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Watching your weight? The relations between watching soaps and music television and body dissatisfaction and restrained eating in young girls

Doeschka Anschutz\textsuperscript{a*}, Rutger Engels\textsuperscript{a}, Jan Van Leeuwe\textsuperscript{a} and Tatjana van Strien\textsuperscript{b}

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Although previous research showed that the thin ideal provided by the media affects body image and eating behaviour in young children, less is known about specific media contents that are related to body image and eating behaviour. This study tested the associations between watching soaps and music television and body dissatisfaction and restrained eating directly, and indirectly through thin ideal internalisation. We conducted a survey in class, in which 245 girls (aged 7–9) completed scales on their television watching behaviour, thin ideal internalisation, body dissatisfaction and restrained eating. Additionally, height and weight were measured. Watching soaps and music television often was associated with higher thin ideal internalisation, which in turn was associated with higher body dissatisfaction and restrained eating. Furthermore, a direct association between watching soaps and music television and restrained eating was found. If watching other types of children’s programmes or maternal encouragement to be thin were included in the models, watching soaps and music television remained an important factor, especially with regard to restrained eating. Therefore, our results suggest that if young girls watch soaps and music television often, this is related to higher restrained eating and body dissatisfaction, directly or indirectly, through higher thin ideal internalisation.

\textbf{Keywords:} media; body dissatisfaction; restrained eating; thin ideal internalisation; soap operas; music television

Introduction

The current unrealistic beauty ideal in Western societies has a negative influence on body image and eating behaviour, such as bulimic eating or extreme dieting behaviour, especially in women (e.g. Dunkley, Wertheim, & Paxton, 2001; Harrison & Cantor, 1997; Jones, 2004). Children at a very young age already begin to develop gender-based stereotypes of attractiveness. They learn that obese children have fewer friends, are less liked by their parents, are lazier, are less happy and are less attractive than normal weight or thinner sized children (e.g. Hebl & Heatherton, 1998; Hebl & Turchin, 2005; Hill & Silver, 1995). Most studies on the impacts of socio-cultural influences on body image and eating disturbance in young children focussed on girls, since females seem to be more susceptible to feel pressure to be thin and beautiful according to Western cultural norms.

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(Hargreaves & Tiggemann, 2004; Phares, Steinberg, & Thompson, 2004). Results of previous studies point out the importance of studying sociocultural influences on young girls, since the onset of body dissatisfaction and eating disturbance as a consequence of trying to live up to the beauty ideal already occur at a very early age (e.g. Clark & Tiggemann, 2006; Collins, 1991; Schur, Sanders, & Steiner, 2000).

However, what makes such young children aware of the beauty ideal and probably even unconsciously forces them to engage in appearance enhancing behaviour? A crucial factor in the literature that has been linked to setting cultural norms and providing beauty ideals is the mass media. The media, such as magazines, newspapers, billboards and television, provide children with ideas about attractiveness (e.g. Herbozo, Tantleff-Dunn, Gokee-Larose, & Thompson, 2004). Subsequently, young children might feel unable to live up to the beauty standards and as a consequence feel dissatisfied with their own bodies, or even try to bring their bodies more in line with the beauty ideal by changing their eating patterns. Many young girls indicate the media as important sources of information about dieting (Lawrie, Sullivan, Davies, & Hill, 2007; Schur et al., 2000). In addition, watching television and perceiving pressure to be thin from the media are related to increased awareness of weight loss strategies and disturbed eating behaviour over time in young children (Harrison & Hefner, 2006; McCabe & Ricciardelli, 2005).

Thompson and Stice (2001) considered thin ideal internalisation to be a main concept in predicting body dissatisfaction and eating pathology (see also, Stice & Agras, 1998; Stice, Mazotti, Krebs, & Martin, 1998). Thin ideal internalisation refers to the extent to which a person has adapted the cultural ideal as a personal standard of attractiveness and has engaged in behaviour to really reach this ideal. Even young children already appear to be susceptible to internalise the thin ideal. Clark and Tiggemann (2006) found that frequent exposure to appearance related media (television and magazines) indeed was indirectly related to body dissatisfaction in girls, through internalisation of beauty ideals. Furthermore, Blowers, Loxton, Grady-Fless, Occhipinti, and Dawe (2003) found that perceived pressure to be thin from the media (television) was related to body dissatisfaction in preadolescent girls, through thin ideal internalisation. Moreover, Sands and Wardle (2003) found that girls aged 9–12, who were frequently exposed to magazines promoting the thin ideal, showed higher internalisation of the thin ideal, which was related to higher body dissatisfaction Some studies found that fashion magazine exposure was more strongly related to thin ideal internalisation than television viewing (Harrison & Cantor, 1997; Tiggemann, 2003), which indicates that exposure to thin images in magazines and television do not operate in the same way. Perhaps, fashion magazines depict thin beauty ideals more explicitly. However, the results from the above mentioned studies suggest that both for television and magazine exposure thin ideal internalisation is a relevant factor in the relation with body dissatisfaction. It is essential to establish whether media exposure and thin ideal internalisation are related to disturbed eating behaviour as well. Only two studies addressed this issue and they both showed that general television exposure was related to disturbed eating behaviour, but not through thin ideal internalisation (Harrison, 2000; Harrison & Hefner, 2006). This might suggest that children model appearance related behaviour they see on television, but not necessarily internalise the thin body ideal. However, both studies did not distinguish between different kinds of television programmes. For example, it is possible that only watching television in which thin ideal messages are present is related to thin ideal internalisation, and subsequent disturbed eating behaviour. Therefore, further examination is needed to investigate the relation between media exposure and disturbed eating behaviour.
In the present study, we focussed on the relations between exposure to different kinds of television programmes, thin ideal internalisation, body dissatisfaction and restrained eating.

