

AN EXAMINATION OF QUALITY OF LIFE IN WOMEN  
WITH COMPULSIVE HAIR PULLING  
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CHELSEA HETRICK HERSPERGER, PSY.M.  
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APPROVED:

\_\_\_\_\_  
Michael R. Petronko, Ph.D., ABPP

\_\_\_\_\_  
Lori Rockmore, Psy.D.

DEAN:

\_\_\_\_\_  
Stanley B. Messer, Ph.D.

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## ABSTRACT

The present study explored how trichotillomania (TTM) impacts women's lives in a systematic and detailed manner, by allowing participants to elaborate on the idiosyncratic ways in which hair pulling affects them across multiple domains. Fourteen adult women with a mean age of 22.9 ( $SD = 4.8$ ) having met criteria for problematic hair pulling behaviors accompanied by subjective distress and/or impairment, completed an online series of self-report questionnaires measuring symptoms related to: quality of life (QOL), anxiety, depression and TTM. Eight of these women subsequently completed a follow-up telephone interview to gather qualitative information regarding the impact of hair pulling on their lives. Severity of symptoms on all measures did not significantly differ for women who completed the interviews compared to those who did not. Quantitative results indicated that TTM did not relate to anxiety, depression or QOL using typical self-report measures even though QOL did have an inverse relationship with anxiety and depression. Using grounded theory, six conceptual categories emerged from qualitative analysis of the data as related to women's QOL: Shame and Secrecy, Appearance, Relationships and Trust, Perceived Benefits, and Acceptance. Each of these categories was further broken down into subcategories to facilitate discussion. The results of the present study suggest that hair pulling has positive, negative and neutral ramifications on women's lives not typically captured by standard inventories measuring QOL. The effects of hair pulling identified in the study have implications on both research and practice.

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## TABLE OF CONTENTS

	PAGE
ABSTRACT.....	ii
ACKNOWLEDGEMENTS.....	iii
LIST OF TABLES.....	vi
CHAPTER	
I. REVIEW OF THE LITERATURE.....	1
II. METHODOLOGY.....	17
III. QUANTITATIVE RESULTS.....	25
IV. QUALITATIVE RESULTS.....	27
Shame and Secrecy.....	27
Social Construction of Shame.....	31
Appearance.....	33
Acceptance.....	36
Perceived Benefits.....	39
Relationships and Trust.....	42
Beliefs Regarding Etiology.....	48

V.	DISCUSSION.....	50
	Limitations.....	52
	Implications.....	54
	Conclusion.....	57
	REFERENCES.....	58
	APPENDICES.....	70

## LIST OF TABLES

Table 1 Independent Samples T-tests.....	64
Table 2 Correlations between Measures.....	65
Table 3 Means and Standard Deviations on all Measures.....	66

## CHAPTER I

### Review of the Literature

Trichotillomania (TTM), as defined by the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV-TR) is an impulse control disorder characterized by A) “recurrent pulling out of one’s hair resulting in noticeable hair loss,” B) “an increasing sense of tension immediately before pulling out the hair or when attempting to resist the behavior,” C) “pleasure, gratification or relief when pulling out the hair”, and resulting in “clinically significant distress or impairment in social, occupational, or other important areas of functioning” (American Psychiatric Association, 2000, p.674). Estimates of the lifetime prevalence of the disorder range between 1-3% (Bloch, 2009). That is, using DSM-IV-TR criteria, prevalence rates are estimated at 0.6%, whereas with the exclusion of criterions B & C, prevalence rates are estimated at 3% (Christenson, Pyle, & Mitchell, 1991).

Approximately 82% of individuals with TTM currently meet or previously met criteria for a comorbid axis I diagnosis, with more than half having a lifetime history of anxiety disorders (Christenson, Mackenzie & Mitchell, 1991). TTM affects males and females equally in childhood, with an average age of onset between 11 and 13—however, in adults, the diagnosis is far more common in women (APA, 2000; Chamberlain et al., 2009; Duke et al. 2010; Mansueto et al., 1997). It is thought that amongst children ages six and under, TTM has a natural course that commonly remits after behavioral treatments, including negative punishment (e.g., time-outs



immediately following hair-pulling) (APA, 2000; Bloch, 2009; Rachman, Toufexis, Murphy & Storch, 2009).

It is important to note that prevalence rates may be grossly underestimated, as those with the disorder typically hide their affliction out of shame (White Kress, Kelly & McCormick, 2004). Furthermore, gender discrepancy may be better accounted for by the greater social acceptance of male baldness and compensatory measures (e.g., shaving of the head, wearing hats) compared to women (Kress et al., 2004; APA, 2000). Thus, males may engage in hair pulling without seeking treatment because they can more readily hide any areas of baldness, and as they do not seek treatment, they are often not included in prevalence estimates. Additionally, it may be the case that hair pulling males do not experience as much clinically significant distress or impairment as a result of compensatory measures—it follows that treatment would not be sought if the problem is not upsetting to the individual.

Another factor that may artificially lower prevalence rates are the diagnostic criteria for the disorder. The DSM-V task force is currently considering whether or not to include the criterion addressing an “increasing tension” immediately prior to pulling the hair, as it has been reported that clinically significant hair pulling frequently exists without such premonitory tension (APA, 2010; Stein et al., 2010). In fact, research has shown as many as 20% of individuals with significant hair pulling do not report tension before pulling or relief afterwards (Christenson & Mansueto, 1999).

## History

One may encounter the phenomenon of hair pulling in such ancient texts as the Bible, wherein Ezra speaks of pulling hair from his head and beard out of frustration (Ezra 9:3). In classic works such as Shakespeare's *Troilus and Cressida* and Homer's *The Iliad*, protagonists tear out hair in fear, anger and sadness (Christenson & Mansueto, 1999). Such hair pulling was meant to convey extreme emotional reactions—centuries ago, it had been identified as maladaptive and outside the realm of normative behavior.

Trichophagia (i.e., eating of hair) appeared in medical texts prior to TTM, with French physician Baudamant's late 18<sup>th</sup> century publication of a case study on a 16-year old boy (Chamberlain et al., 2009). TTM was first identified and described as a medical disorder in 1889 by a French dermatologist, Francois Hallopeau, who called it “hair pulling insanity” (i.e., Trichotillomania) (Hallopeau, 1889, as cited in Chamberlain et al., 2009). Hallopeau believed that this hair pulling was secondary to pruritus (i.e., itch). From approximately 1889 to 1950, cases of TTM were not described in psychological literature—rather, the dermatological community addressed the disorder (White Kress et al., 2004).

In 1987, TTM officially entered the diagnostic nomenclature with the publication of the revised third edition of the DSM (DSM-III-R) under the category “Impulse Control Disorder Not Elsewhere Classified” (Chamberlain et al., 2009; Christenson & Mansueto, 1999; APA, 1987). It has remained in this category throughout future revisions of the DSM, with relatively few changes in specific diagnostic criteria. However, we may see re-classification of TTM under the

category “Anxiety and Obsessive-Compulsive Spectrum Disorders” with the publication of DSM-V (APA, 2010).

It is worth noting that hair pulling has existed and continues to exist as a culturally embedded phenomenon. For example, those who practice the ancient Indian religion of Jainism have historically pulled hair from their heads to prove their detachment from pain (Stein et al., 1999). Furthermore, certain cultures include hair removal in important rituals, such as mourning practices or to denote marriage consummation (Damodaran, Jayalekshmi, & Khanna, 1995; Stein, O’Sullivan & Hollander, 1999). Current western ideals of beauty lead many women to pluck, wax or shave hair from the eyebrows, chin, lip, legs, pubic region and underarms. Yet, these types of hair pulling/removal occur in a systematic and scheduled fashion. The hair-pulling is a means to an end, and is completed in a purposeful fashion with the desired result of less hair. This is to be distinguished from TTM, in that most compulsive hair-pullers pull sporadically and often outside of awareness, and find the resultant bald spots shameful and embarrassing. Thus, hair-pulling has existed and continues to exist as a normative manifestation of cultural values, a means of expressing psychological distress, and a more problematic and chronic psychological condition.

### **Theoretical Models of the Etiology TTM**

**Psychoanalytic/Psychodynamic.** Psychoanalytic theories of TTM have posited that the symptom of hair pulling relates to problems in psychosexual development (Minichiello et al., 1994). It may result from unresolved issues during the anal phase, in which infantile rage is

repressed when omnipotent wishes may not be granted. This leads to later personality characteristics of perfectionism and rigidity and inability to confront anger directly, which in turn is accompanied by the use of hair pulling to redirect emotional energy from the true heart of the anger (Koblenzer, 1999). The pulling of hair can be used as unconscious retribution for a punitive or punishing caregiver as well as a means of punishing the self for having such rage (Koblenzer, 1999).

**Biological.** The majority of research concerning the neuropathology of TTM has focused on brain structures and the serotonergic and dopaminergic neurochemical systems, as they are most often implicated in impulsive behaviors (Kavoussi & Coccaro, 1996). However, very few studies have explicitly examined the neuropathology of trichotillomania rather than the psychopharmacological treatments. Those that have examined the neuropathology lend credence to the hypothesis that that dopaminergic and serotonergic systems are involved in hair-pulling, as well as striatal circuits which link to the cerebellum and the cerebral cortex (Stein, O'Sullivan & Hollander, 1999).

It may be the case that the brains of those with TTM are structurally distinct from those who do not engage in hair-pulling. Research using morphometric magnetic resonance imaging has shown lower volumes in the left putamen of women with TTM than controls, which has also been shown to occur in those with Tourette's disorder but not OCD (O'Sullivan et al., 1997). In addition, research has shown that increased glucose metabolic rates in both the right and left cerebellum in those with TTM (Swedo et al., 1991).

