Trichotillomania Symptoms in African American Women: Are they Related to Anxiety and Culture?

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Keywords

African Americans; Anxiety; Cultural messages; Trichotillomania.

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doi: 10.1111/j.1755-5949.2010.00138.x

Trichotillomania (TTM) is a little understood disorder that has been underresearched in the African American community. Furthermore, the incorporation of cultural factors into TTM research has virtually been ignored. Existing data from an African American college student population suggest TTM is associated with high levels of anxiety. In this study, we explored anxiety symptoms and cultural hair messages in an African American female community sample with TTM symptoms. We predicted high levels of TTM severity and impairment would be associated with high level of anxiety symptoms. We also predicted that cultural messages about hair will influence both TTM and anxiety symptoms. In this telephone study, 41 African American females participated in interviews about their TTM. TTM impairment and severity was positively correlated with general anxiety symptoms as measured on the Symptom Checklist 90-Revised (SCL 90-R®). Severity was also positively correlated with obsessive-compulsive symptoms. Given the significance of hair for African American women, we also explored the childhood cultural messages receive about hair. Over half the sample received at least one cultural message about hair. Although many women received the same message, the value they placed on the message differed. Messages received about hair were not associated with TTM severity or impairment. The association among obsessive-compulsive symptoms and hair messages approached significance. Results highlight the importance of assessing anxiety comorbidity and culture with African American TTM samples. Little is known about TTM in African American samples. Existing research indicates this population seeks TTM help from their hairdressers. Among college students, a significant correlation has been found for anxiety as measured on the Beck Anxiety Inventory and TTM. To the best of our knowledge, this is the first paper to examine cultural messages about hair in an African American sample. In addition, rather than looking at college students, this research is conducted with a community sample of mostly professional African American women. The use of the SCL-90-R® specific anxiety dimensions demonstrates the relationship with TTM severity and impairment.

Chronic hair pulling is a significant psychological behavior that impacts over 11 million Americans [1,2]. Diagnostically known as trichotillomania, it is defined as the recurrent pulling out of one's own hair that results in noticeable hair loss [3,4]. Hair pulling may occur sporadically throughout the day or in sustained periods that may last hours. For some individuals, periods of stress seem to

facilitate the hair pulling, whereas for others, the behavior occurs most frequently during periods of relaxation or distraction [3,4]. It should be noted that pulling is not occurring for cosmetic reasons. The available data suggest that most hair pullers are women [2–4]. People who suffer from trichotillomania are most likely to pull from their scalp, eyelashes, or eyebrows [2–4]. However, the

literature has documented some cases of individuals who pull from other parts of their body including the perirectal and pubic area [2–4]. In cases where the hair bulb has not been destroyed, the hair does grow back [2–4]. This new growth is often coarser and more tightly curled than the original hair. From the perspective of the Diagnostic Statistical Manual for Mental Disorders Fourth Edition-Text Revision [3], TTM is classified as an impulse-control disorder with a build-up of emotional tension leading to pulling behavior. To receive a trichotillomania diagnosis certain affective states must be present prior to and during the hair-pulling episode. The affective state experienced prior to pulling is tension. The affect experienced during a pulling episode may include gratification, pleasure, or relief [5,6]. Research has questioned whether the DSM-IV-TR affective criteria accurately capture the experiential component of this disorder [2,5,6].

Clinical studies have found that between 13% and 27% of hair pullers may have an anxiety component to their behavior [1]. Overlap has been found between TTM and obsessive-compulsive disorder (OCD) with both groups reporting compulsive urges and ritualistic behaviors [7,8]. Comorbidity has also been found for the two disorders [7,8]. For these reasons, some researchers classify TTM as an OC spectrum disorder. Subsequent research has found that the cognitive components associated with OCD such as need for control over thoughts, inflated sense of responsibility, and thought action fusion are not present in TTM [9]. Furthermore, among individuals with an earlier onset of TTM, motor inhibition has been documented [10]. This difficulty does not appear present in individuals with OCD [10].

