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Individuation/Attachment Relationships Mediating Between Overall Family Boundaries and Drive for Thinness and Bulimia Behaviors Reported by College Females

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Abstract

One hundred twenty–four college females completed measures of overall family enmeshed/disengaged boundaries, attachment to parents, autonomy from parents, differentiation from peers, and thinness and bulimia behaviors. Bootstrapping results for multiple mediators highlighted the specific indirect paths that the attachment/individuation process has in the relationship between an overall enmeshed/disengaged structural family boundary and excessive worries about thinness and bulimia. Attachment with parents had strong unique indirect effects for concerns about thinness. The unique influence of connection with parents was balanced with the unique influence of feelings of autonomy from parents in the indirect path for bulimia.

Historically, theory and research on Anorexia Nervosa (AN) and Bulimia Nervosa (BN) has focused on psychodynamic and family system perspectives. Object relation theorists assert that difficulties with attachment/individuation issues underlie the development of AN and BN (Bruch, 1973). The findings from studies with clinical (Latzer, Hochdorf, Bachar, & Canetti, 2002; Maine, 2011) and non-clinical, young adult females (Frank & Jackson, 1996; Friedlander & Siegel, 1990; Rhodes & Kroger, 1992) support the relevance of attachment and individuation variables to the etiology of AN and BN.

Family theorists argue that an individual's eating disorder is rooted in the family's style of interacting, which is related to the process of individuation (Minuchin, Rosman,

& Baker, 1978). Minuchin et al. (1978) described the family structure in families with an adolescent who has anorexia as characterized by enmeshment, conflict avoidance, the existence of cross-generational alliances, rigidity, and overprotective parenting. Other researchers found families with an adolescent who has bulimia more openly hostile and chaotic than enmeshed (Humphrey, 1986, 1989; Kog & Vandereycken, 1985; Schwartz, Barrett, & Saba, 1985).

These family patterns appear to be different but the effects of both of them on adolescents are the same. Both family patterns disrupt the individuation process so that females who have anorexia have difficulty transitioning from childhood to adolescence (Bruch, 1973), and females who have bulimia encounter issues moving from adolescence into adulthood (Humphrey & Stern, 1988; Root, Fallon, & Freidrich, 1986).

The Maudsley Family Based Treatment (MFBT) model (Lock & Le Grange, 2005; Lock, Le Grange, Agas, & Dare, 2001) currently is the most promising treatment for adolescents with early onset AN. The MFBT model combines structural family therapy techniques with strategies to foster the individuation process in the young female. The approach covers three phases of outpatient treatment over 6-12 months. In the first phase, parents are coached to help them find effective ways to take charge over their daughters' eating. The adolescent also is encouraged to join with her siblings for additional support. In phase two, parents allow their daughter to eat her own meals as long as she gains weight. In phase three, the focus moves to helping the daughter to establish a positive identity by making more decisions typical of adolescents, developing relationships with peers, dating, and exploring career and educational goals.

The importance of age differences associated with the treatment of AN and BN is seen in the current outcome research with families. For example, research studies comparing the MFBT with individual therapy for the treatment of AN found family therapy to be more effective, especially for younger adolescents with less than 3 years of having AN (Eisler et al., 1997; Russell, Szmukler, Dare, & Eisler, 1987; Russell, Dare, Eisler, & Le Grange, 1992). Both family and individual treatment were found to be less effective for females over the age of 18 with AN (Dare, Eisler, Russell, Treasure, & Dodge, 2001). Although individual based cognitive behavioral and interpersonal therapies have been found to be effective treatments for BN in patients ages 18–24, researchers are just beginning to compare the effectiveness of family and individual therapy with younger adolescents with BN. Recently, Lock, Le Grange, and Crosby (2008) found that MFBT was more effective than supportive therapy for adolescents below the age of 18 with BN and that changes in cognitions appeared to mediate treatment outcome.

Therefore, research is needed focusing on family factors and underlying attachment/individuation processes in adolescents and young adults at risk for AN and BN so that important age differences that may underlie treatment outcome can be identified. Although the extant research on eating disorders (EDs) has investigated attachment and individuation variables and family factors linked to AN and BN in adolescents and young adults, these variables generally have been studied separately. Very few studies have combined family and attachment/individuation variables to sort out moderation or mediation effects between them, and no studies have investigated multiple mediators simultaneously.

