

Testing DSM-5-TR Criteria for Prolonged Grief Disorder

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Datasets Used to Test DSM-5-TR Criteria for Prolonged Grief Disorder

DATASETS ANALYZED COME FROM THE FOLLOWING COUNTRIES:

- TAIWAN (referred to as Taiwan Study)
- NETHERLANDS (referred to as Dutch Study)
- TURKEY (referred to as Turkish Study)
- UNITED KINGDOM (referred to as Oxford Study)
- UNITED STATES (referred to as Yale Bereavement Study)

STATISTICAL TESTS PERFORMED TO EXAMINE DSM-5-TR DIAGNOSTIC CRITERIA FOR PROLONGED GRIEF DISORDER (PGD)

- DIMENSIONALITY
- RELIABILITY
- PREVALENCE
- VALIDITY

Taiwan Dataset (PI: Professor Siew Tzuh Tang)

- Family caregivers of terminally ill cancer patients
- Recruited by convenience from December 2006 through December 2012
- Followed through July 2016
- Average age (years): 48.6 ± 12.4 at post-13 mo assessment
- Female vs male: 216 vs 122 at post-13 mo assessment
- Longitudinal data includes assessments at 13,18, and 24 months post-loss

Taiwan Dataset (PI: Professor Siew Tzuh Tang)

Sample sizes at each wave of assessment:

- 338 patients at post 13 mo
- 275 patients at post 18 mo
- 260 patients at post 24 mo

Longitudinally: 238 patients were assessed all 3 waves

Measures available: demographic characteristics, PGD, CESD,
MOS-Short Form (SF36)



Taiwan Data Administered the PG-13

PG13-1	In the past month, how often have you felt yourself longing or yearning for the person you lost?
PG13-2	In the past month, how often have you had intense feelings of emotional pain, sorrow, or pangs of grief related to the lost relationship?
PG13-3	For questions 1 or 2 above, have you experienced either of these symptoms at least daily and after 6 months have elapsed since the loss?
PG13-4	In the past month, how often have you tried to avoid reminders that the person you lost is gone?
PG13-5	In the past month, how often have you felt stunned, shocked, or dazed by your loss?
PG13-6	Do you feel confused about your role in life or feel like you don't know who you are (i.e., feeling that a part of yourself has died)?
PG13-7	Have you had trouble accepting the loss?
PG13-8	Has it been hard for you to trust others since your loss?
PG13-9	Do you feel bitter over your loss?
PG13-10	Do you feel that moving on (e.g., making new friends, pursuing new interests) would be difficult for you now?
PG13-11	Do you feel emotionally numb since your loss?
PG13-12	Do you feel that life is unfulfilling, empty, or meaningless since your loss?
PG13-13	Have you experienced a significant reduction in social, occupational, or other important areas of functioning (e.g., domestic responsibilities)?

Indicator:

- PG3,PG13: 0|1
- Else: 1-3=0 | 4-5=1

PGD:

- (PG1|PG2)
- ~~& PG3~~
- & (sum(PG4-12)>=5)
- & PG13



Taiwan Data to Assess DSM Criteria for PGD

PG13-1	In the past month, how often have you felt yourself longing or yearning for the person you lost?
PG13-2	In the past month, how often have you had intense feelings of emotional pain, sorrow, or pangs of grief related to the lost relationship?
PG13-3	For questions 1 or 2 above, have you experienced either of these symptoms at least daily and after 6 months have elapsed since the loss?
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PG13-8	Has it been hard for you to trust others since your loss?
PG13-9	Do you feel bitter over your loss?
PG13-10	Do you feel that moving on (e.g., making new friends, pursuing new interests) would be difficult for you now?
PG13-11	Do you feel emotionally numb since your loss?
PG13-12	Do you feel that life is unfulfilling, empty, or meaningless since your loss?
PG13-13	Have you experienced a significant reduction in social, occupational, or other important areas of functioning (e.g., domestic responsibilities)?

Indicator:

- PG13: 0|1
- CESD14: 0-1=0 | 2-3=1
- Else: 1-3=0 | 4-5=1

DSM:

- PG1
- & (sum(PG2,PG4,PG6-7,PG10-12,CESD14)>=x)
- & PG13

CESD14 I felt lonely.

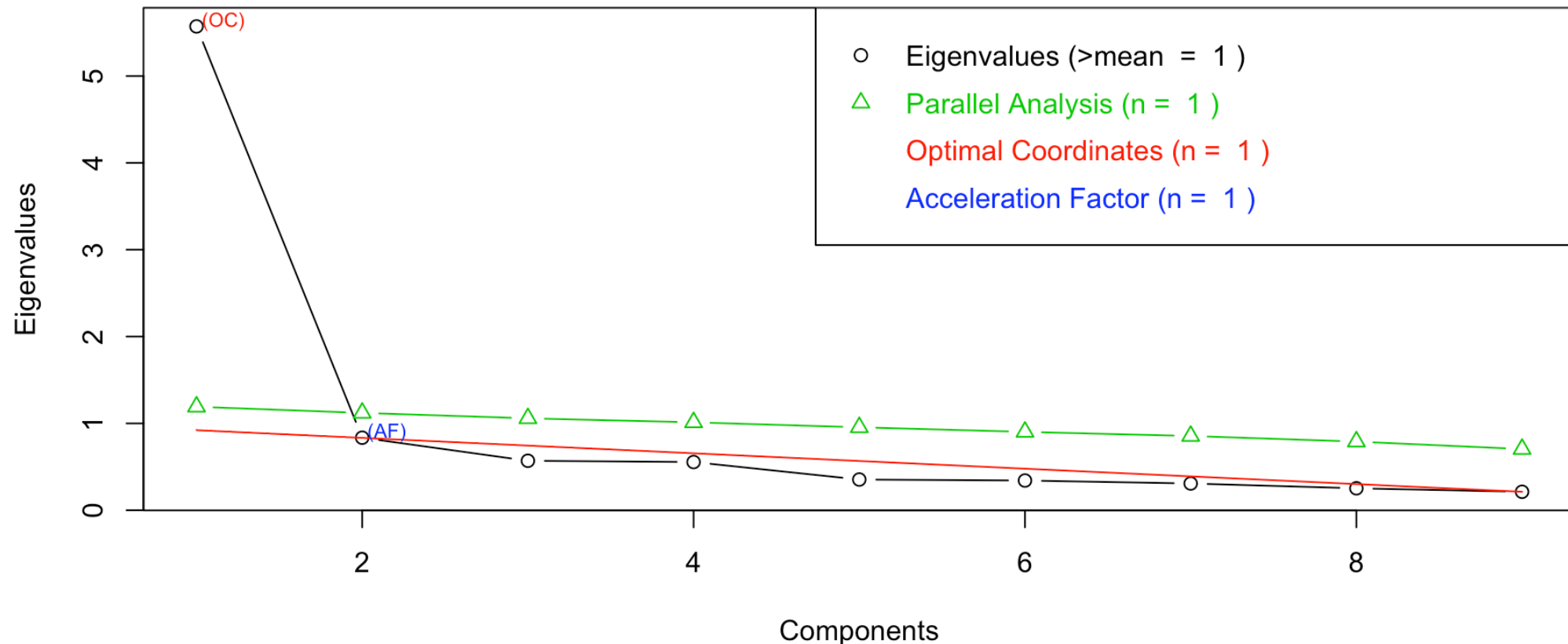
Taiwan Data Dimensionality of Proposed PGD Items

- Results suggest the criteria form a single factor/dimension

Post 13 mo; 8 symptoms + Yearning

Same results hold for post 18 24 wt/wo Yearning

Non Graphical Solutions to Scree Test





Taiwan Data Reliability (Internal Consistency) of Proposed PGD Items

- Reliability/internal consistency of items in proposed criteria is quite high $\sim .92$ and would only decline if items were removed suggesting all items should be retained

Cronbach's alpha for symptoms @ 13 mo

lower alpha upper			95% confidence boundaries						
0.91	0.92	0.93							
Reliability if an item is dropped:									
	raw_alpha	std.alpha	G6(smc)	average_r	S/N	alpha	se	var.r	med.r
PG1	0.92	0.92	0.92	0.59	11.4	0.0067	0.0079	0.58	
PG2	0.91	0.91	0.91	0.57	10.4	0.0073	0.0101	0.55	
PG4	0.92	0.92	0.92	0.59	11.4	0.0067	0.0080	0.58	
PG6	0.91	0.91	0.91	0.56	10.3	0.0073	0.0073	0.56	
PG7	0.91	0.91	0.92	0.57	10.7	0.0071	0.0098	0.55	
PG10	0.91	0.91	0.91	0.56	10.3	0.0074	0.0078	0.55	
PG11	0.91	0.91	0.91	0.55	10.0	0.0075	0.0059	0.55	
PG12	0.90	0.91	0.91	0.55	9.7	0.0079	0.0068	0.55	
CESD14	0.91	0.91	0.92	0.57	10.7	0.0071	0.0092	0.58	

Taiwan Data Reliability (Internal Consistency) of Proposed PGD Items

- Reliability/internal consistency of items in proposed criteria is quite high $\sim .92$ and would only decline if items were removed suggesting all items should be retained

Cronbach's alpha for symptoms @ 18 mo

lower alpha upper 95% confidence boundaries
0.9 0.92 0.93

Reliability if an item is dropped:

	raw_alpha	std.alpha	G6(smc)	average_r	S/N	alpha	se	var.r	med.r
PG1	0.91	0.91	0.91	0.57	10.7	0.0075	0.0087	0.57	
PG2	0.90	0.90	0.91	0.54	9.5	0.0086	0.0107	0.55	
PG4	0.91	0.91	0.91	0.56	10.1	0.0081	0.0112	0.56	
PG6	0.91	0.91	0.91	0.56	10.1	0.0081	0.0097	0.56	
PG7	0.90	0.91	0.91	0.54	9.6	0.0086	0.0107	0.54	
PG10	0.91	0.91	0.91	0.55	9.8	0.0083	0.0097	0.56	
PG11	0.90	0.91	0.90	0.54	9.5	0.0085	0.0080	0.55	
PG12	0.90	0.90	0.90	0.53	9.1	0.0091	0.0085	0.54	
CESD14	0.91	0.92	0.92	0.58	11.0	0.0077	0.0091	0.58	



Taiwan Data Reliability (Internal Consistency) of Proposed PGD Items

- Reliability/internal consistency of items in proposed criteria is quite high $\sim .93$ and would only decline if items were removed suggesting all items should be retained

Cronbach's alpha for symptoms @ 24 mo

lower alpha upper 95% confidence boundaries
0.91 0.93 0.94

Reliability if an item is dropped:

	raw_alpha	std.alpha	G6(smc)	average_r	S/N	alpha se	var.r	med.r
PG1	0.92	0.92	0.93	0.60	12	0.0071	0.0115	0.61
PG2	0.92	0.92	0.92	0.59	11	0.0077	0.0117	0.57
PG4	0.92	0.92	0.93	0.60	12	0.0074	0.0115	0.60
PG6	0.92	0.92	0.92	0.58	11	0.0077	0.0095	0.58
PG7	0.92	0.92	0.93	0.59	11	0.0078	0.0122	0.55
PG10	0.92	0.92	0.92	0.59	11	0.0076	0.0092	0.59
PG11	0.91	0.91	0.92	0.57	11	0.0079	0.0073	0.58
PG12	0.91	0.92	0.92	0.58	11	0.0080	0.0102	0.56
CESD14	0.93	0.93	0.93	0.62	13	0.0070	0.0085	0.61

Taiwan PGD Prevalence by #/8 “Criterion C” Items Required

- With 3 of 8 required, prevalence is 8.3% at 13 months; 5.1% at 18 months post-loss

[P1 & Sum(Sympt) >=X
~ symptoms only ~]

Post 13 Mo

- DSM patients / non-patients
- Prevalence by X
- # patients in accordance with PGD
- Rate of consistency with PGD

[1] 338

	DSM0	DSM1	DSM2	DSM3	DSM4	DSM5	DSM6	DSM7	DSM8
x	0	1	2	3	4	5	6	7	8
n_pat	85/253	53/285	36/302	28/310	23/315	13/325	7/331	3/335	2/336
prevalence	25.1 %	15.7 %	10.7 %	8.3 %	6.8 %	3.8 %	2.1 %	0.9 %	0.6 %
con_case	264	296	313	321	326	332	332	330	329
con_rate	78.1 %	87.6 %	92.6 %	95 %	96.4 %	98.2 %	98.2 %	97.6 %	97.3 %

Post 18 Mo

- DSM patients / non-patients
- Prevalence by X
- # patients in accordance with PGD
- Rate of consistency with PGD

[1] 275

	DSM0	DSM1	DSM2	DSM3	DSM4	DSM5	DSM6	DSM7	DSM8
x	0	1	2	3	4	5	6	7	8
n_pat	49/226	30/245	20/255	14/261	7/268	5/270	5/270	3/272	1/274
prevalence	17.8 %	10.9 %	7.3 %	5.1 %	2.5 %	1.8 %	1.8 %	1.1 %	0.4 %
con_case	231	250	260	266	273	275	275	273	271
con_rate	84 %	90.9 %	94.5 %	96.7 %	99.3 %	100 %	100 %	99.3 %	98.5 %



TAIWAN PGD PREVALENCE BY #/8 "CRITERION C" ITEMS REQUIRED

- With 3 of 8 required, prevalence is 4.2% at 24 months;
11.3% for anytime after 12 months post-loss

[P1 & Sum(Sympt) >=X
~ symptoms only ~]

Post 24 Mo

[1] 260

- DSM patients by X
- Prevalence by X
- # observations in accordance with PGD
- Rate of consistency with PGD

	DSM0	DSM1	DSM2	DSM3	DSM4	DSM5	DSM6	DSM7	DSM8
x	0	1	2	3	4	5	6	7	8
n_pat	35/225	23/237	20/240	11/249	6/254	5/255	3/257	2/258	1/259
prevalence	13.5 %	8.8 %	7.7 %	4.2 %	2.3 %	1.9 %	1.2 %	0.8 %	0.4 %
con_case	229	241	244	253	258	259	259	258	257
con_rate	88.1 %	92.7 %	93.8 %	97.3 %	99.2 %	99.6 %	99.6 %	99.2 %	98.8 %

Historical after 12 Mo

- DSM observations by X
- DSM patients by X
- Historical prevalence by X
- # observations in accordance with PGD
- Rate of consistency with PGD

	DSM0	DSM1	DSM2	DSM3	DSM4	DSM5	DSM6	DSM7	DSM8
x	0	1	2	3	4	5	6	7	8
n_obs	169	106	76	53	36	23	15	8	4
n_pat	110	75	55	39	27	17	11	7	4
his_pre	31.8 %	21.7 %	15.9 %	11.3 %	7.8 %	4.9 %	3.2 %	2 %	1.2 %
con_case	724	787	817	840	857	866	866	861	857
con_rate	82.9 %	90.1 %	93.6 %	96.2 %	98.2 %	99.2 %	99.2 %	98.6 %	98.2 %

Taiwan PGD Prevalence by #/8 “Criterion C” Items Required

- With 3 of 8 required, and yearning and impairment required, prevalence is 7.1% at 13 months; 3.6% at 18 months post-loss

P1 & Sum(Sympt) >=X & PG13
~ Symptoms and Impairment ~

Post 13 Mo

- DSM patients / non-patients
- Prevalence by X
- # patients in accordance with PGD
- Rate of consistency with PGD

[1] 338

	DSM0	DSM1	DSM2	DSM3	DSM4	DSM5	DSM6	DSM7	DSM8
x	0	1	2	3	4	5	6	7	8
n_pat	32/306	30/308	27/311	24/314	21/317	13/325	7/331	3/335	2/336
prevalence	9.5 %	8.9 %	8 %	7.1 %	6.2 %	3.8 %	2.1 %	0.9 %	0.6 %
con_case	317	319	322	325	328	332	332	330	329
con_rate	93.8 %	94.4 %	95.3 %	96.2 %	97 %	98.2 %	98.2 %	97.6 %	97.3 %

