Disordered eating and media exposure among adolescent girls: the role of parental involvement and sense of empowerment

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Objectives: This study aimed to explore relations between disordered eating pathology (DEP), exposure to media messages and sense of empowerment in female adolescents. Additionally, it aimed to investigate parental involvement as related to their daughters’ sense of empowerment. Method: Participants were 248 girls aged 12–19 who completed self-report questionnaires assessing demographic data, DEP, body image, exposure to media, sense of empowerment and parental involvement type. Results: Main results showed that greater DEP and poorer body image both correlated significantly with higher media message exposure, particularly to Facebook and YouTube. Moreover, girls’ lower sense of empowerment correlated with greater DEP and with lower parental involvement. Discussion: Findings highlight the harmful influence of social media on DEP, emphasising the importance of parenting style for adolescents’ sense of empowerment and underscoring the need for parental involvement in prevention programmes.

Keywords: disordered eating pathology; social media; body image; sense of empowerment; adolescents; Israel; parental involvement; Facebook; YouTube

Introduction

An increasing body of research indicates that the prevalence of eating disorders (EDs) is consistently rising in the modern world (O’dea, 2007; Smink, van Hoeken, & Hoek, 2012). The onset of EDs usually appears in adolescence or early adulthood, and in recent decades EDs are considered among the most prevalent public health problems facing female adolescents and young adults. The most common EDs are anorexia nervosa (AN), bulimia nervosa (BN), binge eating disorder (BED) and other specified and unspecified feeding or eating disorders (Diagnostic and Statistical Manual of Mental Disorders – DSM-5, American Psychiatric Association, 2013).

All types of EDs occur primarily among young females, with males comprising only 5–10% of patients (Hoek, 2006). In western countries, the female-to-male comparisons for lifetime prevalence rates are 0.3–1.20% to 0.3% for AN, 1–1.5% to 0.7% for BN and 3–3.5% to 2% for BED (Hudson, Hiripi, Pope, & Kessler, 2007). The prevalence of partial ED (not otherwise specified) is in the range of 3–22% (Fairburn & Harrison, 2003). Standardised mortality rates for AN are considerably higher than those reported for most other psychiatric disorders (Keel & Klump, 2003).

Subclinical disordered eating pathology (DEP) markedly differs from full-blown EDs according to DSM criteria (American Psychiatric Association, 2000; Hesse-Biber, Leavy, Quinn, & Zoino, 2006) because DEPs do not include the full range of ED psychopathology and symptomatology. DEP refers to preoccupations with weight, body and food, which...
manifest mostly in caloric restriction, constant dieting, excessive exercising, binge-purge behaviour and the use of laxatives and diuretics to control weight. Populations exhibiting sub-clinical manifestations of DEPs are at risk of developing full-blown EDs if not properly treated (Fairburn & Harrison, 2003). However, these behaviours are often considered normative among young women and tend to be ignored by family members, health care providers and society at large. Research indicated that about 50% of female adolescents aged 15 engage in one or more harmful behaviours such as skipping meals or dieting (Skemp-Arlt, 2006).

DEPs are of particular relevance in Israel. A multi-country study of adolescents by the World Health Organization reported that in the last three decades, Israeli youth have been troubled by eating-related disturbances even more than most of the 34 western industrialised countries participating in the research (Harel, Ellenbogen-Frankovits, Molcho, Abu-Ashas, & Habib, 2002). Approximately, 20% of Israeli adolescents displayed symptoms of DEP, with the highest rate found among girls aged 16–18 (Greenberg, Cwikel, & Mirsky, 2007; Latzer & Tzischinsky, 2003, 2005; Maor, Sayag, Dahan, & Harmoni, 2006).

These alarming disordered eating phenomena draw attention to the need for identifying risk and protective factors and groups at risk. Both EDs and DEP reflect a complex of interdependent multidimensional causalities, including genetic, biological, psychological, familial and socio-cultural factors (Stice, 2002). Major risk factors include the adolescent development stage, personal characteristics, exposure to harmful social media messages and parental involvement (Levine & Smolak, 2009; Stice & Shaw, 2007).

Early adolescence has been identified as a risk period when girls are particularly vulnerable to developing DEP or EDs because of the normative challenges associated with this developmental stage, such as physical changes, increased desire for peer acceptance and social comparison (Steinberg, 2001). Personal characteristics that have been identified as primary risk factors include disturbed body image, body dissatisfaction (BD), low self-esteem and low sense of empowerment (Stice, 2002).

In the area of body image disturbance, researchers have pinpointed the central role of social comparison – the tendency to examine others in the environment and compare oneself to others on specific attributes (Festinger, 1954), especially comparing oneself to dissimilar others (Morrison, Kalin, & Morrison, 2004). According to social comparison theory, most women in the western world make such comparisons regarding physical appearance and eating habits (Morrison et al., 2004) and consequently express BD, assessing themselves as overweight regardless of their objective weight (Bailey & Ricciardelli, 2010). Women who experience greater differences between themselves and their idealised images have higher frustration and disturbances in their body image, as well as lower self-esteem (Tiggemann & McGill, 2004; Tylka & Sabik, 2010). Various factors were found to influence the impact of social comparative processes. For example, adolescent girls reported that they compared their bodies more frequently to friends than to distal peers and that they were significantly more likely to begin dieting as a result of the comparison with immediate peers (Schutz, Paxton, & Wertheim, 2002). Likewise, consequences of social comparisons may be stronger for particularistic comparisons with an intimate person than for universalistic comparisons such as media images (Morrison et al., 2004). The most negative impact is experienced by those girls who already exhibit vulnerability to low esteem or body image (Stice, Spangler, & Agras, 2001).

Westernised sociocultural values, which may be transmitted via harmful media messages, are considered to be an additional risk factor for the development of EDs and DEP, especially values that associate thinness with beauty, popularity, happiness and
success (O’dea, 2007; Steiner-Adair & Vorenberg, 2013; Stice, 2002). Such values are powerfully and sometimes aggressively conveyed through the Internet, television and women’s magazines, especially through advertising (Groesz, Levine, & Murnen, 2002). According to self-objectification theory (Fredrickson & Roberts, 1997), social messages that emphasise thinness as a beauty ideal (Swim, Hyers, Cohen, & Ferguson, 2001) may cause women to objectify their bodies (Basow, Foran, & Bookwala, 2007) and may lead to the development of eating pathologies, low self-esteem and distorted body image (Greenleaf & McGreer, 2006; Noll & Fredrickson, 1998; Prichard & Tiggemann, 2005). Social networks, primarily Facebook, have become adolescents’ main means of communication in recent years (Patchin & Hinduja, 2010). Among girls, greater media exposure has been linked to a stronger desire for thinness, poorer body image and lower self-esteem (López-Guimerà, Levine, Sánchez-Carracedo, & Fauquet, 2010; van den Berg, Mond, Eisenberg, Ackard, & Neumark-Sztainer, 2010). Indeed, media messages that encourage thinness have been found to be more influential than both family and friends in the development of negative body image (Blowers, Loxton, Grady-Flesser, Occhipinti, & Dawe, 2003; Crespo, Kielpikowski, Jose, & Pryor, 2010). In the current study, harmful media messages are defined as those related to a thin female body ideal, aggressive competition between women, women in a manipulative role, or women as a provocative sexual object.

