Research Article

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Stacie M. Fohn (*Southwest Missouri State University*)

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A Descriptive Study fo the Thumb/Finger-Sucking Behavior of Female and Male Subjects Three Years and Older

Stacie M. Fohn, M.S.

Introduction

Many children, at some point in time, either suck their thumbs/fingers, use a pacifier, chew on a blanket/object, chew on their fingers/fingernails or grit their teeth. Schipani and Moran (1994) discuss how pacifiers and thumb-sucking provide children psychological comfort and that parents should allow their children to engage in these activities. Van Norman (1997) describes the neurochemistry of the pleasure, relaxation, and stress relief that occurs during digit sucking.

Beyond the age of three to four years, society seems to have a more negative view of children sucking their thumbs. Children who suck their thumbs may at some point find themselves taunted by their parents, siblings, and peers. Researchers (as cited in *Pediatric Report's Child Newsletter*, 1993) report "Children's acceptance by peers is an important determinant of their social development. When children are socially rejected, they are at risk for a range of emotional and social problems. Whether a child is accepted or rejected by peers is significantly influenced by the presence of childhood problems. Problems especially linked to rejection are those peers view as self-controllable." (p. 37)

Numerous references advise parents not to "scold," "ridicule" or "shame" their child into eliminating his/her thumb-sucking behavior and that a child will give up the behavior when he/she is ready. However, what happens if the child does not become "ready"? Neifert (1995) stated that "thumb-sucking is an effective way for young children to comfort themselves—up to a point. After a certain age it can have some troubling side effects, both physical and psychological. Most thumb-suckers stop by the time they're six. In older kids it may be a sign that a youngster is chronically frustrated, sad or tired." (p. 60)

Van Norman (1997) gives a comprehensive overview of the numerous dental and orthodontic ramifications of excessive, prolonged sucking and the benefits of successful treatment to eliminate the habit.

A study was done with a group of first-grade students age six to eight years of age. The students were shown pictures of a boy sucking his thumb, the same boy not sucking his thumb, a girl sucking her thumb, and the same girl not sucking her thumb. Both the boys and the girls rated the thumb-sucking poses negatively, based on observed verbal and nonverbal behaviors (*Pediatric Report's Child Health Newsletter*, 1993). The researchers concluded that first-graders judged the thumb-sucking children to be "significantly less happy, intelligent, attractive, likable, and

fun. In addition, when thumb-sucking, the children were less desirable as a friend, seatmate, classmate, playmate, and neighbor. Prolonged thumb-sucking may be an indication of insecurity. If it persists into the first-grade, thumb-sucking may add to the child's problems." (p.1)

Related Literature

Thumb-sucking in children over the age of three to four years may indicate "environmental stress" (Leung and Robson, 1991). The authors suggest that when a child is thumb-sucking, the child may be feeling, "bored, tired, frustrated or unhappy" (p.1726). A study was conducted on 142 "non-handicapped" children in nine residential care facilities. The subjects ranged in age from 10 months to 11 years. One of the most frequently observed behaviors in infants and young children was thumb-sucking. Thumb-sucking was also observed in the preschool-age children. Nail biting/chewing was observed in school-age children as well. Nail biting was noted in the study as being seldom observed in children under the age of four years. (Troster, 1994). Because children frequently bite their nails, labeling the habit as a problem depends on how the child is affected by the behavior (Hanson and Barrett, 1988).

A study was conducted on twins who were separated at birth and raised in different environments. Amy and Beth, twins known in psychological literature, were raised in two completely different home environments. Amy did not receive the same advantages that Beth did, yet both girls displayed similar characteristics in their infancy and early childhood. Amy and Beth both sucked their thumbs, bit their fingernails, clung to blankets, and wet the bed. (Wright, 1995). This study raises the question of why both girls displayed the same behaviors even though one child was seen as being "privileged" and the other child was viewed as being "deprived."

According to Maynard (1991), young children will use their thumbs to serve as a "reassuring reminder of warmth, closeness and gratification" and will "continue to reach for their thumbs when tired, anxious, or lonely, or at transition times" (p. 71). Susan Berry, a psychologist at the Stothers Centre for Children and Families in Toronto, Canada (as cited in Maynard, 1991) stated that "when a child is struggling to master a new skill, is distressed at separation, or is unsure, sucking becomes the way in which he soothes himself and learns to become more independent as well as to cope with stress on his own." (p. 71) Occasional thumb-sucking is not an issue at an early age when a child feels distressed. However, if a child sucks on their thumb

consistently throughout the day, the behavior should be attended to (Maynard, 1991).