Post 18 Mo

- DSM patients / non-patients
- Prevalence by X
- # patients in accordance with PGD
- Rate of consistency with PGD

[1] 275

	DSM0	DSM1	DSM2	DSM3	DSM4	DSM5	DSM6	DSM7	DSM8
x	0	1	2	3	4	5	6	7	8
n_pat	16/259	15/260	13/262	10/265	7/268	5/270	5/270	3/272	1/274
prevalence	5.8 %	5.5 %	4.7 %	3.6 %	2.5 %	1.8 %	1.8 %	1.1 %	0.4 %
con_case	264	265	267	270	273	275	275	273	271
con_rate	96 %	96.4 %	97.1 %	98.2 %	99.3 %	100 %	100 %	99.3 %	98.5 %



Taiwan PGD Prevalence by #/8 “Criterion C” Items Required

- With 3 of 8 required, and impairment required, prevalence is 3.1% at 24 months; 9.2% after 12 months post-loss

P1 & Sum(Sympt) \geq X & PG13
~ Symptoms and Impairment ~

Post 24 Mo

- DSM patients by X
- Prevalence by X
- # observations in accordance with PGD
- Rate of consistency with PGD

[1] 260

	DSM0	DSM1	DSM2	DSM3	DSM4	DSM5	DSM6	DSM7	DSM8
x	0	1	2	3	4	5	6	7	8
n_pat	16/244	10/250	10/250	8/252	6/254	5/255	3/257	2/258	1/259
prevalence	6.2 %	3.8 %	3.8 %	3.1 %	2.3 %	1.9 %	1.2 %	0.8 %	0.4 %
con_case	248	254	254	256	258	259	259	258	257
con_rate	95.4 %	97.7 %	97.7 %	98.5 %	99.2 %	99.6 %	99.6 %	99.2 %	98.8 %

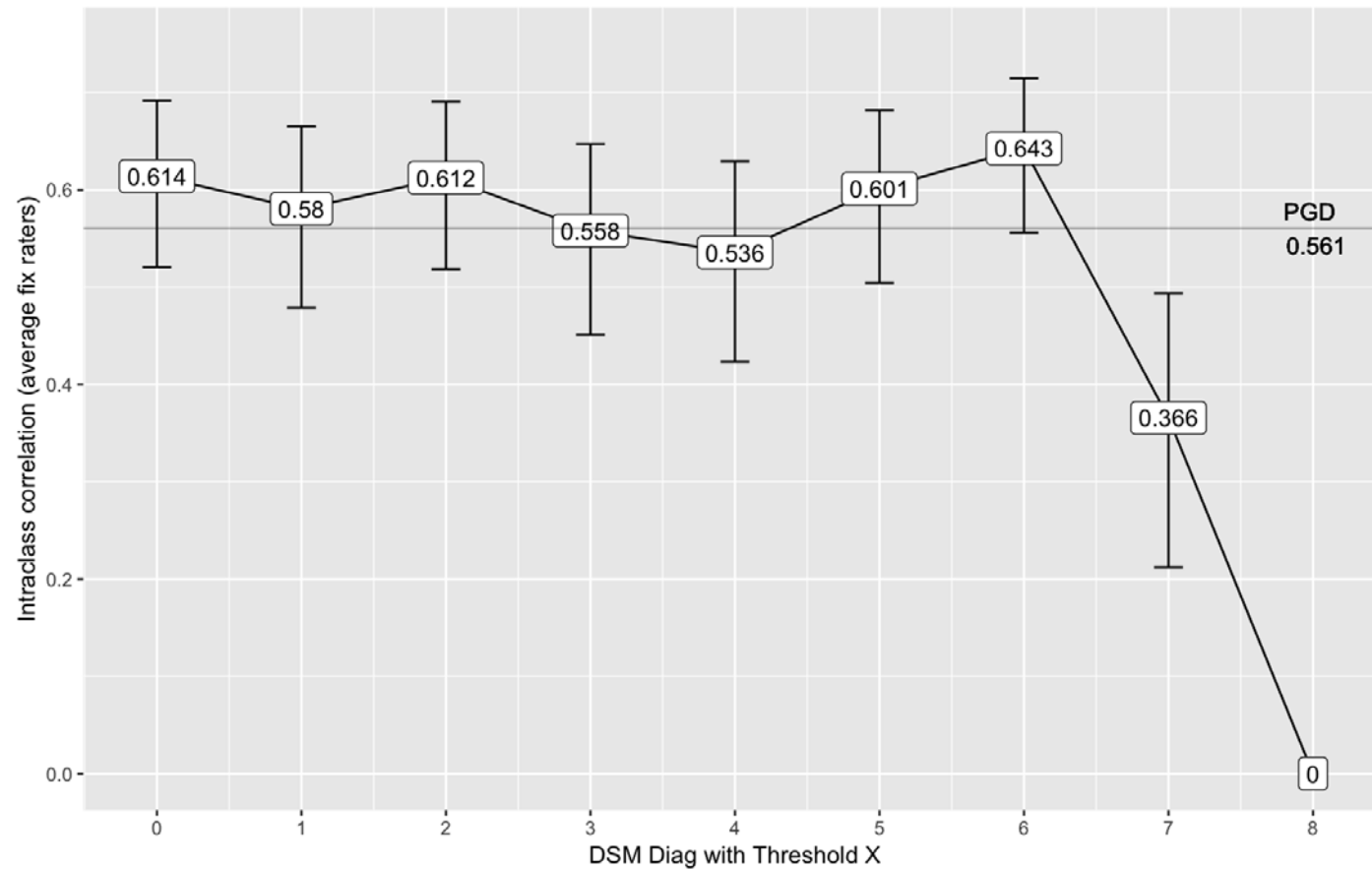
Historical after 12 Mo

- DSM observations by X
- DSM patients by X
- Historical prevalence by X
- # observations in accordance with PGD
- Rate of consistency with PGD

	DSM0	DSM1	DSM2	DSM3	DSM4	DSM5	DSM6	DSM7	DSM8
x	0	1	2	3	4	5	6	7	8
n_obs	64	55	50	42	34	23	15	8	4
n_pat	46	42	37	32	26	17	11	7	4
his_pre	13.3 %	12.1 %	10.7 %	9.2 %	7.5 %	4.9 %	3.2 %	2 %	1.2 %
con_case	829	838	843	851	859	866	866	861	857
con_rate	95 %	96 %	96.6 %	97.5 %	98.4 %	99.2 %	99.2 %	98.6 %	98.2 %

Taiwan Data Reliability - Test-retest Intra-Class Correlations

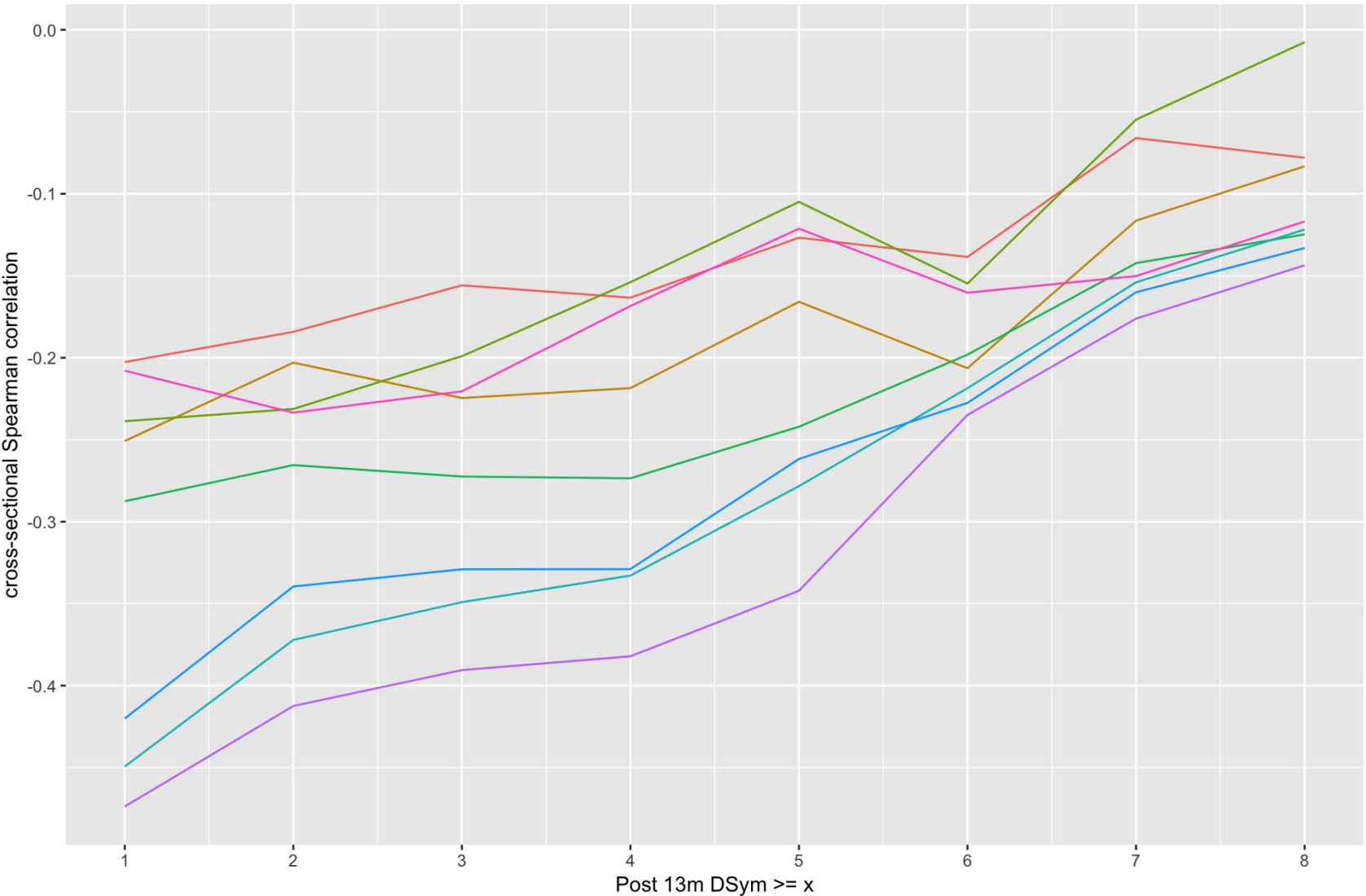
- Test-retest reliability (ICC) is comparable to that of the PGD (PLoS Medicine 2009) for 3 required Criterion C items at 0.56





Taiwan Data External Validity

Post 13 mo w/t SF36 at 13 months post-loss
~ Sum of symptoms out of 8 ~

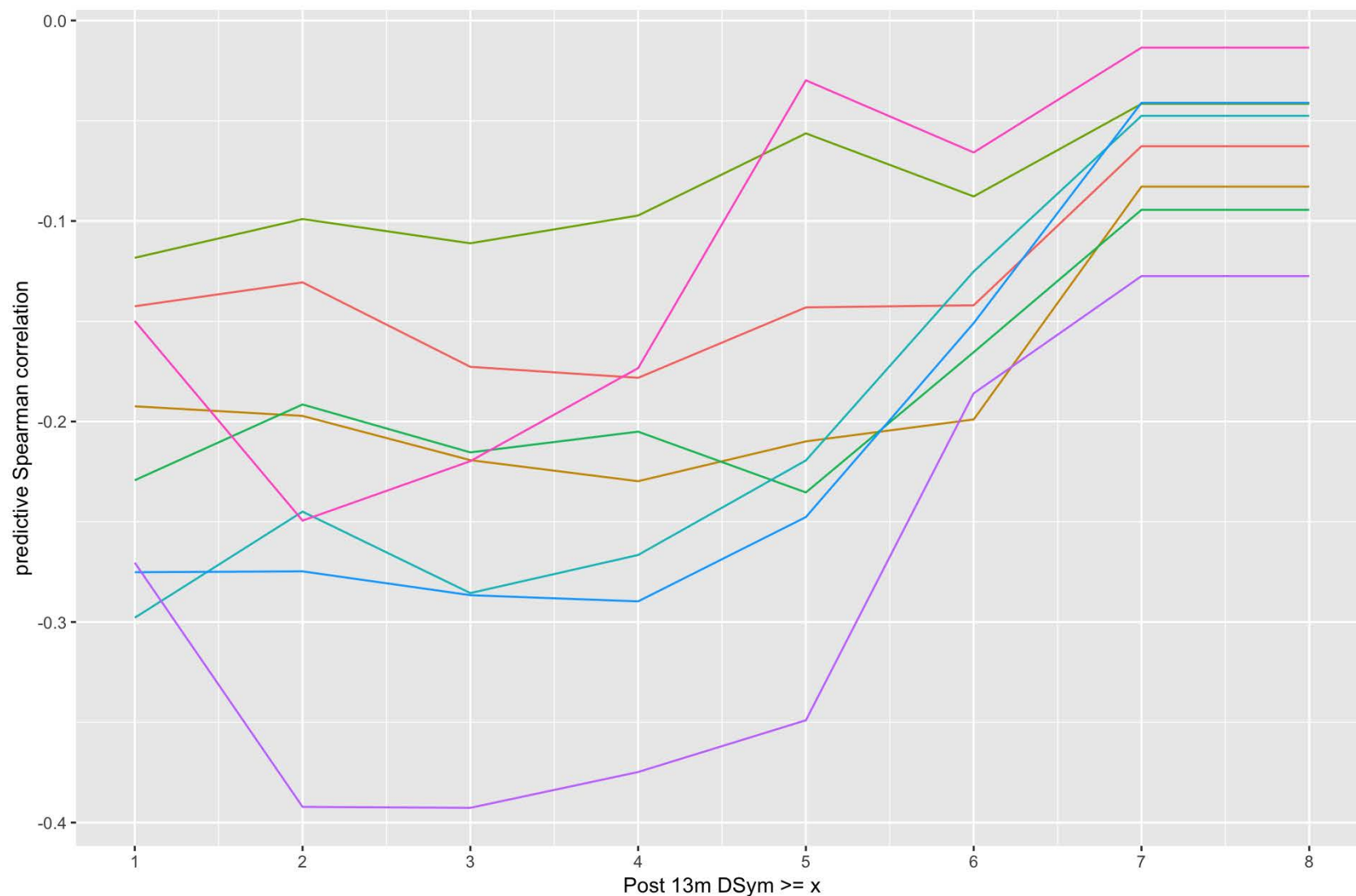


x	DSM diagnosis	Non-DSM
0	32	306
1	30	308
2	27	311
3	24	314
4	21	317
5	13	325
6	7	331
7	3	335
8	2	336

➤ Results suggest DSM PGD criteria are differentially and most associated with impaired **role** and **social** functioning and less with **physical** functioning and **bodily pain**; and associations decrease > 3

