Dismantling prevention: Comparison of outcomes following media literacy and appearance comparison modules in a randomised controlled trial

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Abstract

A dismantling study of body dissatisfaction prevention was conducted. Adolescent girls (*N* = 260) were randomly allocated to a media literacy (HBM-Media) or appearance comparison (HBM-Comparison) intervention or healthy eating behaviour control (HBM-Eating) condition. In the HBM-Comparison condition, improvements from baseline to post-program and follow-up for upward appearance comparison and fear of negative appearance evaluation were observed. In the HBM-Media condition improvements were observed from baseline to post-program for upward appearance comparison and realism scepticism. Findings were similar in a high-risk subsample and overall are moderately supportive of appearance comparison-based interventions, but less supportive of a stand-alone media literacy intervention.

Keywords

Body image, prevention, school, media literacy, appearance comparison

Body dissatisfaction is a common problem for adolescent girls, with more than half of girls reporting a desire to be thinner (Dion et al., 2014). Although common, body dissatisfaction is distressing and the potential negative consequences, such as depressive symptoms and low self-esteem (Paxton et al., 2006) and eating disorders (Stice et al., 2011), are well known. In light of the prevalence, negative consequences, and persistence of body dissatisfaction throughout adolescence and early adulthood (Bucchianeri et al., 2013), the need for prevention is evident.

Schools are appropriate settings for mental health prevention (Fazel et al., 2014) and many classroom-delivered body dissatisfaction prevention programs have been developed and evaluated. Typically, interventions target modifiable risk factors for the problems they aim to prevent. A recent review found that body image prevention programs were multifaceted, and effective programs targeted media literacy and the role of peers, including appearance comparison (Yager et al., 2013). It is unclear, however, which components are most potent in delivering positive outcomes. Dismantling studies are required to identify the active components of interventions that produce meaningful change (Pennesi and Wade, 2016). This approach can indicate the most effective and parsimonious interventions for classroom delivery, a setting in which prevention programs compete for precious time (Patel et al., 2013). Thus, the aim of this study is to dismantle elements of prevention interventions for adolescent girls and compare the effectiveness of classroom-delivered programs addressing media literacy and appearance comparison with peers.

Media literacy is used in intervention programs to address the risk factors media exposure and thin-ideal internalisation and is proposed to counter negative effects on body image of exposure to media that promote the value and pursuit of thinness (Grabe et al., 2008). Critical thinking is central to media literacy to identify: the purpose and influence of

media messages, the targeting of messages to specific audiences, and the extent to which media filters reality (Primack et al., 2006), particularly the unrealistic nature of thin-ideal images. Media literacy is also proposed to target internalisation of the thin-ideal (Wilksch et al., 2015) by reducing the persuasive influence of media and rendering the media appearance ideal less desirable to be internalised (Berel and Irving, 1998).

Classroom interventions that have included media literacy components have produced positive outcomes for adolescent girls for weight and shape concern (Wilksch and Wade, 2009; Wilksch et al., 2015), body satisfaction (Espinoza et al., 2013), and self-esteem (Mora et al., 2015). Importantly, effects were found at long-term follow-up (12-30 months). There were however, inconsistent results for thin-ideal internalisation whereby the evaluation by Mora et al. (2015) found an improvement, but no effect on internalisation was found by Wilksch and Wade (2009) and Wilksch et al. (2015). Furthermore, thin-ideal internalisation was not assessed by Espinoza et al. despite, as noted above, internalisation being targeted in media literacy interventions.

Although these programs have shown positive results, with long term maintenance of effects, they do not provide support for media literacy being the mechanism of action in improving body image. First, media literacy was not assessed, so it is not known if the programs alter media literacy skills. Second, the interventions are not stand-alone media literacy programs as they include other components such as peer influences (Wilksch et al., 2015; Wilksch and Wade, 2015) and nutrition (Espinoza et al., 2013; Mora et al., 2015). As noted by Wilksch and Wade (2015), integrating additional components with media literacy content may enhance intervention efficacy. However, this approach does not help identify active components.

Appearance comparison approaches to body dissatisfaction prevention target

appearance comparison as a risk factor for body dissatisfaction (Myers and Crowther, 2009; Rodgers et al., 2015). Interventions that address peer influences more broadly target the peer appearance culture, reflected by peer interactions involving appearance conversations, weight teasing, and peer modelling of appearance norms (Webb and Zimmer-Gembeck, 2014). These interactions shape the peer environment such that the value placed on achieving appearance ideals and concern about negative evaluation of appearance by peers are heightened, potentially contributing to body dissatisfaction.

