Original Article

Explaining the Relationship Between Media Exposure and Early Adolescents' Body Image Perceptions

The Role of Favorite Characters

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Abstract. In recent years, there has been a worldwide increase in the extent of overweight and obesity as well as other eating disorders, especially among youths. Alongside genetic and biological factors that can explain some aspects of these phenomena and the psychological outcomes associated with them, researchers attributed an important role to social and cultural factors, including the mass media. This study examined the relationship between media exposure and early adolescents' body image. It applied social comparison theory to the study of favorite television characters, an original extension of past research on general social comparison processes. Specifically, the parasocial relationships and motivations for self-comparison with the characters were examined. Based on a survey among 391 seventh and eighth graders, the study found that media exposure negatively predicted body image both directly and through a mediation process involving parasocial relationships with favorite characters, motivations to self-compare, and engagement in social comparison with them. Further, social comparison with favorite characters was found to positively predict an actual/ideal body shape discrepancy which negatively predicted body image. The findings are discussed in light of theory, developmental considerations associated with this unique age group, past research, and educational and policy implications.

Keywords: adolescents, media, body image, social comparison, parasocial relationship

In recent years, there has been an alarming worldwide increase in the extent of obesity (Lobstein, Baur, & Uauy, 2004; Ogden et al., 2006) alongside eating disorder symptomatology. Youths report concerning, and even pathological, attitudes toward eating, including obsessive occupation with food, diet, and appearance (e.g., Makino, Tsuboi, & Dennerstein, 2004; Roguin Maor, Sayag, Dahan, & Hermoni, 2006). According to Holmstrom (2004), underlying such alarming attitudes and behaviors may be negative self-perceptions of one's appearance, body shape, and weight, and a drive for thinness. Alongside genetic and biological factors that can explain these phenomena, researchers attribute an important role also to social and cultural factors. Questions arise regarding the role of the media in encouraging and reinforcing a distorted body image, low body esteem, and biased perceptions about dietary health (e.g., Field et al., 2001).

The current study examined the relationship between media exposure and adolescents' body image. The study is innovative in two main ways: First, it tested this relationship among the understudied and important developmental group of early adolescents; and second, extending research on general social comparison inclinations, the study examined social comparison specifically with one's favorite television character as an important socializing agent.

Media Content and Body Image Perceptions

Content analyses have shown that the body type most commonly represented on television does not accurately reflect the range of body shapes in the population. Western television tends to mostly present a body that is smaller and thinner than average (White, Brown, & Ginsburg, 1999). When overweight people are portrayed, they are often characterized outside of romantic and sexual relationships, with negative traits, and in ridiculing social situations (Fouts & Burggraf, 1999; Greenberg, Eastin, Hofschire, Lachlan, & Brownell, 2003). Studies of video games and print media largely support television content analyses, especially with regard to female characters (e.g., Downs & Smith, 2010).

Since the 1990's, there has been an increase in the number of studies examining the influence of the media both on the body shape and weight of audience members and on personal and psychological indicators, such as body image, self-esteem, and drive for thinness. Studies show that even when body weight is considered healthy by objective standards, people, and especially women, may consider themselves to be overweight due to an unrealistic perception

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of their body shape and in light of comparisons with cultural messages (e.g., Myers & Biocca, 1992).

Studies have found that, especially among women, exposure to media content that presents the thin ideal – thinness as the ultimate desired body shape and as a condition for social and personal success and happiness – leads to increases in body dissatisfaction, depression, and to low self-esteem compared with exposure to content that does not present a human model (e.g., Bessenoff, 2006) and content with average or above-average body shapes (Groesz, Levine, & Murnen, 2002). At times, media effects depend on personal factors, but other studies have shown that the effects are robust across a diverse group of women (Hamilton, Mintz, & Kashubeck-West, 2007). Studies of video games and the Internet have largely supported findings from traditional media research (e.g., Bartlett & Harris, 2008).

Importance of Studying the Media–Body Image Relationship Among Adolescents

The relationships identified between media exposure and body image among adult audiences have also been found in studies of adolescents. Clay, Vignoles, and Dittmar (2005) found that exposure to pictures of thin or average-body models on magazine covers led to a significant decrease in 11- to 16-year-old females' satisfaction and self-esteem as compared with exposure to magazine covers without women's pictures. Similar results have emerged from studies of Internet exposure (Tiggemann & Miller, 2010). To date, it is not clear if there is a difference between younger and older people in the relationships they experience between exposure to thin-ideal messages in the media and body image. Groesz et al. (2002) found a small but significant difference so that the effects of exposure to media content that presents the thin ideal were greater among women younger than 19 (Groesz et al., 2002). Grabe, Ward, and Hyde (2008) found slightly larger effects among those older than 19 than those who were younger than 19. Want (2009) concluded that more research is needed on the different groups to determine the role of age in this process.

The current study contributes to the literature by examining the media–body image relationship among early adolescents. This group is characterized by meaningful developmental changes that can impact their ability to deal with television content. Cognitive changes are still experienced during adolescence, also with regard to the media, such as the ability to differentiate central and marginal media messages and to generate counterarguments (Potter, 1999). Moreover, media effects are likely significant during early adolescence due to social and emotional processes such as personal identity development, increasing peer pressure, and the striving for personal uniqueness through experimentation. Adolescence is also a time of physical growth, puberty, hormonal changes, and changes in body mass and shape (Steinberg & Morris, 2001), which undoubtedly relate to body image perceptions (Polce-Lynch, Myers, Liewer, & Kilmartin, 2001).

