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# Stuttering, emotional expression, and masculinity: fighting out words, fighting back tears

James Thomas Haley  
*University of Iowa*

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STUTTERING, EMOTIONAL EXPRESSION,  
AND MASCULINITY:  
FIGHTING OUT WORDS, FIGHTING BACK TEARS

by

James Thomas Haley

An Abstract

Of a thesis submitted in partial fulfillment of the requirements for the  
Doctor of Philosophy degree in Psychological and Quantitative Foundations  
(Counseling Psychology) in the Graduate College of The University of Iowa

May 2009

Thesis Supervisors: Clinical Professor Sam V. Cochran  
Associate Professor Patricia M. Zebrowski

## ABSTRACT

Stuttering is a developmental disorder which may adversely affect the individual on many functional and emotional levels. Common sequelae of speech disfluency include powerful emotions such as anxiety, shame, and anger, as well as speech-avoidant behaviors. For males, the influence of gender role socialization may present an additional burden. From a traditional perspective of masculinity, emotional expression and exposing one's flaws are strongly discouraged in most forms and contexts and may be seen as signs of weakness. While expression of emotions is a common developmental milestone for many who stutter, it is unclear what impact awareness, repression, and avoidance of emotions have on the well-being of people who stutter.

This study explored the effects of disruptions in emotional expression and the influence of masculinity on the impact of disfluency for adult males who stutter (n=65). It was hypothesized that masculine-type emotional restriction would mediate the relationship between disruptions in emotional expression and the perceived impact of stuttering. Regression analysis revealed disruptions in emotional expression accounted for 25% of the variance in self-reported perceptions of stuttering, and self-regulation of emotion was negatively correlated with perceived impact of stuttering. Contrary to hypothesis, masculine-type emotional restriction was not significantly correlated with perceived impact of stuttering and thus invalidated impetus for mediation analysis. Implications and suggestions for further exploration are discussed.

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Graduate College  
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CERTIFICATE OF APPROVAL

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PH.D. THESIS

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This is to certify that the Ph.D. thesis of

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has been approved by the Examining Committee  
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To my family and friends, whose love and support have been invaluable throughout  
this journey.

In memory of those no longer with us—may your collective spirit inspire  
and strengthen us as we carry on.

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## CHAPTER 1

### INTRODUCTION

Stuttering is a disorder with a multitude of sources and effects. Much of the research exploring the cause and impact of stuttering has focused on the immediate influence of physiological and environmental factors. Examples of these factors include the speed of an individual's speech or the intensity of the speech demands in the home and school environment of the person who stutters (Guitar, 1998). However, researchers have done limited exploration into the impact of many societal and intrinsic factors on the disfluent manifestations of a person who stutters. Although research has explored relationships among stuttering and various phenomena such as vocational impact (Klein & Hood, 2004) and bullying experiences (Hugh-Jones & Smith, 1999), many other areas have not yet been explored.

Despite extensive research in the field, stuttering remains a phenomenon with limited definition. Disfluency has been traced to genetic, stress-induced, and environmental factors with limited predictability and unexplained variations (Craig, 2000). People who stutter are from diverse backgrounds with varied manifestations of disfluency. The heterogeneous nature of stuttering makes the sources of onset, chronicity, and severity difficult to determine. However, one attribute remains mysteriously significant: the gender differential between males and females whose stuttering persists into adulthood (Guitar, 1998). Males who stutter outnumber females who stutter at a ratio ranging from as low as 2.3:1 (Craig, Hancock, Tran et al., 2002) to as high as 5:1 (Bloodstein, 1995). Explanations for this phenomenon have included gender-based neurological differences and females' traditionally greater propensity for language (Yairi,

2005). In spite of such conjectures, gender-based societal influences on stuttering remain largely unexplored.

Gender splits in many Diagnostic and Statistical Manual—Fourth Edition, Text Revision (DSM-IV-TR; American Psychiatric Association, 2000) diagnoses have been well documented. These splits include a greater prevalence of Attention-Deficit/Hyperactivity Disorder in males (Fayyad, De Graaf, Kessler et al., 2007), a disproportionate female-to-male prevalence of Major Depression (Kessler, McGonagle, Zhao et al., 1994; Birmaher, Ryan, Williamson et al., 1996), and skewed prevalences of Borderline Personality Disorder and Antisocial Personality Disorder in females and males, respectively (Skodol & Bender, 2003; Kessler, 1998). Many of these disorders are surmised to be influenced by biologically- or sociologically-based differences. Examples of these differences include males' tendency externalize rather than internalize emotion, the greater emotional intensity and awareness of females, and the greater willingness of females to report symptoms or emotions (Redman, Webb, Hennrikus et al., 1991).

Over the past 30 years, researchers have progressed in understanding the impact of socially prescribed roles on gender-based behavior. One such behavior for males is emotional restriction from gender role socialization. From as early as 6 months, boys are admonished to inhibit emotional expression (Levant, 1998). Maxims such as “boys don't cry” or “be a man” are instilled prior to primary school, and emphasize a strongly engrained cultural aversion to feminine qualities such as expressiveness, nurturing, and sensitivity (Pollack, 1998). Boys are covertly and overtly taught that males conform to archetypes prohibiting the expression of many emotions, including fear, uncertainty, or concern for one's own health. Males quickly learn emotional suppression to help

prioritize achievement, eminence, and power by emphasizing attributes such as competitiveness, aggression, control, and criticism (Pollack, 1998). As boys become older, the costs of devalued emotionality become clearer. Men may suffer from normative male alexithymia, an inability to identify or articulate emotions (Levant, 1998). Emotional inexpressiveness may lead to interpersonal distance and/or alienation of loved ones. Stunted emotional expression may leave anger, one of few acceptable emotions in the traditional male world, as the generic expression of much more complicated affect.

Gender role conflict is a psychological state that helps to measure the effects of such socialization. Gender role conflict occurs when socialized gender roles have adverse effects on an individual or others (O'Neill, 2005). As societally restrictive gender roles personally restrict, devalue, or violate others or one's self, one experiences stress or internal conflict (O'Neil et al., 1995). Gender role conflict has been associated with poor relationship intimacy (Rochlen & Mahalik, 2004) and self-reported shame (Thompkins & Rando, 2003), as well as negatively associated with relationship satisfaction in men (Burn & Ward, 2005). Another manifestation of these effects is conformity to gender role norms, which occurs when we are aware of and influenced by social approval or disapproval of gender-specific behavior (Mahalik, 2000). Conforming to masculine norms has been related to psychological distress, social dominance, aggression, and aversion to seeking psychological help (Mahalik, Locke, Ludlow et al., 2003). A salient subcomponent of both gender role conflict and conformity to masculine norms is emotional limitation, either by self-restriction or internal control. According to gender role socialization theory with respect to restrictive emotionality, men experience societal

pressure to deny and suppress emotions in order to avoid demonstrating weakness or appearing to lose control.

Stuttering is an emotionally-laden phenomenon that may similarly lead to stunted or suppressed affect. The inherently frustrating nature of communication struggle and the variable reactions of the unsuspecting or uninitiated audience can contribute to avoidance or denial at a young age. Children quickly learn that avoiding awkward scrutiny or teasing from peers seems more important than raising one's hand to disfluently answer a teacher's question.

Conture et al. (2006) noted that emotional reactivity and regulation are among 'exacerbating contributors' to developmental stuttering. Common developmental tasks of adults who stutter include accepting one's self as a person who stutters and addressing many bottled-up feelings accrued when stuttering (St. Louis, 2001). The process leading up to this expression typically consists of developing affective awareness within a supportive environment that encourages affective expression (Guitar, 1998). Those individuals 'stuck' in development often later describe themselves as struggling or suffering (St. Louis, 2001).

Some of the unusual manifestations of stuttering better illuminate the internal experience of disfluency. 'Le petite mort' (the little death) is a response similar to dissociation that as many as 70% of people who stutter experience when disfluent in a pressured setting (Heite, 2001). Some researchers conjecture that this occurs to protect the individual from the psychological pain of shame, fear, embarrassment, and anger (Starkweather & Givens-Ackerman, 1997). Although anxiety has long been believed a contributing factor to disfluency, research has found that, when disfluent in pressured

speaking situations, people who stutter actually have lower physiological levels of anxiety in the moment than do people who do not stutter (Alm, 2004). The operative mechanism is not clear, but some have theorized that this may be a 'freeze' response that is evolutionarily akin to the self-protective 'fight or flight' responses (Alm, 2004; Heite, 2001; Dodge, Ellis, & Ramig, 2004).

In an effort to better understand affective responses, Kennedy-Moore and Watson (1999) developed a model of emotional expression ranging from physiological response to verbal or nonverbal expression. This model conceptualized five steps progressing from awareness to expression, including pre-conscious processing (the automatic, physiological response), conscious perception (awareness), labeling and interpreting of emotions (identification), matching values and emotional response (importance), and evaluating the social context (risk management). Disruptions at each step may lead to inhibition of emotional expression. Such disruptions include a lack of affective arousal, repressive coping, alexithymia, and volitional inhibition/suppression of emotion.

Wong, Pituch, and Rochlen (2006) applied this model of emotional processing in the context of restrictive emotionality in men. Wong et al.(2006) sought to explore sources of emotional inexpression to help delineate the influence of masculine gender role socialization on psychological and interpersonal problems. They found that men's difficulties with emotional communication may be most influenced by a cluster including restrictive emotionality, difficulty identifying feelings, and trait anxiety. Furthermore, men who endorsed high restrictive emotionality also endorsed negative attitudes toward emotional expression.



The current study seeks to examine the intersection and interrelation of these phenomena: emotional expression, gender role conflict, and the impact of stuttering. It is hoped that examining disruptions in emotional expression may help shed light on the overall impact of stuttering. This research may also help to identify preferred modalities of emotional expression as well as determine the effect of masculinity-based emotional constraint.

## CHAPTER 2

### REVIEW OF RELATED LITERATURE

Emotional expression has long been considered a central cog in the regular maintenance of mental health (Kenney-Moore & Watson, 1999). Emotional expressiveness, or a lack thereof, has been implicated in many theories of psychology, including psychodynamic, humanistic, object relations, and transactional analysis, among others (Corsini & Wedding, 2005). Concepts such as repression and catharsis connected symptomatic behavior or psychopathology to internalized, unresolved emotions. Emotional expression has been used to heighten performance, experience, and understanding. It has also been implicated in less adaptive, more harmful behaviors such as interpersonal violence and somatoform disorders.

The limits of emotional expression have often been defined by gender. Whereas women have been traditionally seen as emotionally fluent and expressive, men have been stereotypically seen as tending towards the 'strong, silent' paradigm in which rigidly controlled emotions are rarely overwhelming and seldom expressed (Gray, 1992). Two theories help to provide an understanding of emotional regulation in men: the gender-role socialization paradigm and multidimensional theory of emotional expression. The former asserts that male emotional expressiveness is limited by explicit and implicit societal messages about masculinity that restrict which emotions are expressed and in what ways these emotions may be acceptably expressed (Pleck, 1981). These societal constrictions result in stunted ability to identify and express emotions, called normative male alexithymia (Levant, 1998), leading to maladaptive expression such as explosive anger or violence. Normative male alexithymia may also result in maladaptive repression,

manifested by externalizing behaviors such as substance abuse, neglect of personal relationships, and high-risk sexual behaviors. By comparison, the multidimensional theory of emotional expression asserts that men have a vocabulary to express emotions, but do so in unconventional ways: they may more mindfully and less spontaneously choose the time and place to express emotions, relying on emotional disconnection when necessary (Wong & Rochlen, 2005). This theory also emphasizes the adaptive nature of being intentional about emotional expression, noting that expression at inappropriate times may actually increase psychological distress. As Wong and Rochlen (2005) point out, the internal conflict over the expression or suppression of emotions may be the true cause of distress.

### Stuttering

Stuttering is a developmental disorder which adversely affects expressiveness on many levels. In addition to temporally disrupting a typical flow of communication, stuttering may impact a person's thought processes and natural communication via energy and emotion expended to 'get the words out'. Despite over 70 years of research on genetic, environmental, and internal factors of stuttering, many questions remain unanswered and the true interactions of many primary and secondary mechanisms of stuttering have yet to be definitively unraveled. One of these is the effect of developmental stuttering on internalized perception and emotional development. As emotion, communication, and mental health frequently intersect, these issues become salient concerns in evaluating the greater well-being of a person who stutters (Yairi, 1992).

### *Definition*

Stuttering is defined as a form of disfluency where effortless speech is impeded by sound repetitions, sound prolongations, and/ or blocks in articulation (Guitar, 1998). The Diagnostic and Statistical Manual—Fourth Edition, Text Revision (DSM—IV TR; American Psychiatric Association, 2000) characterizes stuttering as including core behaviors which develop in childhood and collectively interfere with academic, occupational, or social interaction. Core behaviors include speech production with excess physical tension, verbal circumlocution, interjections, and broken words. Attempts to struggle through a disfluency commonly result in associated responses called secondary behaviors: escape and avoidance behaviors used to force the word out or avoid saying words on which one is likely to stutter. Examples of secondary behaviors include facial grimaces, muscle tics, circumlocutions, and partial phrase repetitions. Finally, stuttering may be intertwined with powerful emotions and attitudes such as fear, embarrassment, anger, shame, frustration, devaluing, and self-deprecation (Guitar, 1998). These emotions occur as a natural reaction to repeated struggle with an action that seems effortless for others: speaking fluidly and predictably. For many people who stutter, the last component may provide the greatest interference in their daily lives; their response to these emotions may drive or hinder their efforts and persistence at overcoming disfluency.

