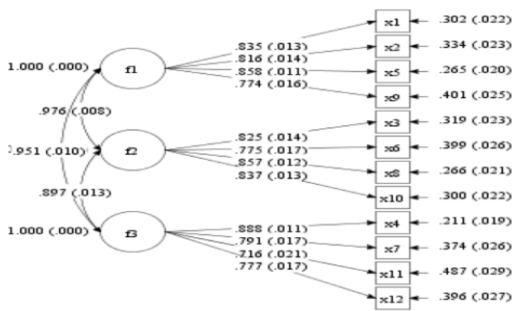


CFA Results for the Original and Modified Scales

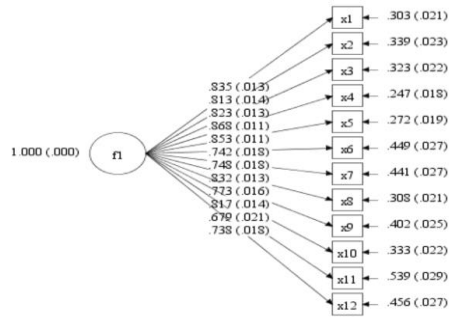
basic psychological needs scale

Figure 1: original scale



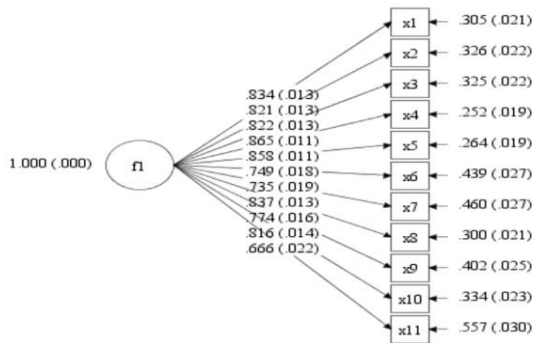
$\chi^2/df=8.562$, RMSEA=0.105, SRMR=0.033,
CFI = 0.943, TLI = 0.927

Figure 2: modified scale 1 (single factor)



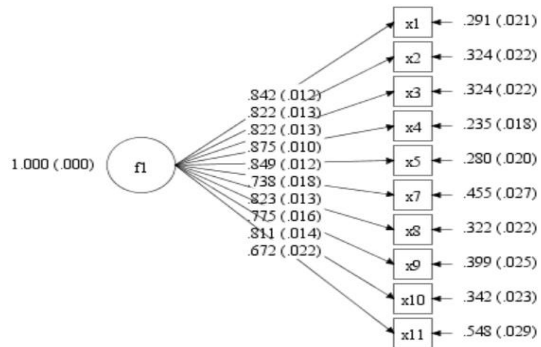
$\chi^2/df=10.463$, RMSEA =0.117, SRMR= 0.039,
CFI = 0.925, TLI = 0.908

Figure 3: modified scale 2 (deletion of item 12)



$\chi^2/df=9.030$, RMSEA=0.108, SRMR=0.033,
CFI = 0.942, TLI = 0.928

Figure 4: modified scale 3 (deletion of item 6)



$\chi^2/df=7.097$, RMSEA =0.094, SRMR= 0.028,
CFI = 0.961, TLI = 0.950

Figure 5: modified scale 4 (link between 7 and 11)

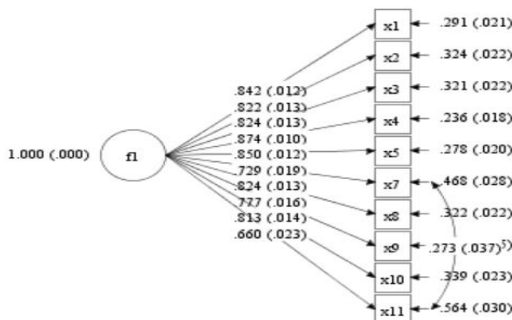
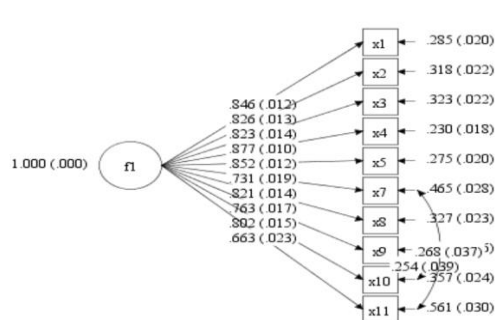


Figure 6: final scale (link between 9 and 10)



