

ORIGINAL ARTICLE

Television Exposure and Disordered Eating Among Children: A Longitudinal Panel Study

Cortney M. Moriarty & Kristen Harrison

Department of Communication, University of Illinois at Urbana–Champaign, Urbana, IL 61801

Although the link between media consumption and eating disorders has been widely studied, relatively little is known about the development of this link in childhood. A longitudinal panel survey of 315 White and Black preadolescent boys and girls revealed that television exposure, after controlling for age, perceived body size, selective exposure to ideal-body television, and baseline disordered eating, significantly predicted disordered eating 1 year later for girls but not for boys. Findings suggest that disordered eating as an outcome of television exposure is an important issue for Black girls as well as White girls. Results also highlight the need for continued investigation into gender differences in the effects of media exposure on eating disturbance in childhood.

doi:10.1111/j.1460-2466.2008.00389.x

Each year, an estimated 5 million Americans experience some form of clinical disordered eating (Becker, Grinspoon, Klibanski, & Herzog, 1999). Current estimates predict that, over the course of a lifetime, approximately 1 in 25 to 1 in 200 people will be diagnosed with anorexia nervosa and approximately 1 in 25 to 1 in 100 people will be diagnosed with bulimia (American Psychiatric Association Work Group on Eating Disorders, 2000). Most eating disorders are diagnosed in women, but between 5 and 15% of all diagnoses are for men (Andersen, 1995; Thompson & Kinder, 2003). Startlingly, patterns of disordered eating may begin as early as preschool (Nicholls, 2004; Steiner & Lock, 1998; Stice, Agras, & Hammer, 1999), and eating disorders are increasingly diagnosed in younger children (Bostic, Muriel, Hack, Weinstein, & Herzog, 1997; Nicholls, 2004). At the same time, ethnic minorities, traditionally viewed as less susceptible to disordered eating (Ruiz, Pepper, & Wilfley, 2004), are experiencing an increase in eating disorder diagnoses (Mulholland & Mintz, 2001).

To put these prevalence estimates into context, it is necessary to distinguish between disordered eating and eating disorders. Disordered eating includes behavior such as binge eating, restrictive dieting, negative body image, overexercising, and the abuse of laxatives, diuretics, and diet pills (Levine & Smolak, 2006), whereas eating disorders include anorexia nervosa, bulimia nervosa, and variants classified as

Corresponding author: Cortney M. Moriarty; e-mail: cmoriart@uiuc.edu

“eating disorders not otherwise specified,” or EDNOS, and are clinically significant cases of disordered eating (American Psychiatric Association, 2000). An individual need not be clinically diagnosed with an eating disorder to exhibit signs of disordered eating, which is itself a serious health problem; disordered eating can lead to significant physical, psychological, and relational consequences (Rome & Ammerman, 2003; Thompson, 2004).

Given the increasing rates of disordered eating and diagnoses of eating disorders among young children (Nicholls, 2004) and members of all racial/ethnic groups (Ruiz et al., 2004), coupled with research evidence supporting a consistent relationship between media consumption and body dissatisfaction and the drive for thinness, which are strong predictors of disordered eating (Botta, 1999; Dohnt & Tiggemann, 2006; Groesz, Levine, & Murnen, 2002; Harrison, 1997; Harrison & Cantor, 1997; Harrison & Hefner, 2006; Levine & Smolak, 1996; Posavac, Posavac, & Posavac, 1998; Stice, 1998; Stice & Shaw, 1994; Stice, Schupak-Neuberg, Shaw, & Stein, 1994), the purpose of our investigation is to examine by means of a longitudinal panel survey how media consumption predicts disordered eating among children. We explore the extent to which explanations for this relationship in adult populations, such as selective exposure to thin-ideal media, apply to young children. Further, because media may not affect all children in the same way, we test differences by gender and racial/ethnic background.

Television and disordered eating

Disordered eating is a modifiable behavior; that is to say, it can be prevented to some degree as well as learned. A meta-analysis of eating disorder prevention research across 60 effect sizes in 51 studies showed that eating disorder prevention programs can affect knowledge (immediate posttest $d = .38$, follow-up posttest $d = .29$) as well as behaviors (immediate posttest $d = .24$, follow-up posttest $d = .24$) related to disordered eating (Stice & Shaw, 2004). Similar results appeared in a more recent meta-analysis of 196 effect sizes over 46 studies (Fingeret, Warren, Cepeda-Benito, & Gleaves, 2006). If the targeted administration of information that occurs through eating disorder prevention programs can discourage disordered eating, then it stands to reason that the targeted administration of information that occurs through commercial media and marketing outlets can encourage it. A growing body of literature, some reporting meta-analytical findings (e.g., Groesz et al., 2002), has established a modest but robust correlation between media consumption and several body-perception indicators, including eating disorder symptomatology, internalization of the thin ideal, and poor body image (Botta, 1999; Dohnt & Tiggemann, 2006; Groesz et al.; Harrison, 1997; Harrison & Cantor, 1997; Harrison & Hefner, 2006; Levine & Smolak, 1996; Posavac et al., 1998; Stice, 1998; Stice & Shaw, 1994; Stice et al., 1994).

Extensive research by Stice and colleagues (Stice, 1998; Stice & Shaw, 1994; Stice et al., 1994; Stice, Agras, et al., 1999) and Harrison and colleagues (Harrison, 2000a, 2001; Harrison & Cantor, 1997) has shown that media exposure is significantly

correlated with disordered eating among adolescents and adults. More recent research continues to support these conclusions. In a study using retrospective media reports, Slater and Tiggemann (2006) found that childhood media use was a significant predictor of adult body-image concerns. Substantially less research has examined the link between media exposure and disordered eating in children, though one published study used a sample of children as young as 6 years old (Harrison & Hefner, 2006). Harrison and Hefner found that for preadolescent girls, over time, television viewing predicted increased disordered eating and a thinner postpubescent, or adult, body ideal, although there was no relationship between television exposure and a thinner prepubescent, or child, body ideal. Dohnt and Tiggemann (2006) examined the impact of peer and media influences on body satisfaction in a survey of girls aged 5–8, and data showed that watching appearance-focused television predicted girls' appearance satisfaction. Moreover, research shows that very young children of both genders may be influenced similarly. In a study of 6- to 8-year-old boys and girls, Harrison (2000b) found that television viewing predicted increased disordered eating equally for both genders.

The most commonly cited reason for the link between media exposure and disordered eating among adolescents and adults is internalization of the thin ideal (Harrison, 2000a; Harrison & Cantor, 1997; Stice, Mazotti, Krebs, & Martin, 1998; Stice et al., 1994; Thompson & Stice, 2001). To the extent that individuals personalize ideals of beauty and attractiveness as defined by society, both cognitively and behaviorally, they are said to have internalized these ideals. Internalization of the thin ideal is conceptualized as a mediator between media exposure and the development of disordered eating, and this conceptualization has held up well in studies of adults (Thompson & Stice, 2001). However, this argument has less traction when explaining the connection between media exposure and disordered eating with preadolescents. Harrison (2000b) and Harrison and Hefner (2006) found that television viewing predicted disordered eating among 6- to 8-year-olds and 7- to 9-year-olds, respectively, but *not* their idealization of a thin prepubescent physique. For the 7- to 9-year-olds, however, television exposure predicted the idealization of a thinner adult (postpubescent) physique (Harrison & Hefner, 2006). The authors argued that television may encourage prepubescent children to diet in service of a thin *future* (adult) body without encouraging them to diet for a thinner (child) body in the present. As Harrison (2000b) explained, children may view thinness as a “grown-up” characteristic to which they should aspire but not yet connect a positive view of personal thinness at their current age with what they see on television. Thus, the mediating role of thin-ideal internalization is not as straightforward with prepubescent children as with adults.