Bernstein (1994) says, "A thumb-sucking child will encounter fierce and unwelcome social pressure, both from her peers and adults, at the same time that she faces the challenge of starting school" (p.74). Maynard (1991) "expresses that external pressures—nagging, shaming, threatening, ridiculing, punishing—won't eradicate thumb-sucking. Making the child feel inadequate by using such techniques may actually intensify his need to suck. It's much more effective to rely on the child's strong instinctive desire to become competent, independent, and grown-up." (p.79)

Again, the question is asked, why do people suck their thumbs, bite their fingernails or clench their teeth? Why do people exhibit these abnormal oral behaviors? The research reviewed suggests stress is a big factor, along with others. If so, then why does a child who comes from a "nurturing" environment suck her thumb, grow up biting her fingernails, and eventually grind her teeth at night? No literature was found to answer such a question, although there seems to be a great debate taking place among various professionals.

Statement of the Problem

The purpose of this study was to obtain information regarding the prevalence of thumb-sucking behavior, assess typical situations in which the behavior occurs, identify what the child is feeling when the behavior occurs, and explore the purpose of the behavior.

Rationale for the Study

There seems to be a highly debated question regarding why some children display certain oral behaviors and others do not. No specific literature was found to answer such questions. Hanson and Barrett (1988) stated "Let us state at the onset that we know of no quick and effortless panacea for the management of digit sucking. This is an area that deserves careful and detailed exploration. It has been discussed for many generations in the literature of many professions—psychology, medicine, dentistry, speech pathology and others. Despite all of these statements and investigations, many clinicians still scurry about seeking for simplistic solutions to the problem. It seems that almost as many others have a ready answer, ranging from the unfounded horror of the Freudians at even raising the question to the barbed 'crib' still welded in place by a few dentists who lack both patience and compassion. Somewhere between must lie reason." (p. 328)

Some children merely suck their thumbs out of habit. But, there are others who use thumb-sucking as a comforting mechanism or to vent frustration.

Questions to be Answered

- 1). How long has the child sucked his/her thumb?
- 2). What is the duration of the behavior when it occurs?
- 3). How frequently does this behavior occur?

- 4). What is the child doing when the behavior occurs?
- 5). What emotion does the child seem to be experiencing before engaging in the behavior and during the behavior?
- 6). How does the parent perceive the child's thumb-sucking behavior?

Subjects

Subjects were individuals currently or previously treated for digit sucking by members of the International Association of Orofacial Myology. The therapists for the study were recommended by the President of the Missouri Dental Hygiene Association. The therapists then selected clients they were seeing or had recently seen to participate in the study. Subjects were located in Nebraska (4 female 3 male), Alabama (6 female 2 male), California (1 female 2 male), Michigan (1 female 2 male), Illinois (4 female 1 male), and Missouri (4 female). The subjects ranged in age from 3 years to 48 years. The largest age group for males was 5-6 years and the largest age group for females was 7-8 years.

Instrument and Design

This study was designed as a descriptive study. Surveys were distributed to the therapists who administered the surveys to the subjects (Appendix C) and to the subjects' parents (Appendix D) to collect research data. The subjects were asked seven questions. The parents were asked eleven questions. Observation of subject behaviors and emotional states were hand recorded by the therapist as defined by the survey questions and the investigator.

Procedure

A cover letter (Appendix A) and consent form (Appendix B) were distributed to parents of subjects in therapy for finger/thumb sucking behaviors. The subjects were asked seven survey questions by their orofacial myologists (Appendix C). Parents of the subjects were given survey questionnaires and asked to complete them while their children were in their therapy sessions. Subjects and their parents were informed that this was a confidential study designed to investigate thumb-sucking.

The therapists involved in the study were given postage-paid addressed envelopes to mail the subject and parent survey instruments back to the investigator. Consent forms were retained by the therapists in the subjects' medical record files. All pertinent data was to be sent to the researcher by November 1, 1996.

Results

Data were reported as the percentages and/or frequencies of subjects' responses to the items in the Parent Survey and the Therapist Survey. Findings from the survey were analyzed according to gender. In this study, thumb-sucking was examined in subjects three years and older. The purpose of this study was to obtain information

regarding the prevalence of the thumb-sucking behavior, assess typical situations in which the behavior occurs, identify what the subject is feeling when the behavior occurs, and explore the purpose of the behavior. There were 20 female and 10 male subjects in this study.