The purpose of this study was to investigate multiple individuation/attachment variables as simultaneous mediators between overall enmeshed/disengaged family boundaries and AN and BN behaviors and cognitions in a group of at-risk college age females. This study is part of a larger series of similar studies with adolescent and college age females so that age related developmental comparisons in the individuation/ attachment process can be identified.

We expected to find that attachment/individuation variables as a set would mediate between overall enmeshed/disengaged family boundaries and both concerns with thinness and bulimia behaviors in these college females. We also expected that individuation behaviors would have a stronger unique effect than attachment concerns for these participants because of their status as young adults rather than as teenagers.

Method

Participants

One hundred twenty-four college females from a large metropolitan area in the Midwest volunteered to participate. Their average age was 19.2 years and all but four were Caucasian. They were recruited through flyers posted around campus and through visits to undergraduate classrooms, sororities, and clubs. They were told that participants would answer questionnaires focusing on concerns about eating, weight, efforts to manage weight, and family communication patterns. Volunteers met in small groups to complete questionnaires that were administered in a counter–balanced fashion. They were offered the chance to participate in a drawing for a gift certificate for $10.

Instrumentation

Overall family boundaries. Family boundaries were measured by the Enmeshment/Disengagement scale from the Structural Family Interaction Scale-Revised (SFIS-R; Perosa & Perosa, 1990). The Enmeshment/Disengagement (EN/D) scale, assesses the degree of support, responsiveness, involvement, and sense of differentiation individuals experience in their family. Each item is responded to on a 4-point Likert type scale of agreement ranging from 1=very false to 4=very true.

In previous studies, the SFIS-R internal consistency scores for scales ranged from .71 to .93. Test re-test reliability estimates for scales on a college sample over a four week interval ranged from .81 to .92. The Alpha coefficient (Cronbach, 1951) for the EN/D scale in this study was .83.

The original SFIS has differentiated perceptions of family interaction of problem free adolescents from those with anorexia and bulimia (Kramer, 1983). The revised version has been found useful in discriminating family factors associated with different statuses in the identity formation process in adolescents (Perosa, Perosa, & Tam, 1996; Perosa, Perosa, & Tam, 2002).

Individuation/attachment. Parent-child attachment experiences were assessed by a scale called Connection with Parents which was developed from two scales from the Parental Relationship Inventory (PRI; Stutman & Lich, 1985). These scales were Respect for Intergenerational Boundaries versus Parental Invasiveness (RB/PI) scale and Mutuality versus Hierarchical Organization (M/H) scale. The RB/PI scale measures the degree to which the individual believes that his or her parents are nonintrusive and

respect his or her capacity to run his or her own life. The M/H scale reports the degree to which the person perceives that his or her relationship with parents is a mutual one rather than one based on rigid parent-child roles. Because a correlation of .82 was found between the RB/PI and the M/H scales they were combined into a scale called Connection with Parents in this study.

Individuation from parents was assessed by the Autonomy versus Fusion (A/F) scale from the PRI. The A/F scale differs from Connection with Parents because it focuses on separation and differentiation from parents. It assesses the degree to which the individual is able to maintain a separate sense of self and to function in a self-directed manner rather than relying on parents for direction.

Each item on these scales is answered on a 4-point Likert-type scale ranging from 4=strongly agree to 1=strongly disagree. A high score represents positive aspects of each scale.

According to Stutman and Lich (1985), Cronbach's alpha coefficients for the PRI scales ranged from .72 to .95, and the PRI scales discriminated individuals who sought therapy from those who had not. The PRI scales were associated with personality traits and eating disorder symptoms in college females in previous research (Frank & Jackson, 1996).

Individuation from peers was assessed by the Self-Other Differentiation Scale (SODS; Olver, Aries, & Batgos, 1989). The SODS measures the degree to which a young adult experiences a separate sense of self from others; that is, the degree to which the person does not defer to the wishes of others, does not rely on others for self-worth, is not vulnerable to criticism by them, and holds judgments independent from them. Each item is rated on a 0=generally true to 1=generally false format. A higher score indicates a stronger sense of self-differentiation from others.

Internal Consistency reliability estimates for the SODS in a previous study with college females was .83 (Friedlander & Siegel, 1990). Also the SODS discriminated personality characteristics of college-age females at risk for eating disorders from those not at-risk in previous studies (Friedlander & Siegel, 1990; Skowron & Friedlander, 1994).

AN and BN symptomology. Attitudes, feelings, and behaviors associated with AN and BN were assessed by the Eating Disorder Inventory-2 (EDI-2; Garner, 1991), Drive for Thinness and Bulimia scales.