Theoretical Framework: Social Comparison Theory

This study used social comparison theory as an explanatory mechanism for the forming and shaping of body image perceptions. According to Festinger (1954), people often engage in self-exploration in comparison with models to which they are exposed both in the real world and in the media; this comparison serves to build or break their self-perceptions (Krayer, Ingledew, & Iphofen, 2007). In the context of body image, Bessenoff (2006) found that college students' social comparison with pictures of thin women in commercials led to depression, body dissatisfaction, and lowered mood as compared with students who were exposed to commercials without pictures of women. Tiggemann and McGill (2004) found that women who have a natural tendency to self-compare with others in their environment, also tend to engage in more social comparison with models in magazine commercials, especially upon encountering an image of thinness.

The current study will examine social comparison processes among early adolescents. Such processes are prevalent in this age group, as teenagers contend with self-definition, struggle with physical changes, and try to understand their similarity to and uniqueness relative to others (Jones, 2001; Mueller, Pearson, Muller, Kenneth, & Turner, 2010).

The study also empirically tested the theory by examining its different suggested motivations for social comparison. The motivations are characterized by different goals and, potentially, different outcomes (Krayer et al., 2007; Martin & Gentry, 1997). For example, self-improvement appraisals intend to solve a problem or situation. Self-enhancement appraisals are made with the goal of protecting one's esteem. Self-evaluation is made to appraise one's status and appropriateness relative to others in their environment. It is expected that social comparison for self-enhancement will lead to positive and optimistic outcomes. Self-evaluation is expected to lead to more negative outcomes. In contrast, self-improvement-motivated social comparison may lead to short-term hopeful perceptions but to more detrimental long-term consequences, as the person realizes the difficulty of achieving the high, unrealistic standard set through the media (Tiggemann, Polivy, & Hargreaves, 2009).

Role of Media Characters in the Social Comparison Process

Studies examining social comparison have usually asked respondents about their engagement in such processes

relative to media personalities in general or following a short exposure to unfamiliar models. Social comparison with a specific, familiar, and liked media personality, such as one's favorite television character, has received less empirical attention, although favorite characters are important for audience members (e.g., Chory-Assad & Cicchirillo, 2005). This study extends research on social comparison by focusing on the unique role of favorite television characters in explaining adolescents' body image. Television's serial nature provides extensive opportunities for long-term interaction with mediated personalities.

Mediated characters serve as important sources of information for viewers, provide advice and guidance, an escape, and serve as role models. Viewers form relationships with mediated characters, including homophily, identification, wishful identification, and parasocial relationships, which are similar to one-sided friendships. Parasocial relationships refer to viewers' consideration of mediated personalities as guides, friends, and companions (Horton & Wohl, 1956). Such relationships are significant for viewers (Giles, 2002) and can impact how mediated messages are interpreted, their persuasiveness, and even personal attitudes, such as patriotism, aggressiveness, and sexual beliefs (e.g., Cohen, 2008; Eyal & Cohen, 2006; Moyer-Gusé, 2008).

For adolescents, television characters serve as important agents of socialization, especially as youths transition from a reliance on parents to a reliance on peers (Giles & Maltby, 2004; Theran, Newberg, & Gleason, 2010). Adolescents express greater predicted sorrow upon the termination of mediated relationships than do adults (Cohen, 2003). The relationships that children and young adolescents form with characters have been predicted by several factors, including characters' attractiveness (e.g., Hoffner, 1996). Mediated characters have been found to be as common a target for social comparison, already at the age of 12 (Martin & Kennedy, 1993), including regarding physical attributes, as same-sex peers (Jones, 2001). Harrison (2000) found that greater interpersonal attraction to favorite television characters predicted children's overweight stereotyping, body shape perceptions, and eating disorder symptomatology. Maltby, Giles, Barber, and McCutcheon (2005) found that, among adolescent females, greater celebrity worship is associated with a lowered body image perception. As the current study contends, favorite characters are of special standing for early adolescents, and examining social comparison with them embodies a potential to elucidate body-image-related media effects.

Hypotheses

The goal of the current study was to examine the relationships between the extent of media exposure and early adolescents' body image. It is important to continue establishing the role of the media in this realm, especially among this age group. Moreover, examining the social comparison process relative to a favorite character is in line with recent research emphasizing the important role of mediated personalities in audience effects (e.g., Cohen, 2008).

Figure 1 presents the theoretical model tested in this study and the hypotheses detailed below. In light of previous research that has established that media content is largely composed of thin or muscular (Greenberg et al., 2003) and physically attractive characters, the first hypothesis suggested that exposure to such representation was likely to be associated with detrimental outcomes regarding body image perceptions among early adolescents:

Hypothesis 1 (H1): Media exposure will be negatively related to body image perceptions.

Whereas H1 addresses a direct relationship examined in previous research, the current study added the explanatory mechanisms thought to mediate this link. Namely, research has largely assessed general or universal social comparison tendencies (e.g., Morrison, Kalin, & Morrison, 2004) or comparisons with unfamiliar models following brief exposure to media stimuli; the current study assessed the comparison process with favorite television characters. Viewers have likely formed longer-term relationships with these characters, who, as a result, likely play a meaningful role in viewers' self-perceptions. This study examined two types of variables associated with favorite characters: the parasocial relationship (PSR) and the motivations to compare oneself with one's favorite character.

