

Electronic Supplemental Material 3

Model Respecification Findings

Table 1

Respecified CFA Model Fit Findings for each YSQ-S3 subscale

EMS	Respecification Options	χ^2	RMSEA	90CI-	90CI+	CFI	TLI	FLs ^d
ED	Delete Item 19 ^a	14.50***	.086	.048	.013	1.00	1.00	.82-.92
	Delete Item 55 ^a	47.61***	.165	.126	.207	1.00	.99	.86-.89
AB	Delete Item 2 ^a	28.93***	.127	.088	.170	.99	.98	.32-.88
	Delete Item 20 ^a	66.96***	.197	.158	.239	.99	.97	.82-.86
MA	Covary Error Terms of Items ^a 57 & 75 ^b	24.46***	.078	.05	.109	.99	.99	.69-.87
	Delete Item 57 ^a	18.18***	.098	.06	.142	.99	.99	.70-.87
	Delete Item 75 ^a	10.19**	.07	.032	.115	.99	1.00	.70-.87
SI	Delete Item 4 ^a	12.30**	.078	.04	.123	.99	1.00	.80-.95
	Delete Item 22 ^a	16.75***	.094	.056	.138	.99	1.00	.87-.95
DS	Covary Error Terms of Items ^a 23 & 5 ^b	38.88***	.102	.074	.132	.99	1.00	.83-.94
	Delete Item 23 ^a	22.09***	.109	.071	.153	.99	1.00	.84-.95
	Delete Item 5 ^a	26.94***	.122	.084	.165	.99	1.00	.83-.95
FA	Covary Error Terms of Items ^a 60 & 78 ^b	41.05***	.105	.077	.135	.99	1.00	.89-.93
	Delete Item 24 ^a	86.82***	.225	.186	.267	.99	.99	.88-.94
	Delete Item 60 ^a	24.28***	.115	.077	.158	.99	1.00	.83-.94
FA	Delete Item 78 ^a	28.48***	.126	.087	.169	.99	1.00	.89-.93
DI	Covary Error Terms of Items ^a 7 & 25 ^b	36.68***	.100	.071	.129	.99	.99	.48-.92
	Delete Item 7 ^a	17.62***	.100	.059	.140	.99	.99	.48-.94
	Delete Item 25 ^a	24.64***	.116	.078	.159	.99	.99	.71-.93
VU	Delete Item 62 ^a	7.71*	.058	.019	.104	.99	1.00	.56-.92
EU	Covary Error Terms of Items ^a 63 & 81 ^b	34.39***	.100	.067	.126	.99	.99	.71-.92
	Delete Item 63 ^a	20.85***	.106	.068	.149	.99	.99	.71-.92
	Delete Item 81 ^a	20.44***	.105	.067	.148	.99	.98	.75-.93