Although classroom-delivered prevention programs do include elements of peer interactions (e.g., Halliwell et al., 2015), few have been identified that specifically address appearance comparison. The *Happy Being Me* program (Richardson and Paxton, 2010) focuses on peer interactions, both appearance comparison and appearance conversations, and also addresses media literacy. Three versions of the program have been evaluated in Australia and the United Kingdom (Bird et al., 2013; Dunstan et al., 2016; Richardson and Paxton, 2010). Improvements for girls, in at least two of the three evaluations, have been reported for body dissatisfaction, dietary restraint, thin-ideal internalisation, appearance comparisons, and appearance conversations. Improvements were maintained at three months following the three-lesson single-sex version (Richardson and Paxton, 2010), and maintained at six-months for thin-ideal internalisation and appearance comparison in the six-lesson co-educational version (Dunstan et al., 2016). Maintenance of improvements was less consistent for the younger sample (Bird et al., 2013).

As in media literacy programs, findings from Happy Being Me cannot be attributed to one particular intervention component, and do not indicate specific support for appearance comparison content. Indeed, given the overlap between peer factors, it is possible that content addressing other elements of the peer environment may account for improvements

in appearance comparison. The media literacy content in Happy Being Me may also contribute to various outcomes.

We aimed to conduct a dismantling study of prevention interventions for body dissatisfaction in adolescent girls to isolate the effects of programs containing only media literacy content and only appearance comparison content. The main aim was to examine changes over time in media literacy and appearance comparison programs derived from Happy Being Me compared with an active control program. The use of active controls is methodologically rigorous and enhances confidence that outcomes are not attributable to demand characteristics (Stice et al., 2013). The healthy eating behaviour active control would be considered credible to participants and schools in addressing relevant concerns, namely dieting. It was hypothesised that intervention effects, that is improvements from baseline to post-program, would emerge for body dissatisfaction, related risk factors, and disordered eating variables for the media literacy and appearance comparison interventions. Stronger improvements for thin-ideal internalisation and media literacy were expected for the media literacy program, and stronger improvements for appearance comparison and peer-related variables were expected for the appearance comparison program, relative to their intervention condition counterparts. Improvements were not expected in the active control.

Method

Design

A three-arm cluster randomised controlled trial design with equal allocation was used. Two classroom-delivered body dissatisfaction prevention interventions (Happy Being Me – Media Literacy (HBM-Media); Happy Being Me – Appearance Comparison (HBM-Comparison)) were compared with an active control (Happy Being Me – Healthy Eating

Behaviour (HBM-Eating)).

Participants

Participants were 260 early adolescent girls aged 11 to 14 years (M_{age} = 13.09, *SD* = 0.45) from four independent single-sex girls' secondary schools in Melbourne, Australia. Six schools were invited to participate and four agreed (see Figure 1). Students were eligible for inclusion if informed written parental consent (*N* = 265 students) and student assent to participate, and baseline data were provided (*N* = 260 students). There were no exclusion criteria. Participants with baseline data and data from at least one follow-up assessment (either post-program or 3-month follow-up) were included in analyses (*n* = 255). This final sample size exceeded that of 234 determined from a-priori power analysis conducted with the GPower-3 program (Faul et al., 2007).

INSERT FIGURE 1 HERE

Interventions and active control

The intervention programs, HBM-Media, and HBM-Comparison were adapted from previous versions of Happy Being Me (Dunstan et al., 2016; Richardson and Paxton, 2010). Each intervention aimed to reduce body dissatisfaction and related factors. The HBM-Media program also specifically aimed to increase media literacy and reduce thin-ideal internalisation. The HBM-Comparison program also specifically aimed to reduce upward appearance comparisons with peers. The active control, HBM-Eating, promoted a non-dieting approach and engagement in healthy eating behaviours such as regular eating and responding to hunger and fullness signals. Program content was adapted from *Set Your Body Free* (McLean et al., 2011) and *Helping, Encouraging, Listening and Protecting Peers* (Wilksch et al., 2015). Separate facilitator manuals were used for each program and students were provided with colour printed activity books. Program materials are available from the

authors.