Taiwan Data External Validity

Post 13 mo w/t post 18 mo SF36
~ Sum of symptoms out of 8 ~



SF36 subdomain

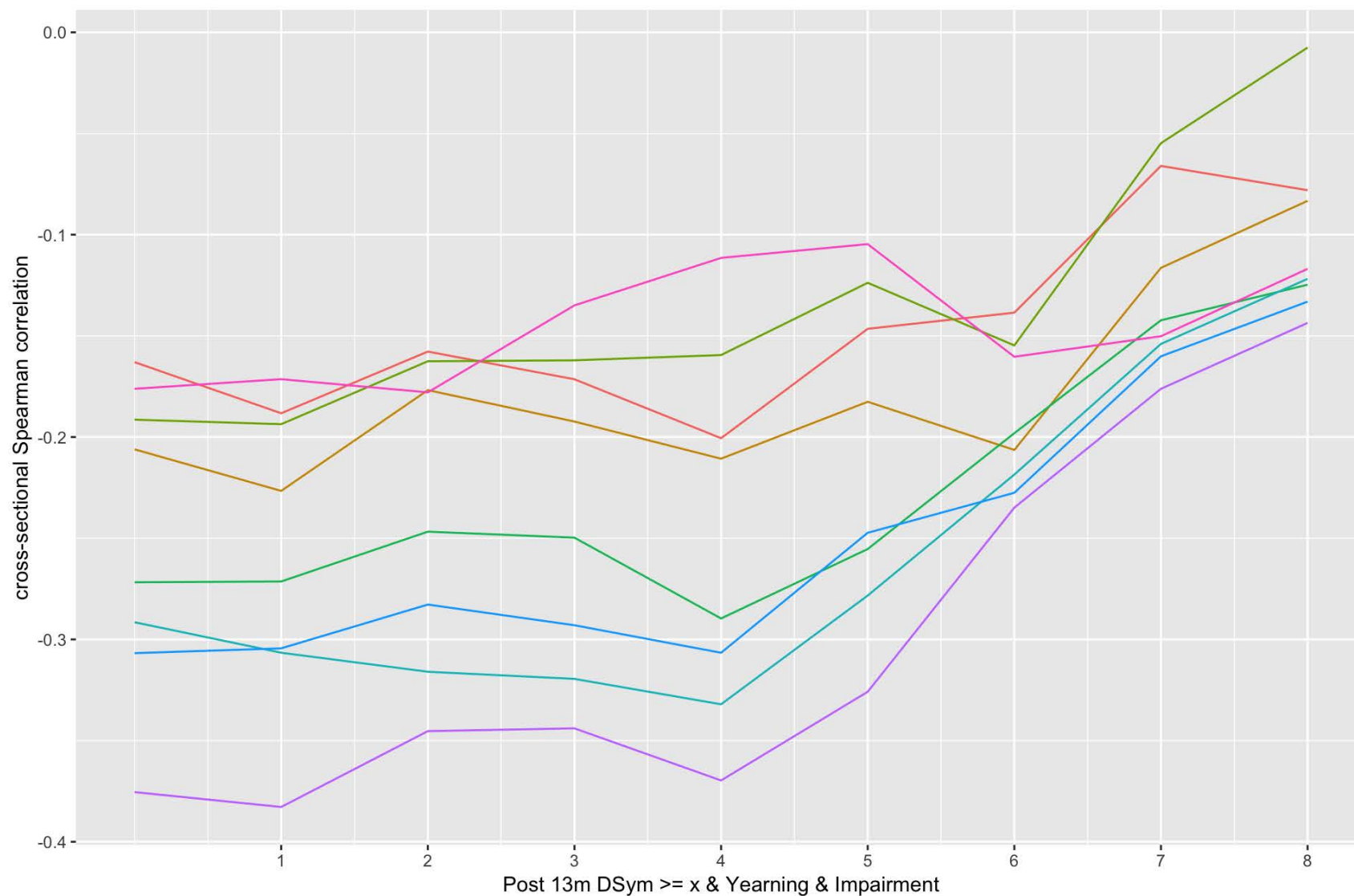
SFphyfun
SFroleph
SFbodypn
SFgenhel
SFvital
SFsocfun
SFrolemo
SFmenhel

x	DSM diagnosis	Non-DSM
0	25	245
1	24	246
2	22	248
3	20	250
4	17	253
5	10	260
6	5	265
7	1	269
8	1	269

➤ Results suggest DSM PGD criteria are differentially and most associated with impaired **role** and **social** functioning and less with **physical** functioning and **bodily pain**; and associations decrease > 3

Taiwan Data External Validity

Post 13 mo w/t post 13 mo SF36
~ Diagnosis ~

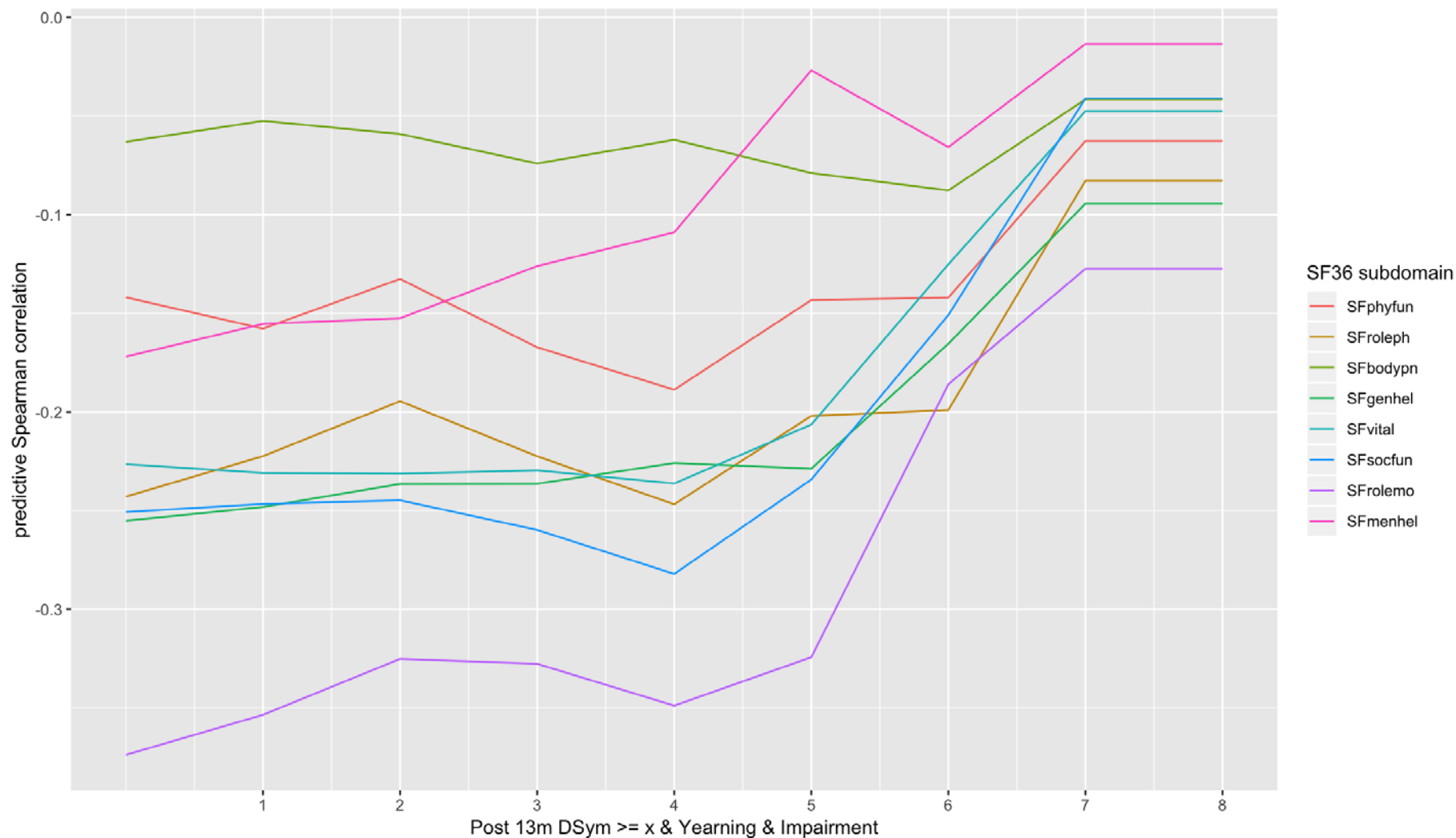


x	DSM diagnosis	Non-DSM
0	32	306
1	30	308
2	27	311
3	24	314
4	21	317
5	13	325
6	7	331
7	3	335
8	2	336

➤ Results suggest DSM PGD criteria are differentially and most associated with impaired **role** and **social** functioning and less with **physical** functioning and **bodily pain**; and associations decrease > 4

Taiwan Data External Validity

Post 13 mo w/t post 18 mo SF36
~ Sum of symptoms out of 8 ~

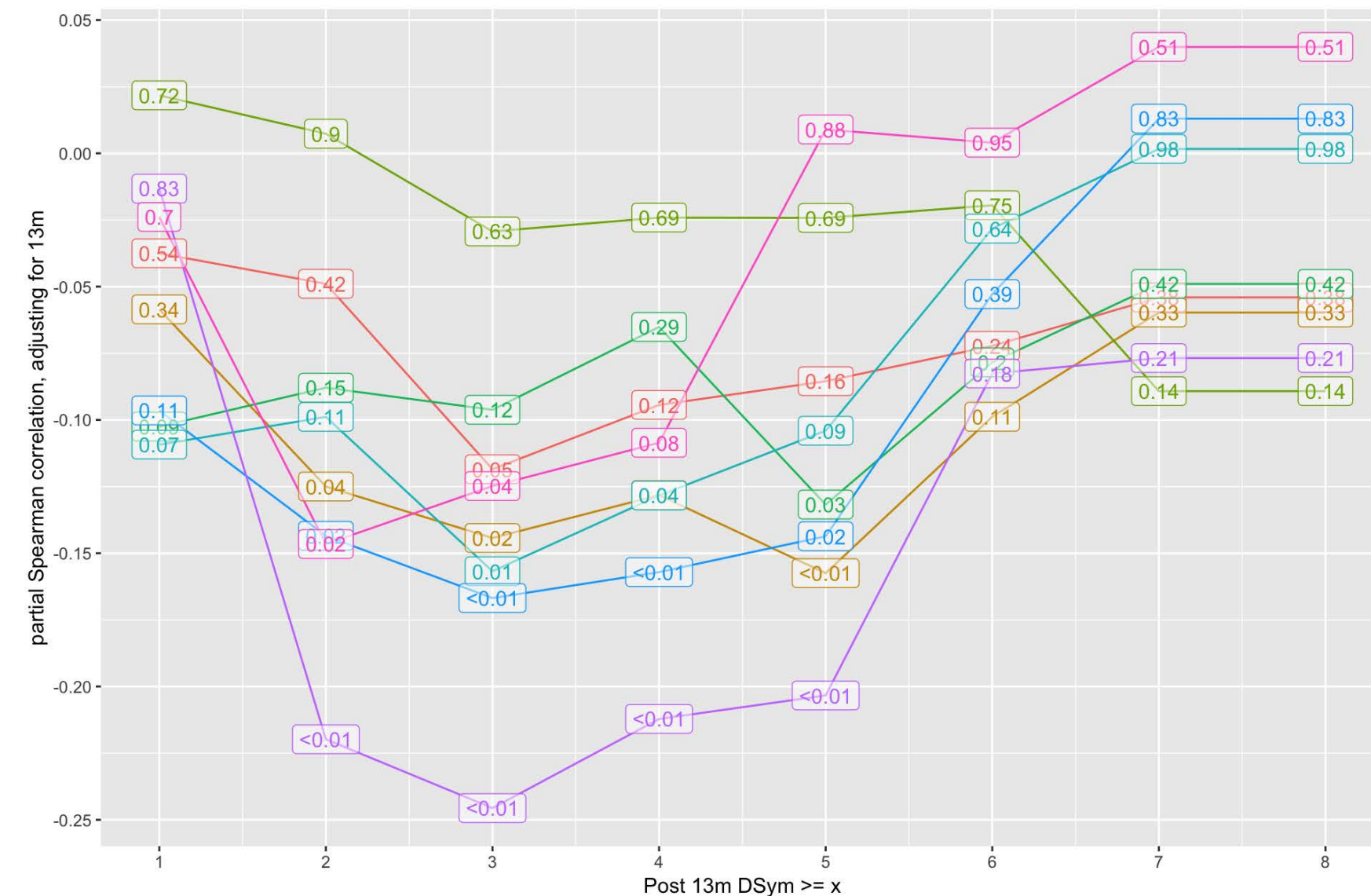


x	DSM diagnosis	Non-DSM
0	25	245
1	24	246
2	22	248
3	20	250
4	17	253
5	10	260
6	5	265
7	1	269
8	1	269

➤ Results suggest DSM PGD criteria are differentially and most associated with impaired **role** and **social** functioning and less with **physical** functioning and **bodily pain**; and associations decrease > 4

Taiwan Data External Validity

Post 13 mo w/t post 18 mo SF36, controlling
post 13 mo outcome
~ Sum of symptoms out of 8 ~



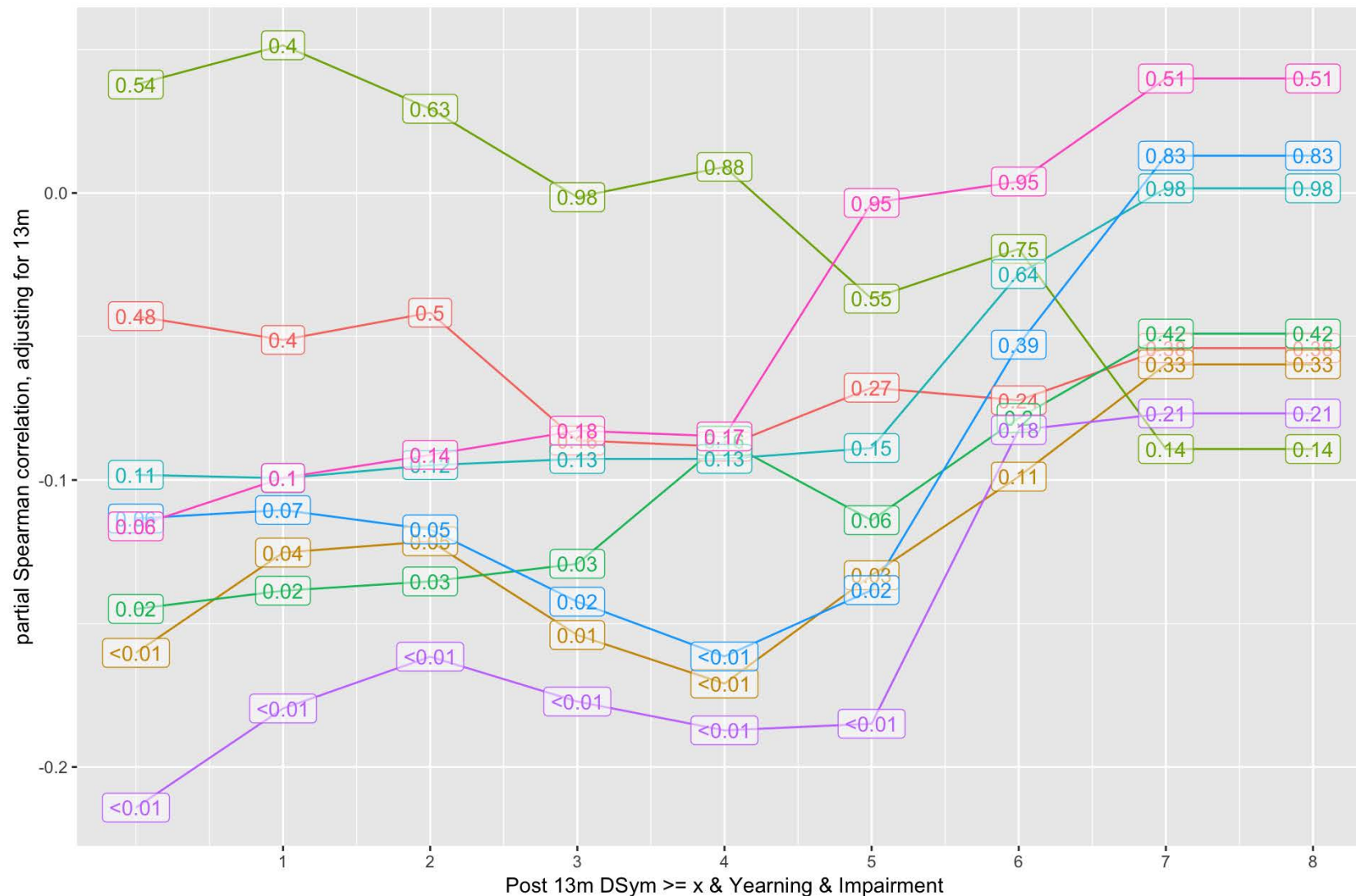
x	DSM diagnosis	Non-DSM
0	25	245
1	24	246
2	22	248
3	20	250
4	17	253
5	10	260
6	5	265
7	1	269
8	1	269