Nowadays, the primary media source youth are exposed to, probably, is television. Recently, it was found that in a large sample of Dutch, early adolescents (25%) watched TV more than 3 h a day (Snoek, Van Strien, Janssens, & Engels, 2006). Specific types of TV programmes provide beauty and thinness messages to young children. Herbozo et al. (2004) showed that children’s cartoons (e.g. Cinderella, The Little Mermaid) contained many body image-related messages and that children associated beauty with goodness, whereas ugliness was often associated with badness and vice. Therefore, they concluded that young children might develop ideas about beauty while watching cartoons. However, Dohnt and Tiggemann (2006) examined the influence of various kinds of television programmes on 5–8-year-old children and found that watching cartoons more often was related to lower awareness of dieting practices. In contrast, watching music television was positively related to dieting awareness. This coincides with research in adolescent and young adult samples showing that watching music television is related to drive for thinness and body dissatisfaction (Tiggemann & Pickering, 1996; Tiggemann & Slater, 2004). Additionally, Tiggemann (2005) found that watching soap operas was related to drive for thinness, through internalisation of the thin ideal in adolescents. The negative relation between music television and soap operas on the one hand, and body satisfaction on the other might be explained by the fact that music videos and soaps often contain very beautiful and slim media models (Englis, Solomon, & Ashmore, 1994; Greenberg & Woods, 1999). Exposure to these programmes may therefore enhance the internalisation of the thin ideal. Furthermore, soap characters and pop stars may show appearance related behaviours, which may be directly modeled by young girls (see also, Harrison, 2000; Harrison & Hefner, 2006). Therefore, it is important to further establish the relations between watching soaps and music television and body image in younger children.

The research questions of the present study were: (1) Is there a relation between watching soaps and music television on the one hand, and body dissatisfaction and/or restrained eating on the other, directly or indirectly through thin ideal internalisation? (2) Do these relations differ from the relations between watching cartoons or ‘neutral’ programmes and body dissatisfaction and restrained eating? (3) Will maternal influences relatively outshine the relations between watching soaps and music television and body dissatisfaction and restrained eating? Restrained eating was included as an outcome variable, for restrained eating is often found to be related to skipping breakfast, overweight or eating disorder pathology, and may be negatively related to the physical growth of young children (e.g. Harrison & Cantor, 1997; Stice, Schupak-Neuberg, Shaw, & Stein, 1994). Based on previous results, we expected that watching soaps and music television programmes would be related to body dissatisfaction, indirectly through thin ideal internalisation. Regarding restrained eating, we expected a direct relation between exposure to a thin media ideal and restraint, since girls might directly model the appearance related behaviours they see on television. Furthermore, it was expected that watching cartoons or ‘neutral’ programmes would be unrelated or even negatively related to thin ideal internalisation, body dissatisfaction and restrained eating. Finally, since young children already are confronted with a variety of intrusive media influences, we expected that including maternal influence would not totally outshine the relations between watching soaps and music television and body dissatisfaction and restrained eating.
Method

Participants

Participants were 287 pre-adolescent girls from 8 different primary schools in the southeast of the Netherlands. A total of 28 classes participated, varying from grade 2 to 4. Girls who wanted to be fatter \((N = 28)\) were excluded from the analyses, because we assumed that thin media ideal would have an entirely different effect on girls who wanted to be fatter compared to girls who wanted to be thinner. Additionally, six girls were excluded because we did not have information about height and weight, and nine girls were excluded because their questionnaires contained several missing values. The final sample included 245 girls; 80 girls from grade 2, 97 girls from grade 3 and 68 girls from grade 4.\(^1\)

The mean ages in grades 2, 3, and 4 were 7.23 (SD = 0.48), 8.15 (SD = 0.46) and 9.26 (SD = 0.48), respectively. Grade 2 girls had a mean BMI score (weight [kg] height\(^2\) [m]) of 16.66 (SD = 2.41), grade 3 girls had a mean BMI of 16.87 (SD = 1.92) and grade 4 girls had a mean BMI of 17.91 (SD = 2.43). One girl was underweight, 197 girls had normal weights, 32 girls were overweight and 15 girls were obese, according to the current Dutch BMI norms (Stichting Voedingscentrum Nederland, 2007). The majority of the participating girls were of Dutch origin (>95%) and the sample consisted of a mixture of children from rural and non-rural areas.