$\chi^2/df=5.871$, RMSEA=0.084, SRMR=0.023,

CFI = 0.970, TLI = 0.960

$\chi^2/df=4.878$, RMSEA =0.075, SRMR= 0.020,

CFI = 0.977, TLI = 0.968

Motivation scale

Figure 1: original scale

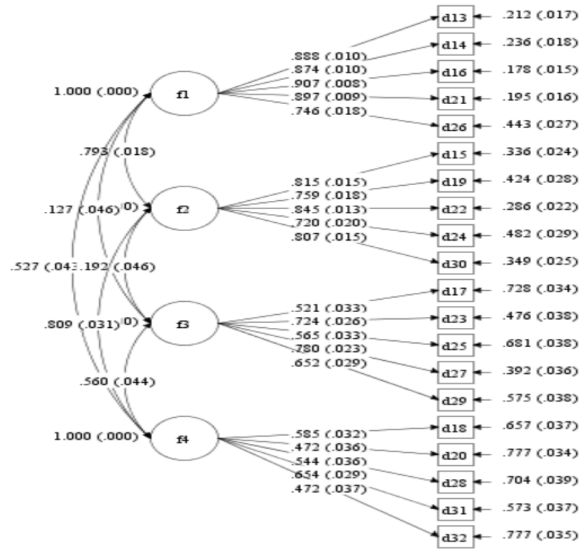
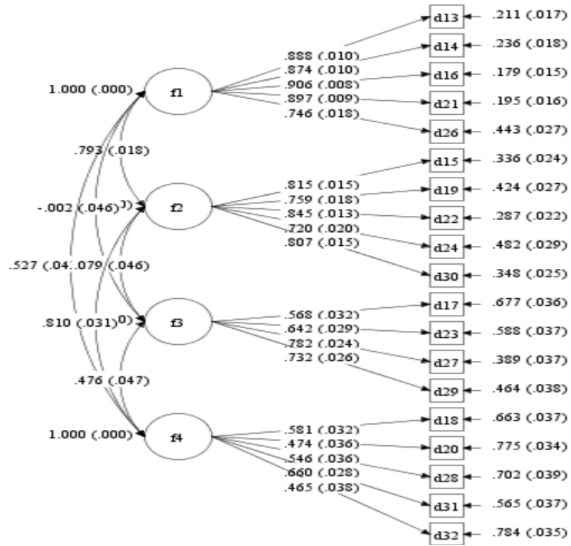


Figure 2: modified scale 1 (deletion of item 25)



$\chi^2/df=9.650$, RMSEA=0.112, SRMR=0.124,

CFI = 0.834, TLI = 0.808

$\chi^2/df=8.881$, RMSEA =0.107, SRMR= 0.107,

CFI = 0.858, TLI = 0.834

Figure 3: modified scale 2 (deletion of item 26)

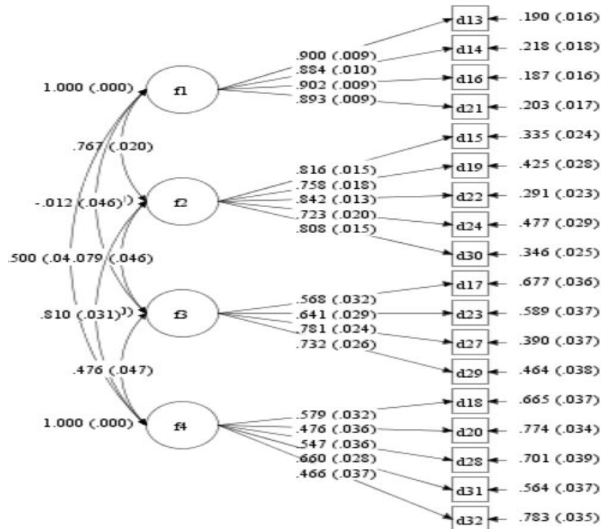
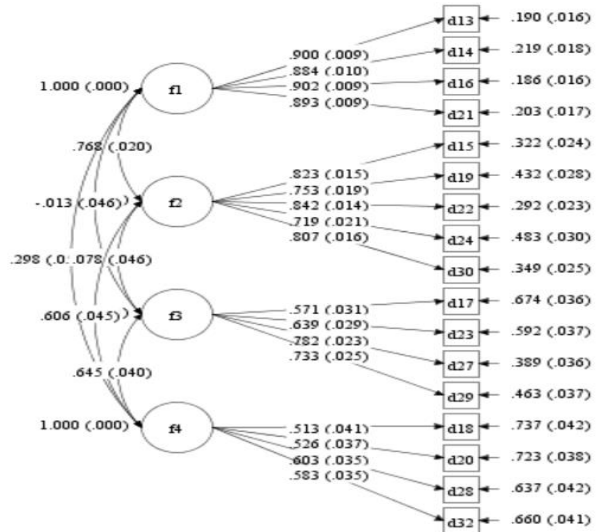


