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Increased body satisfaction after exposure to thin ideal children's television in young girls showing thin ideal internalisation

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This study tested the direct effect of watching thin ideal children's television on body satisfaction in preadolescent girls (6–8 years old). A within-subject design was used in which girls ($N = 51$) were tested three times. They watched television clips in random order containing either (1) thin ideal animated characters or (2) animated characters with no thin ideal features or (3) 'real' human actors with no thin ideal features. After watching, their state body satisfaction was measured. Girls with higher levels of thin ideal internalisation showed higher body satisfaction after exposure to the thin ideal characters than after exposure to animated or real characters featuring no thin ideal features. No differences on body satisfaction between the exposure conditions were found in girls with lower levels of thin ideal internalisation. The results might suggest that young girls who internalised the thin ideal are inspired by thin ideal characters in children's media.

Keywords: body satisfaction; thin ideal; television; media; young girls; thin ideal internalisation

Introduction

Recent numbers show that children's use of media has increased to more than seven hours a day, with television watching still being the predominant type of media used (Rideout, 2010; Strasburger, Jordan, & Donnerstein, 2010). When watching television, children's attitudes and behaviours are influenced by what they see on screen (for a review see Strasburger et al., 2010). For example, increased aggression was found after exposure to violent media in children (e.g. Wilson et al., 2002). Further, initiation of smoking (e.g. Dalton et al., 2003) and drinking in adolescents (e.g. Sargent, Wills, Stoolmiller, Gibson, & Gibbons, 2006) is related to early exposure to movies containing smoking or alcohol cues. The persistent depiction of thin ideal images in the media is also often mentioned as a possible influential factor on young children's – especially girls' – body image and eating behaviours (e.g. Field

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et al., 2008). The present study is aimed at investigating the direct effect of exposure to thin ideal children's television on body satisfaction in young girls.

The effect of exposure to thin ideal media on body dissatisfaction is repeatedly found in adult women (for reviews see Groesz, Levine, & Murnen, 2002; Grabe, Ward, & Hyde, 2008) as well as adolescent girls (e.g. Borzekowski, Robinson, & Killen, 2000; Tiggemann, 2005; Tiggemann & Pickering, 1996). When exposed to thin ideal media models, women might feel unable to live up the unrealistic thinness standards provided by the media and consequently feel dissatisfied with their own bodies. This is the main assumption of the 'negative contrast' theory (Thornton & Maurice, 1999; Thornton & Moore, 1993). This theory is based on the social comparison theory, stating that people tend to compare themselves to relevant others (see also Botta, 1999). As thinness is often carried out by the media as a prevailing cultural norm, women might consider media models relevant to compare themselves with.

It is important to investigate the effects of exposure to thin ideal media models on body image and eating behaviours in young girls, as they are frequently exposed to thin ideal media and thin ideal influencing might therefore already start at this young age already. Results of previous studies support the assumption that the onset of body dissatisfaction and eating disturbances as a consequence of thin ideal exposure already occurs at a very young age (e.g. Clark & Tiggemann, 2006; Collins, 1991; Schur, Sanders, & Steiner, 2000). For example, Dittmar, Halliwell, and Ive (2006) found that young girls between the ages of 5.5 and 7.5 had lower body esteem scores and greater body dissatisfaction after exposure to visual images of a Barbie doll. Television watching in general, and especially experiencing pressure to be thin from the media, was found to be related to increased awareness of weight loss strategies and disturbed eating behaviour later on in young children (Harrison & Hefner, 2006; McCabe & Ricciardelli, 2005). In addition, young girls were found to use media as a source of information about dieting (Lawrie, Sullivan, Davies, & Hill, 2007; Schur et al., 2000). These are alarming findings, since body dissatisfaction and dieting are considered main predictors of later eating disorders (i.e. bulimia and anorexia nervosa (Garfinkel, 2002; Hill, 1993).