Lessons were interactive and program content was matched for equivalent format of activities including large group discussion, small group work, provision of multimedia stimuli including Power Point slides and videos, and creative activities such as role play, poster/multimedia/student presentations. Program content was developed to ensure minimal overlap between concepts. For example, HBM-Media made no reference to appearance comparison, and similarly, HBM-Comparison made no reference to media. Dieting or eating behaviour were not discussed in either intervention program and body image was not discussed in HBM-Eating. If overlapping concepts were raised by participants, the facilitator would divert to a topic in line with program content. Table 1 describes the program content.

Intervention and active control lessons were delivered to 14 of the 16 classes by the first author, a postgraduate psychology student with experience delivering school-based intervention lessons (e.g., Dunstan et al., 2016; Richardson and Paxton, 2010). Lessons were delivered to two classes (one each of HBM-Media and HMB-Comparison) by a teacher-qualified research assistant with previous intervention facilitation experience (Dunstan et al., 2016).

INSERT TABLE 1 HERE

Measures

Measures used in the study are shown in Table 2. Scores on the measures have previously demonstrated good evidence for validity and reliability in female adolescent samples (e.g., Garner, 1991; Gleaves et al., 2014) and adequate internal consistency in the present study. Higher scores indicate higher levels of risk for all variables except downward

appearance comparison and measures of media literacy for which higher scores are more desirable.

INSERT TABLE 2 HERE

Fidelity to program

Intervention fidelity was assessed with a self-report checklist completed by facilitators following lesson delivery. All activities were rated from 1 (*low*) to 3 (*high*) for the proportion of the activity that had been delivered and the effectiveness of the activity based on perceived activity success, and level of student activity engagement and understanding. Scores for proportion of activities delivered and for effectiveness of activities were derived from average ratings across activities and lessons.

Procedure

The research was approved by the university Human Ethics Committee and the Department of Education. Following Wilksch et al. (2015), block randomisation by class, rather than school, was conducted using an internet service (www.sealedenvelope.com). Separate blocks were used within schools due to sequential recruitment. To conceal allocation, participants were not informed of their allocation to condition, and lessons were referred to simply as "Happy Being Me", with the aim of improving students' wellbeing.

Following principal consent, students were invited to participate. Following receipt of parent consent, questionnaires were completed in supervised classes using online surveys. Baseline data were collected one week prior to the first intervention lesson. Lessons were delivered weekly, and post-program data were collected one week following the last lesson. Follow-up data were collected three months following post-program data collection.

Data analysis

For the intent-to-treat analysis protocol, multiple imputation was conducted to handle missing data, which was minor (3.1% of cases missing at post-program; 11.4% of cases missing at 3-month follow-up). Cases were excluded if data were missing at both post-program and follow-up (1.9%). Following Baraldi and Enders (2010), twenty datasets were imputed. Analyses were performed on each imputed dataset, from which pooled estimates were obtained.

Dietary restraint, bulimic symptoms, and appearance conversations were positively skewed and distributions were improved with logarithm, inverse, and square root transformations, respectively. Realism scepticism was negatively skewed and was not improved through transformation. Thus, analyses were conducted on difference scores, with negative scores indicating realism scepticism improvement.

To examine media literacy and appearance comparison intervention efficacy, for all dependent variables except realism scepticism, a series of 3 (time: baseline, post-program, and 3-month follow-up) x 3 (condition: HBM-Media, HBM-Comparison, and HBM-Eating) mixed between-within repeated measures analyses of variance (ANOVA) were conducted with time as the within-subjects factor and condition as the between-subjects factor. Repeated measures analyses account for baseline levels of outcome variables and in this design interaction effects are of primary interest. Analyses were conducted controlling for baseline differences between groups on dietary restraint. Significant interaction and main effects were examined post-hoc with pairwise comparisons of mean differences in scores from baseline to post-program and baseline to follow-up, with Bonferroni adjustment. In addition, following Stice et al. (2003), to examine whether any effects were missed because a 3 x 3 ANOVA can obscure some effects, planned pairwise comparisons of mean differences in scores from baseline to post-program, and baseline to follow-up with Bonferroni

adjustment were also conducted on dependent variables without significant interaction effects, but these results are interpreted cautiously. Analyses were repeated for a high-risk subsample, based on a median split of baseline body dissatisfaction scores (as baseline differences in dietary restraint were not found in this subsample, restraint was not covaried).