Table 1: Sex and Age of the Subjects

	Female n=20	Male n=10
3-4 years	3 (10%)	0 (0%)
5-6 years	4 (13%)	6 (20%)
7-8 years	6 (20%)	2 (7%)
9-10 years	2 (7%)	1 (3%)
11-12 years	2 (7%)	1 (3%)
12+ years	3 (10%)	0 (0%)

Table 1 shows the age groups of the subjects by gender. The age group of 7-8 years was the largest for females and the age group 5-6 years was the largest for males in this study. Subjects of the ages 3-4 years and 12+ years were not represented by males.

There were significant differences between the parents of males and females in the study regarding working/non-working; presence or number of siblings; time spent in pre-school or with other caregivers.

Responses to the "Subject Survey" questions (Appendix C) are presented in Tables 2 and 3. Ninety percent of the females and eighty percent of the males report that their thumbs taste "good." When asked what it tastes like, responses included: pudding, juice, Coke, strawberries, chocolate, candy, sweet, sauce and "germs and dirt."

Table 2: Therapist Survey, Item 1, Does your thumb/finger taste good?

	Female	Male
YES	90%	80%
NO	10%	20%

Table 3: Therapist Survey, Item 3, When do you like to suck your thumb?

	Female (n=20)	Male (n=10)
Bedtime	100%	100%
Playtime	20%	20%
Mealtime	10%	10%
While Watching Television	90%	90%
While Riding In Car	95%	80%
While Being Read To	60%	40%
While Reading To Self	30%	20%
While Listening To Music	20%	50%
While Concentrating/Studying	15%	20%
When Alone	75%	50%
During School	20%	50%
After School	65%	50%
When You Get into Trouble	55%	70%
When Ill/Sick	60%	80%

In Table 3, percentages represent the situations when the subjects like to suck their thumbs/fingers. One-hundred percent of the subjects surveyed suck their thumbs when they go to bed. Females like sucking their thumbs/finger the most when riding in the car, when watching television and when alone. Males favor their thumbs/fingers when watching television, when riding in the car, when ill/sick and when they were in trouble. Additional responses given by the subjects included when they were upset, anxious and meeting strangers.

Table 4: Parent Survey, Item 3, Situations In Which Thumb/Finger-Sucking Occurs

	Female (n=20)	Male (n=10)
Bedtime	100%	100%
While Sleeping	90	80
During Play	15	10
After A Confrontation	60	60
Mealtime	10	10
While Watching Television	90	90
When Angry/Frustrated	80	70
When Ill (sick)	85	60
While Riding In The Car	85	70
When Tired	90	90
When Bored	80	50
While Being Read To	65	40
While	20	30
While Listening To Music	15	40
While Concentrating	25	30
When Alone	70	40
At School	10	50
After School	55	50

As shown in Table 3 and in Table 4, both the subjects and the subjects' parents say thumb-sucking occurs most consistently at bedtime. The parents' responses also show thumb-sucking to occur during sleep, 90% in females and 80 % in males. The same percentages of parents of females and of males viewed thumb/finger-sucking to occur while their children watched television (90%), and when their children were tired (90%). When the investigator compared each individual subject's responses to those rated independently by the subject's parent, there was almost complete agreement between the child and parent perception of when the sucking behavior occurs. Exception: one boy answered that he only sucked his thumb at bedtime and his parent answered that he sucked his thumb in every listed situation. Also, one girl answered that she sucked her thumb for every response given and her parent only answered the bedtime response.

Table 5: Therapist Survey, Item 4, How do you feel just before you suck your thumb/finger?

	Female (n=20)	Male (n=10)
Tired	95%	100%
Scared	50%	50%
Mad/Angry	55%	70%
Bored	80%	80%
Sick	55%	50%
Hungry	25%	20%
Lonely	50%	30%
Happy	5%	20%
Safe	10%	20%
Guilty	40%	10%
Thirsty	45%	20%
Relaxed	60%	40%

Table 5 shows feelings subjects experience before sucking their thumbs/fingers. The majority of the subjects (95% female, 100% male) said that they are tired when they suck their thumbs/fingers. Eighty percent of the females and males alike said they feel bored before they suck their thumbs/fingers. The next highest response for females was the feeling of being relaxed (60%). The next highest response for males was that of feeling mad/angry (70%) before they suck their thumbs/fingers.

