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**Similarities between eating attitudes among friendship groups in childhood:
The moderating role of child anxiety.**

Abstract

Objective: This study explores the similarities between individual and group eating and weight concerns in 8-11 year old children. It also evaluates whether child anxiety moderates the relationships between individual and group eating and weight concerns. **Methods:** One hundred and fifty four children aged 8-11 completed questionnaires concerning their friendship groups, their eating and weight concerns, and their levels of anxiety. **Results:** Children's own scores on dietary restraint, body dissatisfaction and external eating were significantly correlated with their friendship groups' scores on dietary restraint. Child anxiety moderated the relationships between group dietary restraint and individual scores on external eating. Group levels of dietary restraint predicted higher levels of external eating in children with moderate or high anxiety. **Conclusions:** In pre-adolescent children, peer group levels of dietary restraint are related to individual eating and weight concerns. More anxious children may be more susceptible to peer influences on their eating behaviors.

Keywords: eating, children, peer influence, anxiety

Similarities between eating attitudes among friendship groups in childhood:**The role of child anxiety.**

Concerns and preoccupations with body shape, weight and eating are now commonplace. For example, body image dissatisfaction is so pervasive that it has been termed a 'normative discontent' among women (Rodin, Silberstein & Striegel-Moore, 1985), and research suggests that this 'discontent' is increasing (Cash & Henry, 1995; Neighbors & Sobal, 2007). Unhealthy weight loss control behaviors and cognitions can lead to the development of eating disorders, which are associated with significant morbidity and mortality (Steinhausen, 2009). Concerns about dieting, body image and eating are now commonly seen in children, often developing between the ages of 9 and 11 years old (Koff & Rierdan, 1991). Worryingly, these concerns are now being reported in children at younger ages, with girls as young as 5 years old reporting body image dissatisfaction (Williamson & Delin, 2001), dieting concerns (Shunk & Birch, 2004) and disordered eating behaviours (Ricciardelli & McCabe, 2001). It is thus imperative to explore the aetiology of these unhealthy concerns and behaviors in children and pre-adolescents before eating psychopathology is well established or dysfunctional behaviors are engrained.

Peers are an important source of influence for developing attitudes toward weight, shape and eating, particularly during childhood when significantly more time is spent during peer based interactions through school. Children use their peers to seek advice, to develop their self-identity and to reinforce their attitudes and behaviors (Parker & Asher, 1993). Children, like adults, are attracted to similar others and tend to share hobbies, interests and behaviors with their peers. Furthermore, similarities have been shown within adolescent peer groups in their risk taking behaviors such as smoking, alcohol use and drug use (Musher-Eizenmann, Holub & Arnett, 2003).

A more limited body of research has found that adolescents in friendship groups tend to share similar attitudes and behaviors towards weight, eating and shape. Paxton, Schutz,

Wertheim and Muir (1999) used a social network analysis to explore whether 15-16 year old adolescent girls were similar to their friendship groups in terms of their body image, dietary restraint, binge eating and extreme weight loss behaviors. The authors found that there was greater within group similarity for friendship clusters than between group similarity in terms of body image concerns, dietary restraint and extreme weight loss behaviors. The authors also found that an individual's use of extreme weight loss behaviors could be predicted from their friends' engagement with these behaviors. Other researchers have also found similarities between individuals' eating behaviors and friendship groups' scores on these eating behaviors in girls aged 12-16 (Eisenberg, Neumark-Sztainer, Story & Perry, 2005) and 14-17 (Shroff & Thompson, 2006).

To date however, there has been a dearth of research exploring these relationships in pre-adolescent children which seems imperative given that this is a critical period when eating and dieting concerns often develop (e.g. ages 9-11: Koff & Rierdan, 1991). An appreciation of the impact that friendship groups may have upon children's eating and weight related attitudes prior to these attitudes being engrained in later childhood would be beneficial. In addition, although most of the research in this field has focused on female children, peer influences, such as an individual's belief that peers will like them more if they are slimmer, have also been linked to the presence of eating disorder symptoms in male children aged 11 to 14-years (Meyer & Gast, 2008). Given that there are similarities in the levels of body dissatisfaction between male and female children (McCabe & Ricciardelli, 2004), it is also essential to study the aetiology of eating concerns in boys who are often neglected by research in this area.