### *Incidence and prevalence of stuttering*

Developmental stuttering is an early childhood disorder most typically occurring between ages 2 years and 5 years, although onset may occur prior to or beyond this time frame up until puberty. The prevalence of stuttering is estimated at 1% to 2.4% of school-age children, whereas approximately 5% of all individuals stutter at some point during

their lifetime (Bloodstein, 1995). Another study suggests a decrease in prevalence during adolescence, then an increase in young adulthood perhaps due to greater willingness to discuss the disfluency (Craig, Hancock, Tran, Craig, & Peters, 2002). Regardless of the overall prevalence, a distinct sex difference is consistently reported. Males who stutter outnumber females who stutter at a 3 to 1 ratio for the majority of studies (Craig et al., 2002). This ratio may vary by age, ranging from little distinguishable difference during infancy to a 5:1 (male to female) ratio in the fifth grade (Bloodstein, 1995). Researchers have suggested that females begin stuttering earlier, recover earlier, and recover more frequently (Yairi & Ambrose, 1992; Ambrose & Cox, 1997). It is unclear why this occurs, although some have conjectured that this is due to neurodevelopmental gender differences and the predisposition of females to have more advanced language skills at a younger age. For example, Yairi (2005) suggests that boys may have an underlying predisposition to stuttering due to differential brain structure.

Children under age 3 are at the greatest risk for beginning stuttering (Yairi, 1992). Such an early onset of stuttering may lead to disturbed maturation, especially concerning neurological processes and social development. This stance is reiterated by Craig (2000), who acknowledged that the severity of the speech impairment increases and likelihood of socioemotional impact may grow as children become older. In other words, the association of stuttering with specific words and events may become more entrenched the longer it continues. However, he suggested that the neuronal plasticity of a young child's brain may make them more amenable to intervention at an early age.

As the preceding evidence implies, the definitive origins of stuttering are uncertain. Several commonalities have been identified in people who stutter, but little

causality is clear. A genetic component is clearly present, but environment is thought to play a major role. Sixty percent of people who stutter have a parent or sibling who stutters (Guitar, 1998). Physical or emotional stressors within families are associated with early stuttering onset: families with more pressured, fast-paced lifestyles are believed to be a risk factor in the development and remediation of childhood stuttering (Yairi, 1992). However, other contributing environmental factors such as socialization have yet to be explored.

### *Models and theories of stuttering*

Craig (2000) reported that theories of stuttering have traditionally been of two major camps: those believing that stuttering's origins are psychogenic in nature, and those believing that stuttering is physiologically-based. Some theorists subscribe to a diathesis-stress framework, in that a predilection to stutter may be present in a child and only emerge under duress or exceptional circumstances (Guitar, 1998). Others believe in a neuro-behavioral origin, or that a maladaptive response may become a conditioned neural pathway as a result of repetition (Yairi, 2005). Craig (2000) suggested a multifactorial theory as a credible framework for conceptualizing stuttering. From this framework, stuttering involves many different influences including social, psychological, behavioral, perceptual, and acoustic aspects, among others. However, he maintained that stuttering is largely a physical disorder that may create psychosocial problems.

Starkweather (2002) presented a diversified framework for understanding stuttering behavior, the Demands and Capacities Model, which describes environmental/contextual factors (extrinsic) and biological (intrinsic) traits that impact speech fluency within four areas: motoric, linguistic, emotional, and cognitive. The Demands and

Capacities Model asserts that disfluency is a combined result of these influences, either by magnitude of isolated influence or by collective effect of many influences, impacting an individual at a behavioral, physiological, or cultural level. The extrinsic factors are typically thought of as being amenable to the greatest control; these include parent and family attitudes towards stuttering, responses of peers and teachers, interpersonal values and expectations placed on fluent speech, and frequency of exposure to fluency-demanding environments. The intrinsic factors refer largely to genetic factors, but may incorporate emotional states, beliefs about fluency management, and tolerance for disfluency.

Crichton-Smith's (2002) qualitative study of adults who stutter illustrated environmental influences on disfluency. A strong theme of this study was that experiential limitations (isolation or lack of social involvement) contributed to feelings of helplessness, shame, and stigma. The participants noted that such limitations were both socially- and self-imposed, and often led to underachievement or avoidant behaviors. As shame and self-consciousness are related to struggle, avoidance, and expectancy in speech (Ginsberg, 2000), this suggests that some intrinsic and extrinsic factors may have reciprocal effects.

The Demands and Capacities Model (DCM) accounts for many ways that intrinsic-extrinsic factors may collaboratively produce stuttering behavior (Starkweather, 2002). For example, a child with a low frustration tolerance may feel pressured to speak quickly by a fast-paced classroom or family environment. This may lead to muscle tension and motoric struggle, resulting in disfluency. The disfluency may be exacerbated or reinforced by reactions of others: an understanding audience may communicate

sensitivity and support whereas an unempathetic audience may evoke ridicule and shame. From the DCM framework, these behaviors are interlinked and may surface from multiple combinations of contextual influence and intrinsic tendency or vulnerability.

#### *Correlating factors*

Several sequelae of stuttering further illustrate the socioemotional impact of communication impairment. Affective sensitivity, vulnerability to bullying, and attitudes of others each have been connected to the global manifestation and maintenance of stuttering symptoms. Collectively, these factors suggest an impact on several internal and external influences of emotional expression.

*Affective sensitivity.* Children who stutter have been characterized as inherently sensitive, vulnerable, and inattentive. Anderson, Pellowski, Conture, and Kelly (2003) explored temperamental characteristics of 31 children who stutter and 31 children who did not stutter ages 3 to 5 years. Parents ratings of their children's social and emotional behavior suggested that children who stutter were slower to adapt to new situations or people than children who do not stutter, were more hypervigilant or highly focused when engaged in tasks, and were less predictable or consistent in physiological functions (such as sleeping and hunger). According to Miller and Watson (1992), persons who stutter experience more anxiety than people without fluency disorders, but this is largely towards communication situations and a learned response from negative experiences. Additionally, secondary behaviors such as avoidance may increase the intensity of this anxiety. Thus, trait anxiety may not be higher for people who stutter, but state anxiety likely is.



Other studies illustrate additional affective problems for people who stutter. Vanryckeghem, Hylebos, Brutton, & Peleman (2001) used the Communication Attitudes Test to examine affective experiences for 143 grade school-age children who stutter. The researchers found that negative attitudes towards speech and negative emotions tended to increase with age. Also, those who more severely stuttered were more likely to experience negative emotion as a result. Ginsberg (2000) found that shame and self-consciousness significantly predicted struggle, avoidance, and expectancy behaviors for a sample of 119 adults who stutter. Furthermore, shame and social anxiety predicted a poor overall perception of stuttering.

Taken as a whole, these studies suggest chronicity and severity have a cumulative impact on the psychosocial well-being of individuals who stutter. It appears that the longer stuttering continues, the more likely a person who stutters will develop negative feelings toward the disfluency. Some researchers recommended prevention by therapeutically addressing these issues early on in the treatment (Vanryckeghem et al., 2001) as well as intervention by affiliation with others who stutter (Ginsberg, 2000).

Other manifestations may expand beyond intrinsic factors. Baltaxe (1999) suggested that communication impairments may have a potent impact on the development of interpersonal skills. Speech and language regulate self-control, affect the development of self-image, and moderate the ability to communicate one's needs to others. Children utilize speech and language skills regularly in play, reasoning, and problem-solving. Impairment to fluency and difficulties with language may result in problems with social connection and feelings of marginalization which in turn may lead to depression, isolation, and rejection. When these feelings are compounded by avoidant

behavior and traumatic experiences, such as embarrassment or shame following an extended disfluency, a negative and spiraling effect may occur.

*Attitudes of people who stutter toward stuttering.* Gender differences are also present in the attitudes of people who stutter toward employability. Klein and Hood (2004) found that males who stutter perceived their disfluency as more handicapping for vocational opportunities than did females who stutter. The authors reported this data as consistent with previous findings that suggested lower self-esteem and self-worth in males who stutter as compared to females who stutter.

Murphy (1999) identified guilt and shame as strong emotions often experienced with stuttering, which he believes are necessary points of therapy in addition to motor behavior intervention. According to Murphy (1999), the nature of stuttering prepares one for chronic failure, in that fluency may vary from day to day and progress may regress without warning. As would be expected, many thoughts and feelings develop in response to this struggle and interfere with therapeutic progress. These cognitions and emotions directly impact a person who stutters' attitude towards intervention, self-concept, and self-efficacy beyond a communicative interaction. Murphy's definition of guilt and shame state that they are both negative experiences involving negative self-evaluations. The former is a behavioral evaluation; the latter is a global evaluation of the self.

*Attitudes of others towards people who stutter.* Research examining gender differences in attitudes by fluent speakers towards people who stutter have been inconclusive. In a study by Weisel and Spektor (1998), researchers administered the Erickson Scale-24 (an assessment of one's own communication attitude) and a semantic differential questionnaire (measuring attitudes about people who stutter on two scales,

Tenseness and Pleasantness) to a group of 164 high school students. Half the participants were asked about a male who stutters and the other half were asked about a female who stutters. For non-stuttering boys, attitudes towards their own communication were positively related to perceptions of tenseness in males who stutter. No definitive relationship existed for other gender or attitude interactions.

Dietrich, Jensen, and Williams (2001) found significant gender differences in attitudes toward people who stutter. In a survey of 544 college students evaluating a written description of a dilemma for a person who stutters, females rated the person who stutters significantly higher in three of nine traits: 'intelligence', 'social adjustment', and 'employability'. Males rated the person who stutters significantly higher in 'tension'. Researchers acknowledged that this bias could result in workplace discrimination for people who stutter (Dietrich, Jensen, & Williams, 2001).

*Bullying and self-esteem.* For school-age children, stuttering may increase risk for harmful interpersonal effects. In a retrospective analysis of school experiences, adults who stuttered as children reported a high incidence of bullying experiences. Hugh-Jones and Smith (1999) noted that children who stutter are at risk for victimization because of reluctance, withdrawal, and difficulty verbally participating in many school situations. The authors surveyed adult members of the British Stammering Association to assess school-age experiences of stuttering and bullying as well as the combined impact of these experiences. Results indicated that over half believed the bullying to be 'always' or 'very often' related to stuttering, whereas only 7% saw bullying as 'never' related to stuttering. Many respondents (83%) saw their teachers as oblivious or aware and unresponsive to the bullying. Several of these participants reported keeping their experiences and

emotions to themselves and well as poor results when they attempted to share them with parents or teachers. Respondents also commonly indicated that the bullying had many emotional and behavioral effects: it decreased their self-confidence, increased their feelings of anxiety, shyness, and shame, made it more difficult to form and maintain relationships, increased disfluency, and increased avoidant behaviors. The authors also identified males and those with difficulty making friends as being at greater risk for being bullied. The authors concluded that bullying led to many short- and long-term symptoms of distress for people who stutter, including anxiety, social withdrawal, and exacerbated difficulty in verbal communication.

Longer-term evidence of the cumulative impact of stuttering on self-esteem is confirmed by Klein and Hood (2004), who found that people who stutter believe their disfluency limits their career choices. In a survey of 232 people who stutter ages 18 years and older, 70% reported that stuttering adversely affects one's chances of hiring and promotion. One-third believed they would have a better job or different career if they did not stutter, half had sought employment requiring little speaking, and 21% turned down promotions or job opportunities because of their stuttering. The researchers also found a severity difference in attitudes towards the impact of stuttering on employment: people who stutter with moderate to severe impairment were more likely to see stuttering as a barrier than did those with mild impairment.

*Emotional expression in speech and language development.* Bloom (1998) noted that infant development is marked by similar rates of cognitive, social, and emotional growth. However, this synchrony changes as language develops with increasingly complex utterances and the guided emphasis on emotional expression decreases.

Although the child's emotional responses are becoming commensurately more complex with increasing age, his or her ability to articulate these emotions are stunted by limited vocabulary and limited guidance. Bloom (1998) offered a tripartite theory of language development, emphasizing form, use, and content as complementary factors. He added that dialectic tension between effort (cognitive processing) and engagement (affective and social interaction) are vital for receptivity and effective development.

Expanding this theory to people who stutter, effort and engagement may be disrupted by early struggles, affective sensitivity, and/ or the responses of others to disfluency. Bloodstein (2002) noted that a subgroup of children who stutter do so patterns suggesting slow language development, as if struggling to recall and retain syntactic guidelines. In these cases, dialectic tension may be supplanted by contextual tension surrounding the presence of disfluency and the reactions of others to it. Successful resolution of this tension may be necessary for a return to healthier developmental processes.

#### *Co-morbidity of psychiatric disorders*

Historically, people who stutter have been stereotyped as more neurotic, more anxious, and less healthy than fluent people. These responses are seen as logical sequelae of chronic disfluency for people who stutter. However, studies examining the comorbidity of psychiatric disorders and stuttering have been conflicting. People who stutter either more frequently or equally encounter mental health problems, as compared with people who don't stutter. According to Conture (2001), people who stutter generally are within normal limits of psychosocial adjustment, a position supported by the Stuttering Foundation of America (SFA, 2005). In contrast, a critical review of literature

by Cantwell and Baker (1977) suggests that speech and language disorders are positively correlated with psychiatric disorders. However, this claim refers to research support from 20 to 30 years ago. More recently, Baltaxe (1999) reviewed a series of studies by the latter two authors as well as other experts in the field, claiming that psychiatric problems in communication-disordered children are more prevalent than the general population. She dissected several studies examining psychiatric admissions and co-occurrence with communication problems, looking at research with three primary populations: school-aged children attending community speech and hearing clinics, 5-year-olds in community preschool settings, and preschool/ primary school-aged children in mental health settings. Baltaxe (1999) found that approximately 2/3 of language-disordered children and 1/3 of speech-disordered children demonstrated a diagnosable psychiatric disorder, with emotional disorders more common in speech-disordered children.

