

Cognitive Dissonance-based Interventions to Facilitate Positive Embodiment

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Prospective research indicates that positive body image, as defined as body appreciation, predicts adaptive eating behaviors among adolescent girls over a 1-year period (Andrew, Tiggemann, & Clark, 2016). Experimental research indicates that women with high body appreciation do not experience body dissatisfaction after exposure to models who embody sociocultural appearance ideals, whereas those with low body appreciation experience body dissatisfaction after exposure (Andrew, Tiggemann, & Clark, 2015; Halliwell, 2013). In addition, several dimensions of positive body image are correlated with multiple indicators of well-being such as self-esteem, proactive coping, optimism, positive affect, self-compassion, life satisfaction, and subjective happiness (see Chapters 2, 3, and 5). The combined evidence indicates that positive body image is protective against body image related concerns and bolsters psychological and physical well-being (Halliwell, 2015).

Therefore, it is important to identify factors, and develop interventions, that promote positive body image. There are parallel processes that will support this endeavor. One is to draw on evidence and theory to directly target predictors of positive body image in new interventions. The second, an equally important undertaking, is to examine the efficacy of existing evidenced-based body image interventions in promoting positive body image. This will allow us to capitalize on current good practice, avoid duplication of efforts, learn from past mistakes, and more strategically and rapidly advance the field of body image interventions. Cognitive dissonance-based interventions (CDI), commonly labelled as *The Body Project*, emerge in meta-analyses as the most effective selective eating disorder prevention and body acceptance programs for girls and women (Stice, Shaw, & Marti, 2007; Watson et al., 2016). This chapter will

examine whether CDI might also be used to promote aspects of positive body image.

<1>**Cognitive Dissonance-based Interventions and Negative Body Image**

Theoretically, CDI are underpinned by Cognitive Dissonance Theory (Festinger, 1957) and the Dual Pathway Model for disordered eating (Stice, 2001). Cognitive Dissonance Theory posits that humans are motivated to avoid inconsistencies between their cognitions and behaviors. For example, a person who believes that thin women are more successful and attractive will act in accordance with this belief by restricting food intake to try to lose weight (concordant behavior), rather than listening and responding to her body's needs (discordant behavior). Experiencing inconsistencies, or dissonance, is associated with discomfort. Therefore, people will often change their cognitions or behavior to reduce dissonance. This theory is supported by over 60 years of research evidence and has been utilized in interventions to address diverse areas of health such as safe sex, smoking, and substance misuse (Freijy & Kothe, 2013).

The Dual Pathway Model is based on prospective research predicting the development of eating pathology in women (Stice, 2001). The model posits that sociocultural pressures to be thin result in an increased internalization of the thin ideal, which subsequently increases body dissatisfaction and negative affect, which are the dual paths leading to disordered eating behavior. Based on this model, CDI are designed to engage participants in counter-attitudinal activities that require them to verbally and behaviorally challenge the thin ideal. This putatively creates cognitive dissonance among girls and women who have internalized the thin ideal, as they are acting in a manner inconsistent with their attitudes. Theoretically, this dissonance then motivates them to change their beliefs (i.e., reduce internalization of the thin ideal) to correspond with their actions. Studies with adolescent girls and young women have supported the underlying theory of CDI and reductions in internalization of the thin ideal have been shown to mediate the

effects of the intervention (Seidel, Presnell, & Rosenfield, 2009; Stice et al., 2007).

Initial evaluations of CDI were conducted by Eric Stice and colleagues. They examined selective delivery, whereby adolescent girls and women with existing body image concerns self-selected into the intervention. Efficacy trials indicated that CDI led to reductions in thin-ideal internalization, body dissatisfaction, negative affect, disordered eating, functional impairment, and eating disorder onset over a 3-year follow-up period compared to assessment only control and alternative intervention groups (see Stice, Rohde, Butryn, Shaw, & Marti, 2015).

