Characteristics and effectiveness of stand-alone body image treatments: a review of the empirical literature

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Abstract

This literature review examined the characteristics and effectiveness of treatments dedicated exclusively to body image. A total of 18 studies met selection criteria. All but one involved at least one cognitive-behavioural therapy (CBT) condition and only three compared CBT to another treatment approach. Twelve studies were conducted with non-clinical, body dissatisfied, participants and only one focussed on eating disordered women. Overall, the interventions were highly effective in improving body image and psychological variables and, to a lesser extent, eating attitude and behaviour. Changes were generally maintained at follow-up. Given their efficacy, more controlled trials of stand-alone body image treatments in clinical populations are needed. Investigating approaches other than CBT may open fruitful avenues of body image treatment.

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Body image disturbance can be defined as consisting of three components: perceptual, attitudinal, and behavioural (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). The perceptual component refers to size estimation inaccuracies whereby body size is usually overestimated (Thompson et al., 1999). Body image attitude includes an affective/evaluative component and a cognitive-behavioural investment component. The affective/evaluative component corresponds to the degree of satisfaction or dissatisfaction with one’s appearance, and to evaluative beliefs about it. The cognitive-behavioural investment component, or “appearance schematicity,” refers to the cognitive, behavioural, and emotional importance of appearance for self-evaluation (Cash, 2002a; Cash, Melnyk, & Hrabosky, 2004). Finally, the behavioural component refers to repetitive checking of perceived imperfections and to avoidance of body exposure or of situations where one’s body may be visible or featured (Rosen, 1992, 1997).

Body image disturbance is associated with poorer psychological adjustment in non-clinical populations (Cash & Pruzinsky, 2002). More specifically, negative body image is associated with depression (Noles, Cash, & Winstead, 1985), social
anxiety (Cash & Szymanski, 1995), poor social self-esteem (Cash & Labarge, 1996), impaired sexual functioning (Dove & Wiederman, 2000), and an insecure/preoccupied attachment style (Cash, Theriault, & Annis, 2004). Severe manifestations of body image disturbance include Body Dysmorphic Disorder and disordered eating (American Psychiatric Association, 1994). Therefore, the development of effective treatments for body image disturbance is of central importance.

In past and current reviews, body image interventions embedded in comprehensive eating disorder treatments were found to have only moderate effects (Cash & Grant, 1995; Cash & Hrabosky, 2004; Rosen, 1996). In contrast, reviews of CBT dedicated to body image in non-eating disordered populations found that these treatments were highly effective (Cash, 1996; Cash & Hrabosky, 2004; Cash & Strachan, 2002). Given their promising potential, more information is needed on the characteristics and efficacy of stand-alone body image treatments.

The goal of this review was to assess the characteristics and the impact of stand-alone body image treatments. More specifically, this review sought to identify the various approaches used in the treatment of body image and to examine the impact of these treatments on the perceptual, attitudinal, and behavioural components of body image. Also examined were: the measures of body image used in these studies; the impact of body image treatment on eating behaviour and psychological variables, such as self-esteem and mood; the specific impact of size estimation correction procedures on perceptual distortion; the variety of treatment approaches and manuals currently in use; the impact of various levels of therapist contact; and finally, the clinical significance of the observed changes in body image.

Method

We performed three electronic searches of English language entries of the PsycINFO database using the Cambridge Scientific abstracts search engine for Title. The following key words were used for the first, second, and third searches, respectively: “body image” and “therapy,” “body image” and “treatment,” and “body image” and “intervention.” These searches yielded 37, 100, and eight studies, respectively. The same three searches were performed in MEDLINE using the PubMed search engine for Title. These three searches yielded 11, 21, and seven titles, respectively. All searches were completed in July 2004. Studies were selected for further examination if they fulfilled the following criteria: the study assessed the effect of a stand-alone body image treatment; the treatment was described in sufficient details as to be unambiguous; body image was objectively assessed with at least one pre and post treatment body image measure with some attitudinal items; random subject assignment was used in studies involving one or more comparison groups; the sample did not focus on children; the patient sample as a whole had neither a psychotic disorder nor mental retardation. Case studies and studies focussing on body image after major medical interventions, such as mastectomy, were excluded.

A stand-alone body image treatment was defined as one where the body image intervention was not combined with another extensive psychological therapy. Therefore, studies where body image therapy was part of a comprehensive eating disorder treatment were excluded. However, studies where body image therapy was combined with another clearly defined and circumscribed intervention were included if they also had a comparison group that allowed assessment of the effect of the body image intervention.

For all searches, titles and abstracts were examined independently by the first and the second author for compliance with inclusion criteria. Initial inter-rater reliability on the combined searches was 90% (number of agreements/number of agreements plus disagreements). Disagreements were resolved by consensus. Sixteen articles were selected, 14 of which were deemed appropriate after detailed reading. These articles and their reference sections were further examined to identify other relevant studies. This yielded two additional studies. Finally, relevant book chapters were also examined for suitable studies. This resulted in the addition of two more studies. In total, 18 articles were included. All the information relevant to this review was first extracted from the articles by the first author. This information was then independently corroborated by the second author.
Results

A summary of the 18 studies selected can be found in Table 1. A description of the study characteristics and of their results follows. 1

Body image measures

In total, 35 body image measures were used. Of these, only 12 were used in more than one study. The most commonly used instruments are described below. The Body Shape Questionnaire (BSQ; Cooper, Taylor, Cooper, & Fairburn, 1987), an instrument assessing concerns about one’s shape and size, was used in seven studies. The Multidimensional Body-Self Relations Questionnaire (MBSRQ; Brown, Cash, & Mikulka, 1990; Cash, 2004), an attitudinal instrument, was used in eight studies. Three instruments were used in five studies. The Body Image Avoidance Questionnaire (BIAQ) assesses body image related avoidance behaviour (Rosen, Srebnik, Saltzberg, & Wendt, 1991). The Appearance Schemas Inventory (ASI; Cash & Labarge, 1996) and its revised version, the ASI-R (Cash, Melnyk et al., 2004), measure body image attitude. Finally, the Situational Inventory of Body Image Dysphoria (SIBID; Cash, 1994) and its revised version, the SIBID-S (Cash, 2002b), measure frequency of negative body image emotions in social and non-social contexts.