Other research found contradicting results. Bray, Kehle, Lawless, & Theodore (2003) examined 21 adolescents who stuttered (5 female, 16 male, ages 13-19) individually matched by gender, age, grade, and academic achievement with fluent speakers. Students completed the Self-Efficacy Scaling for Adolescents Who Stutter (SEA), the Self-Efficacy for Academic Tasks (SEAT), and the Reynolds Adolescent Depression Scale (RADS). Results suggested that adolescents who stutter significantly differ from fluent adolescents in self-efficacy for speaking. No difference was found between groups for academic self-efficacy or for self-ratings of depression. The authors speculated that depression and stuttering may co-occur in some individuals and not in others or that a combination of factors may be necessary to produce both depression and stuttering in the same individual.

In the debate about stuttering and psychiatric co-morbidity, a primary conflict rests with the sensitive issue of causality for stuttering. Those who allege stuttering has no greater incidence of psychiatric disorders than the general population categorize psychiatric disorders as a natural response to the scrutiny, embarrassment, and social isolation that may occur secondary to stuttering. In a sense, this argument exists to normalize rather than to stigmatize stuttering. However, many epidemiologists do not differentiate which disorder (psychiatric or speech) preceded which. Regardless of attribution, the collective research suggests that people who stutter are at greater risk for collateral problems, which have the potential to add another layer of challenge to their speech fluency efforts and emotional well-being.

*Gender differences and psychiatric disorders in stuttering*

Although significant gender differences may be clear in communication disorders, Baltaxe (1999) pointed out that an additional interaction affecting the gender ratio may occur between communication disorders and psychiatric disorders. For children who have psychiatric disorders, those who also have communication disorders are three times more likely to be male. Age of child and criteria used to identify a communication disorder are other factors impacting this ratio. As with the general nature of stuttering, the reason for this relationship is uncertain; researchers have conjectured that hormonal differences and genetic predisposition may have contributed to this disparity. A possible influence may be differences in reporting severity of the communication disorder, or a gender-related difference in diagnostic factors (such as externalizing behavior being representative of attention-deficit concerns and internalizing behavior more commonly representing depression). However, other less clearly defined factors may be affecting these diagnoses.

One potential factor may be gender role socialization, which has been alluded to as a possible moderator of chronicity between boys who stutter and girls who stutter. It was thought that the more critical and competitive environment could contribute to increased pressure on boys' fluency, leading to increased avoidance. However, this has never been formally explored.

### Gender Role Issues

In an examination of any disorder affecting an unusual gender imbalance, it is important to evaluate what impact gender has upon the disorder's occurrence. In the case of stuttering, both genetic and contextual factors have been considered as potential influences on the genesis, remediation, and severity of disfluency. However, these factors leave much room for exploration. This section will examine salient contextual factors for men: gender roles, gender role socialization, and gender role conflict. In doing so, it will also describe many of the emotional and psychological implications of these factors.

#### *Gender roles*

Societal prescription and proscription can lead men and women to maladaptive behavior and mental health issues. Women and men receive daily messages, both overt and subtle, about unattainable ideals of body image, social behavior, and other societal values that may contribute to psychopathologies such as eating disorders, depression, and even suicide. According to Levant's (2001) summary of then-current theory, traditional male gender roles have roots in harsh and conservative values spanning the beginning of the 20<sup>th</sup> century, including two world wars and the Depression. This traditional male gender role emphasizes self-reliance, restrictive emotionality, achievement and status, avoidance of all things feminine, hatred toward homosexuality, and a non-relational



attitude toward sexuality. By comparison, the traditional feminine gender role would encompass those values modern-day feminism struggles against: deference to males, self-sacrifice, and vulnerability, both emotional and physical. Both genders are socialized into these traditional roles by parents, peers, and siblings, which translate into differing paths of emotional development. It is believed that some paths of emotional development may be particularly traumatic for those in less forgiving gendered environments.

An important theoretical perspective on male identity came from the seminal research of David and Brannon (1976). In their efforts to define male roles as set forth by society, these authors presented several archetypes that men are encouraged to live up to and urged to embrace. These four archetypes are:

1. “The Big Wheel.” This role places a high value on success, status and eminence; it impels males to avoid shame at all costs and act as if everything is under control even when it is not.
2. “The Sturdy Oak.” Toughness, confidence, and unflappability are valued above all else; displays of weakness or uncertainty are discouraged or unacceptable.
3. “Give ‘Em Hell.” This role encourages males to be aggressive, daring, and to use violence if it is needed to get what they want.
4. “No Sissy Stuff”: Openness and vulnerability are unacceptable, as are any manifestations of feminine traits. When these emotions do seep out, the societal response is typically one of ridicule rather than empathy.

As is evidenced by each description, the fundamental message of these archetypes is to suppress or deny emotions that occur regardless of gender. Affect such as fear, anxiety, uncertainty, disappointment, and concern for one’s own health are responses that become

prohibited under these ideals. Ultimately, the archetypes discourage emotional connection at an early age, and stunt the ability of boys and adults to remain emotionally attached (Pollack, 1998).

Levant, Richmond, Majors, et al. (2003) described gender roles as serving to uphold societal standards of power relations between genders. In traditional gender roles, males have the greatest power in the public social sphere and exercise aggressiveness and dominance, whereas females are expected to be adaptive and nurturing to excel in the private sphere.

#### *Gender role socialization*

Gender role socialization is the process by which boys are introduced to these cultural standards and reinforced or punished for adhering to or questioning these boundaries. Boys and men are socialized from an early age to subscribe to the aforementioned traditional values of masculinity. Early on, boys learn that crying and other expressions of emotional vulnerability evoke expressions of disgust or impatience from teachers, peers, and even parents. Boys learn to hide, minimize, and deny these emotions without finding an appropriate expressive outlet. To compound the dangers associated with this, boys are said to have a fragile self-esteem that is frequently hidden under false bravado or affective denial (Pollack, 1998).

Levant (2001) described evidence of early gender role socialization via a review of developmental literature. He noted that boys are initially more emotionally expressive than girls until approximately six months of age. Beyond this age, males are encouraged to tune out, suppress, and sublimate emotional expression whereas females are encouraged to articulate and verbalize their emotions. By age six, mothers have difficulty

identifying their male children's facial expressions, whereas they are able to consistently identify their female children's expressions. Sons are discouraged from expressing vulnerable emotions and encouraged to rechannel these emotions into aggressive pursuits, whereas daughters are taught to express vulnerability and suppress anger and aggression. Fathers reinforce this role by playing more roughly with sons and speaking more about emotions with daughters. Both parents reinforce restrictive emotionality in boys by emphasizing the consequences of strong emotional expressions to males, whereas they reinforce greater emotional fluency in females by talking about the experience and process of emotion.

### *Gender role strain*

The prevailing societal gender ideology influences parents, teachers, and peers, who socialize children in an unintentionally constricting and contradictory ideology. This leads to gender role strain (Pleck, 1981; Levant, 1996), a paradigm which recognizes the following:

1. Gender roles are contradictory and inconsistent.
2. The proportion of persons who violate gender role norms is high.
3. Violation of gender roles leads to condemnation and negative psychological consequences.
4. Actual or imagined violation of gender roles leads people to overconform to them.
5. Violation of gender roles has more severe consequences for men than for women.
6. Certain prescribed gender role traits are often dysfunctional.

Gender role strain results from the socially constructed and imposed definitions of masculinity that may oppress a developing child by mandating confusing and at times

maladaptive standards of behavior. These definitions and standards frequently vary across settings.

At a severe level, gender role strain may lead to psychological distress. Three different sources of this distress have been identified: discrepancy strain, dysfunction strain, and trauma strain (Pleck, 1981). Discrepancy strain occurs because of a failure to live up to an internalized ideal of one's gender. Dysfunction strain may occur when rigid characteristics of the traditional role cause actions resulting in harm to one's self or to another. Trauma strain is the damage done during the emotional socialization process, including the stunting and channeling of boys' natural emotional expressivity, emotional self-awareness, and empathy. Consequently, trauma strain is thought to be the most likely influence of normative male alexithymia (Levant, 1998).

#### *Gender role conflict and restrictive emotionality*

Gender role conflict (GRC) is a psychological state in which socialized gender roles have negative consequences on the person or others (O'Neil, 1990). More specifically, GRC occurs when societal gender roles cause cognitive, emotional, unconscious, or behavioral problems. These roles in turn limit human potential by restriction, devaluation, or violation of the self and others. GRC is defined by ten different domains in the psychological, contextual, and experiential realms. The psychological domains are cognitive (how we think about gender roles), emotional (how we feel about gender roles), unconscious (how motivations beyond our awareness influence our actions), and behavioral (how we respond and interact with others and ourselves). The contextual domains include internal (within the man), external (experienced from others), and expressive (acted toward others). The experiential

domains include devaluations (negative critiques of self or others), restrictions (confining of others to stereotypes of masculine ideology), and violations (harm resulting from deviation from or conforming to gender role norms) (O'Neil, 2005).

GRC focuses on a core fear of male socialization: to be perceived as feminine by being expressive, vulnerable, or emotional. As a consequence, men often have difficulty seeking help when in distress (Mahalik, Good, & Englar-Carlson, 2003). Sublimating or repressing these ubiquitous feelings may lead to other problems. Research on GRC reveals the far-reaching impact of this construct. In a seminal review by O'Neil (2002), the author notes that GRC has been connected with many problematic behaviors including substance abuse, violence, and insecure attachment. GRC has also been associated with many emotional manifestations including anger, depression (Mahalik & Cournoyer, 2000), anxiety (Blazina & Watkins, 1996), fear, envy, self-hatred, guilt, loss, and shame. Experiential problems correlated with GRC include stress, distress, poor coping, and interpersonal difficulties. High GRC has also been linked to a lack of marital satisfaction (Sharpe, Heppner, & Dixon, 1995), poor family cohesion (Blazina & Watkins, 2000), and shyness (Bruch, 2002). It would appear that GRC is not restricted to white college-age heterosexual men; several studies have also provided evidence of GRC across racially, culturally, and sexually diverse samples (Fragoso & Kashubeck, 2000; Liu, 2002; Simonsen, Blazina, & Watkins, 2000; Theodore & Lloyd, 2000).

GRC is typically measured by the Gender Role Conflict Scale (GRCS; O'Neil, Helms, Gable, David, & Wrightsman, 1986), a 37-item self-report measure of men's internal and external conflict with gender roles. The construct of the GRCS helps to explain the operating factors within GRC, indicated by four patterns of conflict. First is

Restrictive Emotionality, marked by having difficulty and fears about expressing one's feelings, as well as having difficulty finding words to express basic emotions. Success-Power-Competition, the second pattern, is manifested by maladaptive emphasis of achievement, competence, influence over others, and competing to establish one's superiority. The third pattern, Restrictive and Affectionate Behavior Between Men, is demonstrated by having limited ways to express one's feelings and thoughts with other men, as well as difficulty touching other men. The last pattern, Conflicts Between Work and Family Relations, refers to experiencing difficulties balancing work-school and family relations resulting in health problems, overwork, stress, and a lack of leisure/relaxation.

The Restrictive Emotionality scale of the GRCS, in particular, has been correlated with many symptoms of distress, including relational problems (Blazina & Watkins, 2000), less intimate self-disclosure and shyness (Bruch, 2002), prejudicial attitudes (Liu, 2002) and a lack of interpersonal competence (Bruch, Berko, & Haase, 1998). Restrictive Emotionality has also been correlated with anxiety and depression (O'Neil et al., 1986; O'Neil, 2002). Good and Wood (1995) found that Restrictive Emotionality was positively correlated restrictive affectionate behavior with males, work and family difficulties, and depression. At the same time, the authors found this scale to be negatively correlated with many barriers to men's help-seeking: recognition of a need for help, willingness to discuss one's problems, confidence in the mental health profession, and tolerance of help-seeking stigma. Examination of this scale may also provide insight into other problematic behaviors tied to limited expressiveness, such as a fear of emotions contributing to expressions of anger and hostility (Jakupcak, Tull, & Roemer, 2005).

O'Neil (2002) noted patterns of research with the GRCS that have provided much insight into GRC, many of which are relevant to this thesis. Male gender role conflict has been linked with low self-esteem, anxiety/ stress, depression, and stunted expressiveness. These links to problematic behaviors suggest that the presence of gender role conflict may additionally complicate other therapeutic issues.

From O'Neil's review (2002), it is clear that GRC and the Restrictive Emotionality construct share associations with many problematic emotional reactions commonly experienced by people who stutter (Guitar, 1998). Avoidant behavior, interpersonal difficulties, shame, and depression are some examples of associated problems for both groups. Furthermore, both groups have been shown to have significantly low self-esteem as a conscious or unconscious effect of their primary problem. It is unclear whether these shared factors exacerbate either diagnosis, or lead to more significant, potentiated difficulties. The combined effects of GRC and stuttering for a male may lead to greater perceived stress and maladaptive behaviors such as avoidance, negativistic thinking, and potential alcohol abuse. It may be useful to explore the presence of GRC in people who stutter as well as their experiences of Restrictive Emotionality within the larger construct; this information may help to sort out influences on emotion and its expression for this population.

Through the GRC lens, stuttering may be seen as a multifaceted burden which contradicts many basic premises of male gender roles. A male who stutters exposes himself as vulnerable when he speaks disfluently, suggesting incompetency at something that is basic and simple for the majority of males. This may put the person who stutters at risk of derision by other males as a result. Furthermore, the act of stuttering often appears

in presentation to be overtly anxiety-driven or anxiety-producing—an emotion that runs counter to male-valued attributes such as competence and confidence. Finally, the act of stuttering implies a loss of (speech) control, suggesting a deficit in self-control from a naïve observer’s perspective.