The PSR that viewers form with favorite characters, as one type of viewer relationship with characters (e.g., Dibble & Rosaen, 2011), was examined, as such ties are likely to increase affinity, perceived similarity, and propensity to be impacted by the characters (e.g., Klimmt, Hartmann, & Schramm, 2006). Research with adults has partially supported the idea that television exposure is associated with greater intensity of PSRs (e.g., Rubin, Perse, & Powell, 1985). Adolescents are likely to seek opportunities to interact with mediated personalities (Giles & Maltby, 2004), increasing both opportunity to interact with the favorite character as well as the character's' appeal. Today's media environment allows for many opportunities to learn about the favorite characters outside the content exposure. Official and fan web sites, merchandise, and entertainment shows provide glimpses into characters' lives and extend the interaction with them, perhaps deepening the PSR. Thus, the following hypothesis was posed:

Hypothesis 2a (H2a): Media exposure will be positively related to PSRs with favorite characters.

Comparison motivations are examined as they likely drive the process and its outcomes (Sohn, 2010). To date, much research has focused on the outcomes of social comparison motivations (e.g., Halliwell & Dittmar, 2005). The current study adds to this knowledge by also considering the antecedents of the different motivations for social comparison. Media exposure, with its wealth of thin-ideal–supportive messages, may encourage the motivation to engage in comparisons, especially among youths driven to

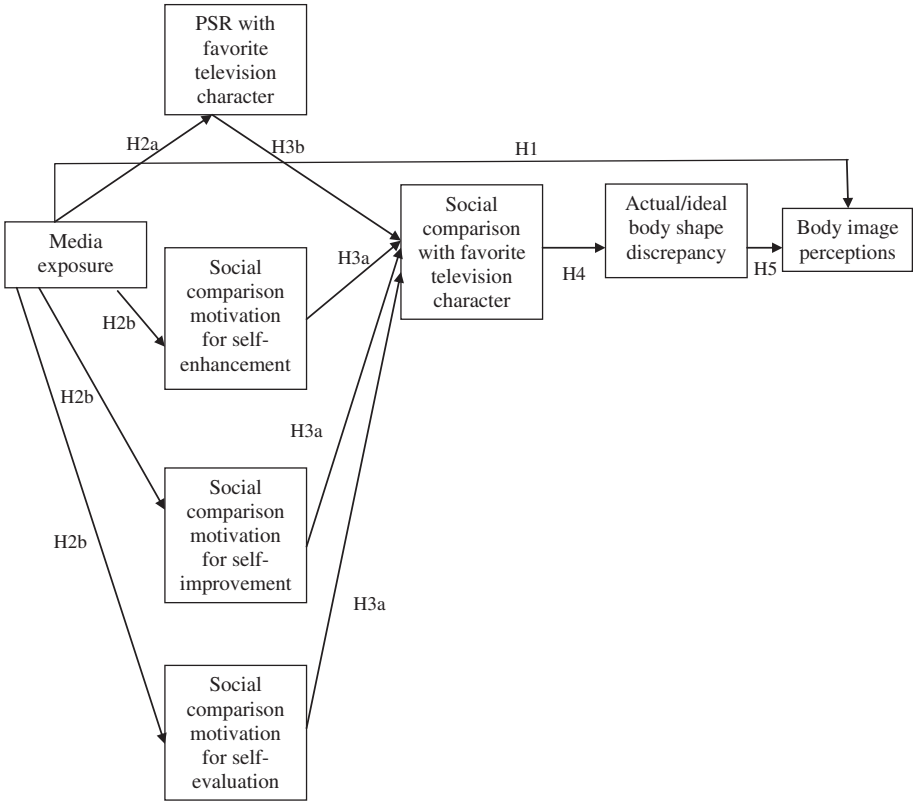

Figure 1. Theoretical model predicting body image. The following were control variables: Participant sex, school grade, body mass index, the extent of eating fixed meals, the extent of eating breakfast, dieting activity, and sports activity participation. PSR = parasocial relationship.

self-exploration and identity development. Also, media exposure may decrease uncertainty and increase intimacy with favorite characters (e.g., Rubin & McHugh, 1986), enhancing their appeal and the motivation to self-compare with them. Thus,

> *Hypothesis 2b (H2b)*: Media exposure will be positively compared with social comparison motives (self-evaluation, self-enhancement, and self-improvement) in relation to favorite characters.

The next steps in the model address the relationships between motivations to self-compare with the character and the actual social comparison with the character. These theoretical links (Krayer et al., 2007) are in need of being empirically tested:

> *Hypothesis 3a (H3a)*: Social comparison motivations will be positively associated with the extent of social comparison with favorite character.

The proposed relationship between PSR and social comparison is based on similar findings from real-life social relationships. Research has shown that adolescents are engaging in much social comparison with peers in the school environment (Mueller et al., 2010), also in the context of nutritional health (Luszczynska, Gibbons, Piko, & Tekozel, 2004). Research has further shown that comparison among this age group, especially on physical attributes, is more often directed toward mediated personalities (Jones, 2001). This is likely to be especially great as there is more intimacy and feelings of friendship with another, such as evidenced by PSRs. Thus, it was proposed that:

> *Hypothesis 3b (H3b)*: The strength of the PSR will be positively associated with social comparison with the favorite character.

Finally, following Sohn (2010) and Bessenoff (2006), it was hypothesized that social comparison would predict a greater actual/ideal body shape discrepancy which, in turn, would be negatively associated with body image perceptions and disordered eating attitudes and behaviors (Shorter, Brown, Quinton, & Hinton, 2008). Research has identified discrepancies in physical dimensions as mediators of media effects, validating the role of internalization of cultural standards of beauty (e.g., Anton, Perri, & Riley, 2000). Therefore,

> *Hypothesis 4 (H4)*: Social comparison with favorite media character will be positively associated with actual/ideal body discrepancy.

Hypothesis 5 (H5): Actual/ideal body discrepancy will be negatively associated with body image.