Samples

Only one of the studies selected involved participants diagnosed with a current eating disorder. Sixteen of the eighteen studies selected involved participants with body image disturbance associated with, but not necessarily limited to, shape and weight. One study involved women who had not been selected for, and who did not display, significant body image disturbance (Riva, 1998). 2 Finally, one study included patients with Body Dysmorphic Disorder (BDD) excluding those whose primary concern was weight and shape (Veale et al., 1996). Rosen, Reiter, and Orosan (1995b) also assessed body image therapy in patients suffering from BDD. However, only 17% of this sample presented with complaints that were not weight and shape related. Raich, Soler, and Mora (1995) also treated participants with BDD who had weight/shape dissatisfaction. All but five studies were conducted with female participants only.

Treatment conditions

All but one study involved at least one CBT condition. CBT for body image is a multi-component treatment based on the assumption that dysfunctional thoughts, feelings, and behaviours are learned and can be unlearned such that new, adaptive learning can take place. Typical components of body image CBT include: psychoeducation, self-monitoring, exposure and desensitization, cognitive restructuring, behavioural interventions to reduce avoidance and checking and increase mastery and pleasure activities, problem solving and assertiveness training, and size estimation accuracy training (Cash, 1996). The exception was a controlled trial (Earnhardt, Martz, Ballard, & Curtin, 2002) that reported on a Pennebaker writing exercise (Pennebaker & Beall, 1986). Two studies used a virtual reality (VR) approach (Perpiñá et al., 1999; Riva, 1998), but the therapeutic technique used within the VR environment was a direct application of CBT.

Only three studies contrasted CBT with a treatment approach that did not involve a body image CBT component. Dwarkin and Kerr (1987) included a “reflective therapy” condition that applied basic principles of client centred therapy. Fisher and

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1 The PsycINFO searches also yielded four case studies and 28 dissertations. Two of the case studies investigated Eye Movement Desensitization and Reprocessing (Dziegielewski & Wolfe, 2000; Hassard, 1993), one examined intensive exposure therapy (Perez Sales, Calvo, Sagardoy, & Ferrer Gila, 1996) and one examined a comprehensive individual body image CBT treatment (Stewart & Williamson, 2003). Overall, the results of these studies concerning body image, eating behaviour, and psychological variables were compatible with those of the current review. Six of the 28 dissertations were relevant. Of these, two had been published and are included in this review (Butters & Cash, 1987; Grant & Cash, 1995). The four remaining dissertations (Elliot, 1998; Emerson, 1996; Murphy, 1994; Pecsok, 1990) found results essentially compatible with the current published literature.

2 Body image disturbance was not a selection criteria for study inclusion. The rationale is that participants who are not significantly distressed may still experience an improvement in body image after intervention.
Table 1  
Summary of body image studies

