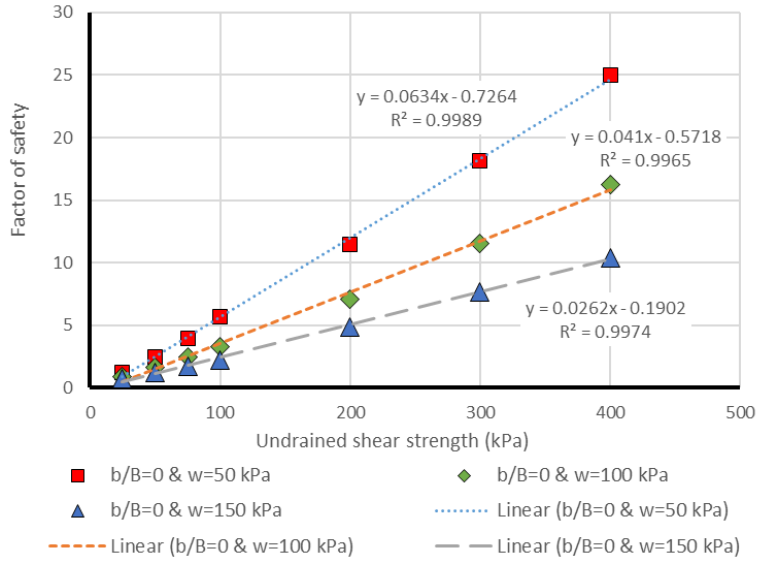
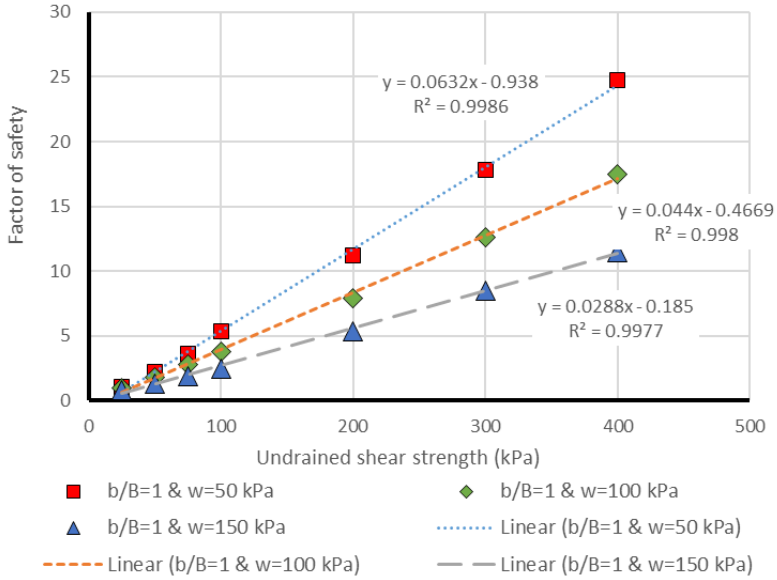
# The Feasibility of Three Prediction Techniques of the Artificial Neural Network, Adaptive Neuro-Fuzzy Inference System, and Hybrid Particle Swarm Optimization for Assessing the Safety Factor of Cohesive Slopes