In a parallel program of research, Carolyn Becker and colleagues evaluated CDI as a semi-mandatory program for university women. Becker was the first to utilize a peer-led intervention delivery approach where sorority members were trained to deliver the manualized program to their peers. Task-shifting delivery of the intervention to peer leaders was an important step in enhancing the scalability of the intervention. This program of research provided evidence that CDI are also effective among lower risk populations, although with smaller effect sizes compared to higher risk populations (e.g., Becker, Smith & Ciao, 2006).

In the U.K., we have evaluated a universal, semi-mandatory peer-led CDI among university women on campus (Diedrichs, Halliwell, Paraskeva, & New, 2014; Halliwell & Diedrichs, 2014), as well as universal (Halliwell & Diedrichs, 2014) and selective (Halliwell et al., 2017; Jarman, Treneman-Evans, & Halliwell, 2017) versions of the program among adolescent girls in schools. Consistent with evidence from the U.S., our research indicates that CDI are associated with reductions in thin-ideal internalization, restrained eating, body dissatisfaction, and negative affect among university women and adolescent girls.

CDI have also been evaluated by independent research groups in Australia (Atkinson & Wade, 2015; Cruwys, Haslam, Fox, & McMahon, 2015) and Europe (Daníelsdóttir, Agustsdóttir,

Thorsdóttir, & Jonsson, 2012). All studies but one (Atkinson & Wade, 2015) identified significant reductions in body dissatisfaction among female participants taking part in CDI. In addition, a CDI called *Free Being Me* has been disseminated to over 3 million girls in 124 countries through the World Association for Girl Guides and Girl Scouts with an implementation study showing good acceptability globally (Diedrichs, 2016; Diedrichs, Craddock, Gau, & Stice, 2017). *Free Being Me* is based on the Body Project, but was adapted to include activities and language appropriate for non-formal education settings and to suit the girl guiding culture.

There has been some preliminary work adapting CDI to address men's body image concerns. Two studies have evaluated versions of *The Body Project* specifically adapted to focus on men's body image. Body dissatisfaction was reduced immediately post-intervention and at 1-month follow-up among gay undergraduate men (Brown & Keel, 2015) and 3-month follow-up among predominantly heterosexual undergraduate men (Jankowski et al., 2017) who completed the intervention compared to control groups. Both studies also found reductions in appearance-ideal internalization post-intervention that were not sustained at follow-up. Brown and Keel found the intervention was associated with sustained reductions in romantic partner objectification, dietary restraint, and bulimic symptoms. In contrast, intervention participants in Jankowski et al.'s study did not report changes in bulimic pathology, but did report reductions in muscularity enhancing behaviors and appearance comparisons. Kilpela et al. (2016) adapted *The Body Project* to be delivered to mixed-sex group. A pilot randomized control trial found improvements on negative affect and multiple aspects of body dissatisfaction among undergraduate men and improvements on some aspects of body dissatisfaction were maintained at 2- and 6-month follow-up. Interestingly, in the mixed-sex group, results for women were not promising. These studies provide some preliminary evidence that CDI tailored to address men's

concerns can improve body image among men. However, much more research is needed before we can be confident that adapted CDI is an effective body image intervention for men.

In summary, there is evidence from independent research groups across several countries that CDI reduces body image concerns and other risk factors for the development of eating disorders among girls and women. There is also some preliminary evidence that CDI can reduce body image concerns among men. Thus, it is important to consider whether this program extends beyond the reduction of negative outcomes to also promote positive body image (Halliwell, 2015; Piran, 2015).

Arguably, the primary psychological mechanism of CDI is cognitive dissonance. However, the intervention is multifaceted incorporating dissonance, psychoeducational content, media literacy, body acceptance, and behavioral components. The key intervention activities involve: (a) defining and challenging the thin ideal; (b) considering the costs of pursuing the thin ideal; (c) writing letters and engaging in role plays to discourage others from pursuing the thin ideal; (d) identifying and discussing positive aspects of one's own appearance and character; (e) practicing ways to avoid fat talk; (f) engaging in behavioral challenges; (g) discussing and engaging in social activism to tackle appearance pressures; and (h) a self-affirmation exercise. By considering these activities in relation to each of the components of positive body image, we can conceptually understand how the intervention may enhance positive body image.