<table>
<thead>
<tr>
<th>Authors</th>
<th>Samples</th>
<th>Treatment conditions</th>
<th>Treatment focus</th>
<th>Treatment duration</th>
<th>BI Assessment</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butters and Cash (1987)</td>
<td>32</td>
<td>(1) CBT/Ind; (2) TWLC/Ind</td>
<td>Attitudinal, behavioural</td>
<td>(1) CBT: 6, weekly 1-h sessions; (2) TWLC: 1, 90 min and 2, 60 min sessions</td>
<td>BIDD-SR; BPSS; BSRQ-AE, AAI, FE, SE; Mirror SUDS; Self-PA; PABT</td>
<td>CBT improved at posttest on all measures. Maintained at 7 weeks follow-up except for Self-PA CT, CBT, and RT improved at posttest. CT more improved than CBT and RT. No follow-up</td>
</tr>
<tr>
<td>Dworkin and Kerr (1987)</td>
<td>79</td>
<td>(1) CT/Ind; (2) CBT/Ind; (3) RT/Ind; (4) WLC</td>
<td>Attitudinal</td>
<td>CT, CBT, and RT: 3, weekly 30-min sessions</td>
<td>BCS</td>
<td>Maintained at 90 min and 2, 60 min sessions on all measures. Maintained at 90 min and 2, 60 min sessions on all measures. No follow-up</td>
</tr>
<tr>
<td>Rosen et al. (1989)</td>
<td>23</td>
<td>(1) CBT/Group; (2) MT/Group</td>
<td>Attitudinal, behavioural, perceptual</td>
<td>CBT and MT: 6, weekly 2-h sessions</td>
<td>BIAQ; BSQ; EDI-BD; VBSE</td>
<td>CBT more improved than minimal treatment at posttest on all measures. Maintained at 2 months follow-up</td>
</tr>
<tr>
<td>Rosen et al. (1990)</td>
<td>24</td>
<td>(1) CBT/Group; (2) BTP/Group</td>
<td>Attitudinal, behavioural, perceptual</td>
<td>CBT and BTP: 6, weekly 2-h sessions</td>
<td>BIAQ; BSQ; EDE-SC, WC, VBSE</td>
<td>Both Tx equally improved on all measures at posttest. Maintained at 3 months follow-up</td>
</tr>
<tr>
<td>Fisher and Thompson (1994)</td>
<td>54</td>
<td>(1) CBT/Group; (2) ET/Group; (3) NTC</td>
<td>Attitudinal, behavioural</td>
<td>CBT and ET: 6, weekly 1-h sessions</td>
<td>ALBA; BIAQ; EDI-BD; MBSRQ-AO, PASTA-W</td>
<td>Both CBT and ET improved at posttest on EDI-BD; MBSRQ; PASTA. All groups improved on ALBA and BIAQ at posttest. No follow-up</td>
</tr>
<tr>
<td>Grant and Cash (1995)</td>
<td>23</td>
<td>(1) CBT/Group; (2) SD-MC-CBT/Ind</td>
<td>Attitudinal, behavioural</td>
<td>(1) CBT: 11 weeks, 1-90 min session/week; (2) SD-MC-CBT: 11 weeks, 1-20 min session/week</td>
<td>ASI, BESAQ; BIA; BIATQ; MBSRQ-AE, AO, OP, Mirror SUDS, PHTQ; SIBID; Weigh-In SUDS</td>
<td>Both Tx equally improved on all measures at posttest. Maintained at 2 months follow-up</td>
</tr>
<tr>
<td>Rosen et al. (1995)</td>
<td>51 overweight and obese females, community</td>
<td>(1) CBT/Group; (2) NTC</td>
<td>Attitudinal, behavioural</td>
<td>CBT: 8, weekly 2-h sessions</td>
<td>BDDE; BSQ; VBSE</td>
<td>CBT improved on all measures at posttest. Maintained at 4.5 months follow-up</td>
</tr>
<tr>
<td>Rosen et al. (1995)</td>
<td>54 females with BDD, community</td>
<td>(1) CBT/Group; (2) NTC</td>
<td>Attitudinal, behavioural, perceptual</td>
<td>CBT: 8, weekly 2-h sessions</td>
<td>BDDE; BSQ; MBSRQ-AE</td>
<td>CBT improved on all measures at posttest. Maintained at 4.5 months follow-up</td>
</tr>
<tr>
<td>Raich et al. (1995)</td>
<td>17 female college students with BDD</td>
<td>(1) CBT/Group; (2) WLC</td>
<td>Attitudinal, behavioural, perceptual</td>
<td>CBT: 8, weekly 2-h sessions</td>
<td>BSQ; BDDE; BIAQ; VBSE</td>
<td>CBT improved on all measures at posttest. No follow-up</td>
</tr>
<tr>
<td>Veale et al. (1996)</td>
<td>17 females and 2 males with BDD, community</td>
<td>(1) CBT/Ind; (2) WLC</td>
<td>Attitudinal, Behavioural</td>
<td>CBT: 12 weekly sessions. Length of sessions unspecified</td>
<td>BDDE</td>
<td>CBT improved at posttest. No follow-up</td>
</tr>
<tr>
<td>Cash and Lavallee (1997)</td>
<td>12 college students and community members (males and females); 23 female subjects from Grant and Cash (1995)</td>
<td>(1) CBT/Group and SD-MC-CBT/Ind; (2) SD-MinC-CBT/Ind</td>
<td>Attitudinal, behavioural</td>
<td>(1) CBT: 11 weeks, 1-90 min session/week; (2) SD-MC-CBT: 11 weeks, 1-20 min session/week; (2) SD-MinC-CBT: 8 weeks, 1-5 to 10 min telephone contact/week</td>
<td>ASI, MBSRQ-AE, AO, OP, SIBID</td>
<td>Both Tx improved on all measures at posttest. No difference between treatments. No follow-up</td>
</tr>
<tr>
<td>Riva (1998)</td>
<td>48 females, community</td>
<td>(1) VEBIM/Ind; (2) NTC</td>
<td>Attitudinal, perceptual</td>
<td>VEBIM: 1, 8-10 min session</td>
<td>BCRS, CDRS, FRS</td>
<td>VEBIM improved at posttest on FRS. No follow-up</td>
</tr>
<tr>
<td>Ramirez and Rosen (2001)</td>
<td>65 obese males and females</td>
<td>(1) WC/Group; (2) WC and CBT/Group</td>
<td>Attitudinal, Behavioural</td>
<td>(1) WC: 16, 1-h weekly sessions; (2) WC and CBT: 12 of the 16 weeks included an additional 1-h of BI-CBT</td>
<td>BDDE-SA; BSQ</td>
<td>Both Tx equally improved on both measures at posttest. Maintained at 3 months and 1 year follow-up. Body Dissatisfaction increased from 3 months to 1 year follow-up</td>
</tr>
<tr>
<td>Smith et al. (2001)</td>
<td>94 females, community</td>
<td>(1) CBT/Group; (2) WLC</td>
<td>Attitudinal, Behavioural</td>
<td>CBT: 8, 1.5-h weekly sessions</td>
<td>ALBA; MBSRQ-AE, AO, BAS, OP, SCW</td>
<td>CBT significantly more improved than WLC at posttest on most ALBA and all MRSRQ scales except on OP. Gains on AE and BAS maintained at 2 months follow-up</td>
</tr>
<tr>
<td>Strachan and Cash (2002)</td>
<td>83 females and 3 males, community and college</td>
<td>(1) SD-CBT: PE-SM/Ind; (2) SD-CBT: PE-SM-CT/Ind</td>
<td>Attitudinal</td>
<td>PE-SM and PE-SM-CT: 6 weeks</td>
<td>ABQ; ASI; MBSRQ-AE; BAS; SIBID</td>
<td>Both Tx equally improved at posttest on all measures except ABQ. No follow-up</td>
</tr>
<tr>
<td>Study</td>
<td>Participants</td>
<td>Intervention Details</td>
<td>Attitudinal Outcomes</td>
<td>Perceptual Outcomes</td>
<td>Note 1: Sample and Treatment abbreviations</td>
<td>Note 2: BI assessment abbreviations</td>
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<td>Earnhardt et al. (2002)</td>
<td>48 female college students</td>
<td>(1) BI-WI (2) P-WI</td>
<td>Attitudinal BI-WI and P-WI: 4 writing sessions on four consecutive days, length of sessions unspecified</td>
<td>BES</td>
<td>Both BI-WI and P-WI equally improved at posttest. Maintained at 1 month follow-up</td>
<td></td>
</tr>
<tr>
<td>Cash and Hrabosky (2003)</td>
<td>22 females and 3 males, college</td>
<td>SD-BC-CBT: PE-SM/Ind</td>
<td>Attitudinal Three weeks with brief contacts</td>
<td>ASI-R-SES, MS; MBSRQ-AE, BAS, OP; SIBID; SRSBI</td>
<td>Improved at posttest on all measures except BAS and ASI-R-MS. No follow-up</td>
<td></td>
</tr>
<tr>
<td>Perpinán et al. (1999)</td>
<td>13 ED female outpatients</td>
<td>(1) CBT-R/Group and Ind; (2) VR/Group and Ind</td>
<td>Attitudinal, behavioural, perceptual (1) CBT-R: 8 weekly 3-h group sessions and 6 weekly 1-h Ind sessions; (2) VR: same + 6 weekly 1-h Ind sessions</td>
<td>ASI; BAT; BI; BIAQ; BIAEQ; BES; BSEQ; EDI2-BD; Fear of gaining weight; MBSRQ-BAS; SIBID</td>
<td>CBT and VR equally improved at posttest on ASI, BAT, BI, BES, and EDI2-BD. VR more improved than CBT on other measures. No follow-up</td>
<td></td>
</tr>
</tbody>
</table>

