

A RESEARCH STUDY TO EXAMINE THE PREVALENCE
OF BULIMIA NERVOSA IN ADOLESCENT
FEMALES AND THE FAMILIAL EFFECTS ON THE
EATING DISORDERED ADOLESCENT.

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BY

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CHAPTER ONE

INTRODUCTION

Bulimia nervosa is an eating disorder most commonly found in adolescent females. Bulimia nervosa, as defined by the American Psychological Association, involves

“Individuals [that] eat excessive quantities of food, then purge their bodies of the food and calories they fear by using laxatives, enemas, or diuretics, vomiting and/or exercising. Often acting in secrecy, they feel disgusted and ashamed as they binge, yet relieved of tension and negative emotions once their stomachs are empty again” (<http://www.apahelpcenter.org/articles/article.php?id=9>)

According to Wilson (2007), body weight associated with this disorder is normal (BMI of 18.5 - 24.9) to low normal (BMI of less than 18.4) although it does occur in some overweight individuals (BMI of 25 - 29.9) and overall prevalence is roughly 1 to 2% in community samples (p203).

Root, Fallon, and Friedrich (1986) conceptualize that an adolescent with bulimia holds a connection problem between themselves and their family in the movement toward independence and young adulthood. Often, these families have boundary problems and fit into one of three familial types: perfect, chaotic, or overprotective (Fagan & Andersen, 1990). Fagan and Andersen conclude that eating disordered adolescents need modeling of expressive affection between adolescents, even more than the typical adolescent does.

Since more females suffer from eating disorders than ever before and more families are being affected by its stress and harm, additional research needs to be conducted on this growing public problem. If positive steps are not taken, families and individuals touched by bulimia nervosa will continue to function in an unhealthy state.

Problem Statement

The purpose of this research study was to examine the prevalence of bulimia nervosa in adolescent females and the familial effects on the eating disordered adolescent.

Rationale

Wilson, Grilo, and Vitousek (2007) have deemed the participants of this, and related studies, as being "...currently understudied populations of adolescents and patients diagnosed with eating disorders..." (p212). There is a giant need for the study of adolescents and eating disorders.

Although adolescents with eating disorders can be considered understudied, there is a vast amount of information about such populations i.e. race, culture, mental health... (Francis & Birch, 2005; Attie & Brooks-Gunn, 1989). Unfortunately, empirical data is not solid and most conclusions are highly speculative (Strober & Humphrey, 1987). Studies and conclusions about this population and the etiology of such eating disorders must be re-analyzed. This vital information will enable professionals to evaluate the association between bulimia nervosa and parameters such as familial factors. This would then provide avenues for researchers and health professionals working with this population to identify appropriate intervention strategies in the care of adolescents with bulimia nervosa.

Definitions

For the purpose of this study, the researcher, from her own studies, adapted the following definitions for use:

- *Eating Disorder (ED)* - the compulsion to eat, or not eat, in a way that disturbs physical and mental health.
- *Bulimia nervosa (BN)* - characterized by recurrent binge eating, regular purging, and negative self-evaluation that is solely determined by weight and body shape.
- *Binge eating* - uncontrolled consumption of large amounts of food
- *Purging* - behavior designed to control body weight such as self-induced vomiting, laxative use, and excessive exercise.
- *Self-evaluation* - perception of self.
- *Family* - those closely related and/or official caregivers.
- *Familial effects* - the consequences that a family's structure and health holds over an individual family member.
- *Adolescent* - any person between the ages of 12 and 20.

Limitations

The following are pre-identified limitations for the proposed study:

- Availability of scientific resources (i.e. databases, journals) limit this meta-analysis to research materials offered at Ball State University.
- Unlike a thesis, a research paper is less extensive and may be limited in the scope of its literature review.
- Although there are several contributing factors to the etiology of bulimia nervosa, this research paper will only investigate familial factors as a leading cause of this disorder.
- The focus of this research is on adolescents from only the United States. This limits the researcher from many cultural differences that could only be seen in diverse studies.
- Within the large spectrum of research on eating disorders, there is a very limited amount of meta-analyses. This unique study is one of only several like it.
- Due to recent societal pressure and the growth of eating disorders, the research is new and current. The

research used in this study was obtained within the last thirty years.

- Adolescents are known to be the future. They are an important key to our culture. Analyzing the data for this generation would be an important asset.
- With this research, the current studies will be analyzed, compared and contrasted to others, and eventually validated by the common findings.

Assumptions

- The research will be thorough. A large number of previously studied data will be re-analyzed.
- The research will not be biased in its findings. The paper will include articles from many scientists and points of view.
- It is assumed that data will show a connection between family and home environments and eating disorders, specifically bulimia nervosa.

Summary

Bulimia nervosa is a disorder reaching far deeper than surface level. What really causes bulimia? Is it strictly a desire to lose weight or look differently? Does a family

structure lead to the pain and trouble of an eating disordered young woman?

