

## **The Relationship between Adult Attachment Style and Social Skills in Terms of the Four-Category Model of Attachment Style**

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### **Abstract**

*In the present study, we examined the relationship between adult attachment style, with regard to the four-category model, and social skills among Japanese university students. Participants (N = 212, 110 men and 102 women) completed questionnaires on both attachment style and social skills. Correlation analyses showed significant negative correlations between certain attachment styles and social skills. Through a cluster analysis using attachment measures (combining two levels of self-representation with two levels of others-representation), we extracted four attachment styles (secure, preoccupied, dismissing, and fearful). We compared the degree of social skills among these attachment styles, as well. Results showed that the dismissing and fearful styles were related to lower scores on many social skill subscales. These results indicate that the negative others-representation subscale mainly affected social skills scores. The present results contribute to existing knowledge on the relationship between attachment style (using the four-category model) and social skills.*

**Key words:** Adult attachment style, Social skills, Social adjustment

### **1. Introduction**

Attachment is an affective connection that typically develops through interactions between a child and his/her mother figure (Bowlby, 1969). These relationships provide a mental representation of the “self” in relation to “others” (Internal Working Model: IWM), which suggests how others will perceive and interact with an individual beyond early childhood. Children perceive a sense of self-efficacy according to the IWM; positive representations provide good self-efficacy, while negative representations provide poor self-efficacy. In order to measure the magnitude of child attachment, Ainsworth, Blehar, Waters, and Wall (1978) proposed the Strange Situation Procedure (SSP). The SSP is an experiment designed to observe child and parent attachment during a threatening situation. By observing a child’s behavior toward their parent after a short separation, children are generally classified into three attachment styles: secure, anxious, and avoidant. Children with a secure attachment style do not show resistant behaviors toward their parent, whereas children with an anxious style desire proximity to their parent but simultaneously resist their parent. Children with an avoidant style shows avoidant behaviors and do not seek proximity toward their parent. Van IJzendoorn, Goldberg, Kroonenberg, and Frenkl (1992) indicated that children are generally classified within the three categories as follows: secure (65%), anxious (15%), and avoidant (20%) styles.

Attachment relationships continue to be important throughout the life span (e.g., Ainsworth, 1989). Recent studies have indicated that infant and child attachment theory can be applied to adult attachment (Hazan & Shaver, 1987; Kanemasa & Daibo, 2003; Murphy & Bates, 1997).

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In order to examine adult attachment, Hazan and Shaver (1987) developed the Attachment Style Questionnaire (see also, interview method such as Adult Attachment Interview: Main, Kaplan, & Cassidy, 1985). This questionnaire is a self-report measure consisting of three short paragraphs that help divide adults into the three attachment styles (secure, anxious, and avoidant that correspond to findings from the Strange Situation Procedure; Ainsworth et al., 1978). Hazan and Shaver (1987) found that the percentages of adults within the three-category model were similar to studies using the SSP with children (Ainsworth et al., 1978; Van IJzendoorn et al., 1992): secure (56%), anxious (19%), and avoidant (25%). On the basis of adult attachment theory, previous studies have examined the relationships between adult attachment and various indicators of psychological adjustment (e.g., DiTommaso, Brannen-McNulty, Ross, & Burges, 2003; Hori & Kobayashi, 2010; Kanemasa, 2005, 2007; Kanemasa & Daibo, 2003). For example, Hori and Kobayashi (2010) investigated the relationships between adult attachment, social skills, and psychological adjustment. Results showed that people with a secure attachment displayed higher abilities in terms of social skills as compared to people with an anxious or avoidant style. Moreover, people with an anxious attachment style demonstrated lower psychological adjustment compared with people classified as having a secure or avoidant style.

Several previous studies have examined adult attachment based on these three attachment styles (i.e., the three-category model). However, Bowlby's (1969) original theory suggested two types of internal working models, such as representations of the "self" and "others." Considering this, Bartholomew and Horowitz (1991) proposed that four categories could be logically derived (i.e., the four-category model), combining two levels of "self-representation (positive or negative)" with two levels of "others-representation (positive or negative)." The self-representation model reflects anxiety about closeness (i.e., whether the self is worthy of support), and the others-representation model reflects avoidance of intimacy (i.e., whether others are seen as trustworthy). Bartholomew and Horowitz (1991) conceptualized four categories based on these two axes: the first category includes positive self- and others-representations, the second category includes positive self-representation but negative others-representation, the third category includes negative self- and others-representations, and the fourth category includes positive self-representation but negative others-representation.

