

TRAIT ANXIETY AND DISORDERED EATING BEHAVIOR IN COLLEGE  
WOMEN: AN EVOLUTIONARY ANALYSIS

By

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Trait Anxiety and Disordered Eating Behavior in College Women: An Evolutionary Analysis

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### Abstract

This study examined the causal influences and vulnerability to development of Disordered Eating Behavior from an evolutionary perspective. It tested the relationships between Trait Anxiety and Disordered Eating Behavior, both direct and mediated by other variables. It examined whether Trait Anxiety would increase vulnerability to the detrimental effects of Social Pressure and Eating Problems. 205 female undergraduate students completed a questionnaire measuring Life History Strategy, Executive Functioning, Emotional Intelligence, Trait Anxiety, Impulsivity, Social Pressure, Eating Problems, and Disordered Eating Behavior. Trait Anxiety was found to be a significant causal influence in the development of Disordered Eating Behavior, alongside other factors including Social Pressure, Eating Problems, Impulsivity, and Emotional Intelligence.

*Keywords: trait anxiety, eating disorder, life history strategy*

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### **Trait Anxiety and Disordered Eating Behavior in College Women:**

#### **An Evolutionary Analysis**

Anorexia nervosa is a psychological disorder that affects .2% - 4% of adolescent women in the United States. It is important to note that this percentage may be vastly underestimated, in light of evidence suggesting that up to 50% of cases may go undiagnosed. The majority of people diagnosed with anorexia nervosa are females between the ages of 14.5 and 18 years old. About 20% of people diagnosed with this disorder will die, usually from complications such as cardiovascular events or suicide (Misra et al., 2004). Eating disorders are reported to have the highest mortality rate of all types of mental illnesses. In fact, the number of deaths related to anorexia nervosa is 12 times higher than the mortality rate for all other causes of death for women between the ages of 15 and 24 years old (South Carolina Department of Mental Health, 2006).

According to the DSM-IV-TR (2000) anorexia nervosa is marked by the refusal to maintain body weight at or above the normal weight for one's age and height, a fear of gaining weight (even when severely underweight), a distorted view of one's weight, and amenorrhea (the cessation of menstruation). Weight loss associated with this disorder is usually due to restricted calorie diet. The DSM-IV-TR describes two varieties of anorexia nervosa: the restricting type, which utilizes a dangerously low-calorie diet, and the binge-eating/purging type, which includes regularly engaging in binge-eating and/or purging behavior. To qualify for the anorexia nervosa diagnosis, an individual should weigh less than 85% of the normal weight for his or her age and height, or have a body mass index (BMI) less than or equal to  $17.5 \text{ kg/m}^2$ . These individuals may exhibit excessively frequent self-weighing habits, frequent measurement of body parts, and constantly looking in a mirror. Anorexia nervosa is often associated with other mental disorders such as depression and obsessive-compulsive disorder (DSM-IV-TR, 2000).

Anorexia nervosa can lead to numerous health problems, in particular, cardiac complications such as bradycardia, irregular heart sounds, decreased heart size, loss of left ventricular mass, appearance of mitral valve prolapse, and, the most dangerous of these, congestive heart failure (Schocken, Holloway, & Powers, 1989). Anorexia nervosa can also lead to hematological issues such as anemia and leukopenia. Other health problems common in those diagnosed with anorexia nervosa include low bone density, osteopenia and osteoporosis, delayed maturation, hypercortisolemia, and low levels of growth hormones (Misra et al., 2004). Recent research has also found that anorexia nervosa may affect the brain, leading to cerebral atrophy and loss of brain tissue. Extended periods of malnutrition, which accompany anorexia nervosa, can also lead to enlargement of the cortical sulci and cisterns, ventricular dilatation, pituitary gland atrophy, and concomitant cerebral and cerebellar atrophy. These abnormalities may be

caused by changes in blood vessel permeability, protein loss, inhibition of brain protein synthesis, and cerebral dehydration. These types of cognitive changes may or may not be reversible with treatment (Rome & Ammerman, 2003).

