to form emotional reactions, different reactions occur based on the area of the brain tapped into.

Within each group of anxious speakers, individuals can either be defined as "high-anxious" or "low anxious" (Witt, Brown, Roberts, Weisel, Sawyer, & Behnke, 2006).   In order to better educate their students, educators must have a thorough understanding of the psychological mechanisms of fear (Lomas, 1944) as associated with communication apprehension and understand what it is and how to treat it (Watson & Dodd, 1984).

Many individuals are reticent about expressing their exact level of anxiety. To reveal their fear to others could in itself increase their anxiety levels. However, studies conducted among these individuals have a number of reported correlates of speech anxiety, such as poor eye contact, low verbal output, abnormal breathing patterns, confusion, increased verbal fillers, and confusion (Watson & Dodd, 1984). Some speakers report feelings of "butterflies in the stomach" or a "lump in their throat" (Winters, Horvath, Moss, Yarhouse, Sawyer, & Behnke, 2007). A diagnosis of communication apprehension is often "legitimized by observations of constant concomitant variation or functional relationship" (O'Donohue & Krasner, 1997, p. 3). The anxiety experienced by an individual can manifest itself through two unique forms of anxiety: state and trait.

State verses Trait

CA may be divided into two separate but related phenomena called trait and state anxiety. Specifically, the term trait anxiety refers to a stable predisposition to respond to communication with feelings of fear or dread. State anxiety, on the other hand, refers to the actual level of a speaker's fear as experienced in a particular occasion. Scholars have worked in a variety of disciplines including psychology, physiology, as well as

communication, to examine the complex relationship between state and trait anxiety (Finn, Sawyer, & Behnke, 2009; Witt et al., 2006; Harris et al., 2006; McCullough et al., 2006). As educators understand the differences between the two types of anxiety better, they tend to modify their teaching strategies thereby assist their students more eddectively.

Traits are stable predispositions to respond to stimuli and don't change too much over time (Spielberger, 1966). The characteristics of a trait anxiety allow you to ask individuals how they feel about a given situations, such as giving a speech, and they can give a responses representative of their trait. Trait anxiety refers to the degree to which individuals are disposed to manifest state anxiety in response to various forms of stress (Johnson & Spielberger, 1968). Researchers have classified communication apprehension as a form of *trait anxiety* with over 70% of the population reporting some experience with communication apprehension (McCroskey, 2009).   Trait anxiety is generally caused by genetic predisposition, and it is currently unclear if treatments can have an affect on a person's level of trait anxiety (Beatty, McCroskey, & Heisel, 1998). Hsu (1998) suggests that the familial environment is one of the most influential factors when it comes to the development of a communication apprehension. According to Beatty & Behnke (1991), scholars most often use measures of trait anxiety to identify individuals who will be most affected by anxiogenic stimuli; however, it is the concept of state anxiety that most accurately describes the reaction that individuals have to public speaking.

State anxiety is "characterized by subjective, consciously perceived feelings of apprehension and tension, together with activation of the autonomic nervous system" (Johnson & Spielberger, 1968; p 20). Fear of receiving negative evaluation from those

watching has been associated with public speaking causing increased level of state

anxiety (Woody & Rodriguez, 2000). State anxiety is transitory, varying in intensity and

fluctuating over time (Harris et al., 2006). In his book, *Anxiety and Behavior,* Spielberger

(1966), defines trait anxiety as a feeling of unease across different situations and time

periods, while state anxiety is only experienced under particular situations at particular

times. Studies into state anxiety have shown some level of treatment effectiveness among

individuals who experience it (Finn, Sawyer, & Schrodt, 2009). Dwyer and Fuss (2002)

found that public speaking instruction does have significant effects on an individual's

level of anxiety.

Potential Causal Agents for Communication Apprehension

Daly and Friedrich (1981) suggest that an apprehensive individual failed to attain

the skills necessary for social interaction as a young child.

> "A good family environment for discouraging individuals' CA development
>
> should be the one where they can perceive family warmth and support, where
>
> parents encourage expression of ideas and feelings, and where family members
>
> emphasize independent thinking and discussion" (Hsu, 1998, pp. 98).