This study hoped to answer these questions. There is a reason that adolescents manage their fear and pain by practicing bulimia. What is this reason? It may be the fear of gaining weight or body change, but the researcher believes it is more. Research shows that there is an outside source driving a young person to bulimia. This study investigated the research of others to understand what this driving force is.

CHAPTER TWO

REVIEW OF LITERATURE

In the past few decades, research in the field of eating disorders (ED) has grown abundantly. Unfortunately, it is still a small area of study. The purpose of this research study was to examine the prevalence of bulimia nervosa (BN) in adolescent females and the familial effects on the eating disordered adolescent. This literature review will define eating disorders, and specifically bulimia nervosa, determine the prevalence of them, show the measurements used for diagnosis, and point to the familial effects on the development of EDs.

Introduction

America has become seemingly obsessed with the perfect body. Everyday, people are faced with advertisements, videos, and television that portray the ideal American. Tall, thin, dark, and beautiful is what everyone longs to be (APA, 2004). Unfortunately, this is causing many young people to strive for the impossible. Most body types will

never be able to be the 5'8" woman weighing in at 110 pounds. It is an unobtainable goal. Yet, many adolescents, primarily females, are doing all they can to reach this perfect thinness. What is it that these young girls are doing? How many are going too far? Do eating disorders evolve strictly from a desire for thinness, or is there another factor in the etiology of EDs? Answers for these questions can be derived from the latest research in this field.

Prevalence of Eating Disorders

Problematic eating has become more and more of a concern within research as the prevalence of eating disorders is on the rise. Adolescents have been known to especially suffer from these problematic eating and body-related behaviors (Salafia et al., 2007, Manley & Leichner, 2003).

As many as 1% of American adolescent females are reported to suffer from anorexia and about 3% could be described as bulimic (Rees, 2007; APA, 1994; Salafia et al., 2007). Unfortunately, these statistics are based on the clinically diagnosed eating disordered teenagers. There are however, many youth who will live their lives under the

radar and never be said to have an eating disorder (ED), although engaged in extremely unhealthy weight regulation. (Tylka, 2004; Graber, Brooks-Gunn, Paikoff, & Warren, 1994). One study found that within undergraduate students, 82% of subjects reported one or more dieting behaviors at least daily, and with more serious forms of weight control, such as laxatives and vomiting, 33% reported use at least once a month. Thirty-eight percent of subjects reported consistent problems with bingeing (Mintz & Betz, 1988).

Eating Disorders

As girls mature sexually, in the adolescent stage, they begin gaining large amounts of fat. For many girls, this "fat spurt," (Attie & Brooks-Gunn, 1989) adding approximately 11 kg of weight, can be a very traumatic experience. Thus, many pubertal adolescents begin their desire for thinness (Attie & Brooks-Gunn, 1989; Graber, Brooks-Gunn, Paikoff, & Warren, 1994; Stice, Mazotti, Krebs, & Martin, 1998) and problematic eating.

Psychologists often use the term disordered eating to describe patterns of eating attitudes and behaviors that are unhealthy. Disordered eating is a broad term labeling everything from unnecessary preoccupation with weight and

body image to clinically diagnosed eating disorders. Studies show that disordered eating is linked with many psychological problems associated with stress, such as depression, substance use, social isolation, perfectionism, anxiety, and unhealthy interpersonal relationships (Steinberg, 2005; APA, 1994).

Although eating disorders vary in both severity and method, symptoms frequently model those of either anorexia nervosa (AN) or bulimia nervosa (BN). Obsessive thoughts of weight and body figure as well as excessive self-evaluation of weight and shape are primary symptoms in both disorders. Most eating disordered adolescents demonstrate a mixture of both anorexia and bulimia (APA, 1994). For the purpose of this research review, bulimia nervosa will be of primary interest.

Bulimia Nervosa

Bulimia nervosa is characterized by recurrent binge eating, regular purging, and negative self-evaluation that is solely determined by weight and body shape. Bulimia sufferers are great levelers of experience. Victims of this illness will see their lives reduced to a routine pattern of complete predictability (Manley & Leichner, 2003).

Adolescents with bulimia can be divided into two subtypes: purging and non-purging. The classic case of bulimia holds true of the purging type. These individuals eat and binge until full. At that point, the classic bulimic will excuse themselves to another place where they will release their binge by forcing themselves to throw it all up. The second subtype of bulimia includes the non-purgers. These individuals will eat large amounts, but compensate for this by using other inappropriate methods, such as fasting or excessive exercising. (APA, 1994; Steinberg, 2005; NIMH, 2007)

Unlike the typical anorexic, bulimics are normally hard to distinguish. Generally, they fall within the normal range of height and weight and display relatively stable eating habits. Usually, bulimic behavior is done in secrecy due to its accompanying feelings of shame and guilt. This shame and guilt may prevent the bulimic individual from seeking treatment in the early stages of the disorder (APA, 1994; NIMH, 2007). Unfortunately, this may lead to a life-long battle. Because of psychological consequences, the sooner an ED is diagnosed and treated, the more chances a person has of leading a normal life.

