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# Distinctive correlations of sociotropy and autonomy with working models of the self and other

Koichi Otani, Akihito Suzuki, Yoshihiko Matsumoto\*, Ryoichi Sadahiro, Masanori Enokido, Fumikazu Kuwahata, Nana Takahashi

*Department of Psychiatry, Yamagata University School of Medicine, 2-2-2 Iida-Nishi, Yamagata 990-9585, Japan*

## Abstract

**Background:** Beck's cognitive theory of depression postulates personality vulnerability factors termed sociotropy and autonomy, which are accompanied by characteristic interpersonal styles. Meanwhile, Bartholomew contends that negative working models of the self and other built through insecure attachment relationships are externalized as distinctive interpersonal styles. The present study examined the relationships of sociotropy and autonomy with the self- and other-models, and attempted to promote understanding of the two personality traits from an attachment perspective.

**Methods:** The subjects were 510 healthy Japanese medical students or hospital staffs. Sociotropy and autonomy were assessed by the Sociotropy–Autonomy Scale, and working models of the self and other were evaluated by the Relationship Scales Questionnaire.

**Results:** The sociotropy score was correlated negatively with the self-model score ( $\beta = -0.52$ ,  $p < 0.001$ ) and positively with the other-model score ( $\beta = 0.11$ ,  $p < 0.01$ ). The autonomy score was correlated positively with the self-model score ( $\beta = 0.10$ ,  $p < 0.05$ ) and negatively with the other-model score ( $\beta = -0.33$ ,  $p < 0.001$ ).

**Limitations:** It may be risky to generalize the present results to general populations or other ethnic groups.

**Conclusions:** The present study suggests that both sociotropy and autonomy are associated with attachment insecurity, but the marked difference in their correlation patterns with the self- and other-models leads to the distinctive interpersonal styles of the two personality orientations.

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## 1. Introduction

Beck's cognitive theory of depression hypothesizes that two personality orientations termed sociotropy and autonomy, each composed of a cluster of self-schemas, lead to increased vulnerability to depression after matching life stressors [1–3]. The sociotropic person, whose schema content represents self-evaluation in relation to interpersonal approval and acceptance, is susceptible to events perceived as causing a loss of social acceptance or attachment. The autonomic person, whose schema content represents self-evaluation in relation to independence, control and achieve-

ment, is sensitive to events perceived to involve a loss of independence, control or accomplishment. It is postulated that the two personality orientations have distinctive interpersonal styles. The sociotropic person seeks out close and confiding relationships, and attempts to gain the approval and supports of others. The autonomous person seeks more distant, emotionally detached relationships, and is more satisfied with fairly superficial relationships. Using the expressions of Horney, these interpersonal styles are described as “moving toward people” style and “moving away from people” style, respectively [2]. Our study [4] using the Temperament and Character Inventory (TCI) [5] showed that sociotropy and autonomy were correlated with high and low reward dependence, respectively, providing empirical data for the distinction between the two personality orientations in interpersonal styles.

According to Bowlby's attachment theory [6,7], the crucial roles of parents are, first, to respond to a child's desire for care and, second, to encourage a child to explore the

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\* Corresponding author. Tel.: +81 23 628 5322; fax: +81 23 628 5325.

E-mail address: [matsumotoyo@mvc.biglobe.ne.jp](mailto:matsumotoyo@mvc.biglobe.ne.jp) (Y. Matsumoto).

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world, developing secure attachment in the child. In contrast, lack of care and/or overprotection of parents create insecure attachment in a child. These attachment experiences are internalized to form working models of the self and other, i.e., the self-model as competent and worthy versus helpless and unworthy, and the other-model as reliable and supportive versus unreliable and rejecting. These working models once formed in childhood tend to persist relatively unchanged throughout life. Subsequently, Bartholomew [8] postulated that negativity of the self-model is externalized as dependency, i.e., need for others' acceptance to maintain a positive self-regard, while negativity of the other-model is externalized as avoidance, i.e., avoidance of closeness to minimize eventual disappointment. Combinations of positivity or negativity of the two working models yield four attachment styles in adulthood, i.e., the secure, dismissing, preoccupied and fearful styles, which can be assessed by the Relationship Scales Questionnaire (RSQ) [9]. The self-model score is obtained by summing the ratings of the two styles with positive self-models (secure and dismissing) and subtracting the ratings of the two styles with negative self-models (preoccupied and fearful). The other-model score is obtained by summing the ratings of the two styles with positive other-models (secure and preoccupied) and subtracting the ratings of the two styles with negative other-models (dismissing and fearful).

As mentioned above, the interpersonal style of the sociotropic personality is reminiscent of the dependency as externalization of a negative self-model, while that of the autonomic personality is reminiscent of the avoidance as externalization of a negative other-model. If sociotropy and autonomy are related to the negative working models, the indices of attachment insecurity, introduction of the attachment framework may promote understanding of the two personality traits.

Therefore, the purpose of the present study was to examine the associations of sociotropy and autonomy with working models of the self and other, and to attempt to understand the two personality traits from an attachment perspective.