Research has identified and validated two types of hair pullers—automatic and focused. Automatic pulling is defined as pulling primarily occurring outside of one's awareness. Focused pulling takes place in response to a negative emotional state [2,5–7,10–12].

TTM and African Americans

Scant published research is available concerning TTM among African American females [13]. This is puzzling given that for many Black women, hair is an emotional issue [14–17]. Hair texture, grade, and length can influence an African American female's perception of her attractiveness, self-esteem, and self-worth [14–17]. The physical properties of most African American hair differ from those of Whites [18–21]. Unlike Caucasian hair, it is more difficult to pass a comb through wet Black hair than through dry Black hair [18–21]. This simple fact results in many African American women using either chemicals or heat to alter the hair's natural properties. The process,

most often performed at a salon, has spawned a 15 billion dollar Black hair care industry [14,21].

As part of Black hair alteration, rituals or habits related to hair have become routine in many Black communities. These include but are not limited to weekly visits to the hairdresser, weekend hair washing, and heat alteration, family braiding parties, and use of certain hair products (i.e., Dixie Peach, Royal Crown [13–17]).

Similar to their White counterparts, African American women are most likely to pull hair from the scalp region [13,22–24]. Research with African American college students suggests that some of the hair pulling may be in response to skin irritation [23], although a subsequent replication study found that African American college students were no more likely than Whites or other ethnic groups to pull for this reason [22].

Several studies have found anxiety to be a significant affect experienced by African American adults and university students prior to a pulling episode [13,25]. Mansueto et al. [25] reported that among university student pullers, a significant correlation exists for anxiety as measured on the Beck Anxiety Inventory [25].

TTM is a little understood disorder that has been underresearched in the African American community. Furthermore, the incorporation of cultural factors into TTM research has virtually been ignored. Existing data from an African American college student population suggest TTM is associated with high levels of anxiety. This relationship has not been explored, however, with a community sample. In this study, we explored anxiety symptoms and cultural hair messages in a TTM African American female community sample. We predicted high levels of TTM severity and impairment would be associated with high level of anxiety symptoms. We also predicted that cultural messages about hair would influence both TTM and anxiety symptoms.

Method

Participants

Participants were 41 female chronic hair pullers who met general criteria for trichotillomania and self-identified themselves as African American. In accordance with guidelines set forth by *The Council of National Psychological Associations for the Advancement of Ethnic Minority Interests* [26] to define your sample precisely, information was gathered on parental ethnicity as well as other demographic factors (see Table 1 for a summary of the demographic characteristics of the sample). Thirty-six women had two African American parents and five women had one African American parent but still self-identified themselves as African American. Women ranged in age

from 19 to 52 years. The mean age of participants was 35.3 (SD = 8.56). More than 50% of the participants were highly educated and earned over US\$ 40,000 per year. Detailed demographic data for the women are contained in Table 1. Women were recruited via hair salons (n = 5) and Internet sources (n = 36) via announcements posted on the first author's website, the Trichotillomania Learning Center Website (www.trich.org), and an online support group for African American female chronic hair pullers. The announcements indicated that researchers wanted to interview African American women who engaged in chronic hair pulling. The stated goal of the study was understanding how hair pulling impacted their lives. The first author's contact information including e-mail address and research lab

phone number was provided in all announcements. Because an actual diagnosis of TTM could not be confirmed by clinical observation, the term "TTM symptoms" is used in the current paper rather than TTM.

Measures

Hair Pulling Survey (HPS) [27]. The HPS is designed to gather information regarding the incidence and phenomenology of hair pulling in nonclinical populations. The HPS is a survey and does not yield total scores. Specifically, the survey assesses acknowledgment of pulling behavior, pulling sites, severity of the pulling behavior, as well as affective states experienced before, during, and after a hair-pulling episode. For the purpose of this study, data on the severity of pulling and pulling sites were examined.