Recent research has also explored whether individual scores on self esteem and depression additionally influence individuals' eating and weight related behaviors in 12 year old girls (Hutchinson & Rapee, 2007). The authors found that, in addition to perceived peer influences, levels of self esteem and depression also predicted individual girls' scores on

measures of eating behaviors and concerns. Similarly, other research by Schutz and Paxton (2007) has found that levels of depression attenuate the influence of peers' eating attitudes on one's own eating attitudes, suggesting that psychological measures, such as those of depression and self esteem, additionally impact upon the relationships between peer scores and individual scores on dysfunctional eating attitudes and behaviors.

One potentially important variable that has not yet been explored in relation to the similarity of eating attitudes between groups of children is that of anxiety. Symptoms of anxiety are highly comorbid with levels of eating psychopathology (Blinder, Cumella & Sanathara, 2006), and are also related to difficulty with friendship formation at school (Bernstein, Bernat, Davis & Layne, 2008). For example, more anxious children report less social acceptance from their peers in school, report having fewer friends, and report being less intimate with and less supported by those friends (La Greca & Lopez, 1998). Symptoms of anxiety may be likely to elevate concerns about dieting, weight and shape, but they may also act as an obstacle to normal social relating (Lobel, Kashtan & Winch, 1987), possibly making more anxious children more or less susceptible to influences from their peers. It is thus imperative to explore the impact that symptoms of anxiety may have upon the relationships between friendship group eating concerns and individual levels of eating concerns.

In summary, previous research with children aged 12 and older suggests that individuals' unhealthy eating, weight and shape related attitudes and behaviors are strongly influenced by their friendship groups' respective attitudes and behaviors. This research also suggests that psychological variables, such as depression and self esteem, additionally influence these relationships. To date, however, there has been a lack of research exploring the impact of friendship group eating attitudes and behaviors upon individual measures of these behaviors in younger children during the period when eating concerns often develop. Understanding the impact of peers during this critical time is essential for being able to develop appropriate interventions to improve body image and reduce the prevalence of eating

psychopathology in children. Furthermore, despite the high prevalence of body dissatisfaction in male children most previous work in this area has focused only on girls. Peer influences are related to the eating attitudes and behaviors of 11 to 14-year-old boys as well as girls (Meyer & Gast, 2008) and, as such, further work examining the impact of friendship groups on eating behaviours in younger boys is required. Finally, there has been a lack of research exploring how other psychological variables, such as anxiety, may influence the impact of friends' eating and weight based attitudes upon one's own. Given the relationships discussed between anxiety, peer friendships and eating psychopathology, exploring the impact of anxiety appears intuitive.

The present research had two aims. The first was to explore the similarities between unhealthy weight and shape related attitudes and behaviors in a sample of 8-11 year old male and female children in order to evaluate the impact of peer influences on these measures during this critical period, prior to adolescence, when eating problems often emerge. It was hypothesized that children's individual weight and shape related attitudes and behaviors would be positively related to their friendship group's weight and shape related attitudes and behaviors. The second aim of the present study was to evaluate whether individual levels of anxiety are related to children's susceptibility to peer influences on dysfunctional eating. It was hypothesized that children's levels of anxiety would moderate these relationships.

Methods

Procedure

Following ethical permission from the University Research Ethics Committee, a convenience sample of eight schools in the UK were approached to take part in this research. Six schools agreed and letters were sent home to parents in advance of data collection, informing them about the research project and allowing them to opt their child out of the study. In each school, a convenience sample of classes from years 5 and 6 were approached to take part. Across the six schools, ten out of a possible 16 classes of students took part. This

was a convenience sample of classes, based on the students' timetable. The students were invited to complete a questionnaire on a whole class basis, but at their own pace and without conferring with their friends. They were informed that their participation was optional and that they could withdraw at any time or complete a different activity unrelated to the study. Only one child withdrew from this study. Afterwards children were thanked, debriefed, and given an information leaflet to raise awareness of eating and weight concerns and various support resources available.

