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Eating Breakfast and Family Meals in Adolescence: The Role of Body Image

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ABSTRACT

Regularly eating breakfast and meals with family has important health implications for youth. However, the association between eating breakfast and family meals regularly with body image has not been explored. Utilizing the 2009–2010 World Health Organization's Health Behavior in School-Aged Children U.S. survey (N = 12,642), we sought to begin this conversation. Our findings suggest that eating breakfast and meals with parents more regularly may be related to more positive body image. This cross-sectional glance suggests that policies and programs that encourage youth and families to regularly eat breakfast and family meals may also encourage better body image among youth.

KEYWORDS

Body image; eating behavior; family meals; eating breakfast; adolescence

Introduction

Adolescence is a dramatic transitional time in which physical, cognitive, behavioral, and social changes are taking place (Bibiloni, Pich, Pons, & Tur, 2013; Slater & Tiggemann, 2010). This period of life is a critical juncture in developing and adopting behaviors that will affect health and health outcomes (Santrock, 2010). Developing healthy behaviors in adolescence such as exercise and a preference for healthy foods typically low in fat and cholesterol can have long-term effects into adulthood such as prevention of heart disease, stroke, diabetes, and cancer (Santrock, 2010). A growing body of research has expressed concern for adolescent health over the last several years (Zullig, Matthews-Ewald, & Valois, 2016). Body image is an important factor to consider in adolescent health. Adolescence is a developmental phase that often emphasizes physical appearance (Slater & Tiggemann, 2010). It is also during this time period that dissatisfaction with one's body is at its highest (Littleton & Ollendick, 2003).

Body image begins developing in childhood and continues to develop throughout the lifespan and is influenced positively or negatively by various factors including culture, family, peers, the media, and society (Smolak, 2004). Body image encompasses several components such as body appreciation, body satisfaction, body dissatisfaction, and self-esteem (Cash, 2004; Larson, Clark, Robinson, & Utter, 2012). Negative body image is associated with a host of negative factors such as physical inactivity and, importantly, affects the development of eating disorders during adolescence (Voelker, Reel, & Greenleaf, 2015). Negative body image has also been associated with substance use (Ramseyer Winter, Kennedy, & O'Neill, 2017). A systematic review conducted by Littleton and Ollendick (2003) found risk factors for negative body image included individual variables such as self-esteem and timing of puberty onset, societal variables such as media images and peer pressure, and familial variables such as family cohesion and closeness with parents. According to Voelker et al. (2015), "adolescence represents a critical period for healthy body image development due to the type

and magnitude of age related transitions occurring during this time” (p. 149). Knowing the importance of this developmental phase, the consequences of negative body image, and the risk factors, this study set out to explore the association between regular family meal consumption and body image—an area to our knowledge that has not been explored.

Breakfast

Breakfast consumption is associated with many favorable outcomes such as improved nutrient intake (Hopkins, Sattler, Steeves, Jones-Smith, & Gittelsohn, 2017) and physical activity (Corder et al., 2014). For adolescents, daily breakfast intake has been associated with lower Body Mass Index (BMI) (Marlatt, Farbakhsh, Dengel, & Lytle, 2016). Research reports that not only does breakfast have a positive impact on a youth’s health and well-being, evidence suggests breakfast intake may increase memory, test scores, and school attendance (Rampersaud, Pereira, Girard, Adams, & Metz, 2005). However, breakfast is the most skipped meal by adolescents (Affenito et al., 2005). Skipping breakfast occurs most often in females (Lattimore & Halford, 2003), adolescents (O’Dea & Caputi, 2001), and children and adolescents from low socioeconomic backgrounds (Lytle, Seifert, Greenstein, & McGovern, 2000). Rampersaud et al. (2005) report that 59% of high school students skipped breakfast three times the week prior to being surveyed and 42% of 12- to 13-year-olds report no consistent daily consumption of breakfast. Despite the number of studies regarding the benefits of breakfast intake on overall health, no known studies investigate the relationship between breakfast consumption and body image.