Personality wise, much like the anorexic individual, the typical bulimic struggles with an elevated level of negative emotions. However, unlike anorexia, bulimia often runs parallel to a decreased level of constraint in decision-making. This pattern suggests that women with BN tend to be anxious and impulsive, a personality which may be a factor in the binge eating and purging cycles (Klump, McGue, & Iacono, 2002).

Measurement and Diagnoses

The American Psychological Association (APA) developed the main classification system for eating disorders. It is known as the DSM-IV, or Diagnostic and Statistical Manual of Mental Disorders, 4th ed. With this current system, EDs can be diagnosed reliably through several semi-structured or clinical interviews. There has been some diagnostic validity, but because of the number of EDs and varying symptoms, outcomes cannot be considered perfect (Wonderlich et al., 2007).

While the DSM-IV works well in establishing major cases and differentiating between the main anorexia and bulimia categories, approximately 60% of those with EDs do not meet DSM-IV diagnostic criteria for AN or BN. Instead,

most meet criteria for an eating disorder not otherwise specified. The majority of these cases can be classified as the binge-eating disorder. Although this accounts for a large number of eating disorders, over time approximately 70% of these cases will be clinically elevated to anorexia or bulimia (Wonderlich et al., 2007).

Anorexia nervosa and bulimia nervosa demonstrate far different long-term patterns concerning recovery and mortality. They are also very different in their cultural and historical representations, with BN demonstrating a tie that is consistent with a culture-bound syndrome. For bulimia, antidepressant medications and cognitive-behavioral therapy have been seen as well-established treatments (Wonderlich et al., 2007)

Familial Factors to Bulimia Nervosa

What causes one person to suffer from a life of disordered eating while so many others escape its dangerous lifestyle? Many researchers will have a list ready for the answer to this question. Some say it is genetic and biological while others will argue that it is strictly environment. However, while the true etiology of eating disorders may be debatable, most will agree that home

environment and parenting styles have a large effect on a child's eating habits (Franko et al., 2008; Francis & Birch, 2005).

Children are very dependent on the care-giving of others. They are born incapable of caring or providing for themselves. This is not a bad thing, but it is important that children have someone there to provide protection, care, and nutrients for them. In healthy families, that caregiver is normally one or both of the parents. With each year, the child becomes a little more independent and finally reaches a state of autonomy where he or she is capable of everything the caregiver is providing. Unfortunately, not every home is healthy and capable of raising healthy children. Studies have shown that parenting styles can destroy a child's ability to grow and achieve normal development (Salafia et al., 2007; Strober & Humphrey, 1987). Some researchers would state this as, "Familial variables are known to influence child and adolescent health concerns, including nutrition, physical activity[...]" (Franko et al., 2008).

When families have high levels of conflict and low levels of cohesion, there seems to be a greater chance of childhood physical and emotional abuse (Mazzeo & Espelage,

2002). History of abuse stands out as a common thread among many individuals suffering with bulimia. In fact, childhood sexual abuse histories are reported more often in women with all psychiatric disorders, including eating disorders, than in women from the general population. Sexual abuse has been reported in approximately 35% of patients with bulimia and anorexia (APA, 1994).

While abuse cases are seen throughout the course of many eating disorders, it is not the only environmental cause of bulimia nervosa. Parenting style has long been cited as an important influence in the development of eating disorders in adolescents (Salafia et al., 2007). Typically, a bulimic individual grows up in a family of under-involved parents. Their families are described as hostile and highly confrontational and generally lack any sort of nurturing (Wonderlich & Swift, 1990; Humphrey, 1989 as cited in Mallinckrodt, McCreary, & Robertson, 1995). In particular, these parents are seen as having difficulty promoting individuality within their family and fail to balance acceptance with autonomy promotion. One recent study revealed that among girls, ages 12 through 16, lack of emotional support by parents predicted an increase of

body dissatisfaction over three years (Bearman et al., 2006 as cited in Salafia et al., 2007).

The typical bulimic, having less care and support, may look for an outlet of emotions. When analyzing the psychological aspect of bulimia, one may hypothesize that the bulimic turns to food rather than to people or internal resources for comfort. Food may be nurturing and soothing for a bulimic who feels misunderstood and overwhelmingly tense and emotional, which may lead to continual bingeing in times of need (Humphrey, Apple, & Kirschenbaum, 1986). Instead of going to parents or guardians for love, respect, and understanding, a bulimic will turn to food. They may feel as if food is the answer. Those individuals suffering with bulimia nervosa will often report greater blaming, attacking, withdrawing, and neglecting behaviors exhibited in the home than those without bulimia (Humphrey, Apple, & Kirschenbaum, 1986). The anger and mistrust may be all they know.

Unfortunately, a binge-eater may then try to compensate for the comfort of food by purging. The adolescent often feels huge societal pressure to remain thin and must, therefore, clear his/her body of all the sustenance already consumed (Pike & Rodin, 1991). Even more

unfortunate, society is not the only factor producing pressure for the thin-ideal. Adolescents' eating behaviors and thoughts may be learned through parents' modeling of eating behaviors (Francis & Birch, 2005). Parents often convey eating patterns, messages about eating, or even pressure to conform to their culture's view of acceptable body image (Wonderlich, Klein, & Council, 1996). If a child believes his/her parents can only love them if they look and act like them, weight gain from the binges must be controlled.