Procedure

Fourteen regular primary schools were approached and asked whether they would like to participate in the study. In fact, there were no specific criteria for schools to participate. Schools that were interested received detailed information about the study. Eight primary schools participated in the present study and were informed about the purpose of the study by letter. We have no indication that the schools that refused to participate are different from the schools that participate on important characteristics, since all schools that refused to participate did so due to lack of time or because they already participated in other scientific studies. Additionally, we control for possible differences between the participating schools (see Section ‘Strategy for analyses’).

After gaining school consent, the parents of the children were informed about the study by letter and asked to indicate whether or not they wanted their child to participate. We emphasised that all data would be kept confidential. All girls completed the questionnaires individually during class time in the presence of the teacher. Girls in grades 2 and 3 filled out the questionnaires in class, whereby a research assistant read the questions aloud and answered any remaining queries. Children in grade 4 filled out the questionnaires on their own, with a research assistant present to answer their queries. Additionally, the girls’ height and weight were objectively measured, without shoes. Completion of the survey assessment and measurement together took between 50 and 70 min. After data collection was finished and the data were analysed, the participating schools were sent a letter to express thanks, and to give information about the general results of the study.

Measures

BMI

Since BMI norms are highly age-dependent in young children, we recoded BMI into an ordinal variable with four categories: underweight, normal weight, overweight and obese (Stichting Nederlands Voedingscentrum, 2007).
**Television viewing**

To assess how much time was generally spent on watching television, the girls were asked how much time they spent watching on a normal school day. They could answer whether they watched less than 30 min, between 30 and 60 min, between 1 and 2 h, between 2 and 3 h or more than 3 h.

**Television programmes**

To measure what kind of programmes the girls watched, they were asked to indicate which programmes they watched. We wanted to distinguish between programmes that contained ‘thin ideal’ messages, cartoons and neutral children’s programmes. We selected seven popular Dutch television programmes for children, and for each of these programmes, the girls could indicate whether they ‘did not’, ‘sometimes’, or ‘did’ indeed watch them. To examine the factor structure of the programmes, an exploratory factor analysis with principal component factoring and varimax rotation was conducted. A three-factor solution was found, which accounted for 63% of the variance. Factor loadings varied between 0.70 and 0.84. The first factor consisted of music television channels and two popular Dutch daily soap operas (‘Goede Tijden Slechte Tijden’ and ‘Onderweg Naar Morgen’). The second factor consisted of two cartoons for children (Sponge Bob and Puca). The last factor consisted of two programmes that were considered to be ‘neutral’ in providing the thin beauty ideal (daily youth news and an informative programme for children). The soaps and music television together formed a variable that represented programmes that were considered high in containing ‘thin ideal’ messages, compared to cartoons and ‘neutral’ programmes.

**Thin ideal internalisation**

To measure internalisation, the Multidimensional Media Influence Scale (MMIS; Cusumano & Thompson, 2001) was used, which was developed for use in young children. The internalisation subscale of this scale (six items) assessed whether the thin beauty ideal provided by the media was used as a personal standard of attractiveness. An example item of this subscale: ‘I would like my body to look like the people who are on TV.’ Response categories were ‘yes’, ‘sometimes’, or ‘no’. Cronbach’s $\alpha$ coefficient was 0.77 in the current sample.

**Maternal encouragement to be thin**

Four items were included in the questionnaire to measure the experienced maternal pressure to be thin by the participants. They could answer the questions with ‘no’, ‘sometimes’, or ‘yes.’ The items were: (1) ‘Does your mother tell you to eat less because you are becoming too fat?’ (2) ‘Does your mother tell you to exercise to avoid becoming too fat?’ (3) ‘Does your mother tell you to snack less to be thinner?’ (4) ‘Does your mother tell you that you are too fat?’ Cronbach’s $\alpha$ was 0.79 (for more detailed information about this instrument, see Anschutz, Kanters, Van Strien, Vermulst, & Engels, resubmitted).