The serotonergic system has been shown to be involved in repetitive motoric behaviors, grooming behaviors in animals, and other disorders in which repetitive behaviors occur (e.g., OCD) (Stein, O'Sullivan & Hollander, 1999). Research has shown that reduced levels of the major serotonin metabolite 5-hydroxyindoleacetic acid (5-HIAA) correlate with increased impulsive aggression in both animal and human studies (Kavoussi & Coccaro, 1996). However, others have found the opposite to be true. For example, Virkkunen and colleagues (1987) examined the CSF 5-HIAA concentrations in a group of impulsive fire setters, violent offenders and control subjects. They found elevated levels in the arsonist group but not other criminals or controls. While aggression and hair-pulling may appear largely dissimilar behaviors, it is the impulsivity tied to the two which makes comparisons germane.

It appears that dopamine may also play a role in TTM, as it has been tied to grooming behaviors in animals as well as the repetitive tics accompanying Tourette's disorder (Stein, O'Sullivan, & Hollander, 1999). Furthermore, the use of dopamine-blocking neuroleptics in addition to SSRIs has shown promise in alleviating symptoms for patients with TTM (Stein & Hollander, 1992). Finally, while not yet researched thoroughly, hair-pulling has been associated with gonadal hormones, iron deficiency and opiate involvement (Stein, O'Sullivan, & Hollander, 1999).

**Behavioral/Cognitive-Behavioral.** According to Azrin & Nunn (1973), TTM may develop through a process of operant and classical conditioning. As a response to stress, an individual pulls the hair, which results in negative reinforcement through the reduction or

elimination of tension. As the strategy functions effectively in the moment to eliminate the tension and urge to pull, it is more likely to recur. A large number of individuals with TTM report that an urge or impulse precedes the act of pulling. This urge or impulse can become associated with a variety of affective and environmental stimuli, which then serve as conditioned stimuli more likely to elicit an urge to pull (Mansueto et al., 1997). To illustrate, consider the following scenario: Sally, an undergraduate student, becomes anxious as an upcoming exam approaches, so she utilizes hair pulling as a form of stress relief. This particular pattern of pulling occurs when she worries about the exam, which is typically when she begins studying. After repeated instances of pulling while studying, the unconditioned stimuli of the library study carol and the act of reading become conditioned stimuli that begin to elicit urges without the presence of worry over an exam. Mansueto and colleagues (1997) subdivide cues as internal and external. In the previous example, internal cues to pull would include anxiety or worry (i.e., affective state). Other internal cues may consist of sensations, such as tingling, the coarse texture of a specific hair, or the sight of a curly or split hair. External cues consist of both settings and implements—in the case of Sally, the library is a setting likely to cue pulling, as it has come to be associated with anxiety and studying. Implements are items used to facilitate pulling (e.g., tweezers, mirrors). Classical conditioning leads the implements to elicit the urge to pull through repeated pairing with the act of pulling.

Recently, researchers have begun to focus on hair pulling as a means of experiential avoidance, a key component of what leads to pathology according to numerous behavior therapists (Hayes, Strosahl & Wilson, 1999; Williams et al., 2007; Woods & Twohig, 2008).

Pathology and suffering is thought to result from one's struggle against the experience of pain. Individuals pull hair in a faulty attempt to rid themselves of painful internal experiences such as sadness or anger. Such efforts are futile, as one cannot control his or her thoughts—rather, one may only control actions. Thus, hair pulling is perpetuated from a false sense of controllability. This is sought to be broken via behavioral interventions and cognitive defusion, which seeks to teach an individual a different way of relating to verbal thoughts, such that they are merely to be experienced, rather than taken literally or acted upon without question (Woods & Twohig, 2008).

## **Treatments**

**Pharmacotherapy.** A great variety of medications have been tested for the treatment of TTM. The current pharmacological treatments of choice for TTM are clomipramine, a tricyclic antidepressant also typically used to treat OCD (Swedo et al., 1989; Woods & Twohig, 2008; Chamberlain et al., 2007), and selective serotonin reuptake inhibitors (SSRIs), particularly Fluoxetine (Christenson et al., 1991; Streichenwein & Thornby, 1995; van Minnen et al., 2003). A variety of other medications, including opioid agonists and neuroleptics, have been tested for use as well.

In a double-blind crossover trial of clomipramine and desipramine (another tricyclic antidepressant), Swedo and colleagues (1989) found that after five weeks using the former, women with TTM reported less intense urges to pull and a greater ability to resist urges. Furthermore, treatment with clomipramine resulted in lower levels of symptom severity and impairment than desipramine. As with many preliminary investigations, this study was not

without limitations, the most noteworthy of which being both the small sample size (n=13) and the lack of a placebo control.

Another study compared clomipramine and fluoxetine, an SSRI commonly used to treat OCD (Pigott et al., 1992, as cited by O'Sullivan, Christenson & Stein, 1999). The two medicines both produced more favorable outcomes than pill placebo. While this study utilized a placebo control, it still consisted of only 12 subjects.

Despite the favorable outcomes represented in the work of Pigott and colleagues (1992), little additional support has been found for the use of fluoxetine. Christenson and colleagues (1991) performed a study of up to 80mg/day of fluoxetine. Participants were administered either fluoxetine or pill placebo for six weeks, then spent five weeks without medication, then switched to six weeks in the other condition. Fluoxetine was found to be no different than pill placebo in reducing urges, pulling episodes, or amount of hair pulled. Streichenwein and Thornby (1995) sought to replicate Christenson and colleagues (1991). Despite a lengthened duration of treatment, fluoxetine again did not significantly differ from placebo.

Promising results have recently emerged from a single case-study in support of the use of an atypical neuroleptic, aripiprazole, in the treatment of TTM (Jefferys & Burrows, 2008). The patient had a 19-year history of TTM, with past treatments including tricyclic antidepressants and SSRIs, as well as hypnosis and behavior therapy. Mary had been taking 16 mg of reboxetine for depression for three months when she began taking 15 mg of aripiprazole. After 10 days of this augmentative therapy, she experienced a significant lessening in hair-pulling and cessation



after three weeks. The authors report that the lack of hair-pulling has been maintained for two years after the cessation of reboxetine.

Another up-and-coming psychopharmacological option for the treatment of TTM is the opioid antagonist naltrexone. Christenson and colleagues (1994) examined the effects of 50 mg/day of naltrexone compared to a placebo with promising results. Of the seven participants in the naltrexone group, four experienced a statistically significant improvement in self-reported symptoms. In a more recent open-label pilot study, De Sousa (2008) included 14 children with childhood-onset TTM who were not taking any other medications. Children began week one on 25 mg/day of Naltrexone, which was increased to a maximum of 100 mg as needed. The children exhibited significant improvement in both hair pulling frequency and intensity of the urge to pull.

**Hypnotherapy.** Individuals undergoing hypnotherapy for TTM are asked to close their eyes, relax, and picture a favorite place while engaging in progressive relaxation. Such individuals are then subject to therapeutic suggestion, utilized to increase pain susceptibility (as a deterrent from pulling), increase the ability to fight pulling urges, and increase awareness of pulling (Diefenbach, Reitman & Williamson, 2000; Kress, Kelly & McCormick, 2004). Researchers have suggested that hypnotherapy be tested as an awareness-enhancing measure in conjunction with behavioral interventions such as habit reversal training (Elliott & Fuqua, 2000). While Barabasz (1987) successfully eliminated hair pulling at 12-month follow up through the use of hypnotherapy, replication is necessary, due to the small sample size of four adults.

**Behavioral/Cognitive-Behavioral Therapies.** Both behavioral and cognitive-behavioral therapies have been utilized in the treatment of TTM. Rachman and colleagues (2009) report successfully implementing classic behavioral interventions with a young child. Antecedent-Behavior-Consequence (ABC) data collection was utilized to determine possible reinforcers of hair pulling behavior. Differential reinforcement of other behaviors was utilized to increase the occurrence of pulling-free intervals. The authors instructed the child's mother to utilize modeling (i.e., discarding clumps of hair found around the house while saying "yucky!") and positive reinforcement (i.e., praise when the child threw out hair before putting to her mouth) to eliminate trichophagia.

Habit reversal training (HRT) has recently gained increasing attention in the treatment of TTM (Franklin & Tolin, 2007; Woods & Twohig, 2008), although it has existed for decades (Azrin & Nunn, 1973). HRT consists of several techniques utilized to decrease hair pulling (Minichiello et al., 1994). Like most behavioral interventions, self-monitoring is implemented first to gather information on possible precursors, reinforcing consequences, and patterns. To increase motivation, the client and therapist work to identify the ways in which pulling impacts quality of life. Relaxation training is typically used, as stress typically exacerbates most habits and tics (e.g., hair pulling, tics, nail biting). The therapist utilizes awareness training to decrease the occurrence of automatic (i.e., outside of awareness) hair pulling, as one may not prevent an action that one does not know s/he has performed. During this process, the client and therapist will repeatedly narrate the precise series of events, from the premonitory urge to the post-pulling behaviors, in exquisite detail. In competing response training, an individual repeatedly learns to

perform a behavior that is physically incompatible with hair pulling (e.g., holding hands in fists at side, folding hands in lap). This behavior must be both inconspicuous and easy to do, as it will be held for a few minutes each time an individual finds himself/herself about to pull.

Himle and colleagues (2008) have tested a prototype device to enhance awareness of pulling and ensure accurate self-monitoring. While not intended to be used as a standalone treatment, it shows promise in making habit-reversal training more effective. Hair-pullers wear a magnetic watch, bracelet and necklace, as well as a pager. The pager vibrates whenever the hand rises towards the head. The women pulled from their scalps less when observed wearing the device than when not wearing the device.

Woods and Twohig (2008) have created an empirically supported treatment manual consisting of HRT, stimulus control, and principles from acceptance and commitment therapy (ACT). Stimulus control procedures are implemented to make pulling more difficult and/or more effortful. For example, if self-monitoring reveals that an individual most often pulls when reading and resting an arm on the side of the couch, an intervention would be sitting in the middle of the couch while holding the book with both hands. In addition, hair-pullers may wear various articles of clothing and adornment to make pulling more difficult (e.g., gloves) or to draw attention to the pulling (e.g., a bracelet with bell charms). The treatment manual is “ACT-enhanced” in that it offers sessions devoted to values clarification, the futility of thought-control, and cognitive defusion. ACT-enhanced behavior therapy has been shown to decrease pulling severity and impairment compared to a wait-list control (Woods, Wetterneck, & Flessner, 2006).