The implication of this is that the mechanisms by which media effects on disordered eating occur among children are likely to be different too. Harrison and colleagues (Harrison, 2000a, 2000b; Harrison & Cantor, 1997) argued that children exhibit patterns of disordered eating in part because they are encouraged by the media to model dieting behaviors (Bandura, 1994). According to social learning

theory (Bandura, 1994), modeling is more likely to occur for behaviors performed by attractive characters or behaviors that are rewarded than behaviors performed by unattractive characters or behaviors that go unrewarded. Content analyses suggest that thin characters or those who diet and exercise reap more social rewards and are portrayed in a much more flattering light than overweight, slovenly characters (Fouts & Burggraf, 1999; Garner, Garfinkel, Schwartz, & Thompson, 1980; Klein & Shiffman, 2005; Silverstein, Perdue, Peterson, & Kelly, 1986; Spitzer, Henderson, & Zivian, 1999; Wiseman, Gray, Mosimann, & Ahrens, 1992). Results from other areas of media effects research employing the modeling paradigm suggest that children are more affected by media exposure than adolescents or adults (Paik & Comstock, 1994). Television essentially contains innumerable opportunities for children to learn of the thin adult body ideal and ways to attain that ideal, including specific fitness and dieting behaviors. Television exposure, therefore, should predict increases in disordered eating among children equally or even more strongly than it has among adolescents and adults.

If modeling processes are occurring, any adequate test of those processes should also rule out alternative explanations for effects. One potential explanation for the relationship between media exposure and disordered eating is that individuals who exhibit signs of disordered eating seek out fitness-related or dieting-related media, so the causal order flows from disordered eating to media exposure and not vice versa. Qualitative work by Thomsen and colleagues (Thomsen, McCoy, Gustafson, & Williams, 2002; Thomsen, McCoy, & Williams, 2001; Thomsen, Weber, & Brown, 2002; Williams, Thomsen, & McCoy, 2003) has shown that anorexics report seeking out and relying upon thin-ideal media such as beauty and fitness magazines. Despite results that support the selective exposure hypothesis, though, Harrison (2000a) found that television viewing predicted bulimia even among adolescent boys and girls who reported no interest in fitness and dieting as television topics. We argue that selective exposure based on interest in body-relevant programming like fitness and dieting shows may explain some portion of the relationship between television exposure and disordered eating but not all of it. Even in the absence of interest in ideal-body television content, eating disorder symptomatology should be more pronounced among individuals reporting higher levels of television exposure. Thus, we predict:

H1: Television exposure predicts a subsequent increase in disordered eating, independent of selective exposure to ideal-body television content.

Gender differences

Research on media exposure and disordered eating has traditionally focused on females, likely due to the more frequent occurrence of eating disorders among women (Andersen, 1995; Thompson & Kinder, 2003). Harrison (2000a) found that exposure to television programs featuring fat characters predicted disordered eating for adolescent females but not for their male peers. In the same study, exposure to

thin-ideal magazines and sports magazines predicted disordered eating for females but not for males. A recent meta-analysis (Sahlstein & Allen, 2002) presents one explanation for this finding. Sahlstein and Allen found that males and females do not differ in self-esteem except when considering physical appearance ($r = .20$, $k = 28$, $N = 15,399$). Television itself is rife with differing depictions of men and women, particularly depictions that are relevant to sexual stereotypes. Herrett-Skjellum and Allen (1996) reported three meta-analyses to demonstrate that television content contains numerous sexual stereotypes ($r = .46$, $N = 3,670$), that those who watch more television are more likely to endorse the stereotypes ($r = .10$, $N = 10,735$), and that experimental research supports this relationship ($r = .21$, $N = 10,091$). Thus, body image stereotypes can be differentially important for females and males, but the research in support of this claim has only used adolescent or adult populations, not children.

Notwithstanding differences in the prevalence of disordered eating between males and females (Andersen, 1995; Thompson & Kinder, 2003), some research indicates that girls and boys may be affected equally by overall media exposure when they are in prepubescent stages of development. Harrison (2000b) found that television viewing predicted increased eating disorder symptomatology among participants of both genders in a sample of 6- to 8-year-old girls and boys ($\beta_s = .20$ for both genders). However, results were cross-sectional, and no causal relationships could be inferred. Given the inconsistency in findings of media effects research on disordered eating among boys, we ask:

RQ1: Is there a gender difference in the relationship between television exposure and subsequent disordered eating?

Racial differences

Eating disorders are increasingly affecting ethnic and racial minorities (Walcott, Pratt, & Patel, 2003). Cachelin and Regan (2006) found that in a racially diverse sample of adults, dietary restraint was positively correlated with disordered eating attitudes across Hispanic, Asian, Black, and White women (Cachelin & Regan, 2006). Regan and Cachelin (2006) also found that the frequency of purging among Black, White, and Hispanic women was not statistically different, although Asian women reported significantly less self-induced vomiting (Regan & Cachelin, 2006). Smith, Marcus, Lewis, Fitzgibbon, and Schreiner (1998) found similar levels of binge eating among Black and White women and White men ($N = 3948$) in adults aged 28–40. In addition, in a sample of 613 Black and White girls between the ages of 9 and 10, Black girls exhibited a *greater* drive for thinness than their White counterparts (Striegel-Moore, Schreiber, Pike, Wilfley, & Rodin, 1995). Available research indicates, then, that differences between racial groups with regard to disordered eating may be smaller than commonly assumed.

Because eating disorders are most often found among White, middle-class communities (American Psychiatric Association, 2000), studies of eating disorders and

their link to media exposure have traditionally relied upon relatively homogenous, White samples (Dolan, 1991; Thomsen et al., 2002). Ethnic and racial minorities tend to idealize a larger body size than Whites (Parnell et al., 1996), and these groups are widely thought to be influenced less by media and more by race-specific cultural and social norms (Parnell et al., 1996; Ruiz et al., 2004). A recent meta-analysis of 55 studies on females' body dissatisfaction found that Black women had higher levels of body satisfaction overall than White women ($d = .28$, 95% CI = 0.25, 0.32) (Roberts, Cash, Feingold, & Johnson, 2006). Notably, results followed a quadratic curve such that differences were most pronounced for women in their 20s; Black and White women in their childhood years and in their 40s had similar levels of body satisfaction (Roberts et al., 2006). Thus, there is reason to expect that relationships between media exposure and body satisfaction may be similar for White and Black children. Indeed, at least one study (Harrison & Hefner, 2006) reported no racial difference in the relationship between television viewing and disordered eating among 7- to 9-year-old Black and White girls. This study did not report findings for boys, however, so the question of racial differences for boys remains open:

RQ2: Is there a racial difference in the relationship between television exposure and subsequent disordered eating?

In summary, available evidence suggests that a relationship between television exposure and disordered eating may exist among young children of both genders. What is still unclear is the temporal direction of that relationship and whether the same relationship exists among U.S. racial minority populations, in particular African Americans. Our study extends the findings of Harrison (2000b) in that we investigate relationships between television exposure and eating disorder symptomatology in children, but we do so longitudinally and with both Black and White girls and boys. Although cross-sectional research allows investigators to identify relationships within a population, longitudinal work is ideal for measuring relationships that reflect incremental processes, such as those proposed by the social learning approach. A longitudinal design also allows for the control of key variables that could put research participants at risk for disordered eating independent of their overall television exposure, including baseline perceived body size, baseline disordered eating, and selective television exposure based on interest in ideal-body television like fitness and dieting programming. Last, although a longitudinal design does not provide an airtight demonstration of causality, it goes much further than cross-sectional designs toward demonstrating causality by fulfilling the temporal-order requirement of causal order (Davis, 1985).