Number in
boxes: p-value
for partial
spearman
correlation test

➤ Results suggest 3 of 8 most associated with impaired **role** and **social** functioning and less with **general health** and **bodily pain** at **18 m, controlling for 13 m**

Taiwan Data External Validity

Post 13 mo w/t post 18 mo SF36, controlling for
post 13 mo outcome
~ Diagnosis ~



x	DSM diagnosis	Non-DSM
0	25	245
1	24	246
2	22	248
3	20	250
4	17	253
5	10	260
6	5	265
7	1	269
8	1	269

Number in boxes: p-value for partial spearman correlation test

➤ Results suggest 4/5 of 8, with yearning & impairment most associated with impaired **role** and **social** functioning and less with **general health** and **bodily pain** at **18 m, controlling for 13 m**

Conclusions from Taiwan Data

DIMENSIONALITY

- Results suggest the PGD DSM-5-TR criteria form a single, **unidimensional** factor/dimension (eigenvalue of 1st factor >5, others 1 or less)

RELIABILITY

- The symptoms are **reliable** in that they have high internal consistency (Cronbach's alpha ~.92) and test-retest reliability (ICC=.56)

PREVALENCE

- With **3 of 8** required, and yearning and impairment required, prevalence is **7.1%** at 13 months
- With **3 of 8** required, and yearning and impairment required, prevalence is **9.2%** after 12 months post-loss

VALIDITY

- Results suggest 3 of 8 most associated with impaired **role** and **social** functioning and less with **general health** and **bodily pain** at 18 m, controlling for 13 m

Dutch Dataset (PI: Professor Paul Boelen)

- Community sample with participants recruited via professional and lay mental health services that distributed questionnaires to bereaved individuals they encountered
- Longitudinal data with baseline assessed at 12-120 months postloss and 1-year follow-up
- T1: 512 participants who were at least 18 years of age and bereaved more than 5 months but less than 10 years prior
- T2: One year follow-up. Of the 512 participants, 280 (54.7%) remained
- Mean age, SD (years): 53.2 ± 14.0
- Female vs male: 270 vs 79

Dutch Dataset (PI: Professor Paul Boelen)

- Cross-sectional samples:
 - 349 patients at T1 \geq 12 mo
 - 262 patients at T2 a year later
- Longitudinal sample:
 - 167 patients at both times
 - Measures available: Demographics, BDI, PTSD



Dutch PG13

Left: Based on PG13 item order
Right: ICG-R Based on Dutch dataset

PG13-1	In the past month, how often have you felt yourself longing or yearning for the person you lost?
PG13-2	In the past month, how often have you had intense feelings of emotional pain, sorrow, or pangs of grief related to the lost relationship?
PG13-3	For questions 1 or 2 above, have you experienced either of these symptoms at least daily and after 6 months have elapsed since the loss?
PG13-4	In the past month, how often have you tried to avoid reminders that the person you lost is gone?
PG13-5	In the past month, how often have you felt stunned, shocked, or dazed by your loss?
PG13-6	Do you feel confused about your role in life or feel like you don't know who you are (i.e., feeling that a part of yourself has died)?
PG13-7	Have you had trouble accepting the loss?
PG13-8	Has it been hard for you to trust others since your loss?
PG13-9	Do you feel bitter over your loss?
PG13-10	Do you feel that moving on (e.g., making new friends, pursuing new interests) would be difficult for you now?
PG13-11	Do you feel emotionally numb since your loss?
PG13-12	Do you feel that life is unfulfilling, empty, or meaningless since your loss?
PG13-13	Have you experienced a significant reduction in social, occupational, or other important areas of functioning (e.g., domestic responsibilities)?

- 1 The death of ____ feels overwhelming or devastating. (T2)
- 2 I think about ____ so much that it can be hard for me to do the things I normally do.
- 3 Memories of ____ upset me. (T2)
- 4 =>P7 I feel I have trouble accepting the death. (T2)
- 5 =>P1 I feel myself longing and yearning for _____. (T2)
- 6 I feel drawn to places and things associated with _____. (T2)
- 7 =>OR P9 I can't help feeling angry about ____'s death. (T2)
- 8 =>OR P7 I feel disbelief over ____'s death. (T2)
- 9 =>P5 I feel stunned, dazed or shocked over ____'s death. (T2)
- 10 =>P8 Ever since ____ died it is hard for me to trust people. (T2)
- 11 Ever since ____ died I feel I have lost the ability to care about other people or I feel distant from people I care about. (T2)
- 12 I have pain in the same area of my body, some of the same symptoms, or have assumed some of the behaviors or characteristics of _____. (T2)
- 13 =>P4 I go out of my way to avoid reminders that ____ is gone. (T2)
- 14 =>P12 I feel that life is empty or meaningless without _____. (T2)
- 15 I hear the voice of ____ speak to me. (T2)
- 16 I see ____ stand before me. (T2)
- 17 =>P11 I feel like I have become numb since the death of _____. (T2)
- 18 I feel that it is unfair that I should live when ____ died. (T2)
- 19 =>P9 I am bitter over ____'s death. (T2)
- 20 I feel envious of others who have not lost someone close. (T2)
- 21 =>OR P12 I feel like the future holds no meaning or purpose without _____. (T2)
- 22 =>CESD14 I feel lonely ever since ____ died. (T2)
- 23 I feel unable to imagine life being fulfilling without _____. (T2)
- 24 =>P6 I feel that a part of myself died along with the deceased. (T2)
- 25 I feel that the death has changed my view of the world. (T2)
- 26 I have lost my sense of security, safety, or control since the death of _____. (T2)
- 27 I have felt on edge, jumpy, or easily startled since the death. (T2)
- 28 =>P13 I believe that my grief has resulted in significant impairment in my social, occupational or other areas of functioning. (T2)
- 29 Since the death of ____, my sleep has been bad. (T2)
- 30 =>P10 I experience difficulties moving on with life (e.g., making new friend, pursuing interests). (T2)
- 31 =>P2 I experience intense emotional pain, sadness, or pangs of grief. (T2)
- 32 =>OR P4 I avoided places or objects reminding me that [...] is dead. (T2)



Dutch PG-13

PG13-1	In the past month, how often have you felt yourself longing or yearning for the person you lost?
PG13-2	In the past month, how often have you had intense feelings of emotional pain, sorrow, or pangs of grief related to the lost relationship?
PG13-3	For questions 1 or 2 above, have you experienced either of these symptoms at least daily and after 6 months have elapsed since the loss?
PG13-4	In the past month, how often have you tried to avoid reminders that the person you lost is gone?
PG13-5	In the past month, how often have you felt stunned, shocked, or dazed by your loss?
PG13-6	Do you feel confused about your role in life or feel like you don't know who you are (i.e., feeling that a part of yourself has died)?
PG13-7	Have you had trouble accepting the loss?
PG13-8	Has it been hard for you to trust others since your loss?
PG13-9	Do you feel bitter over your loss?
PG13-10	Do you feel that moving on (e.g., making new friends, pursuing new interests) would be difficult for you now?
PG13-11	Do you feel emotionally numb since your loss?
PG13-12	Do you feel that life is unfulfilling, empty, or meaningless since your loss?
PG13-13	Have you experienced a significant reduction in social, occupational, or other important areas of functioning (e.g., domestic responsibilities)?

Indicator:

- PG1-2,3-13: 1-3=0 | 4-5=1

PGD:

- (PG1 | PG2)
- ~~& PG3~~
- & (sum(PG4-12) >= 5)
- & PG13

PG: Based on PG13 item order

PGD: Based on NE dataset



Dutch DSM-5-TR PGD Items

PG13-1	In the past month, how often have you felt yourself longing or yearning for the person you lost?
PG13-2	In the past month, how often have you had intense feelings of emotional pain, sorrow, or pangs of grief related to the lost relationship?
PG13-3	For questions 1 or 2 above, have you experienced either of these symptoms at least daily and after 6 months have elapsed since the loss?
PG13-4	In the past month, how often have you tried to avoid reminders that the person you lost is gone?
PG13-5	In the past month, how often have you felt stunned, shocked, or dazed by your loss?
PG13-6	Do you feel confused about your role in life or feel like you don't know who you are (i.e., feeling that a part of yourself has died)?
PG13-7	Have you had trouble accepting the loss?
PG13-8	Has it been hard for you to trust others since your loss?
PG13-9	Do you feel bitter over your loss?
PG13-10	Do you feel that moving on (e.g., making new friends, pursuing new interests) would be difficult for you now?
PG13-11	Do you feel emotionally numb since your loss?
PG13-12	Do you feel that life is unfulfilling, empty, or meaningless since your loss?
PG13-13	Have you experienced a significant reduction in social, occupational, or other important areas of functioning (e.g., domestic responsibilities)?

Indicator:

- CESD14: 1-3=0 | 4-5=1
- Else: 1-3=0 | 4-5=1

DSM:

- PG1
- & (sum(PG2, PG4,PG6-7,PG10-12,CESD14)>=x)
- & PG13

PG: Based on PG13 item order

PGD: Based on Dutch dataset

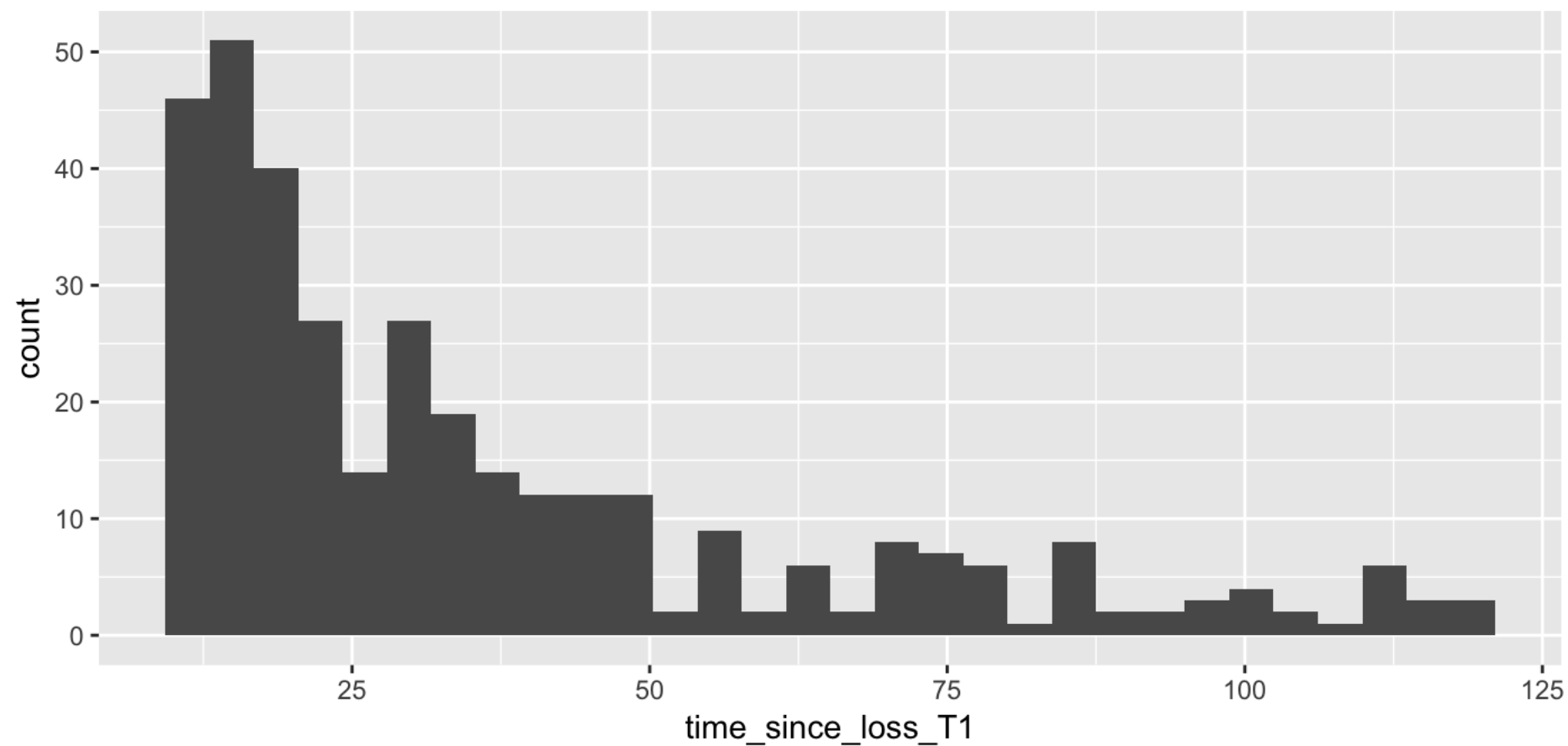
CESD14	I feel lonely ever since ____ died. (T2)
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Dutch Time Since Death

Samples by months since loss at T1:

- 12-24: 164
- 12-50: 274
- 12-120: 351

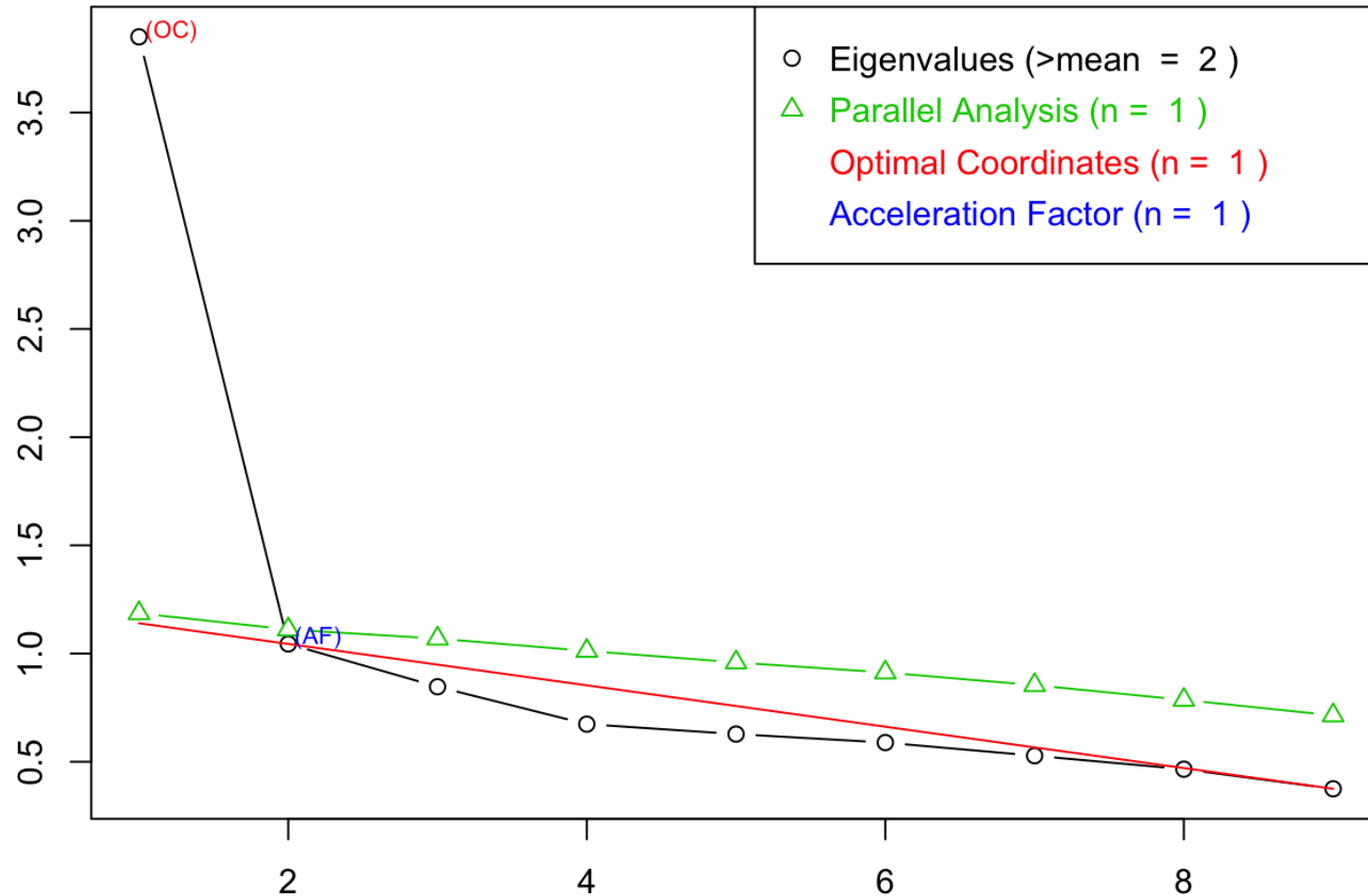


Dimensionality: Dutch Data

T1; w/ Yearning

Same results for T1/T2 wt/wo Yearning

Non Graphical Solutions to Scree Test



➤ Results suggest the criteria form a single factor/dimension

Reliability: Internal Consistency using Dutch Data

- Results high Cronbach's alpha of .89-.90 and slight improvement with deletion of avoidance item (and impairment item)