NIMH Trichotillomania Symptom Severity (TSS) Scale and Trichotillomania Impairment Scale (TIS) [28]. The TSS is composed of six items. Five items assess hair pull severity on a scale from 0 to 5, where 5 = greatest severity. The sixth question assesses thoughts and feelings. A yes/no response is recorded for the sixth question. Scores from the first five questions are summed to yield a Total Severity Score [28]. TSS scores can range from 0 to 25. Diefenbach et al. [6] found that while the TSS scale had questionable psychometric qualities, the scale can be a useful measure. The NIMH scales are standard assessment measures in trichotillomania research [6]. For the current sample, Cronbach Alpha reliability = 0.553. Given the psychometric properties of the TSS, we chose to only examine two individual questions on the TSS that related most to our research questions: "How much does hair pulling interfere with your daily life" ; and "How much are you bothered by the compulsion habit."

The TIS segment is an interviewer rated 11-point (0–10) impairment scale. Level of impairment is based on severity of time spent pulling, time spent concealing damage, ability to control pulling, interference, and incapacitation. The impairment score, based upon the interviewer assigned value, then is classified as either absent (score = 0), minimal (1–3), moderate (4–6), or severe (7–10).

Data with Caucasian populations have shown that the TSS/TIS scales to be sensitive to treatment outcome [25,26]. Interrater reliability has ranged from 0.71 to 0.81 [27,28] and the scales correlate significantly with alternative clinician ratings of global trichotillomania severity [27]. To the best of our knowledge, this is the first study to use the TSS/TIS with an African American sample.

The Symptom Checklist-Revised® (SCL-90-R®) [29]. The SCL-90-R® is a 90-item self-report symptom inventory designed primarily to reflect the psychological symptom patterns of community, psychiatric, and outpatient

Table 1 Descriptive demographics of the study's sample

Category	Frequency	Percent
Age range (years)		
18–24	4	9.8
25–31	11	26.8
32–39	16	39.0
40–47	4	9.8
48–55	6	14.6
Marital status		
Married	13	31.7
Divorced/separated	10	24.4
Single, never married	17	41.5
Cohabiting	1	2.4
Religious		
Yes	27	65.9
No	8	19.5
Sometimes	6	14.6
Denomination		
Protestant	23	57.5
Catholic	5	12.5
Other	12	30.0
Income		
Less than US\$ 10,000	3	7.3
US\$ 10,001–25,000	8	19.5
US\$ 25,001–40,000	7	17.1
US\$ 40,001–55,000	6	14.6
US\$ 55,001–75,000	8	19.5
US\$75,001–90,000	4	9.8
US\$ 90,001 or more	5	12.2
Education Level		
High school graduate	5	12.2
Some college classes	9	22.0
College degree	15	36.6
Postgraduate degree	12	29.3
Employed		
Yes	35	85.4
No	6	14.6

samples. Each item is rated on a five-point scale of distress with 0 representing not at all and 4 representing extremely distressed. The inventory consists of three global distress indices and nine primary symptom dimensions. Of interest to this study are the three anxiety symptom dimensions: obsessive-compulsive (OC), anxiety (Anx), and phobic anxiety (PANx). As it relates to this sample, the following alpha levels were calculated: OC dimension was 0.87; anxiety 0.85, and phobic anxiety 0.33. Given the low alpha level, phobic anxiety was excluded from further analysis

Culture Messages about Hair

This questionnaire was developed by our research team, based on our previous TTM work [24] and the extensive existing literature on African American females and hair [14–18,20]. The questionnaire consisted of the following five questions: “How much time do you spend caring for your hair per week/What does it entail?” “How much money do you spend on your hair per month?” “Does your family have rituals or traditions surrounding hair?” “What messages do you hear about your hair as a child and did you interpret them as positive or negative?” “How would you describe your hair?” For the purpose of this study, qualitative analyses focuses on questions three and four.

Procedure

After reading about the study on the Internet or at their hair salon, women contacted the first author and expressed a desire to take part in the study. Once women indicated an interest in participating in the study, they were contacted by a project interviewer. The study was explained and women were asked if they still wished to participate. All participants indicated yes. A phone interview was then scheduled at a time that was convenient for the participants. In accordance with IRB guidelines, at the beginning of the interview, informed assent was obtained.