Method

Sample

Questionnaires were distributed to 508 seventh and eighth graders in two middle schools in the central region of Israel, with the approval of the Ministry of Education and the schools' principals.[1] Students were invited to voluntarily and confidentially participate in the study after reading a consent form. One hundred and seventeen questionnaires were discarded for missing significant portions of the answers or for not identifying a relevant favorite character. A total of 391 participants provided data for the current study.

There were 182 males (46.50%) and 209 females (53.50%). The study considered both sexes, as an increase in eating disorder rates has been found recently among males, along with links between males' exposure to highly attractive television models and body dissatisfaction (e.g., Harrison & Cantor, 1997). The age range was from 12 to 15 years, with an average of 13.13 years (SD = 0.70).

Procedure

Questionnaires were distributed in the homeroom classes. Participation in each session lasted no more than one class period. Students responded individually to the surveys. Research assistants were present in the classrooms to ensure quiet and answer questions, as needed.

Measurement

Predictor Variable: Media Exposure

Participants were asked to indicate the number of hours on an average weekday and weekend day that they spend watching television, surfing the Internet, and playing video games. As noted, these media outlets all present constructed content that tends to represent and promote the thin ideal. The Internet provides many opportunities to extend the relationships with characters beyond the moments of exposure to the televised content. Moreover, because television viewing today is often delayed through recordings or video-on-demand, these three modes of viewership were all assessed. Weekday estimates for the above were multiplied by five, weekend estimates by two, and the figures were added and divided by 7, with an average daily amount of media exposure of 10.09 hr (SD = 5.80). The skewed measure was transformed using the square root method (Tabachnick & Fidell, 2007). This score represents parallel media use and reflects the recent reports by the World Health Organization that Israeli adolescents aged 11–15 are ranked among the top in the world in the number of hours they spend watching television and surfing the Internet (Trabelsi-Hadad, 2012).

Criterion Variable: Body Image Perceptions

The 20-item measure of body esteem of Mendelson, White, and Mendelson (1996) was used, with a scale from 1 (= *Strongly disagree*) to 5 (= *Strongly agree*). Sample items include "I like what I see when I look in the mirror," and "I wish I were thinner." Items were summed with a Cronbach α reliability of .94. Participants averaged a score of 3.70 (SD = 0.80).

Explanatory Mechanism Variables

Each participant was asked to choose a favorite same-sex television character and indicate the character's name and the content in which they appear. The choice to focus on same-sex televised personalities was consistent with past studies (e.g., Hoffner, 1996; Jones, 2001) and with the fact that television still serves as a central leisure activity for adolescents, among other media activities (Rideout, Foehr, & Roberts, 2010). The nature of television programming, which allows for repeated and regular exposure to mediated personalities is thought to strengthen the relationships formed with the characters. After noting their choice, participants were asked to indicate the extent of their PSR, motivations to compare, and social comparison with the favorite character, as detailed below.

In total, 191 characters were chosen as favorites by participants in this study. These characters were content analyzed. For each character, three photographs (from the relevant identified content) were chosen from available online databases. The photos were chosen to represent the character's full body, upper body, and a facial close-up. Two male and two female coders were trained and coded all characters. For each variable, a pair of coders (one man and one woman) was chosen, and the level of agreement between them was assessed on a random subsample of 32 characters. The coders assessed the characters' body shape, indicated on Thompson and Gray's (1995) pictorial contour drawing rating scale. The reliability was assessed using Krippendorff's α formula, and was found to be .83 (Hayes & Krippendorff, 2007). The sex of the characters was coded (K α = 1.00) as was their age (K α = 0.90).

[1] The distribution across the two schools was nearly equal: School 1, with 185 students (47.30%); School 2, with 206 students (52.70%). The two sites differed on the motivation to self-compare for enhancement purposes, $t(389) = 2.80$, $p < .01$; School 1: $M = 2.36$, $SD = 1.08$; School 2: $M = 2.07$, $SD = 0.98$, and in the extent of engagement in sports activities, $t(389) = 2.91$, $p < .01$; School 1: $M = 4.30$, $SD = 1.03$; School 2: $M = 3.95$, $SD = 1.29$. Because of the minimal level of these differences, the sites were treated together in all analyses.

Table 1. Factor analysis of social comparison motivations

Item	Factor 1	Factor 2
1. Want to feel good about my situation	.80 *	.31
2. Want to make myself feel better	.76 *	.33
3. Want to know my situation	.73 *	.26
4. Want to reassure myself about my own situation	.70 *	.36
5. Want to convince myself that I am not like this character	.69 *	-.30
6. Want to know what is acceptable in society	.65 *	.36
7. Want to set goals for myself	.15	.75 *
8. This character serves me as a role model	.08	.74 *
9. Want to improve	.38	.67 *
10. Want to understand what is expected from me	.62	.46
11. Want to understand my status	.59	.51
12. Want to feel successful	.59	.44
13. Want to improve my personal situation	.52	.56
14. Want to convince myself that my situation is caused by external reasons	.52	.38
15. Want to know what I look like in comparison to this character	.47	.43
16. Want to learn what to do or what not to do	.42	.62
Eigenvalue after rotation	5.32	3.88
Percentage of variance explained after rotation	33.23	24.28
Cumulative variance explained	33.23	57.51

Note. *These items passed the minimum loading requirement of at least .60 on one factor and no more than .40 on another.

The characters' beauty, attractiveness, and extent of grooming were assessed on a 5-point scale (ranging from *not at all* to *very much*) and achieved K α reliabilities of 0.75, 0.70, and 0.73, respectively.