EMS	Respecification Options	χ^2	RMSEA	90CI-	90CI+	CFI	TLI	FLs ^d
ET	Covary Error Terms of Items ^a 14 & 50 ^b	10.27*	.043	.01	.077	.99	1.00	.59–.87
	Delete Item 50 ^a	2.00	.001	0	.068	1.00	1.00	.59–.89
	Delete Item 86 ^a	37.65***	.146	.107	.188	.98	.96	.65–.85
IS	Covary Error Terms of Items ^a 33 & 51 ^b	9.04	.039	0	.073	1.00	1.00	.74–.80
	Delete Item 51 ^a	1.02	0	0	.056	1.00	1.00	.74–.81
SB	Covary Error Terms of Items ^a 46 & 64 ^b	48.78***	.116	.088	.146	.99	.99	.78–.91
	Delete Item 10 ^a	16.00***	.091	.053	.135	.99	.99	.77–.85
	Delete Item 46 ^a	12.36**	.079	.041	.123	.99	.99	.77–.91
SS	Delete Item 83 ^a	2.77	.021	0	.075	1.00	1.00	.58–.79
AS	Delete Item 34 ^a	29.52***	.146	.09	.171	.99	.98	.63–.81
	Delete Item 70 ^a	37.67***	.128	.107	.188	.98	.96	.70–.81
NP	Covary Error Terms of Items ^a 71 & 89 ^b	60.10***	.129	.102	.159	.99	.99	.73–.94
	Delete Item 71 ^a	42.82***	.156	.117	.198	.99	.99	.77–.95
EI	Covary Error Terms of Items ^a 66 & 84 ^b	42.00***	.106	.079	.137	.99	.99	.75–.90
	Delete Item 66 ^a	22.48***	.111	.072	.154	.99	.99	.75–.89
	Delete Item 84 ^a	30.56***	.131	.092	.173	.99	.99	.80–.89
US	Covary Error Terms of Items ^a 13 & 31 ^b	40.12***	.104	.076	.134	.99	.98	.66–.82
	Delete Item 13 ^a	14.04***	.085	.047	.129	.99	.99	.66–.84
	Delete Item 31 ^a	20.26***	.104	.066	.148	.99	.98	.66–.84
	Delete Item 49 ^a	60.80***	.187	.149	.229	.98	.94	.66–.81
PU	Delete Item 90 ^a	18.95***	.101	.062	.144	.99	.99	.75–.87
	Two Factor Model ^c	0.78	0	0	.087	1.00	1.00	.72–.97

Note. ED = Emotional Deprivation; AB = Abandonment; MA = Mistrust/Abuse; SI = Social Isolation; DS = Defectiveness/Shame; FA = Failure; DI = Dependence/Incompetence; VU = Vulnerability to Harm; EU = Enmeshment/Underdeveloped Self; ET = Entitlement/Grandiosity; IS = Insufficient Self-Control; SB = Subjugation; SS = Self-Sacrifice; AS = Approval Seeking; NP = Negativity/Pessimism; EI = Emotional Inhibition; US = Unrelenting Standards; PU = Punitiveness.

^a Model $df=2$. ^b Model $df=4$. ^c Model $df=1$. ^d All item factor loadings (FLs) are located in online supplemental material Appendix B, Table B2–B19.

*** $p < .001$. ** $p < .01$. * $p < .05$.

Table 2
Six-Step Model Re-specification Process for YSQ-S3 Subscales

EMS	Stage 1: Review of MIs ^a	Stage 2: Past Literature Findings	Stage 3: Content Analysis	Stage 4: Clinical Analysis	Respecification Options	Stage 5: RMSEA Values	Stage 6: Overall Assessment
ED	Items' 19 (“In general, people have not been there to give me warmth, holding, and affection”) and 55 (“For the most part, I have not had someone who really listens to me, understands me, or is tuned into my true needs and feelings”) are associated with the largest, and with multiple MIs.	No past literature has highlighted specific issues associated with items' 19 or 55.	Items' 19 and 55 are complex due to their length.	Item 19 may be interpreted by the respondent as pertaining to physical contact only; a respondent whom experienced the emotional and psychological components of being held may not relate well to this item if they did not experience the physical component of being held. Further, compared to other items assigned to the ED subscale, item 19 is the least introspective (as it refers to the actions of another person).	Delete Item 19 Delete Item 55	.086 .165	Deleting item 19 improved model fit, though evaluation of the RMSEA value shows that model fit remained mediocre.