The literature is clear that BN is a disorder with distinctive cognitive, intrapsychic, and familial features. Specifically, fears of abandonment along with lack of autonomy are major factors in the interpersonal relationships of bulimic women (Friedlander & Siegel, 1990).

Conclusion

The etiology of eating disorders is very complicated. There is not one single cause, nor is there a safe environment for avoidance of EDs. However, the research cited shows the familial environment as a clear factor in the development of eating disorders and, specifically, bulimia nervosa. In contrast to anorexia, the home

environment of a bulimic adolescent is generally found to be a place of conflict. The abuse and neglect that the bulimic may feel can lead to a life of fighting the urge to satisfy their own physical or emotional needs. This is where the hunger, binging, and purging set in.

So what can be done for these young adults? There have been many suggestions made in present research dealing with EDs and bulimia, but in dealing with adolescents or college age females, it is important to realize the high prevalence of eating disorders. Some say that extreme weight concern and dieting habits have now become the rule, not the exception (Mintz & Betz, 1988). This knowledge and awareness will allow us to approach adolescent counseling with a different attitude. There is more to a teenager suffering with disordered eating than just that disorder. Researchers and medical professionals must look deeper into the source of the current problem.

Low self-esteem, poor body image, depression, and alexithymic symptoms (unable to express emotions) may all be in response to a bulimic's home environment (Mazzeo & Espelage, 2002; Mintz & Betz, 1988). Of course, these are the very symptoms that may have caused the onset of

bulimia, showing the relation between home environment and development of eating disorders.

Summary

As mentioned above, bulimia nervosa is a complicated disorder. It has a variety of symptoms and classifications, as well as causes and roots. Extensive evidence that parenting practices and home environments effect the development of eating disorders exists (Francis & Birch, 2005). As mentioned above, there are many ways in which this may occur. Pressure to be thin, high hostility and low cohesion in the home, previous abuse, and/or little autonomy support may contribute to dangerous eating habits.

Although no research can boast one factor above the other, familial affects, as a broad umbrella, are known to be a leading cause in the development bulimia nervosa. Many tests, questionnaires, surveys, and observations have been completed to support this claim. The family system is a powerful player during the developmental phase.

CHAPTER THREE

METHODOLOGY

Past and present research shows that in many cases of eating disordered adolescents, psychological distress due to the existing home environment is much greater than in other adolescents. The purpose of this meta-analysis research study was to show the prevalence and familial effects on an adolescent with bulimia nervosa (BN). This chapter will describe the methodology chosen for this study. All information gathered was in a non-experimental research method with previously recorded data.

Sample

The sample for this research study came from data collected by modern scientists; it was a sample of convenience from databases available at Ball State University. Most data investigated involved only American females between the ages of 12 and 20, in order to limit research, with an approximate number of 50 published articles involved. There were no requirements or restrictions for participants in this study

Instrument

In addition to reading, writing, and collecting all relevant information, polling was used as a statistical measure. In analyzing data, polling is a very helpful tool for comparing and contrasting results. Each article has already proved its validity and reliability in their process and testing. However, this study improved the validity and reliability by finding positive and similar results.

Collection of Data and Subject Selection

The collection of data/subjects was a very involved process. The first step was finding relevant and current research to analyze. PsychARTICLES and PsychINFO were the dominant search engines used. These were chosen on the basis of their relevance to the topic and abundance of research related to familial factors and bulimia nervosa in adolescents. Once the articles had been collected, in-depth studies were conducted on each and every article to ensure unbiased and legitimate understanding of the information.

The researcher then compiled all data into charts and literature reviews in order to analyze it properly. The end result was an important review in finding the familial

effects on the development of bulimia nervosa in female adolescents.

Human Subjects Approval

The proposal was not submitted to the IRB of Ball State University. There was no need for human subjects approval due to the fact that there were no human subjects (see A1). The IRB of Ball State requires submission for approval only when activities involve research with human subjects (<http://www.bsu.edu/irb/handbook/>).

Summary

The methodology explained in this section is very straightforward. A sample of published data referencing adolescent females was selected from several Internet databases through Ball State University's library. It did not need to be approved by Ball State's IRB. Polling was used to evaluate all research articles chosen.

CHAPTER FOUR

RESULTS

About 3% of American adolescent females have been diagnosed with bulimia (Rees, 2007; APA, 1994). Research suggests that bulimia nervosa may have a deep-rooted cause of environmental stress. Unlike many disorders or diseases, bulimia is not something that occurs to random people all over the world. Stress, negative environment, hostility, and lack of nurturing all can be found to contribute in the etiology of bulimia (Wonderlich & Swift, 1990; Humphrey, 1989 as cited in Mallinckrodt, McCreary, & Robertson, 1995). The researcher strongly believes that there is a strong connection between home environment with the development of eating disorders. This chapter will document the results of a meta-analysis researching this connection.