Parasocial Relationship With Favorite TV Character

Each participant responded about their favorite television character to a modified 12-item version of the parasocial interaction measure of Rubin et al. (1985). The original measure was adapted to focus on the long-term nature of the PSR, as in previous research (e.g., Eyal & Cohen, 2006) (see Appendix for a complete list of the items). Responses ranged from (= *Strongly disagree*) to 5 (= *Strongly agree*). Items were summed with a Cronbach reliability of .87 and an average of 2.88 (*SD* = 0.86).

Motivations for Social Comparison With Favorite Character

Based on the tripartite categorization of social comparison motivations (Krayer et al., 2007) and combining items from Sohn (2010) and Helgeson and Mickelson (1995), 16 statements were used, with a 1 (= *Completely disagree*) to 5 (= *Completely agree*) response scale that referred specifically to comparisons with the favorite character. The three motivations included self-evaluation (designed to gain information about one's own standing relative to others, e.g., "To understand how I'm doing"), self-improvement (designed to help learn how to resolve a problem or improve a situation, e.g., "To learn what to do or what not to do"), and self-enhancement (designed to protect one's self esteem and feel good about one's current situation, e.g., "To make myself feel better"). Items were subjected to a principal components factor analysis with Varimax rotation. Two factors emerged (see Table 1). The first, including three items, indicates a motive to improve oneself in the future (i.e., self-improvement, α = .72; *M* = 2.58, *SD* = 1.15). The second factor included six items that tap into self-enhancement, the desire to feel confident about one's current state (α = .76; *M* = 2.21, *SD* = 1.06). The additional items did not fit on a third factor as expected and were excluded from further analysis.

Social Comparison With Favorite TV Character

Participants responded about their favorite character to a set of six items taken from Bessenoff (2006), Hargreaves and Tiggemann (2004), and Tiggemann and McGill (2004). Items were adapted to address the favorite character and included questions such as "To what extent do you compare your own body shape with that of the character while watching the show?" Response options ranged from 1 (= *Not at all*) to 5 (=*A lot*). Items were summed with a Cronbach α reliability of .79 and an average of 2.00 (*SD* = 0.86).

Actual/Ideal Body Shape Discrepancy

Based on Sohn (2010), it was deemed important to assess the discrepancy participants experience between their perceived body shape and their desired, or ideal, body shape. Thompson and Gray's (1995) pictorial contour drawing rating scale was used, as in past research with early adolescents (Wertheim, Paxton, & Tilgner, 2004). The scale included nine male and nine female figures organized

linearly from very thin to very large. Participants were asked to indicate the number of the same-sex figure that corresponded to how they perceive their current body shape and the number of the same-sex figure that corresponded to the body shape they wished they had. Participants averaged 4.85 (SD = 1.46) on perceived shape and 4.19 (SD = 1.18) on desired shape. A paired t test revealed a significant difference between the two, $t(382) = 10.78$, $p < .01$. The effect size for this test (Cohen's d) was 0.50, which is a medium effect. The desired shape was then subtracted from the current shape to assess the degree of perceived discrepancy between the two (M = 0.65, SD = 1.19). More than half of participants (n = 214, 54.73%) indicated that they wish they were thinner than their current state. Nearly a third (n = 115, 29.41%) did not experience a discrepancy, and only 13.81% (n = 54) wished they had a bigger body shape than current.

Control Variables

Participant sex was considered, as research has supported a gender difference in media effects in this realm (e.g., Sohn, 2010). *Body mass index* (BMI) refers to a person's objective measure of body fat as a function of height and weight (US Department of Health & Human Services, 2011). Based on self-reports, the sample's BMI ranged from 12.33 (i.e., underweight) to 35.56 (i.e., obese) (M = 18.86, SD = 2.93). This skewed measure was transformed using the square root method.

Dietary and Physical Activity

To assess the health quality of participants' diet and physical activity – both aspects associated with body image – four questions were asked. These were based on research that identified behavioral protective and risk factors against eating disorders (e.g., Neumark-Sztainer, Wall, Story, & Sherwood, 2009). Participants were asked how many fixed meals they eat on an average day. Response options ranged from 1 (''I have no regular schedule of fixed meals throughout the day'') through 2 (''I often don't eat even one fixed meal during the day'') to 5 (''I eat at least three fixed meals a day''). Participants averaged 4.02 (SD = 1.15), indicating that, on average, they eat two fixed meals per day. As this measure was negatively skewed, it was reflected and transformed using the square root method; higher scores indicate a lower tendency to eat fixed meals. Participants were asked how often they eat breakfast or drink before leaving the house in the morning. Five response options ranged from *never* to *every day*, averaging 3.59 (1.40), so that participants eat breakfast several days a week. They were asked how many days a week they take part in physical exercising activities that require persistence and effort throughout. Response options, on a scale of 1 to 6, ranged from *never* to *every day*. The average was 4.12 (1.19), about two or three times a week. Finally, participants were asked, on a 6-point scale, how many diets they have pursued in the past year. The average was 1.68 (SD = 1.39), indicating most have not undertaken diets, or one at most. Missing data on continuous variables were replaced by the mean per variable.

Results

Preliminary Analyses: Who Are the Favorite Characters?

Of the 191 favorite characters, there was a wide range of characters from teen shows (e.g., Drake from *Drake & Josh*), telenovelas and reality shows, and adult-targeted shows (e.g., Barney from *How I Met Your Mother*). The most commonly chosen age group of the favorite characters was teens aged 13–18 (n = 155, 39.6%), followed by adults 25 to 40 years old (n = 117, 29.9%), and then emerging adults aged 18–25 (n = 59, 15.1%), older adults 40 to 65 years old (n = 46, 11.8%), and finally babies/children until age 12 (n = 14, 3.6%).