When exposed to environments that model positive communication, individuals are less

likely to experience apprehension (Daly & Friedrich, 1981). Some researchers would

suggest that communication apprehension is the result of reinforcement and modeling

(Daly & Friedrich, 1981; Fitzpatrick & Vangelisti, 1995; McCroskey, 1977) and is a

product of a child's family environment.   Parents model behaviors for their children

which in turn causes children to some extent to mimic the behaviors of their parents

(Elwood & Schrader, 1998). As children communicate with their parents they experience

reinforcement in the form of feedback, which in turn leads to children making decisions

of what constitutes positive and negative communication (Elwood & Schrader). This

leads me to the overarching issue for the current study, namely, to what extent will family

characteristics contribute to a person's likelihood of developing trait communication

apprehension?

Potential Birth-Order Effects

From the moment of conception, an array of genetic and other biological forces

begin to play a significant role in shaping the way that an individual will ultimately relate

to others (Hunsaker, Kelly, & Duran, 1999, p. 128). However, once born, a child's

position within the family, or birth order classification, is also established and it too may

contribute to trait anxiety including, presumably, communication apprehension

(Eisenman, 1966). Previous research into the relationship between birth-order and

communication apprehension has suggested only a negligible relationship. However, this

research has chosen to redefine birth order through the work of Dr. Kevin Lehman who

suggests that birth order, while simple is not simplistic. "There are standard birth order

rules, and there are also exceptions to the standard birth order rules" (Lehman, 2009, p.

17). There are nine variables that influence the classification of birth order placement,

contrary to just identifying birth order position based on the order of birth of siblings.

The first variable is gender, which is closely related to the variable of spacing. Other

variables that might influence birth order are sibling deaths and adoptions as well as

family blending as a result of remarriage either after death or divorce. Multiple births as

well as physical, mental, or emotional differences between siblings also tend to change

the way that birth order influences an individual. The final variables affecting birth order

are the birth order of the parent, the relationship between the parents as well as the

critical eye of a parent (Lehman, 2009). Birth order is not as much about the order of

birth of siblings but rather the characteristics surrounding their birth environment

(Lehman, 2009).

      While Leman's (2009) formula differs in its establishment of birth order

classification, the basic characteristics surrounding the specific birth order environments

are not different. According to Eisenman (1966) of all birth order variables, first-born

children are the most frequently researched of all birth order classifications. Schachter

(1959) suggests that oldest children tend to be more anxious than other birth order

positions. First-borns, as well as only children, also tend to be conscientious, well-

organized people pleasers (Leman, 2009). Oldest and only children often serve as the

"guinea pigs" (Leman, p. 90) for parents who have never been a parent before. These

children have a higher level of dependence on their parents as leaders (Flowers & Brown,

2002). Everything a first born son or a first born daughter does tends to be monumental,

so first-borns are naturally drawn to achieve which can lead to anxiety when first-borns

believe they must not only be good, but must also be perfect (Leman). This leads to the

prediction that:

      H1: First-born children will report higher trait communication apprehension than

      other birth order classifications.

      While first-born children tend to have fewer friends, middle children often have

many (Leman, 2009). Middle children tend to feel like they do not have a specific place

or purpose within the family, tending to often be upstaged by their older and younger

siblings. Children in this birth position tend to not confide as willingly in others as an

oldest or youngest child might (Leman, 2009). Keeting (2009) suggests that parents

often do not feel as close to their middle-born children. As a result middle-born children

tend to be more prone to feeling public embarrassment but at the same time are often

rebellious (Leman, 2009). Middle-children tend to have developed an ability to negotiate

with others having been forced to share their time with parents with other siblings

(Leman, 2009). An examination of the behavioral tendencies of middle children leads

me to predict:

> H2: Middle-born children will report lower levels of communication
>
> apprehension in the group and meeting dimensions than other birth order
>
> classifications.

> H3: Middle-born children will report higher levels of communication
>
> apprehension in dyad and public dimensions that other birth order classifications.

> The youngest children in a family are "typically the outgoing charmers, the

personable manipulators" (Leman, 2009, p. 167). The behavior of many last-born

children is often affected by their "burning desire to make an important contribution to

the world (Wilson & Edington, 1981, p. 108). A last-born child tends to be highly

influenced by praise and encouragement and to be very persistent (Leman, 2009).

Lastborns often prefer to "go ahead and do it" (Leman, 2009, p. 186) and worry about

repercussions later. It is this persistent, daring attitude typical of a youngest child that

leads me to predict:

> H4: Last-born children will experience the lowest level of communication
>
> apprehension when compared to other birth order classifications.