The authors labeled these categories as secure, preoccupied, fearful, and dismissing styles, respectively. They assumed that the secure attachment style in the four-category model conceptually corresponds to the secure style from the three-category model, the preoccupied style corresponds to the anxious style, and the fearful style corresponds to the avoidant style. In addition to these styles, the authors assumed that the dismissing style is indicated by a tendency to avoid close relationships and protect themselves from disappointment; this assumption was based on theoretical work from Main et al. (1985). Bartholomew and Horowitz (1991) empirically confirmed these conceptual assumptions. Their results showed the following classifications within the four attachment styles: secure (57%), preoccupied (10%), fearful (15%), and dismissing (18%). These percentages are similar to those obtained in adult samples using the three-category model (e.g., Hazan & Shaver, 1987).

The purpose of the current study was to examine the relationship between adult attachment with the four-category model and social skills, which is contrast to Hori and Kobayashi's (2010) examination of this relationship in terms of the three-category model. If the four-category model is appropriate for adult attachment theory, the examination of the relationship between adult attachment and social skills with the four-category model can add to the existing knowledge regarding this relationship using the three-category model. Hori and Kobayashi (2010) showed that people with a secure style displayed higher social skills than people with insecure (anxious and avoidant) styles. The authors assumed that people with insecure (anxious and avoidant) styles are generally impulsive, full of ups and downs, and tend to respond to stressful situations by using passive coping styles (Mikulincer & Florian, 1998), deriving the lower score of social skill compared with secure style.

In our present study, we made the following predictions. Bartholomew & Horowitz (1991) suggested that the secure style from the three-category model corresponds to the secure style from the four-category model, the anxious style corresponds to the preoccupied style, and the avoidant style corresponds to the fearful style. In addition, the dismissing style is assumed from the four-category model. Considering these styles, we predicted that social skill scores for secure individuals might be higher than for preoccupied and fearful individuals. We also predicted that social skill scores for fearful individuals might be higher than for preoccupied individuals, because people with preoccupied and fearful styles may tend to show insecure social interactions with others (Murphy & Bates, 1997). This tends to be the case because these people tend to, generally, be impulsive and full of ups and downs during social interactions.

Moreover, we examined the relationship between the dismissing style and social skills in an exploratory fashion: Since people with a dismissing style also might demonstrate insecure social interactions with others in the same way as preoccupied and fearful individuals (Murphy & Bates, 1997), social skill scores among dismissing individuals might be lower than individuals with a secure style.

## **2. Method**

### **2.1. Participants**

Participants were 212 students (110 men and 102 women) from a university in the Saitama area. Ages ranged from 18 to 22 years ( $M = 20.1$  years;  $SD = 1.31$ ). All participants provided informed consent before participating.

### **2.2. Instruments**

In order to measure the magnitude of attachment, Brennan, Clark, and Shaver (1998) created the Experiences in Close Relationships Inventory (ECRI), which has been used in several previous studies. For the present study, we used the Japanese version of the ECRI (Nakao & Kato, 2004)<sup>1</sup>. The Japanese version of the ECRI consists of 30 items referring to various situations; participants are asked to rate these situations on a 7-point scale (1 = *not at all* to 7 = *very much*). For example, items include “I prefer not to show a partner how I feel deep down” and “I’m afraid that I will lose my partner’s love” (see Nakao & Kato, 2004). This scale is also composed of 2 subscales: anxiety (12 items) and avoidance (18 items). This measure has demonstrated good test-retest reliability and internal consistency (Nakao & Kato, 2004).