Gender-based differences are shown in the responses of females feeling: lonely (50%), happy (5%), guilty (40%), thirsty (45%), and relaxed (60%), before they suck their thumbs. This compares to the males' responses of feeling: lonely (30%), happy (20%), guilty (10%), thirsty (20%), and relaxed (40%), before they suck their thumbs.

The subjects were asked questions about how often (i.e. weekly, daily, number of times a day), how long (i.e. seconds, minutes, hours), and how long (i.e. months, years, since birth) they suck their thumbs/fingers. The therapists helped the subjects in answering these questions. Females responded with answers such as: daily, lots, frequently, all day, several times a day, since birth, since infancy, since little sister was born, since parents took pacifier away, eight hours a day, four minutes, and years just to name a few. Males responded similarly with: regularly/daily, all my life, eight to ten times a day, all night and twenty to thirty minutes. Table 6 shows the parent responses to these questions.

Table 6: Parent Survey, Item 4, How frequently do the behaviors occur? Item 5, How long do the behaviors last? Item 6, How long do you think your child has been sucking his/her thumb/finger?

Item 4	Female (n=20)	Male (n=10)
Weekly	5%	0
Daily	15%	10%
1-2 Times A Day	20%	10%
3+ Times A Day	60%	80%
Item 5	Female (n=20)	Male (n=10)
No More Than 10 Sec.	0	0
No More Than 30 Sec.	0	0
No More Than 1 Min.	5%	0
1 Minute to 5 Minutes	5%	10%
More Than 5 Minutes	15%	10%
More Than 10 Minutes	50%	50%
Item 6	Female (n=20)	Male (n=10)
Less Than 6 Months	0	0
6 Months	0	0
1 Year	0	0
More Than 1 Year	5%	0
More Than 2 Years	30%	20%
Since Birth	65%	80%

Table 6 shows that most of the children were reported to suck at least three or more times a day (60% females, 80% males). The most frequently reported duration was "more than 10 minutes" (50% females and males). Most of the subjects had been sucking since birth (65% females, 80% males).

Summary of Findings

- 1). The majority of the subjects think their thumbs/fingers taste good.
- 2). All subjects like to suck their thumb/fingers at bedtime, and almost all subjects like to suck their thumbs/fingers when tired.
- 3). The majority of the subjects like to suck their thumbs/fingers when bored.
- 4). Over half of the female and male subjects feel mad/angry before they suck their thumbs/fingers.
- 5). Females are more likely than males to feel lonely, guilty, thirsty and relaxed before they suck their thumbs/

fingers.

- 6). Males are more likely than females to feel happy before they suck their thumbs/fingers.
- 7). The majority of the subjects like to suck their thumbs while watching television and riding in the car.
- 8). Parents and children very closely agree (with the two exceptions mentioned) on when the sucking behavior occurs.
- 9). The majority of subjects suck their thumbs/fingers more than three times a day. However, more males than females suck their thumbs/fingers more than three times a day.
- 10). Usually, the thumb/finger-sucking behavior lasts more than 10 minutes.
- 11). The majority of the subjects have sucked their thumbs/fingers either since birth or for more than two years.

Recommendations

Based on this study, it is recommended that further research be conducted on those who suck their thumbs/fingers, in order to further understand why subjects continue such behavior. It would also be beneficial to investigate the gender-based differences found in this study in order to interpret the meaning of these differences and to see if they have implications for therapy.

Appendix A Cover Letter

Dear Parent/Caregiver:

I am a Guidance and Counseling graduate student at Southwest Missouri State University. I am conducting a survey on children who currently suck their thumbs, or have sucked their thumbs in the past. The goal of the study is to identify viewpoints and feelings the parent and the child have regarding thumb sucking. The survey contains 11 short questions for you to answer and 7 similar questions for your child to answer. Your child will be asked the questions by the therapist.

Participants will remain anonymous. No names will be listed in the final write-up of the study. I appreciate your cooperation and prompt response to this survey.

Sincerely,

Stacie Fohn
B.S. Communication Sciences and Disord
M.S. Candidate in Guidance and Counseling

Appendix B Consent Form

Parent Consent Form

I agree to my child, and to myself, participating in this study that is being used to investigate thumb/finger-sucking. I am aware that this survey is confidential and that our responses will remain anonymous. I understand that this study is being conducted as work towards a Master's degree in Guidance and Counseling for a student. I do not hold the therapist or the student conducting this survey liable in any sense.