Participants

In total, 154 pupils (75 boys and 78 girls) from six UK primary schools took part in the study. The mean age of the children was 10.47 years ($SD = .88$). Eighty seven percent (87%) of the children described their ethnicity as White, 3% as Asian, 4% as Mixed, and 5% as 'other' (data missing for 1% of the sample).

Measures

The children completed the following questionnaires:

Eating and weight measures:

a) *Eating Pattern Inventory for Children (EPI-C; Schacht, Richter-Appelt, Schulte-Markwort, Hebebrand & Schimmelmann, 2006)* – The EPI-C is a 20-item questionnaire assessing various aspects of eating in children. Three of its four subscales were administered for this study: Dietary restraint (e.g. “*I try to eat as little as possible so I don't put on any more weight*”); External eating (e.g. “*When I see someone else eat, I also get hungry*”); and, Emotional eating (e.g. “*When I am afraid or worried I eat something*”). The fourth subscale (Parental pressure to eat) was excluded as it assesses children's perceptions of their parents' behaviors around food and mealtimes and not the children's own eating behaviors. Respondents are asked to judge whether each of the 20 items are 'not at all', 'a little', 'mostly' or 'totally' accurate for them. Mean scores are calculated for each subscale with possible subscale means ranging from 1 to 4. The EPI-C is suitable for use with 8 to 11 year

old children and has been shown to display good levels of validity (Schacht et al., 2006). Within the current sample, the EPI-C subscales had the following Cronbach's alpha coefficients: Dietary restraint = .96; External eating = .74; Emotional eating = .87, indicating good levels of internal consistency.

b) Body Dissatisfaction Scale (BDS; Wardle, Waller & Fox, 2002) – Children's body dissatisfaction was measured using a scale derived by Wardle and colleagues (2002). The BDS is based on figure rating scales developed by Stunkard, Sonrenson and Schlusinger (1983), comprising body images ranging from very underweight to very overweight. Seven images (labelled from A to G) were presented, corresponding with a very underweight image of a child (A) to a very overweight image of a child (G). For the purposes of this study, participants indicated: (1) which image they believed they actually looked like, and (2) which image they would most like to look like. Body dissatisfaction was then calculated by subtracting the score for (2) from the score for (1). Separate gender-specific scales were administered to girls and to boys.

Body Mass Index - Children were also asked to report their height and weight which was converted into BMI z scores using the Child Growth Foundation Package (1996). This package standardizes children's BMI by taking into account age and gender using U.K. norms for height and weight provided by Freeman et al. (1995) and Cole (1995). Given the potential bias in using child report data, it would have been preferable to have obtained objective measures of children's height and weight. However, these measurements are not routinely taken for children of this age in the U.K. and typically only a small proportion of parents provide active consent for their children to be weighed and measured for research purposes. Thus seeking objectively measured child BMI data would have reduced the number of participants and disturbed the construction of accurate friendship group scores.

Spence Children's Anxiety Scale (SCAS; Spence, 1997, 1998) – The SCAS is a 44-item measure of anxiety comprising six subscales. For this study, the following three

subscales were administered: Generalized anxiety (e.g. “I worry about things”); Social phobia (e.g. “I worry that I will make a fool of myself in front of people”); and Separation anxiety disorder (e.g. “I worry about being away from my parents”). Questions are rated from ‘never’ to ‘always’ on a 4-point scale. Responses to questions comprising each subscale are summed to create a total score with possible scores ranging from 0 to 18 for each subscale. Higher scores indicate greater anxiety. The SCAS has been shown to be valid and reliable (Spence, 1998). Cronbach’s alpha coefficients indicated that the reliability for the current sample was reasonable for all subscales: Generalized anxiety = .58; Social phobia = .74; Separation anxiety disorder = .81.

