Role of Appearance Schemas and Body Checking Cognitions in Body Dissatisfaction, Binge Eating, and Dieting Behaviors

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Summary The present research examined causal mechanisms of body dissatisfaction, binge eating, and dieting behaviors in female university students from the standpoint of cognitive-behavioral counseling. In Study 1, a questionnaire survey was conducted with 258 female students. Results showed that Self-Evaluative Salience (SES) of appearance schemas and Safety Beliefs and Body Control (SBBC) of body checking cognitions influenced body dissatisfaction, binge eating, and dieting behaviors. Study 2 experimentally examined if SES and SBBC caused body dissatisfaction using 29 female students with the average or higher SES and SBBC scores as participants. They were assigned to an SES, SBBC, or non-activation (NA) condition. Results demonstrated a significant interaction of the condition and the period for negative appearance-related thoughts (ART; $F(2, 26) = 6.55, p < .01$). Bonferroni post hoc test revealed a significant increase in the negative ART for the SES and SBBC groups but not for the NA group ($p < .01, p < .05$, respectively). The effect sizes for the scales to measure dissatisfaction with one’s face and entire body were substantial, though they were small. This research provides evidence that SES and SBBC are part of the causal factors of body dissatisfaction, binge eating, and dieting behaviors.

Key words: Body dissatisfaction, Eating disorders, Cognitive-behavioral theory

Introduction

Body dissatisfaction refers to the negative feelings and thoughts about one’s body1. Although body dissatisfaction is quite common in young women in Japan2, it is associated with unhealthy eating behaviors3, poor self-esteem4, the avoidance of social situations5, and excessive body checking or grooming behaviors6. Therefore, decreasing body dissatisfaction and related maladaptive behaviors are considered to play a key role in health promotion in young women.

Understanding causal mechanisms of body dissatisfaction is important to develop effective psychological interventions for young women who are excessively dissatisfied with their body. Cash7 proposed a model based on cognitive-behavioral theory to describe the development and experiences of body image. According to the model, historical events, such as cultural socialization, interpersonal experiences, physical characteristics, and personality attributes, influence the development of body image schemas and atti-
tudes. When an individual has dysfunctional body image schemas or appearance schemas, the resultant internal dialogues and body image emotions are negative and may lead to maladaptive coping behaviors (e.g., unhealthy eating behaviors).

Appearance schemas comprise two factors: Self-Evaluative Salience (SES) and Motivational Salience (MS)\(^7\). SES describes "the extent to which individuals define or measure themselves by their physical appearance, which they deem influential in their social and emotional experiences\(^2\)." The MS factor assesses "persons' motivational salience of their appearance or the extent to which they attend to their appearance and engage in appearance-management behaviors\(^2\)." Research conducted with young women showed that appearance schemas were associated with body dissatisfaction\(^6\) and were part of the causal factors of body dissatisfaction\(^9\).

A great deal of research in body dissatisfaction focuses on individuals' body weight and shape. However, a study conducted with female university students in Japan showed that dissatisfaction with one's face and entire body was correlated with unhealthy eating behaviors\(^3\). The finding suggests that research in body dissatisfaction should include dissatisfaction with one's face and entire body as well as one's body weight and shape.

Meanwhile, only few studies investigated the effects of other cognitive factors besides appearance schemas on body dissatisfaction. Along with appearance schemas, body checking cognitions are closely related to body dissatisfaction\(^{9,11}\). Body checking cognitions refer to the beliefs underlying and driving body checking behaviors\(^{11}\) which are considered to lead to the manifestation of perceived faults of one's body\(^{12}\).

In addition, there are few studies which examine the influences of the subordinate factors of appearance schemas and body checking cognitions on body dissatisfaction and problematic eating behaviors\(^7\). Detailed examinations of these relationships are useful to target dysfunctional beliefs and to enhance the efficacy of cognitive-behavioral counseling for body dissatisfaction and eating problems.

The purpose of this research was to investigate whether appearance schemas and body checking cognitions were part of the causal factors of body dissatisfaction and problematic eating behaviors in young women from the perspective of cognitive-behavioral counseling. Study 1 aimed at narrowing down the beliefs which were associated with body dissatisfaction and testing the causal links among such beliefs, body dissatisfaction, binge eating, and dieting behaviors. Study 2 experimentally tested the effects of the beliefs, which were shown to be the causal factors of body dissatisfaction in Study 1, on body dissatisfaction.

