

The Intention to Use Telecare in People of Fall Experience: Application of Fuzzy Neural Network

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Abstract : This study examined their willingness to use telecare for people who have had experience falling in the last three months in Taiwan. This study adopted convenience sampling and a structural questionnaire to collect data. It was based on the definition and the constructs related to the Health Belief Model (HBM). HBM is comprised of seven constructs: perceived benefits (PBs), perceived disease threat (PDT), perceived barriers of taking action (PBTA), external cues to action (ECUE), internal cues to action (ICUE), attitude toward using (ATT), and behavioral intention to use (BI). This study adopted Fuzzy Neural Network (FNN) to put forward an effective method. It shows the dependence of ATT on PB, PDT, PBTA, ECUE, and ICUE. The training and testing data RMSE (root mean square error) are 0.028 and 0.166 in the FNN, respectively. The training and testing data RMSE are 0.828 and 0.578 in the regression model, respectively. On the other hand, as to the dependence of ATT on BI, as presented in the FNN, the training and testing data RMSE are 0.050 and 0.109, respectively. The training and testing data RMSE are 0.529 and 0.571 in the regression model, respectively. The results show that the FNN method is better than the regression analysis. It is an effective and viable good way.

Keywords : fall, fuzzy neural network, health belief model, telecare, willingness

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