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Relationship between Contingencies of Self-Worth, Contentment of Sources of Self-Worth, and Self-Esteem

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ABSTRACT

This study investigated the reliability and validity of the Contingencies of Self-Worth Scale and the Contentment of Sources of Self-Worth Scale for adult Japanese respondents and examined the relationships between contingencies of self-worth, contentment of sources of self-worth, and self-esteem in Japanese people. A web-based survey including the above scales was administered to 500 Japanese adults, and factor analysis of the results for the Contingencies of Self-Worth Scale and the Contentment of Sources of Self-Worth Scale revealed the following five factors: athletic competence, enthusiastic activity, friendships, prosocial behavior, and appearance. Construct validity was verified by calculating the correlation coefficients for the Contingencies of Self-Worth Scale, the Contentment of Sources of Self-Worth Scale, and the Self-Esteem Scale. Internal consistency verification was verified through alpha coefficients. Two scales with sufficient degree of validity and reliability were developed after determining construct validity and internal consistency. High and low groups were formed according to the *Mean*±1 *SD* for each factor of contingencies of self-worth, and a single regression analysis was conducted with self-esteem as the objective variable and the factors of contentment of sources of self-worth as the explanatory variable. From this, athletic competence, enthusiastic activity, friendships, prosocial behavior, and appearance all predicted self-esteem, except for the low group, with low self-worth in athletic competence. The background of the predictors of self-esteem for athletic competence, enthusiastic activity, friendships, prosocial behavior, and appearance was examined. One possible explanation why prosocial behavior predicted self-esteem could be that high contentment of sources of self-worth in prosocial behavior could lead to greater acceptance by others, including significant others, and an adaptive lifestyle, which would lead to higher self-esteem. *Key words*: contingencies of self-worth, contentment of sources of self-worth, self-esteem, adults.

Novelty and Significance

What is already known about the topic?

- High self-esteem can lead to maladaptive conditions, indicating the limitations of measuring self-esteem solely in terms of the level of self-esteem.
- Self-esteem in college students can be viewed from the perspective of contingencies of self-worth and contentment of the sources of self-worth.

What this paper adds?

- Presents the development the Contingencies of Self-Worth Scale and the Contentment of Sources of Self-Worth Scale for adults for the first time.
- The results indicated that increasing contentment of sources of self-worth effectively enhances self-esteem in adulthood.

Self-esteem is a positive overall feeling toward oneself (Endo, 2013). High self-esteem is associated with higher happiness and lower depression, but combined with narcissism, it may increase aggression toward others (Baumeister, Campbell, Krueger, & Vohs, 2003). This suggests that self-esteem is considered to have both adaptive and maladaptive aspects. Two main perspectives focusing on contingent self-esteem and contingencies of self-worth have been proposed to distinguish adaptive from maladaptive self-esteem (Ito, Kawasaki, & Kodama, 2011).

According to Deci and Ryan (1995), "contingent self-esteem refers to feelings

about oneself that result from matching some standard of excellence or living up to some interpersonal or intrapsychic expectations." Kernis (2003) considers that contingent self-esteem has one dimension of contingency (Ito *et alii*, 2011). Following this theory, empirical studies of contingent self-esteem have been conducted; Ito and Kodama (2006) examined the relationship among contingent self-esteem, self-improvement motivation, and autonomy in 220 Japanese university students and found that contingent self-esteem positively affected self-improvement motivation and negatively affected autonomy. In particular, contingent self-esteem had a positive impact on self-improvement motivation but a negative one on autonomy. Thus, if self-esteem is associated with an external standard, success will be sought according to that standard, and if the individual's current shortcomings are understood in relation to the given standard, the self-improvement motivation will increase to improve it. Furthermore, contingent self-esteem decreases the sense of autonomy, in that it is other-directed, that is, oriented toward something other than the self (Ito & Kodama, 2006). Thus, both adaptive and nonadaptive aspects of contingent self-esteem have been reported.

Contingencies of self-worth regard the concept of what domains take self-esteem and the estimates of one's own worth (Crocker, Luhtanen, Cooper, & Bouvrette, 2003; Crocker, Sommers, & Luhtanen, 2002; Uchida, 2008). Rather than viewing self-esteem along a single dimension, Crocker and Wolfe (2001) consider it with reference to seven domains, including competition and appearance. Sargent, Crocker, and Luhtanen (2006) suggest that a distinction can be drawn between factors of contingencies of self-worth related to depression and factors of contingencies of self-worth unrelated to depression, with the degree of adaptiveness depending on the factor of self-worth. Following research in other countries on contingencies of self-worth, the study of the subject is progressing in Japan as well. Uchida (2008) provides a Japanese version of the Contingencies of Self-Worth Scale for university students. Taking into account the differences between Japanese and other cultures, a seven-factor structure was designed, including defeating others in competition, appearance, relationship harmony, others' approval, academic competence, virtue, and support of family and friends. It has been reported that the higher the value of other's approval among contingencies of self-worth, the higher the degree of consideration for others; meanwhile, the higher the value for defeating others in competition factor, the lower the degree of consideration for others (Uchida, 2008), which suggests that adaptivity varies depending on the factor of contingencies of self-worth.