**Study 1**

1. **Purpose**

The purpose of this study was to investigate the correlational and causal relationships among the subordinate concepts of appearance schemas, body checking cognitions, body dissatisfaction, and problematic eating behaviors.

2. **Method**

1) **Respondents**

A questionnaire survey was administered to 265 female university students of which 258 students completed all items. The mean age was 20.15 years (\(SD = 1.38\)) and that of self-reported body mass index (BMI) was 19.88 (\(SD = 2.00\)). The average BMI fell within the normal range\(^{13}\) and the BMI distribution corresponded with a normal curve. The sampling was intended to include a general population of female university students in Japan.

2) **Measures**

Appearance schemas: The Japanese Version
of the Appearance Schemas Inventory-Revised (JASI-R) is a 13-item measure consisting of SES and MS subscales. Respondents rated their level of agreement with each statement using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The reliability and validity of the JASI-R were demonstrated.

Body checking cognitions: The Japanese version of the BCCS has 18 items with a 5-point scale ranging from 1 (never) to 5 (very often). The sub scales measure the extent to which individuals believe body checking behaviors are helpful to reduce negative feelings about their body (Safety Beliefs), to control one's body size (Body Control), and to make themselves feel better (Reassurance). The reliability and validity of the Japanese version of the BCCS were established.

Body dissatisfaction: The authors used the Body Image Dissatisfaction Scale (BIDS) and the visual analogue scale (VAS) to evaluate individuals’ body dissatisfaction. The BIDS is a 24-item measure consisting of three subscales: Dissatisfaction with One's Body Size (DBS), Dissatisfaction with One's Face (DF), and Dissatisfaction with Others' Evaluations of One's Body Size (DOEBS). Respondents answered all items using a 4-point Likert scale. A higher score indicates a greater level of dissatisfaction with one's body. The reliability and validity of the BIDS were demonstrated. The VAS used in this study consisted of two items: "I feel dissatisfied with my physical appearance," and "I am anxious about how other people think about my appearance." Respondents answered these questions by drawing a circle on a 10 cm horizontal line ranging from 0 (strongly disagree) to 100 (strongly agree).

Binge eating: The Binge Eating subscale of the Eating Disorder Inventory was used. It consists of 7 items which respondents answered on a 6-point scale ranging from 1 (never) to 6 (always). The reliability and validity of the scale were established.

Dieting behaviors: The Dieting Behavior Scale consists of 23 items with which respondents rate their agreement on a 6-point scale (1 = never, 6 = always). The scale has the Structured Diet (e.g., avoiding eating sweets and high calorie food) and Extraordinary Diet (e.g., using laxatives to lose weight) subscales. The scale has substantial reliability and validity.

3) Procedures
A questionnaire survey using the scales described above was administered after classes. Respondents were informed that they could discontinue answering the questionnaires at any time. This study was approved by the Ethics Committee on Human Research of Waseda University (permission number: 2009-066).

3. Results
1) Associations among appearance schemas, body checking cognitions, and body dissatisfaction
Results of Pearson's correlation coefficient showed that the scores on the SES subscale were significantly and positively associated with those of DBS, DF, DOEBS, dissatisfaction with and anxiety about one's entire body (r = .23, r = .20, r = .26, r = .27, r = .50, respectively, all p < .01).

Although MS was significantly and positively but very weakly correlated with anxiety about one's entire body (r = .20, p < .01), it had no significant associations with other types of body dissatisfaction. The scores on the Safety Beliefs subscale were significantly and positively associated with those of DBS, DOEBS, and dissatisfaction with and anxiety about one's entire body (r = .39, r = .38, r = .25, r = .31, respectively, all p < .01), but they had almost no correlation with those of DF (r = .17, p < .01).