Interviewers were trained to criteria (90%) in over a 2-week period. Assessment of interrater reliability during the actual interviews conducted was not possible given that, due to the length of time involved (90 min to 2 h), only one interviewer conducted interviews. Our IRB also denied the possibility to audio tape the interviews. Two pilot interviews were conducted.

Participants were interviewed over the telephone by either a female clinical psychology doctoral student or female counseling doctoral student. Women receive a US\$ 35.00 honorarium for participation in the study. All participants expressed great reluctance to accept money for

helping other African American women and they were given the option of tithing to their church or favorite charity.

Data Analysis

A descriptive analysis of hair pulling behavior (e.g., sites), the severity of the symptoms, and the impairment caused by the hair pulling will be presented first. The relationships between the severity (as measured by the two selected TSS questions which will be designated as TSS-R) with the participants' scores on the SCL-90-R[®] anxiety and OC scores were examined via correlation. Participants' responses to the question, “Did you interpret the messages you received about hair as positive or negative,” were tabulated into one of four categories: messages perceived as positive, negative, neutral, or both positive and negative. ANOVAs were performed for value placed on messages and the SCL-90-R[®] anxiety dimensions. ANOVAs were also performed for message value and TSS/TIS responses. Responses to the culture questions were analyzed qualitatively using content analysis.

Results

Descriptive Statistics

As shown in Table 2, women pulled from a variety of sites with the scalp area being the most popular. It should be noted some women pulled from more than one site.

TSS/TIS Scales

Participants' mean score on the TSS was 12.9 (SD = 5.6). Participants' TSS total summed severity scores ranged from 3 to 25. The mean TSS score for the sample indicated moderate severity. The TSS demonstrated normal distribution characteristics ($Sk = 0.229$ and $Ku = 0.206$). The mean score on the TIS was 6.6 (SD = 1.6). Impairment scores for the 40 participants completing the TIS ranged from 4 to 9 and one individual's impairment

Table 2 Pulling sites for African American women

Sites	Frequency	%
Scalp	35	85.4
Eyebrows	10	24.4
Eyelashes	16	39.0
Face	3	7.3
Chest	2	4.9
Arms and legs	3	7.3
Pubic	12	29.3
Underarms	1	2.4

score was 0. Twelve participants' (30%) TIS scores fell in the moderate range (4–6) and 28 participants (70%) TIS scores fell in the severe range (7–10). A Chi-square test for an equal chance probability model for the three categories of impairment, where low (score = 1–3, $n = 0$), moderate (4–6, $n = 12$), and high (7–10, $n = 28$), yielded $\chi^2 = 6.40$, $p = 0.01$. Thus, the sample varied significantly from chance and could be characterized as evidencing moderately high impairment due to trichotillomania ($Sk = -458$; $Ku = -0.947$).

TSS-R/TIS and SCL-90-R® Anxiety Measures

Means and standard deviations for the two dimensions were: $M_{\text{anx}} = 0.74$ ($SD = 0.65$); and $M_{\text{oc}} = 1.2$ ($SD = 0.80$). A significant positive correlation was found among the TSS-R participants' severity and the SCL-OC symptom ($r = 0.45$, $p = 0.003$, $df = 39$). Higher levels of severity were associated with higher OC scores. A positive correlation was also found among severity and anxiety ($r = 0.53$, $p \leq 0.001$, $df = 39$). High ratings of severity were associated with higher scores on the anxiety symptom dimension whereas lower ratings of severity were associated with lower scores on the anxiety dimension. A similar finding for the relationship between total impairment score (TIS) and anxiety occurred, $r = 0.319$, $p = 0.045$, $df = 39$. Higher anxiety symptoms were associated with higher impairment/interference due to hair pulling.

Culture Messages

A content analysis of the open-ended questions, "Does your family have rituals or traditions surrounding hair," and "What messages did you hear as a child about hair/did you experience this as positive or negative." Results are summarized in Table 3.

