



## **Comparison among artificial neural network, linear and logarithmic regression models as predictors of stretchable woven fabric tightness**

**Ghada Ali Abou-Nassif\***

**Fashion Design Department, Design and Art Faculty, King Abdul Aziz University,  
Jeddah, Saudi Arabia.**

**Abstract:** This study aimed at comparing the performance of ANN, multiple linear and logarithmic regression models for predicting stretchable fabric tightness. Three different statistical parameters, namely R<sup>2</sup> value, mean bias and root mean square errors were used effectively to assess the predictors. From the findings of this study, it was noticed that ANN outperformed both regression models in terms of lower RMSE and MBE and higher R<sup>2</sup> values. It was also found that logarithmic regression model has somewhat better performance compared to multiple linear regression one.

**Keywords:** artificial neural network, linear, logarithmic regression models, stretchable, woven fabric tightness.