Single map

lower alpha upper 95% confidence boundaries
0.87 0.89 0.9

Reliability if an item is dropped:

	raw_alpha	std.alpha	G6(smc)	average_r	S/N	alpha	se	var.r	med.r
ICGR_T1_item5	0.87	0.87	0.87	0.45	6.6	0.0095	0.0365	0.52	
ICGR_T1_item31	0.87	0.86	0.87	0.44	6.2	0.0099	0.0386	0.50	
ICGR_T1_item13	0.90	0.91	0.90	0.55	9.6	0.0077	0.0059	0.56	
ICGR_T1_item24	0.87	0.86	0.87	0.44	6.4	0.0098	0.0355	0.51	
ICGR_T1_item4	0.88	0.87	0.88	0.46	6.9	0.0089	0.0436	0.56	
ICGR_T1_item30	0.87	0.87	0.87	0.45	6.4	0.0097	0.0395	0.52	
ICGR_T1_item17	0.87	0.86	0.87	0.44	6.3	0.0098	0.0392	0.51	
ICGR_T1_item14	0.86	0.86	0.86	0.43	5.9	0.0106	0.0330	0.51	
ICGR_T1_item22	0.87	0.86	0.87	0.44	6.4	0.0098	0.0369	0.52	

Or map

raw_alpha std.alpha G6(smc) average_r S/N ase mean sd median_r
0.9 0.9 0.9 0.5 8.9 0.0079 2.8 0.87 0.55

lower alpha upper 95% confidence boundaries
0.88 0.9 0.91

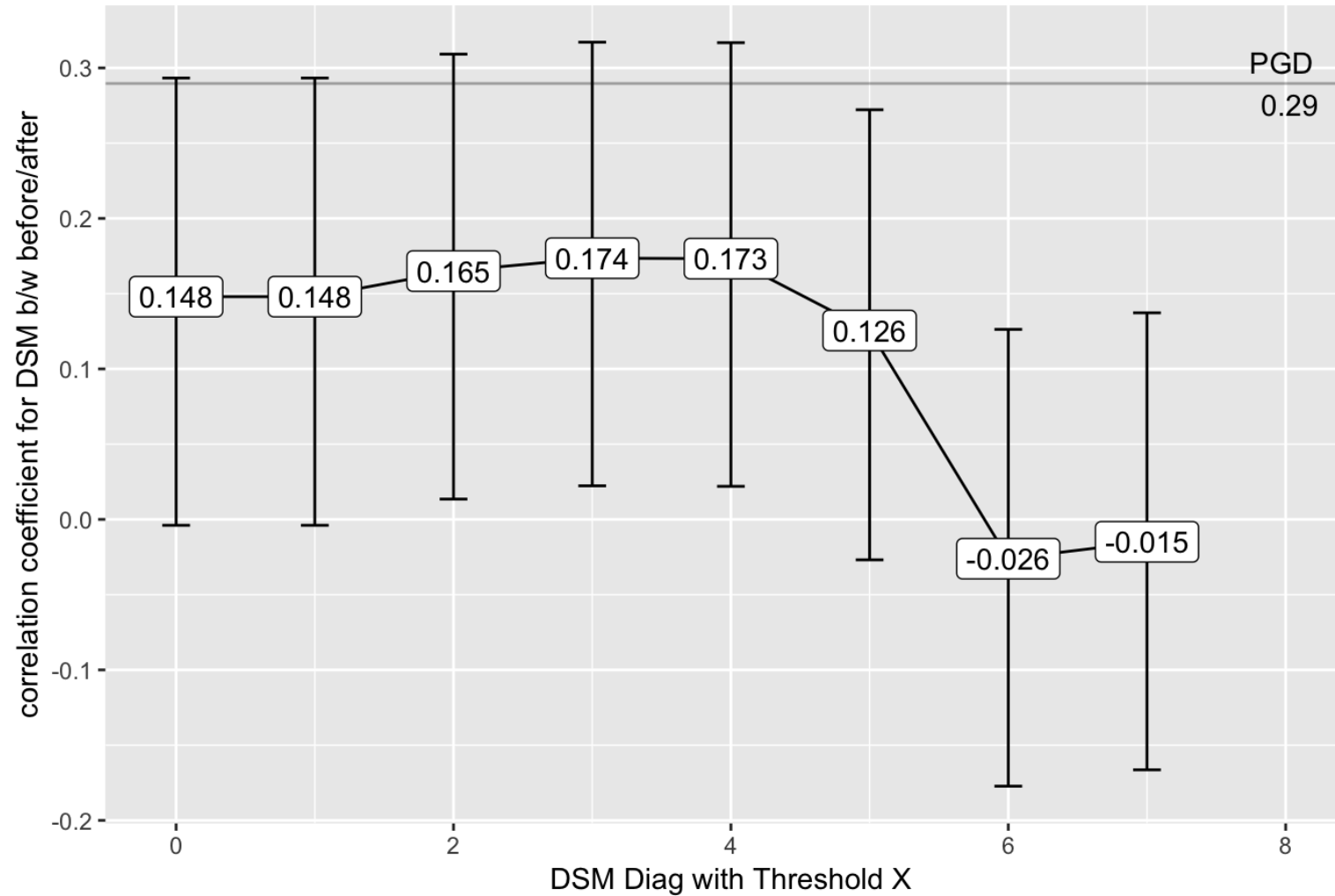
Reliability if an item is dropped:

	raw_alpha	std.alpha	G6(smc)	average_r	S/N	alpha	se	var.r	med.r
ICGR_T1_item5	0.89	0.89	0.89	0.50	7.9	0.0089	0.019	0.55	
ICGR_T1_item31	0.88	0.88	0.89	0.48	7.5	0.0092	0.021	0.52	
T1P4o	0.91	0.91	0.91	0.56	10.3	0.0073	0.005	0.57	
ICGR_T1_item24	0.88	0.88	0.89	0.49	7.7	0.0092	0.020	0.53	
T1P7o	0.89	0.89	0.89	0.50	8.1	0.0086	0.023	0.56	
ICGR_T1_item30	0.89	0.89	0.89	0.50	7.9	0.0090	0.022	0.55	
ICGR_T1_item17	0.88	0.88	0.89	0.49	7.6	0.0092	0.022	0.54	
T1P12o	0.88	0.88	0.88	0.48	7.3	0.0097	0.017	0.53	
ICGR_T1_item22	0.88	0.89	0.89	0.49	7.7	0.0091	0.021	0.55	



Dutch Data Reliability - Test-retest Intra-Class Correlations

T1 vs T2 correlation coefficient



➤ Test-retest reliability (ICC) is highest with 3 of 8 Criterion C symptoms required (.17) but inferior to PGD (PLOS Medicine 2009) of 0.29

Dutch PGD Prevalence by #/8 “Criterion C” Items Required

P1 & Sum(Sympt) >=X & P13

- With 3 of 8 required, and yearning and impairment required, prevalence is 13.5% at 12-120 months; 6.9% at 1-year follow-up

T1: post 12-120 mo

- DSM patients / non-patients
- Prevalence by X
- # patients in accordance with PGD
- Rate of consistency with PGD

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[1] 349
```

	DSM0	DSM1	DSM2	DSM3	DSM4	DSM5	DSM6	DSM7	DSM8
x	0	1	2	3	4	5	6	7	8
n_pat	51/298	51/298	50/299	47/302	46/303	33/316	27/322	16/333	5/344
prevalence	14.6 %	14.6 %	14.3 %	13.5 %	13.2 %	9.5 %	7.7 %	4.6 %	1.4 %
con_case	326	326	327	330	331	336	338	331	320
con_rate	93.4 %	93.4 %	93.7 %	94.6 %	94.8 %	96.3 %	96.8 %	94.8 %	91.7 %

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[1] 167
```