Even after the extensive research that has been done on eating disorders, their etiology is still not well-understood. Theories abound, mostly centering on social pressures such as hypersexualization of young people and unrealistic media portrayals of beauty. One branch of psychology aiming to understand the origins of eating disorders from a somewhat different angle is evolutionary psychology. Evolutionary psychology seeks to describe and explain human behavior in terms of evolved adaptations for survival and reproductive success. The essential question is why would evolution permit the development of such maladaptive behavior as disordered eating? And furthermore, how to evolutionary pressures influence a single individual toward the development of disordered eating?

One evolutionary theory, proposed by Abed (1998), is the Sexual Competition Hypothesis, which asserts that female intrasexual competition for mates is the ultimate cause of eating disorders. According to the Sexual Competition Hypothesis, women develop bulimia as a result of getting carried away in terms of intrasexual competition and begin purging in order to increase their mate value. Similarly, women who develop anorexia nervosa have set their ideal body weight abnormally low in response to their environment full of slim women competing for mates.

Faer, Hendriks, Abed, & Figueredo (2005) extended the Sexual Competition Hypothesis to include intrasexual competition for status as well as for mates. They predicted that intrasexual competition for mates would be a strong predictor for bulimia, while intrasexual competition for status would be a strong predictor of anorexia. However, the results indicated that intrasexual

competition for mates drives intrasexual competition for status, as well as general competitiveness, perfectionism, body dissatisfaction, drive for thinness, bulimia, and anorexia. Intrasexual competition for status and anorexia were only related indirectly. A later study by Abed found that Fast Life History Strategy predicted Disordered Eating Behavior, and that this effect was only partially mediated by Intrasexual Competition (Abed et al., 2012).

A later study by Salmon, Figueredo, & Woodburn (2009) found that life history strategy, executive functioning, and intrasexual competitiveness (for both mates and status) are all associated with disordered eating. More specifically, their results suggested that a slow life history strategy (having monogamous relationships, a low birth rate, and large investment in offspring) predicts increased executive function (a term encompassing the abilities involved in planning for the future, delaying responses, initiating behavior, setting goals, prioritizing, organizing, controlling, and completing actions). Higher executive function in turn predicts lower intrasexual competitiveness and lower disordered eating behavior. This finding further supports the idea that elevated intrasexual competitiveness can predict the development of disordered eating behavior.

This study is a follow-up to that research, as part of an ongoing study of the complex relationship between K (the factor describing the spectrum of life history strategy) and eating disorders. The project has grown to encompass numerous psychological factors, and this particular iteration of the study focuses on the factor of trait anxiety and its position within the theoretical model containing all of the contributing factors that influence development of disordered eating behavior.

Trait anxiety was added to the study based on the body of research linking mood disorders (i.e. depression and anxiety) with eating disorders. A great deal of research has found

that binge eating disorder is a consequence of both minor and major stress. For example, Woods, Racine, and Klump (2010) found a significant three-way interaction among dietary restraint, life event stress (an operational anxiety factor), and daily stress and were thereby able to account for a significant proportion of the variance in binge eating behavior. Another study linked social anxiety, novelty-seeking tendencies (closely related to the Impulsive Disposition construct used here), and eating disorders (Peñas-Lledó et al., 2010). And yet another 2010 study found that pre-meal anxiety was a significant predictor of food intake in anorexics but not in healthy controls (Steinglass et al.). Thus anxiety was chosen as the focus for this most recent iteration of the K and Eating Disorders study.

It should be noted that the present study examines only disordered eating behavior (DEB) and not eating disorders per se. DEB encompasses a wide variety of behaviors that are associated with eating disorders, but persist at a subclinical level. That is to say, this study was not conducted on a clinical population of eating disorder patients, and the aim of the study was not to diagnose any participant with an eating disorder, but simply to observe and analyze the variation of disordered eating behavior that exists within the normal population of young women.