Subjects

Each research article was found to have different subject sizes and demographics. Table 1 shows the differences between a random sampling of articles with author's name, sample size, and demographics.

Table 1 Sample selection of articles

Author	Sample	Demographics
Attie, Brooks-Gunn (1989)	193	<ul style="list-style-type: none"> • Private-schooled • NYC
Mallinckrodt, McCreary, & Robertson (1995)	161	<ul style="list-style-type: none"> • Caucasian • Sorority college students*
Munoz, Israel, & Anderson (2007)	134	<ul style="list-style-type: none"> • College • Northeast USA
Humphrey (1986)	80	<ul style="list-style-type: none"> • University of Wisconsin
Klump, McGue, & Iacono (2000)	512	<ul style="list-style-type: none"> • Minnesota Twin Family Study
Stice, Presnell, & Spangler (2002)	231	<ul style="list-style-type: none"> • Private N. California High schools
Wonderlich & Swift (1990)	77	<ul style="list-style-type: none"> • University of Wisconsin
Grissett & Norvell (1992)	600	<ul style="list-style-type: none"> • Undergraduate women*

*No indication of geographic location

As shown by the small samples in table 1, each article proved to be very diverse in its sample size, demographic, and collection of subjects.

From a pool of 47 studies evaluated, a vast majority were Caucasian and middle-class female adolescents. Twenty-four articles reported over 75% of subjects being Caucasians. Only five studies had more than 25% racial

diversity in their sample. Eleven studies reported no ethnic status while seven looked at variables such as diagnostic criteria and other published data.

The specific subjects of this research study included 47 research articles. To avoid bias in collection of data, all research related to the research paper were included. In order to avoid discrimination, the investigator selected all pertinent articles prior to reading and analyzing their results.

Prevalence of bulimia nervosa

Due to many differing opinions, diagnostic material, and secrecy factors, the exact number of adolescents suffering from bulimia is extremely hard to produce. The most commonly used number would be about 3% (Rees, 2007; APA, 1994, Salafia et al., 2007). However, because of the above-mentioned limitations, many adolescents in America have not, and never will be, diagnosed.

The leading diagnostic survey, the DSM-IV, may be part of the problem in diagnosing more minor cases. According to Wonderlich and colleagues, around 60% of those struggling with eating disorders will never be diagnosed (Wonderlich et al., 2007).

Many bulimics will never be accurately diagnosed due to the fear and shame that this disorder has been associated with. Thereby limiting the availability to seek assistance and guidance (APA, 1194; NIMH, 2007). Due to all of these factors, the most educated guess that researchers could provide is approximately 3% of all adolescents suffer with bulimia. Unfortunately, this data may be far below a more accurate statistic that more future investigations and tests could show.

Familial effects on the development of bulimia.

Converging evidence has shown that family members of girls with bulimia, both anorexic and normal weight, experience a range of problems within their own family system. As compared with non-bulimic females, those diagnosed with this ED report more conflictual, disorganized, and critical families, while also being noticeably less cohesive, nurturing, and trusting (Pike & Rodin, 1991).

This study used a research technique known as polling to confirm the hypothesis that familial factors do indeed affect the development of bulimia in adolescents. The results of polling from this research paper are displayed below in Table 2.

Table 2 Effect of Family and home environment on the development of bulimia

Yes	No	Not Applicable
<ol style="list-style-type: none"> 1. Attie & Brooks-Gunn, 1989. 2. Blodgett Salafia et al., 2007. 3. Boyes, Fletcher, & Latner, 2007. 4. Francis & Birch, 2005. 5. Franko et al., 2008. 6. Grissett & Norvell, 1992. 7. Hoste, Hewell, & le Grange, 2007. 8. Humphrey, 1986 9. Humphey, Apple, & Kirschenbaum, 1986. 10. Klump, McGue, & Iacono, 2000. 11. Klump, McGue, & Iacono, 2002. 12. Mallinckrodt, McCreary, & Robertson, 1995. 13. Mazzeo & Espelage, 2002. 14. Munoz, Israel, & Anderson, 2007. 15. Pike & Rodin, 1991.* 16. Ratti, Humphrey, & Lyons, 1996. 17. Rees, 2007. 18. Stice, Mazotti, Krebs, Marting, 1998. 19. Strober & Humphrey, 1987. 20. Tylka, 2004. 21. von Ranson, McGue, & Iacono, 2003. 	<ol style="list-style-type: none"> 1. Graber, Brooks-Gunn, Paikoff, Warren, 1994.* 2. Stice, Presnell, & Spangler, 2002. 	<ol style="list-style-type: none"> 1. APA, 1994. 2. APA, 2006. 3. Aries, 2001. 4. French, Perry, Leon, & Fulkerson, 1995. 5. Friedlander, Siegel, 1990. 6. Garner, Olmsted, Bohr, Garfinkel, 1982. 7. Johnson et. Al, (2002) 8. Leon, Fulkerson, Perry, & Early-Zald, 1995. 9. Manley & Leichner, 2003. 10. Mintz & Betz, 1988. 11. Moos & Moos, 1986. 12. NIMH, 2007. 13. Paxton, Schutz, Wertheim, & Muir, 1999. 14. Steinberg, 2005. 15. Tasca, Balfour, Ritchie, & Bissada, 2007. 16. Weisz & Hawley, 2002.