One-way ANOVAS were performed for the SCL-90-R dimensions, TSS-R, TIS, and positive–negative messages. All F 's were nonsignificant, although the F for the OC dimension approached significance ($p = 0.073$).

Discussion

This study's chief purpose was to investigate the relationship among anxiety symptoms and TTM symptoms in a sample of African American females. Results suggest that for African American women, the more general anxiety and OC symptoms experienced the more severe TTM were perceived. Higher levels of impairment were also associated with higher general anxiety scores.

Table 3 Qualitative analysis of cultural hair questions

Value placed on messages about hair ^a				
Positive	Negative	Both	Neutral	No message
9	12	9	3	5
Content of messages				
Good hair/bad hair				
No nappy hair, touch up the edges				
Black hair needs to be neat, cleaned, and well-groomed				
Be proud of your hair				
Don't associate black hair with bad hair				
Major rituals and traditions surrounding hair				
Weekly/biweekly trips to the hairdresser.				
Certain day of the week reserved for "doing hair."				
Helping mother/grandmother at her hair shop.				

^aThree participants did not respond.

These findings point to a direction for future research on TTM in this population. To date, no studies have examined comorbidity for anxiety disorders in an African American TTM population. Our results suggest a phenomenological study of OC disorder and generalized anxiety in this population. The finding that the F for positive/negative measures and the OC symptoms dimension approached significance strengthens the suggestion to examine comorbidity.

The existing TTM studies, indeed most clinical studies in general, simply examine race by self-report. However, Black hair has physical properties that impact its maintenance [21]. These properties also affect perceptions about hair in African American communities [14]. Results indicate that half our sample received messages about their hair that were either perceived as positive or negative. Most intriguing was that women could receive the same message and assign different values to that message. Whereas one participant might perceive the message "you have good hair" as positive, another might perceive it as negative. This disparity suggests further investigation into the family and community values held about hair among African Americans.

The messages received directly relate to the unique properties of African American hair. For example, messages regarding nappy hair or good or bad hair are unique to the black hair lexicon [14,15]. Anecdotally, during the initially contact phase, each of the 41 women interviewed confided in the first author the same information: "You know how we are about our hair." The existence of and value placed on these messages suggests that to fully understand TTM in African Americans, culture must be investigated. Whereas race/ethnicity may not influence

TTM symptomatology, this variable may influence coping, help-seeking, and other aspects of the disorder.

Limitations

Our sample consists of middle-income professional African American women who self-selected into the study. Depending on one's perspective, this may be perceived as a strength or limitation of the study. The sample's education and income are similar to that reported in TTM studies with other racial groups. The sample, however, does not reflect the heterogeneity of African American's SES. Given the limited range, one cannot help but wonder if a possible relationship exists between education and TTM for African Americans.

The study is also limited by the sample size. Results from the one-way ANOVAS on the culture questions suggest a larger sample may have yielded at least one significant finding. To the best of our knowledge, the research represents the largest interview study with a community sample of African Americans and TTM.

Our sample consisted of women across the United States. The lack of face to face interviews resulted in the decision not to use a semistructured interview. It also precluded clinical observations of hair pulling and its effects. We did, however, use three TTM instruments to ascertain symptoms.

Given the shame, guilt, isolation, and lack of information about the disorder (many participants felt as if they were the only one with this problem), the decision was made to verbally interview participants. For these same reasons, the possibility exists that some women read about the study but chose not to participate. Employing an Internet survey methodology for subsequent studies may increase sample size as women can remain anonymous.

Acknowledgments

This research was funded in part by grants from the Kent State Applied Psychology Center and the Kent State Research Council. The authors wish to thank all participants who so willingly shared their time and their stories.

Conflicts of Interest

Angela M. Neal-Barnett, Ph.D., is the CEO and Founder of Rise Sally Rise, Inc, a training and consulting firm. Deborah Statom has no conflict of interest. Robert Stadulis has no conflict of interest.

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