Note 1: Sample and Treatment abbreviations: BDD, Body Dysmorphic Disorder; BI, Body Image; BI-WI, Body Image Writing Intervention; CBT, Cognitive-Behavioural Therapy; CBT-R, Cognitive-Behavioural Therapy plus Relaxation; CBT-RP, Cognitive-Behavioural Therapy with Size Perception Training; CT, Cognitive Therapy; ED, Eating Disorder; ET, Exercise Therapy; Ind, Individual; MT, Minimal Treatment; NTC, No-treatment Control; P-WI, Placebo Writing Intervention; PE-SM, Psychoeducation plus Self-Monitoring; PE-SM-CT, Psychoeducation plus Self-Monitoring plus Cognitive Techniques; RT, Reflective Therapy; SD-BC-CBT, Self Directed Brief Contact Cognitive-behavioural Therapy; SD-CBT, Self Directed Cognitive-Behavioural Therapy; SD-MC-CBT, Self Directed Modest Contact Cognitive-Behavioural Therapy; SD-Mini-CBT, Self Directed Minimal Contact Cognitive-behavioural Therapy; TWLC, Treated Wait List Control; Tx, treatment; VEBIM, Virtual Environment for Body Image Modification; VR, Virtual Reality; WC, Weight Control; WLC, Wait List Control.

Note 2: BI assessment abbreviations: ABQ, Appearance Behaviours Questionnaire; ALBA, Adjustable Light Beam Apparatus; ASI, Appearance Schemas Inventory; ASI-R-SES, Motivational Salience; BAT, Body Attitude Test; BCS, Body Cathexis Scale; BCRS, Breast/Chest Rating Scale; BDDE, Body Dysmorphic Disorder Examination; BDDE-SA, Body Dysmorphic Disorder Examination-Self-Administration; BES, Body Esteem Scale; BESAQ, Body Exposure in Sexual Activity Questionnaire; BI, Body Interference; BIAQ, Body Image Avoidance Questionnaire; BIAEQ, Body Image Automatic Thoughts Questionnaire; BIDD-SRI, Body Image Detection Device, Subjective Rating Index; BPSS, Body Parts Satisfaction Scale; BSQ, Body Shape Questionnaire; BSRQ-AE, AO, BAS, OP, SCW, Multidimensional Body-Self Relations Questionnaire; CDRS, Contour Drawing Rating Scale; EDE-SC, Eating Disorder Examination, Shape Concerns; EDE-BD, Eating Disorders Inventory, Body Dissatisfaction scale; EDI2-BD, Eating Disorders Inventory-2, Body Dissatisfaction scale; FRS, Figure Rating Scale; MBSRQ-AE, AG, BAS, OP, SCW, Multidimensional Body-Self Relations Questionnaire; PASTA-W, Physical Appearance State and Trait Anxiety Scale-Weight subscale; PBTQ, Private Body Talk Questionnaire; SIBID, Situational Inventory of Body Image Dysphoria; SIBID-S, Situational Inventory of Body Image Dysphoria-Short Form; SRSBI, Self-Rated Severity of Body-Image Problems; SUDS, Subjective Units of Distress Scale; VBSE, Visual Body Size Estimation.
Thompson (1994) included an “exercise therapy” condition. Finally, Ramirez and Rosen (2001) compared body image CBT combined with weight loss to weight loss only.

Most studies examining the CBT approach used a therapist-assisted group intervention. Only four studies used exclusively individual therapy. Cash and colleagues (Cash & Hrabosky, 2003; Cash & Lavallee, 1997; Grant & Cash, 1995; Strachan & Cash, 2002) examined completely self-directed programs as well as individual therapy in the context of modest, minimal, and brief therapist contact conditions.


Finally, of the 18 studies selected, 11 used either a no-treatment control group, a wait listed control group, or a placebo control group. Only two studies used either a placebo (Earnhardt et al., 2002) or a close equivalent in the form of minimal treatment without the active ingredients of CBT (Rosen et al., 1989).