Family Communication Patterns

Family communication patterns rely on a simultaneous relationship with interpersonal and intrapersonal communication (Koerner & Fitzpatrick, 2006). McLeod and Chaffee (1973) suggested that families tend to communicate in stable and predictable ways. For example, how children view and process information outside of the family is shaped by the ways that that they have been conditioned to view the information inside the family (McLeod & Chaffee, 1973). Koerner and Fitzpatrick (2006) started using the Family Communication Patterns (FCP) instrument to describe the processing behaviors that children have been conditioned to within their family unit. Family communication patterns are "uniquely shared world views that provide individual family members with value and belief systems" (Schrodt, Witt, & Messersmith, 2008, p. 249). Family communication patterns account for the ways in which families communicate on two separate dimensions, or orientations -- conformity and conversation (Koerner & Fitzpatrick, 2006).

Conformity orientation, formerly known as socio-orientation (Koerner & Fitzpatrick, 2006), represents the way that the rules surrounding social roles and relationships established within the family work to shape a child's decision-making ability (Schrodt et al., 2008). Baxter, Bylund, Imes, and Scheive (2005) contend that a family high in conformity orientation would rather avoid conflict and differences of opinion for the sake of family peace. Conversation orientation, also known as concept-orientation, "represents the degree to which parental discussions of ideas and concepts influences children's information processing and subsequent decision-making" (Schrodt et al., p. 250). Parents in families that are high in conversation orientation raise children

who are encouraged to discuss meanings through discussion with others (Koerner &

Fitzpatrick). This leads to the question:

R1: To what extent does a family's communication pattern predict the likelihood

of its individual members to experience communication apprehension?

Methods

Participants

Following approval from the university Institutional Review Board, an online

survey was administered to approximately 205 undergraduate students who volunteered

to participate in a study of interpersonal communication. All study participants were

enrolled in introductory college level communication courses offered at either a mid-

sized private university or a large, urban community college. Both institutions were

located in the southwest region of the United States. Participants included 88 males and

153 females ranging in age from 18 to 77 years (mean=24.28, SD=11.76).

Procedures

Participants were recruited from undergraduate courses in both schools.

Professors of participating sections of the course distributed a link to the survey to their

students. Students did not take the survey during class time but rather between 8am

Monday and 5pm on Friday of the tenth week of their academic term. Students

completed the survey in approximately 20 minutes. Minimal course credit (less than 2%)

was awarded for completion of the survey at the instructor's discretion. Students opting

not to participate completed an alternative assignment for equal credit in the course.

Measures

Participants were asked a series of questions pertaining to their current age and gender. Following the demographic questions, participants were asked to list their family members' gender, ages, and disability status at the time the participant was 7-years old. Following the family demographics participants were asked to complete three separate measures.

PRCA-24. The Personal Report of Communication Apprehension (PRCA-24) (McCroskey, 1972) is the most commonly used measure of communication trait anxiety. The PRCA-24 consists of 24 questions that address communication apprehension across four dimensions; group discussion, meetings, interpersonal conversations, and public conversations. Items such as "I dislike participating in group discussions," address an individual's desire to avoid communication. Participants responded to items on a 5-point Likert scale ranging from "strongly agree" (5) to "strongly disagree" (1). The current study looked at levels of communication anxiety across the four dimensions as well as a total score. A Cronbach's alpha of .836 was obtained as an estimate of internal consistency for the PRCA-24.

FDCP. The revised Family Communication Patterns (FDCP) (Ritchie & Fitzpatrick, 1990) instrument used to identify a family's orientation on the dimensions of conversation and conformity. This measure includes twenty-six questions items such as "I could tell my parents almost anything," demonstrates the level of family communication while items such as "In our home, my parents usually had the last word," demonstrates a level of conformity. Participants responded to items on a 5-point Likert scale ranging from "strongly agree" (5) to "strongly disagree" (1). The study will examine individual's family communication patterns by comparing a participant's

reported levels of conformity and communication orientation. Cronbach's alpha of .881 was obtained as an estimate of internal consistency for the FDCP.

Data Analysis

To test hypotheses one through four, a one-way ANOVA was computed using birth order (First Born v Middle Born v Last Born) as the classification variable for each of the PRCA-24 subscales and the total score as dependent variables. Birth order classifications were considered for both the traditional model of birth order and the modified form of birth order suggested by Leman (2009) and classified through a classification tree creating two separate studies. Unequal cell sizes necessitated the need to conduct procedures using a stratified random selection reducing cell sizes to forty in each cell for traditional birth order and twenty in each cell for modified birth order. Likewise, to answer RQ1, a one-way ANOVA was computed within each of the two separate groupings, traditional and modified birth order, using family communication conformity and family communication conversation scores as the classification variable for each of the PRCA-24 subscales and the total score as dependent variables.