One protective personal characteristic that may serve as a buffer against social comparisons, harmful media messages and disordered eating behaviours is adolescents’ sense of empowerment, that is, their ability to withstand and critically analyse social and peer pressure (Peterson, Grippo, & Tantleff-Dunn, 2008). Empowerment has been defined as a process that involves gaining power on multiple levels and through different resources, which in turn gives the individual more control within his/her environment (Segal, Silverman, & Temkin, 1995). Empowerment relates to self-efficacy, self-esteem and a belief that the attainment of positive outcomes are under personal control (Segal et al., 1995). Sense of empowerment and abilities for self-definition, decision-making and critical thinking (Staples, 1990) have been associated with healthy body image and lower DEP (Peterson et al., 2008). Thus, empowerment has been found to be a central tenet of preventing and treating body image and eating disturbances (Levine & Piran, 2004; McVey, Lieberman, Voorberg, Wardrope, & Blackmore, 2003).

The aim of the present study was therefore to examine the relations among DEP, body image, exposure to media messages and sense of empowerment among adolescent females in Israel. An additional objective was to examine the relations between parental media-related involvement and their daughters’ sense of empowerment. Parental support and involvement may play a protective role against the development of DEP and may be linked to the deleterious effects of media consumption on children (Rosen, Cheever, & Carrier, 2008). Parental involvement is defined as the extent to which parents show interest in and knowledge about their children’s lives and devote time to activities with their children.

Research indicates that paternal support acts as a protective factor against low self-esteem, poor eating attitudes and disturbed eating behaviours among young adolescent girls (Swarr & Richards, 1996). In addition, it was found that maternal involvement plays a central role in daughters’ beliefs and behaviours, including eating behaviour (Hodes, Jones, & Davies, 1995; Ogden & Steward, 2000). Use of supportive parenting involvement for media use was associated with children’s less-harmful Internet use (Grossbart, McConnell-Hughes, Pryor, & Yost, 2002; Valkenburg & Peter, 2009), whereas use of controlling parenting for media use was linked to more harmful Internet use (Valkenburg & Peter, 2009).
use (Livingstone & Helsper, 2008; Lwin, Stanaland, & Miyazaki, 2008; Valcke, Bonte, De Wever, & Rots, 2010).

Baumrind (1971) described two parenting styles: authoritarian and authoritative. The authoritarian style is characterised by parental control of children’s behaviour, lack of cooperation and trust, and little open communication. The authoritative parenting style is characterised by a demanding attitude and maintenance of clear boundaries and supervision but accompanied by warmth, open dialogue and support (Maccoby & Martin, 1983). Research indicated that children of parents with an authoritative parenting style exhibit more well-adjusted behaviour and greater psychological well-being (Piko & Balázs, 2012; Steinberg, 2001). In contrast, children of parents with an authoritarian parenting style exhibit low self-esteem (Huver, Otten, de Vries, & Engles, 2010) and do not trust themselves and their abilities (McClun & Merrell, 1998). Based on these definitions of authoritative and authoritarian parenting, in the current study we defined ‘involving media-related parenting’ as parents’ awareness of their daughters’ media habits and their willingness to watch television together and discuss its content while watching. In contrast, we defined ‘controlling media-related parenting’ as parents’ unawareness about daughters’ media habits and a tendency to rigidly limit or disallow the use of media.

Thus, based on the existing literature, we formulated five hypotheses:

1. Sense of empowerment will correlate negatively with DEP and with poor body image.
2. Harmful media exposure will correlate positively with DEP and with poor body image.
3. Sense of empowerment will correlate negatively with harmful media exposure.
4. Higher parental media-related involvement and lower parental media-related control will correlate positively with sense of empowerment.
5. Poor body image, harmful media exposure and low sense of empowerment will significantly predict DEP.

Method
Sample
The sample consisted of 248 female adolescents aged between 12 and 19 years ($M = 14.8$, $SD = 1.48$), comprising 106 junior high students (age 12–14) and 142 high school students (age 15–19). Half the participants (52%) were in the ninth grade (age 14–15). Participants were native Hebrew speakers recruited from schools serving a middle- to middle-upper class population in northern Israel based on a convenience sample. Approximately 93% of participants were born in Israel, 80% lived in an urban area, 75% indicated that their socio-economic status was good to very good, 99% defined themselves as secular and 68% of their fathers had a college education. The participants’ mean body mass index (BMI) based on self-reported height and weight was 20.23 ($SD = \pm 2.88$), indicating BMI within the normal range. BMI is calculated as weight (kg)/height squared ($m^2$) (Ogden, Carroll, Curtin, Lamb, & Flegal, 2010).

Measurements
Demographic background
Adolescents completed a questionnaire that included items on age, height and weight, family socio-economic status, religious observance and parental education.
Media exposure

Based on two questionnaires measuring adolescents’ media consumption behaviours (Cash & Pruzinsky, 1991; Harrison, 2000), we developed an 11-item survey of adolescents’ exposure to three main types of national and international media: Internet, magazines and television. Items referred to the media contents (e.g. fashion and cooking), specific media (e.g. Facebook and YouTube websites, Gossip Girl TV show and Israeli fashion magazine) and the number of hours of exposure per day (e.g. an open-ended question: ‘Over the last week, please write how many hours you estimate you watched TV each day, on average?’). Adolescents rated their preferences for specific media (e.g. ‘Which type of website do you prefer to browse: Facebook, news website, fashion website, YouTube, cooking website?’) along a four-point scale ranging from never (1) to always (4). Items regarding television programmes were combined into one integrated variable, which included five types of programmes considered to represent ‘harmful media messages’ such as soap operas and reality shows (López-Guimerá et al., 2010; van den Berg et al., 2010). Two of the five (Gossip Girl and Beverly Hills 90210) were also analysed separately.

Disordered eating pathology

DEPs were measured using two self-report scales completed by the adolescents.