### Alexithymia

When emotional restriction becomes intrinsically and extrinsically reinforced, alexithymia may be a logical result. Alexithymia is the inability to identify and express emotions, an absence of fantasy life, and a significant overemphasis on details or minutiae (Taylor, 1984). Originally developed as a way of describing an inexpressive, mostly male clinical clientele (Sifneos, 1967), this concept has since been conjectured to be a personality trait, a specific pathology, and a cultural attribute, with its adverse effects identified within several populations. It has been described as “an accumulative process starting in early childhood and developing and reinforcing itself in a social context”, but has also been postulated as being influenced by genetic predisposition (Taylor, Bagby, & Parker, 1997). Cumulative research suggests that alexithymia is a deficit in cognitive processing and organization of emotions. It is thought to put individuals at risk for somatic illnesses, chronic health problems, and impaired relationships. Lumley (2004) conjectured that alexithymia works through physiological, behavioral, cognitive, and social pathways to affect illness behavior and organic disease. The converse is also thought to be true: alexithymia may be caused by chronic health problems through a reverse route of these same pathways.

The ability to identify and express emotions is a component of many milestones throughout youth, adolescence, and adulthood. Early difficulty with speech and language



may prove to be a harbinger of expressive problems at a later age. In a longitudinal study, Kokkonen, Veijola, Karvonen et al. (2003) considered the effect of early speech development upon alexithymia in adulthood. The authors surveyed the parents of all liveborn children in two provinces (n=5983) regarding growth, development, and health status at the child's first birthday, then mailed the Toronto Alexithymia Scale (TAS) to all the children at age 31 years (84% response rate, n=5028). Medium and late speakers scored significantly higher on the TAS than did early speakers, supporting the hypothesis that alexithymia and timing of speech development are interrelated. The researchers noted that alexithymia may develop at an early age and be socially reinforced in many ways, including by encouragement of expressiveness, family unrest, and parental modeling. However, this study did not examine potential organic impacts upon speech development, such as a learning disability, a processing deficit, or an impairment in language.

Several studies have looked at clinical alexithymia and its connection to physical and mental health problems. In a survey of 118 healthy men ages 18 to 45 years, Helmers and Mente (1999) administered the TAS, two scales measuring emotional expression, a survey of interpersonal support, and a health behaviors questionnaire exploring substance use, nutrition choices, activity level, and sexual practices. Results indicated alexithymia and its three measured factors were correlated with many maladaptive health behaviors. Men who endorsed items suggesting poor nutritional habits and substance use also endorsed difficulty identifying feelings. Those who rated themselves as having difficulty communicating feelings also acknowledged sedentary lifestyles. Conversely, emotional expressiveness was associated with better exercise health habits. The researchers suggest

that the first groups' behaviors in conjunction with alexithymia put males at increased risk for cardiovascular disease, diabetes, hypertension, depression, homicide, accidental injury, and suicide. The authors speculated that many of these risky behaviors may occur as coping mechanisms to compensate for unidentifiable emotions which they have difficulty communicating.

The alexithymia construct is not without controversy, as its symptoms may parallel or overlap with symptoms of mental health concerns such as depression and anxiety. Some theorists have questioned whether the articulation and language effects of alexithymia are an added component of more common disabling conditions, such as major depressive disorder or acute anxiety (Saarijarvi, Salminen, & Toikka, 2001). Others have debated whether alexithymia is actually a personality trait that predisposes one to mood or anxiety disorders, or whether it is a state-limited reaction to painful illnesses of ambiguous course or treatment (Bagby & Taylor, 1997). Marchesi, Brusamonti, and Maggini (2000) looked at common symptoms between alexithymia and anxiety, as well as the diagnostic and predictive value of each construct for the other diagnoses. The authors found that individuals tended to actively constrict emotional experiences in an effort to keep from experiencing any physiological discomfort of strong emotion. Also, the same participants endorsed items suggesting a fear that unexplained symptoms have harmful consequences.

### *Contextual influences*

In addition to physical or mental health problems, primary environment can play a significant role in alexithymia. In a study of cultural differences in the experience of alexithymia, Le, Berenbaum, and Raghavan (2002) found that Asian-American and

Malaysian participants reported higher levels of alexithymia and somaticization than did European-American participants. The researchers reported that emotional socialization by parents mediated the relationships between culture, gender, and alexithymia. This data is reiterated by a Valera and Berenbaum (2001) twin study that dissected genetic and relational factors of alexithymia facets. Familial factors such as parent-child relationships, general sense of warmth or hostility in the family, and family openness at least partially influenced scores for each of the three constructs of alexithymia. Familial factors were significantly correlated with difficulty identifying emotions and difficulty communicating emotions, whereas genetic factors such as neuroticism were influential for externally-oriented thinking.

At a clinical level, alexithymia is typically measured via the Toronto Alexithymia Scale (TAS), a 20-item survey which measures three constructs: Difficulty Identifying Feelings, Difficulty Communicating Feelings, and Externally Oriented Thinking (Bagby, Parker, & Taylor, 1994). Items are answered via a Likert-type scale ('strongly disagree' to 'strongly agree'). Although the TAS does not specifically measure an absence of fantasy life, it is believed that several items on the Externally Oriented Thinking scale help to indirectly assess this concept (Parker, Taylor, & Bagby, 2003). Individual subscales as well as a global score of alexithymia may help to narrow down a client's difficulty in emotional expression and provide a more specific focus for remediation.

#### *Normative male alexithymia*

A subtype of alexithymia has been suggested in research on men's gender-role socialization: normative male alexithymia (Levant, 1998; Levant, Good, Cook et al., 2006). This concept posits that men are traditionally socialized and conditioned from a

young age to deny and suppress emotions to the extent that many become unable to feel, recognize, or express emotions in a healthy or productive way. This lack of self-awareness may expand to limited awareness of bodily symptoms as well. As a result, Levant believes that men with normative male alexithymia are unable to rely on what may be the most natural and available method of dealing with everyday stressors (interpersonal expression) and may be vulnerable to maladaptive substitutes such as substance abuse, sexual compulsions, violent behavior, and stress-related health issues. While Levant does not see gender role socialization as pathological per se, the gender role strain of many environments may result in a pathological individual tension. As the name implies, this is a commonly observed condition that many men experience without clear awareness of the problem. Similarly to many other psychological conditions in males, normative male alexithymia is most likely to become noticed or identified as a problem only in times of great distress.

In summary, alexithymia is a deficit in emotional development that may lead to significant difficulties with interpersonal relationships and mental health issues such as depression, anxiety, and somaticization. Essentially, alexithymia is thought to be connected to inexpressive and uncommunicative families as well as to be influenced by other pathways, including contextual and genetic routes. While some consider alexithymia a personality trait, it has also been described as a reaction to stressful circumstances such as chronic illness or persistent pain (Marchesi, Brusamonti, & Maggini, 2000). Levant (1998) conceptualized alexithymia as a normative male response to gender role socialization.

Alexithymia may be connected to stuttering in two ways. First, stuttering often leads to avoidant and suppressive behaviors which limit a person who stutters' opportunities for genuine interaction and interpersonal growth. Intuitively, one area of potentially stunted growth likely includes emotional expression. When this growth is stunted to a pathological degree, it may result in clinical alexithymia. Secondly, alexithymia often manifests itself in the form of attention to physical symptoms for what may be emotional arousal (Lumley, Stettner, & Wehmer, 1996). While stuttering itself is not a psychosomatic disorder by origin, various physical cues may be associated with past psychological trauma and interpreted as predictive of present or future behavior. An example of this is the tightening of the throat and other tangible signs of struggle when giving a speech in front of a large group of peers; this is often exacerbated by the growing feelings of helplessness and frustration in response to building disfluency. Furthermore, the Demands and Capacities Model (DCM) of stuttering suggests how motor, cognitive, emotional, and behavioral may conjointly work to produce or maintain stuttering behavior. Attending to somatic symptoms of stuttering and dissociation from cognitive or emotional awareness may be suggestive of both an alexithymic response and a maladaptive use of emotion-focused coping.

Males who stutter may be at increased risk for alexithymia in that they may be predisposed to stress from their chronic condition, have delayed language development, and be more susceptible to conformity and gender role socialization. Untreated alexithymia may not only put these individuals at risk for relationship and mental health problems, but it may also act as a barrier to socioemotional development and progress within treatment.

*Links with emotional expressiveness*

Fluency and emotional expression may be linked from the genesis of stuttering. According to Guitar (1998), a child's developing nervous system may permit 'cross-talk' between the limbic system and focal areas of speech and language in the brain. The result may be asynchrony in neural timing for motor movements. Furthermore, a child's first stuttering often occurs when she/he is very excited about something and typically occurs during a phase when a child's speech and language skills are developing most rapidly (Bloodstein, 1995). Finally, the stressful processes of separation and individuation may lead to parental distancing or overrestraint. Unresolved emotional responses to this distancing or restraint may compound fluency problems (Guitar, 1998).

The Demands and Capacities Model also links stuttering and emotional expressiveness. From an intrinsic or organismic perspective, Starkweather (2002) reported that fluency can be affected by sensitivity, the ability to tolerate disfluency in one's own speech, and the ability to experience emotion without fluency disruption. From an extrinsic or environmental perspective, stressful situations, the presence of an audience, others reactions to disfluency, previous stuttering in the same milieu, teasing by peers, and stringent speech expectations are all factors influencing stuttering. Furthermore, the Demands and Capacities Model identifies several cognitive factors which influence stuttering and have implications for a multimodal impact on fluency. These collective factors may affect a person's expectation of struggle, and be implicated in the choice to express or withhold in-the-moment thoughts and feelings.

A stuttering-specific phenomenon suggests emotional suppression may be present for some individuals during disfluency. Van Riper (1982) called the experience of

stuttering “la petite mort” (‘the little death’), referring to the feeling of numbness and depersonalization that may occur during an episode of stuttering. One essayist, a person who stutters himself, describes it as “a phase of reduced sensation which constitutes a state of a certain helplessness” (Starke, 1999). Another described it as an episode of significant dissociation, in which sensory perceptions and awareness of environment are distorted (Heite, 2001). The latter author reported data from her Master’s thesis, in which she surveyed adults who stutter about dissociative or depersonalizing experiences when stuttering. She reported that approximately 70% of her sample experienced this phenomenon, and half of these experienced this dissociation each time they stuttered. The larger sample was also categorized into two subsets of “la petite mort”: those who depersonalize (become numb, lose awareness) and those who somaticize (focus on their bodily sensations). Heite (2001) described this as a significant barrier to the use of classic behavioral therapies, as most require presence of mind and focus on motor mechanisms. However, Heite (2001) recommended exposure therapy, stress-inoculation, and cognitive restructuring as appropriate interventions for clients experiencing “la petite mort”.

Curlee (1999) outlined the role of emotion in stuttering via a coping-focused, cognitive restructuring perspective. He asserts that coping mechanisms are adaptive ways of lessening the impact of stress and anxiety in the moment. According to this perspective, most people utilize two basic methods of coping: reality-focused and emotion-focused. Using the former indicates an accurate intellectual appraisal of the emotion, a focus on problem-solving, implementing possible solutions, and continuous evaluation of the solutions’ effectiveness. The latter method of coping is used to manage the anxiety related to the threatening event to remain in the immediate environment.

Combined, these defenses help to develop adaptive behaviors to emotionally threatening stimuli. Curlee (1999) noted that immature or underdeveloped defenses reduce symptoms only in the moment, but create larger problems in fears, avoidances, and negative self-perceptions. These avoidances likely include avoidant emotional responses. For example, a person who stutters may avoid a particular speaking environment (such as dating interactions) and distort his/her true thoughts and feelings about this to allow for future avoidance. Additional maladaptive responses may include excessive frustration with self, over-suppression of emotions, and neglect of problem resolution.

It would seem from this evidence that emotional expression might be a factor in the overall experience of stuttering. Emotional expression can be a useful adjunctive coping method for managing fluency as well as preventing larger secondary problems. However, the specific methods and mechanisms for this coping behavior are still unclear and in need of elaboration.

#### Process Model of Emotional Expression

A cognitive evaluation approach to expressing emotions may be helpful in understanding maladaptive emotional coping. Kennedy-Moore and Watson (1999) described a five-step process model of translating covert emotional experience into overt emotional expression. The first step, prereflective reaction, refers to the immediate affective and physiological response. This response occurs automatically and may be affected by individual threshold for emotional activation. The second step, awareness of affective response, refers to cognizance of the emotional experience. Labeling and interpretation of response is the third step, which is a common point of disruption represented by difficulty identifying or articulating feelings. Next is evaluation of the



response as acceptable; during this step, an individual compares the emotions to beliefs and values, determining the salience or acceptability of these feelings. The last step is evaluating the perceived social context for expression. Although the feelings may be acceptable, the current social context may be seen as an inappropriate venue for expression and lead to suppression of feelings instead.

### Value of Emotional Expression in Men

The emotional inexpressiveness of men is a long-held trait that as of late has begun to undergo increasing scrutiny. Emotional expressiveness has been known to impact immune system functioning, long-term distress, and academic performance (Pennebaker, 1997). However, method of expression (i.e., verbal versus written) and timing of expression have more recently been brought into consideration: some have questioned whether a gender differential in emotional expressiveness is as marked as believed, and whether emotional inexpressiveness is a maladaptive trait (Wester, Vogel, Pressly, & Heesacker, 2002). Wong and Rochlen (2005) explored the research literature regarding causes of men's emotional behavior, their emotional expression capabilities, and the consequences of their emotional behavior. They found that men may be unwilling to identify emotions rather than incapable, meaning that gender role norms discourage emotional expression rather than the ability to do so being stunted by normative male alexithymia. These authors also found that willingness and depth of emotional expressiveness varied depending on the mode of expression available; for many participants, written expression was an effective way of expressing their emotions. The researchers suggested a tripartite model of emotional expression that considers the

causes, modes, and consequences of emotional expression to determine its adaptability (Wong & Rochlen, 2005).