22. Wade et. Al, 2000. 23. Wonderlich & Swift, 1990. 24. Wonderlich, Klein, & Council, 1996.		17. Wilson, Grilo, & Vitousek, 2007. 20. Wonderlich, Joiner, Keel, Williamson, & Crosby, 2007
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**not statistically significant*

Articles classified as **Not Applicable** were used in finding information that did not pertain to the familial effects aspect of this paper.

Table 2, the polling technique, confirmed the hypothesis for this paper. Research confirms (24:2) that family and home environment do influence development of bulimia. In order to better emphasize connections between family and bulimia, the published information was used for further analysis.

Table 3 (taken from Wonderlich, Klein, & Council, 1996) summarizes analyses of variance results comparing control subjects and bulimic participants and their perceived maternal/paternal relationships. Results supported that bulimics were perceived as being more disengaged and having less friendly parents (Wonderlich, Klein, & Council, 1996).

Table 3 Means and Analyses of Variance of Attack and Control in Remembered Relationships With Parents for Bulimic and Control Participants

Relationship and item	Bulimic		Control		F(1, 64)
	M	SD	M	SD	
Relationship with Mother					
Attack(+) vs. Friendliness(-)					
Mother attacks me	-.64	.49	-.81	.25	2.62
Mother withdraws					
From me	-.64	.37	-.82	.19	5.91*
I attack mother	-.76	.23	-.84	.09	3.51
I withdraw from					
Mother	-.48	.59	-.78	.32	5.51*
Control/Submission(+)					
Vs. autonomy(-)					
Mother controls me	.48	.39	.61	.20	2.33
Mother submits to me	.28	.51	.44	.38	1.82
I control mother	.10	.52	.20	.47	0.56
I submit to mother	.22	.54	.46	.44	3.76
Relationship with father					
Attack(+) vs. friendliness(-)					
Father attacks me	-.50	.60	-.78	.36	4.45*
Father withdraws					
From me	-.63	.40	-.77	.29	2.37
I attack father	-.76	.29	-.83	.11	1.60
I withdraw from					
father	-.41	.60	-.70	.48	4.24*
Control/Submission(+)					
Vs. autonomy(-)					
Father controls me	.26	.50	.60	.26	10.95**
Father submits to me	-.13	.61	.31	.52	8.94**
I control father	-.17	.51	.13	.49	5.66*
I submit to father	.23	.56	.45	.43	2.88

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

The hypothesis that bulimic participants would see their parental relationships as more unfriendly and disengaged was supported. Bulimic females were more likely than non-bulimics to see their maternal relationships as less friendly and interpersonally engaged. Similarly, but

less significantly, paternal relationships were less friendly and daughters themselves were less engaged in the relationship. This data supports theories that emphasize hostility and neglect in the families of those suffering from bulimia nervosa (Wonderlich, Klein, & Council, 1996).

Mallinckrodt, McCreary, and Robertson have done extensive research into the role of attachment, family environment, and social competencies in the development of eating disorders. Located below, in Table 4, is a model (Mallinckrodt, McCreary, & Robertson, 1995) used to display their findings.

Table 4 Conceptual model of relations between family environment, attachment, incest, social competencies, and eating disorders.

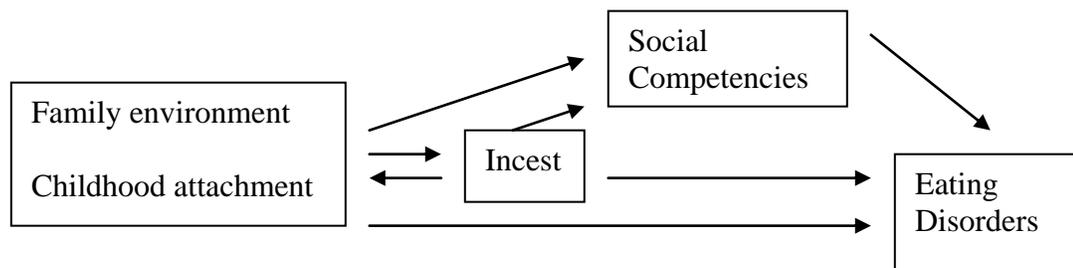


Table 4 shows a reciprocal relationship where incest is more likely to occur in dysfunctional family environment and those with poor attachment. However, once incest occurs, the family system is pushed further towards

dysfunction and interferes with emotional attachment with other family members, not just the perpetrator. The link between family and eating disorders represents the widely reported finding that EDs develop in the context of particular family environment (hostile, intrusive, low cohesion...). The link between incest and eating disorders describes a direct connection between the two. Disturbed eating has been shown to occur soon after sexual assault in children (Mallinckrodt, McCreary, & Robertson, 1995).