## **Deleterious Effects of TTM**

**Trichobezoars.** Trichophagia (i.e., the ingestion of the pulled hairs) can cause significant medical difficulties via the formation of trichobezoars (i.e., balls of hair). While more than half of those with TTM engage in oral behaviors after pulling hair (e.g., running bulb along lips, hair chewing), between 5% and 18% engage in Trichophagia (Christenson & Mansueto, 1999). Often, individuals with trichobezoars may complain of nausea, vomiting, weight-loss and weakness (Bouwer & Stein, 1998). These bezoars can result in anemia, hematemesis, bowel obstruction, and bowel perforation (APA, 2000). Furthermore, they may lead to complications such as nutritional deficiencies, pancreatitis, and obstructive jaundice (Bouwer & Stein, 1998). Trichobezoars of great mass have been referred to as “Rapunzel syndrome,” with extension from the interior stomach cavity to the ileocecal valve, a sphincter located at the intersection of the small and large intestine (Christenson & Mansueto, 1999; Vaughan et al., 1968). While the masses are typically removed successfully via surgery, left untreated, they often lead to death (DeBakey & Ochsner, 1939).

**Social, Emotional, and Occupational Ramifications.** Individuals with TTM avoid numerous activities because they dread others discovering their secret. Those with TTM will decline invitations to pool parties and the beach, missing opportunities for social interaction and bonding for fear their secret being revealed. Elaborate hairstyles, hats, bandanas and wigs will likely cease to serve as camouflage upon entering the water. In addition, individuals may avoid leaving the house on windy days or visiting a hair dresser for similar reasons, attempting to

circumvent questions that would lead to embarrassment and shame (Woods et al., 2006).

Individuals who pull from the crown of their head may even end friendships or relationships with those taller than themselves—a particularly isolating strategy for young women of short stature.

TTM affects the occupational lives of hair pullers as well—research has found an estimated 73,000 adults may have ended their employment due to the condition and close to a million work days are missed each year (Woods et al., 2006).

**Quality of Life.** As TTM may significantly impact one's physical health, self-esteem, relationships, and academic/occupational functioning, one may clearly assert that it has serious implications for individuals' quality of life (QOL). QOL may be defined as one's overall well-being and life satisfaction. In this regard, QOL may be influenced in myriad ways, with each individual experiencing the same symptoms as affecting their QOL differently. Consider, for instance, an individual with carpal tunnel syndrome. As most people use their hands daily, such an ailment would certainly impact one's well-being to some degree. However, a professional pianist would undoubtedly experience greater QOL impairment from the syndrome than a radio DJ, who relies predominantly upon the voice. Thus, in the study of QOL, it would appear beneficial to allow individuals flexibility in reporting interference, as degree and type of impairment proves idiosyncratic.

Keuthen and colleagues (2004) sought to investigate quality of life and impairment in relation to trichotillomania, using two measures of quality of life (i.e., Medical Outcomes Study 36-Item Short Form Health Survey, Quality of Life, Enjoyment, and Satisfaction Questionnaire)

and two measures of TTM severity (i.e., Psychiatric Institute Trichotillomania Scale (PITS), Massachusetts General Hospital Hairpulling Scale (MGHHPS). They found that, while the PITS predicted QOL stronger than depression or anxiety in participants, neither QOL measurement could distinguish between normal controls and those with TTM. The authors called for the development of a quality of life measure specifically tailored to the unique challenges of those with TTM. This indeed would have much clinical utility, as a symptom is problematic to individuals because it causes distress and interference. Treatment providers would be well served to monitor treatment outcome in terms of both symptom reduction and quality of life improvement, as gains in the former may be considered more or less irrelevant without gains in the latter.

In developing a QOL instrument specific to TTM, Rat and colleagues' (2007) comparative research on item generation methods provides guidance. The authors compared individual semi-structured and cognitive interviews with patients, individual interviews with health professionals, and focus groups of patients and professionals. These various methods were utilized in the development of a QOL instrument for individuals with lower-limb osteoarthritis. After items were selected and the questionnaire was constructed through expert and statistical analysis, the authors found that all items produced during the instrument development and all items ultimately included were identified by individual interviews. That is, there was no additional benefit from individual interviews with experts or focus groups. Professionals did not identify any areas of QOL disturbance not addressed by the patients themselves, and they often omitted areas concerned with day-to-day life (e.g., dressing, showering).

## **Summary**

It is clear from the research that TTM affects many women in profound ways. TTM or clinically significant hair pulling affects as many as 3 in 10 individuals in their lifetime, with women reporting difficulty far more often than men. These women suffer from shame, embarrassment, loneliness, loss of income, and avoidance of leisure activities due to an inability to consistently resist the urge to pull hair. TTM is unique compared to other psychological disorders in its noticeable physical impact, its relative unfamiliarity within the general public, and acknowledged positive reinforcement of a behavior that proves punishing. Given its unique status and wide-ranging impact, it behooves practitioners to be knowledgeable on the myriad ways in which these women suffer. Furthermore, given that generic quality of life measurements appear inadequate in distinguishing QOL compromises, research must seek to inform the development of tailored inventories.

## **Dissertation Goal**

The goal of the proposed study is to explore how TTM impacts women's lives in a systematic and detailed manner, allowing participants to elaborate on the idiosyncratic ways in which hair pulling affects them across multiple domains. It will specifically allow for the exploration of positive, negative and neutral effects of pulling through multiple modes of inquiry (i.e., online survey completion and semi-structured interview). Future investigations may utilize this data to develop a quality of life measure specific to TTM for use as a measure of treatment efficacy over time.

## CHAPTER II: METHODOLOGY

### Participants

Participants were recruited through flyers (see Appendix A), word of mouth, referrals by local mental health professionals and via the Trichotillomania Learning Center's recommended support groups and hair salons. Support groups and hair salon owners were contacted by the principle investigator via telephone or e-mail. Those who agreed to aid in the recruitment process were sent flyers to post in their places of business. To be included in the study, participants could not: (a) be under the age of 18, (b) be unable to speak or write English proficiently enough to participate, (c) be unwilling to provide informed consent, (d) have symptoms better accounted for by another psychological disorder (e.g., as an OCD compulsion, in response to a hallucination) or a medical condition (e.g., dermatological condition). For the purposes of the current study, English proficiency was judged on the basis of ease of communication between the principle investigator and participant. Thus, one woman who responded to advertisements was unable to be included in the study, due to her difficulty understanding the statements of the principle investigator, and vice versa.

Participants consisted of 14 adult women with a mean age of 22.93 ( $SD = 4.81$ ) able to write and speak fluent English, with self-described problematic hair pulling behaviors. Thirteen participants were single, with only one woman married and none separated or divorced. The



participants were Caucasian (n = 9), Korean (n = 2), Asian Indian (n = 2) and Hispanic (n = 1). Eleven women were students, with nine undergraduates and two graduate students. In addition, two women worked in the performing arts field and one described herself as a research coordinator.

Fifteen women completed the initial phone screen. One woman did not have access to a computer and was unable to complete the online survey utilizing her smart phone. She requested a hardcopy version of the survey, and although one was provided it was never returned. Thus, a total of 14 women completed the online questionnaires. All women who completed the online questionnaire indicated that they were willing to be contacted for the follow-up telephone interview. Each participant was contacted to schedule the interview, and if a call was not returned within 2 weeks, another phone message was left. In cases in which interviews were scheduled and then rescheduled, more than two total phone calls were allowed, but only two unreturned calls in a row. These phone contact methods were implemented to protect participants from feeling coerced to participate. Recruitment of new participants ended when no further contacts were received in a four week period. Additionally, for those participants who did meet initial inclusion criteria save for agreeing to arrange a mutually convenient time for the final telephone interview, June 1, 2011, was used as the completion date for this study. Ultimately, eight of 14 women (57.1%) completed the telephone interview.

## Overall Procedure

Upon contacting the principal investigator (PI), individuals completed a brief telephone screen of approximately 10 minutes, which was used to gather demographic information and to determine if eligibility requirements were met. Participants were informed as to the purpose and requirements of the study during this phone conversation. If requirements were met, the participants were given the web address and password to complete the SurveyMonkey online survey of TTM symptoms, pulling-related interference, anxiety, depression, and quality of life. They were given an assigned identification number, such that all online responses did not include identifying information. Demographic information with the corresponding code was kept in a locked filing cabinet by the PI. Participants provided verbal informed assent via telephone and informed consent (see Appendices B and C) via the online survey before answering any additional questions. After the interviews were completed and the data collection ended, a random drawing was held to determine which participant received the Amazon.com gift card for participation. All participants were notified via telephone or e-mail (whichever is the preferred contact method) as to the results of the drawing (i.e., whether or not they won). This notification was made at the end of the data collection period, in June 2011. Regardless of participation in the telephone interview, all women who participated in the online survey received a \$5 gift card to their choice of Target or Starbucks.

At the end of the survey, the participants indicated whether they were willing to be contacted by the PI for a telephone interview in order to gather further qualitative information on

how hair pulling impacts the quality of their lives. If participants indicated yes, they were prompted to provide the best days of the week and times to be contacted. The PI then contacted each individual promptly to complete an unstructured quality of life interview guided by individual survey responses. After the first interview, responses were continuously utilized and combined with available online data to create idiosyncratic domains of inquiry (e.g., social, emotional, occupational). This continuously developed semi-structured interview was utilized with all participants.

### Quantitative Analyses

Descriptive statistics examined the frequency with which individuals with clinically significant hair pulling endorsed elevated symptoms of depression and anxiety, as well as which domains of their lives suffer from interference.

Pearson correlations examined the relationship between QOL and TTM severity, symptoms of depression and symptoms of anxiety. Because of the exploratory nature of the current study, seeking to identify any domain or item to be included when developing a TTM-specific QOL measurement, it is desirable to decrease the chance of type II error, which thus results in an increase of type I error. As such, prospective power analysis indicates that at least 22 subjects be included for 80% power to detect a large effect using the  $\alpha = .10$  level of significance (Cohen, 1992). Ultimately, due to pragmatic considerations of time and participant availability, a total of 14 participants completed the online survey. The lower sample size consequently lowers

the likelihood of detecting group differences and significant correlations. Thus, quantitative results should be interpreted with caution.

