A Pathway Analysis to Eating Disorders: Interaction of Pubertal Timing, Family Dynamic, Control, Ineffectiveness, and Perfectionism with Disordered Eating

Lisa Gallo and Dr. David Crystal

Georgetown University
Abstract

The present study tested a conceptual model of the origins of disordered eating in a non-clinical sample of college-age females (N=60). The subjects were given a questionnaire with seven scales questions measuring family cohesion, perceptions of control, ineffectiveness, perfectionism, bulimia, body dissatisfaction, and drive for thinness plus two recall questions measuring pubertal timing. It was found that subjects who began puberty earlier than their peers and lacked the support of a cohesive family were more likely to feel less control over their own lives. This lack of control was associated with higher levels of perfectionism and/or ineffectiveness. Higher levels of ineffectiveness, in turn, predicted higher scores on scales measuring bulimia, drive for thinness, and body dissatisfaction. By contrast, higher perfectionism scores were associated with bulimia, but not with body dissatisfaction or drive for thinness. Results are discussed in terms of the role of control, or lack thereof, in the emergence of eating disorders, with implications for early intervention.
Introduction

Adolescence is characterized by marked increases in psychopathology for girls (Hankin et al., 1998; Stice, Killen, Hayward, & Taylor, 1998). A type of psychopathology that commonly begins during adolescence is eating disorders. There are several kinds of eating disorders, but this paper will focus on two of them. Anorexia nervosa is marked by severe restriction of food, refusal to maintain a body weight of at least 85% of the expected weight for age and height, intense fear of gaining weight, and amenorrhea in postmenarchal females (American Psychiatric Association 1994). Bulimia nervosa, on the other hand, is marked by bingeing on food in greater amounts than most could eat during the same timeframe, a sense of lack of control over eating during the episode, usually followed by some type of purging (American Psychiatric Association 1994).

Besides the actual processes of these psychopathologies, there are several differences between these two eating disorders, among them patient weight--anorexics tend to be significantly underweight, whereas bulimics tend to be of normal weight, or slightly overweight--and age of onset--bulimia nervosa appears to
affect slightly older individuals than does anorexia nervosa (Fairburn & Beglin, 1990).

Another one of the hypothesized differences lies in the sense of control. Both theorists and empirical researchers suggest that a perceived lack of control is related to eating disorders. Theorists agree that an adverse sense of control, combined with harmful means of gaining control was associated with more severely disturbed eating behavior (Surgenor, Horn & Hudson 2003) and empirical research backs this claim up. Those with eating disorders often feel ineffective in their attempt to control their lives. In one study, anorexic and bulimic patients were compared to obese dieters, non-obese dieters and normal controls on perceived control, assertiveness, self-esteem, and self-directed hostility (Williams et al, 1993). Compared to the other three groups, anorexic and bulimic patients reported significantly more control by external forces, which would indicate that they perceive themselves to have less control over their own lives than do members of non-clinical controls. These patients were also less able to display self-assertion, had lower self-esteem, and reported higher level of guilt and self-criticism (Williams et al., 1993). Individuals with anorexia and individuals with bulimia are seen as
responding to "a need to control absolutely some aspect of their life situation or attain some total success in at least one area" (Slade, 1982). Anorexics and bulimics respond differently to this need for control, however. By losing significant amounts of weight and severely restricting food intake, the anorexic feels that she is somewhat successful in her control over food; and in fact, she is. The anorexics believe that they have significantly more control over food and dieting than control subjects, exactly the opposite of the lack of control they feel over their own lives (Furnham & Atkins, 1997). The bulimic, on the other hand, does not hold this internal sense of control over dieting; in fact in the Furnham and Atkins study (1997), bulimics did not differ significantly in their internal-external control beliefs from the control subjects. Such findings reflect the fact that bulimics are rarely successful in controlling their intake of food, and thus often feel their lives to be even more out-of-control when their attempts at dieting fail.

If a distorted sense of control plays such a central role in the emergence and maintenance of eating disorders, then exploring the origins of this distorted control would contribute significantly to an understanding of the etiology of these eating pathologies. Research has shown
that anorexia nervosa and bulimia nervosa often appear during times of transition in a person’s life, especially if the person lacks “the stable internal mechanisms or social support necessary for coping with the inherent challenges” of a transitional period (Smolak & Levine, 1996). One transitional period that is closely examined in regard to eating disorders is the onset of puberty, a critical period in a young adolescent’s life that brings about physical, emotional, and hormonal changes (Stice, Presnell, & Bearman, 2001). These changes have been correlated with a marked increase in various types of psychopathology, including depression and eating disorders (Stice, Presnell & Bearman, 2001).

The timing of menarche and the expression of adult physical characteristics, i.e. breast development and a lower waist-to-hip ratio impact the emotional growth and well being of an adolescent woman. For example, the increase in body fat that accompanies the onset of puberty is a concern for many young girls and drives them to worry about their weight and change their eating habits (Swarr & Richards, 1996). This increase in body fat averages about 24 pounds (Young, Sipin, & Roe, 1968) and brings girls further from the thin ideal set for females (Graber, Brooks-Gunn, Paikoff, & Warren, 1994). Research documents
that pubertal development, particularly early pubertal development, and the physical changes that accompany this development increase a woman’s dissatisfaction with her own body and increase the risk for developing eating problems (Swarr & Richards, 1996; Stice et al., 2001). The question is, why? One possible explanation is that having one’s body go through such changes at an earlier time than one’s peers might make the adolescent extremely self conscious and give rise to a feeling of being out of control to some extent. This sense of lack of control in the context of the weight gain that accompanies puberty for girls might lead them to focus their attempts to regain control on restricting their food intake and thus controlling their weight. No studies, however, have examined the relationship between early menarche and perceptions of control. Nor have any researchers investigated links between early menarche, perceptions of control, and eating disorders.

Young girls experiencing early menarche are at risk for a number of problems including a lack of self-esteem and a greater feeling of self-consciousness. Research has found that some of these effects can be mediated by a supportive family (Blyth & Foster-Clark, 1987). Similarly, there is a large amount of literature regarding relations
among family structure, parental styles, and eating disorders. Only one study, however, has examined associations between family dynamics, early menarche, and eating disorders. More specifically, Swarr and Richards (1996) found that girls who spent more time with their fathers reported healthier eating scores, particularly those girls who perceived their pubertal timing to be earlier than that of their peers. Besides this study, there is virtually no literature on the interaction of early menarche and family dynamics with eating disorders, and no literature that looks at these factors in conjunction with the adolescent’s perception of control.