Crocker and Wolfe (2001) consider contingency of self-worth a within-persons approach, as the specific domains of contingencies differ among persons, while contingent self-esteem is a between-persons approach, as the extent to which self-esteem is associated with external criteria differs from person to person (Kernis, 2003). In this study, we follow the within-persons approach of Crocker and Wolfe (2001), which considers specific domains of contingencies to differ among persons. The reason for this is that according to the within-persons approach, different factors have different relationships to depression (Sargent *et alii*, 2006), suggesting that different factors for contingencies of self-worth have different relationships to different constructs. This is because taking a within-persons approach may allow us to uncover the details of adaptive and nonadaptive contingencies of self-worth enabling us to develop a detailed analysis of self-esteem.

According to Ito, Kawasaki, and Kodama (2013), contentment of sources of self-worth is an indicator of how satisfied the individual is with the sources of self-esteem. Ito *et alii* (2013) use the term "contentment of sources of self-esteem," but in this

study, we used the term "contentment of sources of self-worth" to correspond to the term contingencies of self-worth. They note that if self-esteem is dependent on certain sources and those sources are not fulfilled, this has implications that threaten self-esteem (Ito *et alii*, 2013). Therefore, it would seem more effective to examine contingencies of self-worth together with contentment of the sources of self-worth than to examine contingencies of self-worth in isolation.

Contingencies of self-worth and contentment of sources of self-worth have been examined together in Japan and elsewhere in certain studies. In Japan, studies have been conducted on high school students (Ogawa & Kojima, 2022) and college students (Ito *et alii*, 2013) examining contingencies of self-worth and contentment of sources of self-worth together, but no Japanese studies have yet been conducted on adults. Generally, self-esteem increases gradually in adulthood (Robins, Trzesniewski, Tracy, Gosling, & Potter, 2002). Clarifying the reality of contingencies of self-worth and contentment of sources of self-worth after adulthood can provide more detailed information about the reality of self-esteem in adulthood. For this reason, this study focuses on adulthood and beyond.

The scale developed by Ogawa and Kojima (2022) has been assessed for reliability and validity, but it was designed for high school students. The revised Japanese versions of the self-perception profile (Maeshiro, Sugawara, Sakai, & Sugawara, 2007) have been used to measure self-esteem across the developmental stages of childhood, adolescence, and university students. These findings make it desirable to measure contingencies of self-worth and contentment of sources of self-worth to enable the analysis of self-esteem for high school students and adults separately. The scale of Ito *et alii* (2013) has not been evaluated for reliability and validity in groups other than university students. This scale has the advantage of measuring a wide range of sources of self-esteem due to its large number of items (102); however, it has the disadvantage of placing a heavy burden on respondents, making it difficult to apply, especially among elderly subjects. In this study, the number of items was carefully selected to enable it to be easily used in Japanese adults of all ages, and the scales of contingencies of self-worth and contentment of sources of self-worth were developed, and their reliability and validity will be verified. In addition, we investigated the actual conditions and relationships among contingencies of self-worth, contentment of sources of self-worth, and self-esteem among Japanese adults.

METHOD

Participants and Procedure

An online survey was conducted in March 2022 by a Japanese web-based research company, *Cross Marketing Inc*. The subjects were 500 Japanese adults (250 males and 250 females) between the ages of 18 and 69 (*M*= 45.01, *SD*= 14.06), and the responses of all respondents were used for analysis.

Informed consent was obtained from all the participants. During implementation, we indicated to the participants that the survey responses would be supplied on a free-will basis, that the survey subjects would not be disadvantaged if they did not respond, and that their privacy would be protected. This study was conducted with the consent of the Research Ethics Committee of the research institution to which the first author belongs.

Instruments

Personal characteristics. The gender, age, and occupation of the respondents were ascertained.
Measurement of contingencies of self-worth and contentment of sources of self-worth.
To develop the scales of *Contingencies of Self-Worth* and *Contentment of Sources of Self-Worth* for Japanese in adulthood and beyond, we assembled 56 items to represent categories of contingencies of self-worth and contentment of sources of self-worth for Japanese in adulthood, with reference to previous studies (Ito *et alii*, 2013; Uchida, 2008). In all, 28 items were assembled for each scale, and the two scales were created to correspond to each other. For example, the question item "Doing things for others is important to me" on the Contingencies of Self-Worth Scale corresponds to "I think I do things for others" on the Contentment of Sources of Self-Worth Scale. Responses to the Contingencies of Self-Worth Scale were provided on a 6-point rating scale, ranging from "very applicable" (6 points) to "not applicable at all" (1 point). Responses to the Contentment of Sources of Self-Worth Scale were provided on a 5-point scale ranging from "very true" (5 points) to "not true at all" (1 point).
Self-esteem Scale   (Rosenberg, 1965, Japanese version Kojima & Noutomi, 2013). A 10-item scale modified from the original scale (Kojima & Noutomi, 2013) was used. This scale has demonstrated reliability (above .87) and content validity. The responses were provided on a 4-point scale ranging from "very true" (4 points) to "not true at all" (1 point). An example item is "On the whole, I am satisfied with myself."