Method

Participants

A sample of elementary school children (i.e., first, second, and third grades) participated in a multiyear panel study in schools situated in three lower middle- to

middle-class communities in the Midwestern United States. Because one of the goals of the study was to test race as a moderator, schools were preselected on the basis of racial diversity. The first two waves of data collection, which took place 1 year apart, were the focus of analysis. Thirty-four participants were unable or unwilling to report their race/ethnicity; of those who did report their race/ethnicity, the majority identified themselves as Black or African American ($N = 187$), followed by White or European American ($N = 163$); due to the small number of participants reporting a race other than White or Black, we chose to focus only on White and Black participants in our analyses ($N = 350$). The number of boys who participated in both waves was $N = 166$. The number of girls who participated in both waves was $N = 184$. At baseline, 126 (36.0%) were second graders, 111 (31.7%) were third graders, and 113 (32.3%) were fourth graders.

Procedure

All participants obtained parental consent and signed their own assent forms at the start of testing. Trained male and female research assistants administered questionnaires to groups of two to five boys and girls, separated by gender and separated from one another by barriers so their responses would remain private. The research assistant sat opposite each group of children and read each item aloud, pointing to the questionnaire to indicate the appropriate item along with the response options. To reduce primacy and recency effects, the order of response options was alternated across questionnaires, and t tests were used to compare responses across the different questionnaire versions. There were no effects of order. Participants received perceived body shape and disordered eating measures first, followed by media exposure measures, followed by demographic measures. When they finished completing their questionnaires, children received a novelty pencil in thanks for their participation and were escorted back to their classrooms. The same procedure was followed for both baseline and follow-up questionnaires.

Measures

Television exposure

We measured television exposure according to the procedure outlined by Harrison (2000b). Participants were asked to report how many hours of television they watched the preceding day (a) "in the morning, before school," (b) "during school, in class," (c) "after school, before dinner," and (d) "after school, before bed." They were also asked how many shows they "usually watch" on Saturdays and Sundays, divided into three segments: (a) "in the morning, before lunch," (b) "in the afternoon, before dinner," and (c) "after dinner, before bed." For each item, the response options ranged from 0 to 5 hours. Children were instructed to circle the number of hours that represented their best estimate. We computed a weekly television viewing index by adding the hours for each day, then adding the weekend hours to the weekday hours multiplied by 5. A histogram of the television viewing variables

revealed that the distributions were normal until the 85-hour point (approximately 12 hours of viewing per day), after which it was positively skewed, with 3 participants reporting viewing an average of more than 15 hours per day. Due to the strong possibility that their responses to the rest of the measures would be unreliable, the participants who reported viewing an average of more than 85 hours of television per week at either wave of data collection were dropped from further analyses, which reduced the sample to $N = 315$.

Disordered eating

Participants completed the 26-item Children's Eating Attitudes Test (Maloney, McGuire, & Daniels, 1988) as a measure of disordered eating symptomatology. This scale is particularly sensitive to restrained eating associated with a strong desire for weight loss and has been empirically validated with preadolescent children (Maloney et al., 1988). Sample items include "I stay away from foods with sugar in them" and "I think a lot about having fat on my body." Response options for this scale, when used with older children and adults, range from 0 (*never*) to 5 (*always*); however, to make the scale easier to process for young children who may have difficulty distinguishing terms of relativity like "rarely" and "often," we reduced the number of response options to three: 0 (*never*), 1 (*sometimes*), and 2 (*always*). Scale reliability as estimated by Cronbach's alpha was .77 in at baseline and .74 at follow-up.

Race/ethnicity and gender

On the last page of the questionnaire, children were asked to self-report their gender and their race/ethnicity. The race/ethnicity measure was open ended. Children who did not give an immediate answer were asked, "Do you know what race or ethnicity means?" If the child was uncertain, the research assistant prompted him or her by referring to his or her own race/ethnicity as an example, "If someone asked *me* my race or ethnicity, I'd say I was _____ (e.g., White or European American). Some people are Black or African American. Some people are Latino or Hispanic. Some people are Native American Indian. Some people are Asian American. How would you describe yourself?" Responses were recorded by the research assistant and later coded according to U.S. census categories. In cases where multiple ethnicities were listed (e.g., "I'm Black and White"), the non-White category was given preference to avoid undercounting participants of color. We used the race and gender variables to divide the sample for subsequent analyses, and the age variable was used as a covariate in these analyses. We chose to control age because the distribution of ages across the sample was relatively narrow, and thus it would have been difficult to make meaningful developmental predictions with regard to age differences.

Control variables

We measured *selective exposure based on interest* by asking participants to report how much more or less interested they would be in seeing a new television show if it covered several topics, two of which were fitness and dieting. Response options were *less interested*, *I wouldn't care*, and *more interested*. We used developmentally

appropriate symbols to convey this scale to the participants: a frowning face (less interested), a straight face (I wouldn't care), and a smiling face (more interested).

Because children's perceptions of their own body shape can influence both their television exposure and their eating attitudes and behaviors, *perceived body shape* was measured for use as a control variable. Perceived body shape was measured by administering a pictorial scale featuring line drawings of prepubescent children, with boys viewing a scale of male figures and girls viewing a scale of female figures (Tiggemann & Wilson-Barrett, 1998). Each scale featured seven bodies (truncated from the original nine to make the selection process easier and more efficient for younger children), ranging from markedly thin to markedly fat. We measured participants' perceived body shape by showing them the child figure drawings and directing them to "Circle the picture that shows how YOU look." For the remaining *demographic variables*, children reported their current age in years and their grade level in school.

Results

Descriptive statistics

The data revealed that higher scores on the disordered eating measure were significantly correlated with interest in dieting and fitness television and the number of hours of television watched per week for all children in both waves (see Table 1). At follow-up, disordered eating and interest in dieting and fitness television were also significantly correlated with perceived own body size.

More differences emerge when the sample is divided into groups based on gender and race/ethnicity. As shown in Table 2, White and Black girls differed significantly in their disordered eating scores at baseline, with Black girls reporting higher scores. Black girls also reported significantly more overall television exposure at follow-up, which echoes the findings of previous research, in that Black children tend to watch more television than White children (Roberts & Foehr, 2004). However, White and Black girls reported approximately the same perceived body size and interest in ideal-body television programs at both baseline and follow-up. Several differences also emerged for males (see Table 3). Compared to White boys, Black boys reported significantly higher overall television exposure at both baseline and follow-up, which, as noted above, is consistent with previous research (Roberts & Foehr, 2004). At baseline, Black boys reported significantly more interest in television shows about dieting and fitness, although this difference disappeared at follow-up. There were no race differences for perceived body size or disordered eating scores at either wave.

Hypothesis and research questions

To test our hypothesis and answer our research questions, we conducted multiple linear regression analyses. To begin, we conducted a whole-sample analysis to determine whether there were race and/or gender interactions that would warrant separate analyses for our four race-by-gender subsamples. We entered baseline age,

Table 1 Baseline and Follow-Up Means, Standard Deviations, and Zero-Order Correlations for Key Variables ($N = 315$)

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
Baseline								
1. Perceived body size	3.31	1.22						
2. IDFT	0.68	0.64	0.05					
3. Hours of TV/week	40.03	23.06	0.03	0.05				
4. ChEAT score	0.62	0.25	0.10	0.37**	0.17**			
5. Age	8.75	1.02	0.15**	0.01	-0.03	-0.09		
6. Gender	—	—	0.06	-0.10	0.03	-0.14	0.03	
7. Race/ethnicity	—	—	0.08	0.14*	0.13*	0.12*	0.02	0.03
Follow-up								
1. Perceived body size	3.52	1.20						
2. IDFT	0.47	0.59	0.21**					
3. Hours of TV/week	37.15	22.19	0.05	0.18**				
4. ChEAT score	0.56	0.23	0.13*	0.43**	0.28**			
5. Age	9.78	1.06	0.09	0.03	-0.11	-0.11		
6. Gender	—	—	-0.02	-0.17**	0.06	-0.19**	0.02	
7. Race/ethnicity	—	—	0.05	0.02	0.32**	0.05	-0.02	0.03