Friendship group measure - In order to ascertain friendship groups, participants were asked to write down up to eight names in response to the following question, adapted from Paxton et al. (1999) by Hutchinson and Rapee (2007): “Write down the full name(s) of your best friend(s). That is, the people you hang around with the most and are closest to”. These names were then used to identify 32 friendship groups, ranging in size from 3 to 10 children. Friendship groups were identified based on mutual listing of friends’ names. Each child’s list of friends was cross-checked with all the other children’s lists. Where an individual listed a friend (or series of friends) but was not listed by that friend (or friends), the individual was not included as part of that friendship group.

Statistical analyses

First, mean friendship group scores were calculated for measures of child BMI z scores, body dissatisfaction, dietary restraint, external and emotional eating. For each child, this group mean score was calculated after removing the child’s individual score so that this did not confound the subsequent analyses. In line with previous studies (Hutchinson & Rapee, 2007; Paxton et al., 1999), six friendship group dyads (i.e. groups of only 2 children) were excluded from the dataset prior to analysis due to evidence that dyadic friendships differ from larger groups. Participants were also excluded if they were not part of a friendship group or

were not identified as a friend by other group members, in accordance with Hutchinson and Rapee (2007).

Next, descriptive statistics were computed as mean and standard deviation scores for variables measured both at the individual and at the group level. A series of independent sample t-tests were used to explore whether there were significant gender differences in scores on children's eating or levels of anxiety. A series of 2-tailed correlations were then performed to explore whether children's individual scores on BMI and eating concerns were correlated with their friendship group scores on these measures. Further correlations were also used to examine relationships between children's levels of anxiety, eating concerns and BMI z scores. Finally, using moderated regression (Aiken & West, 1991), where children's individual eating concerns were correlated with group eating concerns, and also with measures of anxiety, we explored whether levels of children's anxiety moderated any relationships between group eating concerns and individual eating concerns.

Results

Descriptive Statistics

Table I displays the mean and standard deviation scores for the variables assessed. Mean scores for the Eating Pattern Inventory for Children and the Spence Children's Anxiety Scale are broadly similar to other published norms with children in this age range (Schacht et al., 2006; Spence, 1998) and mean BMI z scores are close to zero which would reflect the average age and gender appropriate BMI. Mean body dissatisfaction scores indicate general levels of body satisfaction.

--- Table I about here ---

Gender differences on the variables of interest

Table II shows the results from a series of Independent sample t-tests, conducted to explore whether there were differences between boys and girls on the measures of interest. As indicated in Table II, there were significant differences between boys and girls in terms of

their external eating, with boys reporting significantly more external eating than girls. There were also significant gender differences in children's reports of their levels of anxiety, with girls reporting significantly more separation anxiety, social phobia and generalized anxiety compared to boys. Given these relationships child gender was controlled for in all further analyses.

--- Table II about here ---

Relationships between individual and group scores on eating and BMI

Given the gender differences identified above, partial correlations were performed, controlling for child gender, to explore the relationships between group eating concerns and BMI with individual children's eating concerns and BMI. As indicated in Table III, there were significant positive correlations between individual scores on dietary restraint with groups' scores on dietary restraint, body dissatisfaction, external eating and BMI. In addition, individual scores on body dissatisfaction and external eating were significantly correlated with higher average group scores for dietary restraint. Individual children's BMI z scores were also correlated with higher mean group BMI z scores. There were no other significant relationships between group eating scores and individual children's eating scores.

--- Table III about here ---

Relationships between individual eating and BMI scores with measures of anxiety

Next, the relationships between children's individual eating scores and their symptoms of anxiety were evaluated using partial correlations, controlling for child gender. As displayed in Table IV, after controlling for child gender, there were significant associations between children's levels of external eating and their scores on separation anxiety disorder, social phobia and generalized anxiety, with more anxious children also reporting more external eating. There were no significant correlations between children's levels of anxiety with their dietary restraint, body dissatisfaction, emotional eating or their BMI z scores.

--- Table IV about here ---

Interactions between group eating concerns and children's levels of anxiety in predicting their individual eating behaviors.

