Chapter 7

General Discussion
“Yes, there should be rules, I guess. But I wouldn’t know how, to be honest. ‘Cause people can say that girls, models, should have a certain weight, and below that weight, you won’t get a job. Well I don’t know, it is so widespread, that I wouldn’t know where to begin. But yes, of course it would be a good idea.”

Respondent, girl, 16-years-old
7. General Discussion

The main aim of the research reported in this dissertation was to investigate whether the (undesired) effects of exposure to idealized body imagery on body-related perceptions could be directed and twisted by specific contextualization of these images, particularly in adolescent girls. By doing so, a more overarching goal was to inform effective development and use of cost-effective interventions via mass media to redirect the detrimental effects of ideal-body media exposure for those who are susceptible to such effects. This final chapter first presents a summary of the empirical findings per study. Subsequently, our findings will be interpreted in light of the predicted effects from the Negotiated Media Effects Model. Moreover, the findings will be reflected upon to revise the Negotiated Media Effects Model where necessary. Subsequently, directions for future research are considered, as well as the methodological strengths and limitations of our current research approach. Finally, the implications of our findings for policy and practice will be discussed.

7.1 Summary of the Main Findings

This section summarizes the main findings from our empirical studies. Table 7.1 provides a concise overview per chapter of the study set-up (i.e., contextualization, media models’ body shapes, and media setting as used for the stimuli, and the target group), and a summarized conclusion in light of the Negotiated Media Effects Model.

Chapter 2. describes a first study that experimentally tested simple weight information labels accompanying variously-sized media models in their counteracting and normalization effects in (pre)adolescent girls. The findings generally supported the counteracting hypothesis. To be more specific, when an ultrathin media model was concurrently shown with a verbal label clarifying that she was ‘underweight’, less body dissatisfaction and social comparison with media models was exerted compared to pairing such an ultrathin model with a ‘normal-weight’ label. Additionally, the results supported the normalization hypothesis: labeling an ultrathin model to be of ‘normal weight’ evoked more body dissatisfaction, objectified body consciousness, and social comparison with media models than classifying thin or normal weight media models to be of ‘normal-weight’. Unexpectedly, certifying thin media models as ‘6kg-underweight’ disclosed highest levels of objectified body consciousness and social comparison with media models (see Discussion section in Chapter 2). Furthermore, the adolescent girls (both age groups: 12-13 and 15-16 years old) showed more negative body affect and social comparison with media figures than the preadolescents (9-10 years old). Finally, body dissatisfaction and social comparison with
media models were predictive of the intention to change one’s body through strategies like dieting and taking laxatives, while objectified body consciousness added marginally to such intentions.

**Chapter 3.** presents a study that was set up to gain further scientific insight into the counteracting effect of verbally labeling ideal-body depictions. Here, testing the effects of contextualization was advanced by contrasting the information labels with warning labels and with images without labels among adolescent girls who had either higher or lower self-esteem (based on Aubrey, 2006; Tiggemann, 2003). The findings again confirmed a counteracting effect of information labels accompanying (ultra)thin media models, particularly for girls with lower self-esteem. For them, counteracting effects of accurately labeling the weight of (ultra)thin body shapes were expressed by lowered levels of both body dissatisfaction (i.e., increased body satisfaction) and objectified body consciousness. A different pattern was found for body comparison with media models: in this case, the girls with lower self-esteem showed less body comparison in response to both information and warning labels accompanying normal weight media models (compared to images-only). This indicates that body perceptions like body dissatisfaction and objectified body consciousness are impacted differently than body comparison by labeling media models’ weight status. In sum, information labels placed to thin-ideal images are most effective in counteracting negative body perceptions, while no effects were found for warning texts.

**Chapter 4.** entails a study that extends the previous ones by including peer influence in the contextualization of idealized body images. In this study, peer influence was captured by including the weight information labels as expressions of normative peer feedback on media model pictures in a YouTube setting. Hence, peers are presented as source of the weight information. The impact on body perceptions was tested among adolescent girls who were considered either higher or lower in appearance schematicity (based on, for example, Hargreaves & Tiggemann, 2002). Results of a manipulation check revealed that, in contrast to pre-testing and effective usage of the same models in a different study (in Chapter 2), the body shapes of the normal and thin media models were not perceived differently regarding their weight by the adolescent girls. For study purposes, these two conditions were collapsed into a ‘thin-normal’ media models condition that was contrasted with ultrathin media models. Unlike counteracting or normalization effects, the results suggested an *idealization effect* from labeling the ultrathin models to be *slightly* underweight. More specifically, the ‘3kg-underweight’ peer comments on extremely thin media models induced highest levels of body dissatisfaction and objectified body consciousness. Apparently, peers referring to thin-ideal portrayals as being slightly underweight seems to further idealize such model bodies, which results in more negative body affect when no effective solutions are provided on how to
achieve an ideal body (see 7.2.3). Moreover, the idealization effect on objectified body consciousness sustained particularly for girls who are higher in appearance schematicity, underlining the role of appearance schematicity as individual predisposing factor.

Chapter 5. reports a study among emerging adults (18-25 years old) that further advanced the previously used label-content: in this case, the contextualization triggered various motives for comparing one’s body with the bodies of media models like supposedly occurs with commonly available magazines (e.g., Martin & Gentry, 1997). Headlines accompanying idealized body imagery on magazine covers induced body comparison with media figures for reasons of either self-improvement or self-evaluation to test their (respective) alleviating or diminishing effects on body satisfaction. As expected, results showed that headlines instigating self-improvement increased body satisfaction (compared to control headlines and baseline measures of body satisfaction). This result aligns with the counteracting prediction of contextualizing idealized body images resulting in reduced negative body perceptions: in this case, we even found an increase in body satisfaction. In contrast to what could be expected from the idealization assumption (from Chapter 4), the self-evaluation headlines did not further decrease body satisfaction. Furthermore, we found similar reactions for women and men.