The hypotheses of the study were as follows:

- 1) Slow Life History strategy will have a direct, excitatory influence on Executive Function and Emotional Intelligence.
- 2) Slow Life History will have a direct, inhibitory effect on Impulsive Disposition.
- 3) Slow Life History will be indirectly protective against Disordered Eating Behavior, an effect which will be mediated by Trait Anxiety.
- 4) Trait Anxiety will exert a direct, positive, causal influence on Impulsive Disposition, Parental and Peer Pressure, and Eating Patter History.

- 5) Trait Anxiety will show indirect, excitatory effects on Disordered Eating Behavior.

## Methods

### Subjects

Participants were 205 female University of Arizona undergraduate students drawn from Introduction to Psychology classes, who chose to participate in the study in order to fulfill their course requirements for research participation. Their ages ranged from 17 to 47 with a mean of 19.2 years. The majority of participants (N=184) spoke English as a first language, and other native languages reported were Spanish, Arabic, Chinese, Korean, Mandarin, Thai, French, and Vietnamese. Their mean BMI was 22.2 and 83.7% of participants' BMIs fell within the healthy range for 19-year-old women ( $17.5 < \text{BMI} < 26$ ) with 12.9% in the overweight category and 3.4% in the underweight category.

### Measures

Participants completed an online self-report questionnaire consisting of several measures. The following were included in this analysis.

*Mini-K Short Form (Mini-K)* is a subscale of *The Arizona Life History Battery (ALHB;* Figueredo, 2007), a battery of cognitive and behavioral indicators of life history strategy compiled and adapted from various original sources. These self-report psychometric indicators measure individual differences along the spectrum of life history strategy, as specified by Life History Theory, and converge upon a single multivariate latent construct. They are scored directionally to indicate a “slow” (K-selected) life history strategy on the “fast-slow” (r-K)

continuum. The Cronbach's alpha is .63 for the Mini-K Short Form (Salmon, Figueredo, & Woodburn, 2009).

*Trait Emotional Intelligence Questionnaire (TEIQ)* “The Trait Emotional Intelligence Questionnaire (TEIQue) is the premier operationalized measure of Trait EI. Petrides et al. (2010) discovered that the TEIQue overlaps with the Big Five dimensions of personality cross-culturally. The TEIQue has been validated cross-culturally and cross-developmentally, measuring Trait EI in both children and adults: (1) in one study, the TEIQue correlated positively with peer-related social competence and adaptive coping styles, but negatively to depression, somatic complaints, and maladaptive coping styles (Mavroveli, 2007), and (2) in another study, the TEIQue correlated positively with emotion perception and peer-rated social competence in children between the ages of 8 and 12 (Mavroveli et al., 2009). Such findings suggest that the validity of the TEIQue in measuring Trait EI can be generalized to diverse age and cultural groups” (Figueredo et al., 2012).

*Brief Ratings Inventory of Executive Function (Brief-A)* “*The Behavioral Regulation Scales of the Behavior Rating Inventory of Executive Function - Adult version (BRIEF-A)*; Gioia, Isquith, Retzlaff, and Espy, 2002) were used to measure Executive Functions. This portion of the *BRIEF-A* is a 30-item self-report instrument of adult executive functions or self-regulation in everyday environments that assess Inhibition (e.g., “I tap my fingers or bounce my legs”), Set Shifting (e.g., “I have trouble changing from one activity or task to another”) and Emotional control (e.g., “I overreact emotionally”). The Cronbach's alpha for this scale was .94” (Figueredo et al., 2012).