Finally, moderated regression (Aiken & West, 1991) was used to establish whether symptoms of anxiety moderated the relationships between children's friendship group's scores on eating and their own reports of eating. Analyses were performed for external eating as this was the only variable significantly correlated with child anxiety. As children's levels of external eating were significantly correlated with their friendship group scores on dietary restraint, three separate moderated regression analyses were performed to look at predicting external eating; all using the groups' score on dietary restraint as the independent variable, and using the three measures of anxiety as moderators. In all analyses child gender was controlled for in step 1 because of the previously identified gender differences in anxiety and external eating. The independent variable and moderator were both centered and entered in step 2 of the analyses. Finally the interaction term of the centered independent variable and moderator were entered in step 3 to predict external eating.

There was no significant interactions between the group level of dietary restraint with social phobia in predicting children's levels of external eating ($\beta=.01$, Beta =.05, $t=.64$, $p>.05$). There was, however, a significant interaction between group levels of dietary restraint with separation anxiety disorder ($\beta=.06$, Beta =.17, $t=2.28$, $p<.05$) and with generalized anxiety ($\beta=.19$, Beta =.06, $t=2.43$, $p<.05$) in predicting children's external eating. These interactions were further investigated using simple slope analyses. Slopes for the regression analyses were computed at three levels of the moderator: the mean, one standard deviation above the mean (+1SD, corresponding to higher anxiety), and one standard deviation below the mean (-1SD, indicating lower anxiety).

Separation anxiety disorder: The interaction between the group level of dietary restraint and separation anxiety disorder was significant at predicting children's levels of external eating when the moderator was at the mean ($B=.31$, $t(140)=3.61$, $p<.001$), and one

standard deviation above the mean ($B=.48$, $t(140)=4.16$, $p<.001$), but not when the moderator was one standard deviation below the mean ($B=.14$, $t(140)=1.07$, $p>.05$). This indicated that children whose friendship groups report high mean levels of dietary restraint are significantly more likely to report more individual external eating when they are moderately or highly anxious. For children with lower scores on anxiety, the group level of dietary restraint does not predict their own external eating.

Generalized anxiety: The interaction between the group level of dietary restraint and generalized anxiety was significant at predicting children's levels of external eating when the moderator was at the mean ($B=.29$, $t(139)=3.34$, $p<.01$), and one standard deviation above the mean ($B=.47$, $t(139)=4.02$, $p<.001$), but again not when the moderator was one standard deviation below the mean ($B=.11$, $t(139)=.86$, $p>.05$). This finding indicates that children whose peer groups report higher mean levels of dietary restraint are significantly more likely to report more individual external eating when they are moderately or highly anxious in general. For children with lower scores on generalized anxiety, the group's level of dietary restraint does not predict higher scores on their own external eating.

Discussion

Previous research has shown that girls' eating attitudes and weight and shape related concerns are influenced by the eating and weight concerns evident in their friendship groups (Eisenberg et al., 2005; Paxton et al., 1999; Shroff & Thompson, 2006). However, to date, this research has focused on the attitudes and behaviors of girls 12 years or older, and not on those of younger female *and* male children. The aim of the present research was to examine whether there are similarities between children's eating and shape related attitudes and behaviors and those of their friendship groups in 8 to 11 year old children of both genders. Given that body image and dieting concerns are now commonly being found in pre-adolescent children (e.g., Shunk & Birch, 2004; Williamson & Delin, 2001) and disordered eating behaviours are being found in children as young as 5 years old (Ricciardelli &

McCabe, 2001), there is a need to consider the aetiology of unhealthy eating attitudes and behaviours of much younger children. In addition, whilst previous research suggests that levels of child depression may additionally impact upon peers' influences on child eating (Hutchinson & Rapee, 2007), there is a paucity of research exploring how other psychological constructs may also influence the relationships between friendship group and individual eating and shape concerns. Therefore, this study explored whether levels of child anxiety make children more susceptible to peer influences on their eating.

In the current sample, friendship group levels of dietary restraint were significantly correlated with children's individual maladaptive eating cognitions and behaviors. Moreover, children's levels of anxiety were significantly correlated with their reports of external eating, and also moderated the relationships between group and individual eating behaviors.