EMS	Stage 1: Review of MIs ^a	Stage 2: Past Literature Findings	Stage 3: Content Analysis	Stage 4: Clinical Analysis	Respecification Options	Stage 5: RMSEA Values	Stage 6: Overall Assessment
AB	Item 2 (“I find myself clinging to people I’m close to, because I’m afraid they’ll leave me”) is associated with the largest, and with multiple MIs.	No past literature has highlighted specific issues associated with item 2.	All AB items may be impacted by social desirability; the respondent may fear rejection if too dependent or avoidant in the therapeutic setting.	All AB items other than Item 20 (“I need other people so much that I worry about losing them”) refer directly to the fear of another’s departure. Item 20 relates more to one’s dependency on another individual and the fears associated with that dependency. Though not associated with large/multiple MIs, deletion of item 20 was pursued as a second option.	Delete Item 2 Delete Item 20	.127 .197	Neither re-specification option produced adequate model fit, thus the CFA model was rejected.
MA	Items’ 57 (“I am quite suspicious of other people’s motives”) and 75 (“I’m usually on the lookout for people’s ulterior motives”) are associated with the largest, and with multiple MIs.	The RMSEA value for the MA subscale was larger than the assigned benchmark for goodness-of-fit in Slepecky et al. (2019) Confirmatory Factor Analysis (CFA) of the Slovak YSQ-S3.	Item 75 contains an uncommon or vague term (‘ulterior’). Items’ 57 and 75 may be impacted by social desirability; may respond untruthfully to avoid the therapist being aware of their suspiciousness.	No items assigned to the MA subscale appear to capture overcompensation whereby the respondent may abuse others. Items’ 57 and 75 both capture the notion of the respondent being hypervigilant of another individual’s motives.	Covary Error Terms of Items’ 57 & 75 Delete Item 57 Delete Item 75	.078 .098 .07	Deleting item 75 produced acceptable model fit, increasing the confidence that the revised MA subscale has adequate convergent validity.

EMS	Stage 1: Review of MIs ^a	Stage 2: Past Literature Findings	Stage 3: Content Analysis	Stage 4: Clinical Analysis	Respecification Options	Stage 5: RMSEA Values	Stage 6: Overall Assessment
SI	Items' 4 ("I don't fit in") and 22 ("I'm fundamentally different from other people") are associated with the largest, and with multiple MIs.	Slepecky et al. (2019) found mediocre model fit for the SI subscale (problematic item(s) not specified). Rijkeboer et al., (2011) found differential item functioning (DIF) for item 4 using the Dutch YSQ when comparing a clinical outpatient and nonclinical sample.	Item 4 is very short and non-context specific. It may be too idiosyncratic when randomly placed in the YSQ-S3.	Item 4 may invite differences in interpretation as it lacks reference to specific contexts. The respondent may perceive themselves as not fitting in in some contexts e.g. the workplace yet fitting in in other contexts e.g. their family. Item 22 may not be endorsed by extroverted respondents.	Delete Item 4 Delete Item 22	.078 .094	Deleting item 4 produced acceptable model fit, increasing the confidence that the revised SI subscale has adequate convergent validity.
DS	Items' 5 ("No man/woman I desire could love me once he/she saw my defects") and 23 ("No one I desire would want to stay close to me if he/she knew the real me") are associated with the largest, and with multiple MIs.	Bach et al. (2017) found substantial residual correlation between items' 5 and 23 in a CFA of the Danish YSQ-S3. Soygüt et al. (2009) found item 5 did not load onto any factor in an Exploratory Factor Analysis (EFA) of the Turkish YSQ-S3.	Items' 5 and 23 are complex due to slashes (/); may impact readability. Item 23 may be impacted by social desirability; the respondent may respond untruthfully if concerned that the therapist will view them as defective.	Items' 5 and 23 both capture the theme of having defects or flaws that could inhibit one's attraction or proximity to the respondent. Given items' 5 and 59 ("I feel that I'm not loveable") both capture the construct of being loved, item 5 could be deleted based on repetition.	Covary Error Terms of Items' 23 & 5 Delete Item 23 Delete Item 5	.102 .109 .122	No re-specification options produced adequate model fit, thus the CFA model was rejected.