**Treatment focus**

All of the selected studies addressed the attitudinal component of body image within their treatment protocol. Five studies focussed on the attitudinal, the behavioural, and the perceptual components. Eight focussed on the attitudinal and the behavioural component, but not on the perceptual component. One study focussed on the attitudinal and the perceptual, but not on the behavioural component. Finally, four focussed only on the attitudinal component.

**Impact of perceptual correction procedures**

Six studies addressed the perceptual aspect of body image by including a size estimation correction procedure as a treatment component. Five studies measured size estimation as an outcome variable. Four used the Visual Body Size Estimation procedure (Willmuth, Leitenberg, Rosen, Fondacaro, & Gross, 1985) and one used the Adjustable Light Beam Apparatus (ALBA; Thompson & Spana, 1988). Only three studies both treated and measured the perceptual component.

All five studies that measured perceptual distortion found an improvement at posttest. Three of these had a follow-up and all showed maintained gains. Of the four studies that included a no-treatment control group equivalent, three found that only the treated group improved on distortion. However, Fisher and Thompson (1994) showed that the no-treatment control group significantly improved in perceptual accuracy from pre to posttest. Furthermore, Fisher and Thompson (1994), and Rosen, Orosan, et al. (1995) found improvements in perceptual distortion, even in a treatment condition that did not include a size estimation correction procedure. Finally, Rosen et al. (1990) directly compared CBT with and without size estimation correction and found significant and equivalent improvements in size estimation accuracy in both groups.

**Effect of body image treatment on body image attitude**

All 18 studies included an attitudinal intervention and all measured the evaluative/affective component of body image attitude. Basic elements of attitudinal interventions typically consist of psychoeducation on, and personal exploration of, the factors causing and

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3 Veale et al. (1996) used only the Body Dysmorphic Disorder Examination (BDDE), which is not a scale dedicated to body image attitude. However, the BDDE has several items assessing the evaluative/affective component.
maintaining body image concerns. More comprehensive interventions may also include self-monitoring and cognitive techniques to modify dysfunctional body image beliefs. All 18 studies found significant improvement on all measures of the evaluative/affective component at posttest. Exceptions included Riva (1998) who found no improvement on the Breast/Chest Rating Scale (Thompson & Tantleff, 1992) and the Contour Drawing Rating Scale (Thompson & Gray, 1995). Smith et al. (2001) also found no improvement on the Overweight Preoccupation scale of the MBSRQ and two of the attitudinal measures of the ALBA. Finally, Cash and Hrabosky (2003) found no improvement on the Body Areas Satisfaction scale of the MBSRQ. In eight of the 11 studies that had a no-treatment control group equivalent, the active treatment group was significantly more improved on all measures of evaluative/affective body image than was the control group. The three exceptions included Riva (1998) and Smith et al. (2001) as described above, and Earnhardt et al. (2002) who found both the treatment and the placebo group to be equally improved at posttest and at follow-up. Rosen et al. (1989) also found their minimal treatment group to be improved on the BSQ and the Eating Disorders Inventory-Body Dissatisfaction Scale (EDI-BD; Garner, Olmsted, & Polivy, 1983), although less so than was the CBT group.

Nine of these 18 studies had a follow-up and all showed maintained gains in evaluative/affective body image for the active treatment. The only exceptions were reported by Butters and Cash (1987) for one measure that is, subjects’ beliefs about how others would rate their appearance were overestimated at posttest and returned to being more accurate at follow-up. As well, Ramirez and Rosen (2001) found that between three months and one year follow-up, body dissatisfaction increased significantly in a sample of obese individuals treated for weight loss. Furthermore, weight regain between posttest and one year follow-up predicted reduction in body image satisfaction. Nevertheless, participants remained significantly improved and outside of a clinical range of body image distress at follow-up. Finally, Smith et al. (2001) found that most, but not all, of the CBT group evaluative/affective gains were lost at follow-up.

Nine studies directly examined the cognitive-behavioural investment component of body image. The most commonly used measures of this component were the MBSRQ-Appearance Orientation Scale (AO), and the ASI and ASI-R. Other measures included the Personal Appearance Beliefs Test (Butters & Cash, 1987), the Body Image Automatic Thoughts Questionnaire (Cash, Lewis, & Keeton, 1987), the Private Body Talk Questionnaire (Cash, 1992), and the Eating Disorder Examination (EDE)-Importance of weight and Importance of shape items (Cooper & Fairburn, 1987). In all nine studies, the active treatment group was significantly improved at posttest on all measures of cognitive-behavioural investment that is, all showed reduced investment. The only exception was Cash and Hrabosky (2003), who failed to find an effect of self-directed CBT on the ASI-R-Motivational Salience (MS). Three studies included a no-treatment group equivalent and in all, the active treatment was significantly more improved than was the control group at posttest. In four of the five studies that included a follow-up, this improvement was maintained. However, Smith et al. (2001) found that the control group was as improved as the active treatment on the MBSRQ-AO at follow-up.

Effect of body image treatment on body image behaviour

Of the 13 studies that had a behavioural treatment focus, 10 also measured the behavioural component of body image as an outcome variable. The most commonly used measures were the BIAQ and the Body Dysmorphic Disorder Examination (BDDE and BDDE-SA; Reiter & Rosen, 2000; Rosen, Reiter, & Orosan, 1995a). Less frequently used questionnaires included the Appearance Behaviours Questionnaire (ABQ; Cash, Muth, Williams, & Rieves, 1996) and the Body Exposure in Sexual Activity Questionnaire (Cash, Maikkula, & Yamamiya, 2004). All 10 of these studies showed a positive effect of treatment at posttest. Six studies included a follow-up and in all, behavioural gains were maintained. Only six studies used a no-treatment control group equivalent. Of these, five found the control group to be unimproved on behavioural measures of body image. Interestingly, Fisher and Thompson (1994) found significant improvements in body image avoidance in the control group as well as in their two treated groups. Despite not directly addressing body image behaviour,
Strachan and Cash (2002) measured this component and found no improvement on the ABQ at posttest following two self-directed interventions.