Data Analysis

Factor analysis was conducted on the newly developed the Contingencies of Self-Worth Scale and the Contentment of Sources of Self-Worth Scale. To validate these scales, Pearson's correlation coefficients were calculated between contingencies of self-worth, contentment of sources of self-worth, and self-esteem. To investigate the effect of age and gender differences, a two-factor analysis of variance (ANOVA) was performed, with the sub-factors of contingencies of-self-worth, the sub-factors of contentment of sources of self-worth, and self-esteem as dependent variables, and age and gender as independent variables. Finally, to explore the relationship among these variables, participants were categorized into high and low groups based on the *Mean*±1*SD* of each factor of contingencies of self-worth. Then, a simple regression analysis was conducted, using self-esteem as the objective variable and the factors of contentment of sources of self-worth as explanatory variables. All statistical analyses were performed with a significance threshold set at an alpha level of .05. SPSS-28 was used for the statistical analysis.

Results

Descriptive statistics for the Contingencies of Self-Worth Scale and the Contentment of Sources of Self-Worth Scale were checked, and no ceiling or floor effects (*Mean*±1*SD*) were found. Factor analysis (Maximum likelihood method and Promax rotation) was conducted on the 28 items of the Contentment of Sources of Self-Worth Scale. Items with factor loadings of .40 or less and items that showed factor loadings of .40 or greater on multiple factors were excluded, and factor analysis was repeated. Furthermore, with reference to Toyama, Nagamine, and Asayama (2022), three items were extracted from each factor based on item content and factor loadings, taking into account the respondent burden, and the same factor analysis was conducted for 15 items. Five factors and 15 items were extracted (Table 1); the percentage of the total variance explained by the five factors was 74.64%.

Table 1. Factor analysis of the Contentment of Sources of Self-Worth Scale (Maximum likelihood method. Promax rotation)

	Mean (SD)	I	II	III	IV	V	h²
Factor 1: Athletic competence	2.40 (1.05)						
25. I think I am good at sports	2.43 (1.15)	.99	-.05	.01	.01	-.05	.91
15. I think I have good motor skills	2.49 (1.17)	.94	-.01	-.01	.00	-.03	.84
19. I think I achieve good results in sports	2.29 (1.06)	.73	.03	-.03	.01	.12	.67
Factor 2: Enthusiastic activity	3.32 (0.97)						
9. I think I am working on something I am interested in	3.37 (1.05)	-.03	.92	-.01	.02	-.06	.79
28. I think I am enthusiastic about what I like	3.32 (1.06)	.01	.86	.04	-.01	-.02	.74
14. I think I have something to devote myself to	3.28 (1.08)	-.01	.82	-.06	.01	.07	.71
Factor 3: Friendships	3.04 (1.05)						
11. I don't think I have any good friends*	3.04 (1.20)	.01	-.04	.86	-.11	-.02	.62
23. I think I have friends I can trust	3.05 (1.15)	.00	.10	.85	.01	.01	.80
5. I have friends with whom I can talk about anything	3.01 (1.20)	-.04	-.07	.78	.13	.01	.68
Factor 4: Prosocial behavior	3.23 (0.88)						
2. I think I am kind to people	3.33 (0.95)	-.02	-.03	-.03	.94	-.02	.80
7. I think I treat people with compassion	3.31 (0.96)	-.02	.03	-.01	.93	-.03	.85
18. I think I do things for others	3.06 (1.00)	.11	.09	.09	.60	.09	.64
Factor 5: Appearance	2.52 (0.90)						
21. I think I have a cool (or beautiful) face	2.47 (1.03)	-.01	-.07	.01	-.01	.95	.83
12. I think I have good looks	2.60 (0.98)	-.04	-.01	-.04	.07	.88	.77
17. I think have a good body figure (style)	2.49 (1.06)	.18	.14	.04	-.12	.57	.54

	II	.31	
	III	.29	.38
Factor correlations	IV	.33	.57	.54
	V	.62	.52	.37	.47

Note: *Item was reversed scoring.

Factor 1 of the Contentment of Sources of Self-Worth Scale was named athletic competence, as it consisted of items related to the ability to carry out physical activities, such as "I think I am good at sports." Factor 2 was named enthusiastic activity because it consisted of items related to the respondents' willingness to engage in various activities, such as "I think I am enthusiastic about what I like." Factor 3 was termed friendships because it consisted of questions about relationships with friends, such as "I think I have friends I can trust." Factor 4 was named prosocial behavior because it consisted of questions about actions taken for the benefit of others, such as "I think I am kind to people." Factor 5 was named appearance because it consisted of questions on appearance, such as "I think I have good looks." Further, 15 items were extracted from contingencies of self-worth, corresponding to the 15 items extracted from the Contentment of Sources of Self-Worth Scale, and factor analysis (maximum likelihood method and Promax rotation) was conducted on the assumption of five factors. No items with factor loadings below .40 were found, and no items were deleted. Similar to the

results of the Contentment of Sources of Self-Worth Scale, 15 items with five factors were extracted as the Contingencies of Self-Worth Scale (see Table 2). The percentage of total variance explained by the five factors was 65.25%.