Results

The data was analyzed with a multiple correlation obtained from stepwise multiple regressions and with separate Pearson product-moment correlation for respondents. Means, standard deviations, and reliability estimates for the PRCA-24 total, the PRCA-24 subscales (Group, Meeting, Dyad, and Public) and the FCP measures for conversation and conformity orientation for modified birth order appear in Tables #1 and #2.

Table 1

MEANS, STANDARD DEVIATIONS, AND RELIABILITY ESTIMATES FRO THE PRCA-24 AND FCP (N=60)

	MEAN	STANDARD DEVIATION	COEFFICIENT ALPHA
PRCA-24			
Group	22.40	5.71	.78
Meeting	21.10	5.41	.74
Dyad	22.00	4.81	.76
Public	17.22	6.45	.80
Total	82.72	19.53	.90
FCP			
Conformity Orientation	49.22	14.87	.72
Conversation Orientation	36.10	6.94	.73

Table 2

PEARSON PRODUCT MOMENT CORRELATION COEFFICIENT FOR ALL VARIABLES (N=60)

Variable	1	2	3	4	5	6	7
1.Conformity Orientation	-	NA	.034	.227**	.249**	.089	.163**
2.Conversation Orientation	NA	-	.333**	.300**	.358**	.248**	.350**
3.PRCAGroup	.034	.333	-	.808**	.664**	.551**	.861**
4.PRCAMeeting	.227**	.300**	.808**	-	.839**	.661**	.919**
5.PRCADyad	.249**	.358	.664**	.762**	-	.681**	.898**
6.PRCAPublic	.089	.248**	.551**	.661**	.681**	-	.842**
7.PRCATOTAL	.163**	.350	.861**	.919**	.898**	.842**	-

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed)

A smaller number of participants (N = 60) were included in these analyses due to the low number of middle borns that typically arise from this method of classification. Of the four tests only one yielded a significant effect, namely, birth order as a predictor of the PRCA Public subscale ($F_{2, 57}$ = 3.37, $p<.05$). Initially, this one-way ANOVA showed that last borns reported greater public speaking CA (Mean = 19.0, SD = 6.45) than their middle born (Mean = 14.3, SD = 5.90) but not their first born (Mean = 18.35, SD = 4.98). However, this effect was not confirmed by Scheffe post hoc tests. Thus, no support was derived for hypotheses one through four with the modified birth order data.

Correlation estimates between conversation and conformity orientations with CA for these study participants were examined. Positive correlations were detected for conversation orientation and PRCA Group (r = .33), Meeting (r = .30), Dyad (r = .36) and the PRCA Total score (r = .35). However, although the correlation estimates between conformity orientation and each subscale of the PRCA-24 as well as the Total score and were all positive only PRCA Meeting (r = .23) and Total (r = .16) recorded minor significance at the .01 level.

For comparison, hypotheses one through four were tested using the traditional birth order designation method. Means, standard deviations, and reliability estimates for the PRCA-24 total, the PRCA-24 subscales (Group, Meeting, Dyad, and Public) and the FCP measures for conversation and conformity orientation for traditional birth order appear in Tables #3 and #4.

Table 3

MEANS, STANDARD DEVIATIONS, AND RELIABILITY ESTIMATES FRO THE PRCA-24 AND FCP (N=120)

	MEAN	STANDARD DEVIATION	COEFFICIENT ALPHA
PRCA-24			
Group	22.18	5.37	.78
Meeting	20.58	5.36	.74
Dyad	21.09	4.79	.76
Public	17.23	5.51	.80
Total	81.09	18.93	.90
FCP			
Conformity Orientation	48.83	14.56	.72
Conversation Orientation	36.17	7.96	.73

Table 4

PEARSON PRODUCT MOMENT CORRELATION COEFFICIENT FOR ALL VARIABLES (N=120)