The findings of this research show that friendship group scores on dietary restraint are significantly correlated with individual children's levels of dietary restraint, body dissatisfaction and external eating. Moreover, mean group BMI z scores were significantly correlated with individual children's BMI z scores. These findings support previous research which has demonstrated significant friendship group influences on children's eating and weight concerns in older children (Eisenberg et al., 2005; Paxton et al., 1999; Shroff & Thompson, 2006). To our knowledge, however, this is the first study to explore these relationships in both girls and boys prior to the age of 12 years, and these findings therefore demonstrate the important relationships that exist between friendship group levels of weight and dietary restraint with individual eating and weight concerns in these younger children. These findings add to our theoretical understanding of the impact that peers may have upon the development of maladaptive shape and weight related attitudes and behaviors from an early age and extend our appreciation of the social factors that may impact upon the development of young children's eating psychopathology. Alerting children to the impact of their friendship groups upon their eating behavior and teaching them ways to become more

independent in their food-related thinking might be beneficial in reducing incidences of these less desirable eating attitudes and behaviors in pre-adolescents.

Importantly, although group levels of dietary restraint were correlated with young children's eating behaviors, group measures of body dissatisfaction, external eating and emotional eating were not significantly correlated with children's individual eating behaviors. These findings support previous research in adult samples which suggests that individuals are most susceptible to the influence of maladaptive eating behaviors that are considered to be socially desirable. Previous research by Meyer and Waller (2001) suggests that whilst socially valued eating attitudes tend to become more similar over time in groups of young women (e.g., restrictive attitudes), less socially desirable weight control behaviors actually become less similar in these groups over time (e.g., vomiting and laxative use). Eating for reasons other than hunger and in response to emotional stimuli are behaviors associated with loss of control, overweight and obesity and thus may be socially disapproved of rather than socially accepted as a result of the stigma associated with obesity (Puhl & Brownell, 2001). However, dietary restraint can be seen as a socially valued behavior which is associated with control and is revered by the media and socio-cultural messages (Andrist, 2003). Although further research is needed to corroborate these findings, they may suggest that even from this early age children are aware of the social value of more restrictive eating behaviors and are potentially more susceptible to their influences from their peer groups.

Supporting previous research with adolescent and adult inpatients, which has found that symptoms of anxiety are co-morbid with levels of eating psychopathology (Blinder et al., 2006), children with higher levels of separation anxiety, social phobia and generalized anxiety were also more likely to report more external eating in this study. Although previous research has shown that anxiety is related to eating distress in children, to our knowledge this is the first research to suggest that levels of child anxiety moderate the impact of peer influences upon children's eating. Specifically, the relationships between group levels of dietary restraint

and individual children's levels of external eating were only significant for children with moderate or high levels of generalized anxiety or separation anxiety. It is noteworthy that these relationships were only apparent for individuals' levels of external eating and not for either of the other eating subscales. It could be that children with higher levels of anxiety are more externally influenced in general, are less good at attending to their own internal cues, and are therefore more responsive to external eating and peer influences.

For children with lower scores on these measures of anxiety, the group's levels of dietary restraint did not predict their own external eating, suggesting that they were potentially protected from these peer influences. Levels of anxiety have been shown to be significantly linked to friendship formation at school (Bernstein et al., 2008) and children with higher levels of anxiety may find their social relationships more impaired. It may be that less anxious children are more comfortable with their peer groups and are less driven to conform to perceived pressures from these groups, whilst more anxious children may feel more pressure to conform to in-group norms and therefore follow the group in terms of external eating. The relationships between friendship influences, individual psychopathology and children's eating are likely to be complex and clearly further research in this field would be fruitful.

Although these findings build on previous research concerning social influences on children's eating in many ways, it is important to note that these data are cross-sectional and thus we cannot be sure of the direction of effects in these findings. Further longitudinal studies are necessary to explore how friendship groups may influence children's eating over time and to also examine which behaviors and attitudes may be more likely to converge or diverge in children as they develop. In addition, this research relies on children's reports of their eating and weight concerns and also of their height and weight. Although some research has demonstrated good reliability when comparing self-reported and measured height and weight in older adolescents (e.g. correlations of .82 and .91 between actual and self-reported

measures of height and weight: Strauss, 1999), there appears to be a response bias with adolescents in this age range underestimating the prevalence of overweight (Sherry, Jefferds & Grummer-Strawn, 2007). Given this the findings regarding child BMI should be interpreted with caution and require replication with objective BMI data.

