CHAPTER 3

RESULTS

**IRT model fit with CPS (Tay’s model fit paper)**

1. Neuroticism:

(1) GGUM (poly): all 20 – decide which items to delete based on ICCs (flat; -61920); refit -61920;

(2) SGR: -61920 model fit

(3) Conclusion: GGUM slightly better, but not greatly as previous studies have found – proceed with both models

(4) Judging from ICCs, item paramters, and item content: Item 17 is an intermediate item – remove Item 17 -- -6171920 – refit GGUM and SGR – SGR fits very very slightly better than GGUM now – change of chi^2/df  the stronger the intermediate item (based on item parameters), the more GGUM fit got worse after the intermediate items has been removed

(5) Dichotomized the response data and rerun GGUM Modfit – because dichotomized ICCs enable us to see intermediate items more clearly. Delete 6 and 20 because of flat ICCs – different from polytomous

(6) SGR: -61920model fit

(7) Conclusion: dicho fitted better than poly –consistent with previous findings; after intermediate item is removed, SGR fit improved significantly more than GGUM fit; the improvement much larger than when CAT = 4

2. Openness:

(1) Item 1 should be discarded for all analyses because of inaccurate translation

(2) GGUM (poly): Items 10, 12 have zero-frequency, and Modfit can’t handle inconsistent CAT, so have to delete them (therefore, -1012) – obtain model fit; decide which items to delete (-1910121619); refit -1910121619;

(3) SGR: -191619 model fit (won’t get rid of 10 and 12 because MLG can handle zero-frequency)

(4) Conclusion: US: GGUM worse than SGR; CH: GGUM better than SGR

(5) Judging from ICCs, item pars, and item content: Item 13 is an intermediate item for CH, but not so much for US – apparently more so in the CH group – remove I13 -- -191012131610 for GGUM, and -19131619 – US GGUM and SGR improved; CH GGUM and SGR got worse, but GGUM got worse more – Item 13 is different from I17 from neuroticism because it’s a bad one (ICCs and pars) – low discrimination in CH, better in US – hence the fit comparison results didn’t change by much after the removal of the intermediate item

(6) Dichotomization: no need to remove I10 and 12

(7) GGUM: -1 – obtain model fit – delete bad items (-191316) – refit;

(8) SGR: -191316

(9) Conclusion: GGUM slightly better than SGR for both groups, but very slightly

(10) The intermediate item has changed to I19 (show the ICCs for I19 and I13 when CAT = 2) – based on ICCs and item parameters

(11) Removed I19: GGUM and SGR model fit in both groups got worse – CH worsen less than US; worsen by almost equal amount within group

(12) I19 is a much weaker intermediate item than I17 from Neuroticism

**DIF (couldn’t do dichotomized version because of singularity with GGUM)**

1. Show the DIF effect size results

2. Report the IRT DIF results

**IRT ICCs**

1. ICCs of each of the items (CAT = 4) of each response option

2. Analyze source of DIF