Four core subscales of the Eating Disorders Inventory II. The 91-item Eating Disorders Inventory II (EDI-2) (Garner, 1991) is one of the most widely used self-report questionnaires for assessing psychological characteristics related to DEP among western populations both for clinical and non-clinical purposes. It is not intended to be used as a diagnostic instrument but rather to provide a profile of symptom clusters commonly found among individuals with EDs. For the present study, 4 of its 11 subscales were used – drive for thinness (DT), body dissatisfaction (BD), perfectionism (PER) and bulimia (BUL) – rated along a six-point scale ranging from never (1) to always (6). The Hebrew translation of this inventory was found valid and reliable (Niv, Kaplan, Mitrani, & Shiang, 1998). Internal reliability (Cronbach α) of the four subscales ranged from 0.82 to 0.93 in Garner (1991). Internal reliability in the present study ranged from 0.64 to 0.89 (DT = 0.86, BUL = 0.67, BD = 0.89, PER = 0.64).

Eating Attitude Test. The Eating Attitude Test (EAT-26; Garner & Garfinkel, 1979) is a 26-item self-report questionnaire that assesses a broad range of symptoms, attitudes, beliefs and behaviours concerning food, body shape and weight. EAT-26 is viewed as a measure of abnormal attitudes towards food and eating rather than as a diagnostic tool for EDs (Button & Whitehouse, 1981). It is divided into three subscales: BUL, diet and oral control. A total score of 20 or above denotes disturbed eating attitudes and behaviour and may indicate the presence of eating-related psychopathology. In the current study, about 23% of participants scored above 20. The Hebrew translation of this instrument was found valid and reliable (Ianuca, 1990). Internal reliability (Cronbach α) of the total EAT-26 scale was 0.70 in Garner and Garfinkel (1979) and 0.84 in the present study.

Body image

The 34-item Body Shape Questionnaire (Cooper, Taylor, Cooper, & Fairburn, 1987) was utilised to identify adolescents who hold a distorted body image. Participants rated items
along a six-point Likert scale ranging from never (1) to always (6), thus yielding a total score of 34–204. A cutoff score of 98 or higher indicates probable cases of distorted body image. Internal reliability (Cronbach $\alpha$) was 0.97 in the Cooper et al. (1987) study and 0.97 in the present study.

**Sense of empowerment**

The 31-item self-report Empowerment Scale (Rogers, Chamberlin, Ellison, & Crean, 1997) assessed sense of empowerment, including five subscales: self-esteem/self-efficacy, power/powerlessness, community activism and autonomy, optimism and control over the future, and righteous anger. Participants rated items (e.g. ‘I feel powerless most of the time’; ‘Getting angry about something is often the first step toward changing it’) along a four-point Likert-type scale ranging from strongly disagree (1) to strongly agree (4). Total scores ranged from 28 to 112, where higher scores indicated a stronger sense of empowerment. Cronbach $\alpha$ in the original study was 0.86, indicating high internal consistency (Rogers et al., 1997). Cronbach $\alpha$ for the current sample was 0.79.

**Parental media-related involvement**

We developed an eight-item questionnaire assessing adolescents’ perceptions regarding the degree to which their parents were involved in and imposed restrictions on their media consumption and conversed with them about these media. The questionnaire comprised two subscales: media-related parental involvement (four questions) and media-related parental control (four questions). Participants rated the four parental involvement items (e.g. ‘Do your parents talk to you about the TV programs you watch together?’ and ‘Are your parents aware of your website use?’) and the four parental control items (four items, e.g. ‘Do your parents limit you in the number of hours you watch TV? That is, do your mother or father happen to say you’ve seen enough TV and now need to stop?’) along a five-point Likert scale ranging from not involved at all (1) to involved in all aspects (5).

**Procedures**

The Israeli Ministry of Education ethical committee and school principals approved the study. Written parental consent was also required. We approached 267 participants, but 19 (7.6%) declined to participate (due to their own or parents’ objections), leaving 248 girls in the sample. Research assistants presented the computerised forms entailing the seven questionnaires to the students in their classrooms. The students were told that they were partaking in a survey on adolescent eating attitudes and behaviours and media habits. Participation was voluntary and anonymous. The study was conducted between 2009 and 2010.

**Data analysis**

Data were analysed using SASW 19 for Windows. Spearman correlation tests and stepwise regressions were used for analysis. There were no violations of normality and linearity.

**Results**

Table 1 shows participants’ usage frequencies and percentages of various media. Among this Israeli adolescent female sample, 53% reported watching TV 2-3 hours a day, 48%
reported using the web 2–4 hours a day and 27% reported reading magazines often. Regarding DEPs, the sample mean for the total EAT-26 score was 13 (SD = 10), scoring below the cutoff of 20 that denotes disturbed eating attitudes and behaviour. The participants’ mean Body Shape Questionnaire score was 87.34 (SD = ±40.82), with scoring above the cutoff of 98 that indicates probable cases of distorted body image. The mean score on the Empowerment Scale was 3.09 (SD = ±0.28), indicating a moderate empowerment level, on average.

The first hypothesis was fully supported. As seen in Table 2, a lower sense of empowerment was significantly correlated with more pronounced DEP levels and with higher Body Shape Questionnaire scores indicating poorer body image. Note that sense of empowerment most strongly correlated with the poor body image and BD dimensions, which are features related to DEP.

The second hypothesis was also fully supported. As seen in Table 3, greater exposure to harmful media messages in all categories (television, Internet, magazines) was significantly correlated with poorer body image as well as with more pronounced DEP levels. Note that two Internet variables, greater use of social networks (particularly Facebook) and of music sites (particularly YouTube), were found to correlate significantly with higher DEP.

The third hypothesis was partially supported. No significant correlation emerged between sense of empowerment and exposure to harmful media messages (a total score of all media: TV, magazine and Internet), \( r = -0.06, \text{ ns.} \) In regards to the Internet dimension, lower sense of empowerment was significantly correlated with participants’ greater use of online chatrooms \( (r = -0.16, p < 0.05) \). No significant correlations were found between sense of empowerment and the use of other Internet sites (gossip, fashion, cooking, music and social networks).