*Eating Disorders Inventory-2 (EDI)* “*The Eating Disorders Inventory (EDI-2)*; Garner, 1991) includes 11 subscales measuring several different aspects of disordered eating behavior,

and was expanded to include a twelfth subscale with seven items specific to Anorexia (restriction of eating behavior) taken from the Oral Control subscale of the Eating Attitudes Test (EAT) developed by Garner and Garfinkel (1979), as had been done in a previous study (Faer et al., 2005). The Cronbach's alphas for these subscales were .92 for Drive for Thinness, .75 for Bulimia, .74 for Body Dissatisfaction, .91 for Ineffectiveness, .79 for Perfectionism, .81 for Interpersonal Distrust, .80 for Interoceptive Awareness, .82 for Maturity Fears, .61 for Asceticism, .77 for Impulse Regulation, .75 for Social Insecurity, and .60 for Anorexia" (Figueredo et al. 2012).

*Impulse Control and Impulsive Behaviors (ICIB)* "This measure sampled risk-taking behavior in various domains, including drinking, smoking, drug-taking, risky sexual activity, reckless driving, and gambling. We also created a purified measure of Impulsive Behaviors by sorting items from several existing questionnaires, including the Self-Control Schedule (Rosenbaum, 1980), the Self-Control Questionnaire (Rehm, 1988), and the Barrett Impulsivity Scale (Barrett, 1983) into two composite lists of Impulsive Behaviors (*sensu stricto*) and Impulse Control items, respectively. This also produced a separate measure of Impulse Control, as distinct from Impulsive Behavior per se " (Figueredo et al., 2006).

*Jake's Temptation, Revised (JT)* "We created a purified measure of Impulsivity, loosely based on the Seven Deadly Sins (i.e., Pride, Sloth, Gluttony, Wrath, Envy, Lust, and Greed), which we called the "Jake's Temptation" scale. This scale asked respondents to estimate the number of times in the past two weeks they were tempted to engage in impulsive behavior, regardless of whether or not they acted on their impulses. We defined temptations as all behaviors producing relatively small short-term gains but relatively large long-term costs. The addition of this scale permitted us to construct and test a general linear model for predicting

impulsive, risky, and delinquent behaviors based upon the presumed opponent processes of raw impulsivity and impulse control. Running a hierarchical general linear model of the Risk Factor with Jake's Temptation, Impulse Control, and their two-way interaction as predictors, we obtained significant and opposing main effects of behavioral excitation and inhibition. There was no significant statistical interaction between the presumed opponent processes" (Figueredo et al., 2006).

*Parental Pressure/Peer Pressure Scale (PPPP)* This scale was designed by a past Honors student from the University of Arizona, Alyssa Cuthbertson, as part of her contribution to the K and Eating Disorders project. This measure examines social pressure regarding the subject's appearance from four different sources: the mother, the father, male peers, and female peers (Cuthbertson 2011).

*Appearance Culture in Parents and Peers, Shortened (ACPP)* "(ACPP; Jones, Vigfusdottir, & Lee, 2004) This 26-item scale has been used in previous research to measure social pressures an individual experiences with regards to appearance. More specifically, it includes items concerning the extent to which an individual has conversations about body appearance with friends, and the extent to which that individual feels criticized by parents and peers about their body appearance. For this study, the 16 criticism items were used as an independent measure of pressure in order to compare the results of the author-constructed *PPPP* scale with those of a scale previously used in research" (Cuthbertson 2011).

*Spielberger Trait Anxiety Inventory, Form Y – Trait only (STAI)* "The STAI Form Y is the definitive instrument for measuring anxiety in adults. It clearly differentiates between the temporary condition of "state anxiety" and the more general and long-standing quality of "trait anxiety". It helps professionals distinguish between a client's feelings of anxiety and depression.

The inventory’s simplicity makes it ideal for evaluating individuals with lower educational backgrounds. Adapted in more than forty languages, the STAI is the leading measure of personal anxiety worldwide” (Mindgarden 2008).

The two measures that were central to the analysis were the Eating Disorders Inventory-2 and the Spielberger Trait Anxiety Inventory. The first of these, the Spielberger Trait Anxiety Inventory, served as the measure of Trait Anxiety. Trait anxiety is described as "relatively stable individual differences in anxiety proneness . . ." and refers to a general tendency to respond anxiously to perceived threats in the environment (Spielberger et al., 1983). This measure includes both straightforward and reversed items such items as “I worry too much over something that really doesn’t matter” and “I am a steady person.”