Family meals

In the United States, eating dinner as a family had long been considered an important ritual, typically occurring at the same time each night, involving a home-prepared meal and the entire family at the table (Burgess-Champoux, Larson, Neumark-Sztainer, Hannan, & Story, 2009). Family meals have been considered a critical protective factor for adolescents by many groups including the media, policy groups, and researchers (Goldfarb, Tarver, & Sen, 2014). Eating meals with the family has been associated with better well-being (Fulkerson, Kubik, Story, Lytle, & Arcan, 2009), lower risk of substance use and delinquency (Fulkerson et al., 2006; Sen, 2010), and an enhanced diet with improved intake of essential vitamins, minerals, fruits, and vegetables (Burgess-Champoux et al., 2009; Neumark-Sztainer, Wall, Story, & Fulkerson, 2004). Several studies have suggested that family meals may serve as a protective factor against disordered eating behaviors (Fulkerson et al., 2006; Loth et al., 2015; Neumark-Sztainer et al., 2004). Despite the relationship between negative body image and disordered eating, no study to our knowledge has examined the relationship between family meals and body image. The goal of the current study is to explore the potential relationship between family meal consumption and body image. Identifying and understanding this potential relationship has broad implications for social workers and healthcare providers working with families.

Current study

Utilizing a nationally representative sample, the current study aims to add to the existing body of knowledge a better understanding of the relationship between eating behaviors (eating breakfast regularly and eating meals with one’s parents) and body image. Based on existing literature, we hypothesized that eating breakfast more regularly (Hypothesis 1) and eating meals with one’s mother or father more frequently (Hypothesis 2) would be associated with more positive body image. Variables for age, gender, race, ethnicity, and BMI were included as covariates because previous research has noted differences in body image by age (Tiggemann & McCourt, 2013), gender (Lawler & Nixon, 2011), and race/ethnicity (Bucchianeri et al., 2016).

Methods

Procedure

The Health Behavior in School-Aged Children (HBSC) is a cross-national research study that began in 1982. The study collects data on health attitudes and behaviors. The data in the current study are from the 2009 to 2010 school year and include 12,642 students from 314 public and private schools in all 50 states and the District of Columbia. The HBSC utilizes a three-stage stratified design. School districts serve as the sampling units and the study uses grade level and census divisions as strata. Additionally, Black or African American and Hispanic or Latino students were oversampled (Iannotti, 2013). We utilized survey weights with all analyses. We did not obtain Institutional Review Board (IRB) approval because this is a secondary data analysis.

Measures

Eating behaviors

We included four eating behavior items as independent variables. The first item, “How often do you usually have breakfast (more than a glass of milk or fruit juice)?” includes the following response options: *I never have breakfast during the weekdays, one day, two days, three days, four days, and five days*. The second item measures how often one eats breakfast on the weekend: “How often do you usually have breakfast (more than a glass of milk or fruit juice)?” Response options were *I never have breakfast during the weekend, I usually have breakfast on only one day of the weekend (Saturday OR Sunday), and I usually have breakfast on both weekend days (Saturday AND Sunday)*. The third and fourth variables measured frequency of eating breakfast and evening meals with a parent, respectively, “How often do you have breakfast together with your mother or father?” and “How often do you have an evening meal together with your mother or father?” Response options for both items were *never, less than once a week, 1–2 days a week, 3–4 days a week, 5–6 days a week, and every day*.

Body image

Body image was measured with six items, each of which used a Likert-type scale of 1 (*strongly disagree*) to 5 (*strongly agree*). The six items are, “I am frustrated with my physical appearance,” “I am satisfied with my appearance,” “I hate my body,” “I feel comfortable with my body,” “I feel anger toward my body,” and “I like my appearance in spite of its imperfections.” We reverse coded each of the negative body image items and computed a summed score of all six items. The scores ranged from 6 to 30 with a mean score of 21.24 ($SD = 4.61$). A higher score reflects a more positive body image.

Covariates

We included age, gender, race, ethnicity, and BMI as covariates. Age was recorded as 10 or younger, 11, 12, 13, 14, 15, 16, or 17 or older. Participants were asked, “Are you a boy or girl?” Race and ethnicity were asked in two questions: (1) “What do you consider your ethnicity to be (Hispanic or Latino, Not Hispanic or Latino)?” and (2) “What do you consider your race to be (mark all that apply; Black or African American, White, Asian, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Other)?” BMI was computed with self-reported weight and height.

Analytic plan

We used IBM SPSS Statistics 24 for all analyses and controlled for age, gender, race, ethnicity, and BMI in all regression models. To test Hypothesis 1, we ran two linear regressions using survey weights with eating breakfast more often during the week and eating breakfast more often on the weekend as the respective independent variables. To test Hypothesis 2, we ran two linear regressions using survey weights with eating breakfast with one’s mother or father more frequently and eating an

evening meal with mother or father more often as the respective independent variables. The dependent variable in each model was the summed body image score.