The fourth hypothesis was fully supported with regard to both aspects of parenting. Parents’ greater involvement in their daughters’ media exposure and habits was significantly correlated with the daughters’ higher sense of empowerment \( (r = 0.26, p < 0.0001) \). Likewise, higher levels of parental control over their daughters’ media exposure and habits were significantly correlated with the daughters’ lower sense of empowerment \( (r = -0.16, p < 0.05) \).

| Variable                        | Category     | Frequencies | Percentage^a |
|---------------------------------|--------------|-------------|--------------|
| Watching television (hours/day) | Up to two    | 85          | 34.27        |
|                                 | Two to three | 79          | 31.85        |
|                                 | Three to four| 51          | 20.56        |
|                                 | Four to five | 22          | 8.87         |
|                                 | Five or more | 11          | 4.44         |
| Using the Internet (hours/day)  | Up to two    | 23          | 21.29        |
|                                 | Two to three | 57          | 22.89        |
|                                 | Three to four| 62          | 24.90        |
|                                 | Four to five | 43          | 17.27        |
|                                 | Five or more | 34          | 13.65        |
| Frequency of reading magazines  | Never        | 35          | 14.11        |
|                                 | Rarely       | 49          | 19.76        |
|                                 | Sometimes    | 52          | 20.97        |
|                                 | Often        | 66          | 26.61        |
|                                 | Always       | 46          | 18.55        |

^a Each variable amounts to 100%.
In the fifth hypothesis, we predicted that body image, media exposure and sense of empowerment would significantly predict the risk of developing a DEP. To assess the effect of the independent variables on the risk of DEP, we conducted a stepwise regression. First, we entered body image, then media exposure and finally sense of empowerment. As seen in Table 4, body image explained 57% of the variance, $F(1, 246) = 324.9, p < 0.000$, media exposure explained an additional 1.3% of the variance, $F(2, 245) = 170.8, p < 0.000$, and sense of empowerment explained an additional 0.9% of the variance, $F(3, 244) = 117.8, p < 0.000$. The combination of the three variables explained 59% of the variance in the risk of DEP.

### Table 2. Sense of empowerment correlations with body image and DEP measures ($N = 248$).

| Sense of empowerment | Body Shape Questionnaire | EDI-2 | Eating Attitude Test-26 (EAT-26) |
|----------------------|--------------------------|-------|-------------------------------|
|                      | Body image               | PER   | BUL | BD | DT | BUL | Diet | Oral control | Total |
|                      |                          | -0.31*** | -0.27*** | -0.17*** | -0.34*** | -0.12* | -0.17*** | -0.15** | -0.13* | -0.11 |

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

### Table 3. Correlations among media exposure and DEP measures.

| Media measures | DEP measures |
|----------------|--------------|
|                | EDI-2 | EAT-26 |
|                | BUL | BD | DT | BUL | Diet | Oral control | Total |
| Television     |      |     |    |     |      |            |       |
| Integrated variable of total content | 0.20** | 0.16* | 0.16* | 0.15* | 0.23** | 0.27*** | 0.26*** |
| Gossip Girl    | 0.22** | 0.07 | 0.20** | 0.17** | 0.16* | 0.22*** | 0.17** |
| Beverly Hills 90210 | 0.22** | 0.14* | 0.18** | 0.12* | 0.19** | 0.25*** | 0.21** |
| Internet       |      |     |    |     |      |            |       |
| Fashion        | 0.03 | 0.05 | 0.07 | 0.06 | 0.10 | 0.16** | 0.14* |
| Music          | 0.02 | 0.13* | 0.21*** | 0.02 | 0.30*** | 0.02 | 0.29*** |
| Social networks | 0.13* | 0.16* | 0.18** | 0.15* | 0.19* | -0.04 | 0.14* |
| Facebook       | 0.20** | 0.14* | 0.15* | 0.15* | 0.20** | -0.04 | 0.14* |
| YouTube        | 0.15* | 0.15* | 0.01 | 0.17 | 0.15 | 0.01 | 0.14* |
| Magazines      |      |     |    |     |      |            |       |
| Gossip         | 0.00 | 0.12 | 0.16* | 0.08 | 0.18** | 0.02 | 0.15* |

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

In the fifth hypothesis, we predicted that body image, media exposure and sense of empowerment would significantly predict the risk of developing a DEP. To assess the effect of the independent variables on the risk of DEP, we conducted a stepwise regression. First, we entered body image, then media exposure and finally sense of empowerment. As seen in Table 4, body image explained 57% of the variance, $F(1, 246) = 324.9, p < 0.000$, media exposure explained an additional 1.3% of the variance, $F(2, 245) = 170.8, p < 0.000$, and sense of empowerment explained an additional 0.9% of the variance, $F(3, 244) = 117.8, p < 0.000$. The combination of the three variables explained 59% of the variance in the risk of DEP.

### Table 4. Stepwise regression predicting DEP based on body image, media exposure and sense of empowerment ($N = 248$).

| Predictors          | $\beta$ | $R^2$ change | ES   | $R^2$ |
|---------------------|---------|--------------|------|-------|
| Body image          | 0.75*** | 0.57         | 6.64 | 0.57  |
| Media exposure      | 0.11*** | 0.013        | 6.55 | 0.59  |
| Sense of empowerment| 0.10*** | 0.009        | 6.49 | 0.59  |

*** $p < 0.001$. 

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Discussion

The purpose of the present study was to examine the relations between DEP, body image, media exposure and sense of empowerment among Israeli adolescent girls, as well as the relations between parental involvement type and daughters’ sense of empowerment. Most of the research hypotheses were supported. They underscore the importance of adolescent girls’ sense of empowerment as a protective factor against internalising negative media messages. The findings also suggest that three variables – body image, media exposure and a sense of empowerment – explain over half (59%) of the variance in DEP risk. To the best of our knowledge, this is the first study to examine the relationships between these variables at once. Our results support previous separate findings and contribute to understanding the strong relations among these personal and environmental factors (Harrison, 2003).

Media influence

The current study focused on three types of media consumed widely by female adolescents: the Internet, television and fashion magazines. Our findings that higher exposure to harmful media messages is linked to more negative body image and to higher levels of DEP corroborate previous studies that identified exposure to harmful media messages as a predictor of DEP, negative body image and DT among young girls (Hargreaves & Tiggemann, 2003; Harrison, 2000; Harrison & Hefner, 2006; McLean, Paxton, & Wertheim, 2013). These findings support social comparison theory’s claims (Festinger, 1954) that an unconscious comparison to an unattainable physical appearance and resultant frustration due to a reality gap leads to low self-esteem and negative body image (Tiggemann & McGill, 2004).

Television

Specifically, greater exposure to the Gossip Girl and Beverly Hills 90210 television programmes was significantly correlated with more eating pathology and poorer body image. These programmes represent female characters that fit the ‘Barbie model’ of female icons with unrealistic thinness and contradictory large breasts, much like a Barbie doll. These programmes showcase women who are intriguing, competitive, aggressive, manipulative and sexually provocative (Harrison & Hefner, 2006). Our findings are consistent with those of previous studies, which demonstrated that greater exposure to this type of content correlates with lower body image and a higher DT in girls (López-Guimerà et al., 2010; van den Berg et al., 2010).

Internet

With regard to the specific Internet findings, greater exposure to fashion, music and social networking websites was significantly correlated with more negative body image and greater DEP features including the DT, dieting behaviour and symptoms of AN and BN. These preliminary findings, in particular those related to Facebook’s and music sites’ link with DEP, underscore the harmful potential of social networks on female adolescents’ well-being, calling for further study.