Variable	1	2	3	4	5	6	7
1.Conformity Orientation	-	NA	.183*	.238**	.262**	.273**	.265**
2.Conversation Orientation	NA	-	.092	.164*	.195*	.095	.150
3.PRCAGroup	.183*	.092	-	.803**	.725**	.653**	.885**
4.PRCAMeeting	.238**	-.164*	.803**	-	.839**	.764**	.946**
5.PRCADyad	.262**	.195*	.725**	.839**	-	.691**	.898**
6.PRCAPublic	.273**	.095	.653**	.764**	.691**	-	.868**
7.PRCATOTAL	.265**	.150	.885**	.946**	.898**	.868**	-

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

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

Hypothesis one predicted that first born individuals will report higher levels of communication apprehension than their middle born and last-born counterparts. To test this prediction a one-way ANOVA was computed using the traditional method for determining birth order as the classification variable and the PRCA Total as the dependent variable. A significant effect was detected for birth order as a predictor of total communication apprehension ($F_{2, 117} = 3.47$, $p<.05$), a finding that was confirmed by a Scheffe post hoc test. An inspection of the means for PRCA Total by birth order designations showed that contrary to the prediction, middle borns reported higher levels of communication apprehension (Mean = 86.45, SD = 17.31) than first borns (Mean = 75.53, SD =18.39) and it was this difference in means alone that accounted for the significant effect. Consequently, hypothesis one was not supported using traditional birth order designations.

Hypothesis two predicted that middle borns will have lower levels of group and meeting CA. One-way ANOVAs using traditional birth order designations were computed for PRCA Group and PRCA Meeting, respectively. No differences in means for PRCA Group were detected for birth order ($F_{2, 117} = 2.88$, $p>.05$, ns). However, a significant effect was detected for birth order and the PRCA Meeting subscale ($F_{2, 117} = 4.04$, $p<.05$), and this finding was subsequently confirmed by a Scheffe post hoc test. An inspection of the means revealed that contrary to the prediction, middle borns reported higher PRCA meeting scores (Mean = 22.0, SD = 4.97) than their first born counterparts (Mean = 18.75, SD = 5.40). No significant difference was detected for last borns (Mean = 21.0, SD = 5.33). Consequently, hypothesis two was not supported using traditional methods of determining birth order.

Hypothesis three predicted that middle borns would have higher levels of dyad and public CA that their first and last born counterparts. Results of a one-way ANOVA for both PRCA Dyad ($F_{2, 117} = 2.62$, $p > .05$, ns) and PRCA Public ($F_{2, 117} = 2.20$, $p > .05$, ns) revealed no significant differences in means attributable to birth order. Consequently, hypothesis three was not supported.

Hypothesis four predicted that last borns would have the lowest levels of CA. However, as previously reported for tests involving the previous three hypotheses, no significant differences in means were detected for last borns. Consequently, hypothesis four was not supported. Thus traditional birth-order serves as a better predictor of CA than modified birth-order.

Research question one sought to determine the extent of the relationships between conversation and conformity orientation with communication apprehension as they appear in tables #2 and #4. Positive correlations were detected between conversation orientation and the PRCA meeting ($r = .16$) and ($r = .20$) but not for the group ($r = .09$) and public ($r = .10$) subscales nor for the PRCA total ($r = .15$). Conversely, significant positive correlations were detected for conformity orientation and the PRCA Group ($r = .18$), Meeting ($r = .24$), Dyad ($r = .26$) and Public ($r = .27$) subscales. Moreover, the relationship between conformity orientation and the PRCA Total score was positive ($r = .27$).

Discussion

This primary goal of this project was to explore the relationship between the relationship between family characteristics and communication apprehension. Specifically, using Leman's (2009) theory of modified birth order as compared to

traditional birth-order, we examined the four types of communication apprehension trait anxiety (i.e., group, meeting, dyad, public, and total) as well as family communication patterns of conformity orientation and conversation orientation. Overall, the results suggest that birth order is not a strong predictor of communication apprehension using either the traditional or modified classifications. Conversely, conformity orientation is a strong predictor of communication apprehension. Consequently, these results enhance our understanding of how a family's communication pattern shapes an individuals' future likelihood of experiencing communication apprehension.

The first four hypotheses tested the relationship between birth-order and communication apprehension. Birth-order was classified using both the traditional classification as well as the modified classification. While no significant support was found for modified birth-order as a stronger predictor of communication apprehension evidence was found to support birth-order as a whole as a significant predictor of CA. Interestingly the highest reported levels of CA were among middle borns. Leman (2009) would suggest that middle children tend to desire more secrecy than do first borns or last borns. This desire for secrecy might relate to a middle born being fearful of sharing information with others that they might see as a violation of their privacy.