Results

Participant Characteristics

Differences between groups on age and outcome variables at baseline were examined with one-way ANOVAs. Differences were observed for dietary restraint, F (2, 252) = 4.07, p = .018, η^2 = .03. Tukey's post-hoc tests indicated that the HBM-Media group had higher levels of dietary restraint (M = 2.30, SD = 1.05) than the HBM-Eating group (M = 1.89, SD = 0.89). No other significant differences were observed. There were no differences at baseline between groups in the high risk subsample for dietary restraint (p = .423) or any other variables.

Intervention Outcomes in the Total Sample

Interaction effects. Descriptive statistics and summary statistics of repeated measures ANOVAs are presented in Table 3. Significant condition by time interaction effects were observed for upward appearance comparison, fear of negative appearance evaluation, and a marginal interaction effect for appearance conversations (p = .064). Effect sizes were small. Post-hoc examination of interaction effects with Bonferroni adjusted pairwise comparisons of mean differences (see Table 4) showed that for upward appearance comparison both the HBM-Media and HBM-Comparison groups had significant improvements from baseline to post-program (d = .24 and d = .36, respectively). Improvements from baseline to follow-up were significant for HBM-Comparison (d = .39),

but not for HBM-Media (*d* = .20). For appearance conversations the HBM-Comparison group showed significant improvement from baseline to post-program (*d* = .23), but not from baseline to follow-up (*d* = -.03). For fear of negative appearance evaluation the HBM-Comparison group showed significant improvement from baseline to post-program (*d* = .34) and baseline to follow-up (*d* = .37).

There was a significant between groups difference from one-way ANOVA for baseline to post-program difference scores in realism scepticism, F (2, 252) = 3.84, p = .023, η^2 = .03, but not for baseline to follow-up difference scores, F (2, 252) = 0.74, p = .479, η^2 < .01. Tukey's post-hoc tests revealed that the HBM-Media group experienced significantly greater improvements in realism scepticism from baseline to post-program than the HBM-Eating group (p = .029).

INSERT TABLE 3 HERE

Main effects for time. Significant main effects for time were revealed for body dissatisfaction, dietary restraint, and downward appearance comparison. Marginal effects were revealed for thin-ideal internalisation (p = .052) and physical appearance comparison (p = .055). Main effects were not interpreted for variables for which interaction effects were present. Bonferroni adjusted pairwise comparisons revealed a marginal effect for improvement from baseline to post-program for dietary restraint (p = .054), a significant improvement from baseline to post-program for thin-ideal internalisation (p = .005), and for physical appearance comparison (p = .001), and a marginally significant improvement (increase) from baseline to follow-up for downward appearance comparison (p = .082). However, specific significant differences were not revealed for body dissatisfaction.

Main effects for group. There were no significant main effects for group.

Planned comparison of changes across time, within groups. To identify changes

obscured by the 3 (time) by 3 (condition) comparison, Bonferroni adjusted pairwise comparisons within each condition from baseline to post-program and baseline to follow-up were examined for variables where interaction effects were not observed (see Table 4). These revealed significant baseline to post-program improvements for HBM-Comparison for bulimic symptoms (d = .27) and for baseline to post-program (d = .34) and baseline to follow-up (d = .33) for thin-ideal internalisation. A marginal baseline to post-program improvement was also revealed for HBM-Media for physical appearance comparison (d = .22). For both the HBM-Media and HBM-Comparison groups, a significant reduction to post-program was observed for critical thinking about media (d = .26 and d = .23, respectively). For the active control group, HBM-Eating, there were no significant changes across time.

INSERT TABLE 4 HERE

Intervention Outcomes in the High Risk Sub-sample

Exploratory analyses for the high-risk subsample revealed a significant interaction effect only for body dissatisfaction. Bonferroni adjusted pairwise comparisons showed that the HBM-Comparison group had reductions in body dissatisfaction from baseline to post-program (d = .30) and from baseline to follow-up (d = .71). In addition, a marginal reduction from baseline to follow-up was observed for the HBM-Eating group (d = .38).

Significant main effects for time with improvements from baseline to post-program identified with Bonferroni adjusted pairwise comparisons were revealed for dietary restraint (p = .017), bulimic symptoms (p = .014), physical appearance comparison (p = .044), upward appearance comparison (p = .001), and fear of negative appearance evaluation (p = .020). The improvement for thin-ideal internalisation from baseline to post-program was marginal (p = .055). The main effect for time for critical thinking about media was a decrease from baseline to post-program (p = .037). Improvements from baseline to follow-up were also

revealed with Bonferroni adjusted pairwise comparisons for thin-ideal internalisation (p = .011), upward appearance comparison (p = .001), fear of negative appearance evaluation (p = .020), and a marginal improvement for physical appearance comparison (p = .085).

