Original Article

Validity of Yin-Yang temperament in Sasang Personality Questionnaire

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\textbf{A B S T R A C T}

\textbf{Background:} The Yin-Yang is a pivotal concept of traditional East-Asian medicine, however the stability of Yin-Yang temperament in Sasang Personality Questionnaire (SPQ) over time has not been extensively studied. The purpose of this study was to examine the test-retest validity of SPQ with a large number of participants.

\textbf{Methods:} SPQ test was conducted two times with three months interval in 247 Korean university students. The structural validity of first SPQ data was examined with Factor analysis and Cronbach’s alpha, and the correlation between first and second measure of SPQ was attested with Pearson’s correlation. Yang, Uncertain and Yin temperament groups were determined with SPQ total scores, and agreement of temperament group clustering between first and second measures were analyzed with Cohen’s Kappa.

\textbf{Results:} Three subscales of SPQ explained 55.25\% of total variances, and internal consistency of SPQ total score was 0.772. The correlation coefficient between first and second measures of SPQ were 0.851 and 0.888 in male and female, respectively, and the agreement of first and second Yin-Yang temperament group clustering as Cohen’s Kappa was 0.536 for male and 0.637 for female.

\textbf{Conclusion:} The repeatability of SPQ measuring Yin-Yang temperament at three months of interval was found to be satisfactory. The SPQ would be a reliable clinical measure for the biopsychological studies of traditional East-Asian medicine.

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1. Introduction

Yin-Yang (Eum and Yang in Korean) represents two opposing and complementary traits (categorical) or quality (numerical) of nature such as introvert and extrovert, negative and positive, passive and active, cold and hot, female and male, moon and sun, night and day, dark and bright, slow and fast, stable and dynamic, and so forth.\(^1\) It has been used as pivotal term for the traditional Eastern philosophy, psychology, biology, and medicine, however only the traditional medicine was the practical science survived after the modernization of the East.\(^1\)\(^-\)\(^3\)

The Yin-Yang is the term not only for describing biological perspectives but also for the psychological characteristics of human nature in traditional East-Asian medicine.\(^7\)\(^-\)\(^8\) Though ninety percent of chapters in the book Yellow Emperor’s Inner Canon\(^3\) deals biopsychological features,\(^6\) the biopsychological studies on Yin-Yang were not satisfactory for the lack of reliable clinical tools till now. Recently, Sasang Personality Questionnaire (SPQ) was implemented as objective measure for describing biopsychological and pathophysiological features of Yin-Yang temperament with three perspectives of behavior, cognition and emotionality.\(^2\)\(^-\)\(^9\)

The SPQ was reported to have reliable biopsychological structure when compared with well-established western personality tests of Temperament and Character Inventory and NEO Personality Inventory.\(^9\)\(^-\)\(^14\) and satisfactory clinical validity in adults,\(^5\)\(^-\)\(^9\)\(^,\)\(^14\)\(^-\)\(^16\) adolescents,\(^7\)\(^-\)\(^9\)\(^,\)\(^17\)\(^-\)\(^19\) and elementary students.\(^20\) The SPQ-Behavior was reported to be related with vitality\(^15\) and the SPQ-Emotionality was shown to predict psychopathological features in adolescents.\(^7\)\(^,\)\(^19\)

Although the SPQ was found to be a reliable measurement of Yin-Yang temperament, the test-retest interval was relatively short as four weeks and the sample size is relatively small only with medical students.\(^9\)\(^,\)\(^21\) Considering the importance of Yin-Yang theory in East-Asian medicine,\(^7\) there is a need for generalizable evidence supporting the clinical use of Yin-Yang temperament with SPQ. For this reason, we recruited large group of university students composed of various majors and tested twice with three months of interval to examine the stability of Yin-Yang temperament in this study.

The structural validity and internal consistency of SPQ was examined with Factor analysis and Cronbach’s alpha, and the correlation between Yin-Yang temperament and anthropometric measure was examined with Pearson’s correlation among SPQ, Body Mass Index and Ponderal Index in this study. The stability of Yin-Yang temperament over time was studied in two ways considering numerical and categorical perspectives of Yin-Yang temperament as shown elsewhere;\(^3\) the correlation between first and second SPQ measures was examined with Pearson’s correlation,\(^5\) and the agreement of Yin-Yang temperament group clustering between first and second SPQ measures was examined with Cohen’s Kappa.

This study might show the stability of Yin-Yang temperament in young adults, and the SPQ would be clinical useful as a diagnostic tool that might be used for personalized prediction, prevention and treatment with traditional Korean medicine.\(^2\)\(^,\)\(^6\)\(^,\)\(^7\)

2. Methods

2.1 Subjects and procedures

313 university students regardless of age, sex and major were recruited for this study, and asked to complete SPQ in the third and fifteenth week of the semester. Data from 247 students who provided first and second SPQ test and their weight and height were also asked to provide in this study. This study was approved by Institutional Review Board (PNU IRB/2015_59_HR) in advance, and the participants were asked to complete informed consent form.

2.2 Methods

2.2.1 Sasang Personality Questionnaire (SPQ)

The SPQ is a self-report questionnaire measuring Yin-Yang temperament reported to be useful for Sasang typology with proven clinical validity.\(^2\)\(^,\)\(^7\)\(^-\)\(^9\)\(^,\)\(^21\) Each item is composed of two opposing words describing specific personality trait and requires to select one of three answers (e.g., 1 = easy-going, 2 = not sure, 3 = meticulous).

The SPQ has its theoretical basis on psychobiological studies on Yin-Yang and Confucianism, and was consisted of three subscales including behavioral (SPQ-Behavior, SPQ-B) components of personality (passive or active), cognitive or decision-making (SPQ-Cognition, SPQ-C) components of personality (easy-going or meticulous) and emotional (SPQ-Emotionality, SPQ-E) components of personality (static or dynamic).\(^7\) The internal consistency of SPQ total, SPQ-B, SPQ-C and SPQ-E as Cronbach’s alpha in previous study were 0.722, 0.769, 0.581 and 0.641, respectively.\(^9\)

The upper 30% of SPQ total score group is classified as Yang temperament, the lower 30% of SPQ total score group as Yin temperament and the middle 40% of SPQ total score group as uncertain temperament.\(^7\) The biopsychological traits of Yin and Yang temperament groups might be summarized as follows based on previous studies.\(^7\)\(^,\)\(^14\)\(^-\)\(^20\)\(^-\)\(^22\)

The Yang temperament persons actively express their opinion and explicitly reveal dynamic changes of their emotion. As for the physical characteristics, they tend to have good digestive function, congested-heat symptom pattern, and yin-deficiency symptom pattern and/or physical fatigue from excessive activities. The Yin temperament persons are reluctant to disclose their feelings and express their thoughts indirectly with passive attitude. As for their physical perspective, weak digestive function, deficiency-heat symptom pattern, and cold symptom pattern from lack of uprising Yang Qi are commonly observed.\(^7\)

2.2.2 Body Mass Index (BMI) and Ponderal Index (PI)

Anthropometric measures were calculated with height (m) and weight (Kg) provided by the participants. Body Mass Index (kg/m\(^2\)) for degree of obesity is a value of weight divided by square of height, and Ponderal Index (Kg/m\(^3\)) for physical development and lean body mass\(^23\) is a value of weight divided by three times of height which represent the anthropometric traits of Sasang typology.\(^16\) PI is reported to be used when there is a big height differences among subjects and is also used to
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