### Qualitative Analysis

Data gleaned through telephone interviews were analyzed via grounded theory, which was first developed by Glaser and Strauss in 1967. This particular branch of qualitative research methodology was deemed most relevant in that it seeks to allow the researcher to discover theoretical concepts “grounded in data” (p. 59) and to learn directly from the experience of a participant to elucidate phenomena (Richards & Morse, 2007). McCracken (1988) notes the importance of developing a series of prompts rather than utilizing unstructured active listening in order to prevent the interviewer from inadvertently steering the conversation into areas he or she prefers. Prompts thus help to ensure a greater degree of uniformity in the areas explored across interviews. Thus, while initial interviews were completed using open-ended prompts developed from the information provided from the surveys, future interviews were shaped by the information provided within previous interviews.

Interview data was recorded via a computer word processing program. Because interviews were completed over the phone, a traditional digital recorder could not be used to record audio transcripts. The interviewer simultaneously conducted the telephone interview while typing the conversation, much like a court reporter. The first step in the treatment of the transcripts consisted of “open coding,” in which each interview was read systematically, with each meaningful segment being identified and named (Charmaz, 2008; Hawker & Kerr, 2007).

Line-by-line coding at this stage proves crucial, as it protects against drawing presumptive or incorrect assumptions from large segments of data and reduces the chance that the researcher will allow his or her beliefs to taint the data (Charmaz, 2008).

After the completion of this topical coding, focused coding allows for the synthesis and integration of the most relevant codes to best explain the data (Charmaz, 2008). These focused codes facilitate the next stage of analysis, known as axial coding. During this phase, the researcher seeks to discover and hypothesize the relationships between categories and/or subcategories (Charmaz, 2008; Hawker & Kerr, 2007). Axial coding, while common to grounded theory, may begin to obfuscate the data if completed in an overly technical manner. Thus, axial coding in this study is approached as a “careful comparison” method (Charmaz, 2008).

The final stage of analysis involves selective coding, in which codes are used to generate conceptual categories. The researcher conceptually defines the data and analyzes them narratively (Charmaz, 2008). While memo writing occurs throughout the data analysis process, in which ideas and concepts are recorded as they occur, it becomes most crucial when defining categories. Memo entries during this process may include: a) explanations of the categories’ properties, b) categories’ relationships with other categories, c) conditions pertaining to the existence of the categories, d) the consequences of the categories.

It is typical of most grounded theorists to engage in theoretical sampling, in which early findings shape what participants are sought for further interviews. For example, if interesting findings arise regarding married women, additional married participants would be recruited to

inform the emerging theory. However, given the relatively small number of women who responded to attempts to complete the follow-up interview, it was deemed impractical to engage in theoretical sampling for the current study.

## Measures

### **Demographics Survey and Phone Screen**

Each participant completed a demographics survey via telephone with the PI. The survey inquired about participants' age, sex, date of birth, racial/ethnic background, and contact information. It also inquired as to current symptomatology (see Appendix B)

### **Psychiatric Institute Trichotillomania Scale (PITS)**

The PITS (Winchel et al., 1992) is an instrument intended to rate the severity of Trichotillomania via a semi-structured interview. For the purposes of the current study, the PITS was adapted to a multiple choice/short answer self-report measure. Queries for additional information are included with text boxes for essay responses. The PITS is a widely-used measure in the study of TTM (Keuthen et al., 2004).

*Beck Depression Inventory (BDI).* The BDI (Beck et al., 1961) is a reliable and valid self report inventory that measures symptoms of depression in adolescents and adults.

### **State-Trait Anxiety Inventory for Adults (STAI)**

The STAI (Spielberger, 1983) is a 40-item self-report inventory that measures symptoms of both temporary and long-standing anxiety. It has been widely used and is considered reliable and valid.

### **Massachusetts General Hospital Hairpulling Scale (MGHHPS)**

The MGHHPS (Keuthen et al., 1995) is a reliable and valid, 7-item self-report instrument intended to measure hair-pulling severity (O'Sullivan et al., 1995).

### **Quality of Life Enjoyment and Satisfaction Questionnaire-Short Form (Q-LES-Q-SF)**

The Q-LES-Q-SF (Endicott, Nee, Harrison, & Blumenthal, 1993) is a reliable and valid 16-item self-report inventory intended to measure quality of life over the past week. In its original form, the Q-LES-Q consists of 93 items, which was deemed too lengthy for participants to complete for the current study.

## CHAPTER III

### Quantitative Results

#### **Reliability**

As would be expected from the implementation of previously validated instruments, Cronbach's alpha indicated high internal reliability on all measures. This was particularly of importance with regard to the PITS, as it is traditionally completed via a clinical interview rather than self report. However, the PITS maintained reliability at Cronbach's  $\alpha = .84$ . The MGHHPs also maintained adequate reliability, at Cronbach's  $\alpha = .80$ . Measures of depression (BDI) and anxiety (STAI) additionally proved reliable, with Cronbach's  $\alpha = .86$  and  $.95$ , respectively. A measure of quality of life (Q-LES-Q-SF) demonstrated reliability at Cronbach's  $\alpha = .91$ .

#### **Independent Samples T-tests**

Because 6 of the 14 participants who completed the online questionnaire did not complete the follow-up interview for inclusion in qualitative analysis, their data are excluded from all subsequent quantitative analyses. It is noteworthy that independent samples t-tests found that those who completed the interview did not significantly differ from those who did not on total scores for all inventories (see Table 1).

#### **Correlations**



Zero-order correlations examined the relationships between QOL, TTM, anxiety and depression among those who completed the entire study (See Table 2 for list of correlations). Mean scores are reported in Table 3. Overall, measures of TTM severity did not significantly correlate with established measures of QOL, depression or anxiety in the current sample. Specifically, TTM severity as measured by the MGHHPs did not significantly correlate with scores on the BDI, STAI or Q-LES-Q-SF,  $r(6) = -.24$ , NS;  $r(4) = -.26$ , NS;  $r(3) = .72$ , NS. Similarly, TTM severity as measured by the PITS also did not significantly correlate with the measures of depression, anxiety and quality of life,  $r(6) = -.15$ , NS;  $r(4) = -.16$ , NS;  $r(3) = .55$ , NS. As would be expected, the PITS and the MGHHPs were related,  $r(6) = .77$ ,  $p = .02$ .

Unsurprisingly, QOL negatively correlated with anxiety ( $r(2) = -.96$ ,  $p = .036$ ) and depression ( $r(3) = -.99$ ,  $p = .001$ ). Also, depression and anxiety demonstrated a strong relationship,  $r(4) = .96$ ,  $p = .002$ .

## CHAPTER IV

### Qualitative Results

Interviews with eight women revealed a number of conceptual categories regarding how TTM impacts their lives, both positively and negatively. These categories include shame and secrecy, appearance, relationships and trust, perceived benefits, and acceptance. These categories are further broken down into subcategories for the interest of clarity.

#### **Shame and Secrecy**

Each woman interviewed described the concepts of shame and secrecy to varying degrees. These women used terms such as “embarrassment,” “low self-esteem,” and “self-consciousness” to describe their experience of shame, some further discussing sentiments of guilt, self-blame, disgust, and being “weird.” Shame appears central to the distress associated with hair pulling. As one woman states, “If you didn’t have the shame, it would be much easier. It would be a big part of getting over it.” Interestingly, a number of women discussed the social construction of shame, in that feelings of embarrassment did not exist related to the pulling until others in their lives made negative comments about the behavior and its ramifications. In addition, these women recounted varying methodologies of keeping their pulling behaviors secret from others, from avoiding others or activities, to utilizing various “tools” to disguise bald spots or thinning hair.

**Hiding and Disguising.** Women noted mild to significant interference in their lives due to varying levels of avoidance. Two participants employed in performing arts particularly described avoiding auditions or roles due to the physical evidence of their hair pulling. A 32-year old dancer states, “It does affect being a dancer—sometimes I won’t go to certain auditions because they ask for hair being let out during the audition...certain jobs I couldn’t apply to, but at other jobs it doesn’t affect me.” She further notes that she avoids leaving the house when she feels “too lazy to cover up [her] hair properly,” and will not shower with others. A 32-year old actress who pulls from her eyelashes and eyebrows notes, “I do acting sometimes, and sometimes when I feel like I have no facial hair I won’t audition for things; I feel like it’s a waste of time.” She further avoids any activity associated with sweating, water, or facial contact with others.

Taking measures to hide or disguise both the act of pulling and the subsequent hair loss appears to take a noteworthy toll on these women’s lives. They note styling their hair in various ways to hide bald spots or thinning hair, including strategically pinning segments of hair, using “hair powder” to cover balding areas, wearing hair extensions, ponytails, bandanas, hats and scarves. In addition, these women note the use of eyeliner on brows and lashes to feign the appearance of fullness, while one woman describes wearing her glasses when sleeping to help hide brow loss from her boyfriends.

A 22-year old single woman describes the particular difficulties encountered living in an “insular religious community.” She states, “I’m an Orthodox Jew, so the only people who cover

their hair are those who are married. If I wear a scarf outside, they'll think I'm married." She further describes that "people are always gonna be around" in her community, and as such, she feels it is impossible to hide. While she does not avoid activities due to her hair pulling, she notes, "I avoid being emotionally intimate with people because I do not want to have to tell them about my hair pulling out of a sense of embarrassment and a fear that they will reject me or make fun of me once they know." Thus, this particular woman experiences a strong desire to hide from others without the means to do so, and compensates by avoiding intimacy.

The issue of hiding relates not only to the act of concealment, but also to a sentiment of being disingenuous. One woman notes discomfort with being untruthful to friends and family, "I always have the feeling I'm hiding something, not being completely honest about who I am and what I do, so it's not a totally normal life...it's a part of me that's also a secret to the world, that only very few people in my life know about, so in that sense it's not completely normal."