Table 2. Factor analysis of the Contingencies of Self-Worth Scale (Maximum likelihood method. Promax rotation).

	Mean (*SD*)	I	II	III	IV	V	h²
Factor 1: Enthusiastic activity	4.41 (1.02)						
14. I am satisfied with myself because I have something to devote myself to	4.65 (1.12)	.97	-.07	.06	-.04	-.05	.84
28. I feel confident when I am enthusiastic about something I like	4.22 (1.18)	.82	.01	-.13	.15	.02	.71
9. It is important for me to work on things that interest me	4.36 (1.14)	.69	.12	.12	-.13	-.08	.59
Factor 2: Prosocial behavior	4.15 (1.07)						
7. I am satisfied with myself when I can treat people with compassion	4.22 (1.19)	-.01	1.02	-.03	-.08	-.05	.88
2. I feel confident when I can be kind to others	4.16 (1.23)	.04	.85	-.03	.04	-.04	.76
18. Doing things for others is important to me	4.07 (1.18)	.14	.52	-.02	.13	.04	.53
Factor 3: Appearance	3.98 (1.11)						
12. Good looks is important to me	3.93 (1.25)	.07	-.05	.90	.00	-.06	.80
17. I lose self-confidence if I feel I have a bad body figure (style)	3.99 (1.25)	-.07	-.08	.82	-.02	.07	.60
21. I am satisfied with myself if I think I have a cool (beautiful) face	4.01 (1.27)	.11	.15	.65	.09	-.06	.72
Factor 4: Athletic competence	3.48 (1.13)						
25. Being good at sports makes me confident	3.60 (1.33)	.05	.00	-.10	.98	-.06	.86
15. Have good motor skills is important to me	3.58 (1.30)	-.05	.09	.10	.79	-.20	.67
19. I get depressed when I don't achieve good results in sports	3.25 (1.33)	-.05	-.13	.08	.60	.29	.51
Factor 5: Friendships	3.60 (0.92)						
5. If I don't have friends I can talk to about anything, I don't feel confident about myself	3.37 (1.25)	-.11	.10	.21	.04	.59	.53
11. I don't mind if I don't have good friends*	4.18 (1.22)	-.02	-.09	-.08	-.09	.52	.22
23. It is important for me to have friends whom I can trust	3.24 (1.29)	.35	.23	-.05	.01	.42	.57

	II	.76			
Factor correlations	III	.53	.51		
	IV	.51	.58	.60	
	V	.24	.37	.39	.38

Note: *Item was reversed scoring.

To check the internal consistency of the Contentment of Sources of Self-Worth Scale, Cronbach's alpha coefficient was calculated for each scale item: athletic competence, .92; enthusiastic activity, .90; friendships, .87; prosocial behavior, .91; and appearance, .87. Similarly, the Cronbach's alpha coefficient of the Contingencies of Self-Worth Scale, calculated: athletic competence, .82; enthusiastic activity, .87; friendships, .57; prosocial behavior, .88; and appearance, .86. Cronbach's alpha coefficient for the Self-Esteem Scale, .89. Kojima and Noutomi (2013) note that removing item 8 would increase internal consistency. We deleted item 8, which produced a Cronbach's alpha coefficient of .93.

Correlation coefficients were calculated for contingencies of self-worth, contentment of sources of self-worth, and self-esteem (Table 3). As a result, for the correlation coefficients between self-esteem scores and the subfactors of the Contingencies of Self-Worth Scale, significant correlations were found with athletic competence ($r= .15$, $p <.01$), enthusiastic activity ($r= .39$, $p <.01$), and prosocial behavior ($r= .39$, $p <.01$). However, the correlation coefficients between self-esteem scores and friendships or appearance were low. The correlation coefficients between the subfactors of contentment of sources of self-worth and self-esteem showed significant correlation with athletic competence ($r= .39$, $p <.01$), enthusiastic activity ($r= .55$, $p <.01$), friendships ($r= .40$, $p <.01$), prosocial behavior ($r= .57$, $p <.01$), and appearance ($r= .52$, $p <.01$) were significantly correlated.

The correlation coefficients were calculated for subfactors of contingencies of self-worth and contentment of sources of self-worth. Significant correlations coefficients were shown for athletic competence ($r= .55$, $p <.01$), enthusiastic activity ($r= .57$, $p <.01$), friendships ($r= .44$, $p <.01$), prosocial behavior ($r= .62$, $p <.01$), and appearance ($r= .22$, $p <.01$).

Table 3. Correlation coefficients of contingencies of self-worth, contentment of sources of self-worth, and self-esteem.