Secondly, the EDI is a self-report measure of symptoms frequently associated with anorexia and bulimia. This was the measure of Disordered Eating Behavior. Sample items include “I feel that I must do things perfectly or not do them at all,” and “I am terrified of gaining weight.” The version of the EDI used here includes twelve subscales: Drive for Thinness, Bulimia, Body Dissatisfaction, Ineffectiveness, Perfectionism, Interpersonal Distrust, Interoceptive Awareness, Maturity Fears, Asceticism, Impulse Regulation, Social Insecurity, and Anorexia. (For the full measure, sorted into subscales, see Appendix A.) The Cronbach’s alphas and part-whole correlations for these subscales are shown in Table 1.

Table 1

*Part-whole Correlations for EDI-2*

	Cronbach’s Alpha	EDI

Drive for Thinness	.83	.65*
Bulimia	.81	.78*
Body Dissatisfaction	.87	.59*
Ineffectiveness	.89	.87*
Perfectionism	.68	.05
Interpersonal Distrust	.81	.70*
Interoceptive Awareness	.84	.84*
Maturity Fears	.75	.60*
Asceticism	.56	.79*
Impulse Regulation	.76	.81*
Social Insecurity	.80	.79*
Anorexia	.52	.45*

\*p < .05

**Procedures**

All participants signed up for the study on the SONA system website of the University of Arizona Department of Psychology. The only restriction placed on students signing up was the

requirement that they be female. After selecting a time slot for debriefing, each participant received an email with instructions to complete the questionnaire packet on the study's website. Once they had provided informed consent and completed the questionnaire, the participants attended an in-person debriefing session in a University of Arizona classroom, where they were debriefed on the aims and significance of the study, and provided with information on whom to contact if they felt any adverse effects from responding to the questionnaire.

It was hypothesized that each variable of interest would be predicted by those prior to it in varying degrees, with both direct and indirect influences. The variables were therefore arranged in a cascade model (for an example of a similar analysis, see Figueredo et al. 2012) of hypothetical causal influences in the following order:

1. SLH (Slow Life History Strategy)
2. EF (Executive Function)
3. EI (Trait Emotional Intelligence)
4. TRANX (Trait Anxiety)
5. ID (Impulsive Disposition)
6. EPH (Eating Pattern History)
7. PRESS (Parental and Peer Pressure)
8. DEB (Disordered Eating Behavior)

To determine the effects of each variable on those subsequent to it in the cascade, a hierarchical analysis strategy was used to calculate a series of regression equations from the data. The standardized regression ( $\beta$ ) weights were used to determine the strength of each predictor variable's relationship to each dependent variable.

**Results**

The final regression equations obtained in this analysis are shown in Table 2.

Table 2

*Final Regression Equations*

<b>EI = .40*EF + .43*SLH</b>
<b>TRANX = -.47*EI - .24*EF</b>
<b>ID = -.51*EF - .21*SLH</b>
<b>EPH = .28*TRANX</b>
<b>PRESS = .17*EPH + .26*TRANX - .25*EF</b>
<b>DEB = .18*PRESS + .21*EPH + .20*ID + .31*TRANX - .14*EI</b>