When studying the effects of watching thin ideal television, it is pivotal to establish which types of television programs affect body satisfaction in young girls. Dohnt and Tiggemann (2006) found that watching music television was related to higher dieting awareness in young girls from five to eight years old, whereas watching cartoons had no relation with dieting awareness. In line with this, Anschutz, Engels, Van Leeuwe, and Van Strien (2009) found that watching adult targeted soap operas and music television was related to body dissatisfaction through thin ideal internalisation in girls aged seven to nine years. However, an experimental study in which the direct effects of exposure to different kinds of thin ideal television were examined showed that actually watching a popular Dutch soap opera did not directly affect the body image of girls aged 9 to 12. Only after exposure to a television show that explicitly focused on the thin ideal (Holland's Next Top Model), the older girls in this sample (11–12 years old) showed higher body dissatisfaction (Anschutz, Spruijt-Metz, Van Strien, & Engels, 2011). The results of Anschutz et al. (2009) suggest that watching adult's soap opera's is related to young girls' body dissatisfaction, but no direct effect was found in an experimental study (Anschutz et al., 2011). This might suggest that an explicit focus on the thin ideal is necessary for an immediate effect on body image. However, whether this applies to children's

media too, is still unclear. So, by further establishing which types of thin ideal exposure do influence girls' body image and which do not, our study provides new insights.

Surprisingly few studies examined the effects of children's media on body image in young children. This is striking because young children (aged between five and eight years) watch children's television shows more frequently than adult television shows (Valkenburg & Cantor, 2001). Given the differences between children's and adult's media, it is possible that they differentially affect children's body image. For example, children often watch cartoons. Animated female characters often comprise very unrealistic body proportions, which can be more extremely thin than would be physically possible for 'real' actors. This might have stronger effects than exposure to 'real' bodies. In addition, children might identify more with child characters than adult characters because of a higher perceived similarity (Tian & Hoffner, 2010), which might enhance the effect of thin ideal exposure.

Although one might presume that thin ideal cues are particularly present in adult television shows featuring thin ideal models, Herbozo et al. (2004) showed that children's animated cartoons (e.g. Cinderella, The Little Mermaid) contained many body image related messages. Most female characters comprise ideal bodies and cartoons provide children with the idea that beauty is associated with goodness, whereas ugliness is associated with badness and evil. Therefore, the authors assume that young children might develop ideas about beauty while watching cartoons. Their findings were supported by Klein and Shiffman (2005, 2006), showing that the number of thin cartoon characters increased over the past decades, whereas overweight cartoon characters appeared less frequent over time.

Only one recent, experimental study examined the direct effect of exposure to children's television shows containing thin ideal cues on body image in young girls aged 3–6 years (Hayes & Tantleff-Dunn, 2010). In this study, girls were exposed to either animated cartoons containing thin ideal characters and appearance-related messages or cartoons containing characters possessing no thin ideal features and no messages regarding ideal appearance. No direct effect of exposure to the thin ideal cartoons on the girls' body dissatisfaction was found. Hayes and Tantleff-Dunn (2010) conclude by arguing that media exposure might not directly affect body dissatisfaction in young girls before the age of six, whereas older girls could be affected (see also Dohnt & Tiggemann, 2006). In sum, although content analyses show that children's media does promote the thin ideal, the single experimental study that tested the effects in a very young girls' sample did not find a direct effect of watching animated cartoons containing thin ideal cues on body dissatisfaction. However, clearly more research is needed to further investigate whether and how exposure to children's thin ideal media affects body image in young girls.