Similarly, the scores on the Body Control subscale were significantly and positively associated with those of DBS, DOEBS, dissatisfaction
with and anxiety about one’s entire physical appearance ($r = .43$, $r = .34$, $r = .20$, $r = .25$, respectively, all $p < .01$), but they had almost no association with those of DF ($r = .14$, $p < .05$). Reassurance had no correlation with any type of body dissatisfaction.

2) Effects of appearance schemas and body checking cognitions on body dissatisfaction

Further analysis was performed using multiple regression analysis with SES, Safety Beliefs and Body Control as the independent variables and the various types of body dissatisfaction as the dependent variable. Since the scores on the Safety Beliefs and Body Control (SBBC) subscales had significant moderate correlations ($r = .68$, $p < .01$), they were combined to compose a single variable to prevent a problem of multicollinearity.

Results showed that both SES and SBBC were significantly and positively associated with dissatisfaction with the entire body ($\beta = .20$, $p < .01$; $\beta = .17$, $p < .05$, respectively). However, only SBBC was significantly associated with DBS and DOEBS ($\beta = .43$; $\beta = .35$, respectively, all $p < .01$). On the other hand, SES had relatively stronger associations with anxiety about one’s entire body (SES: $\beta = .45$, $p < .01$; SBBC: $\beta = .12$, $p < .05$). Only SES had significant but weak correlations with DF ($\beta = .14$, $p < .05$).

3) A path model showing relationships among SES, SBBC, body dissatisfaction, binge eating, and dieting behaviors

Based on the results of multiple regression analysis and Cash’s cognitive-behavioral model of body image, the authors established a model in which SES and SBBC were the exogenous variables which were correlated with each other, body dissatisfaction was the mediator variable, and binge eating and dieting behaviors were the dependent variables. We added the paths from SES and SBBC to both binge eating and dieting behaviors because previous research showed significant relationships among appearance schemas, body checking cognitions, and problematic eating behaviors. We finally deleted the path from SES to dieting behaviors due to an insignificant effect. Figure 1 illustrates the final path model ($GFI = .996$; $AGFI = .968$; $CFI = .998$; $RMSEA = .034$; $\chi^2 (2) = 2.56, p = .278$).

The model showed that SES and SBBC had direct effects on dissatisfaction with one’s body which directly influenced binge eating and dieting behaviors. SBBC had direct effects on both binge eating and dieting behaviors while SES only had a direct effect on binge eating.
4. Discussion

The present study examined the correlational and causal links among the subordinate concepts of appearance schemas, body checking cognitions, and body dissatisfaction.

Results of the correlational analysis showed that SES, Safety Beliefs and Body Control were positively associated with many types of body dissatisfaction. However, MS and Reassurance showed almost no correlation with body dissatisfaction. Therefore, MS and Reassurance may not reflect maladaptive attitudes toward one’s body in nonclinical populations. Some nonclinical individuals with high MS may believe appearance management is important to them as a social manner (e.g., Before going out, I make sure that I look as good as I possibly can). Similarly, some individuals with high Reassurance may frequently engage in body checking behaviors because they have little concern over their physical appearance (e.g., Body checking makes me feel better).

Results of the multiple regression analysis found that SES had significant positive effects on dissatisfaction with one’s entire body and face, and anxiety about one’s entire body. On the other hand, SBBC had significant positive effects on dissatisfaction with one’s body size and entire body, anxiety about one’s entire appearance, and dissatisfaction with others’ evaluations of one’s body size. The findings suggest that the SES and SBBC influence the different types of body dissatisfaction. A treatment approach targeting different kinds of beliefs about physical appearance depending on the client’s content of body dissatisfaction can be a valuable approach to reduce her body dissatisfaction.

Results of path analysis showed that SES and SBBC directly influenced binge eating, and SBBC also had a direct effect on dieting behaviors. Body dissatisfaction was a mediator variable between the maladaptive beliefs about one’s physical appearance and problematic eating behaviors. The results suggest that an improvement of SES and SBBC and a reduction of body dissatisfaction will have positive effects on dieting behaviors and binge eating.

In conclusion, this study demonstrated that SES and SBBC are causal factors of body dissatisfaction and problematic eating behaviors.