Chapter 6. includes an application of our contextualization and labeling principles in a real-life intervention for adolescent girls: a prototype ‘body image’-app for mobile devices was developed and evaluated. Here, ideal-body models were accompanied by body-relevant quiz-like statements that closely followed the weight labeling content of the studies in chapters 2 and 3 (and contrasted with another app version that used body-irrelevant quiz-items). The evaluation entailed testing the causal impact on self-esteem and body satisfaction, as well as informing effective development and usage of such an app. Conform expectations, we found that providing positive incentives by means of verbal feedback following correct answers to the quiz-like statements increases self-esteem. This finding was independent of the type of quiz-items: self-esteem increased in case of both body-relevant and body-irrelevant information accompanying ideal-body exposure. However, body satisfaction was not affected by correctly informing the adolescent girls about the presented media models’ weight status. Furthermore, the body-relevant information app was perceived as being more informative and having a higher learning potential than the body-irrelevant information app, although also less clear and less pleasant. Also, amongst others, both app versions were perceived as equally attractive, and creating involvement and use intentions. In all, the findings suggest future directions for development and implementation of a ‘body image’-app to counteract negative effects from idealized body exposure. For example, the study revealed important features to include in a ‘body image’-app that will likely increase adherence and
effectiveness, such as avatars, interactivity and personalized aspects, as well as customization to ‘especially girls’ with a leading role for the user.

7.2 Implications for the Negotiated Media Effects Model

This section reflects on the main implications that could be derived from the studies in this dissertation in light of the Negotiated Media Effects Model. In recap, this model proposes that contextualization of idealized body imagery plays an important role in explaining divergent reactions to such ideal-body exposure in terms of body-related perceptions. Given that the pairing of messages and images of media models is common in real-life media fare, the contextualization of idealized body images is important to genuinely clarify the effects from media exposure (Aubrey, 2010; Harrison, Taylor, & Marske, 2006; Holmstrom, 2004; Knobloch-Westerwick & Crane, 2012; Levine & Murnen, 2009). Moreover, the Negotiated Media Effects Model suggests that combining specific verbal messages with selected images can act to negotiate body-related responses to such images, and guide them into intended directions such as decreasing body dissatisfaction. This assumption follows the argumentation of a few scholars who argue that verbal and visual cues are generally likely to interact in generating responses (Philips, 2000; Toepoel & Couper, 2011). In this perspective, the model includes two main assumptions. That is, depending on the content of the messages accompanying idealized body portrayals, counteracting effects or normalization effects might occur, inducing more positive or more negative body-related affect respectively. The studies in this dissertation have applied such contextualization by means of short and factual information (cf. Cowburn & Stockley, 2005; Bushman, 1998), peer comments (following peer influence principles, e.g., Jones, 2001; Phares, Steinberg, & Thompson, 2004; Schutz, Paxton, & Wertheim, 2002), or information that prompts various motives for body comparison with media models (cf. Halliwell & Dittmar, 2005; Knobloch-Westerwick & Romero, 2011; Martin & Gentry, 1997). In all, our studies were a first attempt to systematically investigate a mass media approach to negotiate the effects of ideal-body exposure by applying messages to idealized body imagery such as ultrathin models, especially in adolescent girls. The consequences of our findings for the validity of the Negotiated Media Effects Model, as presented in Chapter 1, as well as their implications for revising the model will now be discussed.
Table 7.1  Overview per chapter of study set-up, the tested predictions and established effects regarding the Negotiated Media Effects Model

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>STUDY SET-UP</th>
<th>NEGOTIATED MEDIA EFFECTS MODEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Contextualization</td>
<td>Media models’ body shapes</td>
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</table>
| Chapter 2. | Various information labels through text boxes | Ultrathin vs. thin vs. average | Magazine-like | (Pre)adolescent girls (3 groups: aged 9-10, 12-13, and 15-16 years) | - Tested counteracting and normalization predictions  
- Established support for counteracting and normalization effects |
| Chapter 3. | Information vs. warning labels through text boxes (vs. images only) | (Ultra)thin vs. average | Magazine cover | Adolescent girls (aged 12-18 years) | - Tested counteracting prediction  
- Established support for counteracting effect  
- Especially in girls with lower self-esteem |
| Chapter 4. | Various information labels through peer feedback | Ultrathin vs. thin vs. average | YouTube | Adolescent girls (aged 11-18 years) | - Tested counteracting and normalization predictions  
- Established support for (new) idealization effect  
- Especially in girls with higher appearance schematicity |
| Chapter 5. | Social comparison motives through headlines (vs. body-irrelevant headlines) | Thin-ideal for women, and masculinity-ideal for men | Magazine cover | Women and men Emerging adults (aged 18-25 years) | - Tested counteracting and idealization predictions  
- Established support for counteracting effect |
| Chapter 6. | Body-relevant vs. neutral information labels through quiz-like statements | Variously-shaped (ultrathin to average) | Application in mobile device | Adolescent girls (aged 12-18 years) | - Tested counteracting prediction in field setting  
- Established no support for counteracting effect  
- This study also provided important information for further development and implementation of a real-life intervention (‘body image’-app for adolescent girls) |
7.2.1 Counteracting Effect

From our studies, we can generally conclude that contextualization of idealized body imagery works to *counteract* detrimental effects of idealized body exposure on body perceptions. Importantly, this counteracting effect is dependent on the *specific content* of the contextualization. First, properly informing adolescent girls about the underweight status of ultrathin models through simple verbal messages counteracted negative body affect such as body dissatisfaction in adolescent girls, especially in those who have lower self-esteem (see Chapters 2 and 3; Veldhuis, Konijn, & Seidell, 2012; Veldhuis, Konijn, & Seidell, 2014a). This positive effect of providing *clear* and *factual information* about the weight status of thin-ideal models is in agreement with the successful use of counter-advertising and information labels in other settings, such as with alcohol use, smoking, and food intake (e.g., Agostinelli & Grube, 2002; Bushman, 1998; Gray, Karnon, & Blackwell, 2011). The effectiveness of our labeling can be further explained from the short and comprehensible information functioning as *interpretational aids* of media models’ body shapes (cf. Bushman, 1998; Cowburn & Stockley, 2005): The brief labels that properly inform girls about the actual weight status of media models may function as a wake-up-call, and subsequently increase awareness, realism, and critical thinking about the portrayed ultrathin media figures. Additionally, the content of the verbal messages about ‘media models’ weight status’ relates to a rather *familiar* and *relevant topic* for the adolescent girls, which presumably also adds to the effectiveness of counteracting messages (see Bushman, 1998).