We measured social skills by using the Social Skills Self-rating Scale for Adults (Aikawa & Fujita, 2005; Takano, Sakamoto, & Tanno, 2011). This scale consists of 35 items referring to different situations; participants are asked to rate these situations on a 4-point scale (1 = *not at all* to 4 = *very much*). For example, items on this scale include “I easily make friends with anybody” and “when someone makes me feel unpleasant, I complain about it” (see Aikawa & Fujita, 2005). This scale is composed of 6 subscales: relationship initiation (4 items), decoding (8 items), self-assertiveness (7 items), emotional control (4 items), relationship maintenance (8 items), and encoding (4 items). This measure has also demonstrated good test-retest reliability and internal consistency (Aikawa & Fujita, 2005).

### **2.3. Procedure**

Participants completed both the ECRI and social skills in a group setting. All 212 participants completed both questionnaires.

## **3. Results**

### **3.1. Psychometric properties of the ECRI and the social skills measure in the current study**

The mean self-representation score for the ECRI was 3.36 ( $SD = .52$ ). The mean score for others-representation was 3.79 ( $SD = .64$ ). These results were nearly consistent with that of Nakao and Kato’s (2004) standardized database (anxiety:  $M = 3.78$ ,  $SD = .99$ ,  $N = 356$ ; avoidance:  $M = 3.61$ ,  $SD = .95$ ,  $N = 356$ ). To examine gender differences, we conducted *t*-tests on the self- and others-representation scores. Results showed no significant differences (self-representation:  $t(210) = .51$ , n.s.; others-representation:  $t(210) = .51$ , n.s.). The mean social skills score was 94.45 ( $SD = 13.33$ ). This result was nearly consistent with that of Aikawa and Fujita’s (2005) standardized database ( $M = 91.07$ ,  $SD = 12.26$ ,  $N = 1002$ ). Although we examined gender differences in social skills, there were no significant differences ( $t(210) = .79$ , n.s.).

### **3.2. Correlations between the ECRI and social skills**

Table 1 shows correlations between the ECRI (2 subscales: self- and others-representations) and the social skills measure (6 subscales: relationship initiation, decoding, self-assertiveness, emotional control, relationship maintenance, and encoding; all  $ps < .01$ ). We found significant correlations between the ECRI (total) and the social skills measure (total, relationship initiation, decoding, self-assertiveness, relationship maintenance, and encoding). However, there was no significant correlation between the ECRI (total) and the emotional control subscale. Moreover, we found significant correlations between the ECRI (others-representation) and all social skills subscales (total, relationship initiation, decoding, self-assertiveness, emotional control, relationship maintenance, and encoding). However, we found no significant correlations between the ECRI (self-representation) and any of the social skills subscales (total, relationship initiation, decoding, self-assertiveness, emotional control, relationship maintenance, and encoding).

**Table1. Correlations between scores on the ECRI and Social skills**

	Social Skills						
	total	relationship initiation	Decoding	self-assertiveness	emotional control	relationship maintenance	encoding
ECRI (total)	-.42**	-.50**	-.21**	-.29**	.09	-.26**	-.31**
ECRI (self-representation)	-.13	-.06	-.16	-.04	-.07	-.16	-.06
ECRI (others-representation)	-.48**	-.55**	-.33**	-.28**	.18**	-.29**	-.47**

\*\* $p < .01$

### 3.3. The profile of individuals with each attachment style (secure, preoccupied, dismissing, and fearful) in terms of social skills

In order to assess individual differences in social skills between each attachment style (secure, preoccupied, dismissing, and fearful), participants were divided into the 4 attachment style groups via a cluster analysis (ward method) according to the ECRI subscale scores (self- and others-representations). We obtained four clusters: high score on self- and others-representations, low score on self-representation and high score on others-representation, high score on self-representation and low score on others-representation, and low scores on both self- and others-representations. Based on cluster criteria (Bartholomew & Horowitz, 1991; Brennan et al., 1998; Murphy & Bates, 1997), the following group sizes fell within each attachment style: secure ( $n = 70$ ), preoccupied ( $n = 16$ ), dismissing ( $n = 66$ ), and fearful ( $n = 60$ ).