Note: ChEAT = Children's Eating Attitudes Test; IDFT = interest in dieting and fitness television. Perceived own body size was coded from 1 (*smallest*) to 7 (*largest*). IDFT was coded as 0 (*less interested*), 1 (*wouldn't care*), and 2 (*more interested*). Hours of television viewed per week ranged from 0 to 85. ChEAT scores ranged from 0.08 to 1.54 (baseline) and 0.04 to 1.31 (follow-up), with higher scores indicating more disordered eating. Sex was coded as a dichotomous variable, with girls coded as 1 and boys coded as 2. Race/ethnicity was also coded as a dichotomous variable, with White children coded as 1 and Black children coded as 2. Age ranged from 7 to 12 years (baseline) and 8 to 14 years (follow-up). Means and standard deviations are not provided for categorical variables; readers interested in zero-order correlations broken down by gender and race/ethnicity may contact the first author. * $p < .05$. ** $p < .01$.

perceived body size, disordered eating, and interest in fitness and dieting television on the first step; baseline television exposure on the second step; interaction terms for television exposure by gender and television exposure by race on the third step; and a term representing the three-way interaction between television exposure, gender, and race on the fourth step. Our outcome of interest was disordered eating at follow-up.

The three-way interaction was not significant ($\beta = -.01$, $p > .10$), nor was the two-way interaction between television exposure and race ($\beta = -.03$, $p > .10$). The two-way interaction between television exposure and gender approached significance ($\beta = -.10$, $p < .10$). Despite the relative weakness of this interaction, in light of the race and gender differences that emerged in our descriptive analyses, we felt it would be most informative to conduct separate analyses for the four gender/race

Table 2 Baseline and Follow-Up Means, Standard Deviations, and Difference Scores for Key Variables for White and Black Girls ($N = 163$)

Variable	Minimum	Maximum	White		Black		<i>t</i> Test
			<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Baseline							
Perceived own body size	1	7	3.90	1.44	3.36	1.23	-1.29
IDFT	0	2	0.71	0.63	0.77	0.63	-0.67
Hours TV per week	0	85	37.86	22.60	40.72	23.51	-0.79
Disordered eating	0.12	1.54	0.61	0.28	0.69	0.22	-2.00*
Follow-up							
Perceived own body size	1	7	3.49	1.26	3.58	1.33	-0.42
IDFT	0	2	0.55	0.67	0.59	0.61	-0.31
Hours TV per week	0.50	84	27.44	18.28	43.0	21.28	-4.96
Disordered eating	0.04	1.27	0.59	0.25	0.61	0.25	-0.58

Note: The *dfs* range from 160 to 161. IDFT = interest in dieting and fitness television. The minimum and maximum values for all variables except disordered eating (baseline and follow-up) and hours TV per week (follow-up) represent the absolute minimum and maximum of the scales. For disordered eating, actual minimum = 0 and actual maximum = 2. For hours TV per week, actual minimum = 0 and actual maximum = 85.

* $p < .05$. ** $p < .01$.

subsamples. For each group, then, we repeated the hierarchical regression analysis described above without the interaction terms.

As shown in Table 4, television exposure positively predicted eating disorder symptomatology for White ($\beta = .21, p < .05$) and Black girls ($\beta = .22, p < .05$). No significant relationships between television exposure and disordered eating symptomatology emerged for White ($\beta = .09, p > .10$) or Black ($\beta = .07, p > .10$) boys, although the slopes were in the predicted direction. Thus, these data support the first hypothesis and answer both of our research questions. Gender moderated the effect of television exposure on eating disorder symptomatology, such that the relationship between baseline television viewing and follow-up disordered eating was significant for girls of both racial groups but not for boys. Notably, although there were virtually no racial differences, the gender difference points to effect sizes, as estimated by the change in R^2 , of four to five times the magnitude for girls as for boys. These effect sizes are consistent with those reported by Harrison (2000b) in her sample of elementary school children; thus, it appears that television viewing is a weak-to-moderate predictor of disordered eating in girls, not only cross-sectionally (Harrison, 2000b) but over time.

Discussion

Summary

We sought to determine whether television exposure predicted subsequent eating disorder symptomatology, independent of selective exposure based on interest in

Table 3 Baseline and Follow-Up Means, Standard Deviations, and Difference Scores for Key Variables for Boys ($N = 152$)

Variable	Minimum	Maximum	White		Black		<i>t</i> Test
			<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Baseline							
Perceived own body size	1	6	3.34	1.20	3.43	0.97	-0.49
IDFT	0	2	0.45	0.59	0.75	0.65	-3.0**
Hours TV per week	0	85	35.29	22.49	44.76	22.84	-2.55*
Disordered eating	0.08	1.27	0.56	0.21	0.600	0.25	-1.12
Follow-up							
Perceived own body size	1	7	3.40	1.25	3.56	0.97	-0.88
IDFT	0	2	0.35	0.53	0.39	0.51	-0.37
Hours TV per week	0	85	31.07	21.76	44.13	22.50	-3.59***
Disordered eating	0.04	1.31	0.50	0.19	0.53	0.21	-0.99

Note: The *dfs* range from 149 to 150. IDFT = interest in dieting and fitness television. The minimum and maximum values for all variables except disordered eating (baseline and follow-up) and perceived own body size (baseline) represent the absolute minimum and maximum of the scales. For disordered eating, actual minimum = 0 and actual maximum = 2. For perceived own body size, actual minimum = 1 and actual maximum = 7.

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

ideal-body television, with a sample that included both White and Black children and both genders. Our hypothesis was supported for girls; there was a significant relationship between television exposure and disordered eating over time, regardless of initial level of disordered eating and other controls. In contrast, television exposure was not related to disordered eating symptomatology for boys of either racial group, although the slope coefficients were positive.

Television exposure, gender, and race/ethnicity

Harrison (2000b) reported that television exposure predicted disordered eating among White boys and girls; however, our study failed to replicate this finding for boys. In Harrison (2000b), boys' relationship between television exposure and disordered eating was statistically significant ($\beta = .20$, $p < .05$), whereas the slope coefficients in the present study were substantially lower. It should be noted that even though our results for boys were weaker than those reported by Harrison (2000b), they were still in the expected direction.

One explanation for why we see these results for boys in our study may lie with what boys are modeling in the television programming they see. Studies have shown that boys are more likely to be driven toward muscularity than thinness (Cohane & Pope, 2001; McCreary & Sasse, 2000), and that the drives for muscularity and thinness are relatively uncorrelated for boys (McCreary & Sasse, 2000). In pursuit of the goals of building muscle mass, boys may pay less attention to dieting or overly thin characters on television and instead model behaviors such as those associated

Table 4 Summary of Hierarchical Regression Analysis for Variables Predicting Disordered Eating at Follow-Up ($N = 315$)

Variable	Females				Males			
	White		Black		White		Black	
	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2
Step 1								
Age	-.03		-.29**		.08		-.02	
Perceived body size	.04		.18†		.09		.10	
Baseline ChEAT score	.52***		.18†		.45***		.37***	
IDFT	.03	.36	.18†	.24	.02	.25	.12	.21
Step 2								
Baseline TV exposure	.21*	.04*	.22*	.05*	.09	.01	.07	.01
Final equation								
R^2	.39*		0.28*		0.25		.22	
F ratio	9.01		6.68		4.02		4.65	
df	5,70		5,85		5,59		5,84	

Note: ChEAT = Children's Eating Attitudes Test; IDFT = interest in dieting and fitness television.