In a similar vein, short verbal messages suggesting body-improvement actions sorted positive effects in emerging adults (see Chapter 5). This finding also aligns with the counteracting assumption of contextualization, given that here even higher levels of body satisfaction were prompted instead of negative body affect ‘only’ being reduced. In this case, we used message content that encouraged different motives for comparing one’s body with the bodies of media models, such as inspiration to improve one’s body and attain an ideal body like typically occurs in real-life media fare (see also Halliwell & Dittmar, 2005; Helgeson & Mickelson, 1995; Knobloch-Westerwick & Romero, 2011; Lockwood & Kunda, 1997; Martin & Gentry, 1997; Mills, Polivy, Herman, & Tiggemann, 2002; Suls, Martin & Wheeler, 2002). Here, the verbal contextualization was delivered *more discrete* and *subtle* through magazine headlines instead of the more obviously portrayed factual weight label format. Our findings confirmed that, at least for young adults, the message content could be *a bit more complex* and *indirect* to guide positive body perceptions. At first glance, stimulating ‘attainability of body ideals’ might appear to be in conflict with the purpose of counteracting negative body perceptions and subsequent unhealthy behaviors. However,
the findings suggest that attainability information may be an effective tool for body image interventions to counteract negative body-affect and to carefully guide a healthy body size by proper lifestyle behaviors.

The use of warning content was not in line with the counteracting effect: warning labels paired with ultrathin body images had positive nor negative impact on adolescent girls (see Chapter 3; Veldhuis et al., 2014a). This might be explained as follows: stating that one is personally at risk to be affected by media models, our warning texts might explicitly threaten the maintenance of a positive self-image (cf. affirmation theory; Harris, Mayle, Mabbott, & Napper, 2007; Steele, 1988). Hence, the message is rejected (cf. reactance theory; Brehm, 1972). Such explanations seem particularly plausible given the developmental stage of our adolescent target group (cf. Grandpre, Alvara, Burgoon, Miller, & Hall, 2003; Henriksen, Dauphinee, Wang, & Fortmann, 2006; Nije Bijvank, Konijn, Bushman, & Roelofsma, 2009). Very recently, a few other studies have investigated the effects of warning texts accompanying fashion models, but these studies showed varying results: one study reported a positive influence on adult women's body satisfaction (Slater, Tiggemann, Firth, & Hawkins, 2012), while another related study found no support among adult females for the effectiveness of warning labels in advertisements with thin-ideal images like our study on adolescent girls (Tiggemann, Slater, Bury, Hawkins, & Firth, 2013). Thus far, the impact of warning texts appears inconsistent. Yet, it tends to boomerang in adolescents.

To summarize the implications of our findings for the counteracting effect, the current outcomes imply that the use of informative messages about media models’ weight status is more effective than warning to counteract negative body affect in adolescent girls. Additionally, messages suggesting information on how to attain an ideally-shaped body also worked well in emerging adults to increase body satisfaction. Thus, informative messages and attainability suggestions are promising content for future interventions in the realm of body image perceptions and counteracting the negative body-related effects resulting from ideal-body media exposure.

7.2.2 Normalization Effect

In addition to the counteracting effect, our findings provided supporting empirical evidence for a normalization effect. Contextualizing variously-sized media models (i.e., from extremely thin to average) to be of ‘normal weight’ apparently induces a frame of reference in terms of what body shape is considered ‘normal’ with concurrent effects. Specifically, labeling ideally-thin bodies as ‘normal’ induced more negative body perceptions in adolescent girls, while standardizing average-weight models as ‘normal’ seemed to alleviate
such responses (see Chapter 2; Veldhuis et al., 2012). Thus, the specific direction of the normalization effect is dependent upon the specific combination of media models’ body shapes and the normalization information.

In explaining the normalization effect, we assume that the contextualization made explicit what media’s thin-ideal implicitly conveys as the reference value for what girls consider ‘normal’ in respect to what one’s body shape should look like. The more this reference value concurs with the average size of the portrayed media model, the less upset the adolescent girls will respond. In contrast, a larger discrepancy between the reference value and the depicted media model’s size might lead to experiencing an incongruity between what the girls saw and what they read (cf. Toepoel & Couper, 2011), as well as to feeling more self-ideal body discrepancy (Bissell & Rask, 2010). Subsequently, this prompts more negative body-related perceptions and guides comparison with media figures’ appearances. In all, the normalization assumption as proposed in the Negotiated Media Effects Model seems valid.

### 7.2.3 Idealization Effect

Finally, our results revealed an idealization effect. That is, going beyond a normalization effect, certain contextualizing messages and comments may even further reinforce idealization of ideally-toned media models’ body shapes. More specifically, if no effective solutions are handed on how to overcome evoked self-ideal body discrepancies and to attain an ideal body, such idealization might instigate increasingly negative body affect compared to ‘just’ normalizing ideally-thin media models.