**Confidence and Self-Image.** Of the eight women interviewed, six mentioned the word "weird" to describe their hair pulling and/or themselves. Several described their self-confidence and their pulling as interrelated, influencing each other in a circular fashion. As stated by one undergraduate student, "...low self esteem leads to more anxiety which leads to pulling to break the cycle to get out of it." This woman envisions a life without pulling as one in which "it would be easier to function...I'd be like a healthier human being, mentally, and I'd have higher self-esteem. [I] wouldn't mind so much what other people thought of me." As one woman notes, "I

think [my self-esteem] is a little lower—if I were to think about my hair pulling, then I feel less confident.”

Another common theme in self-image appears to be guilt and self-directed anger regarding a perceived lack of control over the behavior. A 19-year old describes her disappointment in herself following a pulling episode after a long period without pulling, stating, “I went so long, then I broke.” Another young woman states, “[It] makes me angry, makes me frustrated, makes me sad, makes me feel like I don’t have control over my situation in life, over something very simple like having hair on my head.” A 30-year old who experiences little interference and distress from her hair pulling nevertheless notes, “I feel like it’s something I’d like to be in control of—I don’t want it to lead me.”

A 21-year old student describes a recent pulling episode:

“I was studying for a final and then I don’t know why but I started pulling really excessively. I’d finish, look down, and see hair on every page of my book and on the floor. I was disgusted, [thinking], “What’s wrong with me? Why am I doing this?” I was very surprised with myself. I was really shocked.”

The women interviewed offered a wide-range of responses when asked for their ideas on what personal attributes most hair-pullers share. Several believed hair-pullers tended to be “perfectionistic” or “type-A personalities.” In addition, many felt that the experience of being a woman who hair-pulls leads to a more empathic, understanding and sensitive demeanor.

## **Social Construction of Shame**

Seven of the eight women interviewed described some form of avoidance, whether it be missing social activities or using methods to hide or disguise hair loss, in order to reduce the likelihood of others noticing their hair pulling and its effects. Of these, four particularly described the impact of others' attitudes and behavior and their feelings of shame and embarrassment related to hair pulling. It appears that for these women, shame partially or fully arose secondary to the reactions of others, through negative comments and bullying.

A student describes how she saw her hair pulling as out of the ordinary, but not necessarily "bad" until others, including her roommate and mother, began commenting on the behavior. She states, "After I started getting this negative feedback, I felt 'this looks really ugly, I should stop.' Especially after my mom and parents giving me all that feedback, I started really thinking it was bad." She states that her mother was "very upset" to learn of her pulling, asking, "You're a girl, why are you doing that to yourself?" Her experience at hair salons further solidified her belief in her habit as "bad." She states, "I went to the hair salon people...they would try to style my hair, cut my hair, and they'd be like, 'what happened here?' so they're very shocked that I have a bald spot...At first I thought it wasn't a big deal, but after 3-4 being shocked, I feel really self-conscious. When I do go, the first thing I say is, 'I know it looks bad, I'm trying to cover it, ha ha ha.' I try to laugh it off."

A 19-year old also describes her hairdressers and mother as having strongly impacted her shame and embarrassment regarding hair pulling. She notes that her parents' lack of

understanding regarding the difficulty of stopping the pulling has lead them to yell at her and feel disappointed in her. She remembers a particularly upsetting incident in which she went to a salon to have her hair styled for prom. “I went to get my hair done for prom, and I asked for a simple curl, but the way she curled it, she kind of like messed it up, and she had all my short pieces sticking up. It just looked like a mess because of certain pieces. At one point I had three hairdressers standing in front of me. I feel terrible and my mom is like, ‘Oh...if you didn’t pull your hair it wouldn’t be like that.’ I start crying...I was late for prom.” She states that many peers see her pull and ask, “What the hell do you think you’re doing?”

Another two women report a particularly difficult childhood due to their hair pulling. A 32-year old woman recounts being teased by students and teachers alike. She states that she experienced “a lot of self-esteem problems growing up” due to being “bullied a lot for it.” Teachers would make fun of her, gossip, and call her names. She states “It’d get back to me later. It made all the other students think they could do anything they wanted to me. It was really awful.” She notes, “I did complain a few times and I got blamed for it as well. Even my father had to stand up for me. They were making my adolescence so much more miserable that it already was with the hair pulling and puberty.”

Another woman states that, as a child, she was “very uncomfortable” in social situations. She was called names such as “baldy.” She felt “completely exposed” by her mother, who cut off her hair to prevent her from pulling. She states, “My bald spots could always be seen. I was nervous just walking around, like people were watching me.” She would wear a bandana in gym

class to try and hide the bald spots, but other children would tell her take it off because “it doesn’t really cover your bald spots anyways.” She states, “Comments like that were really hurtful as a kid,” and caused her to cry.

## **Appearance**

Trichotillomania impacts women differently than many other psychological issues in that its effects may be immediately apparent to others in the form of discrete bald spots or hair thinning. These physical effects appear to impact women’s beliefs about their attractiveness as well as their femininity. Seven of the eight women interviewed commented on this, with the exception of one woman who pulled from an area non-visible to the public (i.e., pubic area).

**Physical Appearance.** Women noted that hair pulling affects their appearance in several ways to varying degrees. A 21-year old notes that she tries to cover a developing bald spot, but feels that because the spot is small, it does not affect her self-esteem “appearance-wise.” For others, the physical consequences appear to take a bigger toll. States a 30-year old woman, “I think of myself as sloppy,” adding, “I feel like I look sloppy and disheveled and um, and I look disorganized.” Similarly, a 19 year-old describes the effects of her pulling as making her “look gross, like an unclean girl.” When asked why she feels unclean, she elaborated, “because I don’t know, hair has lots of oil and stuff, and if I keep touching it, it doesn’t look pretty if you keep pulling and scratching your scalp.” Another participant notes, “I’ve always got my hands in my hair and it’s unattractive,” later reiterating, “It’s not really attractive when your hands are in your head and you’re pulling your hair out.” In these instances, it appears to be not the hair-loss but the act of pulling that the women find detrimental to their appearance.



Other women focus more on the ongoing results of hair pulling when discussing their physical appearance. One woman in the performing arts field notes feeling that she lacks “enough” hair to “do anything with it.” Another in the same field states that it is “difficult to be without makeup” due to her hair loss and “absolutely” does not feel pretty during lapses in pulling. She notes that she auditions for comedy roles rather than dramatic parts because she believes in comedy, “they’re not looking for pretty.” Particularly during her childhood, she states that she used to feel “hideous.”

**Femininity.** The concept of femininity in relation to hair pulling emerged as significant to varying degrees for some women but not others. The subject was not broached in the first interview, but emerged in the second and was included in all subsequent discussions. Three women noted no impact on their femininity. One woman who reports pulling from her pubic area interestingly found hair pulling to impact her feelings of femininity in a positive way. This 20-year old student states:

“It makes you feel like, you are definitely a woman. I feel more feminine when you do it. I think, ‘This is interesting.’ I’m minoring in women’s studies, this stuff has come up, different parts of the female body...I think it symbolizes a power position that women have. I feel like a powerful person...the ability to do this almost symbolizes that you have, like, a sense of control. You can do this to your body. Like, you have power, women have power, but for me, like I have power, this is something I can control. This is something you can do when you want, how you want, where you want.”

This woman's feelings towards her pulling appear to be the exception compared to the other participants' attitudes. Another woman, however, appeared to associate the act of hair pulling with femininity. She states, "A woman tends to touch their hair a lot, play with them as you're bored, so that leads to femininity. So for me I would rather not have the habit and express my femininity in another way and not touching and pulling my hair." Another participant describes her pulling as more significantly impacting her sense of self as feminine: "...I relapsed a few times...I've had some periods where I've stopped completely. I've had a lot of hair on my face and it's been an amazing thing to have, because I never looked like a girl until then. For me, when I relapsed, I just didn't feel complete anymore. And I still don't feel complete. I don't have a huge problem that my eyebrows aren't completely there [but] it's a lot easier not to have to wear makeup, a lot easier to slip on some mascara and not care what other people think...I did not grow up very feminine just because I couldn't look like a very dainty thing or whatever, and getting used to being that kind of person, one that had hair, was weird for me. I really liked it. I really liked that I looked like a girl. It was mind blowing to be honest with you."

One woman states that because her pulling influences her haircuts, she "can't have feminine hair." However, she notes that this leads her to feel "less feminine, but not like less of a woman." A 21-year old notes that she "does feel less confident as a woman" because of her pulling.

## Acceptance

When interviewing these women, it became apparent that many have found means of coping with and accepting their hair pulling. Several women noted marked difficulty during their youth which lessened as time passed, and they began to integrate pulling into their self-identity. Some women seemed to find empowerment through educating others about the disorder, while others found belongingness with peers who pull.

**With Age Comes Understanding.** Of the eight women interviewed, five discussed some aspect of age and its relationship to their attitude towards hair pulling. Of these five women, four conveyed a sense of growing acceptance over the passage of time. A 32-year old woman notes, “As an adult I have taught myself to live with it and accept it more,” adding, “I think it's the worst when you're a kid...you grow up and learn to live with it, make it a part of your lifestyle. I'm always trying to stop, but as I try to stop I try to live with it. Sometimes I worry if I've made it so easy for myself to live with it, that I'm using it as a crutch and not as likely to stop.” In reference to her belief that she has made it “easy” for herself, this woman notes that she has learned and perfected various camouflage techniques that she did not have at a younger age.

Other women relate their greater acceptance of pulling as an adult to a lessened degree of concern about the judgment of others. States a woman who had experienced significant bullying in her childhood, “...I grew up and thought, this feels really good and I don't care so much what others think.” She had a “clean slate” in college, and found tolerance and acceptance from others rather than name-calling. She recounts, “...And I was like, oh, this doesn't have to be a bad

thing. You know what? This is part of who I am. People don't think it's a negative or horrible thing here."