* $p < .05$. ** $p < .01$. *** $p < .001$. † $p < .10$.

with gaining weight and building muscle mass. At the same time that they receive messages that "fat is bad" (Fouts & Vaughan, 2002), boys may be also modeling behaviors that signal "muscular is good" (Harrison & Bond, 2007)

By comparison, our results for girls mirror and extend the findings of Harrison (2000b). In Harrison's study, the size of the slope coefficient representing girls' relationship between television exposure and disordered eating ($\beta = .20$, $p < .05$) was nearly identical to the slope coefficients reported for girls in Table 4. That these coefficients are almost equal suggests that the relationship between television and disordered eating is the same for Black and White girls. Our results support the argument that body image stereotypes may differentially influence boys and girls. Boys may interpret media messages as "fat is bad, muscular bulk is good," whereas girls receive the message that "fat is bad, no bulk is good."

Our results are consistent with research (e.g., Mulholland & Mintz, 2001; Walcott et al., 2003) suggesting that Black girls are catching up to White girls in terms of disordered eating habits. Previous studies have exhibited a tendency to classify disordered eating and eating disorders such as anorexia nervosa and bulimia as afflictions mostly confined to Anglo populations, but more recent research that examines disordered eating in racially diverse samples appears to be consistent with what exists in the population. Black girls scored significantly higher on the disordered eating measure at baseline compared to White girls. These results, coupled with other recent, published findings (Cachelin & Regan, 2006; Mulholland & Mintz, 2001; Regan & Cachelin, 2006; Walcott et al., 2003), support a trend for increased

disordered eating in minority populations and underscore the need to continue studying the media as an influence on excessive dieting among African American girls.

Theoretical implications

One frequently advanced explanation for the link between media exposure and disordered eating is that individuals who exhibit signs of disordered eating seek out fitness-related or dieting-related media (e.g., Thomsen et al., 2001; Williams et al., 2003). With regard to the selective exposure hypothesis, we were able to control for interest in dieting and fitness television in our analyses. As a result, our data show that the relationships found between television exposure and subsequent disordered eating were nonzero even for children who did not seek out fitness and dieting-related media. This supports the conclusion that children may be influenced by television content promoting the thin body ideal and dieting behavior even when they do not seek out that content.

In our analyses, we also controlled for baseline age, perceived body size, and disordered eating symptomatology. That we still found significant results shows that television exposure predicts increases in disordered eating over time for girls of multiple ages, varying degrees of eating pathology, and various perceived body sizes. This implies that girls of *all* body sizes are affected by media exposure, not just girls who perceive themselves to be too fat (or not thin enough). By controlling baseline disordered eating symptomatology, we are also able to infer that television viewing predicts *changes* in eating disorder symptomatology, changes that represent an increased risk over time, especially for girls.

Another theoretical issue addressed by our data concerns the mechanism linking media exposure with disordered eating. Research on media exposure and disordered eating among adolescents and adults frequently cites internalization of the thin ideal as the reason for this relationship (Harrison, 2000a; Harrison & Cantor, 1997; Stice et al., 1994; Stice et al., 1998; Thompson & Stice, 2001), whereas others have hypothesized that the link between media exposure and disordered eating among children may not depend so strongly on the mediating role of thin-ideal internalization (Harrison & Hefner, 2006). Our data are consistent with the process of modeling, specifically, of the thin-ideal bodies and dieting behaviors that saturate both entertainment and commercial television programming and advertising (Fouts & Burggraf, 1999, 2000; Greenberg, Eastin, Hofschire, Lachlan, & Brownell, 2003; Herbozo, Tantleff-Dunn, Gokee-Larose, & Thompson, 2004). We do know from previous research that children model what they see (e.g., Bandura, 1986); that television contains numerous images of attractive, thin, or physically fit characters who receive more social rewards than unattractive, overweight characters (Fouts & Burggraf, 1999, 2000; Garner et al., 1980; Klein & Shiffman, 2005; Silverstein et al., 1986; Spitzer et al., 1999; Wiseman et al., 1992); and that advertising disproportionately features thin, good-looking actors selling dieting and body improvement products (Signorielli, 1997; Signorielli, McLeod, & Healy, 1994; Stern & Mastro, 2004).

In addition, these data suggest that gender is an important factor in the link between media exposure and disordered eating. Because we know that there are more conspicuously thin females on television, more modeling opportunities exist for girls, which may be influencing our results.

Strengths, limitations, and future directions

Consistent with social learning and modeling processes, we found what appears to be a longitudinal effect for television exposure on disordered eating symptomatology. Our study relied upon a racially diverse sample of preadolescent boys and girls, thus allowing us to extend the findings of previous research with a new and more comprehensive sample of preadolescents. Moreover, longitudinal research is a strong method for studying disordered eating patterns and possible predicting variables, in that changes in disordered eating can be measured over time while controlling for important potential confounds. To that end, we were able to control for factors that may interact with television viewing to influence disordered eating, such as selective exposure to ideal-body television and preexisting disordered eating. In particular, controlling for selective exposure to ideal-body television allowed us to rule out the selective exposure hypothesis as an explanation for the relationship between the variables of interest in our study. Although selective exposure explains a small portion of the variance in disordered eating over time, it does not explain as much as overall television exposure (see Table 4).

One limitation of our research concerns our media exposure measure. We asked children to report their overall television exposure in hours rather than providing them with a long list of specific television programs and advertisements. Due to the constraints inherent in interviewing young children, it was not possible to have participants report such detailed information. It is likely, though, that both entertainment programming and advertising are responsible for the link between overall television exposure and disordered eating for girls. Given that television advertisements frequently highlight weight-related nutritional claims (Henderson & Kelly, 2005); that exposure to certain types of television ads can negatively affect body perceptions of men and women (Lavine, Sweeney, & Wagner, 1999); and that most appearance-enhancing products advertised during children's programming target girls (Ogletree, Williams, Raffeld, Mason, & Fricke, 1990), children are strongly encouraged to model what they see in advertising. Moreover, to the extent that advertising influences eating habits, there is no better way to measure overall television advertising exposure than to measure overall hours of television viewing. Future research exploring children's exposure to specific content types should help uncover exactly what behaviors, standards, and ideals children may be modeling from the television they watch. Detailed and systematic investigations of how advertising and program content separately affect children's body perceptions and eating habits will help shed further light on the mechanisms behind the findings reported here.

Along with the limitations of our media exposure measure, the change in R^2 of our hierarchical regression analysis was .04 for White girls and .05 for Black girls.

This suggests that the amount of variance in disordered eating explained by television exposure is small to moderate. Nevertheless, effect sizes of this magnitude in a sample of more than 300 diverse preadolescents raises an important issue concerning the cumulative effects of television exposure over the course of a childhood. The girls in our study reported viewing between 27 and 43 hours of television per week; if we see this effect after one year for children as young as 7 years old, we must consider the potential ramifications of media exposure over time, especially as children approach adolescence—the very years when most eating disorders develop (National Association of Anorexia Nervosa and Associated Disorders, n. d.).

Last, our study focused on White and Black children only, due to the small numbers of children of other backgrounds in our study. Future research would extend what we know about media, disordered eating, and race by examining the connection between television exposure and disordered eating among other populations, especially Latino and Latina children, whose increasing obesity rate reflects a vulnerability to environmental influences on eating imbalance (Nicholls, 2004).