The most significant findings of this study were those related to conformity orientation and CA. While previous studies have indicated that conversation is a better predictor of CA (Daly & Friedrich, 1981; Beatty, Plax, & Kearney, 1985) this study demonstrated that conformity orientation was a better predictor. Hsu (1998) suggested that conformity-orientated families would foster greater levels of CA development while

Elwood and Schrader (1998) found conformity orientation to not be a significant

predictor of CA. This study showed support for Hsu (1998) and his previous assertions.

Limitations

As true for any study, this project included several limitations. First, the overall

size of the study was small with the largest percentage of participants coming from a

homogenous sample of college students from a small, private, southwestern university.

The homogeneity of the sample lead to smaller groupings among birth-order types

necessitating the stratified random selection to create equal cell sizes. Considering the

level of diversity necessary for a larger sample size a more diverse sample may have

proven more significant. Second, Leman's (2009) theory of birth order classification

includes nine variables affecting an individual's birth-order classification (i.e. disability

of the individual being classified, the birth-order of their family members, etc). This

study limited the modified classification to gender and age difference. Perhaps, if other

factors had been considered the findings would have been stronger. Third, respondents

were asked to recall family interaction patterns of a time when they were seven years old.

Not all participants may have had good memory or recall.

Future Research

While Leman's (2009) method of classification did not create specific findings in

this study it might be advantageous to conduct another study utilizing all nine of the

factors that Leman suggests to classify individuals rather than the two used in this study.

Also, future research should seek to combine both environmental factors such as the

family of origin with biological factors such as gender and genetic make-up.   Lykken

(2006) would suggest that genetic influences are the strongest influences on an individual's character. Looking at the findings of the emergences study and a comparative analysis of dizygotic and monozygotic twins as foundation for future research into the genetic relationship to communication apprehension trait anxiety might lead to a clearer understanding of how traits are created. Ultimately the better understating educators have about trait anxiety the better they can assist their students to overcome it.

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Appendix A: Family Structure

Complete the following table by filling in the answers. Think back to the time that you were 7-years-old.

> ** self (you at the age of 7)*
>
> **parent (refers to the adult caregiver in your home. If the adult caregiver was a grandparent, please list them as "other adult." The second parent could be a step-parent or a live-in boyfriend or girlfriend of your parent.)*
>
> ** other adult (these individuals might be grandparents or other adults living in your home that are not siblings)*
>
> **siblings (these individuals are biologically related to you or related by adoption, marriage, or situation such as the case of a child of a live-in boyfriend/girlfriend of your parent)*
>
> ** gender (male or female)*
>
> ** age (at the time you were 7-years-old)*
>
> ** Biological (for siblings the answer would only be yes if you have the same 2 biological parents)*
>
> ** Half (genetically related to you through only 1 parent)*
>
> ** Step (not genetically related to you but a sibling through a second adult in the home (most often a step-parent but could be a live-in boyfriend or girlfriend of your biological parent.)*
>
> **adopted (no biological relationship from either parent)*
>
> ** disabled (you would classify this family member as disabled either by a physical or mental disability)*

Label	Gender	Age	Biological	Half	Step	Adopted	Disabled
SELF	M / F	7	Y / N	NA	NA	Y / N	Y / N
Parent 1	M / F		Y / N	NA	Y / N	Y / N	Y / N
Parent 2	M / F		Y / N	NA	Y / N	Y / N	Y / N
Other adult 1	M / F		Y / N	NA	Y / N	Y / N	Y / N
Other adult 2	M / F		Y / N	NA	Y / N	Y / N	Y / N
Sibling 1	M / F		Y / N	Y / N	Y / N	Y / N	Y / N
Sibling 2	M / F		Y / N	Y / N	Y / N	Y / N	Y / N
Sibling 3	M / F		Y / N	Y / N	Y / N	Y / N	Y / N
Sibling 4	M / F		Y / N	Y / N	Y / N	Y / N	Y / N
Sibling 5	M / F		Y / N	Y / N	Y / N	Y / N	Y / N

Appendix B: PRCA-24

Instructions: This instrument is composed of twenty-four statements concerning feelings about communicating with other people. Please indicate the degree to which each statement applies to you by marking whether you

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

1. I dislike participating in group discussions.   1   2   3   4   5

2. Generally, I am comfortable while participating in group discussions.   1   2   3   4   5

3. I am tense and nervous while participating in group discussions.   1   2   3   4   5

4. I like to get involved in group discussions.   1   2   3   4   5

5. Engaging in a group discussion with new people makes me tense and nervous.   1   2   3   4   5

6. I am calm and relaxed while participating in group discussions.   1   2   3   4   5

7. Generally, I am nervous when I have to participate in a meeting.   1   2   3   4   5

8. Usually I am calm and relaxed while   1   2   3   4   5

participating in meetings.