Two women note that passage of time has led to greater familiarity. A 20-year old describes her hair pulling as having a 10-year course of waxing and waning. She remarks, "I think that it's something I've grown accustomed to...I think me doing it to myself has become a little bit more normal." A 22-year old participant experienced a past in which "everything was revolving around" her pulling, a time during which she "hated" herself in the mirror. While she acknowledges that the behavior is still a "focus" in her life, she adds, "Now I'm older and have a better understanding of what it is."

**Finding commonalities.** Seven of the eight women interviewed addressed their pulling in the context of a greater population of hair pullers. That is, these women noted a perception that pulling was a common behavior that they had "taken to the extreme," or remarked on the importance of support groups to their own wellbeing and acceptance of the behavior. One woman states that there is "nothing like walking into a room of people who get it...It's something we just can't escape." She felt empowered by meeting others with trichotillomania, which reportedly led her to strive to educate others whenever asked about it. She further notes that her geographic location impacts her ability to cope with the behavior, stating that she commonly sees others on the subway pulling their hair. She adds, "I live in New York City—everybody looks like a freak here." For this participant, it appears she has not necessarily accepted the behavior (as she implies that she is a "freak"), but has made accommodations to live with it.

Other participants interviewed mentioned noticing other women pulling in public. Notes an undergraduate student, “I have heard that there are a lot of women pulling hair...maybe it’s one of those things that people use to deal with stress.” This young woman reportedly observed other female students pulling their hair while thinking or studying, but added that these women were not necessarily pulling their hair out. Another student notes, “...I think girls sometimes tug their hair or play with it when they’re bored, but what I do I feel it’s more excessive than other people.”

**Pulling as Self-Identity.** It is worth noting that three women interviewed explicitly described their hair pulling behavior as an integrated aspect of their identity. However, only one noted an accepting stance. One participant explains that she would find a life without pulling her hair as unimaginable, stating, “As much as I don’t wanna have it, I don’t know how I’d deal with not having it.” This statement may convey more of a hopeless resignation to the behavior rather than an acceptance of its function and integration into her self identity. An Asian undergraduate student also commented on hairdressers noticing “scars” from hair pulling, explaining, “It would be like, you know, a part of me, but I wouldn’t necessarily want to show other people.” Again, it appears that her identification as a hair puller is related more to negative aspects (i.e., embarrassment) as opposed to acceptance. As mentioned previously, one woman found acceptance in college, at which point she began feeling, “this is who I am” rather than considering it a “horrible thing.”

## **Perceived Benefits**

All women interviewed noted at least one positive effect or attribute of their hair pulling. The majority could name several. These benefits of pulling appeared to fall within four domains: 1) Experiential Avoidance/Stress Relief, 2) Pleasure, 3) Enhancement of Concentration, 4) Enhancement of Positive Personal Characteristics.

**Experiential Avoidance and Stress Relief.** All eight women noted some form of stress relief or avoidance of negative stimuli as a benefit of their pulling behaviors. Two women described the particular aspect of pulling that provided a relaxation effect, one noting the act of “searching for the squiggly hair” and the other citing the “head stimulation.” Three women used the term “soothing” to describe the act of pulling. One of these women describes the sensation as “almost like going in a trance.” She states that during periods when she successfully stopped pulling for a period of time, she “had to deal with [her] anxiety.” She adds, “You’re coming face to face with emotions you can no longer soothe with hair pulling.”

Another woman states that the act of pulling lessens her anxiety by shifting her focus from the source of worry to the pulling behavior. It also serves to lessen feelings of boredom. She describes pulling as “interesting and fascinating.” She states, “I have to be in two extremes: either really bored or really anxious, and those are the times I pull the most. It helps to bring me to the middle state, the comfortable state.” It appears that for this woman, pulling serves as a thermostat, increasing or decreasing her arousal to her preferred level.

A 22-year old woman credits her difficulty in stopping her hair pulling to her lack of anxiety coping skills. She states that when she tries to resist, it feels as if she is going to “crawl out [her] skin” and will “turn to other forms of self-hurt.” This woman sees stress relief as the lone benefit of pulling, as does another participant, who states, “I really don’t think that there’s any benefit to it except relieving my tension.”

**Pleasure.** Six of the women interviewed noted some form of pleasure as another benefit of hair pulling. That is, rather than using pulling to modify a secondary emotion or sensation (e.g., relief from stress, distraction from pain), these women at times pull for the sensation of pulling. One woman notes that this makes it particularly difficult to refrain from pulling, stating, “It feels really good when you do it, but that’s the problem—that’s why it’s hard. When I was growing up, I was like, ‘this feels really good but I look hideous and people hate me,’ and I grew up and thought, ‘this feels really good and I don’t care so much what others think.’”

Another participant finds enjoyment through both the “pleasurable pain” of pulling as well as having another touch the area of her head from which she pulls. She states, “I was with my boyfriend talking about my habit, and he jokingly touched it, and it felt very soothing, like someone calming me down, [like] a yoga session, very soothing like deep within my heart. I kept telling him to do it more. He thought it was really weird—usually I request it.”

One woman states that although she sometimes pulls “for a nervous thing,” sometimes she “just wants to.” She adds, “It’s not always just when I’m nervous, [it’s] something I sometimes do for pleasure.” When asked for other times she may use pulling for pleasure, she

elaborates, "...I guess like if I'm bored or whatever and after like a sexual experience, I'm just kind of like 'this is good,' and I think I'll just do it subconsciously."

**Enhancement of Concentration.** Rather than distracting these women from tasks they need to accomplish or occurring automatically when engaged in an activity, half of these women noted a belief that hair pulling provided enhanced concentration. When a student was asked how her hair pulling impacted her studies, if at all, she responded, "I think it, in a way, however weird this seems, I think it adds you know, I'm writing a paper, instead of going to talk to a friend or go call someone or go do something, if I pull my hair, it distracts me a little, and then I go and do something." That is, rather than having to leave or engage in a potentially lengthy phone call, her hair pulling serves as a "study break" which allows her to return to her writing in a more timely fashion. Another woman in the performing arts states, "It helps me focus more. If I'm reading a book and I pull, I can focus more. A word will come to me easier...talking on the phone, on the computer, watching a movie, [it] helps me focus and tune into it."

**Enhancement of Positive Personal Characteristics.** Six of the women interviewed noted positive and/or negative personal attributes that they believe women who pull their hair generally possess. Of these, four noted ways in which being a hair puller was associated with positive characteristics. A 32-year old woman notes group identification with several advantageous traits:

"I've met quite a few people with trich. Most of them are very sensitive people to bullying, and usually are more receptive to listening. Most of us have been pushed around, [so] we're very



empathic. Every person I know with trich has been very down to earth, personable and empathic. I do think a lot of them are perfectionists.”

Another 32-year old woman described her beliefs about those who pull their hair in a similar fashion:

“I’ve noticed because I’ve gone to a lot of groups and retreats. I’ve noticed that many of them are perfectionists and many of them are very intelligent. I haven’t met anyone who wasn’t intelligent. All of them are extremely good at, um, understanding other people’s needs and putting other people first before them. They’re really good listeners, very loyal friends who are very accepting to other people’s problems and issues... They can be really fun and have good senses of humor, but that goes for everyone.”

An undergraduate student noted that she felt that those with trichotillomania were generally “driven.” Another student did not describe generally positive traits of hair pullers as a group, but rather noted that it impacted her own interpersonal skills. She states, “I think it makes me more sensitive, to not be so quick to ask people intrusive questions. Sometimes I wouldn’t want them to ask me anything, but I get sensitive to other people’s feelings.”

### **Relationships and Trust**

Women interviewed discussed their pulling and its impact or lack thereof on romantic relationships, family, and peer interactions. Women’s experiences varied—whereas some noted feeling shame or embarrassment, others noted belongingness and trust. Additionally, while some women report openly sharing about their hair pulling with anyone who asks, others disclose only

to the most trustworthy of confidants. Only one woman interviewed reported that she has never had a relationship affected by her pulling.

**Romantic Relationships.** Six women noted varying degrees of difficulty in either initiating or maintaining a romantic relationship. Several described ways in which emotional or physical intimacy was impeded or prevented. A 32-year old woman states that she will maintain her pulling as a secret until she feels “really comfortable” with a partner. This in turn impacts physical intimacy. She avoids showering with any boyfriend she may have. She also reportedly avoids “crazy sex” in order to keep her hair in place, such that her strategic hairstyle does not come undone and reveal areas of baldness. This woman further notes that keeping her secret impacts emotional intimacy as well. She states, “[There’s] always the feeling I’m hiding something, not being completely honest [about] who I am and what I do... There’s a part of me that’s also a secret to the world, that only very few people in my life know about.” Regarding her most recent relationship, she adds, “I didn’t feel like I was being completely myself in the relationship. That’s a really big part of my life...once I told him I felt relief.” She reports that she chooses to keep her hair pulling a secret for a prolonged period because, “...my fear is that they might break up over it even though I know it’s irrational and even if they do then they’re no good for me anyways...and I guess I’m also afraid they might hold it against me, say, ‘well, you do this, you’re weird’ or something.”

A 22-year old Orthodox Jewish woman describes similar fears, with additional challenges related to her religious community. She states, “I think it’s very hard for me to open up and have deep relationships with people. I’m really afraid of romantic relationships—what if I tell them

and they tell other people about it?” She adds, “I’m in the age range to get married, so I would go to the match maker and get set up, but we only date 3-6 months to get married, and it takes me much longer to come out for friends. So I’m not ready to tell someone that quickly.” For this woman, religious martial traditions move faster than her ability to trust enough to confide. Again, hesitancy towards disclosure impedes potential relationships.

In another example of pulling hampering the development of relationships, a 32-year old woman notes, “I mean it did really make me push people away when they noticed more. It was hard for me to get close to people romantically.” It stands to reason as one spends more time in close proximity with a partner, he or she is going to have a higher likelihood of noticing both bald spots and attempts to cover them (e.g., consistently wearing hair kerchiefs, ponytails, etc.).