**Restraint eating**

The child version of the Dutch Eating Behavior Questionnaires (DEBQ-C; Van Strien & Oosterveld, 2008) was used to measure the restrained eating behaviour of the girls.
The DEBQ-C is an age-adopted version of the Dutch Eating Behaviour Questionnaire (Van Strien, Frijters, Bergers, & Defares, 1986). The restraint subscale of the DEBQ-C contains seven items, an example item: ‘Do you intentionally eat less in order to avoid to become fatter?’ Questions could be answered with ‘no’, ‘sometimes’, or ‘yes’. This subscale showed a good internal consistency (Van Strien & Oosterveld, 2008). In the present study, Cronbach’s α was 0.75.

Body dissatisfaction

The Children Figure Rating Scale was used to measure body dissatisfaction (Tiggemann & Wilson-Barrett, 1998). A series of nine drawings of girls’ body figures, ranging from very thin to very fat, were presented. The girls were asked to indicate which drawing looked most similar to their own current body shape, and which one would be their ideal body shape. The difference between the reported current body shape and the ideal body shape was used as a measure for body dissatisfaction. A positive score indicated a discrepancy between the current and the ideal body shape; this meant that the girl wanted to be thinner than she actually reported to be. Scoring a zero indicated that there was no difference between the current and the ideal body shape, which meant that the girl was satisfied with her body shape. A negative score indicated that the girl wanted to be larger than she actually reported to be.

Strategy for analyses

Analyses were performed with Structural Equation Modeling (SEM) using the software package MPLUS 4.21 (Muthén & Muthén, 1998–2006). Using SEM instead of regression analyses enabled the inclusion of multiple-dependent variables and the possibility to test direct and indirect paths in the same model. Furthermore, SEM allows specifying manifest and latent constructs in the same model and is able to accommodate non-normality and ordinal variables without reliance on large samples (Kaplan, 2000). Such a model cannot be tested with more straightforward Manova’s or Multivariate Regression Analyses. The fit of the models was indicated by using the following fit indexes: $\chi^2$, CFI (Comparative Fit Index) and RMSEA (Root-Mean-Square Error of Approximation). Since the chi-square goodness-of-fit test is sensitive to sample size, the fit indices CFI and RMSEA were utilised. For CFI, values between 0.90 and 0.95 indicate a good fit and values greater than 0.95 suggest very good fit. RMSEA assesses approximate fit, values below 0.08 indicate an acceptable fit and values below 0.05 indicate a good fit (Kaplan, 2000). The data had a multilevel structure indicating that individual responses might not be independent. To correct for this possible independency (complexity) in the data, the COMPLEX procedure in MPLUS was used to correct for possible school differences. In this procedure, the SEs of the parameter estimates were corrected for the dependency in the data, which would lead to unbiased estimates (note that only the standard errors of the parameter estimates could be affected by the complex data structure, not the parameter estimates). All models tested were analysed with correction for schools (Kuntsche & Jordan, 2006).

The initial theoretical model included the relations between watching soaps and music television, body dissatisfaction, and restrained eating, directly and indirectly, through thin ideal internalisation. BMI, age and frequency of watching television were included in the model, as we wanted to control for these variables. However, since age appeared to be unrelated to any other variable it was removed from the model.\(^2\) Watching soaps and
music television was treated as a latent variable with the two soaps and the music television as three separate indicators. Thin ideal internalisation was treated as a latent variable with the six items as separate indicators and restrained eating was a latent variable with the seven items of this subscale as indicators. BMI and watching television and body dissatisfaction were manifest variables. The final model tested is presented in Figure 1.

In addition, we tested a second model in which cartoons and neutral programmes were included as latent variables with the matching programmes as indicators, to investigate how watching these kinds of programmes, next to watching soaps and music television, was related to body dissatisfaction and restrained eating, directly and indirectly, through internalisation of the thin ideal. This model is presented in Figure 2.

Finally, a third model was tested with maternal encouragement to be thin added to the initial model to investigate whether watching soaps and music television would remain an important factor if maternal encouragement to be thin was included, and to investigate the relations between maternal encouragement to be thin and body dissatisfaction and restrained eating, directly and indirectly through thin ideal internalisation. Maternal encouragement to be thin was a latent variable with the six items as indicators. This model is presented in Figure 3.3

For ease of presentation, the indicators of the latent variables and the factor loadings are not presented in Figures 1 and 2, but separately shown in Table 1. In addition, the error terms of the dependent variables (body dissatisfaction and restrained eating) are not presented in the figures, but the correlations between the dependent variables mentioned in the text are actually the correlations between the error terms of these variables.

![Figure 1. Initial model with standardised coefficients.](image)

Note: *p < 0.05; **p < 0.01, ***p < 0.001.
Figure 2. Model including watching cartoons and watching ‘neutral’ programmes to be thin with standardised coefficients.
Note: *p < 0.05; **p < 0.01, ***p < 0.001.