In the content analysis, the body shape of the favorite characters averaged 3.95 (SD = 1.64) on a 9-point scale, indicating a thin dominance. Characters ranked above the midpoint of the 5-point scales on beauty (M = 3.46, SD = 1.17), attractiveness (M = 3.38, SD = 1.19), and grooming (M = 3.26, SD = 1.19). A negative relationship between the characters' body shapes and their appearance ratings found characters with bigger bodies to be less beautiful ($r = -.49$, $p < .001$), less attractive ($r = -.48$, $p < .001$), and less well groomed ($r = -.44$, $p < .001$).

Hypotheses Testing

The theoretical model was tested using structural equation modeling (SEM) with the assistance of the AMOS 19 program. To avoid adding constraints to the model, all possible paths were tested as well as all relevant covariances. Model fit was assessed using standard accepted criteria for goodness-of-fit indices.[2] The initial model did not show adequate fit, χ^2 (30) = 233.18, $p < .001$; CMIN/DF (Chi-square/degrees of freedom ratio) = 7.77, CFI (comparative fit index) = .74, NFI (Norm-fit index) = .73, RMSEA (root mean square error of approximation) = 0.13, and was modified following the program's recommendation until an acceptable fit was reached. Then, to use a more parsimonious model, it was retested maintaining only the significant paths. A test of the chi-square change between the

[2] Based on Hooper, Coughlan, and Mullen (2008) and Hu and Bentler (1999), an acceptable fit was determined by a CMIN/DF value that does not exceed 3.00, a comparative fit index (CFI) above .90, a Tucker-Lewis index exceeding .90, and a root mean square error approximation (RMSEA) not exceeding .07. Chi-square was not used as a model fit criterion as this statistic is highly sensitive to large sample sizes.

two models (i.e., the respecified model and the more parsimonious respecified model) revealed that the difference was not statistically significant, and it was decided to maintain the more parsimonious model, shown in Figure 2. This model had good fit: $\chi^2(26) = 45.28$, $p < .01$; CMIN/DF = 1.74, CFI = .98, NFI = .95, RMSEA = 0.04.

Initially, there was a significant albeit small zero-order correlation between media exposure and body image perceptions ($r = -.15$, $p < .01$) so that more media exposure was associated with a more negative perception of one's body, supporting H1. In the SEM, this correlation slightly decreased ($\beta = -.11$, $p < .05$).

Supporting H2a and H2b, media exposure significantly and positively predicted PSR ($\beta = .18$, $p < .001$) as well as social comparison motivations for self-improvement ($\beta = .20$, $p < .001$) and self-enhancement ($\beta = .18$, $p < .001$). Motivation for self-improvement ($\beta = .43$, $p < .001$) and PSR ($\beta = .14$, $p < .01$), in turn, significantly and positively predicted social comparison with favorite character. However, motivation for self-enhancement did not significantly predict social comparison with the favorite character. Thus, H3a was partially supported and H3b was supported.

Social comparison with the favorite character significantly and positively predicted the discrepancy between adolescents' current and their desired shape ($\beta = .15$, $p < .001$), supporting H4. In support of H5, this discrepancy significantly and negatively predicted body image perceptions ($\beta = -.31$, $p < .001$), so that a greater actual/ideal discrepancy was associated with lowered body image. Additional unhypothesized paths were found to be significant in this model: Motivation for self-enhancement significantly predicted actual/ideal discrepancy ($\beta = .15$, $p < .001$) and body image ($\beta = -.15$, $p < .001$).

In addition, five measures of one's dietary health significantly predicted body image perceptions. BMI ($\beta = -.15$, $p < .01$) and the extent to which the adolescent had engaged in dieting activities in the past year ($\beta = -.17$, $p < .001$) negatively predicted perceptions of body image, as did the tendency to eat fixed meals ($\beta = -.10$, $p < .05$). As this variable was reversed, it can be concluded that the tendency to eat fixed meals is associated with higher body image perceptions. School grade was a significant predictor of body image ($\beta = -.10$, $p < .05$) so that eighth graders reported significantly lower body image than seventh graders. Finally, females experienced significantly lower body image than males ($\beta = -.09$, $p < .05$).