Given that disordered eating is a modifiable behavior, future research should also investigate whether eating disorder prevention interventions can counter the effects of the media. Meta-analyses on eating disorder interventions reveal that programs can affect eating behaviors for the better (Fingeret et al., 2006; Stice & Shaw, 2004), but these effects are generally small. Moreover, it is not known if part of the education mentioned in eating disorder prevention studies includes education about media images of thinness and beauty. Education in the form of active parental mediation of mass media, for instance, is known to reduce the effects of television advertising (Buijzen & Valkenburg, 2005) and violent news content (Buijzen, van der Molen, & Sondij, 2007). Although we believe that it is possible for parents and educators to counter the harmful effects of television on the body images of children and adolescents, this work would have to begin very early in the child's life because we know that disordered eating patterns can commence when children are as young as 5 or 6 years old (Nicholls, 2004; Steiner & Lock, 1998; Stice, Agras, et al., 1999).

Recent investigations into the overall health of Americans tend to shelve the issue of disordered eating and prioritize addressing obesity, which many argue is the more pressing health issue. With the extent of the obesity epidemic in America and other countries (Centers for Disease Control and Prevention, 2006; Ogden, Flegal, Carroll, & Johnson, 2002; World Health Organization, 2006), obesity should not be ignored, but this is not to say that we should abandon studies of disordered eating symptomatology and eating disorders. Longitudinal work shows that unhealthful dieting behavior in childhood is directly linked to obesity in later years (Neumark-Sztainer et al., 2006; Stice, Cameron, Killen, Hayward, & Taylor, 1999). At the same time, short-term health implications of disordered eating include depleted bone density and delayed menarche (Nicholls, 2004). Thus, even if children never develop clinical eating disorders, disordered eating remains a significant health problem. Excessive dieting and overeating in youth both contribute to what appears to be a national imbalance in Americans' orientation toward our bodies, food, and eating. Continued

research is needed to understand the role of the media in promoting this imbalance in the earliest childhood years.

Acknowledgments

This research was completed in partial fulfillment of a Scholars Award to the second author from the William T. Grant Foundation. The authors thank the school administrators, teachers, and students who volunteered their time and services for this study and Amy Marske, Nicole Martins, and Veronica Hefner for overseeing data collection.

References

- American Psychiatric Association. (2000). *DSM-IV: Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- American Psychiatric Association Work Group on Eating Disorders. (2000). Practice guideline for the treatment of patients with eating disorders (revision). *American Journal of Psychiatry*, *157*(Suppl. 1), 1–39.
- Andersen, A. E. (1995). Eating disorders in males. In K. D. Brownell, & C. G. Fairburn (Eds.), *Eating disorders and obesity: A comprehensive handbook* (pp. 177–187). New York: Guilford Press.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Upper Saddle River, NJ: Prentice Hall.
- Bandura, A. (1994). Social cognitive theory of mass communication. In J. Bryant, & D. Zillmann (Eds.), *Media effects: Advances in theory and research* (pp. 61–90). Hillsdale, NJ: Lawrence Erlbaum.
- Becker, A. E., Grinspoon, S. K., Klibanski, A., & Herzog, D. B. (1999). Eating disorders. *New England Journal of Medicine*, *340*, 1092–1098.
- Bostic, J. Q., Muriel, A. C., Hack, S., Weinstein, S., & Herzog, D. (1997). Anorexia nervosa in a 7-year-old girl. *Journal of Developmental and Behavioral Pediatrics*, *18*, 331–333.
- Botta, R. A. (1999). Television images and adolescent girls' body image disturbance. *Journal of Communication*, *49*, 22–41.
- Buijzen, M., & Valkenburg, P. M. (2005). Parental mediation of undesired advertising effects. *Journal of Broadcasting & Electronic Media*, *49*, 153–165.
- Buijzen, M., van der Molen, J. H. W., & Sondij, P. (2007). Parental mediation of children's emotional responses to a violent news event. *Communication Research*, *34*, 212–230.
- Cachelin, F. M., & Regan, P. C. (2006). Prevalence and correlates of chronic dieting in a multi-ethnic U.S. community sample. *Eating and Weight Disorders*, *11*, 91–99.
- Centers for Disease Control and Prevention. (2006). State-specific prevalence of obesity among adults – United States, 2005. *Morbidity and Mortality Weekly Report*, *55*, 985–988.
- Cohane, G. H., & Pope, H. G. (2001). Body image in boys: A review of the literature. *International Journal of Eating Disorders*, *29*, 373–379.
- Davis, J. A. (1985). *The logic of causal order. Series: Quantitative applications in the social sciences* (No. 55). Newbury Park, CA: Sage.
- Dohnt, H., & Tiggemann, M. (2006). The contribution of peer and media influence to the development of body satisfaction and self-esteem in young girls: A prospective study. *Developmental Psychology*, *42*, 929–936.

- Dolan, B. M. (1991). Cross-cultural aspects of anorexia and bulimia: A review. *International Journal of Eating Disorders*, *10*, 67–79.
- Fingeret, M. M., Warren, C. S., Cepeda-Benito, A., & Gleaves, D. H. (2006). Eating disorder prevention research: A meta-analysis. *Eating Disorders*, *14*, 191–213.
- Fouts, G., & Burggraf, K. (1999). Television situation comedies: Female body images and verbal reinforcements. *Sex Roles*, *40*, 473–481.
- Fouts, G., & Burggraf, K. (2000). Television situation comedies: Female weight, male negative comments, and audience reactions. *Sex Roles*, *42*, 925–932.
- Fouts, G., & Vaughan, K. (2002). Television situation comedies: Male weight, negative references, and audience reactions. *Sex Roles*, *46*, 439–442.
- Garner, D. M., Garfinkel, P. E., Schwartz, D., & Thompson, M. (1980). Cultural expectations of thinness in women. *Psychological Reports*, *47*, 483–491.
- Greenberg, B. S., Eastin, M., Hofschire, L., Lachlan, K., & Brownell, K. D. (2003). Portrayals of overweight and obese individuals on commercial television. *American Journal of Public Health*, *93*, 1342–1348.
- Groesz, L. M., Levine, M. P., & Murnen, S. K. (2002). The effect of experimental presentation of thin media images on body satisfaction: A meta-analytic review. *International Journal of Eating Disorders*, *31*, 1–16.
- Harrison, K. (1997). Does interpersonal attraction to thin media personalities promote eating disorders? *Journal of Broadcasting & Electronic Media*, *41*, 478–500.
- Harrison, K. (2000a). The body electric: Thin-ideal media and eating disorders in adolescents. *Journal of Communication*, *50*, 119–143.
- Harrison, K. (2000b). Television viewing, fat stereotyping, body shape standards, and eating disorder symptomatology in grade school children. *Communication Research*, *27*, 617–640.
- Harrison, K. (2001). Ourselves, our bodies: Thin-ideal media, self-discrepancies, and eating disorder symptomatology in adolescents. *Journal of Social and Clinical Psychology*, *20*, 289–323.
- Harrison, K., & Bond, B. J. (2007). Gaming magazines and the drive for muscularity in preadolescent boys: A longitudinal examination. *Body Image*, *4*, 269–277.
- Harrison, K., & Cantor, J. (1997). The relationship between media consumption and eating disorders. *Journal of Communication*, *47*, 40–67.
- Harrison, K., & Hefner, V. (2006). Media exposure, current and future body ideals, and disordered eating among preadolescent girls: A longitudinal panel study. *Journal of Youth and Adolescence*, *35*, 153–163.
- Henderson, V. R., & Kelly, B. (2005). Food advertising in the age of obesity: Content analysis of food advertising on general market and African American television. *Journal of Nutrition Education and Behavior*, *37*, 191–196.
- Herbozo, S., Tantleff-Dunn, S., Gokee-Larose, J., & Thompson, J. K. (2004). Beauty and thinness messages in children's media: A content analysis. *Eating Disorders: The Journal of Treatment and Prevention*, *12*, 21–34.
- Herrett-Skjellum, J., & Allen, M. (1996). Television programming and sex stereotyping: A meta-analysis. In B. Burleson (Ed.), *Communication Yearbook 19* (pp. 157–186). Thousand Oaks, CA: Sage.
- Klein, H., & Shiffman, K. S. (2005). Thin is “in” and stout is “out”: What animated cartoons tell viewers about body weight. *Eating and Weight Disorders*, *10*, 107–116.