Wong and Rochlen (2005) advocated use of Kennedy-Moore and Watson's (1999) 5-step process model of emotional expression to provide insight into males' emotional behavior. Wong and Rochlen suggested analyzing the process model of emotional expression to explore disruptions in emotional expressiveness along the various steps. They recommended measures such as the Attitudes Toward Emotional Expression Scale (Joseph, Williams, Irwing, & Cammock, 1994) to evaluate disruption at Step 4 (evaluation of response as acceptable). They also encouraged exploring which disruption might predict male emotional inexpressiveness, measured via the Restrictive Emotionality Scale of the Gender Role Conflict Scale (O'Neil et al., 1986) or the Conformity to Masculine Norms Inventory (Mahalik, Locke, et al., 2003).

### Summary

In the review of the literature, several points are quickly clear. Gender role conflict, alexithymia, and stuttering are each concepts with a significant impact on males. Each contends with restricted verbal expression. Each shares conceptual commonalities incorporating inner and outer influences on pathology. However, the interaction among the three concepts appears to be much more complex.

Stuttering and alexithymia are both considered developmental problems, which may develop along similar trajectories. Each may stem from inconsistent or unsupportive parental involvement as well as from exposure to environments which do not encourage healthy expression or growth. Throughout the alexithymia literature, the potential impact of a primary environment was a repeated factor on the development and maintenance of

the diagnosis. For normative male alexithymia, male culture provides this primary environment; gender role socialization serve to indoctrinate boys and men into rigid, demanding principles of male culture that frown upon weakness or emotional expression. From the standpoint of a person who stutters, multiple threatening environments are common and concurrent; for a male who stutters, these environments cumulatively amplify the perception of the stressors. For example, in academic and work settings the speed and efficiency of information exchange are a high priority. It follows that speech fluency is in high demand and a lack of fluency, normal for people who stutter in demanding situations or high speed speaking environments, becomes an apparent ineptitude to the uninformed. Through the lens of the male gender role, this becomes a multi-layered discrepancy strain. The disfluent individual is being exposed as vulnerable and they may experience shame at the failure to live up to this self-image. The expected and common response of males who stutter is to ‘be cool’, act as if nothing happened, and suppress powerful feelings that naturally result. As this happens, a dysfunction strain may occur—the feelings may resurface in the form of anger, withdrawal, depression, or anxiety.

With the predominance of male representation among those who chronically stutter, it is feasible that gender role socialization and normative male alexithymia could play integral roles in management of secondary symptoms and emotional responses to stuttering. In many cultures, males are traditionally expected to demonstrate competence and leadership across various environments, including those environments in which an individual has greater responsibilities and authority. These environments include but are not limited to work, family, and academic settings. Disrupted fluency adds an unexpected

and frequently unwelcome layer of pressure to these settings. Within a gender culture that values confidence and fearlessness, disfluency may appear to be overactive anxiety or trepidation. The audience to a disfluent speaker may find this behavior absurd, uncomfortable, and unexpected, limiting the degree of empathy with which they may respond. All too frequently, an audience unfamiliar with stuttering misinterprets disfluency as evidence of insecurity, limited intellect, or excessive excitement. From a male gender role perspective, these interpretations may be greatly amplified. Males may distance themselves from those they perceive as lacking status or displaying feminine attributes such as vulnerability.

Compounding this problem, the disfluent speaker may be sensitive to the audience's lack of eye contact, signs of impatience, efforts to finish the speaker's thoughts, and unintentionally condescending urges to 'slow down' or 'relax'. This sensitivity may exacerbate the speaker's efforts at attempting to 'force' fluency and subsequently worsen their struggle. Many emotional factors may be simultaneously accruing as well. Frustration, helplessness, and embarrassment are common responses to these struggles, as stuttering may cancel out the effects of careful preparation, language eloquence, and good intention.

Gender role conflict may play a large role in the actions and experiences of males who stutter. Subscribing to traditional gender roles may increase one's self-devaluing thoughts and feelings, the occurrence of uncontrollable or unintentional gender role violations, and the susceptibility to gender role restrictions by others. This may further lead a male to value and emulate some of the aforementioned male socialization

archetypes presented by David and Brannon (1976), as well as the awareness that one's own behavior is greatly dissimilar to those archetypes.

It should be noted that some males who stutter may be able to partially counteract the confluence of gender role conflict and disfluency by emphasizing their strengths and excelling in sports, academics, or social involvement. As in any group, some will succeed in spite of negative challenges to overcome, or due to resources and benefits that counteract their disadvantages. For others, the solution may not be as simple. Highly charged emotions may accumulate to the point of external or internal distress. In both groups, it seems likely that emotional awareness and expression in an appropriate manner and environment may provide helpful relief.

Many research questions spring from these topics. First, what is the nature of the relationships between impact of stuttering, emotional expression, and gender-based restrictive emotionality for males who stutter? Do males who stutter have a prevalent style of emotional expression? If so, what are the unique risks for a male who stutters with regard to gender roles? Do males who stutter endorse higher levels of gender role conflict? What implications might this information have upon the treatment of people who stutter?

While most of these questions are exploratory in nature, the answers will likely produce additional questions along the way. At the same time, it is hoped that such questions can provide illumination as to whether males who stutter may be at an increased risk for corollary difficulties. It should be noted that this study is not intended to provide validation for any of the models provided in the literature review, such as the

Demands and Capacities Model (Starkweather, 2002) or Kennedy-Moore and Watson's (1999) process model.

#### Research Questions

Research question 1: Do meaningful relationships exist among disrupted emotional expression (emotional repression, alexithymia, and negative attitudes toward emotional expression) and the impact of stuttering?

Research question 2: Do meaningful relationships exist among masculinity-based emotional restriction, masculinity-based emotional control, and the impact of stuttering?

Research question 3: Does masculinity-based emotional restriction mediate the relationship between disruption in emotional expression and the impact of stuttering?

## CHAPTER 3

### METHODOLOGY

The current study will explore the intersection of emotional expression, male emotional restriction, and the behavioral impact of disfluency for males who stutter. This section will begin with a description of the research participants, followed by the measures and methods used in sampling these participants. The section will conclude with a description of the data analyses conducted to evaluate the research questions described in Chapter 2. Results of the data analyses will be explained in Chapter 4.

#### Participants

Participants were males who stutter recruited via clinician referral, National Stuttering Association affiliation, or self-identification. Respondents invited and included in the data analysis were males ages 18 and older who reported a history of developmental stuttering. Respondents reporting acquired stuttering were not included in the data analysis.

#### Measures

Participants completed a survey containing several self-report assessments assessing disruption of emotional expression, restrictive male emotionality, and the impact of stuttering. Three surveys assessed disruption at various stages of emotional expression (Wong, Pituch, & Rochlen, 2006): the Index of Self Regulation of Emotion (ISE; Mendolia, 2002), the Toronto Alexithymia Scale (TAS-20; Bagby, Parker, & Taylor, 1994), and the Attitudes Towards Emotional Expression Scale (ATEES; Joseph, Williams, Irwing, & Cammock, 1994). More specifically, the ISE measured conscious perception of emotion (Step 2), the TAS-20 measured labeling and interpretation of

emotion (Step 3), and the ATEES measured inhibition and suppression of emotion (Steps 4 and 5). Due to time and resource limitations of this study, only the latter four steps of Kennedy-Moore and Watson's (1999) emotional expression model were examined, excepting the physiologically-assessed prereflective response (Step 1).

Masculinity-based emotional restriction was assessed by the Restrictive Emotionality subscale (RE) of the Gender Role Conflict Scale (O'Neil et al., 1986), the Emotional Control subscale (EC) of the Conformity to Masculine Norms Inventory (Mahalik et al., 2003). The global impact of stuttering on one's life was assessed by the Perceptions of Stuttering Inventory (PSI; Woolf, 1967).

#### *Index of Self-Regulation of Emotion (ISE)*

The ISE was developed to provide a measure of anxiety and defensiveness along a continuum (Mendolia, 2002). This index utilizes scores on the Manifest Anxiety Scale (MAS; Bendig, 1956) and the Marlowe-Crowne Social Desirability Scale (SDS; Crowne & Marlowe, 1960) to identify repressive coping styles. The MAS (Bendig, 1956) consists of 20 true/false items which measure trait anxiety by physiological and subjective symptoms. A sample item is, "I feel anxiety about something or someone all the time." Scores range from 0 to 20, with high scores representing trait anxiety. Internal consistency is good at  $r=.76$  (Bendig, 1956) to  $.82$  (Wong, Pituch, & Rochlen, 2006). The SDS (Crowne & Marlowe, 1960) measures the tendency to respond in socially desirable ways. The SDS consists of 33 true/false items, such as, "No matter who I am talking to, I am a good listener." Scores range from 0 to 33, with high scores representing greater defensiveness and more socially desirable responding. Internal consistency is good at  $.88$



(Crowne & Marlowe, 1960) to .75 (Wong, Pituch, & Rochlen, 2006). Test-retest reliability is high at .89 (Crowne & Marlowe, 1960).

The formula for calculating the ISE score is:  $ISE = 20 - (MAS \text{ score} - SDS \text{ score})$ , yielding a range from 0 to 53. Scores make up a proportionate continuum consisting of high-anxiety, low defensiveness individuals at the lower extreme to low-anxiety, high defensiveness individuals at the upper extreme. The ISE has been negatively associated with neuroticism (associated with negative affectivity) and with lying (associated with defensiveness) (Mendolia, 2002). Construct validity suggests that high scorers tend to dissociate somatic reactions from perceptions of distress, are hypersensitive to anxiety-provoking information, repress negative cognitions, and use an avoidant information processing (Myers & Derakshan, 2004).

#### *Toronto Alexithymia Scale—20 (TAS-20)*

The TAS-20 (Bagby et al., 1994) is a measure examining awareness, articulation, and internalization of feelings on three subscales: Difficulty Identifying Feelings (DIF; “I am often confused about what emotion I am feeling”), Difficulty Describing Feelings (DDF; “It is difficult for me to find the right words for my feelings”), and Externally-Oriented Thinking (EOT; “I prefer to analyze problems rather than just describe them”). The TAS-20 consists of 20 Likert-type items rated from 1 (strongly disagree) to 5 (strongly agree), yielding a total score between 20 and 100. Psychometric support, as reported by Bagby and Taylor (1997), includes internal consistency (Cronbach’s alpha = .81) and test-retest reliability at a three week interval ( $r = .77$ ). Wong, Pituch, & Rochlen (2006) found coefficient alphas to be .84 (overall), .83 (DIF subscale), .82 (DDF subscale), and .63 (EOT subscale). Convergent validity indicated strongly negative

correlations between the TAS-20 and measures of psychological-mindedness, self-analysis, and affective awareness (Bagby & Taylor, 1997). The TAS-20 has been used in at least 57 research studies exploring topics ranging from chronic pain to sexual abuse, and the factor structure of the TAS-20 has been replicated in both clinical and non-clinical populations (Parker, Taylor, & Bagby, 2003).

*Attitudes Towards Emotional Expression Scale (ATEES)*

The ATEES (Joseph et al., 1994) is a 20-item Likert-type scale measuring cognitions and behaviors about emotional expression. Items are rated from 1 (disagree very much) to 5 (agree very much). The ATEES consists of four subscales: beliefs about the meaning of emotional expression (“I think getting emotional is a sign of weakness”), emotional behavioral style (“When I’m upset I bottle up my feelings”), beliefs about expressing emotions (“I think you should always keep your feelings under control”), and beliefs about the consequences of expressing emotions (“I think other people don’t understand your feelings”). Total scores range from 20 to 100. High scores suggest the participant believes emotional expression is a sign of weakness, is to be controlled or contained, and is likely to cause social rejection. Coefficient alphas range from .70 to .88 for the four subscales. The original Cronbach’s alpha was .90 for the entire scale; Wong, Pituch, and Rochlen (2006) found a Cronbach’s alpha of .78. The ATEES total score has been inversely correlated with seeking social support (Joseph et al., 1994) as well as using positive coping methods (Folkman & Lazarus, 1988), and has been positively correlated with distress following stressful life events (Surgenor & Joseph, 2000).

*Gender Role Conflict Scale—Restrictive Emotionality subscale (RE)*

Restrictive Emotionality (RE) is a 10-item subscale of the Gender Role Conflict Scale (O'Neil et al., 1986) which assesses self-acknowledged "fears about expressing one's feelings" (O'Neil et al., 1995, p. 176). An example is, "I have difficulty expressing my tender feelings". Each item is rated on a Likert-type scale from 1 (strongly disagree) to 6 (strongly agree), yielding a score range of 10 to 60, with higher scores representing more restricted emotions. Average coefficient alpha is .82, test-retest reliability is .76 after four weeks (O'Neil et al., 1995). Validity evidence includes positive correlations with positive attitudes toward the traditional male role, low emotional expressiveness, and poor psychological adjustment (Sharpe, Heppner, & Dixon, 1995). Wong, Pituch, and Rochlen (2006) noted that RE has also been correlated with stress, interpersonal problems, less intimate self-disclosure, and lack of interpersonal competence. Furthermore, RE has been positively related to mistrust, emotional detachment, and hostile-submissive behavior (Mahalik, 2000). RE has also been connected to self-destructiveness, hopelessness, alexithymia, anxiety, patterns of depression, shyness, and toughness (Wong, Pituch, & Rochlen, 2006). Lastly, insecure attachment styles (Schwartz, Waldo, & Higgins, 2004) and somatic symptoms (Shepard, 2002) have been associated with RE.

Although full administration of the GRCS is usually preferred (O'Neil, personal communication, July 24, 2007), previous studies have incorporated the RE subscale without the remaining GRCS items (Wong, Pituch, & Rochlen, 2006, and Robertson & Fitzgerald, 1992). While using the RE subscale alone may neglect many aspect of mens' gender role conflict, it is thought to be a brief, effective way of illuminating gender-based attitudes toward emotional restriction.