Figure 3. Model including maternal encouragement to be thin with standardised coefficients.
Note: *p < 0.05; **p < 0.01, ***p < 0.001.
Results

Descriptive statistics

In general, most girls watched television between 30 min and 2 h per day (59.2%). However, 20.4% of the girls reported watching television more than 2 h per day. Table 2 shows the means and standard deviations of all variables. The correlations between all variables are shown in Table 3. BMI was positively related to almost all other variables, except for watching soaps and music television, cartoons or ‘neutral’ television. Further, all variables, except for ‘neutral’ television watching, were positively related to the thin ideal internalisation. Watching soaps and music television was positively related to restrained eating behaviours, but it was not related to body dissatisfaction.4

Structural equation models

The first model tested the relations between watching soaps and music television and body dissatisfaction and restrained eating, directly as well as indirectly, through thin

Table 1. Factor loadings of the indicators of the latent model variables: soaps and music television, cartoons, neutral television, thin ideal internalisation and restrained eating.

<table>
<thead>
<tr>
<th>Factor loadings</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soaps and music television</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music television</td>
<td>0.52</td>
<td>0.53</td>
<td>0.42</td>
</tr>
<tr>
<td>Goede Tijden Slechte Tijden</td>
<td>0.76</td>
<td>0.77</td>
<td>0.78</td>
</tr>
<tr>
<td>Onderweg Naar Morgen</td>
<td>0.86</td>
<td>0.85</td>
<td>0.86</td>
</tr>
<tr>
<td>Cartoons</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponge Bob</td>
<td>–</td>
<td>0.64</td>
<td>–</td>
</tr>
<tr>
<td>Puca</td>
<td>–</td>
<td>0.64</td>
<td>–</td>
</tr>
<tr>
<td>Neutral television</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Youth news</td>
<td>–</td>
<td>0.64</td>
<td>–</td>
</tr>
<tr>
<td>Informative child programme</td>
<td>–</td>
<td>0.64</td>
<td>–</td>
</tr>
<tr>
<td>Maternal encouragement to be thin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 1</td>
<td>–</td>
<td>–</td>
<td>0.89</td>
</tr>
<tr>
<td>Item 2</td>
<td>–</td>
<td>–</td>
<td>0.76</td>
</tr>
<tr>
<td>Item 3</td>
<td>–</td>
<td>–</td>
<td>0.85</td>
</tr>
<tr>
<td>Item 4</td>
<td>–</td>
<td>–</td>
<td>0.95</td>
</tr>
<tr>
<td>Thin ideal internalisation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 1</td>
<td>0.93</td>
<td>0.93</td>
<td>0.92</td>
</tr>
<tr>
<td>Item 2</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
</tr>
<tr>
<td>Item 3</td>
<td>0.73</td>
<td>0.74</td>
<td>0.70</td>
</tr>
<tr>
<td>Item 4</td>
<td>0.72</td>
<td>0.72</td>
<td>0.73</td>
</tr>
<tr>
<td>Item 5</td>
<td>0.59</td>
<td>0.59</td>
<td>0.59</td>
</tr>
<tr>
<td>Item 6</td>
<td>0.69</td>
<td>0.70</td>
<td>0.74</td>
</tr>
<tr>
<td>Restrained eating</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 1</td>
<td>0.42</td>
<td>0.42</td>
<td>0.42</td>
</tr>
<tr>
<td>Item 2</td>
<td>0.76</td>
<td>0.76</td>
<td>0.77</td>
</tr>
<tr>
<td>Item 3</td>
<td>0.53</td>
<td>0.53</td>
<td>0.53</td>
</tr>
<tr>
<td>Item 4</td>
<td>0.69</td>
<td>0.69</td>
<td>0.68</td>
</tr>
<tr>
<td>Item 5</td>
<td>0.79</td>
<td>0.79</td>
<td>0.78</td>
</tr>
<tr>
<td>Item 6</td>
<td>0.64</td>
<td>0.64</td>
<td>0.65</td>
</tr>
<tr>
<td>Item 7</td>
<td>0.57</td>
<td>0.57</td>
<td>0.60</td>
</tr>
</tbody>
</table>
ideal internalisation. We controlled for BMI and general time spent watching television. Figure 1 depicts the tested model. The model showed a good fit, $\chi^2(6)=11.76$, CFI $=0.962$, RMSEA $=0.063$, and explained 19% of the variance in thin ideal internalisation, 23% of the variance in body dissatisfaction and 25% of the variance in restrained eating. It can be seen that watching soaps and music television was significantly related to thin ideal internalisation. Watching soaps and music television more often was associated with higher internalisation of the thin ideal. Internalisation was positively related to body dissatisfaction and strongly and positively related to restrained eating. Higher scores on internalisation of the thin ideal were associated with higher body dissatisfaction and more restrained eating behaviour. Watching soaps and music television was directly and positively related to restrained eating, but not significantly and directly related to body dissatisfaction. In other words, the more soaps and music television the girls watched, the higher the restrained eating. In other words, the more soaps and music television the girls watched, the higher the restrained eating. A higher BMI was related to more thin ideal internalisation, more restrained eating and higher body dissatisfaction. Time spent watching television was positively related to thin ideal internalisation, but negatively related to restrained eating. So, when girls indicated to watch more television in general, they showed more internalisation of the thin ideal, but less restrained eating. A higher BMI was related to more time spent watching television. No significant interrelations were found between BMI and watching soaps and music television or time spent watching television and watching soaps and music television.