We conducted one-way ANOVAs on the social skills subscales (total, relationship initiation, decoding, self-assertiveness, relationship maintenance, and encoding)<sup>2</sup> with attachment style (4: secure, preoccupied, dismissing, and fearful) as the between-participants factor (Table 2). We found significant differences between the attachment style groups on all social skills subscales (total, relationship initiation, decoding, self-assertiveness, relationship maintenance, and encoding, all  $ps < .05$ ). Post-hoc tests (Tukey's HSD method,  $p < .05$ ) revealed that for the total social skills, relationship initiation, and encoding scores for the secure and preoccupied individuals were higher than those who had dismissing and fearful styles. For the decoding subscale, scores for the secure participants were higher than for fearful participants. For the relationship maintenance subscale, scores for the secure participants were higher than for the dismissing and fearful participants.

**Table 2. Comparisons of the Social Skills scores among four attachment styles.**

	(a) secure ( $n=70$ )		(b) preoccupied ( $n=16$ )		(c) dismissing ( $n=66$ )		(d) fearful ( $n=60$ )		F value	Post-hoc test
	M	SD	M	SD	M	SD	M	SD		
relationship initiation	23.06	4.35	24.63	2.66	18.98	4.98	19.45	5.23	13.74***	(c), (d) < (a), (b)
decoding	22.39	3.90	22.25	3.84	21.48	3.40	20.30	4.18	3.41*	(d) < (a)
self-assertiveness	17.73	3.76	18.63	3.14	16.42	4.04	16.45	3.17	2.98*	
emotional control	12.54	1.93	12.31	1.82	11.7	1.91	11.35	2.02	4.62**	(c), (d) < (a)
relationship maintenance	12.33	2.39	12.69	1.74	10.41	2.08	10.62	2.69	11.19***	(c), (d) < (a), (b)
Total	99.00	12.30	101.88	9.87	91.97	12.21	89.83	14.25	8.26***	(c), (d) < (a), (b)

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

## 4. Discussion

Our present study investigated the relationship between adult attachment styles based on the four-category model, and social skills among Japanese university students. We found negative correlations between attachment styles (especially the others-representation subscale) and social skills.

Moreover, participants were classified into four attachment styles (secure, preoccupied, dismissing, and fearful) through a cluster analysis according to the self- and others-representation subscale scores. We examined individual differences in social skills among these attachment styles and found that dismissing and fearful individuals had lower scores on several social skill subscales compared with secure and preoccupied individuals. Hori and Kobayashi (2010) examined the relationship between adult attachment based on the three-category model and social skills. They found that social skill scores for secure participants were higher than for insecure (anxious and avoidant) participants. Based on the four-category model of attachment, by combining self- and others-representation subscale scores, the secure, anxious, and avoidant styles from the three-category model correspond to the secure, preoccupied, and fearful styles of the four-category model, respectively (Bartholomew & Horowitz, 1991). Moreover, Bartholomew and Horowitz (1991) proposed the dismissing style based on theoretical work from Main et al. (1985). Considering adult attachment theory from the four-category model and results from a previous study (Hori and Kobayashi, 2010), we predicted that social skill scores for secure individuals might be higher than that for preoccupied and fearful individuals; this is because people with preoccupied and fearful styles might display insecure social interactions (Murphy & Bates, 1997).

Moreover, since people with a dismissing style tend to avoid social relationships with others (Main et al, 1985), they also might display insecure social interactions, inducing lower social skill scores, compared with secure individuals. Corresponding to our prediction, we obtained results that for almost all social skill subscales (excluding the self-assertiveness subscale), secure participants showed higher social skills than the dismissing and fearful participants. These results might conform to those of Hori and Kobayashi (2010): they explained their results by suggesting that insecure (anxious and avoidant) individuals tend to be full of ups and downs and respond to stressful situations by using unfavorable correspondences such as passive coping styles (Mikulincer & Florian, 1998). Thus, passive coping might lead to lower social skill scores for individuals with insecure attachment as compared to individuals with secure and avoidant attachment. Based on theoretical explanations of the four-category model, the secure style has positive self- and others-representations. These individuals feel that the self is worthy and others are accepting, suggesting that secure individuals are neither anxious about abandonment nor avoidant of intimacy (Bartholomew & Horowitz, 1991). Related to these characteristics, secure individuals display better mental health and positive self-perception (Kanemasa & Daibo, 2003).