- Lavine, H., Sweeney, D., & Wagner, S. H. (1999). Depicting women as sex objects in television advertising: Effects on body dissatisfaction. *Personal and Social Psychology Bulletin*, *25*, 1049–1058.
- Levine, M. P., & Smolak, L. (1996). Media as a context for the development of disordered eating. In L. Smolak (Ed.), *The developmental psychopathology of eating disorders: Implications for research, prevention, and treatment* (pp. 235–257). Mahwah, NJ: Erlbaum.
- Levine, M. P., & Smolak, L. (2006). *The prevention of eating problems and eating disorders: Theory, research, and practice*. Mahwah, NJ: Erlbaum.
- Maloney, M. J., McGuire, J. B., & Daniels, S. R. (1988). Reliability testing of a children's version of the Eating Attitude Test. *Journal of the American Academy of Child and Adolescent Psychiatry*, *27*, 541–543.
- McCreary, D. R., & Sasse, D. K. (2000). An exploration of the drive for muscularity in adolescent boys and girls. *Journal of American College Health*, *48*, 297–304.
- Mulholland, A. M., & Mintz, L. B. (2001). Prevalence of eating disorders among African American women. *Journal of Counseling Psychology*, *48*, 111–116.
- National Association of Anorexia Nervosa and Associated Disorders. (n. d.). Facts about eating disorders. Retrieved September 2, 2006, from <http://www.anad.org/site/anadweb/content.php?type=&=6982>
- Neumark-Sztainer, D., Wall, M., Guo, J., Story, M., Haines, J., & Eisenberg, M. (2006). Obesity, disordered eating, and eating disorders in a longitudinal study of adolescents: How do dieters fare 5 years later? *Journal of the American Dietetic Association*, *106*, 568.
- Nicholls, D. (2004). Eating problems in childhood and adolescence. In J. K. Thompson (Ed.), *Handbook of eating disorders and obesity* (pp. 635–655). New York: Wiley.
- Ogden, C. L., Flegal, K. M., Carroll, M. D., & Johnson, C. L. (2002). Prevalence and trends in overweight among US children and adolescents, 1999–2000. *Journal of the American Medical Association*, *288*, 1728–1732.
- Ogletree, S. M., Williams, S. W., Raffeld, P., Mason, B., & Fricke, K. (1990). Female attractiveness and eating disorders: Do children's television commercials play a role? *Sex Roles*, *22*, 791–797.
- Paik, H., & Comstock, G. (1994). The effects of television violence on antisocial behavior: A meta-analysis. *Communication Research*, *21*, 516–546.
- Parnell, K., Sargent, R., Thompson, S. H., Duhe, S. F., Valois, R. F., & Kemper, R. C. (1996). Black and white adolescent females' perceptions of ideal body size. *Journal of School Health*, *66*, 112–118.
- Posavac, H. D., Posavac, S. S., & Posavac, E. J. (1998). Exposure to media images of female attractiveness and concern with body weight among young women. *Sex Roles*, *38*, 187–201.
- Regan, P. C., & Cachelin, F. M. (2006). Binge eating and purging in a multi-ethnic community sample. *International Journal of Eating Disorders*, *39*, 523–526.
- Roberts, A., Cash, T. F., Feingold, A., & Johnson, B. T. (2006). Are Black-White differences in females' body dissatisfaction decreasing? A meta-analytic review. *Journal of Consulting and Clinical Psychology*, *74*, 1121–1131.
- Roberts, D. F., & Foehr, U. G. (2004). *Kids & Media in America*. Cambridge, UK: Cambridge University Press.
- Rome, E. S., & Ammerman, S. (2003). Medical complications of the eating disorders: An update. *Journal of Adolescent Health*, *33*, 418–426.

- Ruiz, S. Y., Pepper, A., & Wilfley, D. E. (2004). Obesity and body image among ethnically diverse children and adolescents. In J. K. Thompson (Ed.), *Handbook of eating disorders and obesity* (pp. 656–678). New York: John Wiley & Sons.
- Sahlstein, E., & Allen, M. (2002). Sex differences in self-esteem: A meta-analytic assessment. In M. Allen, R. Preiss, B. Gayle, & N. Burrell (Eds.), *Interpersonal communication research: Advances through meta-analysis* (pp. 59–72). Mahwah, NJ: Erlbaum.
- Signorielli, N. (1997). *Reflections of girls in the media: A content analysis*. Oakland, CA: Children Now.
- Signorielli, N., McLeod, D., & Healy, E. (1994). Gender stereotypes in MTV commercials: The beat goes on. *Journal of Broadcasting & Electronic Media*, *38*, 91–102.
- Silverstein, B., Perdue, L., Peterson, B., & Kelly, E. (1986). The role of the mass media in promoting a thin standard of bodily attractiveness for women. *Sex Roles*, *14*, 519–532.
- Slater, A. & Tiggemann, M. (2006). The contributions of physical activity and media use during childhood and adolescence to adult women's body image. *Journal of Health Psychology*, *11*, 553–565.
- Smith, D. E., Marcus, M. D., Lewis, C. E., Fitzgibbon, M., & Schreiner, P. (1998). Prevalence of binge eating disorder, obesity, and depression in a biracial cohort of young adults. *Annals of Behavioral Medicine*, *20*, 1998.
- Spitzer, B. L., Henderson, K. A., & Zivian, M. T. (1999). Gender differences in population versus media body sizes: A comparison over four decades. *Sex Roles*, *40*, 545–565.
- Steiner, H., & Lock, J. (1998). Anorexia nervosa and bulimia nervosa in children and adolescents: A review of the past 10 years. *Journal of the American Academy of Child and Adolescent Psychiatry*, *37*, 352–359.
- Stern, S. R., & Mastro, D. E. (2004). Gender portrayals across the life span: A content analytic look at broadcast commercials. *Mass Communication & Society*, *7*, 215–236.
- Stice, E. (1998). Modeling of eating pathology and social reinforcement of the thin-ideal predict onset of bulimic symptoms. *Behaviour Research and Therapy*, *36*, 931–944.
- Stice, E., Agras, W. S., & Hammer, L. D. (1999). Risk factors for the emergence of childhood eating disturbances: A five-year prospective study. *International Journal of Eating Disorders*, *25*, 375–387.
- Stice, E., Cameron, R. P., Killen, J. D., Hayward, C., & Taylor, C. B. (1999). Naturalistic weight-reduction efforts prospectively predict growth in relative weight and onset of obesity among female adolescents. *Journal of Consulting and Clinical Psychology*, *67*, 967–974.
- Stice, E., Mazotti, L., Krebs, M., & Martin, S. (1998). Predictors of adolescent dieting behaviors: A longitudinal study. *Psychology of Addictive Behaviors*, *12*, 195–205.
- Stice, E., Schupak-Neuberg, E., Shaw, H. E., & Stein, R. I. (1994). Relation of media exposure to eating disorder symptomatology: An examination of mediating mechanisms. *Journal of Abnormal Psychology*, *103*, 836–840.
- Stice, E., & Shaw, H. E. (1994). Adverse effects of the media portrayed thin-ideal on women and linkages to bulimic symptomatology. *Journal of Social and Clinical Psychology*, *13*, 288–308.
- Stice, E., & Shaw, H. E. (2004). Eating disorder prevention programs: A meta-analytic review. *Psychological Bulletin*, *130*, 206–227.