### Table 2. Means and SDs of model variables ($N=245$).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMI (four categories)</td>
<td>2.25</td>
<td>0.57</td>
<td>1–4</td>
</tr>
<tr>
<td>Time spent watching TV (categorised)</td>
<td>2.60</td>
<td>1.21</td>
<td>1–5</td>
</tr>
<tr>
<td>Watching soaps and music TV</td>
<td>0.56</td>
<td>0.58</td>
<td>0–2</td>
</tr>
<tr>
<td>Watching cartoons</td>
<td>1.32</td>
<td>0.58</td>
<td>0–2</td>
</tr>
<tr>
<td>Watching ‘neutral’ TV</td>
<td>1.14</td>
<td>0.60</td>
<td>0–2</td>
</tr>
<tr>
<td>Maternal encouragement to be thin</td>
<td>0.28</td>
<td>0.43</td>
<td>0–2</td>
</tr>
<tr>
<td>Thin ideal internalisation</td>
<td>0.41</td>
<td>0.42</td>
<td>0–2</td>
</tr>
<tr>
<td>Body dissatisfaction</td>
<td>0.59</td>
<td>0.80</td>
<td>0–4</td>
</tr>
<tr>
<td>Restrained eating</td>
<td>0.70</td>
<td>0.46</td>
<td>0–2</td>
</tr>
</tbody>
</table>

### Table 3. Pearson correlations between model variables ($N=245$).

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 BMI</td>
<td>–</td>
<td>0.13*</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>2 Time spent watching TV</td>
<td>0.02</td>
<td>0.07</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>3 Watching soaps and music TV</td>
<td>0.11</td>
<td>0.13*</td>
<td>0.06</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>4 Watching cartoons</td>
<td>–0.03</td>
<td>0.01</td>
<td>0.02</td>
<td>–0.02</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>5 Watching ‘neutral’ TV</td>
<td>0.48**</td>
<td>0.14*</td>
<td>0.06</td>
<td>0.08</td>
<td>0.07</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>6 Maternal encouragement to be thin</td>
<td>0.17**</td>
<td>0.20**</td>
<td>0.27**</td>
<td>0.16*</td>
<td>0.03</td>
<td>0.36**</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>7 Thin ideal internalisation</td>
<td>0.44**</td>
<td>0.08</td>
<td>0.03</td>
<td>0.13</td>
<td>–0.13*</td>
<td>0.40**</td>
<td>0.23**</td>
<td>–</td>
</tr>
<tr>
<td>8 Body dissatisfaction</td>
<td>0.23**</td>
<td>–0.11</td>
<td>0.16*</td>
<td>–0.01</td>
<td>0.01</td>
<td>0.29**</td>
<td>0.26**</td>
<td>0.25**</td>
</tr>
</tbody>
</table>

Note: *$p < 0.05$, **$p < 0.01$. 
The second tested model was similar to the first model, but included watching cartoons and neutral programmes besides watching soaps and music television. The model fit was good, $\chi^2(6) = 12.04$, CFI = 0.944, RMSEA = 0.064. The model explained 22% of the variance in thin ideal internalisation, 29% of the variance in body dissatisfaction and 27% of the variance in restrained eating. Figure 2 depicts the model that was tested. In this model, watching soaps and music television was still significantly related to higher thin ideal internalisation, but the direct relation with restrained eating became marginally significant. Watching cartoons was unrelated to thin ideal internalisation and body dissatisfaction, but significantly related to less restrained eating. Watching ‘neutral’ programmes on television was not related to thin ideal internalisation and restrained eating, but was related to lower levels of body dissatisfaction. Further, BMI was negatively inter-related with watching ‘neutral’ television, indicating that the higher the BMI of the girls, the less ‘neutral’ television programmes they watched. The same pattern was found for all similar relations in the initial model; therefore, these relations are not reported here.5