In contrast, dismissing individuals have a positive self-representation but negative others-representation. These individuals sense that the self is worthy but others are not accepting. In order to protect themselves against disappointment, dismissing individuals generally maintain independence and avoid close relationships with others (Bartholomew & Horowitz, 1991). Thus, although dismissing individuals show high self-esteem (similar to secure individuals), their social interactions are poor (Wilkinson & Parry, 2004). In addition, fearful individuals have negative self- and others-representations. These individuals feel that the self is unworthy of support and others are not generally accepting, suggesting that they are anxious about abandonment and rejection; thus, fearful individuals avoid intimacy. Fearful individuals will have lower self-esteem as compared to secure and dismissing individuals, but they will display similar insecure social interactions to those of dismissing individuals (Wilkinson & Parry, 2004). Thus, secure individuals, who have adaptive social interactions, displayed social skill scores than insecure individuals (dismissing and fearful individuals).

In contrast to our predictions, some social skill scores for preoccupied individuals were higher than for dismissing and fearful individuals. Moreover, there were no significant differences among any social skill subscales between secure and preoccupied individuals. One possible reason for these results is that in the four-category model, people are divided into one of four attachment styles according to self- and others-representation subscales. People with high scores on the others-representation subscale are divided into either the secure or preoccupied group. On the other hand, people with low scores on the others-representation subscale are divided into either the dismissing or fearful group. Our correlation analyses showed that the avoidance subscale, but not the anxious subscale, was significantly related to social skills, suggesting that the others-representation subscale mainly drove our results. Thus, we did not observe differences in social skills between secure and preoccupied participants. Similar results have been observed in previous studies (e.g., Kanemasa & Daibo, 2003). Kanemasa and Daibo (2003) found that people with a positive others-representation (i.e., secure and preoccupied participants) showed high social adjustment compared with people with a negative others-representation (i.e., dismissing and fearful participants). In this view, our present results might be conceptually appropriate. Social skill scores might vary depending on the others-representation subscale score.

This interpretation provides the possibility that a simple secure versus insecure conceptualization should be avoided. Although previous studies have considered the relationship between the three- and four-category models of adult attachment (e.g., Bartholomew & Horowitz, 1991), future research should obtain additional evidence related to the correspondence between the three- and four-category models of adult attachment (see also, Nakano & Kato, 2003).

In summary, the current study provides evidence of a significant relationship between the four-category model of adult attachment and social skills. We found that secure and preoccupied participants showed higher social skill scores compared with the dismissing and fearful participants. The secure and preoccupied participants had a positive others-representation, whereas the dismissing and fearful participants had a negative others-representation. Our present results suggest the possibility that the others-representation subscale mainly affected social skill scores. Further research is needed to examine this possibility in more detail, including the examination of correspondence between these two models.