Figure 4: modified scale 3 (deletion of item 31)



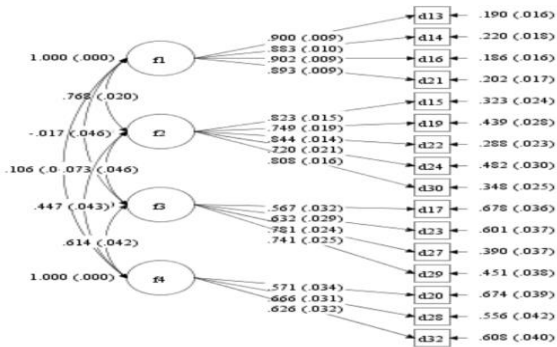
$\chi^2/df=8.413$, RMSEA=0.104, SRMR=0.105,

CFI = 0.871, TLI = 0.847

$\chi^2/df=7.621$, RMSEA =0.098, SRMR= 0.103,

CFI = 0.892, TLI = 0.870

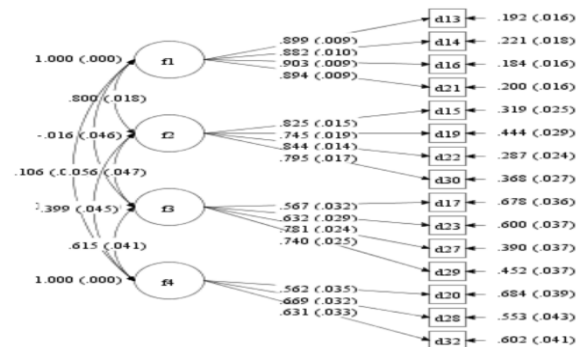
Figure 5: modified scale 4 (deletion of item 18)



$\chi^2/df=5.924$, RMSEA=0.085, SRMR=0.076,

CFI = 0.926, TLI = 0.910

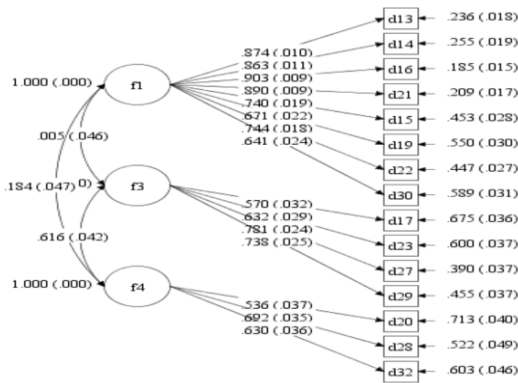
Figure 6: modified scale 5 (deletion of item 24)



$\chi^2/df=5.134$, RMSEA =0.078, SRMR= 0.070,

CFI = 0.942, TLI = 0.928

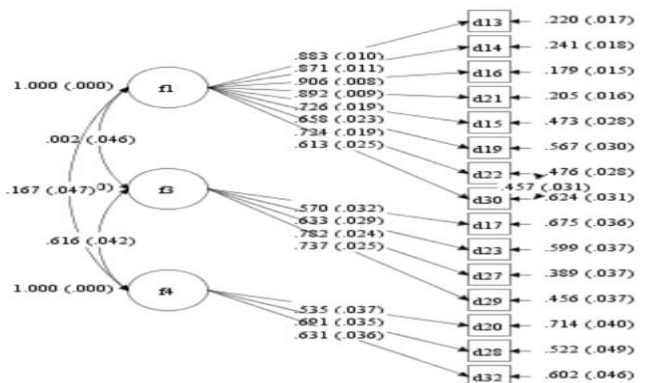
Figure 7: modified scale 6 (combination of f1 and f2)



$\chi^2/df=10.656$, RMSEA=0.119, SRMR=0.089,

CFI = 0.861, TLI = 0.831

Figure 8: modified scale 7 (link between 22 and 30)



$\chi^2/df=9.061$, RMSEA =0.108, SRMR= 0.088,

CFI = 0.884, TLI = 0.859

Figure 9: modified scale 8 (link between 13 and 14)