If lack of control is a central risk factor for an eating disorder, then one might expect that lack of control might manifest itself in other ways besides controlling intake of food. One way that this need for control might be expressed is through a sense of perfectionism. Abundant research suggest that attempts to achieve perfection in various aspects of one’s life, for example, in academics, serves as a coping mechanism for gaining control over chaotic situations or chaotic emotional states (Hewitt & Flett 1996). To an adolescent girl, being able to get the perfect body may seem like a way to gain control of one’s life. Literature also indicates that there is a
relationship between perfectionism and eating disorders. Perfectionism has been documented among young adolescent girls, who always want to please others, be pretty, be nice, and do well in school. Establishing perfectionist standards often has the opposite effect of setting up unrealistic expectations that may foster the loss of self esteem when the individual fails to meet her own high goals (Smolak & Levine, 1996; Brown & Gilligan, 1992). This, in turn may lead to feelings of ineffectiveness, which further intensifies the need for self-control (Dalgleish et al. 2001). Ineffectiveness, as well, has been found to be associated with eating disorders, such as bulimia and anorexia (Garner et al. 1976). This study will look at ineffectiveness, as well as perfectionism though dieting as a way to remedy a perceived lack of control of one’s life brought about by menarche, and a dysfunctional family structure. The combination of these factors can then lead to an eating disorder.

Besides the previous gaps in the literature, most studies are done with young adolescents (Swarr & Richards, 1996; Stice et al., 1998; Smolak & Levine, 1996). However, studies show that the transition to college is another critical period in an individual’s life, when living away from home, changes in sleeping and eating patterns all
contribute to increased stress and pressure. Consequently, this is a period marked by increased episodes of eating disorders (Pokrajac-Buljan & Zivcic-Becirevic 2005). As many as 61% of college women report some form of disordered eating behavior, and 20% acknowledge some form of an eating disorder (Mazzeo 1999). Therefore, this study will take a unique retrospective look at the timing of menarche from the eyes of college-aged women. This study will also look at perception of control, familial structure, and perfectionist personalities and how these factors play a role in the development of eating disorders.

Based on the preceding literature review, this study makes the following hypotheses: 1. early pubertal timing and family dysfunction will predict a sense of lack of control; 2. lack of control will predict perfectionism and ineffectiveness; 3. perfectionism and ineffectiveness will predict disturbed eating behavior. These hypotheses are reflected in the following conceptual model:
Method

Participants

Sixty female students at Georgetown University completed a comprehensive questionnaire. The students were between the ages of 18 and 23. The mean age of the students (standard deviation in parenthesis) was 19.38 (1.37). The students were recruited from one general psychology class and one upper-level psychology seminar. Thirty-three of the students were freshmen, 4 of the students were sophomores, 5 were juniors, and 18 were seniors. Of the 60 students, 38 classified themselves as White/Caucasian, 7 classified themselves as Black/African-
American, 7 classified themselves as Asian, 1 classified herself as Hispanic, 4 said they were biracial, and 1 student did not identify with any of these categories. 29 students reported that they were Roman Catholic, 2 stated that they were Jewish, 2 were Muslim, 10 were Protestant, 4 followed another non-specified faith, and 13 classified themselves as non-religious.

**Procedure**

All subjects who participated in the study were given an informed consent that explained that their participation was strictly voluntary and explained the goals of the study. The subjects were administered a comprehensive questionnaire that included basic demographic questions and a number of questions taken from the following scales: the drive for thinness, bulimia, body dissatisfaction, ineffectiveness, and perfectionism subscales from the Eating Disorder Inventory (Garner, Olmstead, & Polivy 1983), the Family Adaptability and Cohesion Evaluation Scale II (Allison 1995), and the controllability and self-controllability subscales from the World Assumptions Scale (Janoff-Bulman 1989). Cronbach’s alpha on these scales went: drive for thinness, r=.918; bulimia, r=.894; body dissatisfaction, r=.905; ineffectiveness, r=.851; perfectionism, r=.657; Family Adaptability and Cohesion
Evaluation II, r=.992; controllability and self-controllability, r=.765. Bulimia, drive for thinness, and body dissatisfaction are the three scales used to measure disturbed eating behavior. Drive for thinness has been described as one of the primary features of anorexia (Bruch 1973; Bruch 1978), and body dissatisfaction has been found to be related to a lack of healthy body image, which is a basic concern to an anorexic (Garner & Garfinkel 1981).

To assess the timing of puberty, the subjects were asked to provide the age of onset of menstruation and the age they began wearing a bra. They were also asked a retrospective question to assess whether they felt that they began puberty earlier, at the same time, or later than their peers. The question read as follows: In retrospect I feel I began physically maturing earlier than my peers/around the same time as my peers/later than my peers (circle one).

The subjects were also given a measure assessing different forms of self-control constructed by the first and second authors. This measure contained 12 scenarios describing situations surrounding food and image. The respondents were asked how they thought the protagonist would react. For each scenario, four possible course of action were provided. These courses of action represented an overly controlling response, a lack of perceived control response,
a response displaying shame, and a norm response. These scenarios were designed to measure locus of control in situations more closely related to food issues and eating behaviors. A copy of the questionnaire that subjects completed can be found in the Appendix.

Once the subjects completed the questionnaire, each answer was given a numerical code ranging from 0-4, with 4 being the answer that would indicate disturbed eating, greater levels of perfectionism, greater levels of ineffectiveness, dysfunctional family dynamic, or less perceived control of events.

Results

Overview of the Analyses

We first present descriptive statistics for the six main measures of the study. We next computer a correlation matrix showing relations among the variables in the study. We then describe results of a series of multiple regression equations designed to test the proposed relations among the variables of the study as presented in the Introduction above. Finally, we compare results of the series of regression equations with the model presented in the Introduction.
**Descriptive Statistics**

Means and standard deviations for the main variables of the study are presented in Table 1. The range of onset of menstruation was from age 9-19 with the mean age (standard deviation in parentheses) being 12.78 (1.48). The maximum age of 19 was derived from one nineteen year-old reporting that she had never gotten her period. Previous studies have divided the age of onset into early versus non-early subgroups, and the cutoff for early menstruation was before age 11.6 (Stice et. al 2001; Stice & Whitenton 2002). These studies were done with middle schoolers and included part of the population who had not experienced menarche yet. Since this was a retrospective study, and sample was not divided, it is difficult to compare this population with subjects from previous studies. The mean age that the females started wearing a bra was 11.58 (1.65). The rest of the scales were scored from 0 to 4, as stated in the Method. The mean for drive for thinness was 1.96 (1.01). Similarly, the mean for body dissatisfaction was 1.87 (.96). The mean for the bulimia scale was 1.13 (.78), slightly lower than the other two eating disorder scales. The mean for ineffectiveness was 1.38 (.57) and the mean for perfectionism was 2.88 (.60), almost a full point higher than any of the other scales. The mean for
family cohesion was 1.54 (.52) and the mean for perceived control is 1.65 (.51). The lack of control scale was measured differently, based on a percentage of the scenarios in which the person answered with the lack of control response. The mean of that scale was .107 (.097).