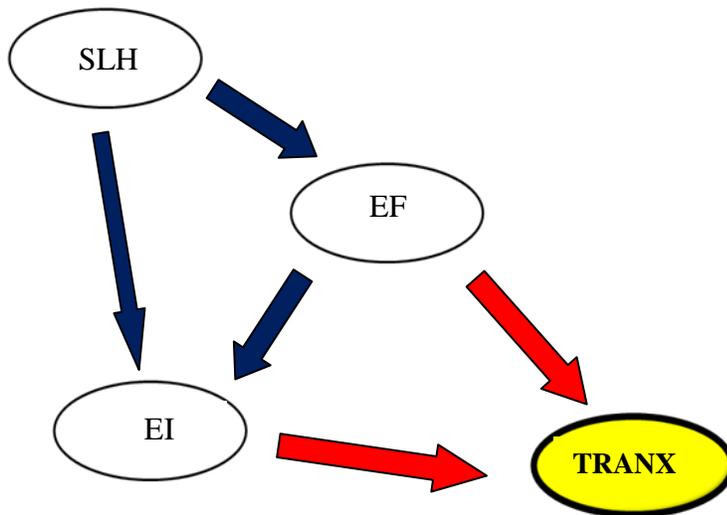
*Only significant pathways (β-weights) included (p<.05).*

*R-square for the final (DEB) equation is .56.*

These regression equations are summarized in the following diagrams.

Figure 1

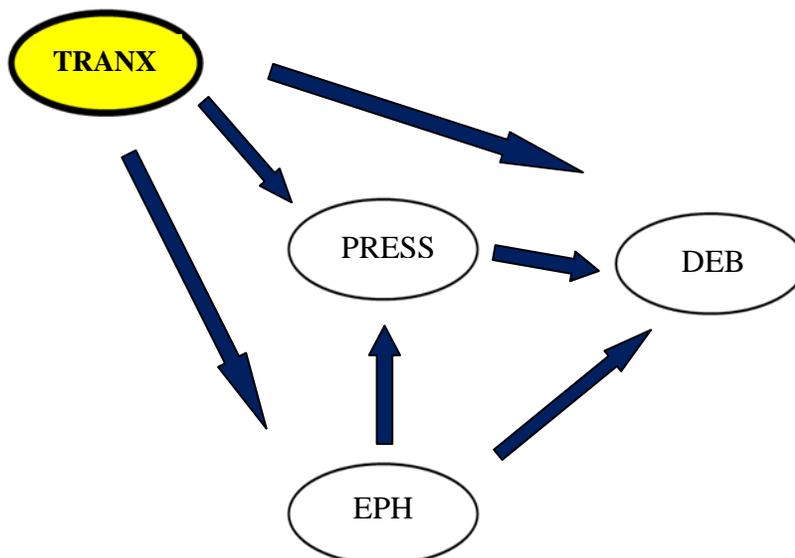
*Multiple Effects on Trait Anxiety*



*Blue arrows indicate an excitatory effect and red indicate an inhibitory effect.*

Figure 2

*Multiple Effects of Trait Anxiety*



Overall, these results supported the hypotheses to a large extent. Slow Life History was shown to be a strong indicator of both Executive Function and Emotional Intelligence. Executive Function and Slow Life History both showed a direct, inhibitory effect on Impulsive Disposition. Slow Life History showed only indirect effects on Trait Anxiety mediated by Emotional Intelligence and Executive Function, which were both protective factors. Trait Anxiety was a significant predictor of Eating Pattern History, Parental and Peer Pressure, and DEB. Eating Pattern History had a direct, positive influence on Parental and Peer Pressure and DEB. Parental and Peer Pressure also contributed significantly to DEB. The final regression equation, accounting for the Parental and Peer Pressure, Eating Pattern History, Impulsive Disposition, Trait Anxiety, and Emotional Intelligence influences on DEB, had an r-square value of .56, meaning it accounted for 56% of the variance in Eating Disorders Inventory scores (variance shown in the DEB construct). This makes the cascade of causal influences a highly effective model for explaining the path to DEB, because it takes into account numerous developmental predictors from other research and past versions of this study, and integrates them to paint a more complete picture of DEB development.