In this case, our findings revealed that when peers frame thin-ideal models to be ‘just slightly underweight’, adolescent girls showed increased levels of negative body perceptions (see Chapter 4; Veldhuis, Konijn, & Seidell, 2014b). This was the case especially for girls who strongly process appearance-relevant information (that is, who are higher in appearance schematicity; Hargreaves & Tiggemann, 2002). To explain this effect, we consider that ideal-body models are contextualized as an ‘attainable ideal’ by peer feedback telling that an ultrathin model’s body shape is ‘only slightly underweight’. Peers in addition to media are an ultimately relevant reinforcing factor of body image in adolescent girls (Keery et al., 2004; Phares et al., 2004). Moreover, many girls want to lose ‘some kilos’ (Field, Cheung, Wolf, Herzog, Gortmaker & Colditz, 1999; Neumark-Sztainer, Paxton, Hannan, Haines, & Story, 2006a). Thus, when peer feedback on media models explicitly state that ultrathin models are only ‘3kg-underweight’, this might further reinforce the idealization of such an ultrathin body. Moreover, the peer comments might implicitly indicate that this body shape is within reach with just a little more effort: the girls’ self-ideal
discrepancies will be triggered and girls may feel ‘bad’ because ‘they are not there (yet)’ or ‘just fail’. Then, such contextualization is confronting and triggers discontent when no actual effective measures on how to reach this ideal are provided (cf. Lockwood & Kunda, 1997). In conclusion, the feedback of peers seems to further extend the normalization effect into an idealization effect by providing a reference value of what is ideal and should be within reach.

On another pace, these findings underscored the importance of the proposed sender of the contextualization of idealized body imagery in establishing effects. While information labels with no obvious sender other than ‘the rather anonymous media’ may induce a counteracting or normalization effect, feedback from one’s peers was found to further reinforce the idealization of ultrathin media figures. These findings tentatively imply that reactions to the contextualization might vary based on the demarcated source of such messaging. Therefore, this differentiation of ‘source of contextualization’ should be included in the Negotiated Media Effects Model and prompted us to further specify the model (see next section).

Further testing the idealization (and counteracting) effect, another study triggered emerging adults to evaluate one’s body against those of ultrathin media models (Halliwell & Dittmar, 2005; Martin & Gentry, 1997), while no measures were given on how to attain such an ideal body. However, with this study, we found no impact on body satisfaction, that is, no idealization effect occurred from deliberately triggering self-evaluation through verbal magazine headlines in young adults. In sum, although the idealization effect is not solidly supported yet, our findings gave a first empirical indication. Because it deserves proper attention in future research, the idealization effect needs to be added to the Negotiated Media Effect Model (see also 7.3 ‘Directions for Future Research’).

7.2.4 Individual Differences
Important individual differences regarding body perceptions were found in terms of developmental stages of the respondents, such that adolescent girls (12-16 years) experience more negative body perceptions than pre-adolescent girls (9-10 years; described in Chapter 2). The results gave a strong indication for a critical criterion age between pre-adolescence and adolescence such that negative body perceptions seem to steadily increase with age during adolescence, which is consistent with previous research (Clay et al., 2005; Jones & Smolak, 2011). Although the effects of labeling media models’ body shapes were not tested per age group, this finding implies that adolescent girls might be most sensitive to information labeling. However, our study with an older age group showed that emerging adults (18-25 years old; both women and men) can be positively
affected by contextualizing idealized body imagery with self-improvement messaging (described in Chapter 5). Together, these findings plead for a careful segmentation of the target group in developmental stages of preadolescence, adolescence and late adolescence or emerging adulthood when it comes to developing body image interventions as well as testing the intervention effects. Our findings also underline the importance of considering both genders instead of women only (see also Barlett, Vowels, & Saucier, 2008; Cohane & Pope Jr., 2000).

Notably, the processing of messages as presented in combination with idealized body imagery is clearly influenced by individual predispositions. More specifically, individual predispositions were important in explaining for whom contextualization works: from the current findings, we argue that we have a strong indication that labeling is an effective tool for specific, susceptible, individuals. As said, adolescent girls with lower self-esteem appeared particularly responsive to a counteracting effect of appropriately referring the weight status of ultrathin models as 'underweight', which resulted in less negative body affect (chapter 3; Veldhuis et al., 2014a). Likewise, girls who are higher in appearance schematicity showed a most pronounced idealization response to the peer feedback indicating ultrathin body shapes as an attainable ideal that is 'just a few kilos underweight' (chapter 4; Veldhuis et al., 2014b). This important role of individual differences is consistent with the argumentation of several scholars to place research on media affecting body image perceptions in view of individual susceptibility factors to explain the paradoxical findings found for media’s effect on body perceptions (Ferguson, 2013; López-Guimera, Levine, Sánchez-carracedo, & Fauquet, 2010; Roberts & Good, 2010). In all, the findings strongly imply to supplement the Negotiated Media Effects Model with 'individual differences' as moderating factors.

7.2.5 Update of the Negotiated Media Effects Model

From the above implications of our findings, we will now update the original Negotiated Media Effects Model as presented in Chapter 1. First, the already defined counteracting and normalization effects from contextualizing idealized body imagery in the model should be extended with a third assumption: an idealization effect (Chapter 4). Furthermore, the action of contextualization generally occurred at the level of the ultrathin ideal-body images, and not when the messages were paired with average-sized media models. Such a conclusion is in agreement with previous research showing that adolescent girls react particularly sensitive to thin-ideal media exposure (Grabe, Ward, & Hyde, 2008; Groesz, Levine, & Murnen, 2002). This argument also underlines the legitimacy of the central place of idealized body imagery in the updated Negotiated Media Effects Model. Furthermore, our
findings generally imply that specific verbal references and comments play an vital role in information processing and framing the viewers’ interpretations of ideal-body portrayals and directing body-related responses (Philips, 2000; Toepoel & Couper, 2011). That is, the effectiveness of the contextualization seemed dependent on the specific content and the proposed source of the messages. To emphasize the importance of content and source, these differentiations in the contextualization should be complementing the original Negotiated Media Effects Model. And most importantly, the counteracting, normalization, and idealization effects must be placed in the perspective of recipients’ individual predispositions regarding body-related issues. Hence, this should be added to the model as a moderating factor. Figure 7.1 shows the revisited Negotiated Media Effects Model on Ideal Body Imagery. In all, these additions and refinements to the model underscore the need to further investigate the predictions that take center stage in the Negotiated Media Effects Model. Given the many factors that underlie the development of body image and body-related perceptions (Jones & Smolak, 2011), unraveling the processes at work in the realm of media-induced body perceptions is likely to be complex. This poses challenges for future research, to be addressed in the next section.