*Conformity to Masculine Role Norms Inventory--Emotional Control subscale (EC)*

The Emotional Control subscale (EC) is an 11-item component of the 94-item Conformity to Masculine Role Norms Inventory (CMNI; Mahalik et al., 2003) which measures personal endorsement of a masculine injunction limiting emotional expression (for example, “It is best to keep your emotions hidden”). Items are endorsed on a 4 point Likert-type scale ranging from 0 (strongly disagree) to 3 (strongly agree), with total scores ranges from 0 to 33. The EC has an internal consistency of .91, a test-retest reliability of .90, and has been correlated with concealing emotions, emotional inexpressiveness, and restrictive emotionality. High scores on EC are also negatively correlated with open attitudes toward seeking professional help, social dominance, and aggression (Mahalik et al., 2003).

Similarly to the RE subscale, the EC subscale is preferred as a component of the larger battery (Mahalik, personal communication, July 23, 2007). While the psychometric support for the EC subscale is good, the EC items are believed to be conspicuous and awkward when isolated from the remaining CMNI items. However, this conspicuousness is greatly decreased when a majority of the other survey items similarly explore perspectives regarding emotional expression, including another subscale examining masculine-type emotional expression.

*Perceptions of Stuttering Inventory (PSI)*

The PSI (Woolf, 1967) is a 60-item self-report measure evaluating three major parameters common to the experience of stuttering: struggle, avoidance, and expectancy. Based on anticipatory struggle hypotheses (Bloodstein, 1972), the PSI was created to measure behavioral manifestations as well as to describe the stuttering experience. The

respondent is instructed to indicate which of 60 statements are characteristic of his or her stuttering by making a check mark next to the applicable item. Item examples include, “Avoiding asking for information (e.g., asking for directions or inquiring about a train schedule)” and “Feeling your face getting warm and red (as if you are blushing) as you are struggling to speak”. The PSI is typically completed in less than 15 minutes. Responses yield a total score, but scores may also be obtained from each of the three 20-item parameters. For parameter scores, below 7 is considered mild, 8-11 is moderate, 12-15 is moderate-to-severe, and 16-20 is severe. Four-point differences among parameters are considered qualitative distinctions, and 8-point differences are considered substantially deviant. Although means for total scores were not provided in Woolf’s original publication, St. Louis and Atkins (1988) reported means for seven studies in which the PSI was used.

Psychometric properties of the PSI suggest good test-retest reliability as demonstrated by a study of 30 people who stutter (Rothenberg, 1963). Correlation coefficients ranged from .85 to .89 for each of the three parameters. According to Ginsberg (2000), predictive validity is supported by the use of the PSI as a pre- and posttreatment measures in three studies (Daly & Darnton, 1976; Webster, 1979; and St. Louis & Atkins, 1988). Ginsberg (2000) expanded the specificity of the PSI by adding a measure of the degree to which each endorsed statement fit that individual (via a 5-point Likert-type scale ranging from “a little bit characteristic of my stuttering” to “very much characteristic of my stuttering”). She reported that this modification yielded high associations between the perceived strength of stuttering and the number of endorsed

behavioral statements, with correlations ranging from .89 to .92 across the three categories.

### Procedure

Research participation requests were distributed via postings on speech-language professional listservs, individual contact with speech-language professionals, posting on the National Stuttering Association Current Research website, and email correspondence with support group leaders. Requests provided a brief explanation of the survey purpose and content as well as a World Wide Web hyperlink to the survey questions. Participants indicated consent by accessing the survey hyperlink and matriculating beyond the 2-page informed consent document at the start of the survey. The survey consisted of demographic data, speech history, and the aforementioned survey tools (the ISE, the TAS-20, the ATEES, the RE subscale, the EC subscale, and the PSI). Participants were invited to add comments or clarifications at the end of each survey page.

The survey was administered via Survey Monkey ([www.surveymonkey.com](http://www.surveymonkey.com)), an Internet-based research facilitation interface providing secure collection and storage of research data. Responses were secure sockets layer (SSL) encrypted, a protocol designed to prevent outside parties from accessing protected data during transmission on the Internet. Administrator options were set to accept only one completed survey per Internet Protocol (IP) address. Demographic data and speech history responses were visually scanned for identical responses to rule out the likelihood of repeat participation.

One hundred participants began the online survey, with 71 classified by Survey Monkey as ‘completed’, meaning they marked the survey as ‘done’ at the bottom of the last page. An additional participant requested a printed survey, but returned it incomplete

(fewer than half of all items were answered). Closer evaluation of the 'incomplete' or discarded online surveys revealed inconsistent responding producing unusable data. Ten participants did not provide any speech history, 16 did not complete the Social Desirability Scale (SDS), 25 did not complete the Manifest Anxiety Scale (MAS), and 29 did not complete the Perceptions of Stuttering Inventory (PSI). Of the 71 participants completing surveys, two were disqualified due to gender (not indicating 'male' in the demographic data) and four reported stuttering origins of organic means. One participant was eliminated due to inconsistent responding across numerous scales (i.e., swaths of questions left blank, insufficient to classify as incomplete but enough to invalidate multiple measures). The remaining participants (n=65) were utilized for the purpose of the primary statistical analysis. Given an alpha of .05, assuming a moderate effect size (.15), and using 3 IVs, 62 participants were necessary to obtain .7 power on a multiple regression F test.

## CHAPTER 4

### RESULTS

This chapter describes the data organization and statistical analyses following the data collection procedures and research hypotheses reported in Chapter Three. The chapter will begin with a summary of descriptive statistics, followed by evaluations of representativeness and reliability of the data, including procedures to address missing data. Next, the results of pre-planned statistical analyses will be described. Finally, exploratory analyses suggested by the data are reported.

#### Descriptive Statistics

Participant ages ranged from 18 to 83 years (mean=42.57, SD=16.65). The group's racial/ ethnic makeup was predominantly Caucasian (81%), with 4.8% Latino, 4.8% Asian/ Pacific Islander, 3.2% African-American, and 3.2% 'other'. Most participants were married or partnered (55.3%), with 26.2% single and 18.5% dating. Academically, 92.2% had studied beyond high school, including 9.2% at community colleges/ vocational schools, 41.5% at undergraduate institutions, and 41.5% at graduate institutions. Mean household income level was \$100,148, with a range from \$1000 to \$300,000 reported.

Speech problems were initially noticed between ages 2 and 12 years (M=5.13, SD 2.43), most frequently by parents (70.8%), the participant himself (10.6%), teachers (3.0%), and other family members (3.0%). Many participants did not know who first noticed their stuttering (10.8%). Nearly two-thirds of participants reported their stuttering manifestations included at least three different behaviors: approximately 38% experienced whole word repetitions, 76% first sound repetitions, 47% sound



prolongations, 33% frequently use of ‘um’ or ‘uh’, 47% word substitutions, and 79% ‘blocking’ or locking up speech. Nearly 70% of participants received speech therapy as a child, with 77% receiving services as an adult. About two-thirds of participants identified at least one relative who stuttered, with nearly 40% of those identifying their father and 7% identifying their mother. Twenty-six percent had a grandparent who stutters, 23% an uncle who stutters, and 23% a sibling who stutters. For a visual representation of the data, descriptive statistics have been summarized in Table B1.

Mean scale scores for the various measures administered were compared with means in prior studies. The Perceptions of Stuttering Inventory (PSI) mean for this study ( $X=110.92$ ,  $SD=65.20$ ) was significantly higher than the mean reported by Patraka (1998;  $X=70.87$ ,  $SD=44.62$ ). The Index of Self-Regulation of Emotion (ISE) mean was 27.98 ( $SD=9.01$ ), as compared to 22.49 ( $SD=6.01$ ) in Wong, Rochlen, and Pituch (2006). The Toronto Alexithymia Scale (TAS) mean was 42.48 ( $SD=11.28$ ) for this study, as compared to 46.42 ( $SD=11.23$ ) in Wong et al. (2006). The Attitudes Toward Emotional Expression Scale (ATEES) mean was 52.38 ( $SD=12.62$ ), with Wong et al. (2006) reporting a similar mean ( $X=50.48$ ,  $SD=10.96$ ). The mean for Restrictive Emotionality (RE) in the current study ( $RE; X=39.11$ ,  $SD=11.21$ ) was substantially higher than reported in Wong et al. (2006;  $X=29.54$ ,  $SD=10.12$ ). The Emotional Control (EC) mean ( $X=27.88$ ,  $SD=5.65$ ) was similar to Burn and Ward’s (2005) reported subscale mean ( $X=26.73$ ,  $SD=5.06$ ). These collective comparisons suggest the current sample endorsed a higher impact of stuttering, in addition to generally higher levels of self-regulated emotion and greater endorsement of emotional restriction.

### Reliability

Internal consistency was examined for each variable, with Cronbach's alphas ranging from .73 to .97. Scores for emotionality and masculinity variables were similar to alphas observed for these measures by Wong, Pituch, and Rochlen (2006). In the current study, the Social Desirability Scale (SDS) internal consistency was .73, as compared to .75 reported by Wong et al. The current Manifest Anxiety Scale (MAS) alpha was .91, higher than the .82 measured by Wong et al. Alphas for the TAS (.84) and the ATEES (.87) were nearly identical in both this and the Wong et al. (2006) studies. The RE coefficient alpha was .87 in the current study, versus .90 in Wong et al. (2006). Alphas for the remaining two scales, EC (.89) and the PSI (.97), were commensurately at or above the level established in the original validation studies for each scale (Mahalik, Locke, Ludlow, Diemer, Scott, Gottfried, & Freidas, 2003, and Ginsberg, 2000, respectively).

### Correlations

Pearson's correlations were conducted to compare total scale scores among variables, with significance level set at  $p \leq .05$  for a two-tailed analysis. Results indicated several significant positive and negative correlations (see Table B2). Conscious perception of emotion (represented by the Index of Self-Regulation of Emotions [ISE]) and anticipated impact of stuttering (the PSI total score) negatively correlated at a moderately significant level ( $r = -.38, p < .01$ ). Emotional articulation (the TAS total score) significantly and negatively correlated with gender-based emotional constriction (the RE subscale;  $r = -.68, p < .01$ ) and male conforming emotional control (the EC subscale;  $r = -.47, p < .01$ ), while positively correlating with inhibition/ suppression of

emotion (the ATEES total score;  $r = .46, p < .01$ ). Emotional articulation (TAS) positively correlated with the self-perceived impact of stuttering (PSI) ( $r = .31, p < .05$ ). Gender-based emotional constriction (RE) positively correlated with male conforming emotional control (EC) ( $r = .56, p < .01$ ) and negatively correlated with attitudes about emotional expression (ATEES) ( $r = -.55, p < .01$ ). These attitudes (ATEES) negatively correlated with male conforming emotional control (EC) ( $r = -.63, p < .01$ ) and positively correlated with self-perceived impact of stuttering (PSI) ( $r = .38, p < .01$ ).

Pearson product-moment correlations were also conducted to examine relationships among demographic variables and total scale scores. Demographic variable intercorrelations appeared to be largely as would be intuitively expected. For instance, education level was positively and significantly correlated with income, and receiving speech therapy as an adult was similarly correlated with receiving speech therapy as a child. Age was the only demographic variable significantly correlated with the impact of stuttering (PSI;  $r = -.27, p < .05$ ), suggesting that the impact of stuttering decreased as age increased. Emotional articulation (TAS) was negatively and significantly correlated with age ( $r = -.30, p < .05$ ) as well as with educational level ( $r = -.27$ ), suggesting articulation improves with higher educational attainment as well as maturity. Self-regulation of emotion (ISE) was negatively correlated with age ( $r = -.31, p < .05$ ), suggesting that older participants were likely to endorse lower levels of repressive emotional regulation.

### Research Questions and Exploratory Analysis

Statistical analyses examined the impact of repression, alexithymia, attitudes towards emotional expression, and masculine role norms on the overall experience of stuttering (dependent variable) for males who stutter. Data were analyzed using SPSS,

with an alpha level of .05 set for all analyses. As per the first research question (Do meaningful relationships exist among disrupted emotional expression and the impact of stuttering?), a multiple regression analysis was conducted to determine if a meaningful relationship exists among the ISE, the TAS, and the ATEES with the PSI as the dependent variable. It should be noted that total scale scores were not included in analyses if data were missing for more than 5% of all items. The assessed sample size ( $n=55$ ) was deemed sufficient given Stevens' (1996) recommendation of 15 subjects per predictor. Multicollinearity was appeared absent, as the independent variables were not significant correlated with each other and scatterplot inspection for each variable suggested normality, linearity, and no score outliers at 3 standard deviations or beyond.

Results indicated that the combined model of emotional expression regulation predicted 26% of the variance for the impact of stuttering ( $R^2 = .26$ ;  $F [3, 54] = 6.23$ ,  $p = .002$ ). Standardized and unstandardized coefficients are shown in Table B3. Of the three variables predicting the PSI, the ISE made a significant unique contribution ( $\beta = -.30$ ,  $p = .02$ ). As derived from the semipartial correlation coefficient ( $-.29$ ), the ISE contributed 8.4 % of the variance to the impact of stuttering. In other words, the combined emotional expression variables accounted for more than one-fourth the variance of the impact of stuttering with self-regulation of emotion alone accounted for more than 8% of the impact of stuttering.

Because age was a demographic variable significantly correlated with the impact of stuttering, a hierarchical regression analysis was conducted to evaluate the effect of age on the statistical model. The collective model (age, self-regulated emotion, emotional articulation, and emotional expression attitude) accounted for 27.2% of the variance. Of

this variance, age accounted for about 7.2% of the combined total, leaving the remaining 20% attributed to the original model (the ISE, TAS and ATEES). Furthermore, even with age as an added factor, the ISE continued to be the only unique contributor of significance. This data appears to reiterate the salience of emotional self-regulation's contribution to the impact of stuttering, again accounting for 8.4% of the variability. When further looking at the direction of the original correlation, it seems that low levels of emotional self-regulation predict a high impact of stuttering and vice versa.