## References

- Aikawa A. and Fujita M. (2005). An attempt to construct a social skills self-rating scale for adults. *Bulletin of Tokyo Gakugei University, Series1, Science of Education*, 56, 87-93. (In Japanese).
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., and Wall, S. (1978). *Patterns of attachment*. Hillsdale, NJ: Erlbaum.
- Ainsworth, M. D. S. (1989). Attachments beyond infancy. *American Psychologist*, 44, 709-716.
- Bartholomew, K. and Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model." *Journal of Personality and Social Psychology*, 61, 226-244.
- Bowlby, J. (1969). *Attachment and loss*. London: Hogarth Press.
- Brennan, K. A., Clark, C. L., and Shaver, P. R. (1998). Self-report measurement of attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment Theory and Close Relationships* (pp. 46-76). New York: Guilford Press.
- DiTommaso, E., Brannen-McNulty, C., Ross, L., and Burgess, M. (2003). Attachment styles, social skills and loneliness in young adults. *Personality and Individual Differences*, 35, 303-312.
- Hazan, C. and Shaver, P. (1987). Conceptualizing romantic love as an attachment process. *Journal of Personality and Social Psychology*, 52, 511-524.
- Hori, M. and Kobayashi, T. (2010). Association among adult attachment, social skills, and psychological adjustment for university students. *Journal of School Mental Health*, 13, 41-48. (In Japanese with English abstracts).
- Kanemasa, Y. (2005). Early adult attachment styles, emotional regulation and sensitivity, and interpersonal stress coping: An examination of conceptual consistency in infant and early adult attachment styles. *The Japanese Journal of Personality*, 14, 1-16. (In Japanese with English abstracts).
- Kanemasa, Y. (2007). The relationships between early adult attachment styles and adjustment in friendships. *The Japanese Journal of Social Psychology*, 22, 274-284. (In Japanese with English abstracts).
- Kanemasa, Y. and Daibo, I. (2003). Early adult attachment styles and social adjustment. *The Japanese Journal of Psychology*, 74, 466-473. (In Japanese with English abstracts).
- Main, M., Kaplan, N., and Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. *Monographs of the Society for Research in Child Development*, 50, 66-104.
- Mikulincer, M. and Florian, V. (1998). The relationship between adult attachment styles and emotional and cognitive reactions to stressful events. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 143-165). New York: Guilford Press.
- Murphy, B. and Bates, G. W. (1997). Adult attachment style and vulnerability to depression. *Personality and Individual Differences*, 22, 835-844.
- Nakao, T. and Kato, K. (2003). How adult attachment scales relate to one another?-the correspondence between four-category (forced-choice, multiple choice) and three-category (multiple-choice) scales. *Kyushu University Psychological Research*, 4, 57-66. (In Japanese with English abstracts).
- Nakao, T. and Kato, K. (2004). Examining reliabilities and validities of adult attachment scales for "the generalized order." *Kyushu University Psychological Research*, 5, 19-27.

- Takano, K., Sakamoto, S., and Tanno, Y. (2011). Ruminative and reflective forms of self-focus: Their relationships with interpersonal skills and emotional reactivity under interpersonal stress. *Personality and Individual Differences*, 51, 515-520.
- Takuma, T. and Toda, K. (1988). Adolescent interpersonal attitudes in perspectives of attachment theory: Attempt to create Adulthood Attachment Scales. *Journal of Social Sciences and Humanities*, 196, 1-16. (In Japanese with English abstracts)
- Van IJzendoorn, M. H., Goldberg, S., Kroonenberg, P. M., and Frenkl, O. J. (1992). The relative effects of maternal and child problems on the quality of attachment: A meta-analysis of attachment in clinical samples. *Child Development*, 63, 840-858.
- Wilkinson, R. B. and Parry, M. M. (2004). Attachment styles, quality of attachment relationships, and components of self-esteem in adolescence. *Proceedings of the 39th Australian Psychological Society Annual Conference*, 301-305.

## Footnotes

- <sup>1</sup> In order to measure attachment styles in terms of the four-category model, previous studies have proposed forced-choice and multiple-choice methods. In the forced-choice method (e.g., RQ: Relationship Questionnaire, Bartholomew & Horowitz, 1991), participants are asked to read four paragraphs that describe secure, preoccupied, fearful, and dismissing styles. Participants are then told to choose the paragraph that best describes how they feel in a close relationship. In contrast, for the multiple-choice method (e.g., ECRI: Experiences in Close Relationships Inventory, Brennan et al., 1998; Nakao & Kato, 2004), participants are asked to rate various situations on a 7-point scale (1 = *not at all* to 7 = *very much*). The researcher can assess attachment style categorically by using the forced-choice method or quantitatively by using the multiple-choice method. Hori and Kobayashi (2010) used the IWM (Internal Working Model: Takuma & Toda, 1988), which is a multiple-choice method for measuring attachment style in terms of the three-category model. Similar to Hori and Kobayashi (2010), we adopted the multiple-choice method, such as the ECRI, to quantitatively examine attachment styles in terms of the four-category method.
- <sup>2</sup> Since there were no significant correlations between the ECRI (total) and Social skills (emotional control), between the ECRI (self-representation) and Social skills (emotional control), and a weak correlation between the ECRI (others-representation) and Social skills (emotional control), we did not conduct further analyses on the emotional control subscale of the social skill measure.