Respondents rate their level of agreement for each item on a continuous scale ranging from 1 = always, 2 = usually, 3 = often, 4 = sometimes, 5 = rarely, and 6 = never. Lower scores describe more of the attitudes and behaviors reflected in the scale name.

Internal consistency reliability estimates for the Thinness and Bulimia scales were .91 and .82 respectively on a college sample in the original EDI (Garner & Olmsted, 1984) and .90 and .89 for a nonclinical sample of female college athletes in another study (Skowron & Friedlander, 1994). Criterion validity studies have shown that the Thinness and Bulimia subscales have distinguished clinical groups from weight-preoccupied normals (Garner, Olmsted, & Polivy, 1983).

Results

First, internal consistency analyses were conducted to determine the reliability of each questionnaire utilized in this study. The Alpha coefficient (Cronbach, 1951) for the EN/D scale from the SFIS-R in this study was .83. Cronbach's alpha coefficients for the PRI scales ranged from .82 to .86; for the SODS the estimate was .80; and for the Thinness and Bulimia scales from the EDI-2 they were both .91.

Means and standard deviations also were computed for each scale. They are presented in Table 1. A reading of Table 1 shows that the participants in this study scored in a moderate positive direction on the EN/D scale, and the attachment and individuation scales. Scores on the Thinness and Bulimia scales indicated they often worry and have concerns about their eating behaviors.

Table 1
Means and Standard Deviations on Self-Other Differentiation, Structural Family Interaction, Relationship with Parents, and Eating Disorder Inventory Scales, (n=124)

	Mean	SD
Self-Other Differentiation Scale		
SODS	.52	.29
Structural Family Interaction Scale		
EN/D	3.04	.41
Parental Relationship Inventory		
A/F	2.42	.47
RB/PI	3.02	.58
M/H	3.06	.69
Eating Disorder Inventory		
THIN	3.32	1.33
BUL	2.28	.96

Note. SODS = Self-Other Differentiation; EN/D = Enmeshment/Disengagement; A/F = Autonomy/Fusion; RB/PI = Respect for Boundaries/Parental Invasiveness; M/H = Mutuality/Hierarchical Organization; THIN = Drive for Thinness; BUL = Bulimia.

Finally, a bootstrapping approach (Preacher & Hayes, 2008) was conducted to test the mediating role of individuation/attachment variables, including differentiation from peers (from the SOD scale), individuation from parents (from the Autonomy versus Fusion scale), and attachment with parents (from the Connectedness scale) between overall family boundaries, assessed by the Enmeshment/Disengagement scale, and the Thinness and Bulimia scales.

Bootstrapping is a nonparametric approach that resamples the original sample size from the data multiple times (in this data set, 1000 times). In contrast to other tests of mediation (Baron & Kenny, 1986; Sobel, 1982), this approach does not rely on the assumption that the results are normally distributed. When interpreting the results, the researcher should be aware of differences between mediation effects and indirect effects.

Mediation may exist if a significant association between the independent variable (Enmeshed/Disengaged family boundary) and the dependent variable (the Thinness or Bulimia subscale) exists (path *c*). Otherwise, an indirect model may be considered (i.e., an Enmeshed/Disengaged family boundary is significantly related to one or more of the hypothesized individuation/attachment mediators [*a* paths], which is (are) significantly related to the Thinness or Bulimia [*b* paths]). The point estimate of the indirect effect is the mean *ab* path value computed over the samples. A 95% confidence interval is calculated; if the upper and lower bounds of the bias corrected and accelerated (BCa) confidence intervals do not contain 0, then the indirect effect is significant. The total indirect effect of the set of multiple mediators and the specific indirect effects are tested. It is possible to find specific indirect effects to be significant in the presence of a non-significant total indirect effect (Preacher & Hayes, 2008). A specific indirect effect represents the unique ability of a specific mediator to mediate above and beyond any other mediators. The results of the bootstrapping analyses in this study are presented in Table 2.

Table 2

Significant Bootstrapping Results for Attachment/Individuation Variables Mediating Between Enmeshed/Disengaged Family Boundaries and AN and BN Variables.