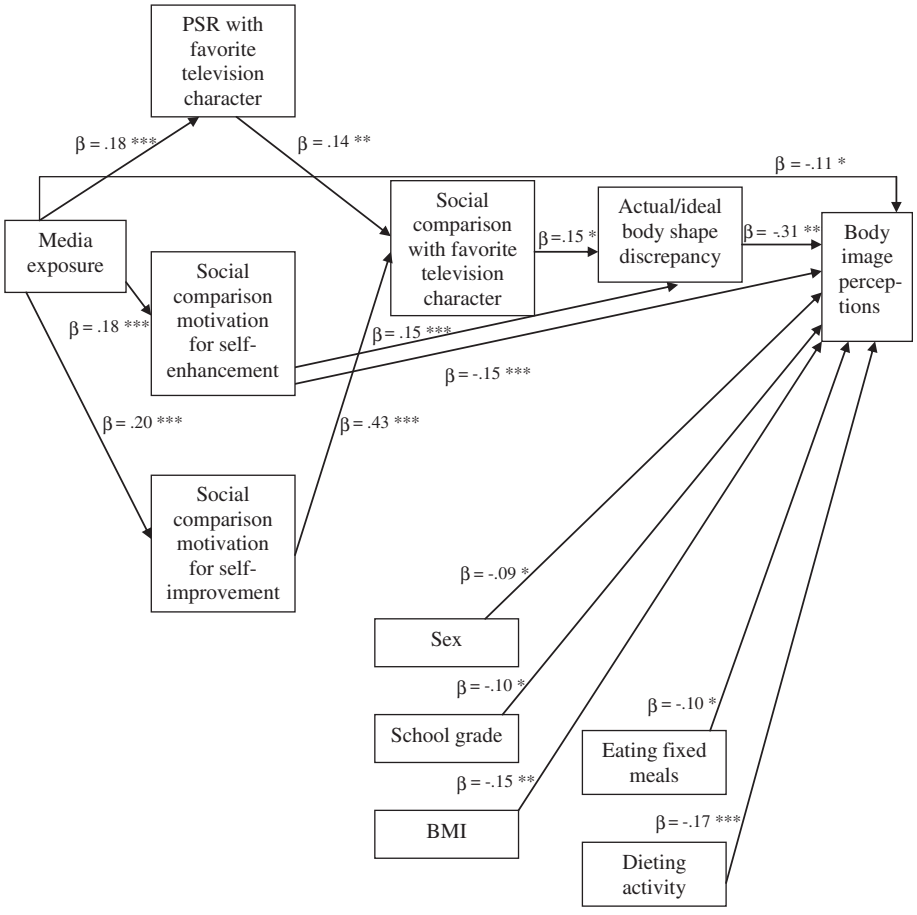

Figure 2. Respecified model predicting body image. BMI = body mass index; PSR = parasocial relationship. $\chi^2(26) = 45.28$, $p < .01$; CMIN/DF = 1.74, CFI = .98, NFI = .95, RMSEA = 0.04. *$p < .05$; **$p < .01$, ***$p < .001$.

As this model identified that the significant relationship between the predictor and criterion variable remained significant but decreased upon mediation, the SPSS macro for multiple mediation models of Preacher and Hayes (2008) was used to test if mediation was significant. The macro uses a bootstrapping technique with 5,000 resamples. The bias-corrected and accelerated confidence interval values for the total effect in this model were between a lower limit of −.0945 and an upper limit of −.0166, indicating that the mediation model can be considered significant. That is, the relationship between adolescents' media exposure and body image is partially mediated by engagement in PSRs and social comparison with the favorite mediated characters.

Discussion

The study examined the relationship between media exposure and early adolescents' body image and found a direct, small, and negative link between them. This relationship was partially mediated by several important constructs. Increased media exposure related to more PSR engagement with the favorite character and with motivations to compare oneself, to improve in the future and to enhance current states. PSR and motivation to compare with the character for self-improvement were positively associated with greater social comparison with the favorite character, which was, in turn, associated with an enlarged discrepancy between the actual and ideal body shape; this discrepancy was negatively associated with body image. In this, the study complements previous research that focused on general social comparison tendencies by shifting the spotlight to favorite television characters as important components of the media landscape. Mediated characters play meaningful roles in viewers' lives (e.g., Rubin et al., 1985), and the current study confirms this with regard to the realm of body image.

Likely, greater exposure to media content, with its heavy emphasis on thin-ideal–supporting messages and personalities, relates to young viewers' needs for a sense of familiarity, certainty, and friendship which they feel they can find in favorite characters. Among the diverse mediated models, favorite personalities become important comparison targets. PSR and the motivation to compare oneself with the character, then predict social comparison, theorized to be a driving mechanism in body image perceptions (e.g., Krayer et al., 2007).

Two different types of mediated relationships were found to be important, one in which the viewers perceive themselves to be a sort of one-sided friend of the character and the other in which the character is considered to be a role model, someone to emulate. Both types of associations have been identified among adolescents (e.g., Lemish, 1998) and can be explained by their social development. Adolescents are trying to "find their place" in their surroundings (Steinberg & Morris, 2001), engaging in constant evaluation of their environment and of central socializing agents within it, and to assess normative behaviors and manage conformity to expectations. Television characters, much like peers, serve as socializing agents who help one feel good about oneself and offer a standard to which to aspire. The choice of favorite characters who are in the adjacent age group (teenagers and young adults) by over half of the respondents is also consistent with the tendency of early adolescents to seek models in their environment who are more advanced but still considered as peers (Theran et al., 2010).

The two social comparison motivations operated differently in explaining body image. Self-improvement motivation was directly associated with social comparison, whereas self-enhancement motivation was not. In contrast, self-enhancement motivation was directly linked with the actual/ideal body shape discrepancy and body image, whereas self-improvement motivation was not. These results support previous research on the differential effect of social comparison motivations (Halliwell & Dittmat, 2005; Martin & Gentry, 1997) and also social comparison theory in that televised models, and especially the relatively thin and attractive favorite characters chosen in the study, serve as upward comparison models and inspirations rather than as targets who make one feel better about oneself. When motivated to feel better, early adolescents do not seem to turn to favorite television characters, but rather seem to directly experience more negative personal outcomes with regard to body image.

That PSR was positively associated with social comparison with the favorite characters and, indirectly, with a greater perceived discrepancy in body shapes with the character and a lowered body image, is supportive of previous research that has found that certain relationships with mediated personalities can have a detrimental effect on young people's body image (e.g., Maltby et al., 2005). Whereas some other studies have not found a significant relationship of PSR and females' body-related perceptions (e.g., Greenwood, 2009) or have found positive associations between such audience relationships and body image (Young, Gabriel, & Hollar, 2013; Young, Gabriel, & Sechrist, 2012), it is important to note that the current study examined these relationships among a younger age group of adolescents. Moreover, among the Young et al. articles, only two studies employed a design similar to that used in the current investigation by which the PSR was assessed in relation to favorite characters of the participants' own choice. In both of the Young et al. (2012) studies, female participants were asked to indicate a favorite female personality and respond about this personality's and their own body shapes and satisfaction. The results of these two studies were consistent with those of the current investigation. Namely, whereas it is true that writing an essay about a thin control personality (chosen by the researchers) resulted in lower satisfaction than writing about a thin favorite personality, the authors still found that writing about a thin favorite personality led to lower satisfaction than writing about a control personality perceived as having a normal body shape. Moreover, Young et al. (2012) found that a greater perceived self-favorite character body shape discrepancy was associated with lower body satisfaction,

consistent with the current investigation's finding regarding the role of body discrepancies in predicting body image.