Bonferroni adjusted planned comparisons across time within each condition revealed improvements for HBM-Comparison for bulimic symptoms (baseline to post-program: d = .43), thin-ideal internalisation (baseline to follow-up: d = .43), upward appearance comparison (baseline to post-program: d = .32; baseline to follow-up: d = .44), and fear of negative appearance evaluation (baseline to follow-up: d = .40). Improvements for HBM-Media were revealed for physical appearance comparison (baseline to post-program: d = .31), and upward appearance comparison (baseline to post-program: d = .30; baseline to follow-up: d = .28). In addition, for HBM-Media, a decrease in critical thinking about media was observed from baseline to post-program (d = .26). An improvement for HBM-Eating was revealed for dietary restraint (baseline to post-program: d = .29) only. Descriptive and summary statistics of repeated measures ANOVA and pairwise comparisons are shown in online supplementary material (Supplementary Tables 5 and 6).

Fidelity to program

Facilitator reports indicated that a high proportion of the lesson content was delivered for each module of Happy Being Me, with no significant differences in ratings between HBM-Media (M = 2.85, SD = 0.18), HBM-Comparison (M = 2.81, SD = 0.27), and HBM-Eating (M = 2.78, SD = 0.26), F (2, 13) = 0.12, p = .887, η^2 = .019. Ratings of activity delivery effectiveness were high for each module and did not differ between HBM-Media (M = 2.74, SD = 0.19), HBM-Comparison (M = 2.64, SD = 0.20), and HBM-Eating (M = 2.80, SD = 0.09), F (2, 13) = 1.21, p = .330, η^2 = .156.

Discussion

The aim of this study was to dismantle multifaceted body dissatisfaction prevention for adolescent girls to identify the contribution of media literacy and appearance comparison components to change in body dissatisfaction and related factors. Hypotheses were partially supported with improvements for some outcomes in the HBM-Comparison and HBM-Media intervention conditions, but not HBM-Eating, the control condition, except for one high-risk group analysis.

Participation in HBM-Comparison led to immediate and sustained improvements in a greater number of variables than did participation in HBM-Media, which in contrast resulted in improvement in only a few variables, and effects were not maintained at follow-up for HBM-Media in the total sample. Effect sizes for interactions and planned comparisons were somewhat smaller than for previous evaluations of Happy Being Me (Bird et al., 2013; Dunstan et al., 2016; Richardson and Paxton, 2010), however, effect sizes tended to be slightly stronger in the high risk subsample. Contrary to expectations, scores were reduced for critical thinking about media messages for both intervention programs to post-program. Also, somewhat contrary to expectations, in the high risk group an improvement from participation in the control condition, HBM-Eating, was revealed for dietary restraint in pairwise comparisons. However, this did not generalise to significant improvements in body image-related variables.

Considering outcomes in the total sample and high-risk subsample, the appearance comparison module resulted in sustained improvements in four variables: body dissatisfaction, thin-ideal internalisation, upward appearance comparison, and fear of negative appearance evaluation. Initial improvements in two further variables, bulimic symptoms, and appearance conversations were not maintained at follow-up. We note that these include outcomes from planned comparisons examining change across time within

each group, which are interpreted cautiously. In line with the peer-focused intervention content, and consistent with hypotheses, significant interaction effects indicating improvement were found for body dissatisfaction and peer-related variables: this suggests that as well as affecting individual attributes, HBM-Comparison also affected the peer appearance culture. This is an important outcome, as peer appearance-focused interactions have previously predicted increases in eating disorder symptomatology in adolescent girls (Jackson and Chen, 2011). These changes may have contributed to reductions in bulimic symptoms seen in this group in planned comparisons. Reductions in thin-ideal internalisation are also important to note as this factor has been identified as an important contributor to development of body dissatisfaction (Rodgers et al., 2015). These outcomes are consistent with previous evaluations of Happy Being Me (Bird et al., 2013; Dunstan et al., 2016; Richardson and Paxton, 2010). Importantly, the current study is the first to demonstrate improvements with appearance comparison content only, isolated from other elements such as media literacy, or appearance pressure.