Social networking as the primary means of communication among adolescents has become increasingly common in recent years, especially through Facebook (Lenhart, Madden, & Hitlin, 2005; Patchin & Hinduja, 2010). This may serve as a contemporary way
of constructing identity and a modern form of peer pressure amongst adolescents (Lenhart, 2009). During adolescence, the peer group is one of the most important factors affecting attitudes and behaviours (Collins & Repenski, 1994). Therefore, today social networks appear to function as the main channel for social pressure exerted on adolescents.

In 2007, about 60% of American adolescents aged 12–17 were members of social networks; by 2009, the number grew to 75% (Lenhart, Purcell, Smith, & Zickuhr, 2010). As of February 2010, there were reportedly 2.5 million Facebook users in Israel; 600,000 were adolescents aged 13–18, which comprised about 80% of the adolescent population (Boniel-Nissim, 2010). Approximately 85% of network members respond to each other immediately, with photos posted to their profile page. Some of the responses are permanent, such as ‘like’ and ‘unlike’ (Lenhart, 2009). The ability of adolescents to communicate promptly and directly with each other through social networking and to create forums based on common interests, even if negative, may increase the vulnerability of the participants, particularly girls, to negative body image and disordered eating attitudes and behaviours (Schneider et al., 2013; Wykes & Gunter, 2005).

The findings of the present study regarding the negative impact of music websites are important and pioneering because they highlight a less-investigated aspect of adolescents’ exposure to harmful media messages. The negative effect of this exposure may be attributed to the powerful messages carried by the integrated music and video content. The videos contain clear messages about the ideal appearance of women: thin, blonde and sexually outgoing (Wykes & Gunter, 2005). These messages can increase the vulnerability of the girls who internalise this unrealistic model.

**Magazines**

The results of the present study regarding magazines support previous findings emphasising that exposure of adolescents to media messages through fashion journals displaying females with a ‘perfect’ shape and appearance are associated with DEP, negative body image and a DT (Grabe, Ward, & Hyde, 2008; Tiggemann, Slater, Bury, Hawkins, & Firth, 2013).

**Sense of empowerment**

The current outcomes, indicating that adolescent girls’ higher sense of empowerment was linked to lower DEP and to more positive body image, support self-objectification theory (Fredrickson & Roberts, 1997). This theory argues that tying women’s self-worth with their appearance may cause them to feel like an object and to treat themselves in a critical manner. This coincides also with feminist theory that links ED development to deficits in feelings of empowerment as a result of social pressure to be a ‘superwoman’ (Peterson et al., 2008). In contrast to our expectations, sense of empowerment was not significantly correlated with exposure to harmful media messages, except for online chatting. A possible explanation for these nonsignificant outcomes is that the present study measured the duration of exposure and the types of media consumed but did not examine a possibly important variable concerning media exposure: level of internalisation (Ata, Thompson, & Small, 2013; Harrison, 2000; Thompson & Stice, 2001). Levels of internalisation of the thin ideal may indicate both internalisation of cultural pressures and the adoption of this ideal as an achievable goal (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). This internalisation has been identified as a risk factor for developing DEP and poor body image in women (Keel & Forney, 2013).
Internalisation of thinness is especially significant during adolescence, when girls are forming their own identities. The sexual maturation process, which causes an accumulation of body fat, distances them from the ‘slim object’ (Lawler & Nixon, 2011; Tiggemann, 2002). Sense of empowerment includes the ability to make decisions and practice critical thinking (Piran, 2001). It is therefore reasonable to assume that internalised social messages are affected by a sense of empowerment. Furthermore, these relations may be reciprocal: girls’ sense of empowerment may increase as they succeed in internalising fewer harmful media messages. However, it should be noted that increases in internalisation do not necessarily require changes in the amount of exposure or the media content, thereby calling for future research.

**Parental involvement**

Significant positive correlations emerged in the current study between parents’ involvement in and control over their daughters’ media use and their daughters’ sense of empowerment. These links may shed light on other related factors that may positively affect adolescents’ empowerment, like parenting style and parenting involvement, which may play an important role in preventing daughters’ harmful eating behaviours and negative body image. Although parenting style was not measured directly, parental media-related control is reminiscent of the authoritarian parenting style, and parental media-related involvement is reminiscent of the authoritarian parenting style (Baumrind, 1971). Thus, the current study findings may also provide support for previous research suggesting greater adjustment and psychological well-being among children of parents with an authoritative parenting style (McKinney, Donnelly, & Renk, 2008; Steinberg, 2001) and lower self-esteem and self-reliance among children of parents with an authoritative parenting style (Mantzicopoulos & Oh-Hwang, 1998; McClun & Merrell, 1998). The current study findings indicate that the parental role is particularly important during this critical adolescent period, when health and illness behaviours may develop that hold significance not only for present but also for future well-being. Consistent with other research, our findings show that the role of the parent-adolescent relationship is significant for the development or prevention of disturbed behaviour, including disordered eating behaviour (Newman, Harrison, Dashiff, & Davies, 2008). We therefore strongly recommend that parents be included in prevention programmes.

**Strengths and limitations**

The study has several strengths, including its large sample size of female adolescents from an urban area in Israel and its novel integration of personal and environmental variables. However, caution is advised when generalising from this study due to several limitations. First, no formal clinical assessment was conducted for ED diagnosis based on DSM criteria, and clinical interviews were not feasible with all the participants who scored above the threshold (>20) on EAT-26. Therefore, the method used in the present study demonstrates only disordered eating attitudes and weight concerns commensurate with DEP rather than full-blown EDs.

Moreover, the study focused on examining parental involvement in media habits based on specific questions. The current findings should be expanded in future research using validated parenting style measures such as the Parenting Style Index proposed by Lamborn, Mount, Steinberg, and Dornbusch (1991). In addition, the media consumption habits questions were based on existing media questionnaires (Pruzinsky & Cash, 2002;
Harrison, 2000) but did not include questions examining the internalisation of media messages. Further research is needed to extend the current findings by adding such a measure, like the Socio-Cultural Attitudes Towards Appearance Scale III (Thompson, 2004). Lastly, the girls who participated in the current study were mostly from middle-class families. This population is known to be at high risk for DEP (Fairburn & Harrison, 2003). It is therefore difficult to generalise findings from this group to the entire population.

**Theoretical and practical implications**

To the best of our knowledge, this is the first study to examine the relations among DEP, body image, exposure to media messages and sense of empowerment among adolescents, along with the role of the parent–adolescent relationship concerning teenagers’ media consumption. This study also holds implications for theory and research on the prevention of harmful behaviours among adolescents, in particular the prevention of EDs. Findings stress the need to develop, implement and integrate prevention programmes that emphasise the importance of empowering adolescents and of fostering healthy media consumption practices. Other findings pinpoint the relationship between parental involvement and daughters’ sense of empowerment.