Effect of body image treatment on eating behaviour

Nine of the selected studies also measured eating attitudes and behaviour. Rosen et al. (1990) measured these variables with the EDE-Restraint, Overeating, and Eating Concerns subscales, as well as with calories per day, meals per day, and binges per week. These authors found that CBT with and without size estimation correction resulted in improvement on the first three measures but not on calories per day, meals per day, and binges per week at posttest. However, the latter two measures improved at follow-up. Calories per day remained unchanged at all assessment points. Rosen, Orosan, et al. (1995) also found that CBT resulted in improvements, measured with these same three EDE subscales, at posttest while the no-treatment control group remained unimproved. However, at follow-up, CBT subjects went back to baseline on restraint. Ramirez and Rosen (2001) found that weight control and weight control combined with body image treatment decreased eating concerns as measured by the EDE at posttest. Participants involved in the body image and weight loss combination improved more on this measure than those involved in weight loss only. This was evident from posttest to the one-year follow-up. However, restraint increased between pre and posttest for both groups, and the weight control only group was more restrained than the combined treatment group at three-month follow-up. At one-year follow-up, restraint was back to baseline for both groups.

Two studies (Cash & Lavallee, 1997; Grant & Cash, 1995) found an improvement at posttest on eating attitudes and behaviour using the Bulimia Test Revised (Thelen, Farmer, Wonderlich, & Smith, 1991). This improvement was maintained in the one study that included a follow-up. Strachan and Cash (2002) used the Eating Attitude Test-26 (EAT-26; Garner, Olmsted, Bohr, & Garfinkel, 1982) and found no improvement at posttest after a completely self-directed CBT intervention. However, in the same intervention, this time with brief therapist contact, Cash and Hrabosky (2003) found significant improvement from pre to posttest on the EAT-26. The one study conducted with eating disorder patients found both of its treatment groups to be equally and significantly improved at posttest on the EAT, the Bulimic Investigatory Test, Edinburgh (Henderson & Freeman, 1987), and the Restraint Scale (Polivy, Herman, & Howard, 1988). Finally, Earnhardt et al. (2002) found significant improvement for both placebo and active treatment groups on the Cognitive-behavioural Dieting Scale (Martz, Sturgis, & Gustafson, 1996) at posttest and follow-up.

Effect of body image treatment on psychological variables

Fourteen studies examined the effect of body image treatment on psychological variables. Five of these measured self-esteem with the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1979), and psychological distress with the Brief Symptom Inventory (Derogatis, 1983). Three studies found self-esteem and general distress to be significantly more improved in the body image treatment than in the no-treatment control group (Raich et al., 1995; Rosen, Orosan, et al., 1995; Rosen et al., 1995b). Ramirez and Rosen (2001) and Rosen et al. (1990) also found significant improvement in general distress and self-esteem at posttest in all of their treated groups. Gains on these two measures were maintained in the four of these five studies that included a follow-up. However, Ramirez and Rosen (2001) observed a reduction in self-esteem and an increase in psychological distress between the three-months and the one-year follow-up in both of the no-treatment control group. Cash and Hrabosky’s (2003) study of self-help CBT also measured self-esteem with the RSES and found significant improvement from pre to posttest. This study did not include a control group or a follow-up.

Three studies (Butters & Cash, 1987; Grant & Cash, 1995; Strachan & Cash, 2002) measured social self-esteem with the Texas Social Behaviour Inventory (Helmreich & Stapp, 1974). All three found improvements at posttest. The one study that included a no-treatment control group found that only the CBT group improved. The two studies that included a follow-up showed maintained gains.

Three studies (Cash & Hrabosky, 2003; Grant & Cash, 1995; Strachan & Cash, 2002) found improve-
ments in social anxiety measured with the Fear of Negative Evaluation Questionnaire (Leary, 1983) at posttest. None included a no-treatment control group. Gains were maintained in the one study that included a follow-up.

Five studies measured the impact of body image treatment on depression. Three of these (Cash & Lavallee, 1997; Grant & Cash, 1995; Perpiñá et al., 1999) measured depression with the Beck Depression Inventory (Beck & Steer, 1987) and found improvements at posttest. None of those three studies included a no-treatment control group. Only one study included a follow-up and it showed maintained gains on depression. Strachan and Cash (2002) measured depression with the Center for Epidemiological Studies-Depression Scale (Radloff, 1977) and found improvements at posttest in only one body image treatment condition. Finally, Veale et al. (1996) measured depression with the Montgomery-Asberg Depression Rating Scale (Montgomery & Asberg, 1979) and the Hospital Anxiety and Depression Inventory (Zigmond & Snaith, 1983). The CBT group was significantly improved at posttest on both measures, while the wait list group remained unchanged.

Finally, several studies used measures of mental health that were not used by others. Butters and Cash (1987) found a positive effect of CBT on the Fitness Evaluation and the Sexuality Evaluation subscales of an early version of the MBSRQ. These gains were maintained at follow-up. Dworkin and Kerr (1987) measured self-concept with the Self-Cathexis scale (Secord & Jourard, 1953) and found that all three of their active treatment conditions improved significantly more than the no-treatment control group at posttest. Perpiñá et al. (1999) found that VR was significantly better than CBT plus Relaxation at improving affect measured with the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988). Earnhardt et al. (2002) found that a Pennebaker body image writing exercise and a placebo writing exercise significantly and equally improved mood measured with the Profile of Mood States (McNair, Lorr, & Droppleman, 1992) at posttest. These gains were maintained at one-month follow-up. Finally, Veale et al. (1996) found that CBT for BDD resulted in significant improvement on the Yale-Brown Obsessive-Compulsive Scale (Goodman et al., 1989) adapted for BDD (Hollander & Phillips, personal communication) and on the Derriford Scale (Carr & Harris, personal communication), an instrument that assesses appearance related quality of life. However, this treatment did not ameliorate anxiety and social phobia measured with the Hospital Anxiety and Depression Inventory and the Social Phobia and Anxiety Inventory (Turner, Beidel, Dancu, & Stanley, 1989), respectively.