EDI Variables	Total Indirect Effects			Specific Indirect Effects		
	Point Estimate	95%BCa CI	CI	Point Estimate	95% BCa CI	CI
Thinness	- 0. 0499	- 0. 2800	0. 1701	Connect - 0. 0959*	Connect - 0. 2178	Connect - 0. 0179
Bulimia	0.0116	- 0.1387	0.1989	Autonomy 0. 0980* Connect -0.0946**	Autonomy 0.0061 Connect -0.2159	Autonomy 0.2500 Connect -0.0290

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

The fit for the whole model for EN/D and THINNESS was significant [F (4,119), = 6.39, p< .0001]. The bootstrapping results indicated that the total (path *c*) and direct (path *c'*) effects of EN/D on THINNESS, are 0 .0129, p>.05, and 0.0628, p> .05, respectively. Because path *c* was not significant, mediation may not exist. However, an indirect model may be considered. The difference between the total (*c*) and direct *(c')* effects (i.e., the total indirect effects of EN/D on THINNESS through the three mediators [*ab* paths]), with a point estimate of -0.0499 and BCa of -0.2800 and 0.1701, also was not significant. Preacher and Hayes (2008) noted that a significant total indirect effect is not a pre-requisite for investigating specific indirect effects. An examination of the specific indirect effects indicates that there is a significant unique indirect effect between EN/D

and THINNESS through CONNECT, with a point estimate of- 0.0959 and a 95% BCa CI of -0.2178 to -0.0179.

The fit for the whole model for EN/D and BULIMIA was significant [F (4,119) = 9.34, p<.0000]. The bootstrapping results indicated that the total (path *c*) and direct (path *c*') effects are -0.0526, p>.05, and -0.0642, p>.05 respectively. Because path *c* was not significant, mediation may not occur and an indirect model can be tested. The difference between the total (*c*) and direct (*c'*) effects (i.e., the total indirect effect through the three mediators), with a point estimate of 0.0116 and BCa Cl of -0.1387 to 0.1989, also was not significant. An examination of the specific indirect effects indicates that AUTONOMY, with a point estimate of 0.0980 and a 95% BCa CI of 0.0061 to 0.2500, and CONNECT, with a point estimate of -0.0946 and a 95% BCa CI of -0.2159 to -0.0290, both have significant unique effects.

Discussion

These results highlight the strong effects, especially through specific indirect paths, that the attachment/individuation process has in the relationship between an overall enmeshed/disengaged structural family boundary and AN and BN symptomatology in young adult females. What stands out is the powerful unique role that attachment or connection with parents has between a general enmeshed family milieu and young adult females' reports of concerns about thinness. The powerful unique influence of connection with parents was balanced with the unique influence of feelings of autonomy from parents in the indirect path between an enmeshed/disengaged family boundary and concerns about bulimia.

These findings contrast with our findings for younger adolescent females in other related research Perosa and Perosa (2011), in which the influence of peers was very important, along with autonomy from and connection with parents. For younger adolescents, issues of individuation and autonomy appear to be stronger than the concerns about connection with parents indicated by the older females in this study.

These differences based on age make sense in light of the theory and literature on developmental processes in adolescence, which noted that the struggle to become autonomous from parents is intertwined with the need for adolescents to relate to peers, find one's own voice, and re-connect again with parents in a more mutual adult way later in young adulthood. Over time balance is achieved between differentiation and connection in the attachment/individuation process. Arnett (2000) refers to these psychological changes occurring between the ages 18 and 25 as a distinct stage called "emerging adulthood."

Future research needs to extend these age difference comparisons to clinical groups of females (and males) with AN and BN. Differences in attachment and individuation between mothers and children and between fathers and children rather than between parents and children could also increase our understandings of sex differences in relationships. In addition, other studies need to include samples with diverse racial and ethnic groups. Is the attachment/individuation process the same in each of these groups?

The implication of these findings for treatment is that they highlight the need for clinicians to move beyond just treating symptoms related to AN and BN; instead, clinicians need to go deeper and foster underlying healthy developmental processes in

individuals and families that lead to growth and maturity. The MFBT has included this perspective in successfully treating young adolescent females with AN and BN by paying attention to issues of individuation. Now the challenge is to identify strategies in that approach that align with the postmodern perspective on individuation which emphasizes the importance of attachment as well as separation (Maine, 2011). Therefore, the family therapist needs to help the adolescent and parent express feelings and repair conflicts that may occur so that trust and closeness develops between them. The counselor in individual counseling using a Cognitive Behavioral Therapy approach to treat irrational thoughts in the adolescent related to body image and dieting must pay equal attention to the underlying relationship with the client and also to how the client relates with others, including parents, partners, and friends. In this way the family or individually trained counselor may help the adolescent learn to balance closeness with autonomy in relationships and to manage the obsessions associated with eating and dieting that place the client at risk.

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