This study found that social comparison was associated with an actual/ideal body discrepancy which, in turn, was associated with lower body image. This assertion has been tested to date only with regard to general social comparison processes among adult populations (e.g., Sohn, 2010). A possible explanation for this could be that most mediated characters, including those with whom one is motivated to self-compare, are attractive and serve as upward comparison targets (Sohn, 2010) – that is, targets that are perceived to be better than oneself. And indeed, the current study found that favorite characters were relatively thin, beautiful, and attractive, consistent with the thin ideal prevalent in the media.

It is interesting that, on the one hand, adolescents choose thin and attractive characters as their favorites. On the other hand, comparing themselves with these characters is associated with negative feelings about adolescents' bodies. It could be that the dominance of thin characters in the media limits the possibilities for interaction. Alternatively, the findings may support the notion of an elastic body image among youths (Myers & Biocca, 1992). In the short-term, especially shortly following exposure to idealized favorite media characters, adolescents will feel an optimistic surge regarding their ability to achieve a similar desired body shape. But, with time, young people's optimistic vision is tainted by reality and the disappointing realization that they are unlikely to achieve a similar look. Such a process of shifting body image perceptions was suggested by Tiggemann et al. (2009), in which fantasy comparisons were found to be positively related to women's mood. Though Tiggemann et al. did not find the subsequent downward shift in self-perceptions, it is important to note that in the current study, the social comparison process and its motivations were examined in relation to a more long-standing relationship in participants' lives. That is, the relationship assessed was with a favorite mediated character – and thus the short-term positive effect might not have been evident in the current investigation.

Importantly, the relationships found were significant when controlling for several personal variables. Early adolescents' BMI, recent dieting activity, and school grade negatively predicted body image, whereas the tendency to eat fixed meals positively explained it. Adolescents' sex was also important, as females reported lower body image perceptions than males. Clearly, personal factors play a role in explaining body image and should be considered in conjunction with media exposure and relationships with mediated characters.

Study Limitations and Future Research

Data were collected among a nonrandom sample of adolescents in two schools, so conclusions drawn from the findings cannot be generalized to other populations. Future research would benefit from comparative analyses across different locations, cultures, socioeconomic strata, and age groups. The self-report nature of the data also poses risks for social desirability and inaccuracies (e.g., Vandewater & Lee, 2009). Further, causal directions in this study cannot be assumed, as the model tested cross-sectional associations. It is possible that adolescents with a more negative body image are attracted to thin media characters, perhaps turning to these to find incentives to change their body shape or to provide themselves with a role model to whom to aspire. Research in other areas of media effects has shown that personal determinants, such as aggressiveness, are associated with deeper relationships with aggressive mediated characters (Eyal & Rubin, 2003). An experimental design could enable future research to identify the direction of causality in this process. For example, comparing youths with more positive or negative body images and exposing them to different models' body shapes in mediated messages can be of assistance in resolving this question. In addition, it is possible that other variables, not considered in the current study, can explain the relationship between media exposure and body image. For example, peers' attitudes toward the characters' body shape, the extent to which these topics are incorporated into their peer conversations, and even media co-use might play a role in determining the direction and extent of this relationship. Parents' attitudes toward the media, the characters, their body shape, and body shape more generally may contribute to the media effects process. Future research would benefit from testing other relationships that audiences form with mediated characters, such as identification, as these theoretically differ from PSRs; an empirical test is needed in the context of body image. Finally, examining the model with behavioral outcomes (e.g., eating disorders), along with body perceptions, will enable a deeper understanding of the process.

Implications

Overall, the study contributes to knowledge with regard to the media's role in body image and confirms this link among the important group of early adolescents. It provides support to social comparison theory by showing that media exposure is related to motivations to self-compare with mediated characters, which increase the social comparison process, leading to an actual/ideal body shape discrepancy, and in turn, to lowered body image perceptions. Further, the study finds these associations in relation to one's favorite television character – who serves as an important comparison target – extending past research on more general social comparison tendencies.

The study can help guide educational and media literacy interventions by emphasizing the role of mediated characters and the different ways in which young audiences relate to and may be impacted by them. Such interventions can aim toward reducing concerning public health phenomenon such as obesity and eating disorders, which have been found to be linked with favorite characters and discrepant perceptions of body shape relative to these (Shorter et al., 2008). With regard to policy, it is important to realize that

effects processes are complex and are associated with a myriad of contextual elements in media content, including the characters involved.

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Appendix

Parasocial Interaction Items

1. I think this character can be a good friend of mine
2. This character just wouldn't fit into my circle of friends
3. I often compare my ideas with what this character says on the show
4. This character makes me feel comfortable, as if I am with friends
5. I like hearing the voice of this character in my house
6. When this character says how he or she feels about things on the show, it helps me make up my mind about them
7. I see this character as a natural, down to earth person
8. This character keeps me company when we get together when the show is on
9. I look forward to seeing this character on the show
10. I sometimes make remarks to this character during the show
11. I think this character is like an old friend
12. I would have liked to have a friendly chat with this character