(Parent Signature)

(Date)

(Witness/Therapist)

(Date)

Appendix C Subject Survey Instrument

Therapist Survey

Male

Female

___Age

- 1). Does your thumb/finger taste good?

___Yes

___No

- 2). What does it taste like?

- 3). When do you like to suck your thumb? (Mark all that apply)

___Bedtime

___While listening to music

___Other

___Playtime

___While concentrating/studying

___Mealtime

___When alone

___While watching television

___During school

___While riding in the car

___After school

___While being read to

___When you get into trouble

___While reading to yourself

___When ill/sick

- 4). How do you feel just before you suck your thumb/finger?

___Tired

___Lonely

___other

___Scared

___Happy

___Mad/Angry

___Safe

___Bored

___Guilty

___Sick

___Thirsty

___Hungry

___Relaxed

- 5). How often do you think you suck your thumb? (i.e. weekly, daily, number of times a day?)

- 6). How long do you think you suck your thumb? (i.e. seconds, minutes, hours?)

- 7). How long do you think you have been sucking your thumb? (i.e. months, years, since birth?)

Appendix D

Parent Survey Instrument

Parent Survey

- 1). How old is your child? 2). Is your child...

☐ 3-4 years	☐ male
☐ 5-6 years	☐ female
☐ 7-8 years	
☐ 9-10 years	
☐ 11-12 years	
☐ 12+ years	
- 3). Mark typical situations in which thumb sucking occurs. (You may mark more than one).

☐ Bedtime	☐ When tired
☐ While sleeping	☐ When bored
☐ During play	☐ While being read to
☐ After a confrontation	☐ While reading
☐ Meal time	☐ While listening to music
☐ While watching television	☐ While concentrating
☐ When angry/frustrated	☐ When alone
☐ When ill	☐ At school
☐ While riding in the car	☐ After school
- 4). With what frequency do you think the behaviors occur?

☐ Weekly	☐ 1-2 times a day
☐ Daily	☐ 3+ times a day
- 5). Approximately how long do you think the behaviors last?

☐ No more than 10 seconds	☐ 1 minute to 5 minutes
☐ No more than 30 seconds	☐ More than 5 minutes
☐ No more than 1 minute	☐ More than 10 minutes
- 6). How long do you think your child has been sucking his/her thumb/finger?

☐ Less than 6 months	☐ More than 1 year
☐ 6 months	☐ More than two years
☐ 1 year	☐ Since birth
- 7). Are the child's parents:

☐ Single	☐ Separated
☐ Married	☐ Widowed
☐ Divorced	
- 8). Do both parents (or does the single parent) work?

☐ Yes
☐ No
- 9). Does the child spend time with a care-giver other than a parent?

☐ Yes	If yes, how many hours on a weekly basis?
☐ No	
- 10). Does the child have siblings?

☐ Yes	If yes, how many siblings does the child have?
☐ No	
- 11). If not in public/private school, does the child attend/participate in a daycare or pre- school program?

☐ Yes	☐ No
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Thank you again for your participation. All responses will remain confidential.

REFERENCES

- Bernstein, L. (1994, January). Thumbs away!. Common sense strategies for weaning your child from thumbs and pacifiers. *Parents Magazine* 69.
- Hanson, M. L. & Barrett, R. H. (1988). *Fundamentals of Orofacial Myology*. Springfield, IL: Charles C Thomas.
- Leung, A. & Robson, W. L. (1991, November). Thumb sucking. *American Family Physician*. 44.
- Maynard, F. (1991, January). There's a thumbsucker born every minute. *Parents Magazine*, 66.
- Neifert, M. (1995, April). The trouble with thumb-sucking. *McCalls* 122.
- Pediatric Reports Child Health Newsletter* (1993, June). What do first graders think of thumb suckers?
- Schipani, D. & Moran J. (1994, April). The ins and outs of pacifiers. *American Baby*, 56.
- Troster, H. (1994). Prevalence and functions of stereotyped behaviors in nonhandicapped children in residential care. *Journal of Abnormal Child Psychology* 22.
- Van Norman, R. (1997). Digit sucking: A review of the literature, clinical observations, and treatment recommendations. *International Journal of Orofacial Myology* 23.
- Wright, L. (1995, August, 7). Double mystery. *The New Yorker* 71.