Correlations

A correlation matrix containing all the main variables in the study was computed as shown in Table 2. As expected, bulimia was significantly correlated with a drive for thinness, \( r = .59, p < .001 \), and body dissatisfaction, \( r = .55, p < .001 \). Body dissatisfaction and drive for thinness were also significantly correlated with each other, \( r = .79, p < .001 \). Ineffectiveness was also correlated with drive for thinness, bulimia, and body dissatisfaction at the .001 alpha level, as seen in Table 2 (\( r = .49, r = .58, \) and \( r = .48 \), respectively). Ineffectiveness and perfectionism were also significantly correlated, \( r = .294, p < .05 \). Lack of control was significantly correlated with bulimia, \( r = .341, p < .01 \), and body dissatisfaction, \( r = .293, p < .05 \). However, the correlation between lack of control and drive for thinness was not statistically significant, \( r = .15, p = .27 \). The correlation between family cohesion and bulimia was statistically significant, \( r = .302, p < .05 \) (remember that
a higher score on the family cohesion scale implied less family cohesion). Family cohesion was not significantly correlated with the other two eating disorder indices. Perfectionism was also significantly correlated with bulimia, \( r = .376, p < .05 \), but not body dissatisfaction or drive for thinness. Onset of menstruation was not significantly correlated with any of the eating disorder indices.

**Scatter Plots**

To further illustrate the relations between the outcome measures, scatter plots were constructed to visually illustrate the correlations between bulimia, drive for thinness, and body dissatisfaction. A best-fit line was found in each of the three graphs. As shown in Figure 1, 34.8% of the variance for bulimia can be explained by a drive for thinness, \( R^2 = .348 \). As shown in Figure 2 30.3% of the variance for bulimia can be explained by body dissatisfaction, \( R^2 = .303 \). The most significant correlation of these three scales was found between a drive for thinness and body dissatisfaction. As shown in Figure 3, 62.1% of the variance with a drive for thinness can be explained by body dissatisfaction, \( R^2 = .621 \).
Multiple Regression Equations

In order to determine the appropriateness of the conceptual model described in the Introduction, we conducted a series of multiple regression equations. Each regression equation was designed to test a separate part of the overall conceptual model. For example, the first part of the conceptual model indicated that early pubertal timing and family dysfunction would predict lack of control. To test this relationship, we regressed lack of control on age of onset of menstruation, family cohesion, and the interaction between these two variables, as shown in Table 3. The regression equation revealed that, as predicted, age of onset of menstruation, family cohesion, and the interaction between these variables were all significant predictors of feeling a lack of control at an alpha level of .01, (age of onset of menstruation $\beta=-1.35$; family cohesion $\beta=-3.79$; interaction between age of onset of menstruation and family cohesion $\beta=4.23$; $R^2=.19$).

The conceptual model next addressed the relationship between lack of control and perfectionism. The model suggested that lack of control would predict perfectionism. Another regression equation was computed to test this relationship. As seen in Table 4, lack of control was
significantly associated with perfectionism, $\beta$.41, $p<.001$, $R^2$.17.

The conceptual model also suggested that lack of control would predict ineffectiveness. To test this relationship, we regressed lack of control on ineffectiveness, as shown in Table 5. As hypothesized, lack of control significantly predicted ineffectiveness, $\beta$=.35, $p<.01$, $R^2$.12.

The last part of the conceptual model predicted that perfectionism and ineffectiveness would predict eating disorders. To test this prediction, we broke eating disorders down by the three outcome variables and tested each of these relationships separately. When we regressed bulimia on ineffectiveness and perfectionism we found that both finding were significant, as shown in Table 6. Ineffectiveness was a predictor of bulimia, $\beta$.51, $p<.001$, as was perfectionism, $\beta$.22, $p<.05$ (For this equation, $R^2$.39).

We then regressed body dissatisfaction on ineffectiveness and perfectionism, as seen in Table 7. As predicted, ineffectiveness was a significant predictor of body dissatisfaction, $\beta$.48, $p<.001$. However, perfectionism did not turn out to predict body dissatisfaction, $\beta$.00, $p$.99 (For this equation, $R^2$.23).
The last regression equation tested the relationship between drive for thinness, ineffectiveness, and perfectionism, as shown in Table 8. The conceptual model indicated that ineffectiveness and perfectionism would be predictors of drive for thinness. When we ran the regression, we found that ineffectiveness was a significant predictor of drive for thinness, $\beta = .49$, $p < .001$. Again, however, perfectionism was not a significant predictor of drive for thinness, $\beta = .03$, $p = .81$ (For this equation, $R^2 = .25$).

The revised conceptual model based on statistical analysis is as follows:
Discussion

This study aimed to test a conceptual model that would predict the pathway to developing an eating disorder. This model hypothesized that early pubertal timing and/or the lack of a cohesive family support system would result in a less perceived control over the events in one's life. The study then hypothesized that higher scores on perceived lack of control scales would predict higher scores on perfectionism and ineffectiveness scales. Lastly, it was hypothesized that perfectionism and ineffectiveness would predict disordered eating.

As we expected, early pubertal development and/or had a less cohesive family were significantly associated with a lack of control regarding various aspects of eating and relating with others. It is reasonable to assume that, for an adolescent girl, having one's body develop before one's peers could be a source of embarrassment and contribute to a sense that one has no control over these physical changes. The results indicated that those girls who lacked support in their families were more likely to feel out of control in their own lives. What is more the combination of early pubertal development and family dysfunction, as represented by an interaction between these factors, emerged as the most significant predictor of lack of
control. We know of no other study that has documented the relationship between these three factors in the context of an examination of disordered eating. We believe the association reported here provided the initial explanation for the process by which early physical development in girls may lead to future eating disorders, a relationship that has been found by several other researchers (Swarr & Richards, 1996; Stice et al., 2001).

Lack of control over eating and interpersonal relations was, in turn, predictive of higher scored on the ineffectiveness scale and the perfectionism scale, as hypothesized. This finding of a relationship between lack of control and ineffectiveness is consistent with other findings that show ineffectiveness to be correlated with lack of control (Hood, Moore, & Garner 1982). When an individual perceives her life to be controlled by external forces, she also feels ineffective in having any influence over the events in her life. The connection between perfectionism and locus of control has also been found in the literature (Hewitt & Flett, 1996). Perfectionism might be a coping strategy to combat the perceived lack of control in one's life.

As predicted, ineffectiveness was correlated with all three eating disorder scales. Bulimia is characterized by
binging on food, followed by purging. Research has found that bulimics often fail in their attempts to control their food intake (Garner et al. 1976). Such failure might very well contribute to a strong sense of ineffectiveness, which has been found among those who have bulimic tendencies (Davis & Jamieson, 2005). This type of behavior could result in a person feeling ineffective in controlling her intake of food.

