## 審査の結果の要旨

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This study sought to report the validity and reliability of three widely used Internet addiction scales that were developed from different backgrounds and for different purposes, and then empirically compare the scales to verify the similarities and differences of IA scales in different categories, in hope to identify an appropriate IA scale for diagnosis and population screening purpose in Japanese purpose. Two diagnostic scales that were invented at different times, Japanese Internet Addiction Test (JIAT) and Compulsive Internet Use Scale (CIUS) were chose to compare with a non-diagnostic scale, General Problematic Internet Use Scale 2 (GPIUS2), to identify the specific characteristics of high IA scores. The practical usage of IAT and CIUS in diagnosis was sought by comparing one scale to another with their reliability and validity. The IA conceptual model proposed by GPIUS2 was validated along with this study.

CIUS and GPIUS2 were translated into Japanese with forward-back translations procedures. Translation difficulties, cultural diversity, conceptual equivalence and vocabulary differences were carefully documented in the translation process and discussed with the original developer and the final version of the survey used instruments were decided after the pilot study. Original develops were consulted and agreement sought prior to the main study. The sample in this study was also thought to have a good representative of the national sample regarding demographic distribution. The results of the reliability and validity of the scales were as below:

- 1. Reliability: All three scales demonstrated excellent internal consistency (Chronbach's  $\alpha$  = .924 .943), and deleting any of the items would not improve the reliability further.
- 2. Validity of the scales: While all three IA scales tended to be skewed to the left (more people have total lower scores), the normality of CIUS was better compared to JIAT and GPIUS2. The distribution of IA means of different scales was examined across demographic subgroups. In line with what was expected, more people tended to diagnose themselves as IA. The young people, having higher education, single, staying alone, unsatisfied, and one who preferred to discuss personal problem with Internet friends rather than family and friends had demonstrated higher effect on IA scores, showing acceptable construct validity. The three IA scales had also showed a good concurrent validity (r > .70), and clear discriminant validity. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were cross-validated using split-half sampling method, and factors extracted were stable across gender. JIAT yielded a clear three factor solution (RMSEA = .067 .082, CFI = .918 .940, x2/df = 2.8 3.1) and CIUS had also yielded a clear three factors solution (RMSEA = .060 .086, CFI = .939 .973, x2/df = 2.1 4.4). GPIUS2 yielded two equivalent structures, a five factors structure as proposed by the original developer (RMSEA = .079 .095, CFI = .946 .967, x2/df = 3.0 5.7) and a four factors structure as suggested by EFA (RMSEA = .082 .094, CFI = .952 .965, x2/df = 3.1 5.7).

3. Validation of the IA conceptual model: Correlations among the factors extracted demonstrated good convergent and divergent validity with similar constructs. The IA conceptual model proposed for GPIUS2 fitted the data well when substituting the GPIUS-subscales with CIUS and JIAT subscales. A new model demonstrated the relationship between dissatisfaction, anxiety/depression and IA exhibited a good fit across the gender.

The results in this study suggested that all the three scales are reliable and valid instruments for the assessment of Internet addiction in Japan if we wish to employ an existing instrument as to save cost and time instead of developing a new scale, as well as for the benefit for International comparison. The practical usage of the 3 IA scales was proposed as below. JIAT can be used as a good instrument for diagnosis purpose, especially with the younger population. CIUS can be used as a good instrument for both diagnosis and epidemiological survey for general population screening purpose. GPIUS2 can be used as a good instrument along with JIAT and CIUS for diagnosis purpose.

The study was designed in hope to identify an appropriate IA scale for the generation screening purpose in Japanese population. With this, effort was sought to translate two existing well developed IA instruments, CIUS and GPIUS2, into Japanese. The two existing Japanese versions of IAT were also carefully examined through a series of pilot study and discussions with a panel of expertise, where later, reliability and validity test were performed along with the translated CIUS and GPIUS2 in this study. Detailed examination of each item in JIAT, CIUS and GPIUS2 was also performed to obtain an elementary data for reference in clinical practice. Nevertheless this study is the first to suggest the practical use of JIAT, CIUS and GPIUS2 in different situations and purposes for Japanese population. It is also the first attempt to clarify the conceptual idea of IA in Japan. Thus, this study has been approved as a PhD dissertation.