Across the total sample and high risk subsample, the media literacy module demonstrated sustained improvement in one variable, upward appearance comparison (high-risk subsample) and improvement to post-program for three variables: upward appearance comparison, physical appearance comparison, and realism scepticism. Previous evaluations for girls of media literacy interventions which have also addressed peer pressure and teasing, have however, have typically shown maintenance of effects over a longer follow-up period (Wilksch et al., 2015).

Media literacy interventions target thin-ideal internalisation and media literacy. In the current study, improvement was shown for one media literacy variable, media scepticism, but not the other, critical thinking, or for thin-ideal internalisation. Thus,

hypotheses were only partially supported. Improvement in realism scepticism reflects the central aim of the HBM-Media module, to reduce the persuasive influence of media by increasing scepticism about the unrealistic nature of thin-ideal media images. It is unclear why improvements would be seen for realism scepticism, but not for either critical thinking variable. Outcomes were also inconsistent in that a reduction in general critical thinking was observed (in both intervention conditions) but appearance-focused critical thinking did not change. To our knowledge, this study is the first to evaluate critical thinking outcomes following participation in a media literacy-based intervention in this field. Thus, it is not possible to compare these outcomes to prior research.

The lack of effect for thin-ideal internalisation from the media literacy intervention is consistent with some (Wilksch and Wade, 2009; Wilksch et al., 2015), but not all (Mora et al., 2015) previous media literacy evaluations and is inconsistent with previous outcomes from Happy Being Me (Dunstan et al., 2016; Richardson and Paxton, 2010). In contrast, positive effects were demonstrated for physical and upward appearance comparison. Although not typically identified as a media literacy target, some authors suggest that media literacy influences appearance comparison, whereby media evaluated as unrealistic are perceived as inappropriate comparison targets (e.g., Halliwell et al., 2011). Our findings support that contention but further replication is required.

In the current evaluation, HBM-Comparison outperformed HBM-Media. Given that many prevention programs include media literacy (Yager et al., 2013), and few focus on appearance comparison as an intervention target, this outcome was surprising. Nonetheless, these findings are consistent with appearance comparison being increasingly recognised as contributing to body dissatisfaction (Myers and Crowther, 2009; Rodgers et al., 2015) and with calls to address appearance comparison in prevention (Fitzsimmons-Craft

et al., 2016). These different outcomes may be attributed to the importance of peer interactions for girls' body dissatisfaction (Jackson and Chen, 2011; Jones, 2004), whereas media literacy may be less relevant. Indeed Wilksch and colleagues (Wilksch and Wade, 2009; Wilksch et al., 2015) demonstrated stronger results for boys than girls in their evaluations of programs with media literacy components, which, along with the present results, could suggest that media literacy is less effective as a prevention approach for girls.

Another contributor to the weaker results for HBM-Media relative to HBM-Comparison and to previous Happy Being Me evaluations, may be omitting from the media literacy module content that gave it personal relevance for participants. Participants may have become proficient at evaluating media, but the evaluations may not have had personal meaning, thus the thin-ideal in media remained an aspiration and a plausible comparison target. This explanation is consistent with suggestions that outcomes for media literacy may be enhanced through the inclusion of additional components (Wilksch and Wade, 2015).

This study has several limitations. Randomisation was conducted by class, rather than school, which allows for potential contamination across classes. However, this approach was selected as it ensures greater similarity between conditions for comparison compared to randomisation by school. In addition, analyses did not account for clustering by class, although such an analysis may not have been an appropriate statistical approach given the small number of classes (Bryk and Raudenbush, 1992). The self-report nature of assessment of program fidelity did not provide objective ratings of adherence, thus potential for biased reporting was apparent. The fact that one person ran most sessions helped minimise facilitator style effects across interventions; however, future research should replicate findings with multiple group leaders blind to hypotheses. The short-term follow-up period also limited conclusions that could be drawn about maintenance of

program effects.

Findings from this dismantling study contribute to our understanding of the pathways by which media literacy and appearance comparison interventions produce change in body dissatisfaction and related risk factors Media literacy interventions may operate via change in media literacy and in appearance comparison (Halliwell et al., 2011), rather than, or in addition to, thin-ideal internalisation as has previously been assumed. Appearance comparison interventions appear to operate via changes in peer variables and the peer appearance culture. Finally, the results of this study support the implementation of appearance comparison-based interventions and provide further support for the efficacy of the Happy Being Me program for adolescent girls.

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