Figure 7.1  Negotiated Media Effects Model on ideal body imagery

Note. The (+) indicates a positive effect: specific contextualization supposedly reduces negative effects of exposure to ideal-body images, resulting in less negative (or: more positive) body-related outcome measures; the (-) indicates a negative effect and the (--) an even more negative effect (relative to each other): specific contextualization supposedly increases negative effects of exposure to ideal-body images, resulting in more negative (or: less positive) body-related outcome measures.
7.3 Directions for Future Research

The implications of the findings in this dissertation and the subsequent adaptations made to the Negotiated Media Effects Model, give rise to several directions for future research.

7.3.1 Replication of Negotiated Media Effects

To further secure the counteracting, normalization, and idealization assumptions that are key in our Negotiated Media Effects Model, replication studies are needed. In particular, the idealization effect has not been established solidly yet, and therefore it deserves proper attention in future research. More specifically, testing the idealization assumption directly in contrast to the normalization assumption is needed to further inform our impression that the idealization effect is a further extension of the normalization effect, with an even stronger negative response of adolescent girls. Furthermore, our findings give room to (systematically) investigate variations in content, design and source of the contextualization of idealized body imagery to further enhance the counteracting effect as proposed in the Negotiated Media Effects Model (see 7.3.2 and 7.3.3 for more details). Moreover, the principles and assumptions of our Negotiated Media Effects Model may also be useful when applied in other domains besides body image, such as when investigating the impact of violent images and sexually objectifying media portrayals.

7.3.2 Content of Contextualization

The studies presented in this dissertation were a first endeavor to systematically combine visual portrayals of media models with contextualizing messages and test the effects on body affect in young females. To refine effective message content, future research could further integrate marketing principles and persuasion strategies, such as two-sided messaging (e.g., Bohner, Einwiller, Erb, & Sibler, 2003; Rucker, Petty, & Briñol, 2008). This principle proposes that providing positive and negative aspects together in one information message enhances the credibility of the message and subsequent processing, because it shows that the topic of interest was considered from different viewpoints. In our case, messages could, for example, state that ‘the models are pretty but underweight’ or that ‘the models seem to represent a societal norm of what bodies should look like, but that body shapes truly vary widely in real-life’. Alternatively, interpretational aids could be expressed in the messages by presenting evaluative content or reference values to enhance correct understanding of the messages (following Byrne, 2009, Cowburn & Stockley, 2005). Here, reference values and evaluative information could include the BMI of the portrayed model versus facts about what is a healthy BMI.
Future research could expand message content by including various body-related topics other than the ‘weight-status of the depicted media models’ that took a central role in our current studies. A study of Durkin, Paxton and Wertheim (2005) assessed various prevention messages relating to body images and revealed that the following messages were rated most positively in terms of believability and feeling better about one’s own body: ‘Media images are not real’, ‘The ideal body changes through history and between cultures’, and ‘Don’t fall into the comparison trap’. Related, our ‘body image’-app study (Chapter 6) revealed ‘fashion’, ‘beauty and looks’, and ‘feeling good’ as the top-3 topics of interest for adolescent girls. Future research could vary with these themes as message content and compare their impact on body perceptions. Furthermore, from our findings in emerging adults (Chapter 5). We argue one may further investigate how attainability information can be used to carefully guide the attainability and maintenance of a healthy body size accomplished by a healthy lifestyle. Although beliefs of being in control of one’s body are not well-developed yet in young adolescents (Lindberg, McKinley, & Hyde, 2006), it seems worthwhile to test variations of such information with adolescents as well given that lifetime behaviors are developed during this developmental stage (Jones & Smolak, 2011; Neumark-Sztainer, Wal, Gup, Story, Haines, & Eisenberg, 2006b). A point of attention here is the unclear role of the receivers’ connotations made to the models upon exposure, thus creating their own ‘unpublished label’. Answers to open-ended questions in our studies revealed such connotations like “they [media models] are a bunch of skeletons”. Future research should apprehend such associations and the stereotyping of media models (see Tantleff-Dunn, Barnes, & Larose, 2011), because they might alter or even impair the intended directions of the message.

7.3.3 Source of Contextualization

Our studies gave an indication of the important role of the source of the contextualizing information on media models highlighting that future research is needed to further define this role. In our studies, the information labels had no clear sender and appeared rather anonymous as presented by ‘a magazine’. While they were effective, adding a more concrete source may enhance the intended impact of labeling media models, as illustrated by peers as source of providing feedback on media models’ weight (see Chapter 4). For example, related research has indicated that information on food was most likely to be acquired by asking an ‘expert’ such as the ‘family doctor’ (Van Dillen, Hiddink, Koelen, De Graaf, & Van Woerkum, 2004). Alternatively, an authoritative source like ‘the government’ may boomerang when giving ‘unwanted’ advice (Bushman, 1998), and therefore seems less appropriate. Furthermore, the peer feedback as presented in our studies was simulated and
not given by actual real-life peers of the adolescent girls. Therefore, even stronger effects might be found if the comments are from more proximal peers like actual friends and classmates. In all, the role of the source of the messages accompanying idealized body imagery is not yet clear. Future research could study different senders in comparison to find the most appropriate and effective source to counteract detrimental effects and promote desired effects. Such a comparison should include peers (same-gender or other-gender; Ferguson, Winegard, & Winegard, 2011), experts (such as dieticians, family doctors, health related NGOs), celebrity role models, or no particular sender of information other than the media format (such as a specific magazine like *Girlz!*, or *Women’s Health*).

Here, reliability, credibility, and relevance of the source in relation to the topic and target group are important factors to check for.