<1>Cognitive Dissonance Interventions, Positive Body Image, and Embodiment

To facilitate our discussion of theoretical links between CDI and positive body image, it is important to briefly define positive body image and the related construct of embodiment. Based on early qualitative and quantitative work on positive body image (e.g., Avalos, Tylka, & Wood-Barcalow, 2005; Frisén & Holmqvist, 2010; Wood-Barcalow, Tylka, & Augustus-

Horvath, 2010), Menzel and Levine (2011) described three central components of positive body image: (a) appreciating the body's appearance and function; (b) being aware of and attentive to the body's experiences and needs; and (c) possessing a positive cognitive style for processing body-related messages in a self-protective way. Tylka and colleagues have been pivotal in progressing the empirical investigation of positive body image through the development of the Body Appreciation Scale (BAS; Avalos et al., 2005; BAS-2; Tylka & Wood-Barcalow, 2015), which assesses all three components of positive body image described by Menzel and Levine.

Recently, there has also been a focus on the concept of embodiment (Piran, 2015, 2016). While there is overlap between the concepts of positive body image and embodiment, embodiment presents a broader view of optimal relationships with the body. Piran (2016) describes embodiment as attunement with inner states and pleasurable engagement with a broad range of bodily experiences, and discusses embodiment in relation to societal expectations and structures. Piran identifies five dimensions of the experience of embodiment, which both support and extend definitions of positive body image. In Figure 1, we integrate components identified in models of positive body image and embodiment, to facilitate our discussion of the likely impact of CDI. We note that this figure is an oversimplification and, inevitably, loses some nuance of the dimensions. We recommend that readers consult the original references for more detail.

Three dimensions of embodiment are consistent with, and extend, the first component of positive body image: appreciating the appearance and function of the body. These are *body connection and comfort* (positive connection with the body and a range of positive feelings towards the body), *inhabiting the body as a subjective site vs. as an objective site* (the extent to which girls and women value their subjective experiences of living in their body), and *agency and functionality* (the extent to which women experience physical and verbal agency in the

world). Four embodiment dimensions link to the second component of positive body image: being aware of and attentive to the body's experiences and needs. These are *body connection and comfort*, *experience and expression of desire* (the extent to which women can respond to desire in a self-caring way), *attuned self-care* (the extent to which girls and women attend positively to their bodily, emotional and relational needs), and *inhabiting the body as a subjective site vs. as an objective site*. Finally, the third dimension of positive body image, self-protective cognitive processing style, can be associated with *body connection and comfort*, in that resistant self-talk is vital to maintaining a positive connection with the body in an adverse social environment, as well as *attuned self-care*. Theoretically, these aspects of positive body image and embodiment are supported to some extent via the content of CDI.

<2>CDI and appreciating the body's appearance and function. Body connection and comfort, inhabiting the body as a subjective site vs. an objective site, and agency and functionality, three of the five key dimensions of embodiment (Piran, 2016), are most directly supported by the mirror exercise within CDI. This exercise invites participants to identify and verbalize positive aspects of their appearance and character, thereby combining body acceptance and dissonance. In this exercise, participants are instructed to stand in front of a mirror at home and write down 15 things they like about themselves including physical, emotional, intellectual, and social qualities. They are required to include some physical attributes and are reminded that sometimes we like our bodies because of what they allow us to do, for example, our legs allow us to dance. In the next session, participants are invited to share aspects of their appearance and function that they like. This activity is clearly related to accepting and appreciating the body's appearance and function, a dimension of positive body image. It also relates to body connection and comfort, a dimension of positive embodiment. The activity also supports physical freedom

(Piran, 2015) and agency and functionality (Piran, 2016) because it celebrates engaging with physical activities in the absence of appearance pressures.