EMS	Stage 1: Review of MIs ^a	Stage 2: Past Literature Findings	Stage 3: Content Analysis	Stage 4: Clinical Analysis	Respecification Options	Stage 5: RMSEA Values	Stage 6: Overall Assessment
FA	Items' 24 ("I'm incompetent when it comes to achievement"), 60 ("I'm not as talented as most people are at their work (or at school)"), and 78 ("I'm not as intelligent as most people when it comes to work (or school)") are associated with the largest, and with multiple MIs.	No past literature has highlighted specific issues associated with items' 24, 60, or 78.	No issues identified with respect to Choi and Pak's (2005) common biases in questionnaires.	Items' 60 and 78 both capture the theme of a making a social comparison in the context of work or school, therefore either item could be deleted from the subscale. Item 24 is the only item that does not include a social comparison and it is non-context specific. Thus, item 24 could be deleted based on it being too divergent from the other FA items.	Covary Error Terms of Items' 60 & 78 Delete Item 24 Delete Item 60 Delete Item 78	.105 .225 .115 .126	No re-specification options produced adequate model fit, thus the CFA model was rejected.

EMS	Stage 1: Review of MIs ^a	Stage 2: Past Literature Findings	Stage 3: Content Analysis	Stage 4: Clinical Analysis	Respecification Options	Stage 5: RMSEA Values	Stage 6: Overall Assessment
DI	Items' 7 ("I do not feel capable of getting by on my own in everyday life") and 25 ("I think of myself as a dependent person when it comes to everyday functioning") are associated with the largest, and with multiple MIs.	Yalcin et al. (2020) found item 25 as failing to load onto any factor/loaded onto an unintended factor in an EFA of the YSQ-L3. Calvete et al. (2013) found item 25 as having a low factor loading in a CFA of the Spanish YSQ-S3.	Item 25 is vague and may be subject to differences in interpretation among respondents. It is also the only DI item that is not negatively worded.	Items' 7 and 25 both imply a generalised sense of dependency in all domains of one's life, whereas the remaining DI items are specific to certain cognitive processes e.g. solving problems.	Covary Error Terms of Items' 7 & 25 Delete Item 7 Delete Item 25	.100 .100 .116	No re-specification options produced adequate model fit, thus the CFA model was rejected.
VU	Item 62 ("I worry about becoming a street person or vagrant") is associated with multiple MIs.	Bach et al. (2017) found substantial residual correlation between item 62 and item 71 from the NP subscale. Rijkeboer et al. (2011) found DIF for item 62. Yalcin et al. (2020) found item 62 as failing to load onto any factor/loaded onto an unintended factor.	Item 62 contains an uncommon term (vagrant). Vagrancy is not colloquial in Australian culture, therefore may not be well understood by Australian respondents.	The clinical consensus was to delete item 62 based on past literature findings and issues with the term vagrant.	Delete Item 62	.058	Deleting item 62 produced good model fit, increasing the confidence that the revised VU subscale has adequate convergent validity.

EMS	Stage 1: Review of MIs ^a	Stage 2: Past Literature Findings	Stage 3: Content Analysis	Stage 4: Clinical Analysis	Respecification Options	Stage 5: RMSEA Values	Stage 6: Overall Assessment
EU	Items' 63 ("I often feel as if my parent(s) are living through me – I don't have a life of my own") and 81 ("I often feel that I do not have a separate identity from my parents or partner") are associated with the largest, and with multiple MIs.	Hawke and Provencher (2012) covaried the error terms for items' 63 and 81 to produce acceptable model fit for the EU subscale in a CFA of the Canadian French YSQ-S3. Rijkeboer et al. (2011) found DIF for item 81. The RMSEA value for the EU subscale was larger than the assigned benchmark for goodness-of-fit in Slepecky et al. (2019).	Item 63 is double-barrelled; the respondent may identify differently with the two components of the item.	Items' 63 and 81 both refer to the respondent having an enmeshed identity with their parent(s) or partner – this is a subjective experience. All remaining EU items refer to a specific behaviour pertaining to enmeshment e.g. physical separation, sharing of intimate details.	Covary Error Terms of Items' 63 & 81 Delete Item 63 Delete Item 81	.100 .106 .105	No re-specification options produced adequate model fit, thus the CFA model was rejected.