Self-help and minimal contact versus therapist assisted treatment

Four studies, all conducted by Cash and colleagues, examined the comparative efficacy of body image therapy with various levels of therapist contact. Grant and Cash (1995) found that modest individual therapist contact combined with self-directed CBT produced benefits that were not significantly different from those produced by therapist assisted CBT group sessions. Cash and Lavallee (1997) further found that self-directed CBT combined with minimal telephone conversations was as effective as the group CBT and modest contact therapy offered in the Grant and Cash (1995) study, albeit on a more limited number of measures. Strachan and Cash (2002) found that completely self-directed psycho-education and self-monitoring, with and without cognitive techniques, also produced significant body image attitude improvement. However, body image behaviour remained unimproved in this completely self-directed approach. Finally, Cash and Hrabosky (2003) found that self-directed psycho-education and self-monitoring combined with brief, flexible, therapist contact significantly improved body image attitude. However, specific body area satisfaction and the Motivational Salience dimension of body image investment measured by the ASI-R remained unimproved.

Clinical significance of body image improvement

Clinically significant change refers to the extent to which an intervention promotes change from within the range of a clinical population to the range of a normal population on any given measure, and whether this change is reliable (Jacobson & Truax, 1991). Only six studies included formal calculations to determine rates of clinically significant improvement. Rosen et
al. (1995b) used Speer’s (1992) recommendation to calculate the percentage of clinically improved patients on the BDDE. They found that 81.5% of their treated patients were clinically improved at posttest versus 7.4% in the no-treatment condition. At follow-up, 76.9% of the treated patients remained clinically improved. Using the same strategy, Rosen, Orosan, et al. (1995) determined clinical improvement with the BDDE and the BSQ. On the BDDE, 70.8% and 78.3% were clinically improved at posttest and follow-up, respectively. On the BSQ, 70% and 68.4% of treated patients were clinically improved at posttest and follow-up, respectively. None of the no-treatment subjects were clinically improved on the BDDE but 5% were improved on the BSQ at posttest. Ramirez and Rosen (2001) found that 83% and 70% of their treated participants scored within the normal range on the BDDE at posttest and at one year follow-up, respectively, compared to 25% at pretest. On the BSQ, 86% and 68% fell in the normal range at posttest and at follow-up, respectively compared to 29% at pretest. In this study, normal range scores were those within one standard deviation above the mean of control community individuals. However, these results included the effect of the weight control intervention and should thus be interpreted with caution.

Grant and Cash (1995) determined clinically significant improvement by calculating both “reliable change index” and “functional recovery” according to the recommendations of Jacobson and Truax (1991). Averaging six body image variables, Grant and Cash found that 42% were clinically improved at follow-up, with no differences between treatment conditions. Cash and Lavalee (1997) used Jacobson and Truax’s functional recovery procedure and found rates of functional recovery on the MBSRQ-Appearance Evaluation scale (AE) of 57% and 75% for modest-contact and minimal-contact intervention, respectively, at posttest. Using the same procedure, Strachan and Cash (2002) found that at posttest, 43% were functionally recovered on the basis of MBSRQ-AE scores, 33% for the ASI, and 24% for the SIBID, with no differences between treatment groups.

Finally, two studies did not use formal calculations, but situated their treated subjects’ progress relative to clinical and normal range scores. Rosen et al. (1989) found that size overestimation, body dissatisfaction, and body image avoidance decreased from the clinical range to the normal range after active CBT, but not after minimal treatment. These changes were maintained at follow-up. Rosen et al. (1990) found that patients’ scores on the same variables plus a measure of investment also changed from a clinical range to a normal range after either CBT alone, or CBT with size estimation correction training.

**Discussion**

Overall, this review shows that stand-alone body image therapy based on cognitive-behavioural principles is highly effective in clinical and non-clinical populations. The attitudinal and behavioural components of body image consistently improve after treatment. Improvements in the perceptual component have been demonstrated, however, these changes have also been observed in treatment conditions that did not intervene on perceptual distortion (Fisher & Thompson, 1994; Rosen et al., 1990; Rosen, Orosan, et al., 1995). Estimates of body size have been shown to be related to body image attitude rather than to actual perceptual deficits (Fernandez, Probst, Meermann, & Vandereycken, 1994; Fernandez-Aranda, Dahme, & Meermann, 1999; Probst, Vandereycken, & Van Coppenolle, 1997). Thus, changes in perceptual accuracy may be secondary to changes in the attitudinal component, and therefore best addressed by such interventions.

Eating attitude and behaviour also improve as a result of treatment. Rosen (1990, 1997) reasoned that efforts to modify one’s body through extreme compensatory strategies are necessarily rooted in dissatisfaction about the body. Furthermore, body image dissatisfaction and internalization of the thin ideal (a dimension usually targeted in body image CBT) have been shown to be consistent risk factors for eating pathology (Cooley & Toray, 2001; Stice, 2002; Striegel-Moore, Silberstein, Frensch, & Rodin, 1989). It thus makes sense that improving body image would reduce the very symptoms meant to modify it.