What is surprising, however, is that while perfectionism was a predictor of bulimia, it was not a predictor of body dissatisfaction or drive for thinness. Given the volume of literature showing the relationship between perfectionism and these two outcomes (Smolak & Levine, 1996; Brown & Gilligan, 1992), this finding was indeed puzzling. There are several possible explanations for this result. One study found that drive for thinness was only associated with perfectionism in the presence of stress (Ruggerio et al. 2003). Since our study did not include a scale to measure stress, this may have been a confounding factor. This however, does not account for the lack of association between body dissatisfaction and perfectionism. In the Ruggerio et al. study (2003), a correlation between body dissatisfaction and perfection was found, regardless of stress level. Another explanation
might be the composition of the sample. The students at Georgetown are very driven people. Many of them are perfectionists, so overall, the mean on the perfectionism scale was much higher than the means on the other scales (2.8889, with a standard deviation of .603; see Table 1 for the other means). This may have affected the results, since most subjects scored high on this scale and there would not be much of a difference between subjects who scored higher on the eating disorder scales and those who scored lower. The bulimia scale itself had a smaller mean and standard deviation than the drive for thinness and body dissatisfaction scales: 1.12(.78), 1.96(1.01), and 1.88(.96) respectively. Given the small sample size (N=60) the bulimic tendencies may have been easier to identify than drive for thinness or body dissatisfaction. This may be why perfectionism was a significant predictor of bulimia, but not of drive for thinness or body dissatisfaction. Also, this was also a non-clinical population, so it is not clear if any subjects could be clinically diagnosed with either anorexia or bulimia. These scales just measured tendencies toward disturbed eating behavior. Perhaps with a clinical sample, the drive for thinness and body dissatisfaction might have been more
acute and thus, the relationship between these factors and perfectionism would have been more clear.

We also did not find any significant correlation between drive for thinness and perceptions of over-control. When taking a closer look, this is actually not surprising. In the Williams et al. study, bulimic and anorexic patients indicated that they perceive themselves to have little control over their own lives (1993). The difference in control lies with dieting beliefs, in which anorexics report more internal control than bulimics or control subjects. Since this study looked at perceived control over life events, with only four questions out of twelve pertaining to eating behaviors one would not expect to find differences between measures of bulimia and measures associated with anorexia, such as drive for thinness.

Further studies might employ a larger, clinical sample, and also use structural equation modeling, which is a more technical form of analysis that can look at indirect effects.

In conclusion, the present investigation points to a potential pathway between early pubertal development and later eating disorders. Future studies should: 1) employ larger samples; 2) look at clinical as well as non-clinical populations to see if these relationships hold at the
extremes of disordered eating; 3) Conduct an equivalent study in a younger adolescent sample; and 4) test this conceptual model using structural equation modeling, which can look at the indirect effects between variables. The findings of this study, while still preliminary, show that early warning signs exist for the development of an eating disorder. Recognizing these risk factors has implications for early intervention.
References


nervosa and obesity. *Psychosomatic Medicine, 38*, 227-237.


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Table 1

Means and Standard Deviations for All Scales in the Pathway Analysis

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<th>Scale</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
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<td>Age onset menstruation</td>
<td>60</td>
<td>9.0</td>
<td>19.0</td>
<td>12.780</td>
<td>1.4818</td>
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<td>Age onset bra/shaving</td>
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<td>19</td>
<td>11.58</td>
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<td>drive for thinness scale bulimia scale</td>
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<td>body dissatisfaction scale</td>
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<td>.96090</td>
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<tr>
<td>ineffectiveness scale</td>
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<td>.30</td>
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<td>perfectionism scale</td>
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<tr>
<td>family cohesion scale</td>
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<tr>
<td>perceived control scale</td>
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<td>lack of control scale interaction bet</td>
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<td>Valid N (listwise)</td>
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Table 2

*Correlation Matrix for Each Scale in the Pathway Analysis*

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<td>1. Onset of menstruation</td>
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<td>2. Age began wearing bra</td>
<td></td>
<td>0.684**</td>
<td>1</td>
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<tr>
<td>3. Drive for thinness</td>
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<td>0.035</td>
<td>0.069</td>
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<td>4. Bulimia</td>
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<td>0.108</td>
<td>0.590**</td>
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<td>5. Body dissatisfaction</td>
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<tr>
<td>6. Ineffectiveness</td>
<td></td>
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<td>0.313*</td>
<td>0.494**</td>
<td>0.584**</td>
<td>0.479**</td>
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<tr>
<td>7. Perfectionism</td>
<td></td>
<td>-0.107</td>
<td>0.108</td>
<td>0.173</td>
<td>0.376**</td>
<td>0.141</td>
<td>0.294*</td>
<td>1</td>
<td></td>
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<tr>
<td>8. Family cohesion</td>
<td></td>
<td>0.045</td>
<td>0.127</td>
<td>0.242</td>
<td>0.302*</td>
<td>0.238</td>
<td>0.517**</td>
<td>0.152</td>
<td>1</td>
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<tr>
<td>9. Perceived control</td>
<td></td>
<td>0.086</td>
<td>0.034</td>
<td>0.18</td>
<td>0.101</td>
<td>0.137</td>
<td>0.296*</td>
<td>-0.133</td>
<td>0.176</td>
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<td>10. Lack of control</td>
<td></td>
<td>0.132</td>
<td>0.186</td>
<td>0.145</td>
<td>0.341**</td>
<td>0.293*</td>
<td>0.351**</td>
<td>0.411**</td>
<td>0.088</td>
<td>0.07</td>
<td>1</td>
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<tr>
<td>11. Menstruation X Family cohesion</td>
<td></td>
<td>0.391**</td>
<td>0.369**</td>
<td>0.238</td>
<td>0.356**</td>
<td>0.229</td>
<td>0.580**</td>
<td>0.119</td>
<td>0.932**</td>
<td>0.18</td>
<td>0.166</td>
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<td>12. Perfectionism X Control</td>
<td></td>
<td>0.093</td>
<td>0.18</td>
<td>0.129</td>
<td>0.378**</td>
<td>0.268*</td>
<td>0.344**</td>
<td>0.566**</td>
<td>0.136</td>
<td>0.06</td>
<td>0.969**</td>
<td>0.2</td>
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</table>

*p<.05

**p<.01
Table 3

Regression Analysis for Predictors of Lack of Control

Coefficients(a)

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1.182</td>
<td>.370</td>
<td>-1.352</td>
<td>3.192</td>
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<tr>
<td></td>
<td>-.089</td>
<td>.030</td>
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<td>-2.991</td>
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<tr>
<td></td>
<td>-.703</td>
<td>.213</td>
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<tr>
<td></td>
<td>.058</td>
<td>.017</td>
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<td>3.398</td>
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</table>

a. Dependent Variable: mean of total lack of control scale
R^2=.19
Table 4

Regression Analysis for Predictors of Perfectionism

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>mean of total lack of control scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>1</td>
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<td>2</td>
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<td>2.552</td>
<td>.744</td>
<td>.411</td>
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</table>

a Dependent Variable: mean for perfectionism scale
R²=.17
Table 5

Regression Analysis for Predictors of Ineffectiveness

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
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<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>1.161</td>
<td>.105</td>
<td>11.087</td>
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<td></td>
<td>mean of total lack of control scale</td>
<td>2.078</td>
<td>.728</td>
<td>.351</td>
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</table>

a Dependent Variable: mean for ineffectiveness scale

$R^2 = .12$
### Table 6

*Regression Analysis for Predictors of Bulimia*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
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<tr>
<td>1 (Constant)</td>
<td>-.690</td>
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<td></td>
<td>mean for ineffectiveness scale</td>
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<td></td>
<td>mean for perfectionism scale</td>
<td>.290</td>
<td>.141</td>
<td>.223</td>
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*a* Dependent Variable: mean for bulimia scale