Study 2

1. Purpose

This study, based on the relevant findings drawn from a survey in Study 1, experimentally examined whether SES and SBBC were the causal factors of body dissatisfaction. Participants were assigned to an SES activation condition (SES condition), an SBBC activation condition (SBBC condition), or a nonactivation condition (NA condition). Previous research has shown that the investment in physical appearance was closely related to body dissatisfaction. The authors hypothesized that, at the posttest, the SES and SBBC groups would have higher scores on all subscales of the BIDS and the VAS and higher rates of the negative appearance-related thoughts (ART) than the NA group.

2. Method

1) Participants

The authors conducted a screening test measuring SES and SBBC with 531 female university students. The mean scores of the SES and SBBC scales were 26.88 (SD = 5.41) and 37.73 (SD = 12.14), respectively. Participants were 29 female students who scored the average or higher on the SES and SBBC scales and agreed to participate in the experiment. In this study, a brief health questionnaire was conducted to exclude women who had a diagnosis, treatment, or history of eating disorders. They were matched with their age, BMI, and initial level of body dissatisfaction, and were assigned to the SES condition (n = 10; mean
age 19.70, SD = 1.16; mean BMI 20.24, SD = 2.02), SBBC condition (n = 10; mean age 19.40, SD = 1.43; mean BMI 21.21, SD = 2.31; BMI unknown for one individual), or NA condition (n = 9; mean age 19.56, SD = 1.13; mean BMI 21.18, SD = 1.67). The average BMI of all groups fell within the normal range[8].

2) Materials

SES: The SES subscale of the JASI-R[10] was used to assess a self-evaluative salience of one's physical attractiveness.

SBBC: The Safety Beliefs and Body Control subscales of the Japanese version of the BCCS[10] was used to measure SBBC.

Body dissatisfaction: The same measures as those in Study 1, the BIDS[13] and VAS, were used.

Thought content: The participants were asked to write down the first 10 (no more or less) thoughts that came to their mind before and after being exposed to activation stimulus.

Ideal physical characteristics: The participants were asked to write down three physical attributes of their ideal body.

Activation stimulus: The participants in the SES and NA conditions viewed 9 full-page colored magazine advertisements, which appeared in Japanese women's fashion magazines. Five female graduate students majoring in clinical psychology rated the attractiveness of the model in each advertisement. The 6 most attractive female-model advertisements, of which 3 showed each model's full-body and the other 3 displayed a close-up picture of each model's face, were selected for the SES activation stimuli. The remaining 3 advertisements, which were different for each participant, represented each participant's ideal physical characteristics. The nonactivation stimuli included 9 advertisements showing products only: cars, cell phones, wristwatches, and power stones.

Mirror: The SBBC activation stimulus was an image of one's own physical appearance. The mirror used in this study had a height of 190 cm and a width of 90 cm.

Instructional set: In this study, the instructional set was manipulated through five questions, the so-called "Consumer Response Questionnaire[8]." In the SES condition, the statements reflected the core features of SES, such as an upward comparison of physical appearance, high investment in appearance for self-evaluation, and a tendency to believe their looks influenced their social worth and the sense of self[6]. In the SBBC condition, the items represented the tendency to invest in physical appearance for appearance management and to have greater motivation for observing and checking one's body[10][11]. In the NA condition, the statements asked the participants to rate how interesting, effective, and creative they felt each advertisement was[9]. While viewing the advertisements or one's own physical appearance in a mirror, the participants were asked to evaluate their level of agreement with each statement on a 5-point Likert scale, ranging from "strongly disagree (1)" to "strongly agree (5)."

3) Procedure

Since asking the participants to report their initial state of body dissatisfaction may activate appearance-related beliefs regardless of an experimental manipulation[10], this study was conducted in two phases. Following the study of Jung, Lennon, & Rudd[10], the interval between the two phases was 2 weeks or more.

In the first phase, a screening test as well as questionnaires regarding body dissatisfaction, the participants' demography, and self-descriptions of three physical characteristics of their ideal body were conducted after classes at a university (Time 1). Respondents with high SES and SBBC who agreed to participate in the experiment were invited to the second phase of this study.