Results

Participants

We utilized the 2009 to 2010 World Health Organization's HBSC U.S. survey. Participants were a representative sample of U.S. students in Grades 5 through 10 ($N = 12,642$). There were 1,717 fifth graders (13.6%), 2,050 sixth graders (16.2%), 2,421 seventh graders (19.2%), 2,475 eighth graders (19.6%), 2,072 ninth graders (16.4%), and 1,907 10th graders (15.1%) with a mean age of 12.95 (range = 10–17, $SD = 1.75$). Approximately one half of the sample identified as girls ($n = 6,136$; 48.6%). The sample was 19.8% Hispanic/Latino ($n = 2,392$), 48.8% White ($n = 5,903$), 17.9% Black or African American ($n = 2,164$), 3.9% Asian ($n = 469$), 1.8% American Indian or Alaska Native ($n = 222$), and 0.9% Native Hawaiian or Other Pacific Islander ($n = 111$). The mean BMI was 21.24 ($SD = 4.61$). For a full list of participant characteristics and descriptives, see Table 1.

Table 1. Participant Characteristics and Study Indicators.

Characteristic/Study Indicator	<i>n</i>	%
Gender		
Girl	6136	48.6
Boy	6502	51.4
Ethnicity		
Hispanic or Latino	3407	28.7
Non-Hispanic or Latino	8464	71.3
Race		
White	5903	48.8
Black or African American	2164	17.9
Asian	469	3.9
American Indian or Alaska Native	222	1.8
Native Hawaiian or Other Pacific Islander	111	0.9
Frequency of eating breakfast, weekdays		
Never	2089	16.8
One day	1058	8.5
Two days	1048	8.4
Three days	1172	9.4
Four days	785	6.3
Five days	6319	50.7
Frequency of eating breakfast, weekend		
Never	885	7.3
One day, Saturday or Sunday	2571	21.2
Both days, Saturday and Sunday	8660	71.5
Frequency of eating breakfast w/mom or dad		
Never	2669	30.8
Less than 1 time/week	1396	16.1
1–2 days/week	2398	27.6
3–4 days/week	814	9.4
5–6 days/week	395	4.6
Every day	1007	11.6
Frequency of eating evening meal w/mom or dad		
Never	1260	14.3
Less than 1 time/week	667	7.6
1–2 days/week	1068	12.1
3–4 days/week	1264	14.4
5–6 days/week	1210	13.8
Every day	3325	37.8
Study Indicator	<i>M</i>	<i>SD</i>
Age	12.95	1.75
Body mass index	21.24	4.61

Descriptives

Just more than one half of the sample reported eating breakfast five days during the week ($n = 6,319$; 50.7%), but 16.8% reported never eating breakfast during the week ($n = 2,089$), 8.5% reported eating breakfast one day during the week ($n = 1,058$), 8.4% two days during the week ($n = 1,048$), 9.4% three days during the week ($n = 1,172$), and 6.3% four days during the week ($n = 785$). On the weekends, 71.5% reported eating breakfast Saturday and Sunday ($n = 8,660$), whereas 7.3% reported never eating breakfast on the weekend ($n = 885$) and 21.2% reported eating breakfast just one day on the weekend ($n = 2,571$).

Close to one third of participants reported never eating breakfast with their mother or father ($n = 2,669$; 30.8%), 16.1% reported eating breakfast with their mother or father less than once per week ($n = 1,396$), 27.6% reported 1 to 2 days per week ($n = 2,398$), 9.4% reported 3 to 4 days per week ($n = 814$), 4.6% reported 5 to 6 days per week ($n = 395$), and 11.6% reported eating breakfast with their mother or father every day ($n = 1,007$). Regarding eating evening meals with their mother or father, 14.3% reported never doing so ($n = 1,260$), 7.6% reported less than once per week ($n = 667$), 12.1% reported 1 to 2 days per week ($n = 1,068$), 14.4% reported 3 to 4 days per week ($n = 1,264$), 13.8% reported 5 to 6 days per week ($n = 1,210$), and 37.8% reported eating evening meals with their mother or father every day ($n = 3,325$). Refer to [Table 1](#).