### **Discussion**

In summary, Trait Anxiety was the only significant predictor of Eating Pattern History and had the largest effect on both Parental and Peer Pressure and Disordered Eating Behavior of all the significant variables. Trait Anxiety had four pathways of influence on DEB: one direct and three indirect. Since this data was all collected via self-report, it reflects the perceptions of the participants and not necessarily reality. That is to say, the Parental and Peer Pressure that the participants report may not be an accurate reflection of what is occurring in their social environment, but more likely their perceptions of the pressure their peers and parents are putting

on them. The Peer Pressure and Parental Pressure were aggregated, because both in previous analysis, pressure from the mother, father, male peers and female peers was all highly correlated and no significant difference was seen in the effects of the sources of pressure (Cuthbertson 2011). We do not believe that parents and peers deliberately seek to pressure anxious young women preferentially. Instead, these correlations among the sources of perceived social pressure reflect what is happening from the perspective of the subjects. The Parental and Peer Pressure construct appears after the Trait Anxiety in the cascade, because anxious young women appear to be experiencing a sort of cognitive distortion that results in them perceiving more intense pressure from all sources, due to their elevated anxiety levels.

It seems that trait anxiety mediates the effects of the causally prior factors in the cascade by increasing sensitivity to these pressures, and perhaps more broadly, any pressures relevant to sexual competition. In other words, those women who exhibit more trait anxiety may place more emphasis on the instruction, modeling, and appearance culture that they observe in their peers and parents and thus may be more prone to the effects of these pressures.

Every woman must face what have here been deemed risk factors for DEB: sexual competition and social pressure. These are normal, evolutionary pressures for reproductive success. In any environment where more than one woman is present, there will be some intrasexual competition for mates by definition. Similarly, evolutionary psychology would predict that peer and parental pressure would play an important role in most young women's lives; after all, it is logical that parents and friends would wish for a female loved one to obtain a mate and reproduce successfully. And yet, not all women who are subject to these risk factors do end up developing DEB. The results of this study suggest that Trait Anxiety may be the missing

piece to the puzzle, the factor that tips the scales and pushes normal reproductive effort into maladaptive Disordered Eating.

Since Trait Anxiety has the strongest impact on DEB of the factors examined here, it stands to reason that Trait Anxiety may be one of the important causal factors in development of clinical eating disorders as well. These results therefore have potential clinical implications. It might be a prudent next step in clinical eating disorder research to examine the prevalence of anxiety symptoms in eating disorder patients, with an eye toward including anxiety prevention and treatment as part of eating disorder therapy. It is the sincere hope of the researchers that the results of this study might contribute to the eventual development of a cure for all eating disorders.

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## Appendix A

Eating Disorders Inventory, Second Edition (Garner, 1991) plus addition of *Anorexia* subscale

All items are rated from 1 (Always) to 6 (Never).

*Thinness*

1. I eat sweets and carbohydrates without feeling nervous
7. I think about dieting
11. I feel extremely guilty after overeating
16. I am terrified of gaining weight.
25. I exaggerate or magnify the importance of my weight
32. I am preoccupied with the desire to be thinner
49. If I gain a pound, I worry that I will keep gaining

*Bulimia*

4. I eat when I am upset
5. I stuff myself with food
28. I have gone on eating binges where I felt that I could not stop
38. I think about binging (overeating)
46. I eat moderately in front of others and stuff myself when they're gone
53. I have the thought of trying to vomit in order to lose weight
61. I eat or drink in secrecy