### 7.3.4 Individual Differences and User Characteristics

Our studies included individual differences as moderators of the effects from contextualizing ideal-body images and the findings fit well with the frequently proposed complex interplay of individual and environmental factors in developing body perceptions (cf. Jones & Smolak, 2011). As argued in this dissertation, the effects of contextualizing media models’ weight status by verbal messages and comments must clearly be placed in the perspective of individual susceptibility factors such as self-esteem and appearance schematicity, while a differentiation in age groups for setting up body image interventions should also be accounted for. This plea for segmentation and customization (cf. Hawkins, Kreuter, Resnicow, Fishbein & Dijkstra, 2008; Kreuter & Wray, 2003) might seem to be at odds with our proposed idea of contextualizing ideal body imagery in mass media to counteract negative effects from exposure to such images. However, new media formats such as mobile devices can be used to relatively easy obtain user-specific information of individual users, for instance, their current state of body satisfaction and their perceived realism of media models’ appearances. Therefore, the additional value of a strategy like *tailoring of message content* could be explored in future research to enhance the effects of the counteracting assumption, especially for those individuals who are vulnerable (Hawkins et al., 2008).

Additionally, several other factors on the side of the media user seem appropriate to consider in future research. That is, various important individual body-relevant variables could be taken into account, such as respondents’ Body Mass Index, wishful identification with the media models (Hoffner & Buchanan, 2005; Konijn, Nije Bijvank, & Bushman, 2007), and self-efficacy to change one’s body (Bandura, 2001). Also, on the individual versus environment intersection, social influence variables on the side of the user might
play an important role in further directing the effects of labeling body-ideals, because peers and family are such important intensifiers of adolescents’ body image next to media (Jones, 2001; Keery et al., 2004; Phares et al., 2004; see also Chapter 4). This role of social influence variables should be further explored, especially in coalescence with media usage. Furthermore, the effects of contextualizing idealized body images rely heavily on the processing of verbal and visual information, especially in combination with each other. Therefore, including eye-tracking measurements allows to test differences between those media users who are image-focused versus text-focused (cf. Mayer & Massa, 2003).

7.3.5 Implementation of Intervention Strategies

It is important to find the most appropriate and realistic outlets to successfully implement contextualization of idealized body imagery as an intervention strategy. In our studies, we have employed magazines, YouTube, and a mobile device application as settings that seem appropriate for contextualizing imagery by, for example, text labels and comments (see Aubrey, 2010; Dohnt & Tiggemann, 2006; Harrison et al., 2006). Although these mass media settings properly fit our target groups, future research could compare various media settings and combine them to find a best fit for optimal intervention effectiveness. Furthermore, with having mass media as intervention setting it is relatively easy to ensure multiple exposure to the intervention and reach large numbers of people. Such an approach seems valid even from research on media literacy interventions that mostly are more small-scale: multiple sessions add to the effectiveness of media literacy interventions (Jeong et al., 2012), while a one-time intervention may better reach large numbers of audience (Ridolfi & Vanderwal, 2008). Hence, future research could test the effects of prolonged exposure to our proposed counteracting mechanisms.

Furthermore, it is important to guide the launch of our proposed intervention strategies from theory to practice by proper implementation research and process evaluations (cf. Precede-Proceed model, Green & Kreuter, 2005). This approach allows to investigate the factors that may facilitate or impede successful adoption, usage and implementation of such an intervention. Additionally, all important parties who are involved with the intervention at some point in time should be subject to such evaluations. This includes media actors and policy makers besides media users (see section ‘Implications and Recommendations for Practice and Policy’ below).
7.4 Methodological Considerations

The methodology that we used for our studies holds some clear strengths and limitations, which subsequently lead to several methodological recommendations for future research.

7.4.1 Methodological Strengths

Our methodological approach has several clear strengths. Through unique and carefully controlled experimental designs we have shown causal effects of contextualizing media models with information regarding their body weight status while individual predispositions were included as moderators (cf. Ferguson, 2013; Holmstrom, 2004; Levine & Murnen, 2009; Roberts & Good, 2009). At the same time, we have been able to meet the requirements for ecologically valid materials in presenting our stimuli by using reliable media-settings that are natural environments for girls to encounter media models, such as beauty and health magazines, YouTube, and a mobile device application. Moreover, combining images with text also is very common for such materials (as argued by Aubrey, 2010; Ferguson, 2013; Holmstrom, 2004; Harrison et al., 2006; Knobloch-Westerwick & Crane, 2012; Want, 2009).

Furthermore, our materials have been extensively pre-tested in separate groups that were representative for our target groups. In doing so, we could assure that media models’ body shapes were chosen to vary in thinness but not in attractiveness and familiarity as seen from the target group’s viewpoint. We also guarded external validity by showing the participants a variety of full-body models to eliminate possible confounds such as bikini color, hair color and length, and facial characteristics. Another strength is that our data are mainly collected ‘in the field’, at schools where the general target group of adolescent girls find themselves. However, the possibility of confounds influencing data-collection in such a rather heterogeneous group can also be considered a limitation (see below).

7.4.2 Limitations and Methodological Recommendations

A first limitation that stems from the experimental approach of the current studies in this dissertation, is that we could only show short term effects from single-time exposures from our current research designs. Future research may easily extend our research designs to a longitudinal approach and apply our format to include multiple sessions and follow-up measurements. By doing so, longer exposure to the stimuli can be achieved and long-term effects can be unraveled which also increases the external validity (as suggested by López-Guimèra et al., 2010). More specifically, this can shed a light on the sustainability of impact
on the currently used outcome measures, as well as on more distal measures like actual behavior to improve oneself or eating disorder symptomatology.

Furthermore, although we did not ruthlessly force a specific exposure time per model on our participants, our design did not allow to totally avoid exposure to specific media models and texts as they could in daily life (as argued by Knobloch-Westerwick & Romero, 2011). Future research could allow participants to browse through various combinations of models and texts, for example by providing a whole magazine, and include exposure time measurements. Such a design increases ecological validity and allows to check for selective exposure to specific combinations of verbal and visual cues and subsequent body-related responses (see Knobloch-Westerwick & Romero, 2011).