In adult women, it was found that not all women are equally affected by thin ideal media exposure (see also Grabe et al., 2008; Groesz et al., 2002). On an individual level, a higher extent of preoccupation with body weight seemed to enhance the negative effects of exposure to thin ideal images on body satisfaction (e.g. Posavac, Posavac, & Posavac, 1998). Research in adults revealed that women who internalised the thin ideal are more susceptible to feeling worse about their own body after exposure to thin ideal media messages (e.g. Cattarin, Thompson, Thomas, & Williams, 2000; Heinberg & Thompson, 1995). Thin ideal internalisation refers to the extent to which a person has incorporated thinness as a personal standard of attractiveness and engages in behaviour to really reach this ideal (Thompson & Stice,

2001). Although thin ideal internalisation was found to play a central role in the relation between thin ideal media exposure and body image (Anschutz et al., 2009; Blowers, Loxton, Grady-Flesser, Occhipinti, & Dawe, 2003; Clark & Tiggemann, 2006; Sands & Wardle, 2003), the moderating role of thin ideal internalisation was never tested in young girls. In line with findings in women, in young girls who internalised the thin ideal the negative effects of thin ideal images in the media on body image might be stronger than in girls who did not internalise the thin ideal.

The present study aimed at contributing to the scarce literature on the effects of exposure to children's media containing thin ideal cues on body image in young girls, building on the results of previous studies. The effect of exposure to an animated cartoon containing thin ideal characters on body satisfaction was compared to the effect of exposure to an animated cartoon containing no thin ideal characters and a television show containing 'real' human actors but no thin ideal cues. An experimental within-in subject design was used, to enable testing the direct effects of exposure to thin ideal television on young girls' body image. We selected a sample of girls aged six to eight years old. This was done because previous studies in Western societies suggests that 6 years is a crucial age at which media starts to affect body dissatisfaction in girls (Dohnt & Tiggemann, 2006; Hayes & Tantleff-Dunn, 2010). In addition, we assumed that girls at this age primarily watch children's television, whereas older children watch adult targeted television more frequently (see also Valkenburg & Cantor, 2001). Further, we tested whether young girls who internalised the thin ideal were more susceptible for the effects of exposure to children's thin ideal television on body dissatisfaction. It was expected that body satisfaction would be lower after exposure to the animated thin ideal cartoon than after exposure to the neutral animated cartoon or the television show containing human actors with no thin ideal features, especially in girls who internalised the thin ideal.

Methods

Participants

The sample consisted of 51 girls from grades 1 to 3 of a Dutch primary school. In grade 1 ($n = 11$) the mean age (as measured at the first session) of the children was 6.0 years (SD = 0.4). In grade 2 ($n = 25$), the children had a mean age of 7.5 years (SD = 0.5). In grade 3 ($n = 15$), the children had a mean age of 8.3 years (SD = 0.5). In the sample, 8% of the girls was underweight ($n = 4$), 68% had a normal weight ($n = 34$), 22% was overweight ($n = 11$) and 2% was severely overweight ($n = 1$; see measures section for BMI classifications).

Design

A within-subject design was used in which the girls were tested on three different days. An advantage of using a within-subject design is a reduction in error variance associated with individual differences between the girls (Greenwald, 1976). The design included one experimental condition (thin ideal animated character) and two control conditions (animated or real non-thin ideal children's programmes). During each session, the girls watched a 10-minute movie clip that either contained unrealistically thin ideal cartoon characters, cartoon characters with no thin ideal

features, or 'real' human characters with no extreme thin ideal features. Each girl was exposed to the movie clip in random order, to avoid the results being influenced by the order in which the movie clips were shown. Directly after each session, the girls' body satisfaction was assessed. Power calculations reveal that 50 participants per cell is sufficient in an ANOVA design with three different experimental conditions to detect a medium effect size (Cohen, 1992).

Procedure

Because of the explorative nature of this study, one primary school was approached to participate in the present study. After the school agreed, parents received a letter with detailed information about the study and were asked for consent for their daughter to participate (active informed consent). Eighty-six percent of the parents gave their consent. Parents were explicitly asked not to discuss the information about the study with their children, to keep the girls naïve to the study purpose.

All girls were individually tested during regular school hours. The experiment took place in a semi-naturalistic setting that was created in a separate room at the school. All sessions took place in the same room. There was a comfortable chair the children could sit in when watching television and they had a side table next to them with a glass of water they could drink from. All three sessions started with watching the television clip. The girls were told to watch the television clip while acting like they were at home and that they would be asked to answer some questions afterwards.