$R^2 = .39$
Table 7

Regression Analysis for Predictors of Body Dissatisfaction

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.771</td>
<td>.559</td>
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<tr>
<td></td>
<td>mean for ineffectiveness</td>
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<td>.479</td>
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<td>scale</td>
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<td></td>
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<tr>
<td></td>
<td>mean for perfectionism</td>
<td>.000</td>
<td>.194</td>
<td>.000</td>
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<tr>
<td></td>
<td>scale</td>
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</table>

a. Dependent Variable: mean for body dissatisfaction scale

R² = .23
Table 8

Regression Analysis for Predictors of Drive for Thinness

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>.635</td>
<td>.583</td>
<td>1.090</td>
<td>.280</td>
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<tr>
<td>mean for perfectionism scale</td>
<td>.050</td>
<td>.202</td>
<td>.248</td>
<td>.805</td>
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<tr>
<td>mean for ineffectiveness scale</td>
<td>.854</td>
<td>.212</td>
<td>4.027</td>
<td>.000</td>
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</tbody>
</table>

a Dependent Variable: mean score drive for thinness

$R^2 = .25$
Figure Captions

Figure 1. Scatter plot of mean scores on the drive for thinness scale and the mean scores on the bulimia scales, $R^2 = .348$.

Figure 2. Scatter plot of mean scores on the body dissatisfaction and the mean scores on the bulimia scales, $R^2 = .303$.

Figure 3. Scatter plot of mean scores on the drive for thinness scale and the mean scores on the body dissatisfaction scales, $R^2 = .621$. 
A scatter plot showing the relationship between mean score for bulimia scale and mean score drive for thinness. The plot has a linear trend line with an R^2 value of 0.348.
GEORGETOWN UNIVERSITY
CONSENT TO PARTICIPATE IN RESEARCH

PROJECT TITLE

- Relation of eating habits, family dynamic, and personality

PROJECT DIRECTOR

- Professor David Crystal

PRINCIPAL INVESTIGATOR                      TELEPHONE

- Lisa Gallo                               - (202) 784-5937

The Georgetown University Institutional Review Board (IRB) has approved this research project. For information on your rights as a research subject, call the Institutional Review Board office at 202-687-1506.

INTRODUCTION

You are invited to consider participating in a research study to investigate eating habits, family dynamic and personality. This form will describe the purpose and nature of the research, its possible risks and benefits, and your rights as a participant in the study. The decision to participate, or not to participate, is yours. If you decide to participate, please be sure to sign and date the last page of this form.

HOW MANY PEOPLE WILL TAKE PART IN THE STUDY?

About 250 people will take part in this study. Participants in the study are referred to as “subjects.”

WHAT IS INVOLVED IN THE STUDY?

You will be asked to fill out a questionnaire with some demographic information (nothing that can be linked to you personally) and then will be asked to answer approximately 160 questions based on your experiences and perceptions. Your answers will be completely anonymous and will in no way be tied to your name or identity.

HOW LONG WILL I BE IN THE STUDY?

We expect that you will be in the study for approximately one hour.

The investigators or sponsors may stop the study or take you out of the study at any time they judge it is in your best interest (e.g., if you experience an injury or if you do not comply with the study plan) or for a variety of other reasons. They can do this without your consent.
You can stop participating at any time. However, if you decide to stop participating in the study, we encourage you to talk to the researcher first. If you choose to stop participating, you will be able to do another project of comparable time and difficulty for extra credit.

WHAT ARE THE RISKS OF THE STUDY?

- This study involves the minimal risks. One possible risk is that you might feel uncomfortable with certain questions. However, as stated before, participation is completely voluntary and you may choose to withdraw at anytime. If you have any questions, please do not hesitate to discuss them with the researcher.

ARE THERE BENEFITS TO TAKING PART IN THE STUDY?

It is reasonable to expect the following benefits from this research: Extra Credit
However, we cannot guarantee that you will personally experience benefits from participating in this study. Others may benefit in the future from the information we obtain in this study.

WHO CAN PARTICIPATE IN THE STUDY?

This study is designed for Georgetown students.

WHAT ABOUT CONFIDENTIALITY?

Your name will not be used when data from this study are published.
Every effort will be made to keep your research records and other personal information confidential. However, we cannot guarantee absolute confidentiality. Individuals from the Georgetown University IRB, other Georgetown University offices, and Federal regulatory agencies may look at records related to this study, both to assure quality control and to analyze data. No one will be able to relate your name to your responses on the survey.
We will take the following steps to keep information about you confidential, and to protect it from unauthorized disclosure, tampering, or damage:
We will separate your answers from your survey upon receiving it, thus your survey will basically be anonymous. Once we separate the surveys, we will then put your name on a list to ensure that you receive credit for participating.

WILL I BE PAID FOR PARTICIPATING?

Study subjects will not be paid for participating in this study.

WHAT ARE MY RIGHTS AS A RESEARCH PARTICIPANT?

Participation in this study is entirely voluntary at all times. You have the right not to participate at all or to leave the study at any time. Deciding not to participate or choosing to leave the study
will not result in any penalty or loss of benefits to which you are entitled, and it will not harm your relationship with Georgetown University or any of its employees.

If you decide to leave the study, the procedure is: to stop answering the survey and ask your professor about alternative options for receiving extra credit.

WHOM DO I CONTACT IF I HAVE QUESTIONS OR PROBLEMS?

Call Lisa Gallo at 202-784-5937 during regular business hours if you have questions about the study, any problems, unexpected physical or psychological discomforts, any injuries, or think that something unusual or unexpected is happening.

Call the Georgetown University IRB Office at 202-687-1506 during regular business hours if you have any questions about your rights as a research participant.

Statement of Person Obtaining Informed Consent

I have fully explained this study to the subject. I have discussed the study’s purpose, its procedures, its possible risks and benefits, and the voluntary nature of participation. I have invited the subject to ask questions and have answered any questions that the subject has asked.

_________________________________________ Date
Signature of Person Obtaining Informed Consent

Consent of Subject (or Legally Authorized Representative)

I have read the information provided in this Informed Consent Document (or it was read to me by ________________________________).
My questions were answered to my satisfaction.
I voluntarily agree to participate in this study.

_________________________________________ Date
Signature of Subject

Upon signing, the subject or the legally authorized representative will receive a copy of this form, and the original will become part of the subject’s research record.
Part I:
Instructions:
The following questionnaire is divided into several sections. The first section is simply demographical information. The subsequent sections will look at eating attitudes, self-esteem, and family dynamics.