		Contingencies of self-worth					Self-esteem
		Athletic competence	Enthusiastic activity	Friendships	Prosocial behavior	Appearance	
Contentment of sources of self-worth	Athletic competence	.55**	.14**	.08	.25**	.17**	.39**
	Enthusiastic activity	.17**	.57**	.02	.41**	.18**	.55**
	Friendships	.11*	.19**	.44**	.31**	.02	.40**
	Prosocial behavior	.23**	.41**	.23**	.62**	.22**	.57**
	Appearance	.27**	.22**	.06	.29**	.22**	.52**
Self-esteem		.15**	.39**	-.02	.39**	.08	

Notes: **= $p < .01$, *= $p <.05$.

The basic statistics and age and gender differences for each scale are presented in Table 4. A two-factor analysis of variance was conducted with the subfactor scores for the Contingencies of Self-Worth Scale and the Contentment of Sources of Self-Worth Scale and the self-esteem score as dependent variables; age and gender were independent variables.

An interaction effect was found for prosocial behavior ($F_{(4, 483)}= 2.92$, $p <.05$) of contingencies of self-worth. Analysis of simple main effects confirmed a significant difference in the 20s ($F_{(1, 483)}= 9.24$, $p <.01$). Because the interaction effect was significant, a simple main effects analysis was conducted. The results showed that prosocial behavior was higher among men in their 40s than among those in their 30s, and there were no differences among women of each age.

The main effect of age was found for appearance ($F_{(4, 483)}= 5.73$, $p <.01$) on contingencies of self-worth. The main effect of gender was found for athletic competence ($F_{(1, 483)}= 6.56$, $p < .05$), appearance ($F_{(1, 483)}= 19.85$, $p <.01$), and friendships ($F_{(1, 483)}= 10.00$, $p <.01$) on contingencies of self-worth. Because the main effect for age was found, we conducted a back-test using Bonferroni's method and found that the appearance of contingencies of self-worth was significantly higher for those in their 20s than for those in their 50s and 60s; likewise, it was higher for those in their 40s than for those in their 60s.

Table 4. Basic statistics of each scale and differences in age and gender.

	Men 20s (N=47)	Men 30s (N=50)	Men 40s (N=50)	Men 50s (N=50)	Men 60s (N=50)	Women 20s (N=47)	Women 30s (N=50)	Women 40s (N=50)	Women 50s (N=50)	Women 60s (N=50)	Age F	Age η_p^2	Gender F	Gender η_p^2	Age×Gender F	Age×Gender η_p^2	Multiple comparison
Contingencies of self-worth																	
Athletic competence	3.82 (1.19)	3.39 (1.24)	3.72 (1.08)	3.62 (1.06)	3.51 (0.99)	3.64 (1.13)	3.48 (1.27)	3.15 (1.23)	3.20 (0.99)	3.30 (0.96)	1.49	.01	6.56*	.01	1.26	.01	
Enthusiastic activity	4.43 (1.31)	4.19 (0.98)	4.57 (1.16)	4.44 (0.95)	4.37 (1.00)	4.76 (0.91)	4.48 (1.13)	4.29 (1.00)	4.08 (0.93)	4.42 (0.71)	1.45	.01	0.00	.00	2.36	.02	
Friendships	3.60 (1.10)	3.41 (0.90)	3.37 (0.85)	3.59 (0.68)	3.37 (0.91)	3.99 (0.93)	3.92 (0.96)	3.59 (0.97)	3.51 (0.89)	3.63 (0.88)	1.99	.02	10.00**	.02	1.45	.01	
Prosocial behavior	3.99 (1.41)	3.73 (1.23)	4.39 (1.06)	4.13 (0.96)	4.05 (0.91)	4.66 (0.81)	4.07 (1.22)	4.11 (1.10)	4.07 (0.87)	4.23 (0.75)	2.35	.02	3.11	.01	2.92*	.02	men 30s < men 40s
Appearance	4.01 (1.17)	3.75 (1.14)	4.09 (1.10)	3.62 (0.93)	3.32 (0.99)	4.57 (1.03)	4.40 (1.32)	4.08 (1.12)	3.87 (1.09)	4.02 (0.70)	5.73**	.05	19.85**	.04	2.04	.02	50s,60s < 20s; 60s < 40s
Contentment of sources of self-worth																	
Athletic competence	2.65 (1.09)	2.19 (0.96)	2.61 (1.07)	2.66 (1.04)	2.67 (0.96)	2.33 (1.04)	2.27 (1.00)	2.20 (1.08)	2.31 (1.05)	2.22 (1.03)	1.07	.01	9.66**	.02	1.10	.01	
Enthusiastic activity	3.59 (0.92)	3.14 (1.05)	3.23 (1.04)	3.29 (0.84)	3.54 (0.89)	3.30 (0.87)	2.93 (1.12)	3.42 (0.94)	3.16 (1.04)	3.55 (0.76)	4.26**	.03	1.04	.00	0.96	.01	30s < 20s,60s
Friendships	3.01 (0.92)	2.81 (1.05)	2.65 (1.07)	3.09 (1.00)	3.05 (0.91)	3.14 (2.92)	2.92 (1.04)	3.23 (1.10)	2.97 (1.15)	3.37 (1.04)	1.61	.01	4.69*	.01	1.52	.01	
Prosocial behavior	3.31 (1.06)	2.97 (0.93)	3.15 (0.97)	3.26 (0.77)	3.19 (0.78)	3.33 (0.74)	2.93 (0.99)	3.24 (0.96)	3.20 (0.75)	3.69 (0.59)	4.49**	.04	1.65	.00	1.77	.01	30s < 20s,60s
Appearance	2.68 (0.86)	2.33 (0.89)	2.41 (1.01)	2.57 (0.83)	2.55 (0.81)	2.59 (1.00)	2.35 (0.99)	2.58 (0.90)	2.45 (0.84)	2.65 (0.86)	1.59	.01	0.06	.00	0.45	.00	
Self-esteem	2.52 (0.77)	2.34 (0.70)	2.39 (0.82)	2.64 (0.64)	2.75 (0.62)	2.49 (0.69)	2.03 (0.82)	2.54 (0.73)	2.58 (0.54)	2.83 (0.52)	10.29**	.08	0.30	.00	1.56	.01	30s < 20s,40s < 60s; 30s < 50s