Despite these limitations, this research extends our understanding of the influence that friendship groups have upon young children's eating and weight related attitudes and behaviors. The findings suggest that children's eating and weight related cognitions and behaviors are significantly associated with their friendship group scores on dietary restraint, and that this is the case for both female and male children. Moreover, these relationships are moderated by children's levels of anxiety, with the least anxious children potentially being protected from the effects of group dietary restraint on their own eating. These findings extend our understanding of the complex interaction that exists between group level and individual level factors in determining children's health related eating behaviors. Whilst requiring replication within clinical groups, the results yield potentially useful insights for clinicians working with children with eating problems or high levels of anxiety. In particular, those working with anxious children should be aware of the potential susceptibility of the individuals to socially-facilitated eating and weight concerns. Future work should focus on promoting awareness about the impact that maladaptive eating attitudes in friendship groups can have upon young children's eating behaviors, particularly in younger children, before these behaviors and cognitions become engrained.

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Table I: Mean and standard deviation scores for the variables measured

	Mean individual scores (SD)	Mean group scores (SD)
<i>Eating Pattern Inventory for Children:</i>		
Dietary restraint	1.86 (.87)	1.85 (.59)
External eating	1.99 (.65)	2.00 (.37)
Emotional eating	1.50 (.65)	1.50 (.34)
<i>Body dissatisfaction Scale</i>		
	.42 (1.02)	.42 (.59)
<i>BMI z score</i>		
	-.32 (1.57)	-.36 (1.16)
<i>Spence Children's Anxiety Scale:</i>		
Separation anxiety disorder	4.47 (3.42)	4.51 (2.17)
Social phobia	5.46 (3.46)	5.47 (2.33)
Generalized anxiety	6.38 (3.37)	6.33 (2.32)

Table II: Gender differences in children's reports of their eating concerns, BMI, and levels of anxiety

	t score	Mean boys (n=75)	Mean girls (n=78)
<i>Eating Pattern Inventory for Children:</i>			
Dietary restraint	-.380	1.83	1.89
External eating	3.16**	2.16	1.84
Emotional eating	1.13	1.56	1.44
<i>Body Dissatisfaction Scale</i>			
	-1.44	.30	.54
<i>BMI z score</i>			
	.71	-.20	-.45
<i>Spence Children's Anxiety Scale:</i>			
Separation anxiety disorder	-2.49*	3.74	5.13
Social phobia	-4.90**	4.12	6.70
Generalized anxiety	-3.89**	5.29	7.37

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

Table III: Partial correlations controlling for child gender on the relationships between individual and group scores on eating and BMI include (N=154)

<i>Individual scores on eating variables</i>					
	Dietary restraint	Body dissat	External eating	Emotional eating	BMI z score
<i>Group measures:</i>					
Dietary restraint	.39**	.34**	.33**	.17	.20
Body dissatisfaction	.31**	.22	.08	.01	.20
External eating	.38**	.17	-.11	-.00	.09
Emotional eating	.10	-.08	.03	.05	.13
BMI z score	.30*	.15	.06	.02	.29*

*p<.05, **p<.01 Body dissat = Body dissatisfaction

Table IV: Partial correlations controlling for child gender on the relationships between individual measures of eating and BMI with measures of anxiety (N=154)

	Individual scores on eating variables				
	Dietary restraint	Body dissat	External eating	Emotional eating	BMI z score
<i>Spence Children's Anxiety</i>					
<i>Scale:</i>					
Separation anxiety disorder	.07	-.14	.29*	.18	.04
Social phobia	.06	-.09	.34**	.21	.09
Generalized anxiety	.08	-.13	.33**	.21	.09

*p<.05, **p<.01 Body dissat = Body dissatisfaction