In the second phase, the participants received
an explanation about the experiment following a brief health questionnaire. They were instructed that they could discontinue their participation at any time. After gaining informed consent, the experimenter asked the participants to write down the first 10 thoughts which came to their mind (pretest). Then, the experimenter gave an explanation about the Consumer Response Questionnaire, and read each item aloud. The participants in the SES and NA conditions selected the 6 most favorable advertisements out of 9, and were asked to complete the Consumer Response Questionnaire in 5 minutes. Similarly, the participants in the SBBC condition were asked to answer the Consumer Response Questionnaire while viewing themselves in a mirror. After completing the questionnaire, the participants in all conditions wrote down the first 10 thoughts they had (posttest). Finally, they answered the questionnaires to measure body dissatisfaction (Time 2). The participants were all debriefed and given a 500-yen book card. This study was approved by the Ethics Committee on Human Research of Waseda University (permission number: 2009-038).

4) Coding categories of thought content

Coding categories of thought content were based on the previous studies by Engeln-Maddox and Halliwell & Dittmar. Five coding categories were used in this study. The first category was "non-appearance related thoughts." The second category was "SES-related thoughts" including thoughts about an upward social comparison of physical appearance, desire to be physically attractive, and overvaluation of physical attractiveness. The third category was "SBBC-related thoughts" involving thoughts about specific strategies to modify one's physical appearance, an observation and analysis of one's look, and desire to know how one looks to others. The fourth category was "thoughts related to appearance but not to oneself." The final category included "thoughts about one's appearance but categorized as neither SES nor SBBC."

Thoughts in the second, third, and fifth categories were further divided into positive, neutral, or negative ART. The positive and negative ART referred to those which were assumed to evoke positive or negative emotions. Thoughts describing facts about one's body and considered to have no effects on emotions were categorized as the neutral ART.

The coding procedures were conducted by two master's students majoring in clinical psychology. Following a coding practice, each rater evaluated all thoughts separately. Inter-rater reliabilities of the five categories and the positive, neutral, and negative ART were both high (kappa = .90, .97, respectively). Results of the numbers for each category at the pre- and posttest indicate the rates (percentages) of thoughts.

3) Results

1) Means and standard deviations of the scores of SES and SBBC.

The mean scores of the SES and SBBC scales in 29 participants were 31.38 (SD = 3.80) and 50.69 (SD = 9.40), respectively.

2) Manipulation check

A two-way ANOVA was applied to the rates of the SES-related thoughts. Results yielded a significant interaction effect of the condition and the period (F(2, 26) = 15.67, p < .001). Bonferroni post hoc test revealed a significant pretest-to-posttest increase in the SES-related thoughts for the SES group but not for the SBBC or NA groups (all p < .001).

For the SBBC-related thoughts, an interaction effect of the condition and the period was also significant (F(2, 26) = 28.43, p < .001). The post hoc test showed that the SBBC group significantly increased the SBBC related thoughts while the SES and the NA groups did not (all p < .001).

The findings showed that the experimental
Table 1 Means, standard deviations, F-values, and generalized eta-squared values regarding the BIDS, VAS, and ART.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pretest (Mean and SD)</th>
<th>Posttest (Mean and SD)</th>
<th>F</th>
<th>Generalized ( \eta^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SES</td>
<td>SBBC</td>
<td>NA</td>
<td>SES</td>
</tr>
<tr>
<td>BIDS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DBS</td>
<td>3.83 (.32)</td>
<td>3.72 (.40)</td>
<td>3.77(25)</td>
<td>3.86 (.31)</td>
</tr>
<tr>
<td>DF</td>
<td>3.20 (.62)</td>
<td>3.36 (.67)</td>
<td>3.36 (.37)</td>
<td>3.32 (.63)</td>
</tr>
<tr>
<td>DOEBS</td>
<td>2.93 (.92)</td>
<td>3.07 (.57)</td>
<td>3.18 (.32)</td>
<td>2.93 (.88)</td>
</tr>
<tr>
<td>VAS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dissatisfaction</td>
<td>71.20 (24.85)</td>
<td>77.50 (21.51)</td>
<td>78.56 (15.21)</td>
<td>83.50 (13.46)</td>
</tr>
<tr>
<td>Anxiety</td>
<td>80.50 (15.71)</td>
<td>78.00 (16.19)</td>
<td>86.44 (18.41)</td>
<td>89.70 (11.34)</td>
</tr>
<tr>
<td>ART</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative Thoughts</td>
<td>4.0 (.97)</td>
<td>3.0 (6.8)</td>
<td>3.3 (5.0)</td>
<td>32.0 (23.9)</td>
</tr>
<tr>
<td>Neutral Thoughts</td>
<td>4.0 (7.0)</td>
<td>6.0 (7.0)</td>
<td>3.3 (5.0)</td>
<td>45.0 (21.2)</td>
</tr>
<tr>
<td>Positive Thoughts</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>5.0 (8.5)</td>
</tr>
</tbody>
</table>