Body connection and comfort as well as agency and functionality are also fostered through the letter writing exercises, which involve writing a letter to persuade an adolescent girl or a younger self not to pursue the thin ideal. The content of these letters is read aloud to the group. Typically, the letters list the costs of pursuing the thin ideal, but also include appeals to the letter recipient to value her body as it is. The verbal elements of agency and functionality are supported through the very interactive nature of the intervention and through the role-play and quick comeback exercises. Participants prepare verbal responses to current and future appearance pressures and role-play giving these responses. They are guided to draw on the costs of pursuing thinness when preparing their responses. However, this activity can also provide opportunity to reinforce verbal agency around body acceptance, appreciation of functionality, and prioritizing subjective experiences of the body. We witness verbal responses such as “my thighs are chunky because they are all muscle and they allow me to run fast” or “this body allowed me to have children – who cares if I have stretch marks.” In addition, agency and functionality as well as inhabiting the body as a subjective site are supported through the behavioral challenges (Piran, 2015). In these challenges, participants are asked to engage in valued activities that they have been avoiding because of appearance concerns, for example, swimming or going to the beach.

There is also a social activism element to CDI, and participants are encouraged to target broader changes among their immediate social group and the wider society. The ideas generated included actions like making posters to display around school, posting body positive messages on toilet doors, engaging with staff to promote diversity in appearance and, at a broader level, writing to magazine editors, posting on social media, and sticking disruptive post-it notes on diet

books in stores. This social activism should contribute to agency and functionality through supporting efficacy in the debate around body image.

<2>CDI and attunement to the body. Being aware of and attentive to the body's experiences and needs, or attuned self-care, is not a *direct* focus of CDI content. However, CDI draws a distinction between the 'thin ideal' and the 'healthy ideal.' The healthy ideal is defined as "the way your unique body looks when you are doing the things necessary to appropriately and simultaneously maximize your physical health, mental health, and overall quality of life" (Becker & Stice, 2011, p. 20). Participants are encouraged to aspire to a healthy ideal rather than a thin ideal. However, it is important to note that the healthy ideal can be easily misconstrued by participants to include a focus on weight and body shape due to societal portrayals of what healthy bodies should 'look' like—thus, it must be carefully and thoughtfully attended to by intervention group leaders. In addition, the dangers of neglecting bodily experiences and needs are central to discussions of the costs of pursuing the thin ideal and the role-plays. Typically, in the role-play scenarios, participants highlight the damage that pursuing thinness can have on meaningful relationships in their lives or their health (e.g., restrictive eating leading to immune deficiencies and frail bones).

<2>CDI and cognitive style for processing body-related messages. Developing a self-protective cognitive processing style is facilitated through a number of CDI activities such as critiquing the thin ideal, discussions of photo editing, quick comebacks, and letter writing.

<1>Empirical Evidence Linking CDI and Body Appreciation

For the last seven years, we have delivered CDI to undergraduate women as a semi-mandatory component of an undergraduate module. In recent cohorts, we have included a global measure of positive body image, the BAS-2 (Tylka & Wood-Barcalow, 2015), in our evaluation.

To tease apart different elements of the positive body image construct, we included the Surveillance subscale of the Objectified Body Consciousness Scale (OBCS; McKinley & Hyde, 1996) to assess the extent to which women inhabit the body as a subjective site versus an objectified site. We also included a measure relating to attuned self-care, the Intuitive Eating Scale (Tylka, 2006), to assess the extent to which individuals are aware of their bodily cues for food and eat in response to these cues.