EMS	Stage 1: Review of MIs ^a	Stage 2: Past Literature Findings	Stage 3: Content Analysis	Stage 4: Clinical Analysis	Respecification Options	Stage 5: RMSEA Values	Stage 6: Overall Assessment
ET	Items' 14 ("I have a lot of trouble accepting "no" for an answer when I want something from other people") and 50 ("I hate to be constrained or kept from doing what I want") are associated with the largest, and with multiple MIs.	Hawke and Provencher (2012) covaried the error terms for items' 14 and 50 to produce acceptable model fit for the ET subscale.	No issues identified with respect to Choi and Pak's (2005) common biases in questionnaires.	Items' 14 and 50 both capture the theme of having an experience outside one's desires. The clinical consensus was to explore deletion of item 50 only based on its association with the two largest MIs. Item 86 ("I feel that what I have to offer is of greater value than the contributions of others") is the only item that captures the grandiosity component of this EMS. All other ET items appear to measure the entitlement component. Thus, item 86 could be deleted based on it being too divergent from the other ET items.	Covary Error Terms of Items' 14 & 50 Delete Item 50 Delete Item 86	.043 .001 .146	Deleting item 50 produced good model fit, increasing the confidence that the revised ET subscale has adequate convergent validity.

EMS	Stage 1: Review of MIs ^a	Stage 2: Past Literature Findings	Stage 3: Content Analysis	Stage 4: Clinical Analysis	Respecification Options	Stage 5: RMSEA Values	Stage 6: Overall Assessment
IS	Items' 51 ("I have a very difficult time sacrificing immediate gratification to achieve a long-range goal") and 33 ("If I can't reach a goal, I become easily frustrated and give up") are associated with the largest, and with multiple MIs.	No past literature has highlighted specific issues associated with items' 51 or 33.	Item 51 contains a more complex term ('gratification') that may not be well understood by all respondents.	Items' 51 and 33 are both goal oriented. The clinical consensus was to explore deletion of item 51 only based on poorer readability than item 33.	Covary Error Terms of Items' 33 & 51 Delete Item 51	.039 0	Deleting item 51 produced good model fit, increasing the confidence that the revised IS subscale has adequate convergent validity.

EMS	Stage 1: Review of MIs ^a	Stage 2: Past Literature Findings	Stage 3: Content Analysis	Stage 4: Clinical Analysis	Respecification Options	Stage 5: RMSEA Values	Stage 6: Overall Assessment
SB	Items' 10 ("I believe that if I do what I want, I'm only asking for trouble"), 46 ("In relationships, I let the other person have the upper hand"), and 64 ("I've always let others make choices for me, so I really don't know what I want for myself") are associated with the largest, and with multiple MIs.	Soygüt et al. (2009) found item 46 did not load onto any factor.	Item 46 contains a colloquial term ('upper hand') that may not be well understood by all respondents.	Items' 46 and 64 both capture the theme of the other party being dominant in decision making. Item 10 is the only item that is not embedded within the context of a relationship. As subjugation usually emerges within the context of a specific relationship, item 10 may not capture the EMS as well as the other items assigned to the subscale.	Covary Error Terms of Items' 46 & 64 Delete Item 10 Delete Item 46	.116 .091 .079	Deleting item 46 produced acceptable model fit, increasing the confidence that the revised SB subscale has adequate convergent validity.
SS	Item 83 ("Other people see me as doing too much for others and not enough for myself") is associated with the largest, and with multiple MIs.	No past literature has highlighted specific issues associated with item 83.	No issues identified with respect to Choi and Pak's (2005) common biases in questionnaires.	Item 83 is the only item that refers to another individual's evaluation of the respondent. All other SS items refer to evaluation of self. The respondent's insight into another's perspectives may be limited.	Delete Item 83	.021	Good model fit was observed when deleting item 83; the revised SS subscale has adequate convergent validity.