Note 1. † \( p < .10 \); * \( p < .05 \); ** \( p < .01 \); *** \( p < .001 \); SES = the Self-Evaluative Salience activation group; SBBC = the Safety Beliefs and Body Control activation group; NA = the nonactivation group; BIDS = the Body Image Dissatisfaction Scale; DBS = Dissatisfaction with One’s Body Size; DF = Dissatisfaction with One’s Face; DOEBS = Dissatisfaction with Others’ Evaluations of One’s Body Size; VAS = the visual analogue scale; ART = the appearance-related thoughts; ( ) = SD; \( \eta^2 \) = eta-squared.

Note 2. The numbers for each category of the ART indicate the rates (percentages) of total thoughts related to one’s physical appearance. All participants reported exactly 10 thoughts at the pre- and posttest.

Note 3. Generalized \( \eta^2 \) of .01, .06, and .14 are considered to be small, medium, and large effects, respectively.

Task properly activated the SES- or SBBC-related thoughts.

3) Effects of the SES and SBBC activation on the BIDS, the VAS, and the ART.

Table 1 summarizes the results of each group’s means, standard deviations, F-values, and generalized eta-squared values.

A two-way ANOVA was carried out to test the effects of the SES and SBBC activation on various kinds of body dissatisfaction, with the condition and the period (Time 1 and 2) as the factors.

Results demonstrated that there were no significant interaction effects of the condition and the period on the scores of the BIDS and the VAS. For the negative ART, there was a significant interaction effect. The post hoc test showed that the SES and SBBC groups significantly increased the negative ART while the NA group did not (\( p < .01 \), \( p < .05 \), respectively). For the neutral ART, there was also a significant interaction effect. The post hoc test revealed that the SES group significantly increased the neutral ART while the SBBC and NA groups did not (\( p < .01 \), \( p < .001 \), respectively). No significant interaction effect of the condition and the period was found for the positive ART.

Effect sizes were calculated using the generalized eta-squared values. The generalized eta-squared provides an effect-size measure that is comparable across different research designs.\(^{23}\) The effect sizes of .01, .06, and .14 are considered to be small, medium, and large, respectively.\(^{23}\) Because showing the degree of the interaction effects was of interest to the authors, we computed the effect sizes of the interaction effects.

Results showed that the activation of SES and SBBC had small effects on the scores of DF (.01) and both the VAS items (.013 for dissatisfaction; .017 for anxiety). Results also demonstrated that the activation had a medium effect on the negative ART, a large effect on the neutral ART, and a small effect on the positive ART (.129, .160, .049).
4. Discussion

In the present study, the authors tested whether the SES and SBBC activation increased the scores on all subscales of the BIDS and VAS, and the rates of the negative ART.

Although results did not show any significant effects regarding dissatisfaction with one's body size and with others' evaluations of one's body size, further investigations will be necessary to understand the effects of SES and SBBC on these types of body dissatisfaction.

On the other hand, results demonstrated that the activation elevated the rates of the negative ART, and the SES activation also increased the neutral ART. For the DF subscale, the VAS, and the positive ART, the effect sizes were substantial, though they were small.

The findings suggest that the SES activation enhanced self-focused attention to one's body which influenced the rates of the thoughts describing the facts about one's body. In addition, the activation of SES seems to have induced comparisons of physical attractiveness with others[7]. If the participants perceive a gap between their body and the ideal body that society demands, it is likely such a perception cause negative influences. However, if they focus their attention to favorable features of their body, the positive ART is likely to have occurred.

