Abstract

Screening and diagnoses of psychiatric diseases are conducted by interviews, where each question aims to capture the information of the symptoms to assess the severity of the illness. The objectives of this paper are to mine important questions (Q) of a depression questionnaire (Qs) as well as significant symptoms, captured through the questions. It proposes that, in this way, the number of questions could be reduced. To examine this hypothesis, one hundred and twenty-six subjects suffering from depression are interviewed. Answers are quantified using a 3-point scale: ‘Symptom absent’=0, ‘Not sure about the symptom’=0.5, and ‘Symptom present’=1. Factor analysis is then considered to mine significant questions (Q), followed by a regression study to note the goodness of the proposed model. Results show that the questionnaire is internally consistent and reliable (?=0.79,
average r=0. 94 minute, and r_c=51 minute) and factor analysis yields ten significant Components (C), among which C1 is found as the most significant, which captures Q15, 25, 16, 24 and 23 capturing the symptoms such as loss of libido, self blame and self criticism, loss of appetite, Individualism, distortion of body image, respectively. Regression analysis shows that the model is of a good fit (training R=0. 95, test and validations R=1. 0, each). The paper concludes that mining important symptoms through Q is possible and it reduces the complexity of interpretations. Such information could be helpful for depression diagnoses as during the treatment medical doctors may monitor these symptoms as the markers of improvement.

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**Index Terms**

Computer Science

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Keywords
Depression  Questionnaire  Diagnosis  Statistics  Model fit  Factor analysis