Third, a similar model as the initial model was tested, but now with maternal pressure to be thin included, next to watching soaps and music television. The model tested is shown in Figure 3. The model fit was good, $\chi^2(6) = 10.83$, CFI = 0.965, RMSEA = 0.057. The model explained 38% of the variance in thin ideal internalisation, 34% of the variance in body dissatisfaction and 31% of the variance in restrained eating. When maternal encouragement to be thin was added to the model, the relation between watching soaps and music television and thin ideal internalisation still remained significant, as well as the direct relation between watching soaps and music television and restrained eating. Furthermore, the relation between thin ideal internalisation and restrained eating remained significant. However, internalisation of the thin ideal was no longer significantly related to body dissatisfaction if maternal encouragement to be thin was included. Maternal encouragement appeared to be directly related to body dissatisfaction and restrained eating. The more maternal encouragement to be thin the girls perceived, the more restrained eating and body dissatisfaction they reported. Interestingly, a strong, positive relation between maternal encouragement to be thin and thin ideal internalisation was found. Experiencing higher maternal encouragement to be thin was associated with stronger internalisation of the thin ideal provided by the media. Time spent watching television in general was not related to thin ideal internalisation anymore. Maternal encouragement to be thin was positively interrelated with BMI and time spent watching television. So, when girls experienced high maternal encouragement, this was associated with a higher BMI and more time spent watching television. All other relations showed the same pattern found in the initial model.

Discussion

The aim of the present study was to examine the relations between watching soaps and music television, body dissatisfaction, and restrained eating, directly and indirectly, through thin ideal internalisation in a sample of young girls. We found that watching soaps and music television often was associated with higher thin ideal internalisation, which on its turn was associated with higher body dissatisfaction and higher restrained eating.

There are two possible explanations for the positive relations we found between watching soaps and music television and internalisation of the thin ideal. First, soap
operas and music clips contain many attractive, slender women (Englis et al., 1994; Greenberg & Woods, 1999), as a consequence, girls who often watch soaps and music television are more exposed to the thin ideal than girls who seldom or never watch these programmes. This implies that more exposure to the thin ideal in itself might result in stronger internalisation of the thin ideal. Secondly, it is possible that girls internalise the ‘beauty message’ that is provided by the soaps. Being attractive is often associated with all kinds of positive personality traits (i.e. sociability and independence) and positive life outcomes (i.e. a successful career and relational happiness), not only in daily life, but also in the media (e.g. Eagly, Ashmore, Makijani, & Longo, 1991; Griffin & Langlois, 2006). By watching soaps and music television young girls might learn that attractiveness is linked with happiness and subsequently internalise this message and experience pressure to be attractive. However, our data is cross-sectional, so it is also possible that girls who internalised the thin ideal watched more soaps and music television.

The current study was the first to find a direct relation between watching soaps and music television and restrained eating. This finding might be explained by the fact that young girls identify themselves with soap actresses and pop stars they admire and adopt their ideas about appearance and subsequently model their behaviours. Hoffner (1996) found that perceived attractiveness was the only predictor of identification with television actresses in young girls, whereas strength, humour, intelligence, and social behaviour of the actresses were not. Identification with media models might be an important factor in the transference of their norms and values about appearance and eating behaviour. Furthermore, most television programmes are designed to get people emotionally involved. Transportation into the storyline might further strengthen identification processes (Green & Brock, 2000; Nabi, Stitt, Halford, & Finnerty, 2006). An interesting suggestion for future research is to further investigate identification as an underlying mechanism.

Watching soaps and music television was also found to be indirectly related to body dissatisfaction, through thin ideal internalisation (see also, Blowers et al., 2003; Clark & Tiggemann, 2006; Sands & Wardle, 2003). It is likely that body dissatisfaction occurs when girls feel that their body is not (yet) in line with the thin ideal provided by the media or when they feel that they can not live up to the thin ideal standard. It is an alarming finding that girls this young already experience body dissatisfaction, since these girls might be at a higher risk to develop disturbed eating behaviour such as, for example, bulimia nervosa or binge eating (see also, Stice, 2002; Vohs, Bardone, Joiner, Abrahamson, & Heatherton, 1999; Vohs et al., 2001). The results of our study underline the importance of examining media influence in very young girls, for they might be vulnerable to develop eating pathologies later on, if they, at a very early age, internalise thin ideal standards and feel the pressure to be attractive from the media.