Sense of empowerment is a key component of the feminist approach to the treatment and prevention of negative body image and DEP among women (Peterson et al., 2008). The two well-known prevention programmes based on this approach – the ‘Full of Our Selves’ model (Steiner-Adair, 2008) and the ‘Go Girl’ model (Piran, Levine, & Irving, 2000) – were both found to have positive effects on girls’ body image and self-esteem. Inasmuch as low self-esteem has been consistently associated with low body image and DEP (Tiggemann, 2004, 2005), the current findings highlighting the important role of empowerment provide further substantiation for the need to establish a sense of empowerment in girls as part of the treatment and prevention of EDs and negative body image (Peterson et al., 2008).

Research indicates that empowerment-based ED prevention programmes showed improvement in self-esteem and body image and reduced the internalisation of the ideal of thinness. Cultivating empowerment in girls by developing leadership skills, learning and life skills, practicing media literacy and taking a critical stance on the feminine ideal of thinness was found to be particularly effective in improving body image (Piran, 2001). However, no significant effect was found in behavioural change with regard to harmful media messages and reducing deliberate weight loss (Stice, 2002). Therefore, further research is needed to develop prevention programmes based on behavioural change in the area of eating, such as reducing dieting.

Parental involvement in prevention programmes is crucial. Parents have the main responsibility for their children’s health, safety and wellness. Therefore, it is recommended that parents act as change agents, especially in the process of empowerment-based prevention. Parental psycho-educational training should emphasise the importance of support, openness and warmth, in conjunction with setting clear boundaries and modelling behaviours that promote a healthy lifestyle around eating, exercise and health (Golan & Crow, 2004).

Our study is unique in its examination of adolescents’ specific use of social networks, especially Facebook, as linked with negative body image and DEP. These findings shed light on the harmful effect that Internet use can have on adolescents, particularly in view of this medium’s important influences on social relations by markedly reducing personal interactions between adolescents and greatly increasing use of indirect virtual interactions.
Indirect communication makes it easier to use abusive language than it would be in face-to-face discourse. Offensive comments about appearance made by adolescents to each other over the Internet and exposure to pictures adversely affect the self-esteem and body image of female adolescents. This understanding is noteworthy given that low self-esteem and negative body image are the most significant predictors of EDs (Stice, 2002).

**Disclosure statement**

No potential conflict of interest was reported by the authors.

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**References**

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

Ata, R. N., Thompson, J. K., & Small, B. J. (2013). Effects of exposure to thin-ideal media images on body dissatisfaction: Testing the inclusion of a disclaimer versus warning label. *Body Image*, 10, 472–480.

Bailey, S. D., & Ricciardelli, L. (2010). Social comparisons, appearance related comments, contingent self esteem and their relationships with body dissatisfaction and eating disturbance among woman. *Eating Behaviors, 11*, 107–112.

Basow, S., Foran, K., & Bookwala, J. (2007). Body objectification, social pressure and disordered eating behavior in college women: The role of sorority membership. *Psychology of Women Quarterly, 31*, 394–400.

Baumrind, D. (1971). Current patterns of parental authority. *Developmental Psychology, 4*, 1–103.

Blowers, L. C., Loxton, N. J., Grady-Flesser, M., Occhipinti, S., & Dawe, S. (2003). The relationship between socio-cultural pressure to be thin and body dissatisfaction in preadolescent girls. *Eating Behaviors, 4*, 229–244.

Boniel-Nissim, M. (2010). Would you like to be my friend? Friendships and violence among children and youth on Facebook. *Et-Hasade, 5*, 21–27. [In Hebrew].

Button, E. J., & Whitehouse, A. (1981). Subclinical anorexia nervosa. *Psychological Medicine, 11*, 509–516.

Cash, T. F., & Pruzinsky, T. (1991). *Body images: Development, deviance, and change*. New York, NY: Guilford.

Collins, W. A., & Repenski, D. J. (1994). Relationships during adolescence: Continuity and change in interpersonal perspective. In R. Montemayor, G. R. Adams, & T. P. Gullota (Eds.), *Personal relationships during adolescence* (pp. 7–36). London: Sage.

Cooper, P., Taylor, M., Cooper, Z., & Fairburn, C. (1987). The development and validation of the body shape questionnaire. *International Journal of Eating Disorders, 6*, 485–494.
Crespo, C., Kielpikowski, M., Jose, P. E., & Pryor, J. (2010). Relationships between family connectedness and body satisfaction: A longitudinal study of adolescent girls and boys. *Journal of Youth and Adolescence, 39*, 1392–1401.

Fairburn, C., & Harrison, P. (2003). Eating disorders. *Lancet, 361*, 407–416.

Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7*, 117–140.

Fredrickson, B. L., & Roberts, T. A. (1997). Objectification theory: Toward understanding woman’s lived experiences and mental health risks. *Psychology of Women Quarterly, 21*, 173–206.

Garner, D. M. (1991). *The eating disorder inventory manual*. Odessa, FL: Psychological Assessment Resources.

Garner, D. M., & Garfinkel, P. E. (1979). The eating attitudes test: An index of the symptoms of anorexia nervosa. *Psychological Medicine, 9*, 273–279.

Golan, M., & Crow, S. (2004). Targeting parents exclusively in the treatment of childhood obesity: Long-term results. *Obesity Research, 12*, 357–361.

Grabe, S., Hyde, J., & Ward, L. (2008). The role of the media in body image concerns among women: A meta-analysis of experimental and correlational studies. *Psychological Bulletin, 134*, 460–476.

Greenberg, L., Cwikel, J. M., & Mirsky, J. (2007). Cultural correlates of eating attitudes: A comparison between native-born and immigrant university students in Israel. *International Journal of Eating Disorders, 40*, 51–58.

Greenleaf, C., & McGreer, R. (2006). Disordered eating attitudes and self-objectification among physically active and sedentary college students. *Journal of Psychology: Interdisciplinary and Applied, 140*, 187–198.

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.

Grossbart, S., McConnell-Hughes, S., Pryor, S., & Yost, A. (2002). Socialization aspects of parents, children, and the Internet. *Advances in Consumer Research, 29*, 66–70.

Harel, Y., Ellenbogen-Frankovits, S., Molcho, M., Abu-Ashas, K., & Habib, J. (2002). *Youth in Israel*. Jerusalem: Brookdale Institute.

Hargreaves, D., & Tiggemann, M. (2003). Longer-term implications of responsiveness to ‘thin ideal’ television: Support for a cumulative hypothesis of body image disturbance? *European Eating Disorders Review, 11*, 465–477.