Data from 101 women in the U.K. revealed that participating in 4 hours of CDI increased body appreciation and intuitive eating, and reduced surveillance across a 2-month follow-up compared to assessment only controls (Halliwell & Diedrichs, 2014). Our results are consistent with data from the U.S. (Becker et al., 2013; Kroon Van Diest & Perez, 2013) showing reductions in surveillance among women who participated in CDI. These reductions were sustained at 5-months (Kroon Van Diest & Perez, 2013) and 8-months (Becker et al., 2013) post-intervention, but were not evident after a 1-year period, despite changes on Dual Pathway Model variables being maintained (Kroon Van Diest & Perez, 2013). Therefore, it may be that the intervention does not have such a robust impact on inhabiting the body as a subjective site as it has on the Dual Pathway Model variables that it directly targets.

We have also examined the impact of CDI on adolescent girls (Halliwell et al., 2015, 2017; Jarman et al., 2017). In a universal trial with 62 girls aged 14-15, a 1-hour version of CDI led to a significant increase in body appreciation compared to controls (Halliwell et al., 2015). Moreover, the effect size for body appreciation was equivalent to that for body dissatisfaction in the same study. In a more recent study involving 240 girls aged 13-15, again intervention participants reported increased body appreciation at post-intervention compared to a randomized control group. However, the effect size for body appreciation was smaller than for body

dissatisfaction, and neither intervention effect was sustained at a 3-month follow-up (Halliwell et al., 2017).

In a selective trial with 99 girls aged 14-18, we examined specific components of positive body image. Four hours of CDI was associated with significant increases in both body appreciation and body connectedness (as assessed via the Body Connection subscale of the Experience of Embodiment Scale; Piran & Teall, 2012), that were maintained at a 3-month follow-up. The effect sizes were similar across both measures of positive body image and Dual Pathway Model variables. Our universal trial with 104 girls aged 12-13 examined the impact of CDI on self-protective cognitive style (Halliwell & Diedrichs, 2014). One month after participants had received either four weekly 20-minute CDI intervention sessions or attended lessons as usual, they took part in a study investigating attitudes to advertising. Participants were randomly allocated to view advertisements featuring ultra-thin media models or control product-only adverts. Participants who had not participated in the CDI reported negative effects of media exposure that are typically found in research (Grabe, Wade, & Hyde, 2008), reporting lower body satisfaction after viewing models compared to control advertisements. However, for girls who had received the CDI, there was no difference in body satisfaction in the model and control conditions. This finding suggests that the CDI enhanced resilience to model exposure, and CDI participants likely used self-protective cognitive processing when faced with these images. However, we did not directly measure processing of images, and media images are only one source of appearance-related pressure. Therefore, further research is needed before strong conclusions can be drawn about the impact of CDI on cognitive processing styles.

One study has examined the impact of CDI on positive body image among men. Jankowski et al. (2017) delivered the Body Project M, which is a two-session 90-minute

intervention in which the program content was tailored to men (e.g., discussing the ‘male appearance ideal’ instead of the ‘thin ideal’), to a sample of undergraduate men from the U.K. and measured the outcome variables post-intervention and at a 3-month follow-up. Jankowski et al. found sustained improvements (i.e., both at post-intervention and follow-up) in body appreciation among these men who completed the intervention compared to an assessment only control group.

These studies provide preliminary evidence that CDI may help to improve overall levels of positive body image among young adults and adolescents, at least in the short-term. However, further research with samples of women and men is needed to examine: (a) the potential for these effects to be sustained over time; (b) the differential impact of CDI on positive and negative body image; and (c) the impact of CDI on separate components of positive body image.

<2>Qualitative feedback on the program. Experimental research allows us to quantify the impact of CDI on positive body image. However, we cannot tell from these data how participants experienced the intervention and whether the content has resonated with aspects of their embodiment beyond body dissatisfaction and disordered eating. In order to evaluate the acceptability of the semi-mandatory version of the CDI among women, we conducted a series of focus groups (Stewart & Halliwell, 2014). Eleven CDI participants and four peer leaders took part in one of three focus groups. One of the themes that emerged is particularly relevant here and related to intervention terminology. Terms such as ‘thin ideal’ and ‘fat talk’ were experienced as communicating a strong emphasis on weight throughout the intervention. Women reported “there is more to the ideal than just being thin” and one participant commented “I think there’s a lot of emphasis on being thin... I think there was a girl.. she said that she’d been bullied for being too thin and she was really struggling to try and put on weight.... it gets.. a

bit too much like.. ‘thin is bad’ and obviously that isn’t the point.”