One woman notes that her pulling behavior worsened during arguments with her boyfriend, leading him to feel guilty. She states, “Whenever we’d fight, I’d put my hand to my head and want to pull it out. He’d always feel worse because he was stressing me out. Our relationship was making me wanna pull my hair out, so it made him feel bad.” For this particular woman, it was not the secrecy or embarrassment associated with pulling that at times interfered with her relationship, but the act of pulling itself.

A 30-year old participant described feeling as if her hair pulling was an inconvenience for her boyfriend. She states, “My boyfriend constantly tried to get me to stop. I think for a few months back he was particularly intense about it. It’s annoying for him to have to tell me so many times to stop pulling...I guess I understand where he’s coming from and I guess I would be as well if someone’s doing something compulsively that’s detrimental I’d have the same

reaction.” At the same time, this woman at times perceived his attempts to have her stop as irritating: “I told him if you won’t help me you have to stop putting pressure on me. If you want to help me you have to do it constructively. I told him it was the wrong approach, but I understood where he’s coming from.”

**Family Supportiveness.** Half of the women interviewed discussed having at least one parent who was perceived as unsupportive and/or critical towards their hair pulling. A 32-year old woman states that her mother made fun of her due to her pulling, adding that she moved away to live with her father because of this. She states that her father was supportive: “He didn’t make me feel like a freak—he knew it was something. He was the first person in my life to tell me what I had. He wasn’t making fun of me like everybody else.” She states that her father would check each day to “see how [her] hair was doing” and would be “super proud” if she did not pull but “disappointed” if she did. Similarly, another participant notes that her sister was supportive but her mother was not. She states, “My sister, when I told her, she was very sad and felt like she could really understand why it was hard for me. [She was] kind of very supportive and read about it online, tried to help me find support groups, very understanding and didn’t put any pressure on me for stopping. Where my mother was in denial for a long time and told me it wasn’t true, and I was just saying it to get attention...then when she said I was trying to blame her, telling her it’s her fault, whereas I just needed someone to tell where I’m coming from and support me with this behavior, so that was difficult. It took like several years until she came to terms with it and became more supportive.” For this woman, it appears that a “good reaction” from her sister included an attempt to learn about hair pulling without pressuring her to stop.

Parental disappointment emerged as an issue for a 19-year old. She states that her hair pulling leads to fights between her and her parents. She notes, “My parents don’t like that I do it—it starts conflicts between my parents and myself. If you don’t pull your hair out, they don’t understand why you always need to. They say ‘just stop,’ but it’s not that easy to just stop. They yell at me a lot, and they’re disappointed.”

A 21-year old woman also experienced a negative reaction from her mother. She states that she had been “caught” pulling by her parents and “had to tell them.” She reports, “Mom was very upset, ‘you’re a girl, why are you doing that to yourself?’ It’s just a simple habit that didn’t affect my appearance, but since it does she minds. It was much worse 2-3 months ago. She was very surprised, saying ‘don’t do it, pull other parts of your head, not by your forehead.’ Ever since then, I became more cautious of it, but I try to stop it.”

Not every woman interviewed experienced interference in their familial relationships as a byproduct of hair pulling. One woman noted that she found it “sensible” for others to tell her not to pull. She says, “I don’t see them as against me or something.” Another woman stated that she had not discussed the issue with her parents, but thought her mother had seen her pull. She states, “She’ll be like ‘don’t do that’...it’s not like it’s a serious thing. I think if I felt like it was really an issue that would need to be addressed they would need to be supportive and they would be.”

**Trust and Disclosure.** These women noted much variability in their ease in self-disclosure of their pulling. Two women emphasized that they felt comfortable discussing the topic. One of these women states that she never had an aversive incident with anyone. That is, no

one in her life teased, bullied or criticized her in the past, despite having numerous individuals notice the behavior. She states, “I think I’m pretty comfortable talking about it. I don’t really feel ashamed about it...I’m not trying to deny that I do it. I do it and it’s probably not a good thing, [but] I think I’m very comfortable.” A 32-year old woman also expressed her openness: “I’m okay, I feel like, I guess I really talk about it and I’m really comfortable talking about it.” She adds that she tells anyone who asks her about it.

Other women do not find it easy to share their habit with others. A 22-year old finds it to be a “big deal” to tell someone. She states that she fears “pity friendships,” in which others would be friendly towards her merely because they felt sorry for her. She further fears, “what if I tell someone and they tell other people about it?” She states that in her mind, “everybody would care,” and is surprised when others react in a supportive fashion. She states that many refer to the process of disclosure as “coming out,” and that sharing can help friendships grow. Another participant notes, “When I talk I feel embarrassed—I feel like I’m doing something bad when I do it.” This particular woman recounted no incidents of disclosing by choice—rather, she shared with others only after being “caught.”

A 32-year old woman states that she “picks very wisely who to tell” about her hair pulling. She further asserts that having a friend know does not matter, but having an acquaintance *not* know matters. She states, “I don’t really have the guts to tell [my roommate]. She’s a very temporary roommate, so it’s not worth telling someone who’s in my life a very

short time. I pick very wisely who to tell. It can be very difficult to live with people who don't know, because there's a lot of hiding."

### **Beliefs Regarding Etiology**

Although not a specific area of inquiry in the interviews, it is worth noting that half of the participants mentioned their thoughts on what causes hair pulling or what lead them to pull.

Three women expressed either an implicit or explicit belief that pulling is a learned behavior, resulting from modeling others. An undergraduate student states that she disclosed her behavior to her roommate and since then has observed her roommate pull from the same area of her scalp in the same way. Another woman remarked that she had "picked up the habit" from a high school friend. She had reportedly seen her friend compulsively pull her hair and asked her about it. She then started doing the behavior as well. One participant reports that her mother tends to pull her hair and scratch her head. She states, "I think I picked up on that by noticing her doing it...I usually pick up on habits from other people."

A 22-year old woman notes that the beliefs held by those with trichotillomania regarding the origins of the behavior should be respected. She offers, "People who have trich have opinions about why they have it, and it's an important part of treatment—why they have it impacts how they deal with it. Like I think it's genetic, but I went to a doctor who said it's completely your own fault. I don't want to hear that, it's not helpful to me. That makes it worse." This woman had seen several therapists of varying orientations, and most preferred the doctor that approached treatment collaboratively. She describes, "I went to CBT, and the doctor was like controlling and

telling me what to do, acted like ‘we know everything about it.’ Now I was going to a doctor that was like, ‘we’re gonna do this together,’ and I liked that. I have it and you don’t, and you can’t classify it totally yet.”



## CHAPTER V

### Discussion

#### **Summary**

Quantitative analyses verified the reliability of measures utilized. This was particularly essential given that the PITS is typically utilized via clinical interview. Similar to previous research, a standard measure of quality of life (Q-LES-Q-SF) did not appear related to TTM severity as measured by two TTM inventories (Keuthen et al., 2004). Furthermore, it is important to note that those participants who completed the online inventories but not the interview did not significantly differ from study completers.

The qualitative findings of the present study are largely commensurate with those of previous research. Regarding the reported benefits of pulling, women noted that it functioned as a method of relaxation and source of pleasure, as noted by Gershuny and colleagues (2006). It also served as a way to relax by helping avoid or attenuate unwanted emotional states, a process coined “experiential avoidance” and well documented in the literature (Hayes, Strosahl & Wilson, 1999; Williams et al., 2007; Woods & Twohig, 2008). Interestingly, one woman felt that her hair pulling enhanced her femininity, in contrast to all other participants who indicated a negative impact or no impact at all.

Women indicated that the after effects of their pulling impacted their physical appearance and feelings of femininity. The effects of hair pulling on appearance are widely known—pull from one spot too much, and noticeable baldness is bound to occur. Some in the field have posited hair pulling as an unconscious effort to deny or dispose of one’s femininity (Oguchi & Miura, 1977.) However, those women who discussed hair pulling in terms of femininity viewed the former as negatively impacting the latter.

It is relatively unsurprising that those women who indicated a degree of self-acceptance of the hair pulling behavior described finding commonalities and support amongst others who pull. While trichotillomania does not have a strong media presence, it does appear to have a thriving Internet presence, allowing others to meet in chat rooms or coordinate support group meetings. Indeed, both traditional and web-based support groups have been found to impact outcomes (Frost, Pekareva-Kochergina & Maxner, 2011; Winzelberg et al., 2003).

These women discussed various ways in which hair pulling impacted their approach towards relationships and their experiences within them. It was noted that the term “coming out” is frequently used within the TTM community to denote the process of revealing oneself to others as a hair-puller. Sharing this aspect of themselves appears to be considered an investment to these women, in that they often report carefully choosing whom to tell. Concerns emerged regarding whether a romantic relationship would end because of the behavior, leading to the belief that one must constantly hide, or that friendships would be forged out of “pity.” Pulling also impacted women’s family relationships, with half of the participants reporting at least one

unsupportive parent who mocked or criticized them. It also created arguments between children and parents. This appears to correspond to Moore and colleagues' (2009) finding a trend towards higher levels of family dysfunction in families of TTM youth. However, these women additionally noted feeling supported by fathers, sisters or other individuals. It seemed that being supportive to these women was associated with seeking more information on the behavior and offering help.

Women noted a variety of activities commonly avoided, including intimate acts, auditions, aquatic activities and facial contact. To feel more comfortable socializing, they typically utilize makeup, hair styling techniques, and accessories to hide areas of baldness. Their avoidance of activities and attempts to disguise hair loss reflect a sentiment noted by several participants of being “weird,” feeling guilty, and having self-directed anger—a sentiment that half of women believe did not exist until negative feedback from others.

## **Limitations**

This exploratory study had several limitations of note. First, the small sample size limits conclusions which may be drawn from the quantitative data and the ability to fairly compare the data to previous studies. As such, those instances in which current findings are discussed in regard to the greater literature should be interpreted with caution.

Additionally, participants were recruited predominantly through flyers and word-of-mouth. This study explored the myriad ways in which hair pulling impacts quality of life. One

way that it may negatively impact women is via shame and embarrassment. Those individuals who chose to contact this author to share their experiences with hair pulling may have been more likely to be open about their pulling and less embarrassed than those that saw the advertisement and chose not to pursue it. Furthermore, the nature of the study required access to both a telephone and a computer, which may have artificially increased the socioeconomic status of the sample.