Harrison, K. (2000). Television viewing, fat stereotyping, body shape standards, and eating disorder symptomatology in grade school children. *Community Research, 27*, 617–640.

Harrison, K. (2003). Television viewers’ ideal body proportions: The case of the curvaceously thin woman. *Sex Roles, 48*, 255–264.

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.

Hesse-Biber, S., Leavy, P., Quinn, E., & Zoino, J. (2006). The mass marketing of disordered eating and eating disorders: The social psychology of women, thinness, and culture. *Women’s Studies International Forum, 29*, 208–224.

Hodes, M., Jones, C., & Davies, H. (1995). Cross-cultural differences in maternal evaluation of children’s body shapes. *International Journal of Eating Disorders, 19*, 257–263.

Hoek, H. W. (2006). Incidence, prevalence and mortality of anorexia nervosa and other eating disorders. *Current Opinion in Psychiatry, 19*, 389–394.

Hudson, J. I., Hiripi, E., Pope, H. G., & Kessler, R. C. (2007). The prevalence and correlates of eating disorders in the national co-morbidity survey replication. *Biological Psychiatry, 61*, 348–358.

Huver, R. M., Otten, R., de Vries, H., & Engels, R. C. (2010). Personality and parenting style in parents of adolescents. *Journal of Adolescence, 33*, 395–402.

Ianuca, I. (1990). *Validation of the EAT in Israel* (Doctoral dissertation). School of Medicine, Tel Aviv University, Israel.

Keel, P. K., & Forney, K. J. (2013). Psychosocial risk factors for eating disorders. *International Journal of Eating Disorders, 46*, 433–439.

Keel, P. K., & Klump, K. L. (2003). Are eating disorders culture-bound syndromes? Implications for conceptualizing their etiology. *Psychological Bulletin, 129*, 747.
Lamborn, S. D., Mounts, N. S., Steinberg, L., & Dornbusch, S. M. (1991). Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Development, 62*, 1049–1065.

Latzer, Y., & Tzischinsky, O. (2003). Weight concern, dieting and eating behaviors: A survey of Israeli high school girls. *International Journal of Adolescent Medicine and Health, 15*, 295–305.

Latzer, Y., & Tzischinsky, O. (2005). Eating attitudes in a diverse sample of Israeli adolescent females: A comparison. *Journal of Adolescence, 28*, 317–323.

Lawler, M., & Nixon, E. (2011). Body dissatisfaction among adolescent boys and girls: The effect of body mass, peer appearance culture and internalization of appearance ideals. *Journal of Youth and Adolescence, 40*, 59–71.

Lenhart, A. (2009, October 8). The democratization of online social networks: A look at the change in demographics of social network users over time. Paper presented at the Pew Internet & American Life Project, October 8. Retrieved from http://www.pewinternet.org/Presentations/2009/41–The-Democratization-of-Online-Social-Networks.aspx

Lenhart, A., Madden, M., & Hitlin, P. (2005). *Teens and technology: Youth are leading the transition to a fully wired and mobile nation*. Washington, DC: Pew Internet & American Life Project.

Lenhart, A., Purcell, K., Smith, A., & Zickuhr, K. (2010). Social media and mobile internet use among teens and young adults. *Pew Internet & American Life Project*. Retrieved from http://www.pewinternet.org/2010/02/03/social-media-and-young-adults/

Levine, M. P., & Piran, N. (2004). The role of body image in the prevention of eating disorders. *Body Image, 1*, 57–70.

Levine, M., & Smolak, L. (2009). Recent developments and promising directions in the prevention of negative body image and disordered eating in children and adolescents. In L. Smolak & J. K. Thompson (Eds.), *Body image, eating disorders, and obesity in youth: Assessment, prevention, and treatment* (2nd ed., pp. 215–239). Washington, DC: American Psychological Association.

Livingstone, S., & Helsper, E. J. (2008). Parental mediation of children’s internet use. *Journal of Broadcasting & Electronic Media, 52*, 581–599.

Lwin, M. O., Stanaland, A. J., & Miyazaki, A. D. (2008). Protecting children’s privacy online: How parental mediation strategies affect website safeguard effectiveness. *Journal of Retailing, 84*, 205–217.

López-Guimerà, G., Levine, M. P., Sánchez-Carracedo, D., & Fauquet, J. (2010). Influence of mass media on body image and eating disordered attitudes and behaviors in females: A review of effects and processes. *Media Psychology, 13*, 387–416.

Maccoby, E., & Martin, J. (1983). Socialization in the context of the family: Parent–child interaction. In E. M. Hetherington (Ed.), *Handbook of child psychology: Vol. 4. Socialization, personality, and social development* P.H. Mussen (Series Ed.) (pp. 1–101). New York, NY: Wiley.

Mantzicopoulos, P., & Oh-Hwang, Y. (1998). The relationship of psychosocial maturity to parenting quality and intellectual ability for American and Korean adolescents. *Contemporary Educational Psychology, 23*, 195–206.

Maor, N. R., Sayag, S., Dahan, R., & Hermoni, D. (2006). Eating attitudes among adolescents. *Israel Medical Association Journal, 8*, 627–629.

McClun, L. A., & Merrell, K. W. (1998). Relationship of perceived parenting styles, locus of control, orientation and self concept among junior high age students. *Psychology in the Schools, 35*, 381–390.

McKinney, C., Donnelly, R., & Renk, K. (2008). Perceived parenting, positive and negative perceptions of parents and late adolescent emotional adjustment. *Child and Adolescent Mental Health, 13*, 66–73.

McLean, S. A., Paxton, S. J., & Wertheim, E. H. (2013). Mediators of the relationship between media literacy and body dissatisfaction in early adolescent girls: Implications for prevention. *Body Image, 10*, 282–289.

McVey, G. L., Lieberman, M., Voorberg, N., Wardrope, D., & Blackmore, E. (2003). School-based peer support groups: A new approach to the prevention of disordered eating. *Eating Disorders, 11*, 169–185.

Morrison, T. G., Kalin, R., & Morrison, M. A. (2004). Body-image evaluation and body-image investment among adolescents: A test of sociocultural and social comparison theories. *Adolescence, 39*, 571–592.
Newman, K., Harrison, L., Dashiff, C., & Davies, S. (2008). Relationships between parenting styles and risk behaviors in adolescent health: An integrative literature review. *Revista Latino-Americana de Enfermagem, 16*, 142–149.

Niv, N., Kaplan, Z., Mitrani, E., & Shiang, J. (1998). Validity study of the EDI-2 in Israeli population. *Israel Journal of Psychiatry Related Sciences, 35*, 287–292.

Noll, S. M., & Fredrickson, B. L. (1998). A meditational model linking self-objectification, body shame, and disordered eating. *Psychology of Women Quarterly, 22*, 623–636.