EMS	Stage 1: Review of MIs ^a	Stage 2: Past Literature Findings	Stage 3: Content Analysis	Stage 4: Clinical Analysis	Respecification Options	Stage 5: RMSEA Values	Stage 6: Overall Assessment
AS	Items' 70 (“If I make remarks at a meeting or am introduced at a gathering, I look forward to recognition and admiration”) and 34 (“Accomplishments are most valuable to me if other people notice them”) are associated with the largest, and with multiple MIs.	Yalcin et al. (2020) found item 70 as failing to load onto any factor/loaded onto an unintended factor. The RMSEA value for the AS subscale was larger than the assigned benchmark for goodness-of-fit in Slepecky et al. (2019).	Item 70 is complex and loaded due to its length and being premised within two contexts (meeting, gathering). The respondent may identify differently with these two contexts.	Although preference was given to delete item 70 based on past literature findings and issues with the item’s construction, the clinical consensus was to explore both re-specification options (deletion of item 70 or item 34).	Delete Item 70 Delete Item 34	.146 .128	Neither re-specification option produced adequate model fit, thus the CFA model was rejected.

EMS	Stage 1: Review of MIs ^a	Stage 2: Past Literature Findings	Stage 3: Content Analysis	Stage 4: Clinical Analysis	Re-specification Options	Stage 5: RMSEA Values	Stage 6: Overall Assessment
PU	Examination of the MIs revealed a pairing between items' 18 (“If I make a mistake, I deserve to be punished”) and 90 (“I’m a bad person who deserves to be punished”), and between items' 36 (“If I don’t try my hardest, I should expect to lose out”) and 54 (“If I don’t do the job, I should suffer the consequences”). Item 90 was also associated with the largest, and with multiple MIs.	Hawke and Provencher (2012) deleted item 90 to produce acceptable model fit for the PU subscale. Soygüt et al. (2009) found item 36 did not load onto any factor. The RMSEA value for the PU subscale was larger than the assigned benchmark for goodness-of-fit in Slepecky et al. (2019). In Yalcin et al. (2020), PU split into two independent factors: Punitiveness (Self) and Punitiveness (Other). In Bach et al. (2018) CFA of the Danish YSQ-S3, Self-Punitiveness also emerged.	No issues identified with respect to Choi and Pak’s (2005) common biases in questionnaires.	Items’ 18 and 90 both capture the theme of being deserving of punishment. Although similar, the clinical consensus was to delete item 90 based on past literature findings, its association with multiple MIs, and that item 90 is the only PU item not premised within a condition for punishment e.g., ‘if I do ‘X’, then I am punished’. Given the emergence of the item pairings and past literature indicating the possibility of the PU subscale being composed of two independent factors, a two-factor model (with item 72 “there is no excuse if I make a mistake” deleted) was also explored.	Delete Item 90 Two Factor Model	.101 0	The two-factor model showed good model fit, increasing the confidence that the revised PU subscale has adequate convergent validity.

Note. All models were overidentified. ED = Emotional Deprivation; AB = Abandonment; MA = Mistrust/Abuse; SI = Social Isolation; DS = Defectiveness/Shame; FA = Failure; DI = Dependence/Incompetence; VU = Vulnerability to Harm; EU = Enmeshment/Underdeveloped Self; ET =

Entitlement/Grandiosity; IS = Insufficient Self-Control; SB = Subjugation; SS = Self-Sacrifice; AS = Approval Seeking; NP = Negativity/Pessimism; EI = Emotional Inhibition; US = Unrelenting Standards; PU = Punitiveness.

^a All MIs for the 18 CFA models were greater than 6.63 (Range: 10.09–369.85), therefore the first author examined items associated with the three largest (and with multiple) MIs. All MIs can be requested from the author.