Finally, stand-alone body image therapy has a positive impact on psychological variables, such as self-esteem and anxiety. This finding is consistent with past research showing an association between body image disturbance and poor psychological adjustment (Cash & Pruzinsky, 2002). It also supports the
proposition that reducing body image related stress may lead to general improvement in psychological health (Rosen et al., 1990).

In terms of level of therapist contact, Cash and colleagues have shown that self-directed CBT with very minimal or no therapist contact is an effective way of modifying body image. However, the complete absence of therapist contact appears to impair patient compliance and may hinder changes in body image behaviour (Strachan & Cash, 2002).

This review also uncovered several limitations to the current body of research on stand-alone body image treatments. The number of studies is limited, yet the measures used to assess treatment outcome are numerous and vary considerably from one study to the next. This complicates the task of comparing treatment outcome across studies. This is important as Anderson and Maloney (2001) found that the apparent efficacy of CBT on body image in bulimia nervosa patients differed depending on what body image instrument was used.

Further limitations include the fact that many studies do not have a wait list or a placebo condition. Although, no study has ever shown significant changes as a result of participating in the pre and posttest only, some have shown changes as a result of participation in a placebo equivalent (Earnhardt et al., 2002; Rosen et al., 1989). This suggests that future studies may benefit from using placebo conditions to ascertain the specificity of the effects of body image interventions.

Another issue is that follow-ups are often non-existent or brief in studies of stand-alone body image therapy. This is important as the one study that included a longer follow-up did show some loss of gains on body satisfaction, eating restraint, depression, and psychological distress in an obese sample (Ramirez & Rosen, 2001). Whether such losses would also be seen over time in other samples will require further long-term investigations.

The external validity of studies of stand-alone body image therapy is hindered by the fact that most studies were conducted with college students. Only a few examined clinically relevant samples, such as obese individuals, or those with BDD, or eating disorders. Different populations may require different interventions to improve their body image. For example, Ramirez and Rosen (2001) have shown that adding body image therapy to a weight loss intervention resulted in no additional body image benefits over weight loss only in obese individuals. Thus, effective body image interventions may have to be tailored to the specific needs of different client groups to be maximally effective. Clearly, more research is needed with diversified body image difficulties including, for example, acquired or congenital disfigurements, iatrogenic body image effects of medical and surgical treatments, or hair and skin conditions.

Another limitation consists of the failure, in most studies, to assess the clinical significance of the changes observed in the active treatment group. Determining clinical significance is complicated by the fact that it requires the use of instruments that are reliable and/or possess norms for normally functioning populations. However, determining clinical significance is important as it lends credibility to the effects of the treatment under investigation.

Finally, the current body of research is such that CBT can now be confidently seen as an effective body image treatment. However, the quasi complete absence of sound investigation of other approaches also makes CBT the only truly empirically supported stand-alone body image treatment. This is further compounded by the virtually exclusive use of treatment manuals developed by Cash and colleagues and Rosen and colleagues.

However, there is some evidence that alternative approaches may be worth exploring. In this review, alternatives to CBT included reflective and cognitive therapy, exercise therapy, a Pennebaker writing exercise, weight control, and the use of VR environment. All were effective except the writing exercise. VR is a new and promising approach that has proven effective in several other studies addressing various components of eating disorders attitude and behaviour (see for example, Riva, Bacchetta, Baruffi, & Molinari, 2001; Riva, Bacchetta, Baruffi, & Molinari, 2002; Riva, Bacchetta, Cesa, Conti, & Molinari, 2003). Thus, VR may be a cost effective alternative to some components of therapist assisted body image work.

Furthermore, Dworkin and Kerr (1987) found reflective therapy to be as effective as CBT in improving body image. This is interesting, as reflective therapy in this study consisted only of exploring the participants’ feelings about body image during key developmental periods. The authors also
noted that in their three short counselling sessions, reflective therapy “...lacked the depth and complexity of true client-centered techniques ...” (p. 139). Thus, even when used very superficially, reflective therapy based on client-centred therapy resulted in body image improvement.

These findings suggest that more emotionally focussed body image therapies may be beneficial. Psychotherapy research has consistently demonstrated an association between therapeutic outcome and the extent to which patients access and explore emotional and experiential meaning (Castonguay, Goldfried, Wiser, Raue, & Hayes, 1996; Goldman, 1997; Kiesler, 1971; Klein, Mathieu-Coughlan, & Kiesler, 1986; Rogers, Gendlin, Kiesler, & Truax, 1967; Wiser & Goldfried, 1993). In a recent meta analysis, Elliot, Greenberg, and Leitaer (2004) surveyed 67 outcome studies published since 1990 and showed that therapies based on experiential principles are highly effective. However, body image treatments aimed at increasing experiential awareness remain largely untested (Rabinor & Bilich, 2002). Increasing diversity in empirically supported body image treatment is important as CBT may not fit every client and therapist’s style.

Outcome research on body image therapy could also benefit from conducting multi-centre studies of stand-alone body image therapy. This would be most beneficial in ascertaining that the efficacy of these treatments transcends specific settings and therapists.

Finally, the implementation of designs assessing specific treatment components would also be an important next step. Thus far, such designs have demonstrated that body size estimation procedures are not necessary to improve size estimation accuracy (Rosen et al., 1990). This is important as it allows the development of maximally effective treatments without components that do not contribute to the outcome. For example, such designs could address whether changes in the affective and the cognitive/investment elements of body image attitude require actual intervention on each of these components. Individuals who present for body image therapy are, by definition, not only dissatisfied with their body but are also invested in the importance of appearance; otherwise, being dissatisfied would be of little consequence to them. It is, therefore, possible that addressing the investment component alone could effectively change the affective component. The investigation of such questions could lead to the development of parsimonious and highly targeted body image therapies.

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References