**Hossein Moayedi [1,2]*, Dieu Tien Bui [3,4]*, Mesut Gör [5], Biswajeet Pradhan[6,7] and Abolfazl Jaafari [8]**




(a) b/B=0,

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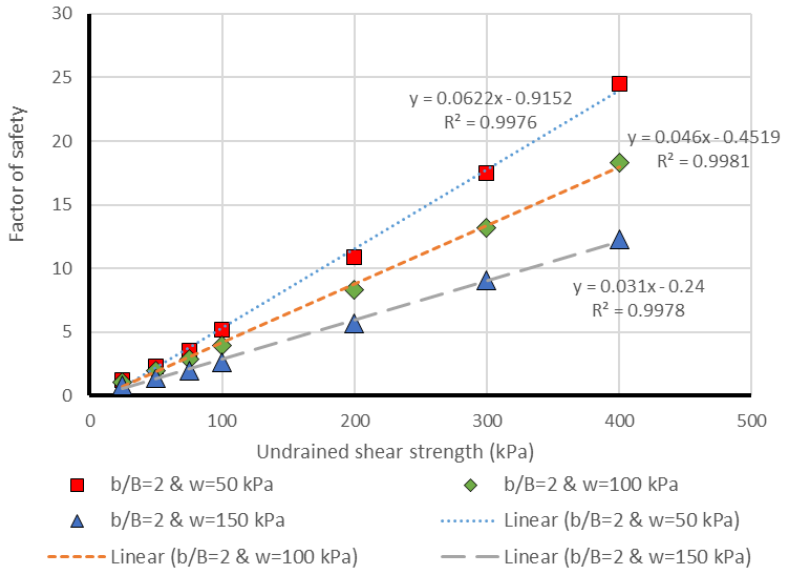
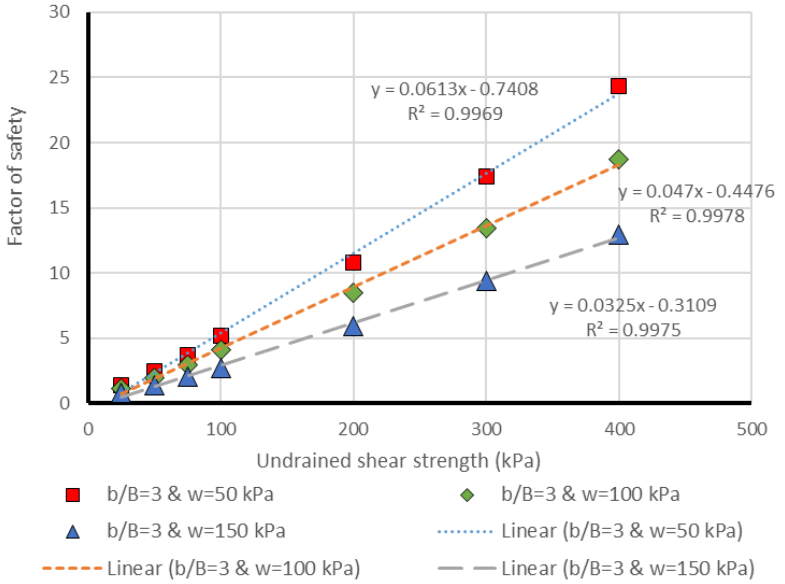
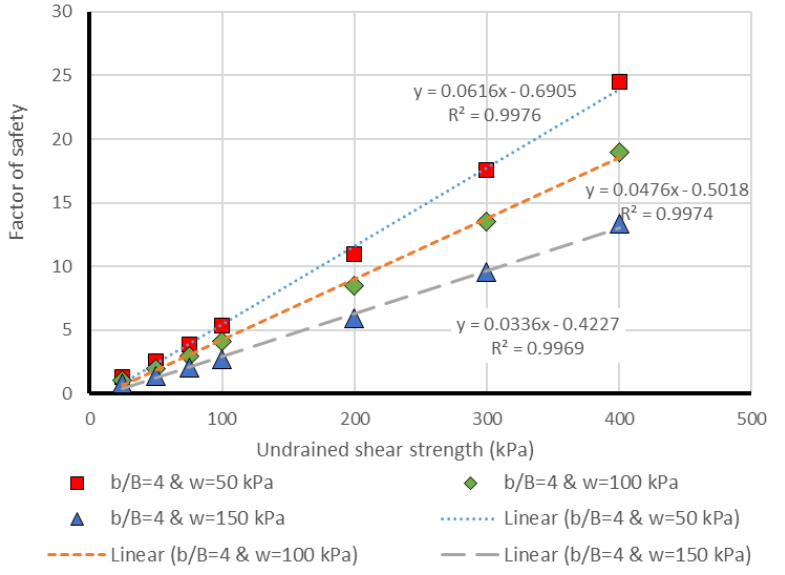