As revealed by the correlation matrix reported above, Research Question 2 (Do meaningful relationships exist among masculinity-based emotional restriction, masculinity-based emotional control, and the impact of stuttering?) was not supported. Analyses revealed low, non-significant correlations between the impact of stuttering and emotional constriction (.05) and between the impact of stuttering and conforming emotional control (.06). While this result does not definitively rule out significant relationships among these constructs, the current results do not suggest the impact of stuttering is related to masculine-influenced emotional restriction.

Due to the lack of correlation between the RE and PSI, as well as between the EC and PSI, Research Question 3 (Does masculinity-based emotional restriction mediate the relationship between disruption in emotional expression and the impact of stuttering?) was not evaluated. Although Frazier, Tix, and Barron (2004) noted that an implied or suspected relationship is sufficient to consider mediation analysis, significant correlations between the predictive variables and the independent variables are necessary preconditions for the analysis of mediation (Baron & Kenny, 1986). While these results were contrary to expectations, the lack of significance in preliminary testing made

searching for deeper connections among the variables unjustified. However, the significance of the emotional expression model in predicting the outcome of the PSI lends credence to exploratory analyses of these results to further aid explaining this phenomenon.

The three domains of emotional expression (the ISE, TAS, and ATEES) each contain pre-existing subcomponents in the form of subscales or full measures. As mentioned, the ISE score is derived from the SDS, measuring social desirability, and the MAS, measuring trait anxiety. The TAS contains items from three subscales: Difficulty Identifying Feelings (DIF), Difficulty Describing Feelings (DDF), and Externally-Oriented Thinking (EOT). The ATEES comprises four subscales: Beliefs About Meaning (BAM), Behavioral Style (BS), Beliefs About Expression (BAE), and Beliefs About Consequences (BAC). For the purposes of seeking out greater specificity in the factors affecting the impact of stuttering outcome scores, intercorrelations of the various subcomponents and the PSI Total Score were analyzed (see Table B4)..

Results indicated several significant correlations with the impact of stuttering. At the  $p < .01$  level of significance, manifest anxiety (MAS;  $r = -.46$ ), beliefs about emotional expression (BAE;  $r = -.42$ ), beliefs about emotional consequences (BAC;  $r = -.35$ ), and difficulty identifying feelings (DIF;  $r = .35$ ) correlated with the impact of stuttering (PSI). Using the  $p < .05$  level of significance, the impact of stuttering (PSI) was also correlated with difficulty describing feelings (DDF;  $r = .25$ ) and beliefs about meaning (BAM;  $r = -.28$ ). These results suggest low worry-proneness, denial of concern about emotional expression, awareness of risk to emotional expression, and difficulty categorizing feelings were each related to a greater impact of stuttering.

In following with the original analyses, a multiple regression analysis was conducted to see if the MAS, TAS-DIF, ATEES-BAE, and ATEES-BAC better predicted the PSI than the total values of the emotional expression measures. Results were examined for evidence of multicollinearity, but the variance inflation factor and tolerance values were within normal limits and therefore suggested no multicollinearity. Examination of the regression standardized residuals suggested normality and linearity, with no outliers beyond 3 standard deviations. Absence of outliers was also support by inspection of the Mahlanobis distances.

According to the analysis (Table B5), the revised model accounted for 30% of the variance in the impact of stuttering (PSI;  $R^2 = .302$ ,  $F(4, 55) = 5.96$ ,  $p < .001$ ). Upon examination of the independent variables, only trait anxiety (MAS) made a statistically significant unique contribution (standardized beta = .33,  $p = .01$ ). Based on the semipartial correlation coefficient (.29), it appears that trait anxiety (MAS) uniquely contributed 8.4% of the variance. This result suggests that among these factors trait anxiety was the best predictor of the impact of stuttering.

In summary, statistical analyses revealed emotional self-regulation to be an important factor in predicting the impact of stuttering. Upon closer examination, it appears that low worry-proneness, denial of concern about emotional expression, perception of risk in emotional expression, and awareness of consequences to expression were each related to a greater impact of stuttering. Of all these factors, trait anxiety appeared to be the best predictor of a high impact of struggle, avoidance, and expectancy. Additionally, the current results did not reveal a significant relationship between the impact of stuttering and male-type emotional restriction. Consequently, this disqualified

analysis of the latter factor's role as a mediator between emotional restriction and the impact of stuttering.



## CHAPTER 5

### DISCUSSION

In examining the data presented in the last chapter, several findings are worthy of note. This section will begin with an analysis of the relationships among the disruptions in emotional expression and the impact of stuttering. Next, the effect of masculinity in emotional expression on struggle, avoidance, and expectancy in stuttering will be examined. The discussion will then propose a streamlined model of emotional disruption to better represent the perceptions of struggle, anticipation, and avoidance for people who stutter. Finally, study limitations, implications for clinical practice, and considerations for future research will be explored.

For men in the current sample, several disruptions in emotional expression corresponded with a higher impact of stuttering. These disruptions included negative attitudes toward emotional expression, low self-regulation of emotion, and difficulty with emotional articulation. Increased difficulty assigning words to emotions was related to greater problems with speech struggle, avoidance, and expectancy. Participants high in trait anxiety and low in defensiveness were also more likely to perceive difficulty with stuttering. Based on these response patterns, it appears disruptions in emotional expression and the impact of stuttering are significantly connected for men who stutter.

Although the three aforementioned results significantly correlated as predicted, the relationship between the impact of stuttering and self-regulation of emotion was in the opposite direction of what had been anticipated. Fortunately, the research literature helps to illuminate this result. Kennedy-Moore and Watson (2001) noted emotional expression may operate as both an indication of distress as well as an indicator of coping,

adding that the line between utility and stressor may be tempered by personality or individual interpretation. Thus, low repressive style may actually increase awareness of struggle, avoidance, and expectancy in stuttering. This finding acts in concert with therapeutic approaches to raising awareness and acceptance of stuttering's emotional impact in order to improve the effect of speech therapy. For those clients having limited emotional coping tools, raised awareness may increase symptoms prior to improving them. Conversely, a highly repressive style may suggest that the impact of stuttering is minimized or denied: significant endorsement of anxiety and social desirability coupled with few reported symptoms of stuttering may represent suppressed awareness.

A primary purpose of this study was to examine whether disruptions in emotional expression are useful in examining the impact of stuttering. Statistical analysis indicated the examined disruptions in emotion accounted for one-quarter of the variance for the impact of stuttering. Closer examination revealed self-regulation of emotion as the most salient factor, as it uniquely predicted about 9% of the variance of stuttering's impact. Curiously, the negative relationship between self-regulated emotional style and the overall impact of stuttering suggests that less repression corresponds with a greater impact of stuttering. To better understand this result, it is important to look back on Mendolia's (2002) model of repression which led to the development of the Index of Self-Regulation of Emotion (ISE). In this model, emotional hypersensitivity to positive and negative events as well as threats to self-concept may lead to emotional distancing and focusing on less threatening stimuli. However, Mendolia added that distancing and refocusing were more likely to occur in response to negative events than positive events.

If such repression serves to block pain and limit awareness of negative events, this may explain the corresponding low level of perceived impact of stuttering.

Applying the model of repression rationale, emotional repression may serve a protective role against the impact of stuttering. High self-regulation of emotion may suggest denial or minimization of strong affect, leading to more perceived control and result in coping-focused efforts at speech. It would follow that such denial of emotional reaction might ‘spill over’ into emotions associated with the struggle, avoidance, and expectancy of stuttering. As a result, it is conceivable the individual may deny actual or obvious impact of stuttering in spite of its presence. As identified by Finn, Howard, and Kubala (2005), those who have ‘successfully recovered’ from stuttering are less attentive, or even inattentive, to efforts at speaking. However, in the case of participants reporting low trait anxiety in conjunction with low defensiveness, this combination may serve to increase awareness of stuttering’s global impact on one’s life and may suggest mindfulness rather than denial. As is often found in many environments where raising awareness occurs, self-examination is likely to increase stress before having a chance to decrease it.

Contrary to expectations, men in this study did not report masculine-based emotional restriction as affecting the perceived impact of stuttering. As previously noted, the connection between the masculinity measures and perceptions of stuttering had not been explored or established in prior studies, and the planned analyses assumed such a correlation would be found. While mediators can be explored in the absence of significant criterion-predictor relationships, this is permitted only when the mediator is related to the outcome and not vice versa (Frazier, Tix, & Barron, 2004). However, the

lack of support for the second hypothesis eliminated any justification for pursuing the third hypothesis examining the mediating effects of masculinity on the relationship between disruptions in emotional expression and the impact of stuttering.

When considering the significance found with the three measures of disruption in emotional expression, the lack of correlation among the impact of stuttering and the masculine emotional restriction measures seemed counterintuitive. Even so, the current results do not suggest masculine self-control and emotional restriction are significant factors in the impact of stuttering. Limitations in the use of subscales have been described, and may have been a factor in these results. Although subscale reliability was good for both measures, the authors suggested full administration of the complete scales or pairing with another subscale when possible. Furthermore, respondents less likely to endorse traditional masculine norms might be more likely to complete a self-report survey without compensation, with the converse conditions also being a possible reason for the lack of significance found.

Exploratory data analysis revealed further information regarding the relationships between disruptions in emotional expression and the impact of stuttering, and provided additional fuel for speculation. When broken down to examine subscale measures as well, several factors predicted a high impact of stuttering: high trait anxiety, difficulty identifying feelings, a belief that emotional expression must be kept under control, and a belief that emotional expression will lead to social rejection. Collectively, these factors were as effective as the emotional self-regulation/ emotional inarticulation/ positive attitude toward emotional expression cluster in predicting the impact of stuttering,

suggesting that the exploratory factors may be the distilled components of the original cluster.

Of these four components, endorsement of physiological/ subjective symptoms of trait anxiety provided the best unique predictor of the perception of stuttering. Studies have identified state and trait anxiety as a common attribute in children and adults who stutter (Weiss & Zebrowski, 1992; Craig, Hancock, Tran, & Craig, 2003; Craig & Hancock, 1995), surmising anxiety to be a predisposing factor or a learned response resulting from socially stressful interactions. The current results support the engrained and more stable trait anxiety, although state anxiety was not examined in this study. For this sample, higher levels of anxiety corresponded with higher levels of self-reported speech struggle, avoidance, and expectancy. While this relationship is parsimonious with the prior research literature, it makes an earlier finding of this study (the negative relationship between self-regulation of emotion and perception of stuttering) even more confusing.

Once again, a closer consideration of the Index of Self-Regulation of Emotion (ISE) may clarify this relationship. Developed to measure repressive coping styles on a continuum versus as a categorical variable, the range of scores on the ISE encompasses several tendencies due to its computational formula  $20 - [MAS - SDS]$  and possible range of scores from 0 to 33. At the low end of the range are high anxiety but low defensiveness individuals. Individuals low in anxiety with low to moderate defensiveness, or high in both anxiety and defensiveness are represented by mid-range scores. At the high end of the range are low anxiety but highly defensive individuals. Based on its value and position within the ISE equation, a high MAS score will lower the

overall ISE and moderate the effects of the SDS scores. As trait anxiety and perceptions of stuttering are strongly and positively correlated, this means that the ISE is likely to lower with a significant presence of trait anxiety.

### Implications

The above findings may be useful in understanding difficulties with emotional expression for males who stutter. As the collective emotional expression measures account for  $\frac{1}{4}$  the variance in the perceived impact of stuttering, using this approach to assessment may provide valuable information about a client struggling with emotional experience, identification, or expression. These constructs may also be helpful to consider for clients who may seem disconnected or struggling to integrate what they have learned in therapy.

The roles of trait anxiety and age on the impact of stuttering have intriguing implications for the developmental pattern and treatment course in people who stutter. More specifically, trait anxiety and age may provide insight into the role and stability of temperament over time. As defined by Rothbart (1998), temperament is “the relative strength of children's emotional reactions and related behaviors as well as their capacities for self-regulation” (p.39). Rothbart (1998) identified four dimensions of temperament: extraversion/ surgency, negative affect, effortful control, and orienting sensitivity. These dimensions encompass perceptions and behaviors such as social engagement, emotional regulation, self-motivation, and attention to/ evaluation of spontaneous stimuli. According to Anderson, Pellowski, Conture et al. (2003), children who stutter may often be overly cautious, have difficulty with change, and be irregular in biological functions such as sleep, hunger, and elimination. Kagan and Snidman (1999) posited that a highly

reactive temperamental bias may be present in as many as 20% of young children, and may predispose these children to difficulties with anxiety in adolescence or adulthood. This bias was thought to be a biological predisposition, but amenable to influence from environment and experience. As low self-regulation of emotion and high trait anxiety were the most salient predictors of a high impact of stuttering, these factors may feasibly represent a highly reactive temperamental bias in adulthood for males who stutter.

These implications point to a number of interventions which may be effective. As noted by Menzies, O'Brian, Onslow et al. (2008), the use of Cognitive Behavioral Therapy (CBT) with people who stutter is suggested by the relationship between stuttering and anxiety, the co-occurrence of social anxiety or phobia, and the widespread use of relaxation techniques as an adjunct treatment for stuttering. At the core, CBT helps by increasing a person's awareness of how their thoughts affect emotional responses and subsequent behaviors such as struggle, avoidance, or expectancy, and mobilizing the client's internal and external resources towards coping. Relaxation training and other coping-focused responses such as distraction or refocusing are well-established in effectively helping to manage general types of anxiety. Exposure training may be useful in decreasing specific fears, such as social environments or physical symptoms accompanying disfluency.