Each time after watching the television clip, the girls were asked to complete questionnaires about their attitudes towards the television clip and their state body satisfaction. A research assistant read the questions aloud and clarified them when needed. After the last session, internalisation of the thin ideal was assessed and the girl's height and weight was measured without wearing shoes. Time between the three sessions was mostly one but sometimes two weeks (e.g. in case of holidays, sickness or school matters). The girls were always tested at the same day of the week and the same time of the day and guided by the same research assistant.

Materials and measures

Movie clips

Great care was taken to select movie clips of media targeted at young children. It was chosen to test the effect of animated characters, because young children mostly watch cartoons (see also Valkenburg & Cantor, 2001) and the female characters in these cartoons often comprise stereotypical thin ideal features that are highly unrealistic (Herbozo et al., 2004). Furthermore, most television programs aimed at children using real human characters do not put such an explicit emphasis on the thin ideal as is done adult targeted thin ideal television programs like America's Next Top Model or Extreme Make-Over. The first television clip was a fragment from 'Kim Possible', a popular cartoon in the Netherlands. The main character in this cartoon is Kim Possible, a young girl who encounters all kinds of adventures as an action hero. This character has extremely unrealistic (exaggerated) body proportions that are in line with the current thin beauty ideal; a very thin waist, flat belly, long legs, and a large head with big eyes and lips. To compare the effects of this animated

thin ideal character with animated characters without references to the thin ideal, the second television clip was a fragment from 'Kid vs. Cat', another popular cartoon in the Netherlands. In this cartoon, the main characters are a young boy and a cat that live with the same family and are constantly provoking each other. Furthermore, there is a female character (sister of the main character) playing a role in the cartoon. All characters in this cartoon have fictitious body figures, e.g. they have a very little – but not thin – body compared to the size of their heads. The characters comprise no thin ideal features. A second control condition was included to investigate the effects of real human characters with no thin ideal features relative to the effects of animated thin ideal characters. The third television clip was taken from an episode of 'The House of Anubis', a popular Dutch children's television drama containing 'real' human actors. The story is about teenagers living in a boarding school (the House of Anubis), seeking a hidden treasure. Main characters are five girls and four boys. All characters are average looking and the female characters do not possess extreme thin ideal bodies. Care was taken to select an episode in which absolutely no references were made to the thin ideal and in which the girls were not depicted as ideal models (e.g. when wearing revealing clothes). Appendix section shows a depiction of the main characters of each television clip we used.

Body Mass Index

For each girl, a BMI score (weight (kg) height^{-2} (m)) was calculated. BMI itself does not provide information about the weight status of the girls, since BMI is highly age dependent in young children. Therefore, international standards were used to classify children into four BMI categories; (1) underweight, (2) normal weight, (3) overweight or (4) obese (Cole, Bellizzi, Flegal, & Dietz, 2000). Because BMI is often found to be related to body dissatisfaction (e.g. Anschutz et al., 2011; Clark & Tiggemann, 2008; Yates, Edman, & Aruguete, 2004), it was included as a covariate.

Liking of the television clip

A Visual Analogue Scale (VAS) was used to investigate the girls' attitudes towards the television clip. They were asked to indicate on a line (14.0 cm) to what extent they liked the television clip they had seen, ranging from 'not at all' to 'very much'. A higher score represented higher liking of the television clip. For its convenient and easy use, VAS is often used in studies with young children samples and has been found to be a reliable method to assess self-reports on psychological constructs and attitudes (e.g. Abu-Saad, Kroonen, & Halfens, 1990; Van Laerhoven, Van der Zaag-Loonen, & Derkx, 2004).

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 and proved to be a valid measure (Cusumano & Thompson, 2001; Harrison, 2009). The internalisation subscale of this scale (six items) assessed whether the thin ideal provided by the media was considered desirable and whether the girls internalised thinness as a personal norm. An example item of this subscale: 'I would

like my body to look like the people who are on TV'. Response categories were 'no', 'sometimes', or 'yes'. Cronbach's alpha was 0.72. Based on a median split, two groups were created that were either low or high on thin ideal internalisation.