Hypothesis 1

We hypothesized that eating breakfast more regularly would be related to more positive body image. Both models were statistically significant. The first model that explored frequency of eating breakfast during the week accounted for 16.4% of the variance in body image among this sample, $F(10, 8865) = 173.58$, $p < .001$, $R^2 = .164$. Eating breakfast during the week more frequently was associated with more positive body image scores ($b = 0.37$, $\beta = 0.14$, $p < .001$, 95% confidence interval [CI] [0.32, 0.43]) while holding the covariates constant. Regarding the covariates, age, gender, ethnicity, race (specifically, Black or African American, Asian, American Indian or Alaska native), and BMI were significantly associated with body image score. The second model explored frequency of eating breakfast on the weekend and accounted for approximately 17% of the variance in body image scores among this sample, $F(10, 8682) = 175.82$, $p < .001$, $R^2 = .169$. Eating breakfast more frequently on the weekend was also associated with more positive body image scores ($b = 1.35$, $\beta = 0.15$, $p < .001$, 95% CI [1.18, 1.52]). In the second model, the covariates significantly related to body scores were age, gender, ethnicity, race, and BMI (see [Table 2](#)).

Hypothesis 2

We hypothesized that more frequent meals with one's mother or father would be related to more positive body image. Both models were statistically significant. The first model with eating breakfast with one's mother or father more often explained 18% of the variance in body image scores among this sample, $F(10, 6866) = 150.80$, $p < .001$, $R^2 = .18$. Eating breakfast with one's mother or father more frequently, while holding age, gender, ethnicity, race, and BMI constant, was significantly related to higher positive body image scores among this sample ($b = 0.52$, $\beta = 0.15$, $p < .001$, 95% CI [0.44–0.59]). The following covariates were significantly related to body image scores in the first model: age, gender, ethnicity, race (specifically, Black or African American, Asian), and BMI. In the second model, we explored the frequency of eating an evening meal with one's mother or father. The model explained approximately 18% of the variance in body image scores among this sample, $F(10, 6958) = 154.47$, $p < .001$, $R^2 = .18$. Although holding our covariates constant, eating an evening meal with one's mother or father was significantly related to higher levels of positive body image ($b = 0.46$, $\beta = 0.15$, $p < .001$, 95% CI [0.39–0.53]). Additionally, several covariates were significantly related to body image scores in the second model. These include age, gender, race, and BMI. Refer to [Table 3](#).

Table 2. Hypothesis 1 Regression Results.

Variable	<i>b</i>	β	95% CI	
Frequency of Eating Breakfast on Weekdays ($R^2 = 0.16$)				
Frequency of eating breakfast on weekdays	0.37	0.14***	0.32	0.43
Age	0.08	0.03*	0.02	0.15
Gender	1.85	0.17***	1.64	2.05
Ethnicity	0.42	0.03**	0.17	0.67
Race				
Black or African American	1.60	0.12***	1.33	1.87
Asian	-0.91	-0.04***	-1.36	-0.46
American Indian or Alaska Native	-0.54	-0.02*	-1.00	-0.09
Native Hawaiian or OPI	0.13	0.00	-0.63	0.89
BMI	-0.36	-0.31***	-0.39	-0.34
Frequency of Eating Breakfast on Weekends ($R^2 = 0.17$)				
Frequency of eating breakfast on weekends	1.35	0.15***	1.18	1.52
Age	0.07	0.02*	0.01	0.13
Gender	1.95	0.18***	1.74	2.16
Ethnicity	0.58	0.05***	0.33	0.83
Race				
Black or African American	1.52	0.11***	1.25	1.79
Asian	-0.98	-0.04***	-1.43	-0.53
American Indian or Alaska Native	-0.59	-0.03*	-1.05	-0.13
Native Hawaiian or OPI	0.00	0.00	-0.76	0.77
BMI	-0.36	-0.31***	-0.38	-0.34

Note. CI = confidence interval; OPI = Other Pacific Islander; BMI = Body Mass Index.

Referent groups: Girl; White; non-Hispanic/Latino.

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 3. Hypothesis 2 Regression Results.