9. I am very calm and relaxed when I   1   2   3   4   5

am called upon to express an opinion at

a meeting.

10. I am afraid to express myself at   1   2   3   4   5

meetings.

11. Communicating at meetings usually   1   2   3   4   5

makes me uncomfortable.

12. I am very relaxed when answering   1   2   3   4   5

questions at a meeting.

13. While participating in a conversation   1   2   3   4   5

with a new acquaintance, I feel very

nervous.

14. I have no fear of speaking up in   1   2   3   4   5

conversations.

15. Ordinarily I am very tense and   1   2   3   4   5

nervous in conversations.

16. Ordinarily I am very calm and   1   2   3   4   5

relaxed in conversations.

17. While conversing with a new   1   2   3   4   5

acquaintance, I feel very relaxed.

18. I'm afraid to speak up in conversations.

    1   2   3   4   5

19. I have no fear of giving a speech.

    1   2   3   4   5

20. Certain parts of my body feel very tense and rigid while giving a speech.

    1   2   3   4   5

21. I feel relaxed while giving a speech.

    1   2   3   4   5

22. My thoughts become confused and jumbled when I am giving a speech.

    1   2   3   4   5

23. I face the prospect of giving a speech with confidence.

    1   2   3   4   5

24. While giving a speech, I get so nervous I forget facts I really know.

    1   2   3   4   5

Appendix C: Revised Family Communication Patterns Instrument (RFCP)

Instructions: This questionnaire contains statements regarding your perception of your family of origin. Please indicate your level of agreement or disagreement with each statement.

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

1. In our family we often talked about topics like politics and religion where some persons disagreed with others.　1　2　3　4　5

2. My parents often said things like "Every member of the family should have some say in family decisions."　1　2　3　4　5

3. My parents often asked my opinion when the family is talking about something.　1　2　3　4　5

4. My parents encouraged me to challenge their ideas and beliefs.　1　2　3　4　5

5. My parents often said things like "You should always look at both sides of an issue."　1　2　3　4　5

6. I usually told my parents what I was   1   2   3   4   5

thinking about things.

7. I could tell my parents almost   1   2   3   4   5

anything.

8. In our family we often talked about   1   2   3   4   5

feelings and emotions.

9. My parents encouraged me to express   1   2   3   4   5

my feelings.

12. My parents tended to be very open   1   2   3   4   5

about their emotions.

13. We often talked as a family about   1   2   3   4   5

things we had done during the day.

14. In our family, we often talked about   1   2   3   4   5

our plans and hopes for the future.

15. My parents liked to hear my   1   2   3   4   5

opinions, even when I didn't agree with

them.

16. When anything really important is   1   2   3   4   5

involved, my parents expected me to

obey without question.

17. In our home, my parents usually had   1   2   3   4   5

the last word.

18. My parents felt that it was important to be the boss.   1   2   3   4   5

19 My parents sometimes became irritated with my views if they were different from theirs.   1   2   3   4   5

20. If my parents didn't approve of it, they didn't want to know about it.   1   2   3   4   5

21. When I was at home, I was expected to obey my parents' rules.   1   2   3   4   5

22. My parents often said things like "You'll know better when you grow up   1   2   3   4   5

23. My parents often said things like "My ideas are right and you should not question them."   1   2   3   4   5

24. My parents often said things like "There are some things that just shouldn't be talked about."   1   2   3   4   5

25. My parents often said things like "A child should not argue with adults."   1   2   3   4   5

26. My parents often said things like "You should give in on arguments rather than risk making people mad."   1   2   3   4   5

Appendix D: Modified Birth-Order Decision Tree

Only child in family?

Yes ONLY CHILD

No

Oldest child in family?

Yes OLDEST CHILD

No

Has at least 1 sibling less than 5-years younger or older, in same direction?

Yes MIDDLE CHILD

No

Youngest of all siblings?

Yes YOUNGEST

NO FUNCTIONAL ONLY