## 2. Methods

Originally, 539 physically healthy Japanese were recruited from medical students and hospital staffs living in Yamagata Prefecture. Psychiatric screening was performed by interviews by well trained psychiatrists and a questionnaire on current or past psychiatric treatment and diagnosis. For the psychiatric interview, six items were selected from the Structured Clinical Interview for *DSM-IV* Axis I Disorders [10], i.e., A1 for major depressive episode, A16 for manic episode, B1 for delusions, B6 for hallucinations, E2 for alcohol abuse and F68 for anxiety disorders. Out of the 539 cases, 11 had a current or past history of psychiatric disorders and 18 had missing data. These 29 cases were excluded, and the remaining 510 cases were used for analyses. Three hundred seventy-seven were males, and 133

were females. The mean  $\pm$ SD of age was  $29.4 \pm 8.8$  years. The majority of them ( $n = 345$ , 68%) were in their twenties. The study protocol was approved by the Ethics Committee of Yamagata University School of Medicine, and all subjects provided written informed consent to participate.

Sociotropy and autonomy were evaluated by the sociotropy subscale and the autonomy subscale, respectively, of the Japanese version of the original 60-item Sociotropy–Autonomy Scale (SAS) [11], which has high reliability [12]. The sociotropy subscale consists of 30 items, e.g., “It is important to be liked and approved by others”. The autonomy subscale consists of 30 items, e.g., “It is more important to be active and doing things than having close relations with other people”. Subjects indicate the percentage of the time each of the statements describes them on a 4-point scale ranging from “0%” to “100%”. In the present sample, Cronbach's alphas for the sociotropy and autonomy subscales were 0.90 and 0.84, respectively.

The self-model and other-model were assessed by the Japanese version of the RSQ [13], of which reliability and validity have been confirmed. The RSQ has four subscales, i.e., the secure, dismissing, preoccupied and fearful subscales [9]. The secure subscale consists of five items, e.g., “I find it easy to get emotionally close to others”. The dismissing subscale consists of five items, e.g., “I am comfortable without close emotional relationships”. The preoccupied subscale consists of four items, e.g., “I want to be completely emotionally intimate with others”. The fearful subscale consists of four items, e.g., “I worry that I will be hurt if I allow myself to become too close to others”. Respondents rate the degree to which they match each phrase on a 5-point scale ranging from “not at all like me” to “very like me”. In the present sample, Cronbach's alphas for the secure, dismissing, preoccupied and fearful subscales were 0.52, 0.53, 0.63 and 0.68, respectively. The self-model and other-model scores were calculated by the methods mentioned earlier.

Statistical analyses were conducted by the forced entry multiple regression analysis using SPSS 14.0 J for Windows (SPSS Japan Inc, Tokyo, Japan). The dependent variables were the sociotropy and autonomy subscale scores, and the independent variables were the self-model and other-model scores. A  $p$  value of less than 0.05 was considered significant.

## 3. Results

Table 1 shows the SAS and RSQ scores of the subjects.

Table 2 shows the results of multiple regression analyses of the sociotropy and autonomy scores with the self-model and other-model scores. The sociotropy score was correlated negatively with the self-model score ( $\beta = -0.52$ ,  $p < 0.001$ ) and positively with the other-model score ( $\beta = 0.11$ ,  $p < 0.01$ ). The autonomy score was correlated positively with the self-model score ( $\beta = 0.10$ ,  $p < 0.05$ ) and negatively with the other-model score ( $\beta = -0.33$ ,  $p < 0.001$ ).

Table 1  
SAS and RSQ scores of the subjects.

SAS	
Sociotropy	56.2 ± 14.9
Autonomy	58.5 ± 11.8
RSQ	
Secure	17.0 ± 2.9
Dismissing	12.2 ± 2.9
Preoccupied	10.4 ± 2.4
Fearful	10.3 ± 3.0
Self-model	8.5 ± 6.3
Other-model	4.9 ± 6.7

SAS: Sociotropy–Autonomy Scale.

RSQ: Relationship Scales Questionnaire.

Figures in the table show mean ± SD.

In males, the regression models for sociotropy ( $R = 0.50$ ,  $p < 0.001$ ) and autonomy ( $R = 0.35$ ,  $p < 0.001$ ) were significant. The sociotropy score was correlated negatively with the self-model score ( $\beta = -0.52$ ,  $p < 0.001$ ) and positively with the other-model score ( $\beta = 0.12$ ,  $p < 0.01$ ). The autonomy score was correlated positively with the self-model score ( $\beta = 0.11$ ,  $p < 0.05$ ) and negatively with the other-model score ( $\beta = -0.35$ ,  $p < 0.001$ ). In females, the regression model for sociotropy ( $R = 0.47$ ,  $p < 0.001$ ), but not that for autonomy ( $R = 0.20$ ,  $p < 0.1$ ), was significant. The sociotropy score was correlated negatively with the self-model score ( $\beta = -0.48$ ,  $p < 0.001$ ).

#### 4. Discussion

Implication of attachment insecurity in sociotropy and autonomy, especially in the former, has been suggested by some researchers including us [2,14]. However, the correlations of sociotropy and autonomy with negative working models observed in the present study serve as the more direct evidence for the link between the two personality traits and attachment insecurity. Also, the present results prompt us to introduce the attachment framework to promote understanding of the two personality orientations, especially their interpersonal styles.

