

大數據分析輔助大學輔導模式之建構與成效分析:以彰化師大為例

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摘要

國內外研究都發現,大學生的心理困擾日增,尋求心理健康專業協助的比例逐年提高。雖然彰化師大(以下簡稱本校)專業輔導人力的配置高於目前「學生輔導法」的規範,然而學生的輔導需求仍然供不應求。研究團隊採用目前在諮商輔導領域具有前瞻性和可行的大數據分析與機器學習,建構具有實證研究基礎的科學化大學輔導工作模式,以突破及因應目前實務挑戰與困境。這個模式包括:更精準的區辨出高風險/高關懷學生的篩選模式和諮商分流模式。在第一年的研究中建立的篩選模式,是以112 學年入學的大一新生為研究對象(簽署研究參與同意書者,共計1059名,其中549名男性、510名女性)。研究結果得的篩選模式有達80%以上的正確率,而且綜合性能指標Balanced Accuracy(即Sensitivity與Specificity的平均值)也顯示該模型對正類(高關懷)學生和負類(非高關懷)學生有均衡的預測效能。諮商分流模型的研究樣本為112 學年接受諮輔中心個別諮商服務之學生。同意參與研究者共計366名,其中男性130名,女性236名。研究結果得到的諮商分流模式之正確率達80.65%,綜合性能指標Balanced Accuracy為72.31%(正類預測的Sensitivity為60%、負類預測的Specificity為84.62%),顯示模型雖然較能預測負類學生,但對正類學生的60%預測也有比隨機預測率(即50%)高。

關鍵詞: 大學輔導模式、大數據分析

Development and efficacy study of the big-data assisted counseling model for the Counseling Center of National Changhua University of Education

Research both domestically and internationally has found that psychological distress among university students is on the rise, with an increasing percentage seeking professional mental health assistance each year. Although the number of professional counseling staff at National Changhua University of Education (NCUE) exceeds the student-counseling ratio requirement of the "Student Guidance Act," the demand for counseling still surpasses supply. The research team aims to take the advantages of the

current big data analysis and machine learning techniques to construct an empirical university counseling model to overcome the counseling demands challenges. This model includes a screening model and a counseling triage model to identify high-risk/high care students. In the first year of the study, 1059 first-year college students from the 112th academic years (549 males and 510 females) consented their test results for establishing the screening model.. The study results identified a screening model with an accuracy rate of over 80%, and the model's balanced accuracy rate (the average of Sensitivity and Specificity) indicates balanced predictions for both positive and negative classes. The participants for the counseling triage model are 366 students (130 males and 236 females) who received counseling services at the NCUE Counseling Center in the 112th academic year. The research identified a counseling triage model with an accuracy rate of 80.65%. The model has a Sensitivity of 60% (i.e., correctly identified 60% of the positive class samples) and a Specificity of 84.62% (i.e., correctly identified 84.62% of the negative class samples). Both prediction rates are higher than 50%, which is the random prediction rate.

英文關鍵詞: college counseling model, big data analyses