*Body Dissatisfaction*

2. I think that my stomach is too big
9. I think that my thighs are too large

12. I think that my stomach is just the right size

19. I feel satisfied with the shape of my body

31. I like the shape of my buttocks

45. I think my hips are too big

55. I think that my thighs are just the right size

59. I think my buttocks are too large

62. I think that my hips are just the right size

*Ineffectiveness*

10. I feel ineffective as a person

18. I feel alone in the world

20. I feel generally in control of things in my life

24. I wish I were someone else

27. I feel inadequate

37. I feel secure about myself

41. I have a low opinion of myself

42. I feel that I can achieve my standards

50. I feel that I am a worthwhile person

56. I feel empty inside (emotionally)

*Perfectionism*

13. Only outstanding performance is good enough for my family

29. As a child, I tried very hard to avoid disappointing my parents and teachers

36. I hate being less than best at things

43. My parents have expected excellence of me

52. I feel that I must do things perfectly or not do them at all

63. I have extremely high goals

*Interpersonal Distrust*

15. I am open about my feelings

17. I trust others

23. I can communicate with others easily

30. I have close relationships

34. I have trouble expressing my emotions to others

54. I need to keep people at a certain distance (feel uncomfortable if someone tries to get too close)

57. I can talk about personal thoughts or feelings

*Interoceptive Awareness*

18. I feel alone in the world

21. I get confused about what emotion I am feeling

26. I can clearly identify what emotion I am feeling

33. I don't know what's going on inside me

40. I get confused as to whether or not I am hungry

44. I worry that my feelings will get out of control

47. I feel bloated after eating a normal meal

51. When I am upset, I don't know if I am sad, frightened, or angry

60. I have feelings I can't quite identify

64. When I am upset, I worry that I will start eating

*Maturity Fears*

- 3. I wish that I could return to the security of childhood
- 6. I wish that I could be younger
- 14. The happiest time in life is when you are a child
- 22. I would rather be an adult than a child
- 35. The demands of adulthood are too great
- 39. I feel happy that I am not a child anymore
- 48. I feel that people are happiest when they are children
- 58. The best years of your life are when you become an adult

*Asceticism*

- 66. I am ashamed of my human weaknesses
- 68. I would like to be in total control of my bodily urges
- 71. I go out of my way to experience pleasure
- 75. Self-denial makes me feel stronger spiritually
- 78. Eating for pleasure is a sign of moral weakness
- 82. I believe that relaxing is simply a waste of time
- 86. I am embarrassed by my bodily urges
- 88. Suffering makes you a better person

*Impulse Regulation*

- 65. People I really like end up disappointing me
- 67. Other people would say that I am emotionally unstable
- 70. I say things impulsively that I regret having said
- 72. I have to be careful of my tendency to abuse drugs
- 74. I feel trapped in relationships

- 77. I can't get strange thoughts out of my head
- 79. I am prone to outbursts of anger or rage
- 81. I have to be careful of my tendency to abuse alcohol
- 83. Others would say that I get irritated easily
- 85. I experience marked mood shifts
- 90. I feel like I must hurt myself or others

*Social Insecurity*

- 69. I feel relaxed in most group situations
- 73. I am outgoing with most people
- 76. People understand my real problems
- 80. I feel that people give me the credit I deserve
- 84. I feel like I am losing out everywhere
- 87. I would rather spend time by myself than with others
- 89. I know that people love me
- 91. I feel that I really know who I am

*Anorexia*

- 92. Other people think that I am too thin
- 93. I feel that others would prefer if I ate more
- 94. I feel that others pressure me to eat
- 95. I cut my food into small pieces
- 96. I take longer than others to eat meals
- 97. I do not display self-control around food
- 98. I do not avoid eating when I am hungry

99. I feel uncomfortable eating in front of other people

100. When I don't eat in situations when others are eating I feel in control

Appendix B

Spielberger Trait Anxiety Inventory form Y-1 (Spielberger 1983)

All items are rated from 1 (not at all) to 4 (very much so).

21. I feel pleasant.....

22. I feel nervous and restless.....

23. I feel satisfied with myself.....

24. I wish I could be as happy as others seem to be.....

25. I feel like a failure.....

26. I feel rested.....

27. I am "calm, cool, and collected" .....

28. I feel that difficulties are piling up so that I cannot overcome them.....

29. I worry too much over something that really doesn't matter.....

30. I am happy.....

31. I have disturbing thoughts.....

32. I lack self-confidence.....

33. I feel secure.....

34. I make decisions easily.....

35. I feel inadequate.....

36. I am content.....

37. Some unimportant thought run through my mind and bothers me.....

38. I take disappointment so keenly that I can't put them out of my mind.....

39. I am a steady person.....

40. I get in a state of tension or turmoil as I think over my recent concerns and interests.....