I am:
_____ male
_____ female

What is your age?
_____ years old

What year are you in college?
_____ Freshman
_____ Sophomore
_____ Junior
_____ Senior
_____ other (please specify)

What is your race?
_____ Asian
_____ Black/African-American
_____ Hispanic
_____ White
_____ other

What is your religion?
_____ Catholic
_____ Jewish
_____ Muslim
_____ Protestant (including Baptist, Episcopalian, Methodist, Presbyterian, etc.)
_____ not religious
_____ other (please specify)

How often do you usually attend religious services? Please check one.
_____ more than once a week
_____ once a week
_____ 1-3 times a month
_____ a few times per year
_____ never

How important is religion to you?
_____ not important at all
_____ not very important
_____ somewhat important
The highest level of education completed by my father is:
- High school
- 2-year college
- 4-year college
- Masters
- Ph.D

The highest level of education completed by my mother is:
- High school
- 2-year college
- 4-year college
- Masters
- Ph.D

My parents are...
- Married
- Separated (for ______ months/years)
- Divorced (for ______ months/years)

I have the following number of biological brothers and sisters:
- 0
- 1-3
- 4-6
- 6-9
- Other (please specify____)

I have the following number of half-brothers and half-sisters:
- 0
- 1-3
- 4-6
- 6-9
- Other (please specify____)

I have the following number of step-brothers and step-sisters:
- 0
- 1-3
- 4-6
- 6-9
- Other (please specify____)

In my biological family I am the:
- Oldest child
- Second child
____ third child
____ youngest
____ only child
____ other (please specify __________________)

In my blended family I am the:
____ oldest child
____ second child
____ third child
____ youngest
____ only child
____ other (please specify __________________)

During my time in High School I dated:
____ 0-3 people
____ 4-6 people
____ 6-9 people
____ 9-11 people
____ other (Please specify) __________

During my time in College I dated:
____ 0-3 people
____ 4-6 people
____ 6-9 people
____ 9-11 people
____ other (Please specify) __________

Currently I am:
____ Not in a relationship (not looking)
____ In an “open” relationship
____ In an exclusive relationship (for _____ months/years)
____ Actively dating, but no one in particular

How old were you when you first started to date?
____ years _____ months old

In retrospect, I feel I started dating
____ too early _____ about the right time ____ too late

These next two questions are for GIRLS only
How old were you when you got your first period?
____ years _____ months old

How old were you when you first started wearing a bra?
____ years _____ months old
These next two questions are for BOYS only
How old were you when you first ejaculated?
____ years _____ months old

How old were you when you first started shaving?
____ years _____ months old
In retrospect, I feel I began physically maturing
_____ earlier than my peers
____ around the same time as my peers
____ later than my peers
## Undergraduate thesis Questionnaire

1. I refuse to say anything when I feel anxious
   - Never  Seldom  Sometimes  Frequently  Always

2. It is easier to discuss problems with people outside the family than with other family members
   - Never  Seldom  Sometimes  Frequently  Always

3. I stuff myself with food
   - Never  Seldom  Sometimes  Frequently  Always

4. Our family does things together
   - Never  Seldom  Sometimes  Frequently  Always

5. The happiest time in life is when you are a child
   - Never  Seldom  Sometimes  Frequently  Always

6. I avoid making a scene when I am angry
   - Never  Seldom  Sometimes  Frequently  Always

7. I can communicate with others easily
   - Never  Seldom  Sometimes  Frequently  Always

8. My parents have expected excellence of me
   - Never  Seldom  Sometimes  Frequently  Always

9. I am preoccupied with the desire to be thinner
   - Never  Seldom  Sometimes  Frequently  Always

10. When I am upset I dont know if I am sad frightened or angry
    - Never  Seldom  Sometimes  Frequently  Always

11. Family members feel closer to people outside the family than to other family members
    - Never  Seldom  Sometimes  Frequently  Always

12. I have a low opinion of myself
    - Never  Seldom  Sometimes  Frequently  Always

13. I feel empty inside emotionally
    - Never  Seldom  Sometimes  Frequently  Always

14. When problems arise we compromise
    - Never  Seldom  Sometimes  Frequently  Always
Undergraduate thesis Questionnaire

15) I eat sweets and carbohydrates without feeling nervous
   Never  Seldom  Sometimes  Frequently  Always

16) When bad things happen, it is typically because people have not taken the necessary actions to
   strongly  agree  neutral  disagree  strongly

17) Our family gathers together in the same room
   Never  Seldom  Sometimes  Frequently  Always

18) I feel ineffective as a person
   Never  Seldom  Sometimes  Frequently  Always

19) We shift household responsibilities from person to person
   Never  Seldom  Sometimes  Frequently  Always

20) I feel satisfied with the shape of my body
   Never  Seldom  Sometimes  Frequently  Always

21) I let others see how I feel when I feel depressed
   Never  Seldom  Sometimes  Frequently  Always

22) I have gone on eating binges where I have felt I could not stop
   Never  Seldom  Sometimes  Frequently  Always

23) I feel bloated after eating a small meal
   Never  Seldom  Sometimes  Frequently  Always

24) I feel secure about myself
   Never  Seldom  Sometimes  Frequently  Always

25) Family members go along with what the family decides to do
   Never  Seldom  Sometimes  Frequently  Always

26) Through our actions, we can prevent bad things from happening to us
   strongly  agree  neutral  disagree  strongly

27) It is difficult to get a rule changed in our family
   Never  Seldom  Sometimes  Frequently  Always

28) I eat or drink in secrecy
   Never  Seldom  Sometimes  Frequently  Always
Undergraduate thesis Questionnaire

29) Family members are afraid to say what it on their minds

Never   Seldom   Sometimes   Frequently   Always

30) I wish that I could be younger

Never   Seldom   Sometimes   Frequently   Always

31) I bottle my anxiety up when I feel anxious

Never   Seldom   Sometimes   Frequently   Always

32) Family members discuss problems and feel good about solutions

Never   Seldom   Sometimes   Frequently   Always

33) I am open about my feelings

Never   Seldom   Sometimes   Frequently   Always

34) It is hard to know what the rules are in our family

Never   Seldom   Sometimes   Frequently   Always

35) I wish I were someone else

Never   Seldom   Sometimes   Frequently   Always

36) I worry that my feelings will get out of control

Never   Seldom   Sometimes   Frequently   Always

37) I dont know what is going on inside me

Never   Seldom   Sometimes   Frequently   Always

38) I feel that I must do things perfectly or not at all

Never   Seldom   Sometimes   Frequently   Always

39) I hide my unhappiness when I feel depressed

Never   Seldom   Sometimes   Frequently   Always

40) I can talk about personal thoughts or feelings

Never   Seldom   Sometimes   Frequently   Always

41) I tell others all about it when I am anxious

Never   Seldom   Sometimes   Frequently   Always

42) Family members are supportive of each other during difficult times

Never   Seldom   Sometimes   Frequently   Always
Undergraduate thesis Questionnaire

43) I think that my stomach is too big
   Never  Seldom  Sometimes  Frequently  Always

44) I keep quiet when I feel angry
   Never  Seldom  Sometimes  Frequently  Always

45) I feel extremely guilty after overeating
   Never  Seldom  Sometimes  Frequently  Always

46) I say what I feel when I am angry
   Never  Seldom  Sometimes  Frequently  Always

47) I feel generally in control of things in my life
   Never  Seldom  Sometimes  Frequently  Always