We also included open-ended questions in our studies, and this feedback echoed the focus group feedback. In response to the question “What didn’t you like about the sessions?” both adolescent girls (Halliwell et al., 2017) and university women (Halliwell & Diedrichs, 2014) reported that there was too much focus on thinness as an aspect of appearance dissatisfaction.

The CDI focus on thinness and the thin ideal is a result of the theoretical grounding in eating disorder prevention. It is important to remember that improvements on positive body image were found despite this emphasis on thinness. However, body fat dissatisfaction is only one area of body image, and positive body image and embodiment require a more global experience of the body. Therefore, relatively small changes to the terminology used may increase the acceptability of the intervention to a wider group of participants, may validate the discussion of other aspects of body concern and appreciation, and may strengthen and broaden the impact of CDI on positive body image. Indeed, the CDI designed for the World Association for Girl Guides and Girl Scouts changed the terminology in the intervention from ‘thin ideal’ to ‘the image myth’ to represent the broad-ranging attributes encompassed in societal appearance ideals. It is critical that any changes are carefully evaluated to ensure that they do not dampen the established effectiveness of the intervention on risk factors for eating disorders.

<1>Conclusions and Future Directions

In summary, preliminary findings suggest that CDI may be effective at targeting aspects of positive body image relating to: (a) appreciating the body’s appearance and function; (b) being aware of and attentive to the body’s experiences and needs; and (c) possessing a positive cognitive style for processing body-related messages in a self-protective manner. In a similar way, it may be effective in addressing components of embodiment.

More specifically, a handful of studies suggest that CDI can lead to increases in body appreciation, body connectedness, a subjective (vs. objectified) experience of the body, and intuitive eating among girls and women. In addition, adolescent girls who participated in CDI were more resilient to exposure to thinness-related messages in the media, suggesting that they employed a protective cognitive processing style when viewing media images. It is encouraging that improvements on these aspects of positive body image were sustained 3-months post intervention in some studies. One study has also found that an adapted version of the CDI can increase body appreciation among men (Jankowski et al., 2017).

Of course, these findings need replication across other studies and by independent research groups. Also, the follow-up period needs to be extended to examine the robustness of improvements on positive body image. This is particularly important, as changes in the subjective experience of the body were not maintained a year later while changes in eating disorder risk factors were sustained (Kroon Van Diest & Perez, 2013). Also, in some studies, the effect sizes were smaller for positive body image than for Dual Pathway Model variables. This suggests that CDI scripts may need to be modified to adequately target aspects of positive body image. Relatively minor modification to CDI scripts could facilitate a focus on broader appearance ideals and increase the emphasis on body appreciation and functionality. However, it is critical that changes are evaluated in randomized control trials to ensure that the effectiveness of CDI is not compromised by these adaptations.

There are components of positive body image and embodiment that have been neglected in this research. Specifically, there has been limited exploration examination of CDI effects on experience and expression of desire, attuned self-care, and agency. Numerous validated measures are available that could be utilized in future research in this area. In addition, the impact of CDI

on self-protective processing is well-suited to evaluation using experimental outcome variables, such as our media exposure manipulation (Halliwell & Diedrichs, 2014). There is an additional benefit of using experimental method here, as demand characteristics are reduced if participants are naïve to the hypotheses and, particularly, if the experimental element is presented as part of a separate study. Current evidence is based on a mainly White, middle-class, heterosexual, able-bodied, and young sample of women. It is critical that future research examines CDI and positive body image among diverse groups. Further, qualitative research will also be important to explore participants' experience of CDI in relation to positive body image and embodiment. This future research will inform further development of the intervention.

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Figure 1. Integration of positive body image and embodiment theories.