Notes: * = $p < .05$; ** = $p < .01$.

The main effect for age was found for enthusiastic activity ($F_{(4, 483)}$= 4.26, p <.01) and prosocial behavior ($F_{(4, 483)}$= 4.49, p <.01) in contentment of sources of self-worth. The main effect for gender was also found for athletic competence ($F_{(1, 483)}$= 9.66, p <.01) and friendships ($F_{(1, 483)}$= 4.69, p <.05) in contentment of sources of self-worth. As the main effect of age was found, a back-test using Bonferroni's method was conducted, and it was found that the enthusiastic activity of contentment of sources of self-worth was significantly higher for those in their 20s and 60s than for those in their 30s, and prosocial behavior was significantly higher for those in their 20s and 60s than for those in their 30s.

The main effect was found of age on self-esteem ($F_{(4, 483)}$= 10.29, p <.01), with significantly higher scores for those in their 20s and 40s than for those in their 30s, and significantly higher scores were seen for those in their 60s than for those in their 20s, 30s, and 40s. The results were also significantly higher for those in their 50s than for those in their 30s.

To examine the relationship between self-esteem and contentment of sources of self-worth in the high and low groups of contingencies of self-worth, the participants were grouped based on the *Mean±1SD* of the factors of contingencies of self-worth, and a single regression analysis was conducted with self-esteem as the objective variable and the factors of contentment of sources of self-worth as the explanatory variables (see Table 5).

A significant association with self-esteem was found in the high-contingency group of athletic competence ($F_{(1, 76)}$= 39.84, p <.01, R^2= .34), the high-contingency group of enthusiastic activity ($F_{(1, 68)}$= 15.71, p <.01, R^2= .19), the low-contingency group of enthusiastic activity ($F_{(1, 73)}$= 29.59, p <.01, R^2= .29), the high-contingency group of appearance ($F_{(1, 68)}$= 29.94, p <.01, R^2= .31), the low-contingency group of appearance ($F_{(1, 55)}$= 24.78, p <.01, R^2= .31), the high-contingency group of prosocial behavior ($F_{(1, 67)}$= 32.33, p <.01, R^2= .33), the low-contingency group of prosocial behavior ($F_{(1, 81)}$= 11.65, p <.01, R^2= .13), the high-contingency group of friendships ($F_{(1, 69)}$= 25.06, p <.01, R^2= .27), and the low group of friendships ($F_{(1, 79)}$= 15.22, p <.01, R^2= .16). No significant associations were found in the low-contingency group of athletic competence.

Table 5. Relationship between contentment of sources of self-worth and self-esteem in high and low contingencies of self-worth groups in the single regression analysis.

Group	Objective variable	Explanatory variable	β	t
High self-worth group in athletic competence	Self-esteem	Contentment of athletic competence	.59	6.31**
Low self-worth group in athletic competence			.16	1.54
High self-worth group in enthusiastic activity	Self-esteem	Contentment of enthusiastic activity	.43	3.96**
Low self-worth group in enthusiastic activity			.54	5.44**
High self-worth group in friendships	Self-esteem	Contentment of friendships	.52	5.01**
Low self-worth group in friendships			.40	3.90**
High self-worth group in prosocial behavior	Self-esteem	Contentment of prosocial behavior	.57	5.69**
Low self-worth group in prosocial behavior			.36	3.41**
High self-worth group in appearance	Self-esteem	Contentment Of appearance	.55	5.47**
Low self-worth group in appearance			.56	4.98**

Note: **= p < .01.

Discussion

Factor analysis led to the development of a scale consisting of five factors each for athletic competence, enthusiastic activity, friendships, prosocial behavior, and appearance for the Contingencies of Self-Worth Scale and the Contentment of Sources of Self-Worth Scale.