Variable	<i>b</i>	β	95% CI	
Frequency of Eating Breakfast with Mother or Father ($R^2 = 0.18$)				
Frequency of eating breakfast w/mom or dad	0.52	0.15***	0.44	0.59
Age	0.19	0.05***	0.10	0.29
Gender	2.15	0.20***	1.91	2.38
Ethnicity	0.49	0.04**	0.20	0.77
Race				
Black or African American	1.90	0.14***	1.59	2.20
Asian	-1.24	-0.05***	-1.76	-0.71
American Indian or Alaska Native	-0.45	-0.02	-0.97	0.07
Native Hawaiian or OPI	0.19	0.01	-0.69	1.07
BMI	-0.39	-0.31***	-0.42	-0.36
Frequency of Eating Evening Meal with Mother or Father ($R^2 = 0.18$)				
Frequency of eating evening meal w/mom or dad	0.46	0.15***	0.39	0.53
Age	0.18	0.04***	0.09	0.28
Gender	2.25	0.21***	2.02	2.49
Ethnicity	0.25	0.02	-0.03	0.54
Race				
Black or African American	2.14	0.16***	1.84	2.44
Asian	-1.17	-0.05***	-1.69	-0.65
American Indian or Alaska Native	-0.35	-0.01	-0.86	0.17
Native Hawaiian or OPI	0.18	0.00	-0.70	1.05
BMI	-0.39	-0.32***	-0.42	-0.37

Note. CI = confidence interval; OPI = Other Pacific Islander; BMI = Body Mass Index.

Referent groups: Girl; White; non-Hispanic/Latino.

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

Discussion

The present study is the first known study to examine relationships between breakfast and family meal behaviors and body image among youth. Results suggest that youth's breakfast and family meal eating behaviors are positively associated with body image scores, providing support for Hypotheses

1 and 2. Although the nutritional benefits of regular breakfast eating and regular consumption of meals with a parent have been established in the literature (Burgess-Champoux et al., 2009; Deshmukh-Taskar et al., 2010), this study provides support for the association between these eating behaviors and youth body image, which research indicates is related to health and substance use during adolescence (Neumark-Sztainer, Paxton, Hannan, Haines, & Story, 2006; Ramseyer Winter, Kennedy et al., 2017), and physical and mental health in adulthood (Gillen, 2015; Ramseyer Winter, Gillen, Cahill, Jones, & Ward, 2017), making this a relevant issue for social workers and other providers.

Congruent with previous research (van Vliet, Gustafsson, & Nelson, 2016), this study found that boys were more likely to eat breakfast than girls. Surprisingly, this study found that as youth got older, their breakfast eating also increased, which is contrary to previous research (O'Dea & Caputi, 2001; Rampersaud et al., 2005). This finding may be due to the use of a continuous age variable instead of a dichotomous or categorical variable indicating adolescent status or school level. Study results indicated similar patterns for boys and older youth regarding family eating behaviors. Results also indicated that as BMI increased, breakfast eating and family meals decreased. This finding is consistent with research that suggests a relationship between body weight and eating behaviors (Marlatt et al., 2016).

Implications for practice

Although this study does not establish a causal relationship between selected eating behaviors and body image among youth, implications for practice and public policy can be gleaned. Practitioners working with individuals and families can discuss the benefits of regular breakfast eating and family meals on body image in addition to the nutritional benefits. Specifically, family meals provide opportunities for relational contact between youth and their family, which is important for youth development (Story & Neumark-Sztainer, 2005). As such, encouraging clients to eat breakfast regularly and eat meals as a family has the potential to lead to better outcomes for youth.

In addition to direct practice with youth and families, the results of this study provide implications for social workers as public health policy advocates. For example, the School Breakfast Program (SBP), funded by the U.S. Department of Agriculture (USDA), and administered and managed by each state, provides breakfast to more than 14 million youth in schools and childcare facilities (Agriculture, 2017, August). Research suggests the SBP may be related to lower BMI (Gleason & Dodd, 2009; Wang et al., 2017), improved nutritional intake (Bhattacharya, Currie, & Haider, 2006), and improved school achievement (Frisvold, 2015). Given results that suggest more regular breakfast eating is positively related to youth body image, the availability of SBP may support higher body image scores, adding to the body of literature that supports the provision of the SBP.

Limitations

The results should be considered in the context of study limitations. The current study utilized a cross-sectional design; as such, causality cannot be determined. Data collected as part of the HBSC were via self-report, thus the weight and height values used to compute BMI may not be accurate. Additionally, questions regarding eating behaviors were not bound in time, thus youth with breakfast and family meal eating behaviors that differ by week may not be accurately accounted for in the data. Importantly, the body image measures in the data set are crude, and previous research has not established the validity and reliability of the summation scoring method used in the current study.

The results of the current study provide additional support for programs and policies that encourage youth to eat breakfast regularly and families to eat meals together regularly, as these behaviors may contribute to a more positive body image among youth. However, the limitations of the study are significant and, therefore, warrant additional research exploring these specific eating behaviors and body image.

Disclosure statement

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