Body satisfaction

A Visual Analogue Scale (VAS) was used to investigate the girls' state body satisfaction. They were asked to indicate on a line (14.0 cm) to what extent they felt satisfied with their own body at that moment, ranging from 'not at all' to 'very much'. A higher score on this measure represents higher satisfaction with the body.

Results

Descriptives

Table 1 shows the means and standard deviations of liking of the television clip and body satisfaction, split by the three television clip conditions and level of thin ideal internalisation. Of the girls, 98% reported to have watched the thin ideal cartoon before (in general, not the experimental clip in particular), 86% reported to have watched the neutral cartoon before, and 75% reported to have watched the neutral drama before. Results of three ANOVA's showed that whether or not the girls were familiar with the television program was not related to body satisfaction after watching the corresponding television clip (F-values < 1). In addition, we tested whether liking of the television clip differed between the three experimental conditions, conducting a repeated measures ANOVA. Results of the Mauchly's sphericity test of equal variances across the levels of the repeated measure factor showed that sphericity could be assumed because the p-value was greater than 0.05 ($p = 0.11$). No significant effect on liking of the television clip was found for condition, $F(1, 100) = 0.06$, $p = 0.95$. This manipulation check indicates that the girls equally liked the three television clips, so the main results are not influenced by differences in liking of the television clips used. In addition, no significant differences were found between girls with lower or higher levels of thin ideal internalisation on liking of the television clip in all three conditions (p-values were 0.15, 0.53, and 0.45 for the thin ideal cartoon, neutral cartoon and neutral drama condition, respectively).

Main analysis

A mixed ANCOVA tested the effects of television clip condition and thin ideal internalisation on body satisfaction, controlling for BMI. Results of the Mauchly's sphericity test showed that sphericity could be assumed because the p-value was greater than 0.05 ($p = 0.07$). BMI had no significant effect on body satisfaction, $F(1, 47) = 0.34$, $p = 0.56$. No significant main effect on body satisfaction was found for television clip condition, $F(2, 94) = 1.14$, $p = 0.32$ or thin ideal internalisation, $F(1, 47) = 0.915$, $p = 0.34$. A significant interaction between television clip condition and thin ideal internalisation on body satisfaction was found, $F(2, 94) = 3.31$, $p = 0.04$, $r = 0.18$. Within-subject contrasts showed that body satisfaction differences between the thin ideal cartoon condition and the neutral cartoon condition varied by level of thin ideal internalisation, $F(1, 47) = 4.00$, $p = 0.05$, $r = 0.28$. Girls with high

Table 1. Means and standard deviations of liking of the television clip (in cm) and body satisfaction (in cm), split by television clip condition and low ($n = 28$) and high ($n = 23$) thin ideal internalisation (TI).

	Thin ideal cartoon		Neutral cartoon		Neutral drama	
	Low TI	High TI	Low TI	High TI	Low TI	High TI
Liking of television clip	10.20 (3.16)	11.42 (2.63)	10.70 (2.27)	11.22 (3.55)	10.56 (3.17)	11.21 (2.90)
Body satisfaction	10.32[a] (2.72)	11.84[a] (2.37)	10.51 (2.96)	10.92 (2.71)	10.64 (2.94)	10.83 (3.01)
Body satisfaction*	10.24[b] (0.49)	11.89[b] (0.56)	10.46 (0.55)	10.85 (0.62)	10.66 (0.58)	10.71 (0.65)

Notes: *Adjusted means and standard errors (results mixed ANCOVA controlling for BMI).
[a,b]Means with a similar superscript significantly differ from each other ([a]$p = 0.41$ and [b]$p = 0.033$).