To verify the reliability of the scale, its internal consistency was examined. The results showed that the Cronbach's alpha coefficients for the subfactors of the Contentment of Sources of Self-Worth Scale ranged from .87 to .92, and the Cronbach's alpha coefficients for the subfactors of the Contingencies of Self-Worth Scale were adequate, ranging from .82 to .88, except for the factor for friendships. This was taken to indicate the reliability of the scale. However, Cronbach's alpha coefficient for friendships was rather low, at .57, so these results should be interpreted with caution.

To examine construct validity, correlation coefficients were calculated for the subfactors of contingencies of self-worth and self-esteem. As in a previous study (Ito *et alii*, 2011), no or weak correlations were found (see Table 3). Because contingencies of self-worth and self-esteem are relatively independent concepts (Ohtani & Nakaya, 2010), the results are considered to be valid.

The correlation coefficients between the subfactors of contentment of sources of self-worth and self-esteem were calculated (Table 3), and the results were similar to those seen in previous studies (Ito *et alii*, 2011). One reason for the weak to moderate strength of these correlations is that multiple sources of self-esteem are considered to be involved. If an individual has only one source of self-esteem, it will be greatly affected by any variability in that one source, so a strong correlation is assumed. However, previous studies on contingencies of self-worth (Ohtani & Nakatani, 2010; Uchida, 2008) have shown that individuals tend to have multiple sources of self-esteem. Because the possession of multiple sources of self-esteem is expected to influence overall self-esteem, it is reasonable to assume that correlations between subfactors of contentment of sources of self-worth and self-esteem were generally weak to moderate, and weak to moderate correlations were found.

The correlation coefficients were calculated between the corresponding factors of the subfactors of contingencies of self-worth and the subfactor of contentment of sources of self-worth (e.g., athletic competence on contingencies of self-worth and athletic competence on contentment of sources of self-worth), and these were generally weak to moderate. In a previous study (Ito *et alii*, 2011), the correlation coefficients between contingencies of self-worth and contentment of sources of self-worth were found to be weak to moderate, which suggests that these constructs have a certain relationship.

The results of the correlations between the scales used in this study were similar to those of previous studies (Ito *et alii*, 2011), and contingencies of self-worth and self-esteem appeared as relatively independent concepts (Ohtani & Nakaya, 2010). It appears that contentment of sources of self-worth has a certain relationship to self-esteem (Ito *et alii*, 2011) and furthermore, these results were in line with the theory that contingencies of self-worth and contentment of sources of self-worth are related (Ito *et alii*, 2011). These findings indicate sufficient construct validity in the two developed scales.

Among the items for appearance of contingencies of self-worth, the scores were lower among those in their 50s and 60s than for those in their 20s, and they were lower for those in their 60s than for those in their 40s, indicating the tendency for the appearance of contingencies of self-worth to fall with increasing age. However, no

difference was seen by age in the appearance of contentment of sources of self-worth. Ito *et alii* (2013) argued that where self-esteem is associated with appearance, appearance becomes a source of self-esteem for those who are satisfied with their own appearance. Conversely, for those who are not satisfied with their own appearance, appearance can be a threat to self-esteem. From the results of this study, we can infer that appearance threatens self-esteem, especially in younger age groups, as younger people are more likely to attach self-esteem to their appearance even though they do not consider their appearance to be good.

There were differences between ages among men in the prosocial behavior of contingencies of self-worth. Furthermore, there were also differences by age in the prosocial behavior of contentment of sources of self-worth, with those in their 30s lower than those in their 20s and 60s. Shane, Niwa, and Heckhausen (2021) examined the lifetime development of prosociality from age 24 to 92 and found that prosociality tended to increase for those under age 36, remained stable for those aged 36 to 52, and decreased for those aged 52 and older. In this study, prosocial behavior was lowest among those in their 30s, and there were no differences in high prosocial behavior among the other generations. This contrasts with the results of previous studies. Further, individual differences in education, income, number of children, and perceived control have been previously found to be associated with the lifetime developmental trajectory of prosociality (Shane *et alii*, 2021). Cultural differences between Japan and other countries and differences in scales may be factors in this difference. Further detailed studies should be undertaken.

In both the high-contingency group with athletic competence, athletic competence of contentment of sources of self-worth predicted self-esteem, but in the low-contingency group of athletic competence, athletic competence of contentment of sources of self-worth did not predict self-esteem. From the content of the scale, contentment of their own athletic competence predicted self-esteem for those who tended to be confident in themselves where they considered themselves good at sports and tended to think that being good at sports was important to them. In contrast, contentment of athletic competence did not predict self-esteem among those who were less likely to think that being good at sports was important for self-confidence and athleticism. In Sani *et alii*'s (2016) structural analysis of covariance of the relationship between self-esteem and physical activity, including frequency, intensity, and duration of exercise per week, in 264 subjects aged 20 to 60, they find that physical activity has a direct positive effect on self-esteem. Because the high-contingency group for athletic competence in this study is considered to have a strong tendency to engage in physical activities, it is inferred that contentment of athletic competence has a positive influence on self-esteem. However, the low-contingency group of athletic competence was less likely to engage in physical activities, suggesting that contentment of athletic competence did not have a positive effect on self-esteem.