	DSM0	DSM1	DSM2	DSM3	DSM4	DSM5	DSM6	DSM7	DSM8
x	0	1	2	3	4	5	6	7	8
n_pat	10/157	10/157	9/158	9/158	5/162	4/163	3/164	2/165	1/166
prevalence	6 %	6 %	5.4 %	5.4 %	3 %	2.4 %	1.8 %	1.2 %	0.6 %
con_case	158	158	159	159	163	164	165	164	163
con_rate	94.6 %	94.6 %	95.2 %	95.2 %	97.6 %	98.2 %	98.8 %	98.2 %	97.6 %

```
> nrow(dfdsm3);dftrate3
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[1] 262
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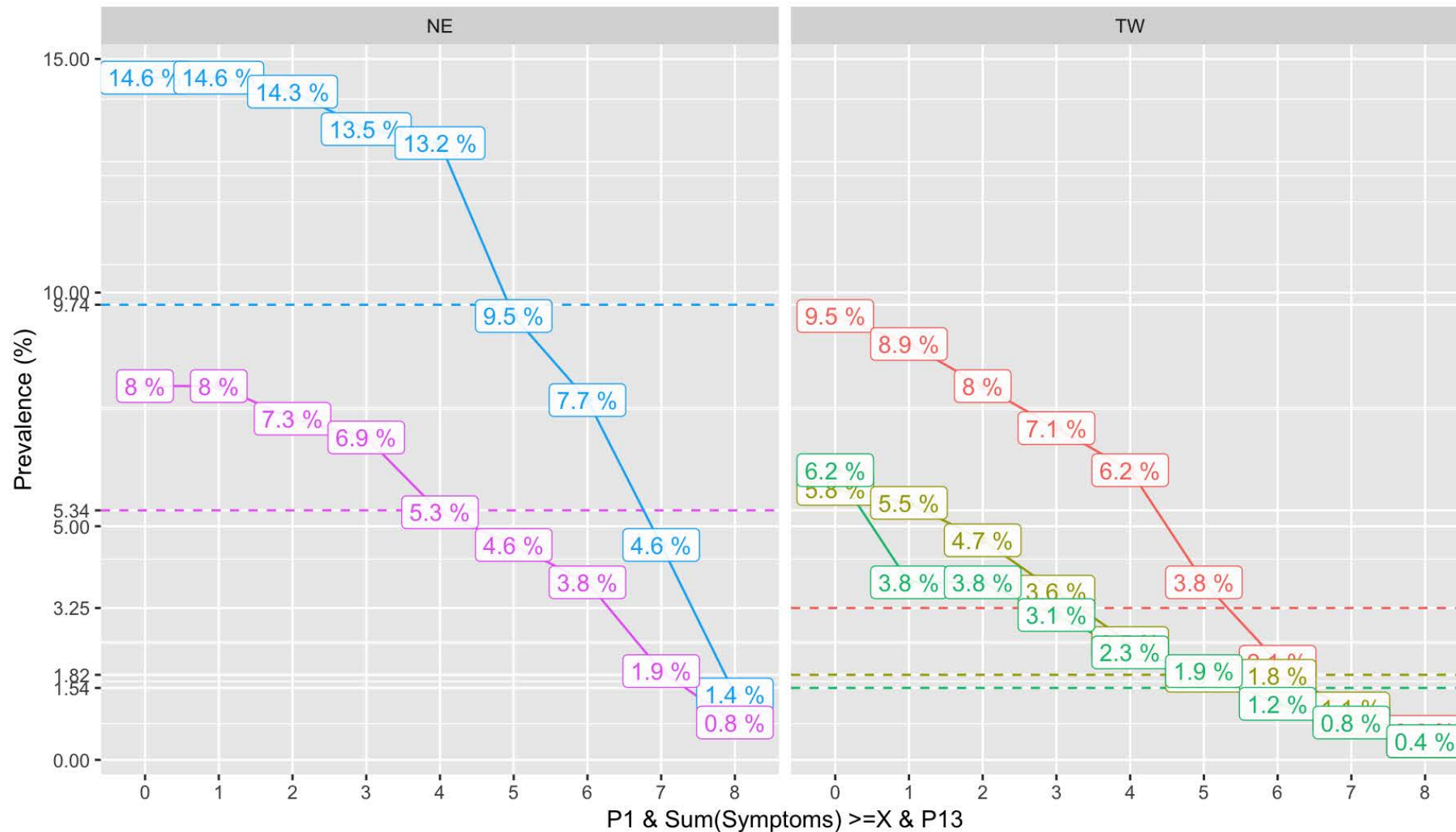
	DSM0	DSM1	DSM2	DSM3	DSM4	DSM5	DSM6	DSM7	DSM8
x	0	1	2	3	4	5	6	7	8
n_pat	21/241	21/241	19/243	18/244	14/248	12/250	10/252	5/257	2/260
prevalence	8 %	8 %	7.3 %	6.9 %	5.3 %	4.6 %	3.8 %	1.9 %	0.8 %
con_case	251	251	253	254	258	258	258	253	250
con_rate	95.8 %	95.8 %	96.6 %	96.9 %	98.5 %	98.5 %	98.5 %	96.6 %	95.4 %

T2: 1 year later (longitudinal)

T2: 1 year later(cross-sectional)

Prevalence: Dutch Data

DSM DIAG: P1 & Sum(Sympt) \geq X & P13
PGD: dashline



➤ 13.5% prevalence in Dutch data vs. 7.1% Taiwanese data with 3/8

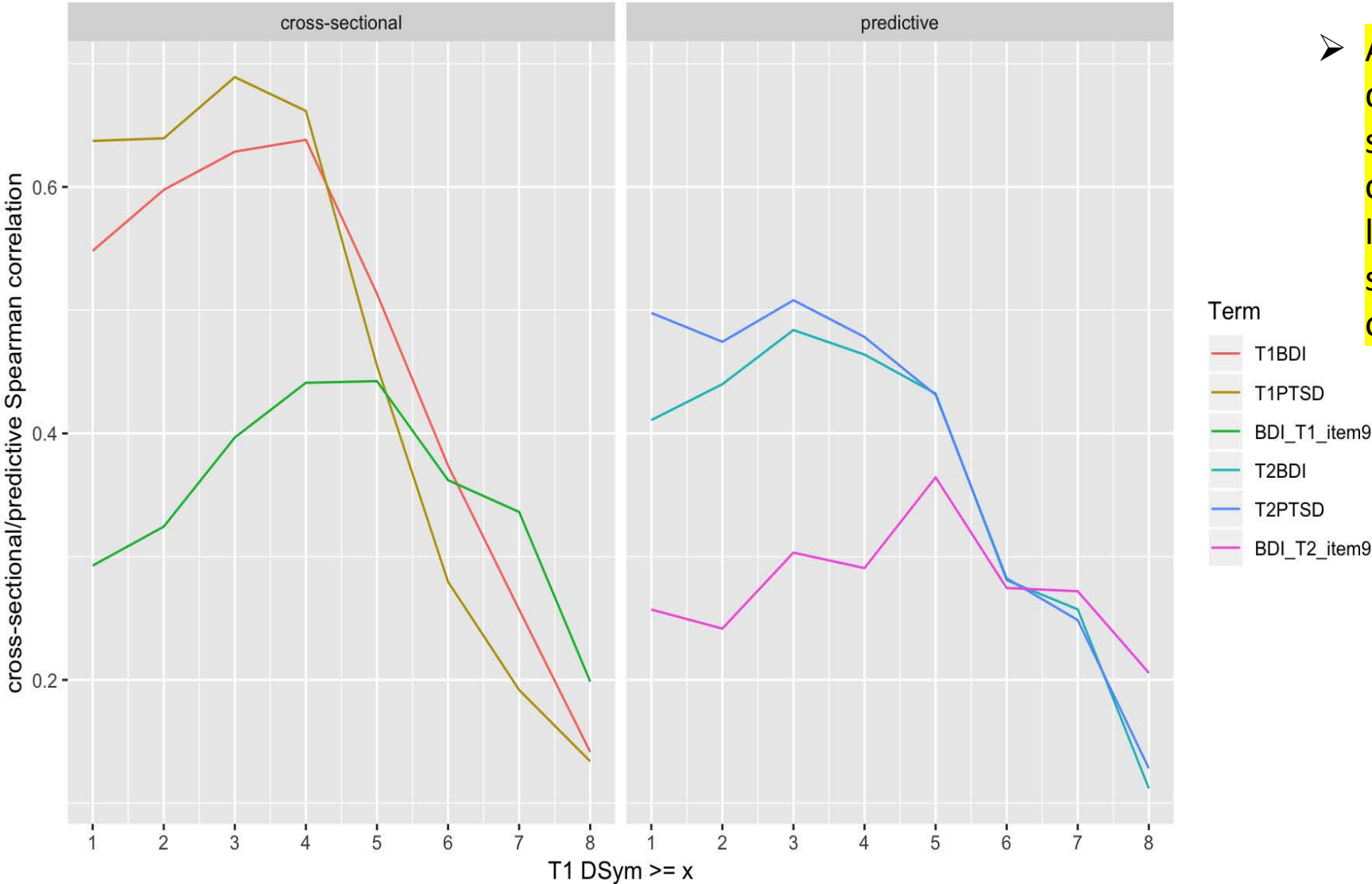
Time point

- 13mo
- 18mo
- 24mo
- T1
- T2



External Validity: Dutch Data

T1 cross-sectional/predictive correlation
~ Sum of symptoms out of 8 ~

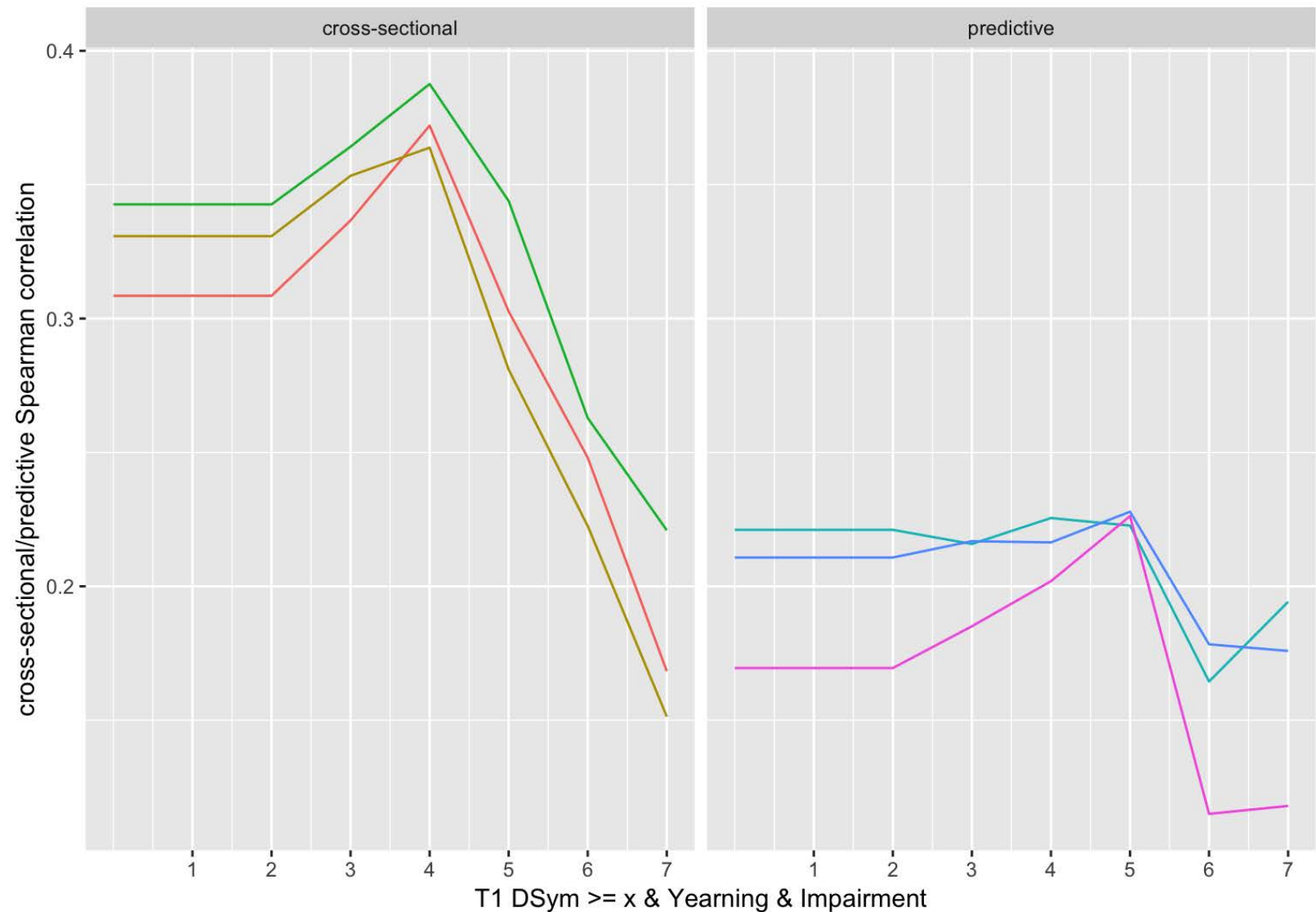


➤ Associations with symptoms of depression and posttraumatic stress are highest with **3 of 8** cross-sectionally and longitudinally except for the suicide item which peaks with **5 of 8**



External Validity: Dutch Data

T1 cross-sectional/predictive correlation
~ Diagnosis ~



x	cor	tempt	tempf	z
0	0.3259492	16	133	1
1	0.3259492	16	133	1
2	0.3259492	16	133	1
3	0.3523751	15	134	1
4	0.3837112	14	135	1
5	0.3474413	7	142	1
6	0.2974193	5	144	1
7	0.2513926	2	147	1

Associations with symptoms of depression and posttraumatic stress are highest with 4 of 8 cross-sectionally and 5 of 8 longitudinally

Conclusions from Dutch Data

DIMENSIONALITY

- Results suggest the PGD DSM-5-TR criteria form a single, **unidimensional** factor/dimension (e.g., 1 factor eigenvalue >3.5)

RELIABILITY

- Results suggest **reliability** (Cronbach's alpha of .89-.90, though slight improvement with deletion of avoidance item; ICC =.17 – highest --for 3 of 8)

PREVALENCE

- With **3 of 8** required, and yearning and impairment required, prevalence is **13.5%** at 12-120 months; 6.9% at 1-year follow-up

VALIDITY

- Associations with symptoms of depression and posttraumatic stress are highest with **3 of 8** cross-sectionally and longitudinally except for the suicide item which peaks with 5 of 8
- Associations with future symptoms of depression and posttraumatic stress appear overall highest for **3 of 8** required PGD items for Criterion C

Investigation of the diagnosis thresholds of DSM-PGD draft in Turkish samples

Research. Assist. Emrah Keser

(doctoral dissertation data from 2 large Turkish samples)

SAMPLE 1

- N = 306
- Bereaved adults (18-65) who lost a first degree relative (mother, father, spouse, sibling) in the last 10 years (6 – 120 months)
- Age (years) M = 35.71, SD = 11.30
- Age Deceased (years) M = 54, SD = 17.7
- Elapsed time since loss M = 42 months

SAMPLE 2

- $N = 271$
- Bereaved adults (18-65) who lost a first degree relative (mother, father, spouse, sibling) in the last 10 years (6 – 60 months)
- Age M (years) = 40.9, SD = 12.6
- Age Deceased M (years) = 62, SD = 17.2
- Elapsed time since loss M = 30 months

		STUDY 1		STUDY 2		Chi square
		Frequency	Percentage	Frequency	Percentage	
Gender	Female	234	76.5	182	67.2	$\chi^2 (1) = 6.19, p = .01$
	Male	72	23.5	89	32.8	
Education	Primary/middle	23	7.6	31	11.4	$\chi^2 (3) = 19.54, p = .000$
	High sch.	64	20.9	80	29.5	
	University	110	35.9	106	39.2	
	Post graduate	109	35.6	54	19.9	
Marital Status	Married	134	43.8	156	57.2	$\chi^2 (1) = 10.59, p = .001$
	Single	172	56.2	116	42.8	
Income	Low	93	30.4	76	28	$\chi^2 (2) = 10.53, p = .005$
	Middle	136	44.4	94	34.7	
	High	77	25.2	101	37.3	
Deceased	Mother	88	28.8	79	29.2	$\chi^2 (3) = 2.2, p = .53$
	Father	158	51.6	131	48.3	
	Spouse	16	5.1	11	4.1	
	Sibling	44	14.4	50	18.4	
Cause of death	Natural	250	81.7	233	86.0	$\chi^2 (1) = 1.92, p = .16$
	Unnatural	56	18.3	38	14	

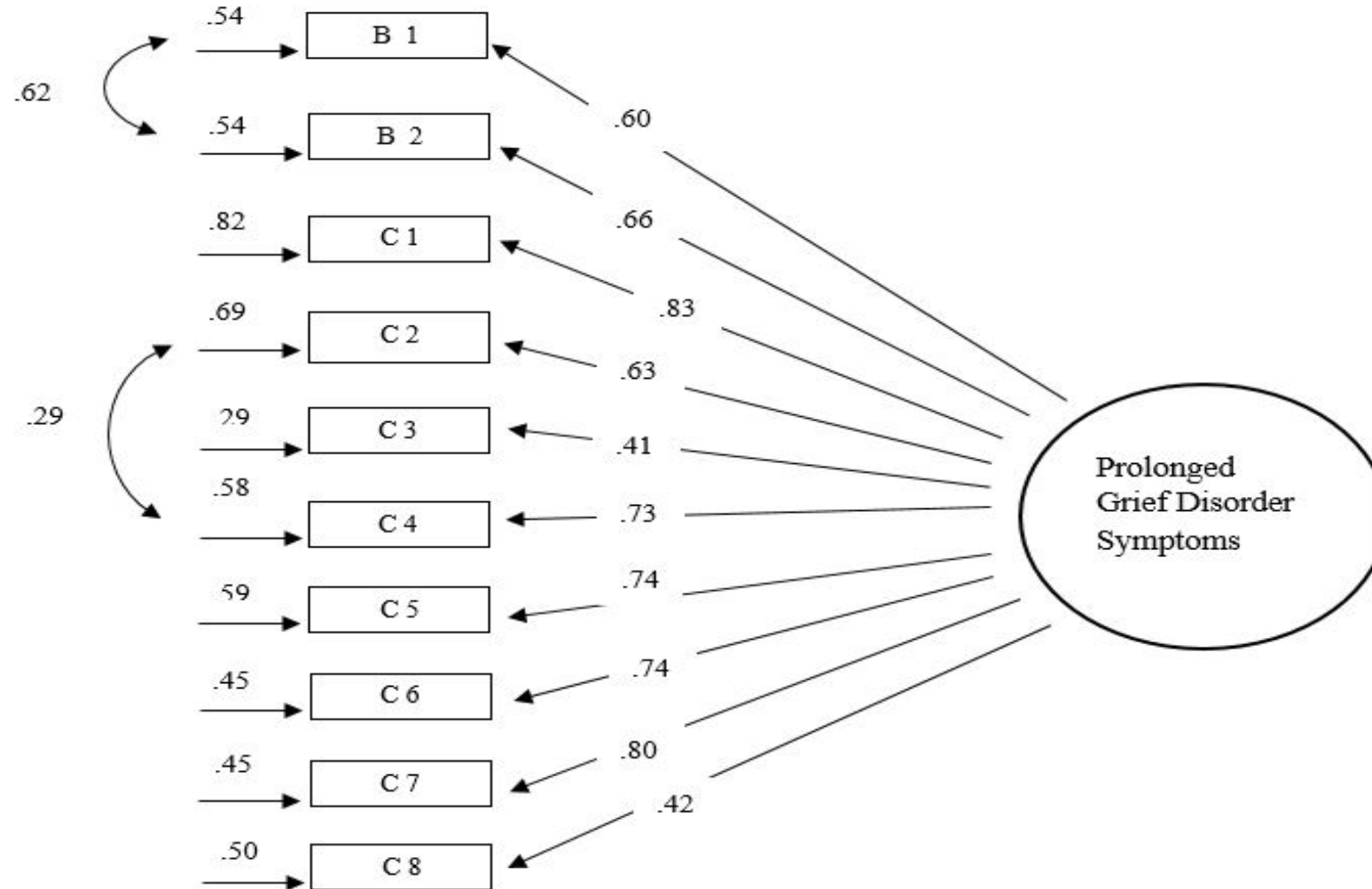
Items	Component matrix scores	Communalities scores	Item-total correlations
C7. Do you feel that life is unfulfilling, empty, or meaningless since your loss?	.82	.67	.82**
C1. Do you feel confused about your role in life or feel like you don't know who you are (i.e., feeling that a part of yourself has died)?	.82	.67	.82**
C5. Do you feel that moving on (e.g., making new friends, pursuing new interests) would be difficult for you now?	.76	.58	.76**
B2. In the past month, how often have you had intense feelings of emotional pain, sorrow, or pangs of grief related to the lost relationship?	.76	.58	.75**
C2. Have you had trouble accepting the loss?	.72	.51	.71**
C4. Do you feel bitter over your loss?	.70	.49	.69**
C8. Since this loss, I find myself more alone and isolated.	.74	.54	.74**
B1. In the past month, how often have you felt yourself longing or yearning for the person you lost?	.68	.47	.67**
C6. Do you feel emotionally numb since your loss?	.60	.36	.63**
C3. In the past month, how often have you tried to avoid reminders that the person you lost is gone?	.50	.25	.52**

Factors	Eigenvalues obtained from existing data	Eigenvalues obtained from random data
Factor 1	5.11	1.37
Factor 2	1.08	1.01
Factor 3	0.94	1.07
Factor 4	0.61	1.01

Cronbach's Alphas

- The 8 items of the C cluster
 - .**87** in Sample 1 ($N = 306$)
 - .**86** in Sample 2 ($N = 271$).
- The 10 items (B + C Clusters)
 - .**89** in Sample 1 ($N = 306$)
 - .**89** in Sample 2 ($N = 271$).

- $\chi^2/sd = 2.54$, $p = .000$, GFI = .94, AGFI = .90, NFI = .94, IFI = .96, CFI = .96 and RMSEA = 0.07.



The PGD Prevalence Rates in Sample 1