levels of thin ideal internalisation showed higher body satisfaction after exposure to the thin ideal cartoon than after exposure to the neutral cartoon, whereas body satisfaction of girls low in thin ideal internalisation was about equal in the two conditions. Further, the difference between body satisfaction scores after watching the thin ideal cartoon and the children's drama containing 'real' humans did significantly differ by level of thin ideal internalisation, ($F(1,47) = 7.88$, $p = 0.01$), $r = 0.38$. Body satisfaction of girls high in internalisation of the thin ideal was higher after watching the thin ideal cartoon than after watching the children's drama, whereas body satisfaction of girls with low levels of thin ideal internalisation did not differ much between the thin ideal cartoon and the children's drama condition. Table 1 shows the adjusted means and standard errors split for movie clip condition and low or high internalisation of the thin ideal.

In an additional mixed ANOVA, it was checked whether BMI had an effect on the relation between movie clip condition and body satisfaction, or the interaction effect between movie clip condition and thin ideal internalisation on body satisfaction. This was not the case.

Discussion

The present study aimed at further investigating the effects of exposure to thin ideal children's media on body satisfaction in young girls. The main finding was that young girls who internalised the thin ideal felt better about their body after exposure to a thin ideal cartoon characters than after exposure to characters (animated or real) with no thin ideal features. No effect of the different children's television shows on body satisfaction was found in girls who did not internalise the thin ideal.

The finding that girls who internalised the thin ideal were more satisfied with their body after exposure to thin ideal cartoon characters was contrary to our expectations. Based on previous studies in adult women showing that women with high levels of internalisation of the thin ideal had lower body satisfaction after exposure to thin ideal media (Cattarin et al., 2000; Heinberg & Thompson, 1995), it was hypothesized that the same would be found in young girls. However, girls who internalised the thin ideal felt better about their body after exposure to thin ideal characters, which might indicate that they were somehow inspired by the thin ideal characters.

Earlier, positive effects of exposure to thin media models on adult women's body image were found (E. Henderson-King & D. Henderson-King, 1997; Joshi, Herman, & Polivy, 2004; Mills, Polivy, Herman, & Tiggemann, 2002; Myers & Biocca, 1992). Based on these findings, the 'inspiration theory' was formulated by Mills et al. (2002) suggesting that thin media models might inspire certain women. This theory proposes that women for whom thinness is something highly valuable and desirable for themselves engage in a 'thinness fantasy' after exposure to thin media images (see also Myers & Biocca, 1992), because thinness is self-relevant for them and they consider a thin body figure to be attainable. Empirical support for this theory was found by Tiggemann, Polivy, and Hargreaves (2009), who explicitly manipulated thin ideal processing in their study. Their results showed that when women were instructed to engage in a positive fantasy and be inspired by a thin ideal print model, they felt better about their own body afterwards.

The present study is the first to detect a positive effect of watching thin ideal television on body satisfaction in young girls with higher levels of thin ideal internalisation. Although this short-term self-enhancement at first glance may look like something desirable, young girls who are inspired by the thin ideal as provided by the media may further internalise a very unrealistic ideal body for themselves and eventually become at risk for development of body image disturbances and eating pathology (see also Harrison & Cantor, 1997; Stice, 2002; Stice, Schupak-Neuberg, Shaw, & Stein, 1994). This reasoning is supported by correlational research revealing a positive relation between thin ideal internalisation and body dissatisfaction in young girls (Anschutz et al., 2009; Blowers et al., 2003; Clark & Tiggemann, 2006; Sands & Wardle, 2003). So, over time, thin ideal internalisation may lead to body image distortions.