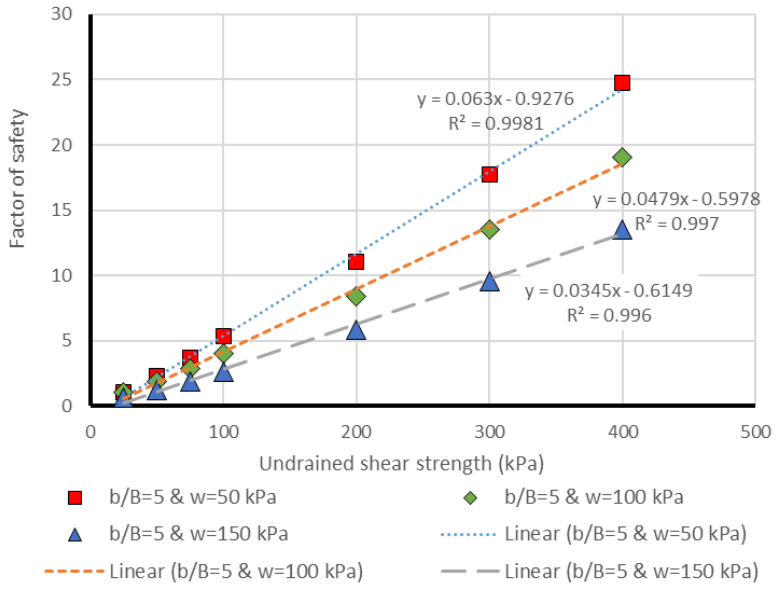

(c) b/B=2,




(d) b/B=3,

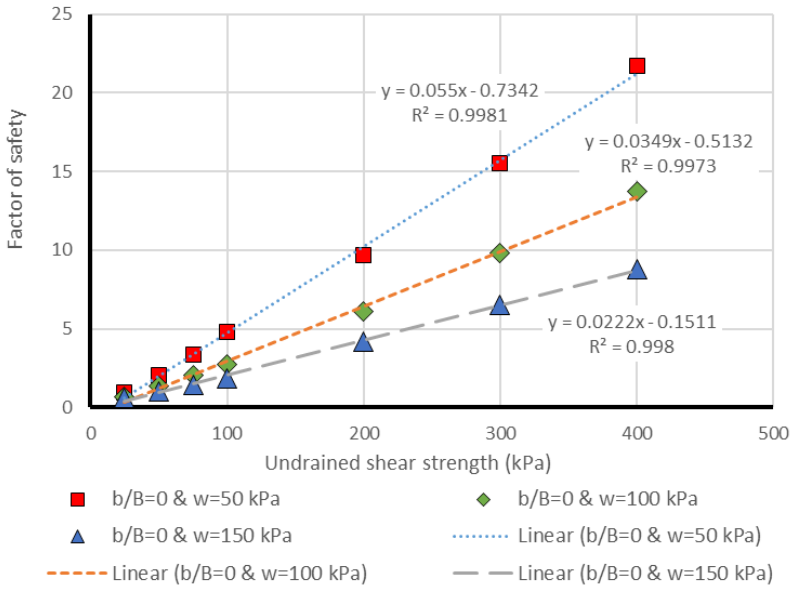



(e) b/B=4,

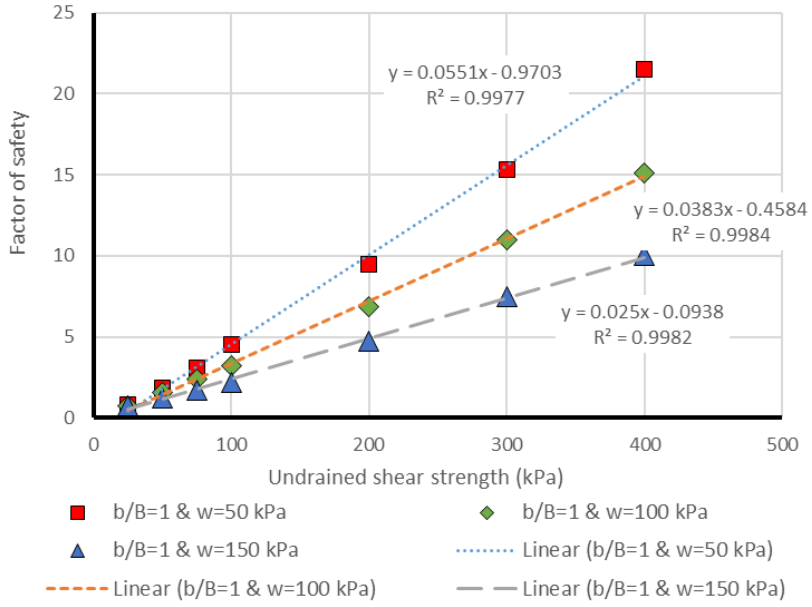



(f) b/B=5,

**Figure S1.** PSO-ANN solution charts for the