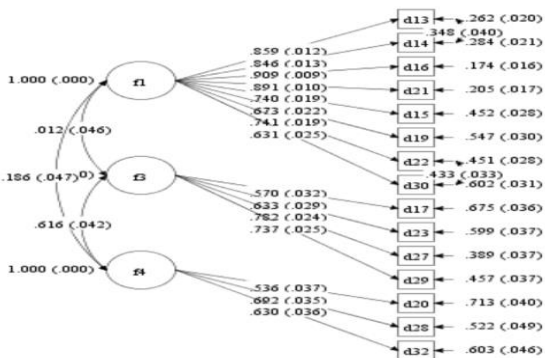
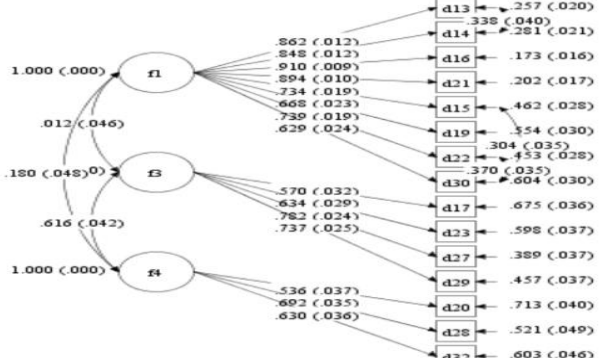


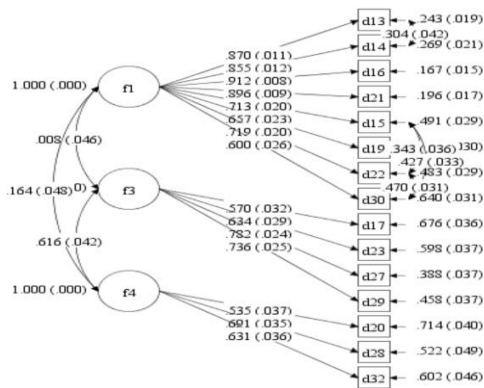
Figure 10: modified scale 9 (link between 15 with 30)



$\chi^2/df=8.472$, RMSEA=0.104, SRMR=0.086,

CFI = 0.894, TLI = 0.869

Figure 11: final scale (link between 15 and 22)



$\chi^2/df=7.761$, RMSEA=0.099, SRMR= 0.085,

CFI = 0.905, TLI = 0.882

$\chi^2/df=6.950$, RMSEA=0.093, SRMR=0.085,

CFI = 0.919, TLI = 0.896

Boredom scale

Figure 1: original scale

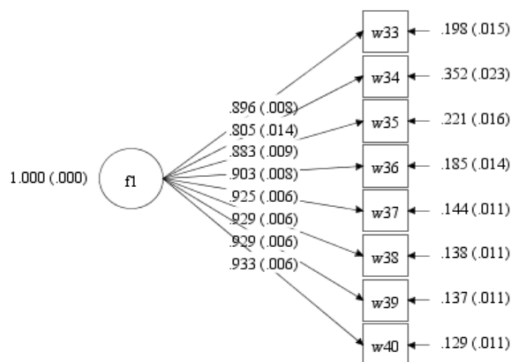
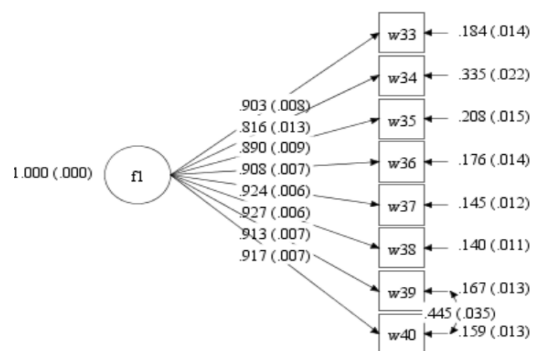


Figure 2: modified scale 1 (link between 39 and 40)



$\chi^2/df=18.506$, RMSEA =0.160, SRMR= 0.023,

CFI = 0.952, TLI = 0.933

$\chi^2/df=13.621$, RMSEA=0.136, SRMR=0.020,

CFI = 0.967, TLI = 0.952

Figure 3: modified scale 2 (link between 33 and 34)

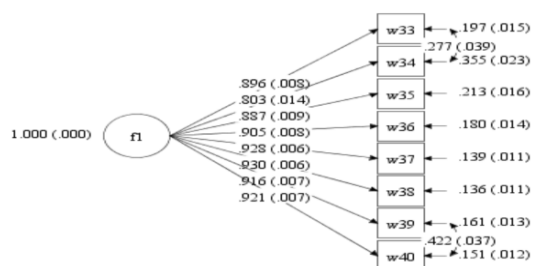
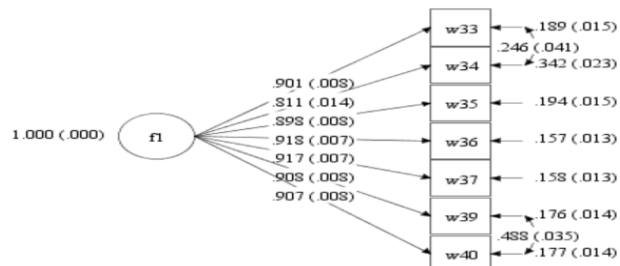


