Associations of working models of the self and other with Cloninger's personality dimensions

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Abstract

The present study examined the associations of working models of the self and other, one of the key concepts of Bowlby's attachment theory, with the seven dimensions of Cloninger's personality model. The subjects were 542 healthy Japanese volunteers. Working models of the self and other were assessed by the Relationship Scales Questionnaire, and the seven dimensions of personality were evaluated by the Temperament and Character Inventory. In the correlation analysis, the self-model was correlated most strongly with self-directedness (SD) ($r = 0.50$, $P < 0.001$) and second strongly with harm avoidance (HA) ($r = -0.43$, $P < 0.001$), while the other-model was correlated most strongly with cooperativeness (C) ($r = 0.43$, $P < 0.001$) and second strongly with reward dependence (RD) ($r = 0.41$, $P < 0.001$). In the principal component analysis, the self-model formed a group with SD and HA, while the other-model formed a group with C and RD. The present study suggests that the self-model is reflected in SD and HA, while the other-model is reflected in C and RD.

1. Introduction

According to Bowlby's attachment theory [1,2], to obtain felt security human beings instinctively exhibit a set of behaviors which result in maintaining proximity to someone regarded as stronger and/or wiser. These attachment behaviors are observed most prominently in early childhood between a child and a parent figure, though they persist throughout life with a diminished frequency and intensity. When a parent figure responds and provides care, a child ceases to show attachment behaviors and explores the environment while being watched over by the parent figure. This favorable attachment experience develops secure attachment in the child. On the other hand, negative attachment experiences represented by lack of care and overprotection by a parent figure create insecure attachment such as anxious attachment and avoidant attachment (compulsive self-reliant) in a child. Children internalize these attachment experiences to form working models of the self and other, i.e., the self-model as competent and worthy

vs. helpless and unworthy, and the other-model as reliable and supportive vs. unreliable and rejecting. Working models once formed in early childhood tend to persist relatively unchanged throughout life, and routinely influence thought, feeling and behavior.

Bartholomew [3] postulates that negativity of the self-model is externalized as dependency, i.e., need for others' approval 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 models yield four attachment styles in adulthood, i.e., the secure, dismissing, preoccupied and fearful types, which can be assessed by the Relationship Scales Questionnaire (RSQ) [4]. The self-model score was obtained by summing the ratings of the two styles with positive self-model (secure and dismissing) and subtracting the ratings of the two styles with negative self-model (preoccupied and fearful). The other-model score was obtained by summing the ratings of the two styles with positive other-model (secure and preoccupied) and subtracting the ratings of the two styles with negative other-model (dismissing and fearful).

Cloninger's psychobiological theory of personality [5] postulates that personality is composed of temperament and

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character, two interrelated and interacting domains. Temperament is automatic responses to emotional stimuli which are moderately heritable, while character is self-concepts about goals and values which are moderately influenced by sociocultural learning. Temperament consists of four dimensions, i.e., novelty seeking (NS) which is the activation of behavior in response to novelty and signals of reward or relief of punishment, harm avoidance (HA) which is the inhibition of behavior in response to signals of punishment or no reward, reward dependence (RD) which is the maintenance of behavior that was previously rewarded in society, and persistence (P) which is the perseveration with behavior despite frustration and fatigue. Character consists of three dimensions, i.e., self-directedness (SD) which is the concept of the self as an autonomous individual, cooperativeness (C) which is the concept of the self as an integral part of humanity or society, and self-transcendence (ST) which is the concept of the self as an integral part of a unified whole. Cloninger et al. [6] developed the Temperament and Character Inventory (TCI) to evaluate the four temperament dimensions and three character dimensions.

Bartholomew [3] proposes that the self-model and other-model are related to personality constructs representing individuation and connectedness, respectively. Furthermore, Griffin and Bartholomew [7] reported that the self-model was correlated with measures of self-concept such as self-esteem and self-acceptance, while the other-model was correlated with measures of interpersonal orientation such as sociability and interpersonal warmth. Therefore, it is expected that the self-model is connected with the character dimension of SD, while the other-model is connected with the character dimension of C. Therefore, we examined the associations of the two working models with the seven dimensions of the TCI.

2. Methods

Originally, 559 physically healthy Japanese were recruited from medical students and hospital staffs living in Yamagata Prefecture. Psychiatric screening was conducted by interviews by well trained psychiatrists and a questionnaire on present or past history of psychiatric disorders. Six items selected from the Structured Clinical Interview for *DSM-IV* Axis I Disorders [8] were used for the psychiatric interview. They were 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 559 cases, 11 had psychiatric disorders and six had missing data. These 17 cases were excluded, and the remaining 542 cases were used for data analyses. Four hundred were male, and 142 were female. The mean $\pm$ SD of age was 29.1 $\pm$ 8.6 years. The study protocol was approved by the ethics committee of Yamagata University School of Medicine, and all subjects provided written informed consent to participate in the study.

Working models of the self and other were assessed by the Japanese version of the RSQ [9], whose reliability and validity have been confirmed. The RSQ has four subscales, i.e., the secure (five items), dismissing (five items), preoccupied (four items) and fearful (four items) subscales. Respondents rate the degree to which they match each item 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 0.53, 0.53, 0.64 and 0.66, respectively. These values were in the range reported by the originators of the RSQ, i.e., between 0.41 for the secure subscale and 0.70 for the dismissing subscale [4]. The self-model and other-model scores were calculated by the equations mentioned before.

The seven dimensions of personality were evaluated by the Japanese version of the TCI [10], whose reliability and validity have been confirmed. The permission to use the TCI was obtained from Professor C. Robert Cloninger and Dr Nobuhiko Kijima. The TCI has four temperament scales, i.e., the N (40 items), HA (35 items), RD (24 items) and P (8 items) scales, and three character scales, i.e., the SD (44 items), C (42 items) and ST (33 items) scales. Participants respond to each item in a true or false manner. In the present sample, Cronbach's alphas for the N, HA, RD, P, SD, C and ST scales were 0.71, 0.83, 0.72, 0.52, 0.81, 0.81 and 0.78, respectively. The magnitudes of these values were similar to those found in other samples [6,10].

Statistical analyses were conducted by the correlation analysis and the principal component analysis with Varimax rotation. In the principal component analysis, as the criterion to determine the number of factors, an eigenvalue of 1.0 or more was used. All statistical analyses were performed using SPSS 14.0 J for Windows (SPSS Japan Inc, Tokyo, Japan). A *P* value of less than 0.05 was considered significant.

3. Results

Table 1 shows the self-model, other-model and TCI dimension scores of the subjects.

Table 1
The self-model, other-model and TCI dimension scores of the subjects.

Self-model	8.6 ± 6.3
Other-model	4.9 ± 6.7
NS	21.0 ± 5.3
HA	18.8 ± 6.1
RD	15.6 ± 3.7
P	4.3 ± 1.8
SD	28.6 ± 6.7
C	28.5 ± 5.2
ST	9.0 ± 4.6

TCI: Temperament and Character Inventory, NS: novelty seeking, HA: harm avoidance, RD: reward dependence, P: persistence, SD: self-directedness, C: cooperativeness, ST: self-transcendence.
Figures in the table show mean ± SD.