48) I usually behave in ways that are likely to maximize good results for me
   strongly  agree  neutral  disagree  strongly

49) We have difficulty thinking of things to do as a family
   Never  Seldom  Sometimes  Frequently  Always

50) As a child I tried very hard to avoid disappointing my parents and teachers
   Never  Seldom  Sometimes  Frequently  Always

51) I feel that people are happiest when they are children
   Never  Seldom  Sometimes  Frequently  Always

52) I think about bingeing overeating
   Never  Seldom  Sometimes  Frequently  Always

53) I need to keep people at a certain distance feel uncomfortable if someone tries to get too close
   Never  Seldom  Sometimes  Frequently  Always

54) I refuse to say anything about it when I feel depressed
   Never  Seldom  Sometimes  Frequently  Always

55) I think that my hips are just the right size
   Never  Seldom  Sometimes  Frequently  Always

56) I say what I feel when I feel anxious
   Never  Seldom  Sometimes  Frequently  Always
Undergraduate thesis Questionnaire

57) Each family member has input regarding major family decisions
   Never    Seldom    Sometimes    Frequently    Always

58) I think about dieting
   Never    Seldom    Sometimes    Frequently    Always

59) I hide my annoyance when I am angry
   Never    Seldom    Sometimes    Frequently    Always

60) I am terrified of gaining weight
   Never    Seldom    Sometimes    Frequently    Always

61) I bottle it up when I feel depressed
   Never    Seldom    Sometimes    Frequently    Always

62) I exaggerate or magnify the importance of weight
   Never    Seldom    Sometimes    Frequently    Always

63) I think my hips are too big
   Never    Seldom    Sometimes    Frequently    Always

64) In solving problems the childrens suggestions are followed
   Never    Seldom    Sometimes    Frequently    Always

65) I have trouble expressing my emotions with others
   Never    Seldom    Sometimes    Frequently    Always

66) I have the thought of having to vomit in order to loss weight
   Never    Seldom    Sometimes    Frequently    Always

67) In our family everyone shares responsibilities
   Never    Seldom    Sometimes    Frequently    Always

68) The best years of your life is when you become an adult
   Never    Seldom    Sometimes    Frequently    Always

69) I let others see how I feel when I am anxious
   Never    Seldom    Sometimes    Frequently    Always

70) In our family it is easy for everyone to express hisher emotions
   Never    Seldom    Sometimes    Frequently    Always
**Undergraduate thesis Questionnaire**

71) I wish that I could return to the security of childhood
   Never    Seldom    Sometimes    Frequently    Always

72) Children have a say in their discipline
   Never    Seldom    Sometimes    Frequently    Always

73) I think my stomach is just the right size
   Never    Seldom    Sometimes    Frequently    Always

74) I refuse to argue or say anything when I am angry
   Never    Seldom    Sometimes    Frequently    Always

75) I get confused with what emotion I am feeling
   Never    Seldom    Sometimes    Frequently    Always

76) I keep quiet when I feel depressed
   Never    Seldom    Sometimes    Frequently    Always

77) I have close relationships
   Never    Seldom    Sometimes    Frequently    Always

78) If I gain a pound I worry that I will keep gaining
   Never    Seldom    Sometimes    Frequently    Always

79) Discipline is fair in our family
   Never    Seldom    Sometimes    Frequently    Always

80) I feel happy that I am not a child anymore
   Never    Seldom    Sometimes    Frequently    Always

81) If people took preventative actions, most misfortunes could be avoided
   strongly    agree    neutral    disagree    strongly

82) Family members avoid each other at home
   Never    Seldom    Sometimes    Frequently    Always

83) I have extremely high goals
   Never    Seldom    Sometimes    Frequently    Always

84) Family members pair up rather than do things as a total family
   Never    Seldom    Sometimes    Frequently    Always
**Undergraduate thesis Questionnaire**

85) I get frightened when my feelings are too strong
   - Never
   - Seldom
   - Sometimes
   - Frequently
   - Always

86) I keep quiet when I feel anxious
   - Never
   - Seldom
   - Sometimes
   - Frequently
   - Always

87) In our family everyone goes hisher own way
   - Never
   - Seldom
   - Sometimes
   - Frequently
   - Always

88) I trust others
   - Never
   - Seldom
   - Sometimes
   - Frequently
   - Always

89) Family members consult others family members on personal decisions
   - Never
   - Seldom
   - Sometimes
   - Frequently
   - Always

90) I can clearly identify what emotion I am feeling
   - Never
   - Seldom
   - Sometimes
   - Frequently
   - Always

91) I eat moderately in front of others and stuff myself when they are gone
   - Never
   - Seldom
   - Sometimes
   - Frequently
   - Always

92) The demands of adulthood are too great
   - Never
   - Seldom
   - Sometimes
   - Frequently
   - Always

93) Our family tries new ways of dealing with problems
   - Never
   - Seldom
   - Sometimes
   - Frequently
   - Always

94) I smother my feelings when I feel depressed
   - Never
   - Seldom
   - Sometimes
   - Frequently
   - Always

95) I think my buttocks are too large
   - Never
   - Seldom
   - Sometimes
   - Frequently
   - Always

96) I take the actions necessary to protect myself against misfortune
   - strongly
   - agree
   - neutral
   - disagree
   - strongly

97) We approve of each others friends
   - Never
   - Seldom
   - Sometimes
   - Frequently
   - Always

98) I eat when I am upset
   - Never
   - Seldom
   - Sometimes
   - Frequently
   - Always
Undergraduate thesis Questionnaire

99) I smother my feelings when I am angry
   Never  Seldom  Sometimes  Frequently  Always

100) Only outstanding performance is good enough in my family
   Never  Seldom  Sometimes  Frequently  Always

101) I smother my feelings when I feel anxious
   Never  Seldom  Sometimes  Frequently  Always

102) Family members know each others close friends
   Never  Seldom  Sometimes  Frequently  Always

103) I would rather be an adult than a child
   Never  Seldom  Sometimes  Frequently  Always

104) I feel that I can achieve my standards
   Never  Seldom  Sometimes  Frequently  Always

105) I like the shape of my buttocks
   Never  Seldom  Sometimes  Frequently  Always

106) I feel that I am a worthwhile person
   Never  Seldom  Sometimes  Frequently  Always

107) I get confused about whether or not I am hungry
   Never  Seldom  Sometimes  Frequently  Always

108) I think that my thighs are just the right size
   Never  Seldom  Sometimes  Frequently  Always

109) I put on a bold face when I feel depressed
   Never  Seldom  Sometimes  Frequently  Always

110) When I am upset I worry that I will start eating
   Never  Seldom  Sometimes  Frequently  Always

111) I usually behave so as to bring about the greatest good for me
     strongly  agree  neutral  disagree  strongly

112) Family members share interests and hobbies with each other
   Never  Seldom  Sometimes  Frequently  Always
**Undergraduate thesis Questionnaire**

113) I think that my thighs are too large

<table>
<thead>
<tr>
<th>Never</th>
<th>Seldom</th>
<th>Sometimes</th>
<th>Frequently</th>
<th>Always</th>
</tr>
</thead>
</table>