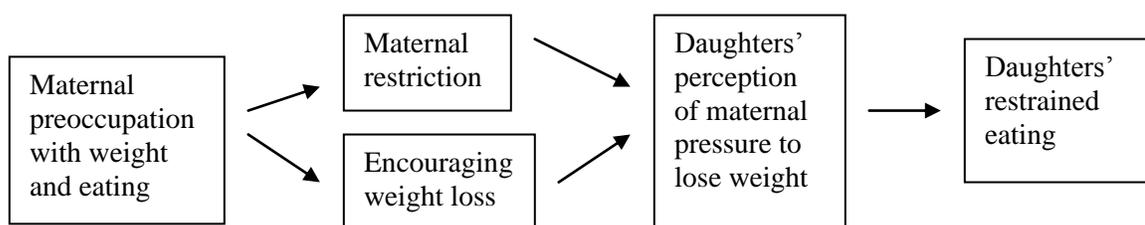
The links, in Table 4, between family environment, incest, and social competencies all represent the fact that healthy home environments facilitate social competencies. Without the healthy environment, or in the presence of incest, the normal development of these competencies lacks. The link between EDs and the social competencies may be the most important link within this model. It represents the belief that deficits in social relationships lead directly to eating disorders, just as incest will. Sexual abuse, particularly incest, may severely interfere with the development of critical social abilities and thus contributing to the development of EDs. All in all, suggesting that home environment is strongly related to the

development of eating disorders (Mallinckrodt, McCreary, & Robertson, 1995).

Many studies find that not only do the home and family environment lead to or affect the development of eating disorders, but specifically, the maternal relationship strongly affects it (Pike & Rodin, 1991).

Table 5 (taken from Francis & Birch, 2005) indicates that mothers who were highly preoccupied with weight and eating reported higher levels of restriction in their daughters' access to highly fattening food. Mothers' encouragement of daughters' weight loss was also linked to disturbed eating behaviors in ages nine to eleven.

Table 5 Conceptual model of relations between family environment, attachment, incest, social competencies, and eating disorders



Maternal preoccupation to maternal restriction = .24*

Maternal preoccupation to encouraging weight loss = .32**

Maternal restriction to Daughters' perception = .09

Encouraging weight loss to Daughters' perception = .49**

Daughters' perception to Daughters restrained = .34** with $R^2 = .43$

* $p < .01$. ** $p < .001$.

Along with familial pressures, societal pressures to be thin are widespread in today's culture, making it difficult to shift adolescents' focus away from weight, body shape and eating behavior (Francis & Birch, 2005). Even more, a bulimics' difficulty in social interaction and their own sense of isolation suggest that the relationship between bulimics' and their environment is impaired. The lack of adequate social support and the bulimics' lack of close relationships may be large risk factors in the development of bulimia (Grissett & Norvell, 1992). Using Table 6 (taken from Grissett & Norvell, 1992), it is shown that lack of social support and high levels of negative interactions play a particularly high role in the development of EDs.

Table 6 Univariate Analysis of MANOVA on Perceived Social Support and Social Interaction Variables

Variable	Bulimics		Controls		F
	M	SD	M	SD	
MANOVA overall					
Group effect					3.82**
Perceived social					
Support-friends	13.1	5.0	17.1	3.4	7.39**
Perceived social					
Support-family	10.9	5.7	15.5	4.9	5.28*
Positive interactions	34.4	9.6	39.1	6.8	2.00
Negative interactions	34.6	10.5	24.2	9.4	15.70***
Impact of negative					
Interactions	39.1	12.1	27.9	11.6	12.42***

Note: MANOVA = Multivariate analysis of variance
 *p<.05. **p<.01. ***p<.001.

A large body of research has been collected within the last thirty years which investigates the etiology of eating disorders, specifically bulimia. The present consensus among researchers is that bulimia is a complicated disorder with a number of contributing causes, including biological, socio-cultural, personality, and familial factors. The analysis above presented strong indications that family and home environment strongly affect the development of bulimia nervosa.

Summary

A vast amount of information was provided in the pages above. The following bullet points briefly summarize the main points:

- There is much evidence showing that environmental factors influence the development of bulimia nervosa (Klump, McGue, & Iacono, 2000; Grissett & Norvell, 1992; Friedlander & Siegel, 1990).
- Approximately 3% of American adolescents have been clinically diagnosed with bulimia nervosa (Rees, 2007; APA, 1994, Salafia et al., 2007). However, many of today's teenagers struggling with eating disorders will never receive help or assistance due to the

shame and guilt produced by eating disorders
(Wonderlich et al., 2007; APA, 1994; NIMH, 2007).

- Bulimic participants, as well as their families, report higher levels of criticism, conflict, abuse, and detachment. Also reported are lower levels of encouragement, pride, and nurture (Wonderlich, Klein, & Council, 1996; Humphrey, 1986; Von Ranson, McGue, & Iacono, 2003).

CHAPTER FIVE

DISCUSSION

Bulimia nervosa is a serious and complex disorder. The goal of this meta-analysis is to show the effect of family and home environment on the development of bulimia. The following chapter provides a summary of the articles polled for this paper.