β=30⁰, (a) b/B=0, (b) b/B=1, (c) b/B=2, (d) b/B=3, (e) b/B=4, (f) b/B=5.




(a) b/B=0,

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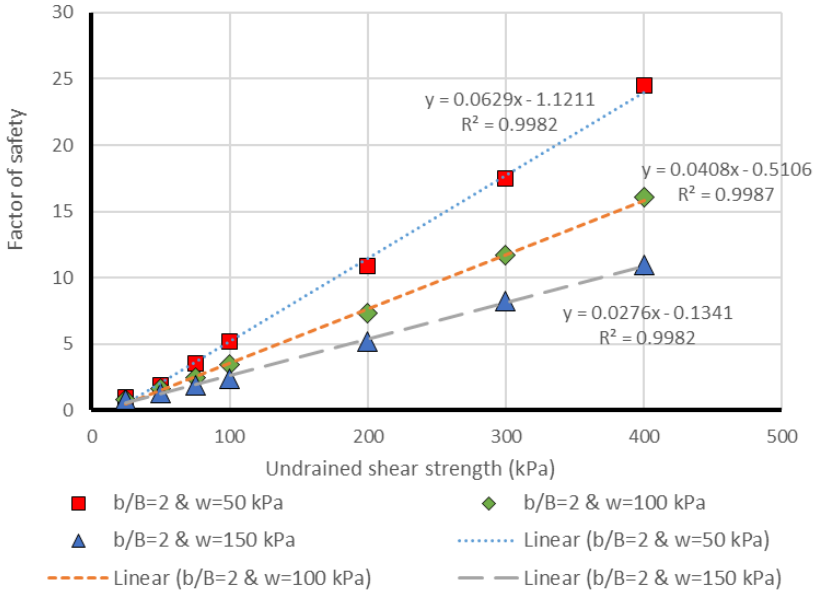
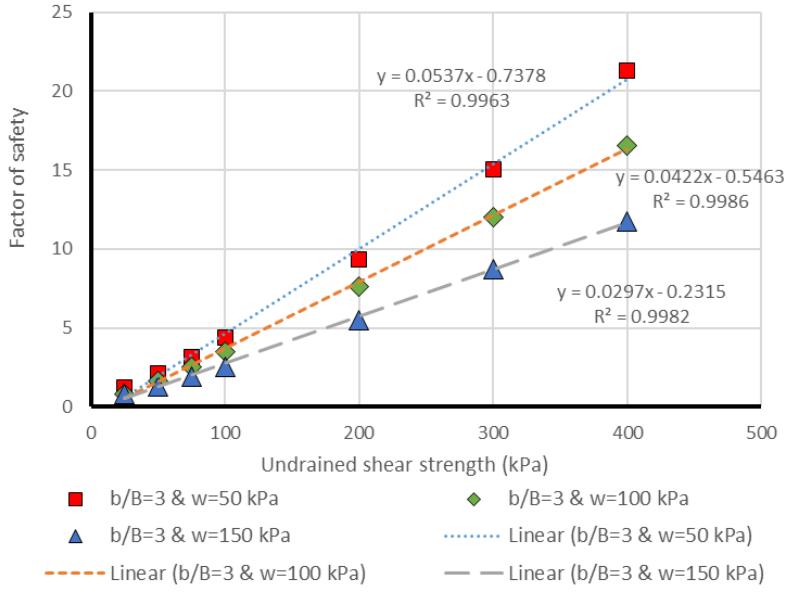
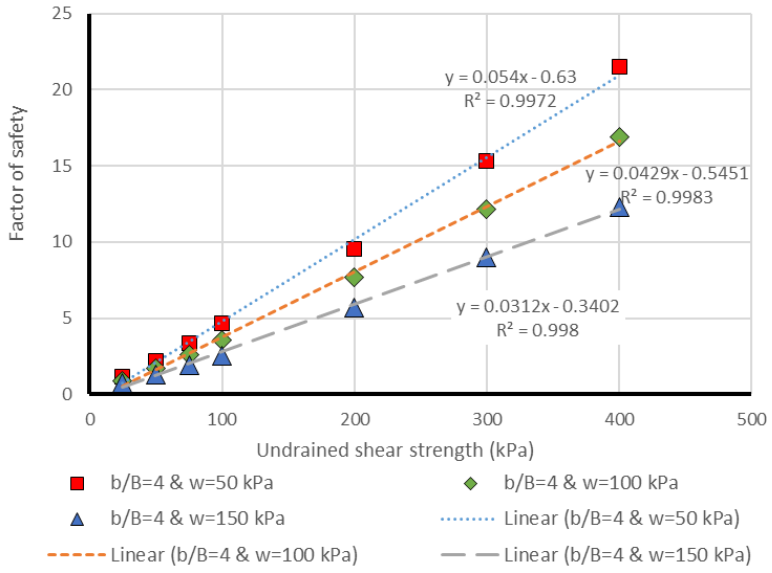