Another limitation of the current study is the lack of diversity of the sample. While nine of the fourteen respondents described themselves as Caucasian, only one identified herself as Hispanic and no African American women participated. However, this is not incongruous with the literature, as previous research regarding hair pulling has included predominantly white samples (e.g., Flessner et al., 2009; Franklin et al., 2008).

Finally, because hair-pulling has been associated with shame and embarrassment, it was decided that interviews would be completed over the telephone rather than face-to-face. However, logistical constraints of recording via the telephone without face-to-face contact resulted in this author transcribing interviews via word processing during the interview. As such, there is potential for error in missing words while both typing and interviewing a participant. Perhaps the most significant limitation in the current study is that this author was the sole coder of interviews. Because of this, it is increasingly important to replicate these findings.

## **Implications**

This investigation explored the impact of hair pulling across various domains of women's lives. The current study adds to the growing body of literature on trichotillomania and its implications for quality of life. Previous research has demonstrated that hair pulling can result in serious medical difficulties when accompanied by Trichophagia (APA, 2000; Bouwer & Stein, 1998; Christenson & Mansueto, 1999). Additionally, those who pull their hair have reported avoidance of numerous social activities, which may impact the development of friendships and romantic relationships (Woods et al., 2006). This study provides information on the myriad ways in which hair pulling both detracts from and enhances the quality of life of women, allowing participants to discuss their own experiences rather than select from pre-determined options what most affects them. Its information has implications relevant for both treatment and further research.

Future research should seek to use the information gathered in this study to aide in the generation of items for a valid measure of quality of life in women with trichotillomania or other chronic hair pulling. Particularly given that a minority of participants report some degree of acceptance of the condition, it may be worthwhile to consider further research and development of a measure related to positive perceptions. Such clinical tools could help measure progress beyond number of hairs pulled, as these women reported distress resulting from secondary effects of pulling rather than the act or the lost hairs themselves. For considerations of expediency in recruitment of participants, this study included only women with hair pulling.

Future researchers may wish to replicate the study with men, particularly given the dearth of information currently available for this population. Furthermore, an assumption exists that gender discrepancy in prevalence rates results from greater social acceptance of male baldness and typical compensatory measures, such as wearing hats and shaving. However, if researchers can gain access to enough male participants, information exploring these assumptions would be invaluable to the treatment of men with compulsive hair pulling.

The current study has direct implications for practitioners' work with women who compulsively pull their hair. First, commensurate with the literature, shame appears central in the interference and distress caused by hair pulling (Stemberger et al., 2000). Women experiencing shame and embarrassment related to hair pulling may benefit from interventions directly targeting this in addition to reducing pulling. Practical accommodations may also serve to help embarrassed individuals feel more comfortable initially seeking treatment, such as providing spacious waiting areas and lower lighting. With success in treatment, individuals may be encouraged to take seats closer to light sources and/or other clients.

One participant from a more "insular" religious community noted the particular difficulties encountered in hiding and disguising her pulling and its impact on finding a romantic partner. While cultural competence is widely considered necessary for therapists and treatment professionals, it appears particularly relevant given the various cultural and religious meanings tied to women's hair. For instance, Jewish law as practiced in Orthodox Judaism dictates that married women must cover their heads. As such, single women covering their heads to disguise

hair loss may face social consequence not encountered in secular society. Also, male therapists seeking to monitor hair loss on such clients may need to consult religious leaders as to how this may be accomplished in a culturally conscientious way.

Four participants described a belief that their distress related to hair pulling was not present until they received negative feedback. That is, the hair pulling in and of itself was not perceived as undesirable until social ramifications became apparent. As such, perhaps public education could prove beneficial. It may be the case that if the public were more aware of the disorder and its impact, more individuals would react in a supportive fashion, or perhaps make an effort not to react at all.

Moreover, given the perceived social construction of shame and embarrassment, coupled with the findings that half of the participants perceived one or more parents/caregivers as unsupportive, it may be beneficial to include family members in treatment. Although common practice for those working with children, many individual therapists fail to include outside supports in treatment. If these women's families participated in sessions targeting psychoeducation and familial support, it could mitigate the effects of stigma. Despite the widespread knowledge of its importance, it is worth repeating that therapeutic interventions should be conducted in a truly collaborative manner, as one participant particularly reported negative experiences with an "all-knowing" CBT therapist.

## **Conclusion**

The results of this study provide further information regarding the myriad ways that hair pulling impacts women's lives. While numerous limitations listed previously caution against over-generalizing the results, for these women pulling behaviors relate to both positive and negative feelings and functions. Pulling appears to serve as a method of relaxation, a source of pleasure and a way to aide concentration. Some women further expressed a belief that the experience of being a hair puller fostered and/or nurtured positive character traits such as empathy. Despite these few identified "pros" of hair-pulling, women noted negative impacts on their romantic and familial relationships, their appearance and sense of femininity, their feelings of confidence and self-worth, and their ability to engage in lifestyle activities.



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Table 1

## Independent Samples T-tests

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
MGHHPS	.177	.681	.337	12	.742
PITS	.113	.743	-.027	12	.979
Q-LES-Q-SF	.125	.733	1.165	8	.277
BDI	.150	.706	-.831	12	.422
STAI	.063	.807	-1.388	11	.193

Note. Equal variances assumed.

Table 2

## Correlations between Measures

	1	2	3	4	5
1. STAI	--	-.964*	-.264	.963**	-.164
2. Q-LES-Q-SF		--	.724	-.992**	.549
3. MGHHP			--	-.243	.774*
4. BDI				--	-.149
5. PITS					--



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

Table 3

*Means and Standard Deviations on all Measures*

Measures (Possible Range)	<i>M</i>	<i>SD</i>
Beck Depression Inventory (0-63)	11.00	7.80
State-Trait Anxiety Inventory (40-160)	92.33	22.47
Quality of Life Enjoyment and Satisfaction Questionnaire-Short Form (14-70)	50.60	11.89
Psychiatric Institute Trichotillomania Scale (0-42)	20.38	9.12
Massachusetts General Hospital Hairpulling Scale (0-28)	17.00	4.90

## Appendix A: Flyer for Advertisement


<h1><i>Hair-pulling problem?</i></h1>

<p>You're invited to participate in a research project examining the impact of compulsive hair-pulling on women's quality of life. This study is being conducted by a Rutgers doctoral student in conjunction with Dr. Michael R. Petronko, Ph.D., ABPP.</p>
<p>Participants must be women ages 18 and over who engage in compulsive hair-pulling. You'll be asked to confidentially answer questions regarding such difficulties over the phone and on a secure webpage.</p>
<p>All participants will receive a \$5 gift card to Target or Starbucks. Those that participate in a telephone interview will be entered into a raffle for a \$25 Amazon.com gift card.</p>
<p><b>Please contact Chelsea Hersperger, Psy.M. 732-445-6111 ext. 877</b></p>
<div><div>Hair-pulling Study Chelsea Hersperger, Psy.M. 732-445-6111 ext. 877</div><div>Hair-pulling Study Chelsea Hersperger, Psy.M. 732-445-6111 ext. 877</div><div>Hair-pulling Study Chelsea Hersperger, Psy.M. 732-445-6111 ext. 877</div><div>Hair-pulling Study Chelsea Hersperger, Psy.M. 732-445-6111 ext. 877</div><div>Hair-pulling Study Chelsea Hersperger, Psy.M. 732-445-6111 ext. 877</div><div>Hair-pulling Study Chelsea Hersperger, Psy.M. 732-445-6111 ext. 877</div><div>Hair-pulling Study Chelsea Hersperger, Psy.M. 732-445-6111 ext. 877</div><div>Hair-pulling Study Chelsea Hersperger, Psy.M. 732-445-6111 ext. 877</div><div>Hair-pulling Study Chelsea Hersperger, Psy.M. 732-445-6111 ext. 877</div><div>Hair-pulling Study Chelsea Hersperger, Psy.M. 732-445-6111 ext. 877</div><div>Hair-pulling Study Chelsea Hersperger, Psy.M. 732-445-6111 ext. 877</div></div>

## Appendix B: Demographics Survey and Phone Screen

“The first step in this study is a brief phone screen. Over the next five to ten minutes, I’ll be asking some basic demographic questions, such as your name, date of birth, ethnicity and address, as well as a few basic questions about your hair-pulling. This information will be kept under lock and key, and only viewed by myself. I will destroy this information after completion of the research. At the end of the phone screen, if you are eligible to participate, I will give you a 3-digit code. This will be used to link your information to the online questionnaire. You will not be providing any identifying information online. Remember that you do not have to answer any question that you do not want to, and you are under no obligation to complete the online survey. However, you will receive either a \$5 Target or Starbucks gift card only after completion of the online survey. Do you agree to participate?”

Yes/No      Date\_\_\_\_\_

---

Name\_\_\_\_\_ Sex\_\_\_\_\_ Date of Birth\_\_\_\_\_

Mailing Address (if win raffle)\_\_\_\_\_

E-mail Address:\_\_\_\_\_ Phone:\_\_\_\_\_ Cell:\_\_\_\_\_

Race:\_\_\_\_\_ Ethnicity:\_\_\_\_\_ Occupation:\_\_\_\_\_

Marital Status:\_\_\_\_\_ Children? (if so, how many)\_\_\_\_\_

Why did you decide to respond to our advertisement?

What leads you to pull your hair? Are there certain thoughts or sensations that precede hair-pulling?

Does your hair-pulling result in noticeable hair-loss? Yes/No

Does it bother you? Yes/No

Does it cause problems in your life? Yes/No

Do you feel an increase in tension before pulling out your hair? Yes/No

Do you feel relieved, gratified, or another pleasurable sensation after hair-pulling? Yes/No

Do you suffer from any dermatological conditions? Yes/No If yes, what?

Participant Identification Number: \_\_ \_\_ \_\_

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