Studies show that approximately 3% of American adolescent females struggle with bulimia nervosa. This paper found 3% to be the general statement of many scientists. It is not a number that can be stated with confidence, but a validated guess.

Many eating disorders develop during adolescence. This can be contributed to the large amount of weight gain and physical change caused by puberty. Generally, an ED has already developed before any outside individual can detect it. In fact, a person may live their entire life suffering with disordered eating and never be suspected of any differences.

Bulimia nervosa is a very serious eating disorder. It is characterized by a period of bingeing, followed by some sort of purge. This purging may include laxatives, fasting, excessive exercise, or vomiting. Bulimics may be hard to distinguish due to their secrecy and normal weight.

Many will argue differences in the etiology of bulimia. However, the purpose of this paper was to show that there are outside factors affecting the bulimic adolescent. Family pressure, excessive conflict, lack of nurturing, and low levels of support may all contribute to unhealthy eating behaviors. With a ratio of 24:2 (Chapter 3, Table 2), the articles in this study stand on their own. It is easy to see that family, home, and environment play a large role in the etiology of bulimia nervosa in adolescent females.

CHAPTER SIX

CONCLUSION

From the collection of research that was reviewed for this study, it is obvious that a large amount of today's teenagers are struggling with a dangerous eating disorder known as bulimia nervosa. The high prevalence of bulimia has begun to worry health-care professionals and scientists, causing a boom in modern research. More and more of this research is pointing to family environment as one major factor in the development of bulimia. This last chapter will conclude this paper with a summary and recommendations.

The etiology of eating disorders (EDs) is very complicated. There is not one single cause, nor is there a safe environment for avoidance of EDs. However, the research cited in previous chapters shows familial environment as being a clear factor in the development of eating disorders and, specifically, bulimia nervosa. The home environment of a bulimic adolescent is generally found to be a place of conflict. The abuse and neglect that the bulimic may feel, can lead to a life of fighting the urge

to satisfy their own physical or emotional needs. This is typically where the hunger, binging, and purging begin.

Low self-esteem, poorer body image, depression, and alexithymic symptoms may all be in response to their home environment (Mazzeo & Espelage, 2002; Mintz & Betz, 1988). Of course, these are the very symptoms that may have caused the onset of bulimia, showing the relation between home environment and development of eating disorders.

Some would say that extreme weight concern and dieting habits have now become the rule, not the exception (Mintz & Betz, 1988). Further research must focus on the large problem at hand. The present generation did not just develop this uncontrollable preoccupation with weight. There is more to the story. Health-care professionals and scientists should focus on the prevalence of bulimia and how to avoid the onset of the disease.

More research should also focus on the diverse adolescent population. The large majority of subjects in the chosen studies were Caucasian. There is a huge need for information on other ethnicities. How does bulimia affect the Asian adolescents and families? What does the home environment look like for a Native American bulimic? These statistics are virtually nonexistent but would provide more

solid data for the familial effects on the development of bulimia.

Along with the need for racial diversity within bulimia research, scientists need to broaden their spectrum even more. Looking into the socio-economic status of families may bring a better understanding of the etiology of bulimia and the factors that cause its progression. Another angle in need of investigation may be the working status of a bulimic's parents. Do double income families impact the existence of eating disorders? Do over-worked parents influence the negative environment conducive to EDs? This is a very understudied aspect of bulimia etiology.

Almost all the data collected for this study was focused on eating disorders in females. The current research is also lacking in gender diversity. Men, although not as much as women, also suffer with eating disorders. Future studies may benefit from an examination of both genders, differences between homosexuals and heterosexuals, as well as religious groups. Understanding differences may also help in understanding a disorder as large as bulimia.

While more focused research is greatly needed for avoiding bulimia, more research also needs to be focused on

how to battle the disease. Over the years, therapies have been developed for the severe cases of EDs, but what about those who have a mild ED? America's teenage population is struggling with a disorder that may never go away.

Researchers and medical professionals need to continue the efforts and continue finding new, and more expansive, ways to reach out to these hurting individuals.

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APPENDIX**Re: Research Question**

Boos, Amy K. on behalf of IRB

Sent: Tuesday, October 07, 2008 12:56 PM

To: Siegfried, Kristen M

Cc: Kaminsky, Leonard A.

Kristen,

As you are using data that already exists and has been published (archival data), then no, you do not need to submit your study to the IRB.

Thank you for checking in with us!

Amy Boos
Ball State University
Research Compliance
765-285-5034
akboos@bsu.edu

-----Original Message-----

From: Siegfried, Kristen M

Sent: Tuesday, October 07, 2008 1:03 PM

To: IRB

Subject: Research question

Hello! I am a second year grad student currently working on my research paper. I have been told, but wanted to make sure, that I do not have to seek IRB's approval, as I am only doing a meta-analysis. I will not come into contact with any person as my data comes strictly from already collected and published data. Can you please just put my fears to rest on this!? I am so nervous that I have missed a step. Thank you!

Kristen