O’dea, J. (2007). Everybody’s different. A positive approach to teaching about health, puberty, body image, nutrition, self-esteem and obesity prevention. Victoria: Acer Press.

Ogden, C. L., Carroll, M. D., Curtin, L. R., Lamb, M. M., & Flegal, K. M. (2010). Prevalence of high body mass index in US children and adolescents, 2007–2008. *Jama, 303*, 242–249.

Ogden, J., & Steward, J. (2000). The role of the mother–daughter relationship in explaining weight concern. *International Journal of Eating Disorders, 28*, 78–83.

Patchin, W. J., & Hinduja, S. (2010). Changes in adolescent online social networking behaviors from 2006 to 2009. *Computers in Human Behavior, 26*, 1818–1821.

Peterson, D., Grippo, K. P., & Tantleff-Dunn, S. (2008). Empowerment and powerlessness: A closer look at the relationship between feminism, body image and eating disturbances. *Sex Roles, 58*, 639–649.

Piko, B. F., & Bálint, M. Á. (2012). Control or involvement? Relationship between authoritative parenting style and adolescent depressive symptomatology. *European Child & Adolescent Psychiatry, 21*, 149–155.

Piran, N. (2001). Reinhabiting the body. *Feminism and Psychology, 11*, 172–176.

Piran, N., Levine, M., & Irving, L. (2000). GO GIRLS! Media literacy, activism, and advocacy project. *Healthy Weight Journal, 14*, 89–90.

Prichard, I., & Tiggemann, M. (2005). Objectification in fitness centers: Self-objectification, body dissatisfaction, and disordered eating in aerobic participants. *Sex Roles, 53*, 19–28.

Pruzinsky, T., & Cash, T. F. (2002). Understanding body images: Historical and contemporary perspectives. In T. F. Cash & T. Pruzinsky (Eds.), *Body image: A handbook of theory, research, and clinical practice* (pp. 3–12). New York, NY: Guilford Press.

Rosen, L. D., Cheever, N. A., & Carrier, L. M. (2008). The association of parenting style and child age with parental limit setting and adolescent MySpace behavior. *Journal of Applied Developmental Psychology, 29*, 459–471.

Schneider, S., Weib, M., Thiel, A., Werner, A., Mayer, J., Hoffmann, H., & Diehl, K. (2013). Body dissatisfaction in female adolescents: Extent and correlates. *European Journal of Pediatrics, 172*, 373–384.

Segal, S., Silverman, C., & Temkin, T. (1995). Measuring empowerment in client-run self-help agencies. *Community Mental Health Journal, 31*, 215–227.

Skemp-Arlt, K. M. (2006). Body image dissatisfaction and eating disturbances among children and adolescents. *Journal of Physical Education, Recreation & Dance, 77*, 45–51.

Smink, F. R., van Hoeken, D., & Hoek, H. W. (2012). Epidemiology of eating disorders: Incidence, prevalence and mortality rates. *Current Psychiatry Reports, 14*, 406–414.

Steiner-Adair, C. (2008). Cultural sensitivity and eating disorders primary prevention: The adaptation of an effective primary prevention program for Jewish girls. *International Journal of Child and Adolescent Health, 1*, 305–312.

Steiner-Adair, C., & Vorenberg, A. (2013). Resisting weightism: Media literacy for elementary school children. In N. Piran, M. Levine, & C. Steiner-Adair (Eds.), *Preventing eating disorders: A handbook of interventions and special challenges* (pp. 105–122). New York, NY: Brunner-Mazel.

Stice, E. (2002). Risk and maintenance factors for eating pathology: A meta-analytic review. *Psychological Bulletin, 128*, 825–848.
Stice, E., & Shaw, H. (2007). A meta-analytic review of eating disorder prevention programs: Encouraging findings. *Annual Review of Clinical Psychology, 3*, 207–231.

Stice, E., Spangler, D., & Agras, W. S. (2001). Exposure to media-portrayed thin-ideal images adversely affects vulnerable girls: A longitudinal experiment. *Journal of Social and Clinical Psychology, 20*, 270–288.

Swarr, A. E., & Richards, M. H. (1996). Longitudinal effects of adolescent girls’ pubertal development, perceptions of pubertal timing, and parental relations on eating problems. *Developmental Psychology, 32*, 636–646.

Swim, J. K., Hyers, L. L., Cohen, L. L., & Ferguson, M. J. (2001). Everyday sexism: Evidence for its incidence, nature, and psychological impact from three daily diary studies. *Journal of Social Issues, 57*, 31–53.

Thompson, J. K. (Ed.). (2004). *Handbook of eating disorders and obesity*. Hoboken, NJ: Wiley.

Thompson, J. K., Heinberg, L., Altabe, M., & Tantleff-Dunn, S. (1999). *Exacting beauty: Theory, assessment, and treatment of body image disturbance*. Washington, DC: American Psychological Association.

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.

Tiggemann, M. (2002). Media influence on body image development. In T. Cash & T. Pruzinsky (Eds.), *Body image: A handbook of theory, research & clinical practice* (pp. 91–98). New York, NY: Guilford Press.

Tiggemann, M. (2004). Dietary restraint and self esteem as predictors of weight gain over 8 year time period. *Eating Behaviors, 5*, 251–259.

Tiggemann, M. (2005). Body dissatisfaction and adolescent self-esteem: Prospective findings. *Body Image, 2*, 129–135.

Tiggemann, M., & McGill, B. (2004). The role of social comparison in the effect of magazine advertisements on women’s mood and body dissatisfaction. *Journal of Social and Clinical Psychology, 23*, 23–44.

Tiggemann, M., Slater, A., Bury, B., Hawkins, K., & Firth, B. (2013). Disclaimer labels on fashion magazine advertisements: Effects on social comparison and body dissatisfaction. *Body Image, 10*, 45–53.

Tylka, T., & Sabik, N. (2010). Integrating social comparison theory and self-esteem within objectification theory to predict women’s disordered eating. *Sex Roles, 63*, 18–31.

Valcke, M., Bonte, S., De Wever, B., & Rots, I. (2010). Internet parenting styles and the impact on Internet use of primary school children. *Computers & Education, 55*, 454–464.

Valkenburg, P. M., & Peter, J. (2009). Social consequences of the internet for adolescents a decade of research. *Current Directions in Psychological Science, 18*(1), 1–5.

van den Berg, P. A., Mond, J., Eisenberg, M., Ackard, D., & Neumark-Sztainer, D. (2010). The link between body dissatisfaction and self-esteem in adolescents: Similarities across gender, age, weight status, race/ethnicity, and socioeconomic status. *Journal of Adolescent Health, 47*, 290–296.

Wykes, M., & Gunter, B. (2005). *The media and body image*. London: Sage.