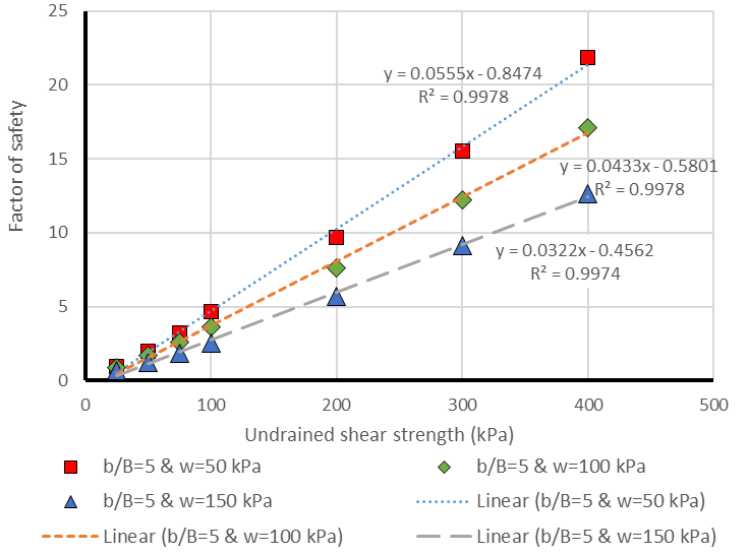

(c) b/B=2,




(d) b/B=3,

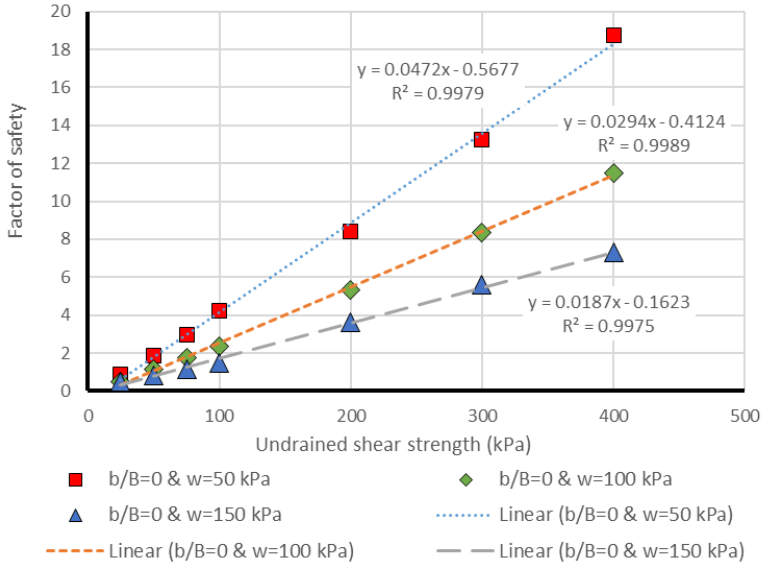



(e) b/B=4,

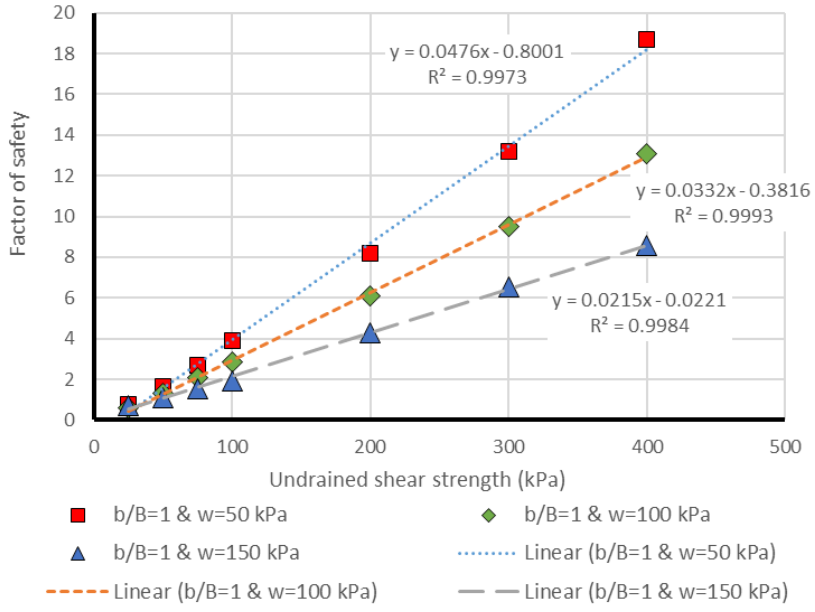



(f) b/B=5,

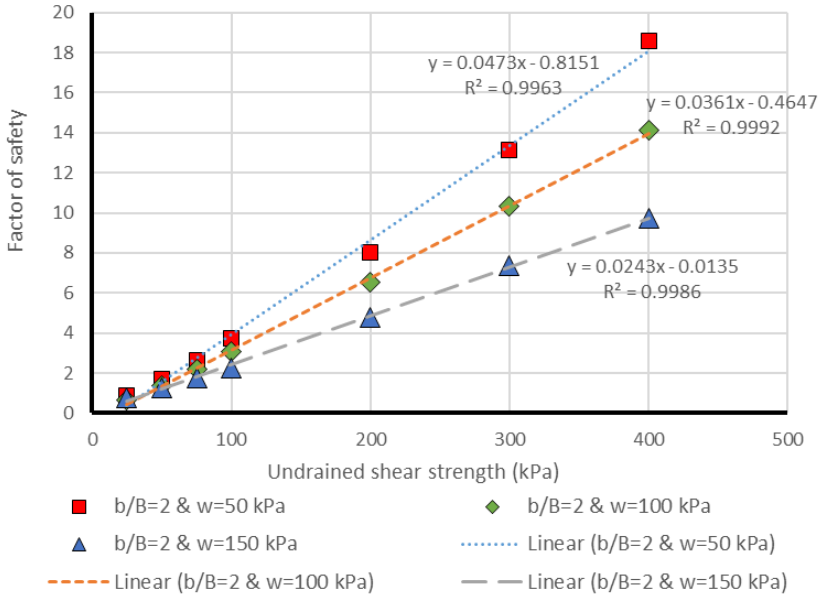
**Figure S2.** PSO-ANN solution charts for the β=45⁰, (a) b/B=0, (b) b/B=1, (c) b/B=2, (d) b/B=3, (e) b/B=4, (f) b/B=5,