Additionally, while our studies clearly showed the importance of including individual difference factors, a note of caution must be made regarding the three-way interactions and sample sizes in our studies: Including more participants in future research would increase statistical power and allow more careful segmentation, which strengthens the conclusions made to individual difference variables. Relatedly, we used different individual differences throughout our studies. It requires a more elaborate research design to test the individual predispositions and receiver characteristics in comparison and unravel their precise effects in moderating the counteracting, normalization, and idealization effects.

Finally, our studies did include carefully chosen control conditions (as argued by Holmstrom, 2004; Ferguson, 2013), but these varied across the studies. For some studies, this still left some questions open regarding the precise direction of the effects, such as: Do accurate labels diminish the negative effects from idealized body exposure, or do inaccurate labels strengthen negative effects? Does labeling media models reduce detrimental responses to media-induced idealized bodies, or prevent an increase in such negative body perceptions? Future research could systematically include baseline measures for the outcome variables of interest or no-exposure groups to address these questions (like in Chapter 5 and 6). Furthermore, we recommend to include a control condition with body-irrelevant text (like in Chapter 5) to be able to conclude whether potential effects rise from the text-content instead of any text accompanying an image, which might distract the viewer from processing this image (as argued by Harrison et al., 2006, p. 512). Thus, future research should continue with including well-considered control groups: such fine-tuning will complement our studies and allow to more accurately allocate the established counteracting, normalization, and idealization effects.
7.5 Implications and Recommendations for Practice and Policy

The findings of this dissertation hold several implications and recommendations for practice and policy. That is, they might inform the development of body image interventions brought through mass media, while several scholars argued the need for prevention programming in the realm of body image (Levine & Murnen, 2009; López-Guimèra et al., 2010). Moreover, the findings inform societal and political debates about redirecting the detrimental effects that arise from exposure to idealized body imagery, and about the responsibilities of media senders versus media users. Health promoters and intervention developers, media actors, and policy makers all seem important parties that underlie proper design and implementation of our proposed counteracting strategies, and they will be discussed in more detail below.

First, our findings provide suggestions for those who are involved in developing and implementing real-life prevention interventions, such as health promoters and intervention developers working at health organizations like GGD Nederland (Community Health Services) or Centers for Disease Control and Prevention in the USA. They can especially benefit from our findings regarding the counteracting assumption. In short, our findings suggest that short and factual verbal messages about the weight status of idealized media figures are an effective means to counteract negative body affect in adolescent girls. Furthermore, information on how to achieve and preserve a desirable body size also seems useful to make individuals feel better about their bodies. However, such an information strategy should be handled with care and aim to sensibly guide a healthy body size by proper lifestyle behaviors, while preventing unbalanced weight control strategies. Especially in preadolescent and adolescent girls, it is vital to develop healthy habits and balanced lifestyles to keep off the risk of developing health problems, ranging from eating disorder symptomatology in short term (e.g., Spettigue & Henderson, 2004) to overweight and obesity at later stages in life (Neumark-Sztainer et al., 2006b). Importantly, individual predispositions are important to take into account while designing interventions. This could be achieved, for instance, by designing the interventions as specifically appealing for those who are sensitive to media ideals, as well as by customizing the content to their needs through tailored health communication.

In a first attempt to apply the active mechanisms of labeling ideal-body images in a real-life intervention, we developed a prototype 'body image'-app (see Chapter 6). The results of this exercise might also inform health promoters. The first findings are promising as they imply that rewarding adolescent girls for giving good answers to quiz-like statements while they were simultaneously exposed to ideal-body imagery yields
protection for the negative effects of such exposure. More specifically, from these positive incentives the girls reported a higher general self-esteem. The increase in self-esteem occurred from both body-relevant information (like our weight labels) and neutral information, which underscores the importance of providing positive feedback and incentives (e.g., along the lines of Gee, 2007; Ritterfeld & Weber, 2006). However, unexpectedly, no counteracting effect of the specific weight labels on media models occurred for body satisfaction. From these results we might tentatively conclude that the success of simple and pragmatic texts in other media formats in our studies, cannot be transformed into a quiz-like format in an app just like that. The app actually provided multiple weight information labels to one model at the same time, and let the girls chose the right weight status of the model out of these five options. This could have been confusing for them, given that they perceived the app with body-relevant information as less clear and less pleasant than the one with body-neutral information about a famous singer’s duo, which leaves room for improvement of the presentation of the counteracting information. On a positive note, the two app versions were perceived as equally involving and attractive. Importantly, the evaluation of the ‘body image’-app version with the weight labels was very promising in terms of use intentions and learning potential. Furthermore, the evaluation of the prototype app also provided additional information about the preconditions for successfully developing and implementing a ‘body image’-app for adolescent girls (cf. Fleuren,Wiefferink, & Paulussen, 2004; Fleuren, Paulussen, Dommelen, & Van Buuren, 2012; Van Vugt, Konijn, Hoorn, Keur, & Eliëns, 2007; see Chapter 6 for more details), such as the inclusion of avatars and interactive elements. In all, the evaluation of the prototype ‘body image’-app further indicated the viability of such an approach on a topic as sensitive as adolescent girls’ body image and seems promising for further pursuing the chosen path. Further intervention development should be informed by the large body of research available on practicing effective and attractive applications and serious games (e.g., Arnett, 2010; Baranowski, Buday, Thompson, & Baranowski, 2008; Baranowski, Buday, Thompson, Lyons, Lu, & Baranowski, 2013; Kato, 2010). Furthermore, it is important to collaborate with intermediate organizations that already relate to the target group (Baranowski et al., 2008). An example of such an important party in the Netherlands is Proud2BEMe (www.proud2bme.nl), who offer information and help to those who struggle with their self-image and related problems via a website.