Additionally, we were interested in the differences between watching soaps and music television and watching cartoons or ‘neutral’ programmes. While Herbozo et al. (2004) found that cartoons sometimes contain appearance related messages, we only found a negative relation between watching cartoons and restrained eating. There are some differences between soaps and music television and cartoons that may explain why watching the first two is related to thin ideal internalisation, and watching the last is not. For instance, soaps and music television may display adult life events and behaviours and contain human actors, which enable true modelling. However, it is possible that cartoons, other than the ones we used in our study, are also related to internalisation of the thin ideal. For example, the characters in the popular cartoon ‘Totally Spies’ all have very unrealistic, thin ideal bodies. Additionally, watching ‘neutral’ television programmes was
negatively related to body dissatisfaction. This might be explained by the fact that these programmes, in contrast to soaps and music television, do not focus on appearance and social status. Another possibility could be that the types of girls that are dissatisfied with their bodies or have internalised the thin ideal are not watching these kinds of informative programmes for children. Since our study is one of the first on this topic, clearly more research is required to be able to build a suitable theory.

Another important finding was that if a girl experienced more pressure from her mother to be thin, she appeared to internalise the thin ideal more. Perhaps, by encouraging her daughter to engage in appearance related behaviour, the mother indirectly carried out the message that appearance was important and the girl should comply with this thin ideal, and this could make the girl more vulnerable to internalising the thin ideal provided by the media. Further, maternal pressure to be thin was directly related to higher body dissatisfaction and restrained eating. Prior research also found a relation between maternal pressure to be thin and body dissatisfaction (e.g. Benedikt, Wertheim, & Love, 1998; Wertheim, Mee, & Paxton, 1999) and restrained eating (e.g. Pike & Rodin, 1991). Our results further support the assumption that mothers play important roles in the transmission of body image and eating disturbance in young girls (see also, Anschutz et al., resubmitted).

Some limitations of the present study and suggestions for further research should be mentioned. First, because we used cross-sectional data, we cannot say anything about causality. Therefore, it is important to test the models in a longitudinal design to be able to examine the direction of the relations we found over time. Additionally, our sample might not be totally representative of the population, due to the sampling strategy we used. In future studies, we should more carefully select schools that together form a real representative sample of the population. Further, future research should include boys, since some studies found that men are also susceptible to an ideal male image provided by the media (e.g. Hargreaves & Tiggemann, 2004; Leit, Pope, & Gray, 2001). It would be interesting to examine what the differences between young boys and girls are in this regard. Furthermore, future research might benefit from gathering multi-informant data, which could provide data on the reliability of the responses provided by children, and also could reduce shared rater bias (Engels, Finkenauer, Meeus, & Dekovic, 2001). Additionally, using an experimental design might facilitate a stringent test of the magnitude of effects of watching soaps and music television on body dissatisfaction and restrained eating. To be able to generalise the results to a daily life situation, experimental research should use a naturalistic setting in which children watch television and are allowed to eat palatable food. It would be interesting then, to establish how satisfied they would feel with their bodies or how much they would eat while watching television, depending on whether they saw programmes featuring thin ideals or not.

To conclude, our findings imply that parents should be cautious in allowing their child to watch soaps and music television at this young age, because young girls might be vulnerable for the messages regarding appearance carried out by such programmes. In addition, watching television in general was found to be associated with thin ideal internalisation as well, so maybe parents should not let their young child watch television too often anyhow. Another important finding was that maternal encouragement to be thin was related to stronger thin ideal internalisation, higher body dissatisfaction and higher restrained eating. Maybe, it would be better if mothers focussed on encouraging healthy behaviours, such as eating fruits and vegetables or playing sports, instead of emphasising the thin ideal standard explicitly. Future research is very important to recognise aspects of the media and family that are related to the
development of body image disturbance or disturbed eating behaviour and to evolve strategies to protect young girls against this.

Notes
1. For clarity reasons, we adjusted the classification of children into grades to American standards. In the Netherlands, a different school system is used. Children attend primary school from the age of 4. According to Dutch standards, the girls in our sample were in the grades 4, 5 and 6.
2. We tested whether age moderated the relations between the model variables, but a multi-group analysis with two age groups (7–8 years vs. 9 year) revealed no significant difference between the models for the youngest en oldest age group.
3. We were also interested in the question whether BMI of the girls would moderate the relations between model variables. Unfortunately, we were unable to perform a multi-group analysis, because the normal weight group ($N=201$) and the overweight and obese group ($N=47$) differed too much in number. However, we tested the initial model for the normal weight girls alone and it appeared that the pattern of the results was the same as when the overweight girls were included, so we decided to control for BMI but include the overweight girls.
4. It should be stressed that we did not test mediation model (Otten, Engels, & Van den Eijnden, in press), but within a total model direct and indirect associations. It goes beyond the scope of this article to address extensively the differences between testing these models in structural equation analyses.
5. It is not possible to formally test differences between paths in the initial model and the second model, e.g. between thin ideal internalisation and restrained eating, as these models do not contain the same number of variables and estimates.

References