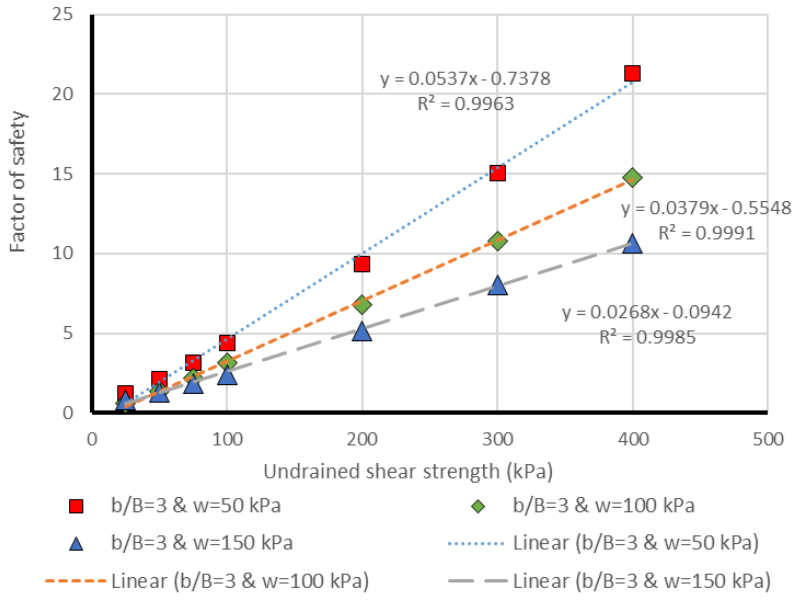

(a) b/B=0,



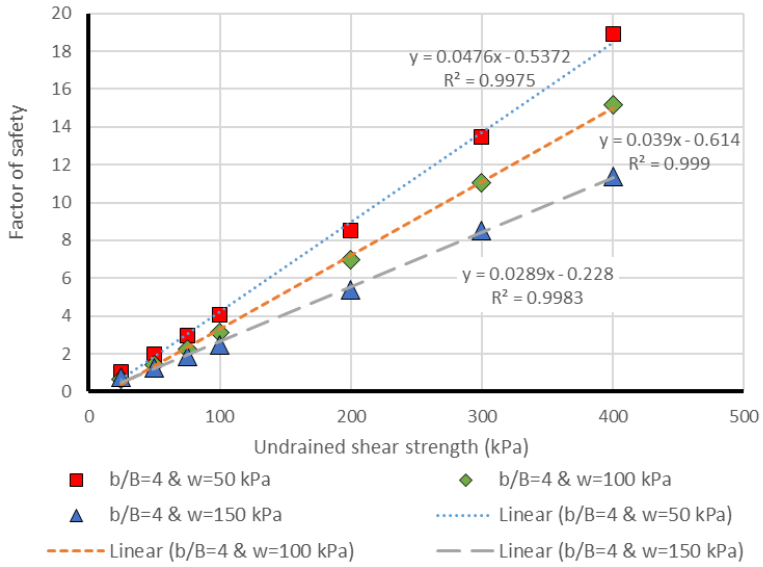

(b) b/B=1,



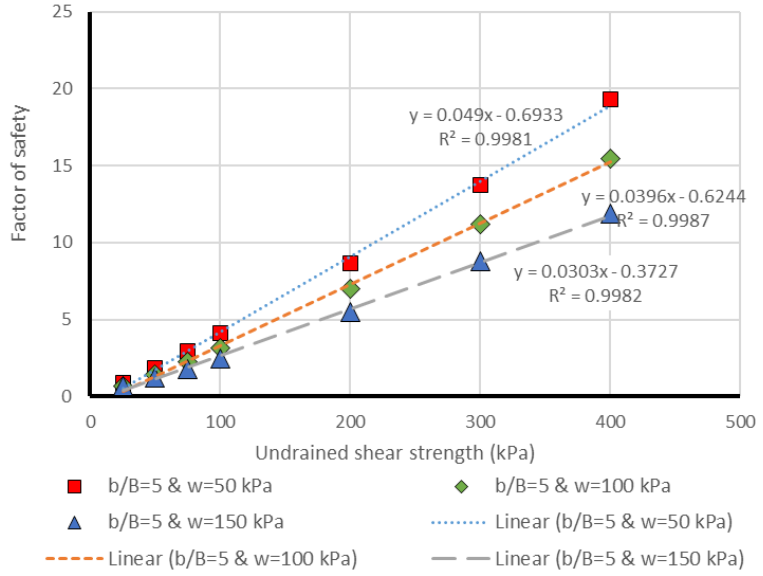

(c) b/B=2,




(d) b/B=3,

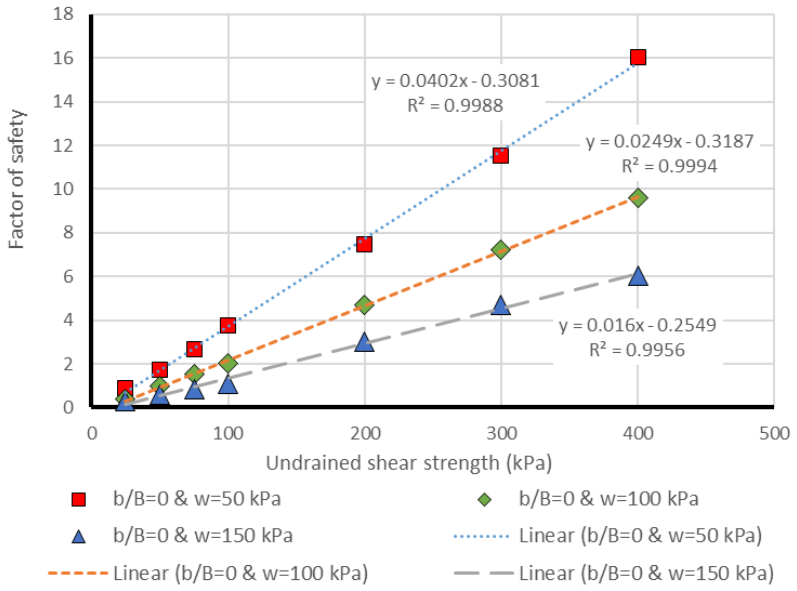