114) I bottle my anger up

<table>
<thead>
<tr>
<th>Never</th>
<th>Seldom</th>
<th>Sometimes</th>
<th>Frequently</th>
<th>Always</th>
</tr>
</thead>
</table>

115) I feel alone in the world

<table>
<thead>
<tr>
<th>Never</th>
<th>Seldom</th>
<th>Sometimes</th>
<th>Frequently</th>
<th>Always</th>
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</thead>
</table>

116) People's misfortunes result from the mistakes they make

<table>
<thead>
<tr>
<th>strongly</th>
<th>agree</th>
<th>neutral</th>
<th>disagree</th>
<th>strongly</th>
</tr>
</thead>
</table>

117) Family members say what they want

<table>
<thead>
<tr>
<th>Never</th>
<th>Seldom</th>
<th>Sometimes</th>
<th>Frequently</th>
<th>Always</th>
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</table>

118) I feel inadequate

<table>
<thead>
<tr>
<th>Never</th>
<th>Seldom</th>
<th>Sometimes</th>
<th>Frequently</th>
<th>Always</th>
</tr>
</thead>
</table>

119) Family members feel very close to each other

<table>
<thead>
<tr>
<th>Never</th>
<th>Seldom</th>
<th>Sometimes</th>
<th>Frequently</th>
<th>Always</th>
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</thead>
</table>

120) I hate being less than best at things

<table>
<thead>
<tr>
<th>Never</th>
<th>Seldom</th>
<th>Sometimes</th>
<th>Frequently</th>
<th>Always</th>
</tr>
</thead>
</table>

121) I almost always make an effort to prevent bad things from happening to me

<table>
<thead>
<tr>
<th>strongly</th>
<th>agree</th>
<th>neutral</th>
<th>disagree</th>
<th>strongly</th>
</tr>
</thead>
</table>

122) Family members like to spend their free time with each other

<table>
<thead>
<tr>
<th>Never</th>
<th>Seldom</th>
<th>Sometimes</th>
<th>Frequently</th>
<th>Always</th>
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</thead>
</table>

123) I have feelings I cant quite identify

<table>
<thead>
<tr>
<th>Never</th>
<th>Seldom</th>
<th>Sometimes</th>
<th>Frequently</th>
<th>Always</th>
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</table>
Part III: The following are several scenarios. Please choose the response that you think the subject would make.

1. Zoe just found out that she has been nominated for homecoming queen. She is competing against the most popular girl in school for the title. What is she thinking?
   a. “I don’t have a chance of beating my competition. Why even bother?”
   b. “Who on earth would nominate me? This must be some mistake.”
   c. “I need to start campaigning 24/7 between now and the election so I can win”
   d. “Wow, cool! What an honor!”

2. Chris gets a test back and discovers that he has done poorly. What is he thinking?
   a. “I am stupid”
   b. “no big deal. It is just one test.”
   c. “Next time, I need to lock myself in my room and study ten times harder.”
   d. “I will never be able to bounce back from this one. I am going to fail the class.”

3. Cindy’s prom is next week. She steps on the scale and discovers that she has gained 5 pounds. What do you think her reaction will be?
   a. “I have to stop eating and start dieting immediately to fit in my prom dress”
   b. “I feel like a disgusting pig”
   c. “At this rate, I will be a balloon by next week! How will I ever fit into my prom dress?”
   d. “Let me go try on my prom dress and see if I need to alter it.”

4. Bobby gets made fun of by another kid, whom he used to look up to, but lately has been treating him poorly. The kid makes fun of Bobby’s sloppy appearance. What do you think he will do next?
   a. Realize the kid is right and decides to go get new clothes, a new haircut, and try to change his appearance
   b. Since he can’t afford new clothes he just wears the sloppiest clothes he has. It’s no use trying to change that image.
   c. Figure the kid must be right and decide not to go to a party he was invited to that night.
   d. Ignore the kid

5. Gina just broke up with her boyfriend. To distract her, a friend takes her to dinner, but Gina does not eat very much. When Gina gets home, she stares at the refrigerator. What will she do next?
   a. She will head up to her room and start working out. If she wants to win back her boyfriend, she needs to be in good shape.
   b. She feels her boyfriend dumped her because she put on weight, and she feels disgusted with herself.
   c. She opens the refrigerator and takes out the chocolate cake and leftover Chinese food. It is not like she has anyone to impress anymore.
   d. She walks by the refrigerator and goes to bed.
6. Joanne has been rejected by the top three of the five schools she applied to. What should she do now?
   a. Wait to hear from the last two schools before making any decisions
   b. Start calling the last two schools, while filling out ten more college applications.
   c. Conclude that she is not college material and kicks herself for even applying to these schools in the first place
   d. Figure that she probably won’t get into the last two schools and starts looking at the help wanted ads

7. Kate has been at school for two weeks and has not made any friends. What will Kate do next?
   a. Realize that it has only been two weeks and hopes to meet friends in her classes
   b. Determine that this school must not be a good fit. She stops trying to make friends and starts looking into transferring next semester
   c. Join the college newspaper, run for student government, and try out for the cheerleading squad. The more groups she joins, the more friends she will make.
   d. Thinks that she must be boring or unattractive, which is why she is not making any friends

8. Sam loses an important track meet. What do you think his reaction will be?
   a. Think he is a terrible runner and a disgrace to the team. He quickly slips out of the locker room to avoid talking to any teammates.
   b. Figure he could not run any faster and quit the team
   c. Train ten times as hard for the next meet, even skipping out on other activities.
   d. Shake it off and focuses on the next race

9. John handles an irate customer at work. He is then reprimanded by his manager at work, who tries to placate the customer. What do you think John will do next?
   a. Buy a book on how to deal with angry people and read it from cover to cover
   b. Tells the manager that he is quitting and storms out of the store
   c. Try to avoid the manager and also avoid any interaction with customers for the rest of the day
   d. Pull the manager aside later to talk about the situation and get his feedback

10. Suzie cheats on her diet and eats two pieces of cake. What will she do next?
    a. Say, “oh well” and go watch TV
    b. Since she has already blown her diet, she might as well eat whatever she wants for the rest of the day.
    c. She will feel berate herself and put herself down for being so weak willed
    d. Throw out all the cake in the house

11. Missy is at the gym working out when she remembers how much she had to drink at the party last night. What does she do next?
    a. She decides to stay at the gym for another couple hours. She has to burn off those beer calories.
b. She figures she is destined for the freshman 15 anyway and decides she does not even want to bother to exercise.

c. She grabs her stomach and quickly puts on a sweatshirt. She can feel the beer belly forming!

d. She figures one night won’t kill her and finishes her workout.

12. Steve gets fired from his job. What will he do now?

a. Review again and again about all the reasons he was fired.

b. Apply to every help-wanted ad in the newspaper. It does not matter if he is not qualified. A job is a job.

c. Browse the want ads and consider going back to school

d. Figure he is not going to find another job and asks his parents if he can move home