The thin ideal cartoon characters are extremely unrealistically thin and their bodily proportions can actually be seen as an exaggerated representation of the current (thin) beauty ideal. Hence, through children's media, girls are exposed to strong thin ideal cues. Besides media, dolls are found to affect body image and food intake in young girls as well (Anschutz & Engels, 2010; Dittmar et al., 2006). Fashion dolls, like for example Barbie, also provide girls with strong stereotypical ideas about the female ideal. All in all, young girls are frequently exposed to unrealistic female bodies while watching television and playing in their leisure time. Previously, it was found that people are more likely to be influenced by a media model when they have a positive attitude towards the model and identify with the model (e.g. Austin, Chen, & Grube, 2006; Dal Cin, Gibson, Zanna, Shumate, & Fong, 2007). Because they perceive being thin as something positive and desirable, girls high in thin ideal internalisation might be more vulnerable for being influenced by thin ideal models in their environment. In the present study, the girls with high levels of internalisation of the thin ideal might have had more positive attitudes towards the character 'Kim Possible' and perceived themselves as more similar to her than to the characters in Kid vs. Cat. This might have elicited a thinness fantasy in these girls (see also Kagan, 1958; Tian & Hoffner, 2010). In future research, measurements of attitudes towards the characters and identification with them should be included to test this assumption.

The 'real' actors in the children's drama had no direct effect on body satisfaction in the current study. Although the actors were not unattractive and had – for their age – average body sizes, the television shows did not carry out thinness messages at all, which might explain why the girls were not affected. Furthermore, the actors might have been too old for the girls in our sample to really identify with as they are late teenagers. A limitation of the present study is the lack of a thin ideal movie clip condition featuring real actors. Possibly, the girls in general identify more with real persons than animated characters because they are perceived as more realistic and easier to compare oneself with. When real actors in children's media would then be very thin, they may therefore have an even stronger effect than the animated thin ideal characters – perhaps especially in girls with high levels of internalisation. However, this assumption remains speculative and clearly needs further investigation. Anschutz et al. (2011) found no effect of exposure to an adult targeted soap opera on body satisfaction in older preadolescents, whereas a negative effect was found of exposure to a television show with an explicit emphasis on beauty and thinness (Holland's Next Top Model). Together, these findings suggest that only when thin ideal cues are strongly pronounced – as was the case in the thin ideal

focused television show and the Kim Possible cartoon – girls' body image is affected. Future studies may further establish which television shows are influential, since this is useful in the light of prevention such as media literacy education targeting at diminishing media influence on body image in children.

A few directions for future research deriving from limitations of our study should be mentioned. First, the present study only tested the short-term effects of brief exposure to thin ideal children's television. Longitudinal, non-experimental research showed that exposure to appearance focused television was related to lower body satisfaction over time in preadolescent girls (Dohnt & Tiggemann, 2006). It would be interesting to test whether the development of body image as a function of thin ideal exposure differs between girls who internalised the thin ideal and those who did not. Second, the sample used in the present study can be considered a convenience sample, because all the girls were from the same school. Future studies should include a wide range of schools in various neighbourhoods to ensure that the effects cannot be attributed to characteristics of one specific school. Another limitation of the present study might be that we did not measure how the girls perceived the body size of the characters in the television clips. That would have been useful to verify that Kim Possible was indeed perceived thinner than the cartoon characters in Kid vs. Cat and the actors of The House of Anubis. Future studies present the girls with a VAS on which they can indicate how slim they perceived the main characters after each movie clip. A final limitation might have been the measurement of thin ideal internalisation after the third session, because we now do not know whether thin ideal internalisation levels differed on beforehand or fluctuate during the experiment. We decided to measure internalisation afterwards to avoid demand characteristics (as asking questions about thin ideal internalisation would prime the girls with the concept of bodily appearance). As internalisation is considered to be a rather stable and traitlike characteristic, no strong immediate effects of the movie clips on internalisation were expected. We tested whether the third movie clip condition had a differential effect on thin ideal internalisation, but this was not the case ($p = 0.213$). So, at least after watching the last video clip, no significant differences were found on thin ideal internalisation which might indicate that internalisation scores are not directly influenced by watching the thin ideal clip.

To conclude, the present study is the first to show increased body satisfaction after exposure to children's thin ideal media in girls with high levels of thin ideal internalisation. This implies that not all girls respond the same way to thin ideal images. Future studying is needed to establish the implications of this finding with respect to the development of body image disturbances later on.

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Appendix

Kim Possible

Kid vs. Cat

The House of Anubis