	The Prevalence Rates of PGD (with PG-13 impairment item)	The prevalence rates of PGD (Without PG-13 impairment item)
Threshold 0	12	42.8
Threshold 1	12	42
Threshold 2	11.6	37.6
Threshold 3	11.6	32.8
Threshold 4	11.2	26.8
Threshold 5	10	18
Threshold 6	6.8	10.8
Threshold 7	6.8	7.2
Threshold 8	0.8	1.8

The PGD Prevalence Rates In Sample 2

	The Prevalence Rates of PGD (with PG-13 Functionality item)	The prevalence rates of PGD (Without PG-13 functionality item)
Threshold 0	14.3	34
Threshold 1	14.3	33.5
Threshold 2	13.5	29.3
Threshold 3	13.5	26
Threshold 4	13.02	22.8
Threshold 5	10.2	14.9
Threshold 6	9.3	11.6
Threshold 7	6.9	7.4
Threshold 8	3.2	3.3

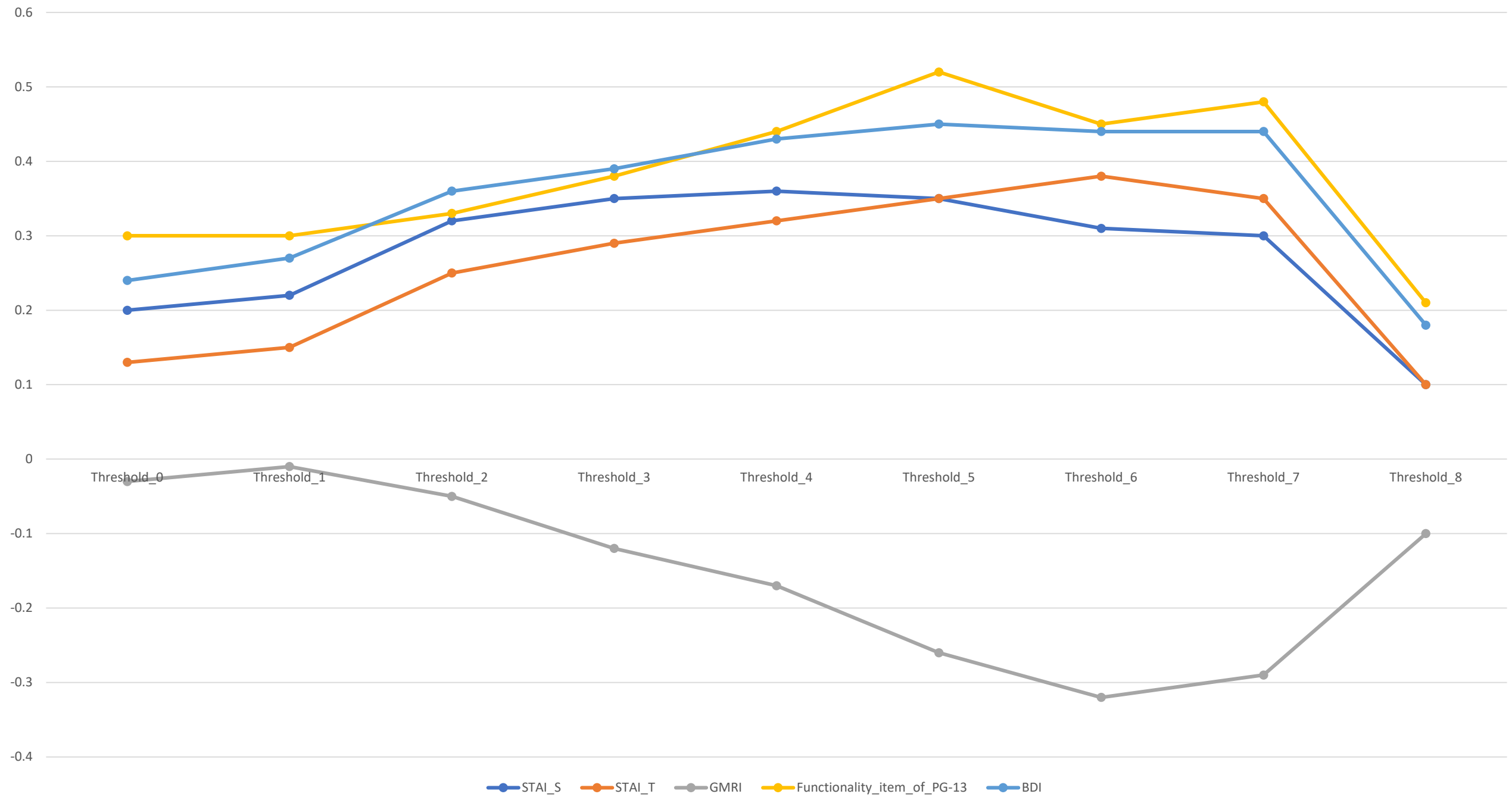
Correlations Between PGD Thresholds and External Validators in Sample 2

	GMRI	BDI	Impairment in function item PG-13_13
Threshold 0	-.09	.39**	.45**
Threshold 1	-.09	.40**	.46**
Threshold 2	-.13*	.46**	.49**
Threshold 3	-.19**	.53**	.54**
Threshold 4	-.18**	.55**	.57**
Threshold 5	-.19**	.50**	.57**
Threshold 6	-.21**	.50**	.60**
Threshold 7	-.18**	.42**	.57**
Threshold 8	-.15	.32**	.40**

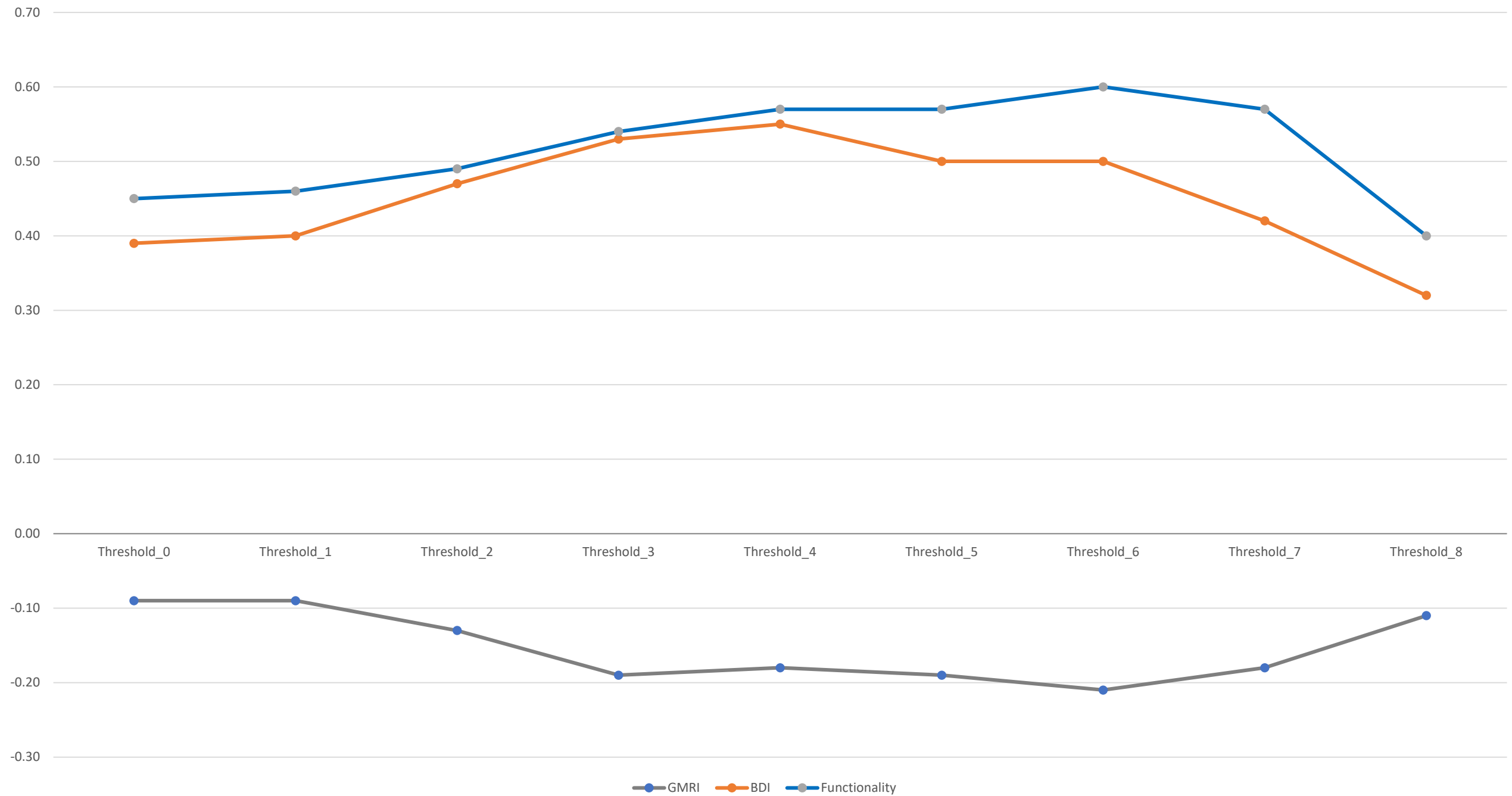
Correlations Between PGD Thresholds and External Validators in Sample 1

	STAI-S	STAI-T	GMRI	BDI	Impairment in functionality item
Threshold 0	.20**	.13*	-.03	.24**	.30**
Threshold 1	.22**	.15*	-.01	.27**	.300
Threshold 2	.32**	.25**	-.05	.36**	.33**
Threshold 3	.35**	.29**	-.12	.39**	.38**
Threshold 4	.36**	.32**	-.17**	.43**	.44**
Threshold 5	.35**	.35**	-.26**	.45**	.52**
Threshold 6	.31**	.38**	-.32**	.44**	.45**
Threshold 7	.30**	.35**	-.29**	.44**	.48**
Threshold 8	.10	.10	-.10	.18**	.21**

Correlations between the thresholds and external validators



Correlations between the thresholds and external validators



Conclusions from Turkish Data

DIMENSIONALITY

- Results suggest the PGD DSM-5-TR criteria form a **single factor/dimension**; Confirmatory Factor Analysis RMSEA=.07
- Item-total correlations high ($\geq .63$) with exception of avoidance of reminders the deceased is dead ($=.52$)-- lowest

RELIABILITY

- 8 Criterion “C” items **Cronbach’s $\alpha=.87/.86$** samples 1 and 2; including Criterion “B” items Cronbach’s $\alpha=.89/.89$

PREVALENCE

- Sample 1: **3/8 “C” = 11.6%** with impairment; 5/8 = 10% with impairment
- Sample 2: 3/8 “C”=**13.5%** with impairment; 5/8 10.2% with impairment

VALIDITY

- 3-5 of “C” Criteria significantly associated with state and trait anxiety, BDI, functional impairment, though 5 most closely associated

United Kingdom Dataset: Oxford Data (PI: Kirsten Smith)

- 275 participants (age; $M = 46.43$ $SD = 13.24$, 79% women) recruited between a few weeks and 6 months after the death ($M = 2.94$, $SD = 2.01$, range = 0 to 8 months)
- Follow-up 6 months ($M = 9.10$, $SD = 2.23$, range = 6 to 16 months) and 12 months later ($M = 14.95$, $SD = 2.08$, range = 12 to 21 months)
- 30.2% had lost a partner, 8.7% a child, 5.8% a sibling, 38.2% a parent, and 17.1% another relative or close non-relative
- 10% lost a loved one via violent means
- 241-258 bereaved subjects assessed cross-sectionally; 44/150 assessed longitudinally



Oxford PG13

Left: Based on PG13 item order
Right: Based on UK dataset

PG13-1	In the past month, how often have you felt yourself longing or yearning for the person you lost?
PG13-2	In the past month, how often have you had intense feelings of emotional pain, sorrow, or pangs of grief related to the lost relationship?
PG13-3	For questions 1 or 2 above, have you experienced either of these symptoms at least daily and after 6 months have elapsed since the loss?
PG13-4	In the past month, how often have you tried to avoid reminders that the person you lost is gone?
PG13-5	In the past month, how often have you felt stunned, shocked, or dazed by your loss?
PG13-6	Do you feel confused about your role in life or feel like you don't know who you are (i.e., feeling that a part of yourself has died)?
PG13-7	Have you had trouble accepting the loss?
PG13-8	Has it been hard for you to trust others since your loss?
PG13-9	Do you feel bitter over your loss?
PG13-10	Do you feel that moving on (e.g., making new friends, pursuing new interests) would be difficult for you now?
PG13-11	Do you feel emotionally numb since your loss?
PG13-12	Do you feel that life is unfulfilling, empty, or meaningless since your loss?
PG13-13	Have you experienced a significant reduction in social, occupational, or other important areas of functioning (e.g., domestic responsibilities)?

1. How often have you felt a persistent yearning for deceased?
2. How often have you felt intense sadness or emotional pain, sorrow, or pangs of grief related to the lost relationship?
3. How often have you been preoccupied with thoughts or memories of deceased?
4. How often have you been preoccupied with thoughts about the circumstances of the death?
5. =>P4 How often have you tried to avoid reminders that deceased is gone?
6. =>P5 How often have you felt stunned, shocked, or dazed by your loss?
7. =>P6 Do you feel confused about your role in life or feel like you don't know who you are (i.e., feeling that a part of yourself has died)?
8. =>P7 Have you had trouble accepting the loss?
9. =>P8 Has it been hard for you to trust others since your loss?
10. =>P9 Do you feel bitter or angry over your loss?
11. =>P10 Do you feel that moving on or making plans for the future (e.g., making new friends, pursuing new interests) would be difficult for you now?
12. =>P11 Do you feel emotionally numb or in a state of disbelief since your loss?
13. =>P12 Do you feel that life is unfulfilling, empty, or meaningless since your loss or that you cannot function without deceased?
14. Do have difficulty recalling happy memories that involve deceased?
15. Do you feel bad about yourself because of things that happened in relation to the death or between you and deceased?