- Striegel-Moore, R. H., Schreiber, G. B., Pike, K. M., Wilfley, D. E., & Rodin, J. (1995). Drive for thinness in black and white preadolescent girls. *International Journal of Eating Disorders, 18*, 59–69.
- Thompson, J. K. (Ed.). (2004). *Handbook of eating disorders and obesity*. Hoboken, NJ: Wiley.
- Thompson, J. K., & Kinder, B. (2003). Eating disorders. In M. Hersen, & S. Turner (Eds.), *Handbook of adult psychopathology* (4th ed., pp. 555–582). New York: Plenum Press.
- Thompson, J. K., & Stice, E. (2001). Thin-ideal internalization: Mounting evidence for a new risk factor for body-image disturbance and eating pathology. *Current Directions in Psychological Science, 10*, 181–183.
- Thomsen, S. R., McCoy, J., Gustafson, R. L., & Williams, M. (2002). Motivations for reading beauty and fashion magazines and anorexic risk in college-age women. *Media Psychology, 4*, 113–135.
- Thomsen, S. R., McCoy, J., & Williams, M. (2001). Internalizing the impossible: Anorexic outpatients' experiences with women's beauty and fashion magazines. *Eating Disorders: The Journal of Treatment & Prevention, 9*, 49–64.
- Thomsen, S. R., Weber, M. M., & Brown, L. B. (2002). The relationship between reading beauty and fashion magazines and the use of pathogenic dieting methods among adolescent females. *Adolescence, 37*, 1–18.
- Tiggemann, M., & Wilson-Barrett, E. (1998). Children's figure ratings: Relationship to self-esteem and negative stereotyping. *International Journal of Eating Disorders, 23*, 83–88.
- Walcott, D. D., Pratt, H. D., & Patel, D. R. (2003). Adolescents and eating disorders: Gender, racial, ethnic, sociocultural, and socioeconomic issues. *Journal of Adolescent Research, 18*, 223–243.
- Williams, M. S., Thomsen, S. R., & McCoy, J. (2003). Looking for an accurate mirror: A model for the relationship between media use and anorexia. *Eating Behaviors, 4*, 127–134.
- Wiseman, C. V., Gray, J. J., Mosimann, J. E., & Ahrens, A. H. (1992). Cultural expectations of thinness in women: An update. *International Journal of Eating Disorders, 11*, 85–89.
- World Health Organization. (2006). *Obesity and overweight: Fact sheet no. 311*. Retrieved December 12, 2007, from <http://www.who.int/mediacentre/factsheets/fs311/en/>

**Exposition à la télévision et troubles alimentaires chez les enfants : Une étude
longitudinale par panel**

Cortney M. Moriarty

Kristen Harrison

University of Illinois at Urbana-Champaign

Résumé

Bien que le lien entre la consommation médiatique et les troubles alimentaires ait été largement étudié, on sait relativement peu de choses du développement de ce lien dans l'enfance. Une enquête longitudinale par panel auprès de 315 préadolescents (garçons et filles, blancs et noirs) révèle qu'après avoir neutralisé les facteurs de l'âge, la taille perçue du corps, l'exposition sélective à des émissions présentant des corps idéaux et les troubles alimentaires préliminaires, l'exposition télévisuelle a prédit de façon significative les troubles alimentaires un an plus tard, pour les filles, mais pas pour les garçons. Les résultats suggèrent que les troubles alimentaires comme résultats de l'exposition télévisuelle sont un enjeu important pour les filles noires comme pour les filles blanches. Les résultats soulignent également le besoin de recherches continues à propos des différences de genre dans les effets qu'a l'exposition aux médias sur les troubles alimentaires dans l'enfance.

Fernsehnutzung und Essstörungen bei Kindern: Eine Langzeit-Panelstudie

Auch wenn der Zusammenhang zwischen Mediennutzung und Essstörungen intensiv beforscht ist, ist wenig bekannt über diesen Zusammenhang während der Kindheit. Eine Langzeit-Panelstudie mit 315 weißen und schwarzen präadoleszenten Jungen und Mädchen zeigte, dass die Fernsehnutzung ein gestörtes Essverhalten ein Jahr später für Mädchen aber nicht für Jungen vorhersagte (Alter, wahrgenommene Körpergröße, selektive Nutzung von Ideal-Körper Fernsehen und bereits gestörtes Essverhalten wurden kontrolliert). Die Ergebnisse deuten darauf hin, dass ein gestörtes Essverhalten als Wirkung der Fernsehnutzung ein wesentlicher Aspekt für schwarze und weiße Mädchen ist. Die Ergebnisse betonen außerdem die Notwendigkeit, Geschlechtsunterschiede bei der Forschung zum Einfluss von Mediennutzung auf Essstörungen in der Kindheit zu beachten.

**La Exposición a la Televisión y el Desorden Alimenticio de los Niños:
Un Estudio Longitudinal de Panel**

Cortney M. Moriarty

Kristen Harrison

University of Illinois at Urbana-Champaign

Resumen

Aún cuando la conexión entre el consumo de los medios y los desórdenes alimenticios han sido estudiados ampliamente, relativamente poco se ha conocido sobre el desarrollo de esta conexión en la infancia. Un panel de encuesta longitudinal de 315 niños y niñas preadolescentes blancos y negros revelaron que la exposición a la televisión, después de controlar la edad, la percepción del tipo físico, la exposición selectiva a la televisión de tipo de cuerpo ideal, la línea de fondo sobre desórdenes alimenticios, predijo de manera significativa los desórdenes alimenticios de un año más tarde para las niñas pero no así para los niños. Los hallazgos sugieren que el desorden alimenticio, como un resultado de la exposición a la televisión, es un asunto importante para las niñas negras así como también para las niñas blancas. Los resultados subrayan también la necesidad de continuar la investigación sobre las diferencias de género en los efectos de la exposición a los medios sobre el disturbio alimenticio durante la infancia.

观看电视和童年的饮食紊乱：一个纵向的小组研究

Cortney M. Moriarty

Kristen Harrison

伊利诺伊大学香槟分校

尽管媒介消费和饮食紊乱之间的联系已被广泛研究，但我们却很少了解这种联系在童年的发展情况。通过对 315 位黑白肤色的未至少年的男女儿童进行纵向小组调查，我们得出以下发现：控制了年龄、自感体格、对有关理想身材之电视节目的选择性接触以及作为基线的饮食紊乱等因素后，电视接触是预测女孩一年后产生饮食紊乱的重要变量，但不能用来预测男孩的饮食紊乱。研究结果表明饮食紊乱作为电视接触的产物对黑人女孩以及白人女孩来说都是重要的议题。研究结果还显示：我们有必要继续研究媒体接触影响童年饮食紊乱过程中性别差异问题。

어린이들중 텔레비전에 노출과 식이 장애에 관하여: 종단적 패널 연구

Cortney M. Moriarty

Kristen Harrison

University of Illinois at Urbana-Champaign

요약

비록 미디어 소비와 식이장애사이의 연관성에 대하여 광범위한 연구가 진행되었지만, 유년기동안 이 관계의 발전에 대해서는 별로 알려진 것이 없다. 315 명의 흑인과 백인 유아들에 대한 종적 패널 연구는 나이를 통제한 후 텔레비전 노출, 인지된 체형, 이상적인 형태 텔레비전에 대한 선택적인 노출, 그리고 기초적인 섭식장애들이 중요한 정도로 한살이후 여자 아이들의 식이장애를 예측하는 것임을 밝혀냈다. 연구결과들은 텔레비전 노출의 결과로서의 식이장애는 백인 여아는 물론 흑인 여아들에게 주요한 문제라는 것을 보여주고 있다. 결과들은 또 어린이시절의 식이장애에 대한 미디어 노출의 효과라는 측면에서 젠더 차이에 대한 지속적인 연구에 대한 필요를 강조하고 있다.

Copyright of *Journal of Communication* is the property of Blackwell Publishing Limited and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.