A second approach to properly implement our proposed intervention strategies, is the cooperation of media actors as they are very important intermediates. On the one hand, media are claimed to be ‘part of the problem’ because they reinforce ultrathin bodies by showing them in abundance and by idealizing such bodies through positive associations
General Discussion

(e.g., Fouts & Burggraf, 2000). On the other hand, we propose to use mass media as a cost-effective approach for tackling body-related issues (see also Spettigue & Henderson, 2004). Recent initiatives from several important media actors and the fashion industry, that comes to people mainly through media, illustrate their willingness to take responsibility to provide healthier body standards. For example, *Vogue*-magazine does not allow models who are too young or unhealthily thin, while the *Madrid Fashion Week* banned underweight models from their catwalk. Also, magazines sometimes openly criticize the low body weight of models and celebrities, and even dedicate articles on graphic alterations made to celebrity and model pictures. For example, *Viva*-magazine showed pictures of Britney Spears before and after her pictures were adapted by Photoshop, which may incite discussion among their readers about the realism of commonly portrayed pictures. These actions of media actors indeed support the viability of our proposed intervention strategies. Conversely, our findings confirm that our intervention strategies have the ability to 1.) use established venues such as magazines or blogs to reach specific target groups like adolescent girls for intervention strategies, 2.) employ the context of daily life for health promotion, given that our target group uses media abundantly, and 3.) apply a ‘long term’ approach (conform the benefits of using a ‘setting approach’; Naidoo & Wills, 2000).

Hopefully, our findings support media actors in pursuing their chosen path to reinforce healthy body standards and, importantly, persuade them to acknowledge their power by supporting and facilitating our proposed counteracting suggestions. Importantly, in this perspective, the recent rise and increasing popularity of beauty and fashion blogs on the internet should also be considered (as an example, see Van Teeffelen, 2013): in this case, the ‘media actors’ are actual, real-life peers, who sometimes are even considered as influential role models.

Third, there is political interest in sustaining healthy body portrayals in media, which aligns with most theoretical intervention planning models underscoring the importance to consider rules and regulations for intervention support (Green & Kreuter, 2005). For example, Israel has embraced policy rules to prohibit portrayals of models who are too thin in national media outings (Reuters, 2012). Furthermore, current political suggestions mostly concern the use of mandatory disclaimer information about digital alterations made to media models. In this perspective, some countries like the United Kingdom, Israel and France consider the obligation of adding disclaimer information about graphic alterations to media images (BBC, 2010; Kee & Farid, 2011; see also Slater et al., 2012; Tiggemann et al., 2013). In the Netherlands, the program minister of ‘Jeugd en Gezin’ (‘Youth and Family’) expressed his interest in providing warning texts before entering a pro-anorexia website in an official letter to the parliament several years ago (Rouvoet,
In this letter, he refers to the Dutch study of Martijn, Smeets, Jansen, Hoeymans, and Schoemaker (2009) who claimed effectiveness of such warning texts in prohibiting visitors from proceeding to a pro-ana website. However, an important point of attention was made by both the researchers and the minister that the text seemed to have mainly stopped incidental visitors from entering the website (for example, those who became curious after media-attention), instead of the real adherents of pro-anorexia sites. Paraphrasing the program minister, he indicated that no legal means are currently available to set a mandate that obliges the use of such warning texts, because it touches the right of freedom of speech as set by our constitution. Therefore, he stresses a moral appeal to the societal responsibilities of the providers (of pro-anorexia websites) and encourages them to use warning texts. However, from our findings we would strongly suggest to not use warning texts, but rather information messages (cf. Nije Bijvank et al., 2009; Veldhuis et al., 2012; Veldhuis et al., 2014a). Moreover, in our opinion, the political agenda should also focus on body image interventions to counteract negative body perceptions besides interventions targeting pro-ana sites. That is, including these topics on the list with points of attention for health interventions seems desirable, and policy guidelines could be a facilitating force behind our proposed interventions strategies. Our findings regarding the 'Negotiated Media Effects' may further provoke political interest and inform political debates, options and choices in the realm of setting more healthy body standards.

A last note could be made regarding the media users themselves. We should keep in mind that the origin and motivations underlying the currently trending body-ideal being slender and firm is subject to time and to sociocultural contexts, such as class status or gender role (e.g., Bordo, 1993; Dalley & Buunk, 2009). Hence, the body-ideal within our contemporary Western society is not something the media have merely invented: a debate on the responsibilities of media senders versus media users and on ‘who is to blame for the ultrathin body-ideal’ would most likely silt up in an indecisive discussion: do we favor ultrathin bodies and see them as ideal, because they are aired so abundantly, or are they aired so widely because it is what society prefers to see? What matters however, is that changes in the media landscape and the implementation of proper interventions will likely have a positively impact on media users. In feedback processes such impact could be expanded through societal discussions and social reinforcement by peers, parents and relevant others. In particular those among the adolescent girls and young adults who are sensitive to body-related issues may further profit from social reinforcement by significant others and the general societal view on what is considered a healthy and 'normal' body shape.
7.6 Final Conclusions

From our findings, several final conclusions can be made:

- Contextualization and idealized body imagery interact in guiding body perceptions in adolescent girls and emerging adults, following our Negotiated Media Effects Model.
- Informing (rather than warning) about the actual weight status of thin-ideal media models counteracts negative body perceptions in adolescent girls.
- Peer feedback on thin-ideal imagery might further idealize the thin-body ideal: When peers comment on ultrathin media models as being 'slightly underweight', this might put the ideal-body within reach while no effective means are handed on how to attain such an ideal body shape.
- Short verbal messages suggesting effective means for body-improvement actions sorted positive effects on emerging adults' body satisfaction.
- Individual predispositions play an important role in explaining who are most affected by contextualizing idealized body imagery: The effects account especially for those who are susceptible in terms of lower self-esteem and higher appearance schematicity.
- The contextualization principles as developed and tested in this dissertation could easily and successfully be implemented in a mobile device application (i.e., a 'body image'-app).
- Information labels and attainability information may be effective strategies for body image interventions using a mass media approach to counteract negative media-induced body perceptions and to carefully guide a healthy body size by proper lifestyle behaviors.
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