In cases of limited coping skills along with persistent stuttering, it may be helpful to implement structured approaches such as Meichenbaum's (1985) Stress Inoculation Training (SIT). SIT is a moderate duration, three-step process encompassing identification of stressors (what is controllable and not controllable), learning/ rehearsing CBT-based coping skills, and planned application/ follow through of these skills. The

coping skills may include problem-solving, interpersonal skills training, mobilizing social support systems, and engaging in meaning-laden activities. SIT also incorporates self-evaluative and protective measures such as relapse prevention, success attribution awareness, and booster sessions (Meichenbaum, 1996).

### Limitations

When further speculating about the role of self-examination in the impact of stuttering, it raises the possibility that the voluntary nature of the subject pool presents a perspective biased by self-motivated individuals. As many participant referrals occurred through clinician nomination, affiliation with national disfluency organizations, or membership in local support groups for stuttering, this sample may represent individuals with levels of awareness, understanding, and acceptance of disfluency disproportionate with an 'average' sample. Although self-awareness does not insulate one from a high impact of stuttering, it may represent a limited portion of a motivation continuum and leave people who stutter in other stages of action. It is unclear how this might have affected these results. Self-awareness may feasibly include awareness of restrictive factors such as gender role norms, and serve to protect these individuals from emotionally proscriptive social forces.

This study is further limited by the underwhelming number of participants. To ensure heterogeneity and access greater power, it would be ideal to sample 100 or more participants. The numbers may have been limited by the method of survey, the oversampled nature of the population, or the length of the assessments. It may be that solicitation on the Internet has become so commonplace that those solicited are less likely to read, let alone consider, invitations to take part in a research study. For people who



stutter, especially those belonging to major disfluency listservs, oversolicitation may lead to a reluctance in participation. Finally, the survey duration coupled with the lack of financial compensation may have deterred others. Although many participants volunteered their time and perspectives without compensation, there may have been many others drawn in by some form of remuneration.

Another limitation of the current research is the need for additional validation of several measures, beginning with the criterion measure. Although the Perceptions of Stuttering Inventory has been widely used in clinical settings, there remains much opportunity for better specifying its effectiveness and efficacy for many purposes and populations. As the Ginsberg modification appears to be a promising means of clarifying the degree of stuttering struggle, avoidance, and expectancy, it would be helpful to have more demonstrations of this approach along with comparison to the original Woolf (1964) version. Furthermore, it may be necessary to better establish the utility of single subscale measures from both the Gender Role Conflict Scale (O'Neil, 1986) and the Conformity to Masculine Norms Inventory (Mahalik et al., 2003) prior to standalone administration. Additionally, it is possible that the items administered from the Emotional Restriction and Emotional Control subscales were too reductionistic in scope and directed the focus to how one relates only around other men, rather than around others in general.

#### Suggestions for Future research

In spite of the lack of significance found for the second research hypothesis, design limitations suggest a more in-depth examination of the social influences of masculinity on the perceptions of stuttering. It is possible the single subscale measures were too limited in scope to sufficiently measure aspects of gender role conflict or

conformity to masculine role norms. Based on the results of the current study, administration of the full inventory is recommended to provide a broader overall scope while allowing examination of the many sub-factors. A measure looking at both maladaptive and adaptive nuances of gender role socialization, such as the Conformity to Masculine Norms Inventory (Mahalik et al., 2003), may provide the most insight into this relationship.

Future research may also look more closely at the impact of disruptions in emotional expression on perceptions of stuttering by more closely considering the criterion variable. It may be useful to examine the 3 subscales of the Perceptions of Stuttering Inventory (Struggle, Avoidance, and Expectancy) in hypotheses and statistical analyses to see if the subcomponents may better account for anticipated effects. Additionally, other outcome measures may help to measure different aspects of the impact of stuttering. One example is the Overall Assessment of Stuttering Experiences Scale (Yaruss & Quesal, 2006), which evaluates components such as functional communication difficulties and effect on quality of life. A review by Susca (2006) identified several measures of cognition and affect that may be appropriate.

### Conclusion

This study examined the intersection between disruptions in emotional expression, masculine emotional restriction, and the perceived impact of stuttering for adult males who stutter. Although self-regulation of emotion was the disruption most strongly related to the perception of stuttering, the hypothesis and the actual relationship were in opposite directions. Upon closer examination, it appears that trait anxiety was the mitigating factor and was significantly related to the perceived impact of stuttering.

Those participants endorsing high symptoms of trait anxiety were also likely to endorse high levels of stuttering struggle, avoidance, and expectancy.

Contrary to hypothesis, masculine emotional restriction was not significantly related to the perceived impact of stuttering for this sample. Although this suggests that masculine emotional restriction is a non-factor in the perceived impact of stuttering, it is possible the measures used were too brief and unsubstantiated to accurately measure this relationship. It is recommended that gender role conflict or conformity to masculine norms be examined as a whole rather than reduced to one subcomponent.

The findings from this study suggest disruptions in emotional expression can be useful constructs to consider when addressing a client's perceived impact of stuttering. Evaluating these constructs may help to identify how a client may be struggling with the affective component of therapy, and provide a clinician with possible modes for intervention.

## APPENDIX A: INVITATION LETTERS

(date)

Dear Fluency Professional:

I am conducting dissertation research and I humbly request your assistance in this endeavor. I am conducting a Web-based survey examining styles of emotional expression, internalized masculinity, and the impact of stuttering for adult males (ages 18 and older) who have a history of developmental stuttering. I am hoping that the study's findings will contribute to our collective understanding of stuttering's emotional impact.

As many of you may have access to clients fitting this profile, I ask that you share this information with these clients.

Study participants may access the survey at the following hyperlink:

[https://www.surveymonkey.com/s.aspx?sm=KVM2aJBShJ50Nf2t12axNA\\_3d\\_3d](https://www.surveymonkey.com/s.aspx?sm=KVM2aJBShJ50Nf2t12axNA_3d_3d) . I would be happy to send out paper surveys via mail for those who prefer not to participate online.

Please feel free to contact me via phone (319-594-6620) or email (james-t-haley@uiowa.edu ) with any questions or concerns. Thank you in advance for your help in getting this study off the ground!

Sincerely,

James T. Haley, M.A.  
Doctoral Candidate  
Counseling Psychology Program  
The University of Iowa  
N361 Lindquist Center  
Iowa City, IA 52242

(date)

Dear Prospective Participant:

I am conducting dissertation research and I humbly request your assistance in this endeavor. I hope to examine styles of emotional expression, internalized masculinity, and the impact of stuttering for adult males (ages 18 and older) who have a history of developmental stuttering. To these ends, I have created a survey to assess these areas.

I realize that many of you have participated in countless surveys throughout the years, and my survey is not a short one. It is expected to take approximately 25-30 minutes to complete. Although I realize this is a significant request to make, I believe this is an important study and I expect these findings will contribute to our collective understanding of stuttering's emotional impact.

If you choose to participate, the materials are included. The consent form is on the first page, and will describe in greater detail what you can expect from the survey content. Should you wish to complete the survey in the 'traditional manner' (i.e., by paper rather than online), I would be happy to send out a paper survey via U.S. post--please feel free to contact me via with any questions or concerns (details below).

Please keep in mind that your confidentiality is of the utmost importance to me. I will not request any individually identifying data, and will not retain any individually identifying data offered. I am interested in your candid responses and believe that anonymity is the best way to access this. Additional details are available in the Informed Consent statement on the first two pages of the survey.

Thank you in advance for your help in getting this study off the ground!

Sincerely,

James T. Haley, M.A.  
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The University of Iowa  
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## APPENDIX B: RESULTS TABLES

Table B1  
Descriptive Data

Age	Mean/ SD 42.57 yrs/ 16.65 yrs	Range 18 yrs – 83 yrs				
Race/ Ethnicity Frequency	African- American 3.2%	Asian- American 4.8%	Latino 4.8%	Caucasia n 81%	Other 3.2%	
Relationship Frequency	Married/ partnered 55.3%	Single 26.2%	Dating 18.5%			
Education Frequency	High school 7.8%	Communi ty college/ vocationa l school 9.2%	Undergraduat e 41.5%	Graduate 41.5%		
Household income	Mean/ SD \$100, 148	Range \$1000 to \$300,000				
Age speech problems noticed	5.13 yrs/ 2.43 yrs	2 yrs – 12yrs				
Who noticed speech problems? Frequency	Parents 70.8%	Self 10.6%	Teachers 3.0 %	Other family 3.0%		
Stuttering manifestatio ns Frequency	Whole word repetitions 38%	First sound repetitio ns 76%	Sound prolongations 47%	Frequent use of 'um' or 'uh' 33%	Word substiti tions 47%	'Blocking '/ locking up speech 79%
Speech therapy as a child? Frequency	Yes 70.8%	No 29.2%				



(Table B1 Continued)

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Speech therapy as an adult?	Yes	No			
Frequency	79.7%	20.3%			
Relatives who stutter	Father	Mother	Grandparent	Uncle/ Aunt	Sibling
Frequency	40%	7%	26%	23%	23%

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*Note.* N=65

Table B2  
 Ranges, Means, Standard Deviations, Alphas, and Correlations for All Measures

	Low	High	Mean	SD	$\alpha$	ISE	TAS	ATEES	RE	EC	PSI-Tot
ISE	11	44	27.98	8.97	a	1	-	-	-	-	-
<sup>a</sup> MAS/SDS						.91/.73					
TAS	24	68	42.08	12.11	.84	-.16	1	-	-	-	-
ATEES	30	93	52.48	12.62	.87	-.22	.46**	1	-	-	-
RE	15	60	39.05	11.11	.89	.06	-.68**	-.55**	1	-	-
EC	17	40	27.88	5.65	.87	.05	-.47**	-.63**	.56**	1	-
PSI-Tot	5	274	110.92	65.20	.90	-.38**	.31*	.34**	-.17	-.11	1

*Note.* ISE = Index of Self-Regulation of Emotion; TAS = Toronto Alexithymia Scale; ATEES = Attitudes Toward Emotional Expression Scale; RE = Restrictive Emotionality Subscale of the Gender Role Conflict Scale; EC = Emotional Control Subscale of the Conformity to Masculine Norms Inventory; PSI-Tot = Perceptions of Stuttering Inventory, Total Score.

\* $p < .05$  \*\* $p < .01$

<sup>a</sup> The ISE is a formula comprised of two measures, the MAS and the SDS, for which reliability scores are reported.

Table B3  
 Summary of Simultaneous Regression Model for Age and Emotional Expression Variables  
 Relating to Total Perception of Stuttering

Variable	B	SE B	$\beta$	t	Sig
Age	.74	.48	-.19	-1.55	.13
Emotional self-regulation (ISE)	-2.15	.86	-.30	-2.49	.02
Emotional inarticulation (TAS-20)	.66	.79	.15	1.16	.41
Attitudes toward emotional expression (ATEES)	-1.06	.69	-.21	-1.54	.13

*Note.*  $R^2 = .27$  ( $p = .002$ ). ISE = Index of Self-Regulation of Emotions. TAS-20 = Toronto Alexithymia Scale-20. ATEES = Attitudes Toward Emotional Expression Scale

Table B4  
 Ranges, Means, Standard Deviations, and Correlations for Exploratory Measures

	Mean	SD	SDS	MAS	PSI-Tot	DIF	DDF	EOT	BAM	BAE	BS	BAC
SDS	16.05	4.98	1	-	-	-	-	-	-	-	-	-
MAS	8.16	5.68	-.43**	1	-	-	-	-	-	-	-	-
PSI-Tot	110.55	64.47	-.12	.46**	1	-	-	-	-	-	-	-
TAS DIF	13.30	5.59	-.13	.43*	.35**	1	-	-	-	-	-	-
TAS DDF	11.44	4.19	-.07	.27*	.25*	.55**	1	-	-	-	-	-
TAS EOT	18.10	4.32	.07	-.13	.14	.26*	.53**	1	-	-	-	-
ATEES BAM	18.54	3.30	.10	.48**	.28*	.46**	.37**	.10	1	-	-	-
ATEES BS	16.77	3.52	-.07	.28*	.22	.20	.25	.13	.61**	1	-	-
ATEES BAE	16.24	3.75	-.10	.34**	.42**	.39**	.54**	.32*	.66**	.69**	1	-
ATEES BAC	16.53	3.78	-.10	.33*	.35**	.40**	.43**	.27*	.42**	.50**	.72**	1

*Note.* SDS = Social Desirability Scale. MAS = Manifest Anxiety Scale. TAS-20 DIF, DDF, EOT = Toronto Alexithymia Scale-20, Difficulty Identifying Feelings, Difficulty Describing Feelings, and Externally Oriented Thinking subscales. ATEES- BAM, -BS, -BAE, -BAC = Attitudes Toward Emotional Expression Scale - Beliefs about Meaning, -Behavioral Style, -Beliefs about Expression, and -Beliefs about Consequences subscales. PSI-Tot = Perceptions of Stuttering Inventory, Total Score.

\*p<.05 \*\*p<.01

Table B5  
 Summary of Simultaneous Regression Analysis for Subcomponents of Emotional Expression  
 Variables Relating to Total Perception of Stuttering

Variable	B	SE B	$\beta$	t	Sig
Manifest anxiety (MAS)	3.77	1.47	.33	2.57	.01
Difficulty identifying feelings (TAS-20 DIF)	1.23	1.54	.11	.80	.43
Beliefs about expression (ATEES- BAE)	-4.49	2.88	-.26	-1.56	.12
Beliefs about emotional consequences (ATEES-BAC)	-.25	2.85	-.01	-.09	.93

*Note.*  $R^2 = .30$  ( $p < .001$ ). MAS = Manifest Anxiety Scale. TAS-20 DIF= Toronto Alexithymia Scale-20, Difficulty Identifying Feelings subscale. ATEES-BAE, -BAC= Attitudes Toward Emotional Expression Scale -Beliefs about Expression and -Beliefs about Consequences subscales.

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