(e) b/B=4,

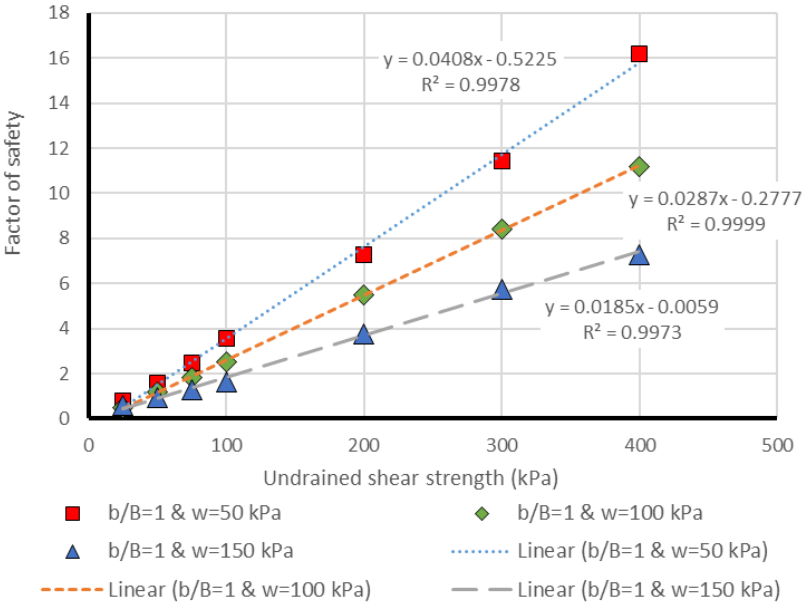



(f) b/B=5,

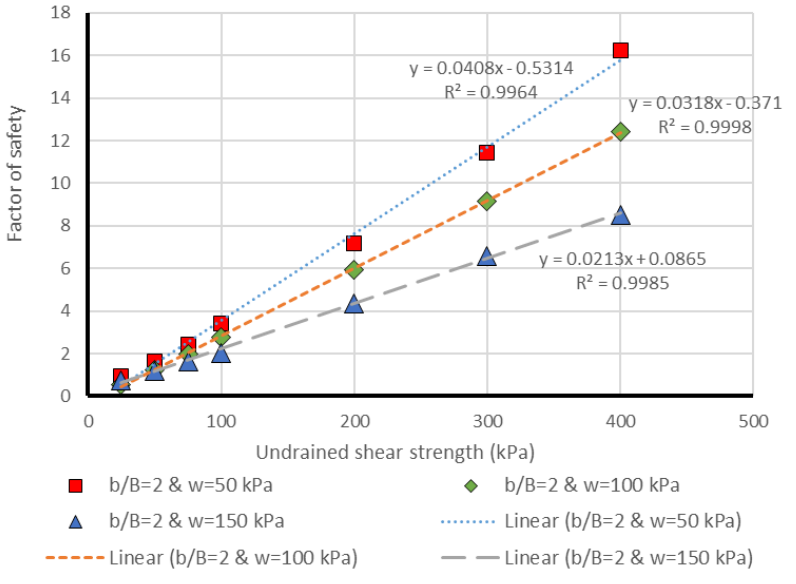
**Figure S3.** PSO-ANN solution charts for the β=60⁰, (a) b/B=0, (b) b/B=1, (c) b/B=2, (d) b/B=3, (e) b/B=4, (f) b/B=5.