The SBBC activation is considered to lead to checking behaviors of one's body which temporally increase women's sense of safety and control over their physical appearance[11]. This may influence the positive ART. However, because body checking behaviors are likely to produce the manifestation of perceived faults of one's body[13], they must have influenced participants' rates of the negative ART.

The findings of this study did not support the hypothesis regarding the DBS and DOEBS subscales of the BIDS, while they substantially supported the hypothesis regarding the DF subscale, the VAS, and the negative ART. The results provide some evidence that SES and SBBC are part of the causal factors of body dissatisfaction.

General Discussion

In the present research, the authors conducted a series of analyses to examine if appearance schemas and body checking cognitions caused body dissatisfaction and problematic eating behaviors in young women.

In Study 1, results found that SES of appearance schemas and SBBC of body checking cognitions were associated with body dissatisfaction, and these beliefs influenced different aspects of body dissatisfaction. SES and SBBC were the causal factors of body dissatisfaction, and besides, these beliefs directly influenced dieting behaviors and binge eating. In Study 2, based on the relevant findings in Study 1, the authors conducted an experimental study to test the hypothesis that SES and SBBC were part of the causal factors of body dissatisfaction.

Results showed that the hypothesis was not supported regarding dissatisfaction with one's body size and with others' evaluations of one's body size, whereas it was partly supported regarding dissatisfaction with one's face and entire body and negative thoughts about one's appearance. The present research provides conclusive evidence to support the hypothesis that predicted appearance schemas and body checking cognitions as part of the causal factors of body dissatisfaction.

The findings of path analysis which demonstrated SES and SBBC directly influenced dieting behaviors and binge eating highlighted the importance of these beliefs in eating disturbances. The present research suggests that it is effective to target SES and SBBC in cognitive-behavioral
counseling for women who have excessive concerns about their physical appearance and show eating or dieting problems.

According to the present research, looking at physically attractive others and at one’s own body enhanced the activation of SES and SBBC which resulted in elevating the rates of the negative ART and influencing dissatisfaction with one’s face and entire body. Considering the fact that the activation stimulus of SES and SBBC are difficult to avoid in individuals’ everyday life, future cognitive-behavioral counseling should help women develop effective coping strategies for reducing activation of or modifying the contents of SES and SBBC.

In western countries, there have been many studies to examine the correlational and causal relationships between appearance schemas and body dissatisfaction. The present research achieved progress in the relevant research setting body checking cognitions and problematic eating behaviors as variables along with appearance schemas and body dissatisfaction. The authors hope that the present research becomes the foundation of future intervention studies, which help women to develop healthier relationships with their body, prevent eating disorders, and contribute to promoting women’s health in Japan.

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身体不満足感、過食、ダイエット行動における外見スキーマならびに
ボディチェックイン認知の役割

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概要 本研究では、認知行動カウンセリングの立場から、身体不満足感ならびに過食、ダイエット行動の
発生メカニズムについて検討を行った。研究1では、258名の大学生女性を対象として調査を実施し
た。その結果、外見スキーマの自己評価の特徴 (Self-Evaluative Salience : SES) とボディチェックイン
認知の安全求、体重・身体コントロール (Safety Beliefs and Body Control : SBBC) は、身体不満足感
ならびに過食、ダイエット行動に影響を及ぼしていることが示された。研究2では、平均値以上のSES
とSBBCの得点を示す29名の大学生女性を対象として、SESとSBBCが身体不満足感の原因になるか
どうかを実験的に検討した。実験参加者は、SES活性条件、SBBC活性条件、非活性条件のいずれかに分
けられた。その結果、外見に関する否定的思考について、条件と時期の交互作用が有意であった (F(2,
26) = 6.55, p<.01)。下位検定を行った結果、SES活性条件ならびにSBBC活性条件では、非活性条件と
比較して、外見に関する否定的思考が有意に増加したことが示された (それぞれ p<.01, p<.05)。自己の
顔と外見全般に関する不満を測定する尺度の効果サイズは、小さいながらも意味のある値であった。本
研究により、SESとSBBCが身体不満足感ならびに過食、ダイエット行動の発生要因の一部であること
が示唆された。