In both the high and low-contingency groups of enthusiastic activity, contentment of enthusiastic activity predicted self-esteem. Higher values for enthusiastic activity predicted self-esteem for those who were more or less likely to be satisfied with themselves due to having something to devote themselves to and feeling confident in themselves by being enthusiastic about what they liked. Previous studies (Ito *et alii*, 2011; Ito, 2016) have shown that college students who are passionate about what they like and have something to devote themselves to tend to have higher self-esteem, and this was also true for adulthood in general, the subject of this study. Self-esteem is enhanced when

an individual feels confident in themselves through engaging in a passionate interest or when one is valued by others. Ito *et alii*, (2013) note that a sense of contentment can lead people to develop future goals and hopes and accept the past. High levels of enthusiastic activity may promote positive self-valuation by making it easier to have hope for the future and accept the past, which in turn may lead to higher self-esteem.

In both the high and low-contingency groups of friendships, contentment of friendships predicted self-esteem. The scale shows that friendships of contentment of sources of self-worth predict self-esteem for both the high and low groups who tend to think that it is important for them to have friends that they could talk to about anything or who tended to think that they had friends they could trust. Okada (2011) finds that self-esteem is positively affected by a higher sense of acceptance, the feeling of being accepted by one's friends. It is possible that a sense of acceptance from friends has a positive impact on self-esteem among Japanese people in adulthood and beyond.

In both the high and low-contingency groups of prosocial behavior, contentment of prosocial behavior predicted self-esteem. Due to the content of the scale, contentment of prosocial behavior predicted self-esteem for both high and low propensity to be satisfied with oneself when one can treat people with compassion and to be confident in oneself when one can be kind to others. Zuffianò *et alii* (2014) conducted a longitudinal study of the relationship between prosociality and self-esteem over a 10-year period with 386 participants who were 15.6 years old, on average, at the beginning of the study. They reported that although current prosociality predicts future self-esteem, the direct effects of prosociality on self-esteem are small. They identify the possibility of a mediating variable, namely, that prosociality may be associated with a feeling of acceptance by significant others. The reason that contentment of prosocial behavior predicts self-esteem not only in the high-contingency group of individuals of prosocial behavior but also in the low-contingency group of prosocial behavior is that high contentment of prosocial behavior makes it easier to be accepted by others, including significant others, and to lead an adaptive life. This may be because people who lead an adaptive life, in which they are accepted by those around them, tend to have a higher self-esteem.

In the high and low-contingency groups of appearance, contentment of appearance predicted self-esteem in the high and low groups, respectively. From the content of the scale, contentment of appearance predicted self-esteem both for those who had a strong tendency to lose confidence in themselves if they felt that good appearance was important to them or if they felt that their body shape (style) was bad. Hiramatsu (2008), in a multiple regression analysis of 762 Japanese university students using self-esteem as the objective variable and appearance and other factors as explanatory variables, finds that appearance predicts self-esteem, similar to the results of this study on Japanese subjects in adulthood and beyond. Even in cases where the tendency to place the source of self-esteem in appearance is weak, it appears possible that self-esteem is enhanced by positive evaluation of one's appearance by others, as a background for predicting self-esteem by contentment of sources of self-worth in appearance.

The present study has two limitations. First, 500 people aged 18-69 years were surveyed in this study. Robins *et alii* (2002) surveyed 326,641 people aged 9-90 years to track their self-esteem and described a lifetime development of self-esteem. They found that self-esteem develops over the course of life. Because we had 500 participants in this study, we could only examine comparisons across age groups, and it was not possible to identify aspects of age-specific changes in contingencies of self-worth and contentment of the sources of self-worth in adulthood and beyond. In the future, it is

hoped that a larger number of research participants will be found to clarify the details of contingencies of self-worth and contentment of sources of self-worth in adulthood. The second limitation was the use of a Japanese web survey research company, which resulted in data predominantly sourced from Japanese participants. Consequently, caution must be exercised when generalizing these findings, as the relationships between contingencies of self-worth, contentment of sources of self-worth, and self-esteem may differ across cultural contexts. Therefore, future studies should aim to elucidate these relationships by including a more diverse population that extends beyond the Japanese demographic.

This study explored the relationship between contingencies of self-worth, contentment of sources of self-worth, and self-esteem in a sample of 500 Japanese adults. The results indicated that, with the exception of athletic competence, a significant correlation exists between contentment of sources of self-worth and self-esteem, irrespective of the degree of contingencies of self-worth. These findings suggest that, for Japanese adults, contentment of sources of self-worth is not confined to any specific domain; rather, multiple sources contribute to self-esteem. In the future, it will be important to develop support strategies for improving self-esteem that address both contingencies of self-worth and contentment of sources of self-worth, while also considering individual differences.

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