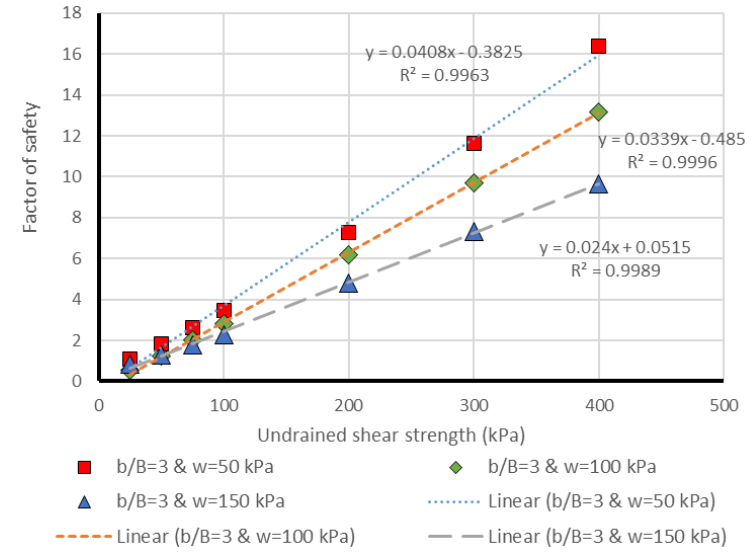

(a) b/B=0,



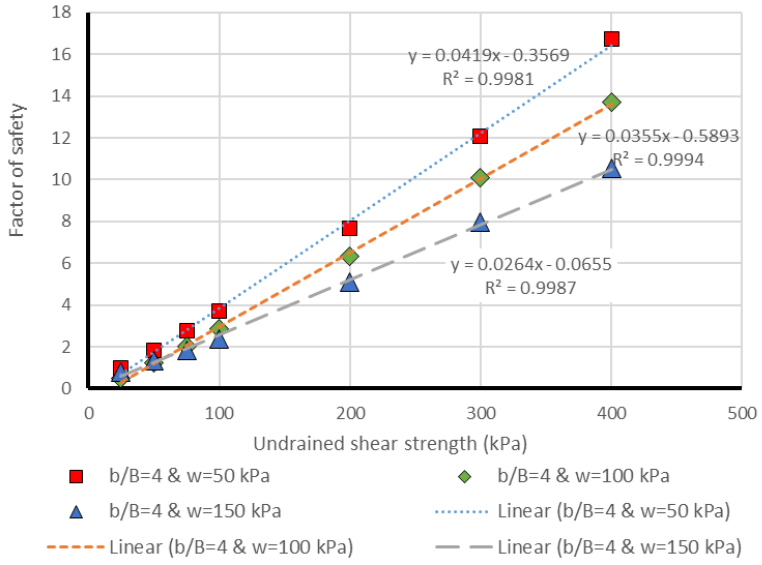

(b) b/B=1,



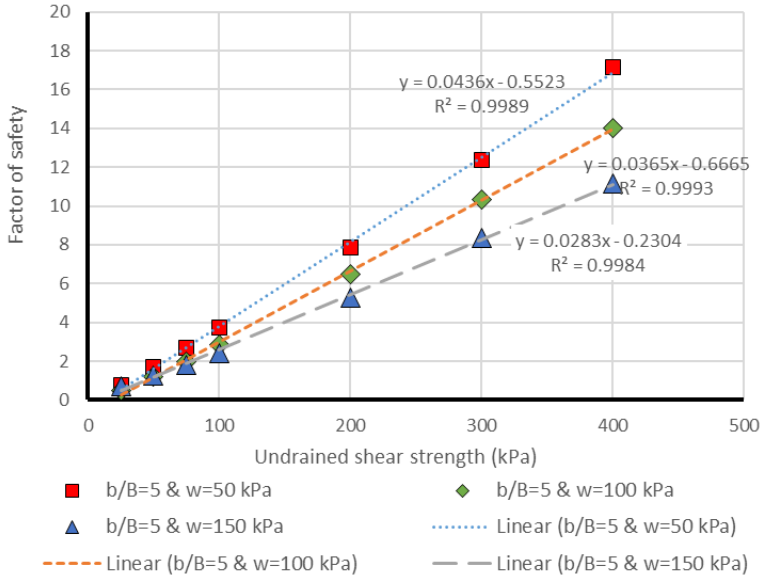

(c) b/B=2,




(d) b/B=3,




(e) b/B=4,




(f) b/B=5,

**Figure S4.** PSO-ANN solution charts for the β=75⁰, (a) b/B=0, (b) b/B=1, (c) b/B=2, (d) b/B=3, (e) b/B=4, (f) b/B=5,.