In the present study, sociotropy was primarily correlated with a negative self-model, which is the image of the self as helpless and unworthy [6–8]. According to Bartholomew [8],

these negative self-images are externalized as dependency on others to maintain a positive self-regard. It is likely that the coexisting weak positive other-model, i.e., the image of other as reliable and supportive [6–8], accelerates or at least does not decelerate this process. These attachment mechanisms may underlie the interpersonal style of the sociotropic person, i.e., seeking close relationships to gain others' approval [1,2]. Incidentally, the implication of a negative self-model in sociotropy presented here further strengthens the views that negative self-concepts such as helplessness and unworthiness [2,3] and low self-directedness [4,14] form the foundation of cognitive vulnerability to depression.

On the other hand, autonomy was primarily correlated with a negative other-model, which is the image of other as unreliable and rejecting [6–8]. According to Bartholomew [8], these negative other-images are externalized as avoidance of closeness to protect against disappointment. The coexisting weak positive self-model, i.e., the image of the self as competent and worthy [6–8], suggests that the need for others' acceptance to maintain a positive self-regard does not occur. As a result, the autonomous person may seek distant relationships, and be satisfied with superficial relationships [1,2]. Bartholomew [8] also contends that individuals with the dismissing attachment style, the combination of a negative other-model and positive self-model, become to focus on impersonal aspects of life such as work or hobbies to defend against the awareness of attachment needs. Therefore, the investment in achievement or mastery of the autonomous personality [1–3] may also be explained within the attachment framework.

Seemingly, the positive self-model in the autonomic personality does not accord with cognitive theory of depression, which regards negative self-concepts as the central component of cognitive vulnerability to depression [2,3]. However, from an attachment perspective an individual experiencing recurrent rejections may develop a positive self-model as a defense mechanism to prevent the occurrence of attachment needs [8]. Therefore, the positive self-image in the autonomous person may be fragile and easily damaged in stressful situations, leading to the negative view of oneself which is well known as one of the cognitive triad in depression [1].

Our study conducted in a non-clinical population [14] showed that parental overprotection was associated with increased sociotropy. Therefore, it is reasonable to consider that parent–child interactions including parental overprotection play an important role in the formation of a negative self-model and excessive sociotropy. Meanwhile, in the same study autonomy was not influenced by parental rearing. Therefore, at present the exact mechanism(s) for the formation of a negative other-model and increased autonomy remains unclear. One possibility is involvement of peer, sibling and love relationships which are as important as parent–child relationships in defining current attachment styles [8].

The principle of cognitive therapy of depression is focusing on distorted interpretations and self-evaluations in relation to here-and-now problems [11]. However, the present study

Table 2  
Multiple regression analyses of sociotropy and autonomy scores with the self- and other-model scores.

	Sociotropy	Autonomy
Self-model	-0.52***	0.09*
Other-model	0.11**	-0.33***
Correlation coefficient	0.50***	0.32***

Figures in the table show  $\beta$ .

\*  $p < 0.05$ .

\*\*  $p < 0.01$ .

\*\*\*  $p < 0.001$ .

suggests an important role of early attachment experiences in patients with excessive sociotropy. Therefore, further studies are recommended to evaluate usefulness of dealing with early family relationships for those patients. Meanwhile, dealing with more recent social relationships in autonomous patients does not contradict the principle of cognitive therapy of depression.

There are four possible limitations in the present study. Firstly, all subjects were Japanese medical students or hospital staffs and, therefore, it may be risky to generalize the present results to general populations or other ethnic groups. Secondly, the psychiatric screening conducted might not be sufficient to exclude subjects with psychiatric disorders and, therefore, the present results might be influenced by their psychiatric symptoms. Thirdly, the sex ratio of the subjects was markedly male-biased and, therefore, the results of the sex-separated analyses implying a sex difference in the pattern of correlations between sociotropy/autonomy and the self-model/other-model should be regarded as preliminary. Fourthly, the majority of the subjects were in their twenties and there were few subjects in other generations and, therefore, the comparison between younger and older generations in the pattern of correlations could not be conducted.

Finally, one may wonder if the correlations between sociotropy/autonomy and the self-model/other-model observed in the present study were due to overlapped elements between the SAS and the RSQ, e.g., items with similar contents but with different expressions like mirror image. The comparison of the items of the two scales reveals that there are a few pairs of such mirror image, e.g., the 31st item of the SAS “I find it difficult to be separated from people I love” versus the 6th item of the RSQ “I am comfortable without close emotional relationships”, but the majority of them are not overlapping each other. This is probably because the SAS evaluates cognitive, affective, behavioral and motivational schemas in all areas of life including interpersonal relationships, while the RSQ measures specifically feelings and motivations in close interpersonal relationships.

## 5. Conclusions

The present study suggests that both sociotropy and autonomy are associated with attachment insecurity, but the marked difference in their correlation patterns with the self- and other-models leads to the distinctive interpersonal styles of the two personality orientations.

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