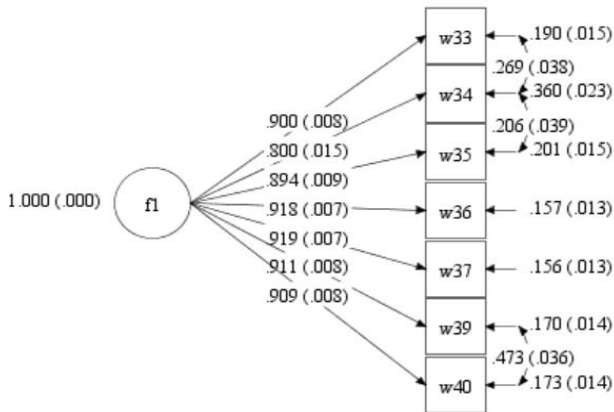
Figure 4: modified scale 3 (deletion of item 38)



$\chi^2/df=11.884$, RMSEA =0.126, SRMR= 0.018,

CFI = 0.973, TLI = 0.958

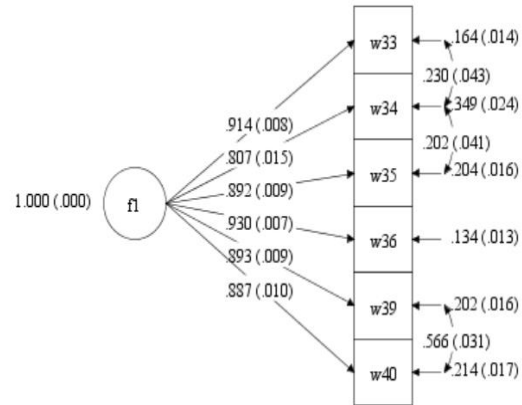
Figure 5: modified scale 4 (link between 34 and 35)



$\chi^2/df=10.736$, RMSEA=0.119, SRMR=0.016,

CFI = 0.981, TLI = 0.966

Figure 6: final scale (deletion of item 37)



$\chi^2/df=9.351$, RMSEA =0.110, SRMR= 0.013,

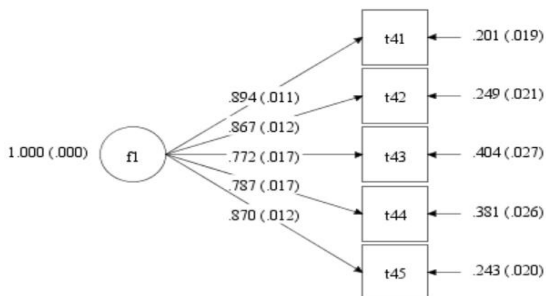
CFI = 0.985, TLI = 0.971

$\chi^2/df=4.566$, RMSEA=0.072, SRMR=0.005,

CFI = 0.996, TLI = 0.989

behavioural engagement scale

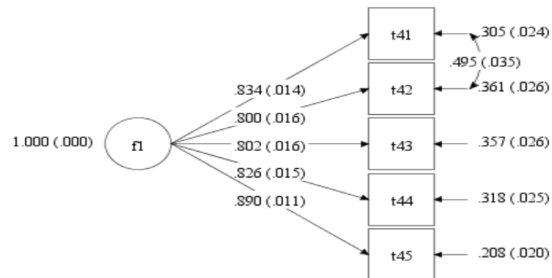
Figure 1: original scale



$\chi^2/df=31.504$, RMSEA =0.211, SRMR= 0.036,

CFI = 0.942, TLI = 0.884

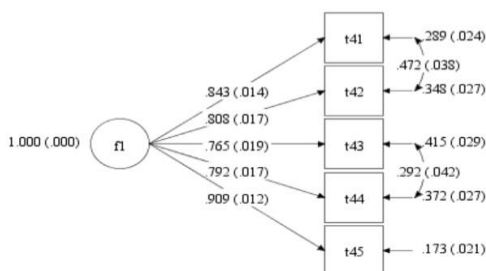
Figure 2: modified scale 1 (link between 41 and 42)



$\chi^2/df=10.817$, RMSEA=0.120, SRMR=0.019,

CFI = 0.985, TLI = 0.963

Figure 3: final scale



$\chi^2/df=1.433$, RMSEA =0.025, SRMR= 0.005,

CFI = 1.000, TLI = 0.998