16. Do you feel a desire to die to be with deceased?
17. Do you feel alone or detached from others since the death?
-
18. =>P13 Have these difficulties significantly interfered with your life (e.g., daily routine, job, so...-Yes, in the past month
19. Would your religion or culture describe your reactions as a normal? 55
20. On a scale of 0-100% where 100 is as distressed as you could possibly be and 0 is not distressed -These experiences above distress me



Oxford PG13

PG13-1	In the past month, how often have you felt yourself longing or yearning for the person you lost?
PG13-2	In the past month, how often have you had intense feelings of emotional pain, sorrow, or pangs of grief related to the lost relationship?
PG13-3	For questions 1 or 2 above, have you experienced either of these symptoms at least daily and after 6 months have elapsed since the loss?
PG13-4	In the past month, how often have you tried to avoid reminders that the person you lost is gone?
PG13-5	In the past month, how often have you felt stunned, shocked, or dazed by your loss?
PG13-6	Do you feel confused about your role in life or feel like you don't know who you are (i.e., feeling that a part of yourself has died)?
PG13-7	Have you had trouble accepting the loss?
PG13-8	Has it been hard for you to trust others since your loss?
PG13-9	Do you feel bitter over your loss?
PG13-10	Do you feel that moving on (e.g., making new friends, pursuing new interests) would be difficult for you now?
PG13-11	Do you feel emotionally numb since your loss?
PG13-12	Do you feel that life is unfulfilling, empty, or meaningless since your loss?
PG13-13	Have you experienced a significant reduction in social, occupational, or other important areas of functioning (e.g., domestic responsibilities)?

Indicator:

- PG3,PG13: 0|1
- Else: 1-3=0 | 4-5=1

PGD:

- (PG1|PG2)
- ~~& PG3~~
- & (sum(PG4-12)>=5)
- & PG13

PG: Based on PG13 item order

PGD: Based on UK dataset



Oxford DSM-5-TR for PGD

PG13-1	In the past month, how often have you felt yourself longing or yearning for the person you lost?
PG13-2	In the past month, how often have you had intense feelings of emotional pain, sorrow, or pangs of grief related to the lost relationship?
PG13-3	For questions 1 or 2 above, have you experienced either of these symptoms at least daily and after 6 months have elapsed since the loss?
PG13-4	In the past month, how often have you tried to avoid reminders that the person you lost is gone?
PG13-5	In the past month, how often have you felt stunned, shocked, or dazed by your loss?
PG13-6	Do you feel confused about your role in life or feel like you don't know who you are (i.e., feeling that a part of yourself has died)?
PG13-7	Have you had trouble accepting the loss?
PG13-8	Has it been hard for you to trust others since your loss?
PG13-9	Do you feel bitter over your loss?
PG13-10	Do you feel that moving on (e.g., making new friends, pursuing new interests) would be difficult for you now?
PG13-11	Do you feel emotionally numb since your loss?
PG13-12	Do you feel that life is unfulfilling, empty, or meaningless since your loss?
PG13-13	Have you experienced a significant reduction in social, occupational, or other important areas of functioning (e.g., domestic responsibilities)?

Indicator:

- PG13: 0|1
- CESD14: 0-1=0 | 2-3=1
- Else: 1-3=0 | 4-5=1

DSM:

- PG1
- & (sum(PG2, PG4,PG6-7,PG10-12,PGD17)>=x)
- & PG13

PG: Based on PG13 item order

PGD: Based on UK dataset

PGD17

Do you feel alone or detached from others since the death?



Oxford two-way sample definition

Two-way sample definition

- M1: First participation ≥ 12 months

Sample size:

- Cross-sectionally 239
- Longitudinally 35

- M2: First participation ≥ 9 months, with median first participation 12 months

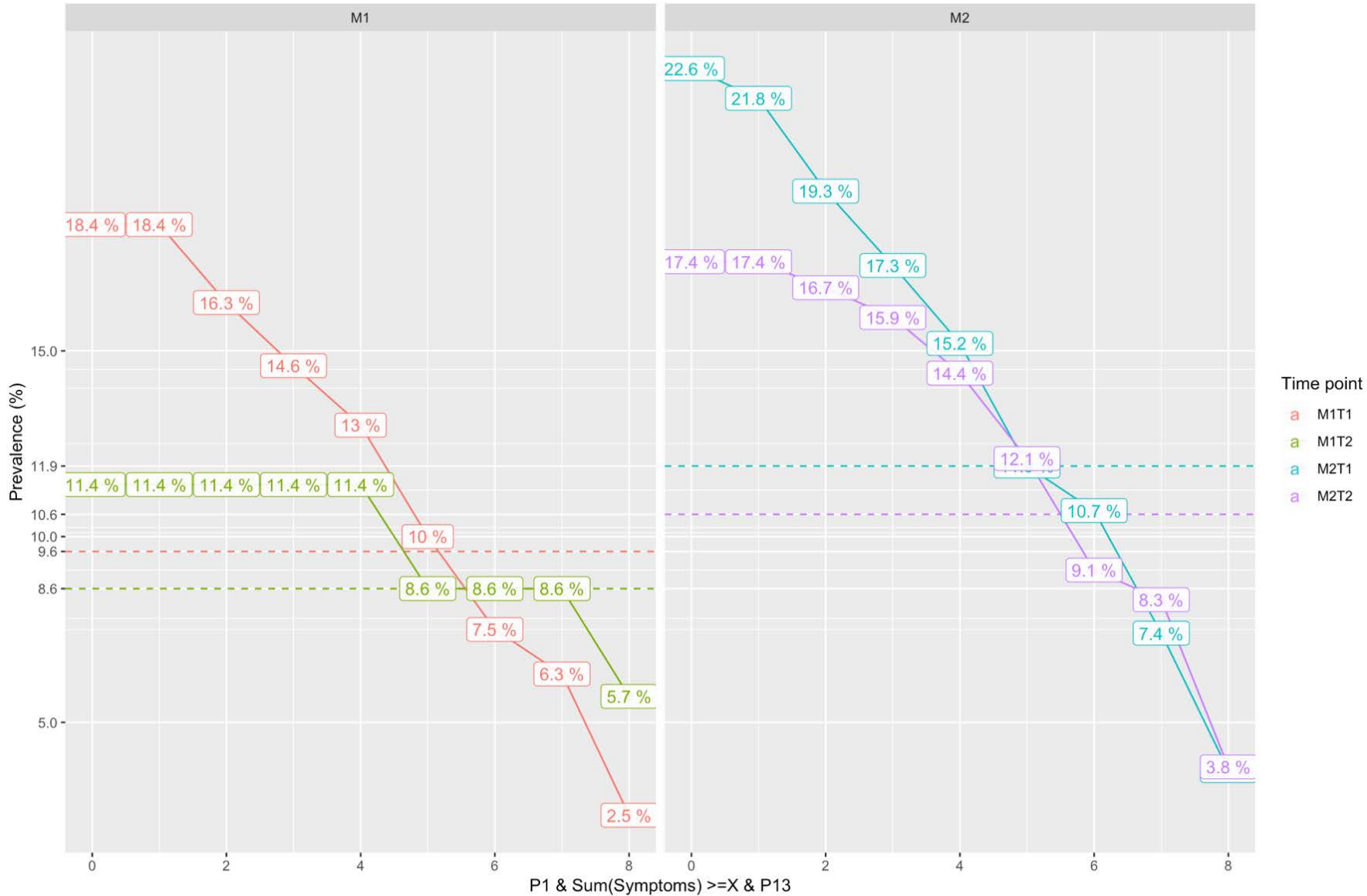
Sample size:

- Cross-sectionally 243
- Longitudinally 132



Prevalence: Oxford Data

DSM DIAG: P1 & Sum(Sympt) >=X & P13
PGD: dashline

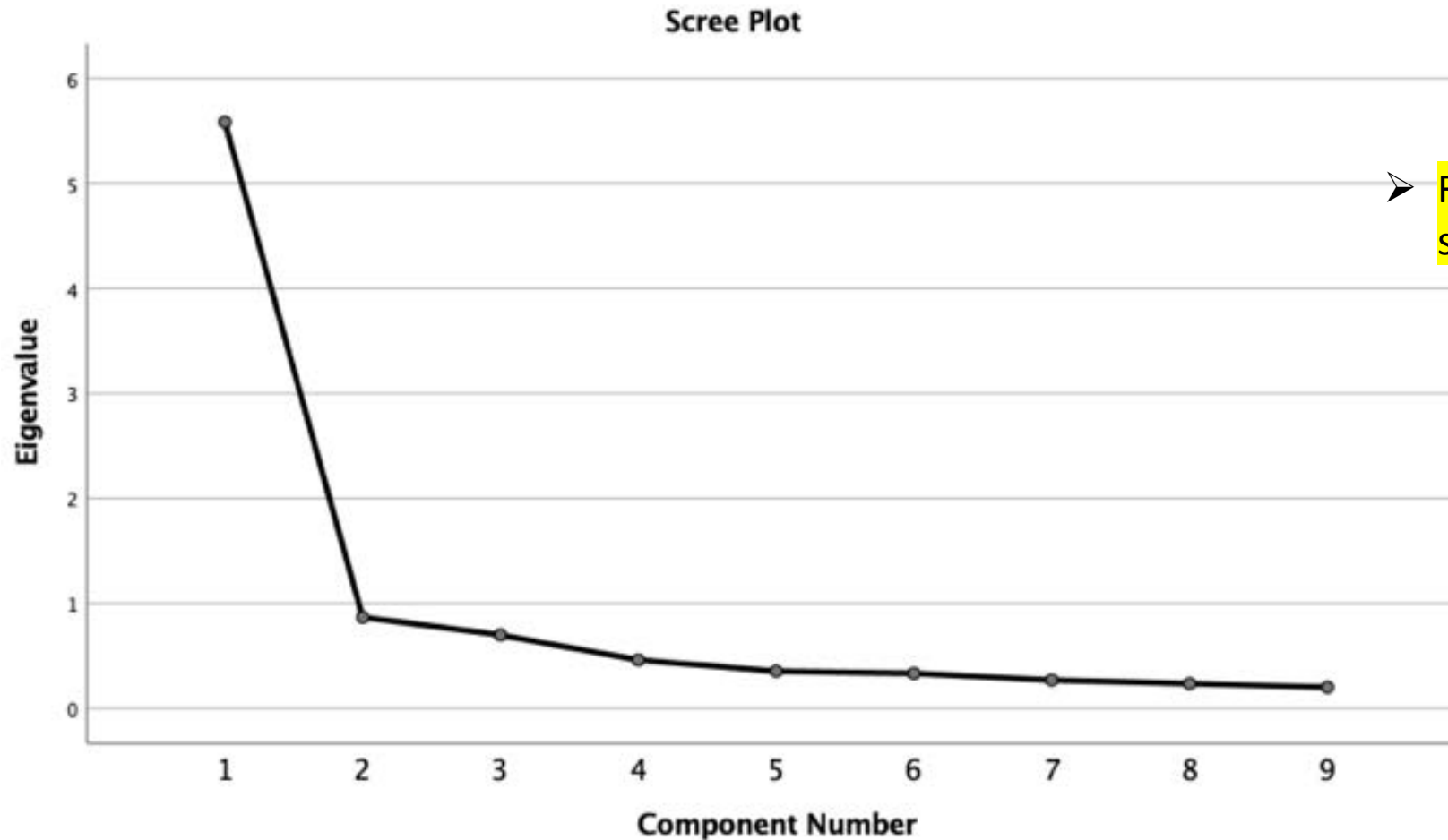


➤ 14.6% prevalence in Oxford Data for M1T1 sample (first participation after 12 months since death)



Dimensionality: Oxford Data

M1T1; 8 symptoms + Yearning
Same results hold for M2T1 M2T2



➤ Results suggest the criteria form a single factor/dimension

Reliability: Internal Consistency using Oxford Data

- Results high Cronbach's alpha of .92 and slight improvement with deletion of avoidance item
- Same as in Dutch Data

M1T1 | M2T1

Reliability Statistics

Cronbach's Alpha	N of Items
.922	9

Reliability Statistics

Cronbach's Alpha	N of Items
.922	9

5. =>P4 How often have you tried to avoid reminders that deceased is gone?

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
T2PGD1	19.41	63.605	.714	.913
T2PGD2	19.47	65.502	.715	.914
T2PGD5	20.67	67.397	.512	.926
T2PGD7	19.82	59.759	.768	.910
T2PGD8	19.67	63.406	.679	.916
T2PGD11	20.39	61.869	.765	.910
T2PGD12	20.12	62.272	.766	.910
T2PGD13	20.37	61.016	.807	.907
T2PGD17	19.95	61.648	.765	.910

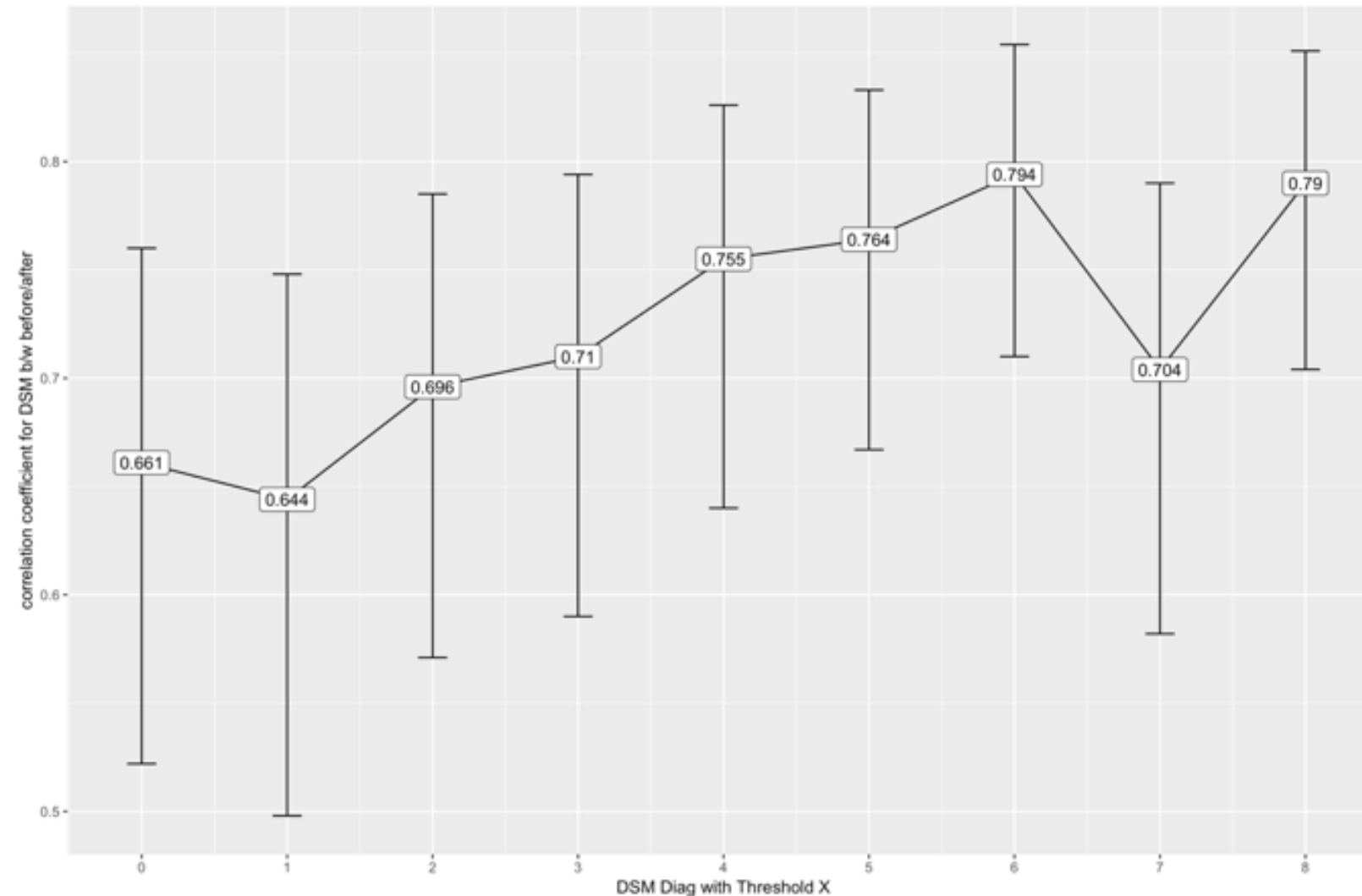
Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
T2PGD1	20.23	66.029	.727	.913
T2PGD2	20.37	67.704	.718	.914
T2PGD5	21.60	69.704	.502	.927
T2PGD7	20.76	62.193	.784	.909
T2PGD8	20.64	64.992	.696	.915
T2PGD11	21.27	64.042	.776	.909
T2PGD12	21.04	64.544	.779	.909
T2PGD13	21.32	63.715	.785	.909
T2PGD17	20.89	64.898	.729	.912



Oxford Data Reliability - Test-retest Intra-Class Correlations

ICC for DSM between
M2T1 and M2T2



- Test-retest reliability (ICC) is highest with 3 of 8 Criterion C symptoms required (.71)



External validators of PGD DSM-5-TR in Oxford Data

PCL5: PTSD

sum(PCL51-PCL520)

PHQ9: Depression

sum(PHQ1-PHQ9)

item PHQ9 separately

EQ5: Quality of Life Index value crosswalk

<https://link.springer.com/article/10.1007/s10198-003-0182-5>

WASA: Work and Social Adjustment Scale

sum(WASA1-WASA5)

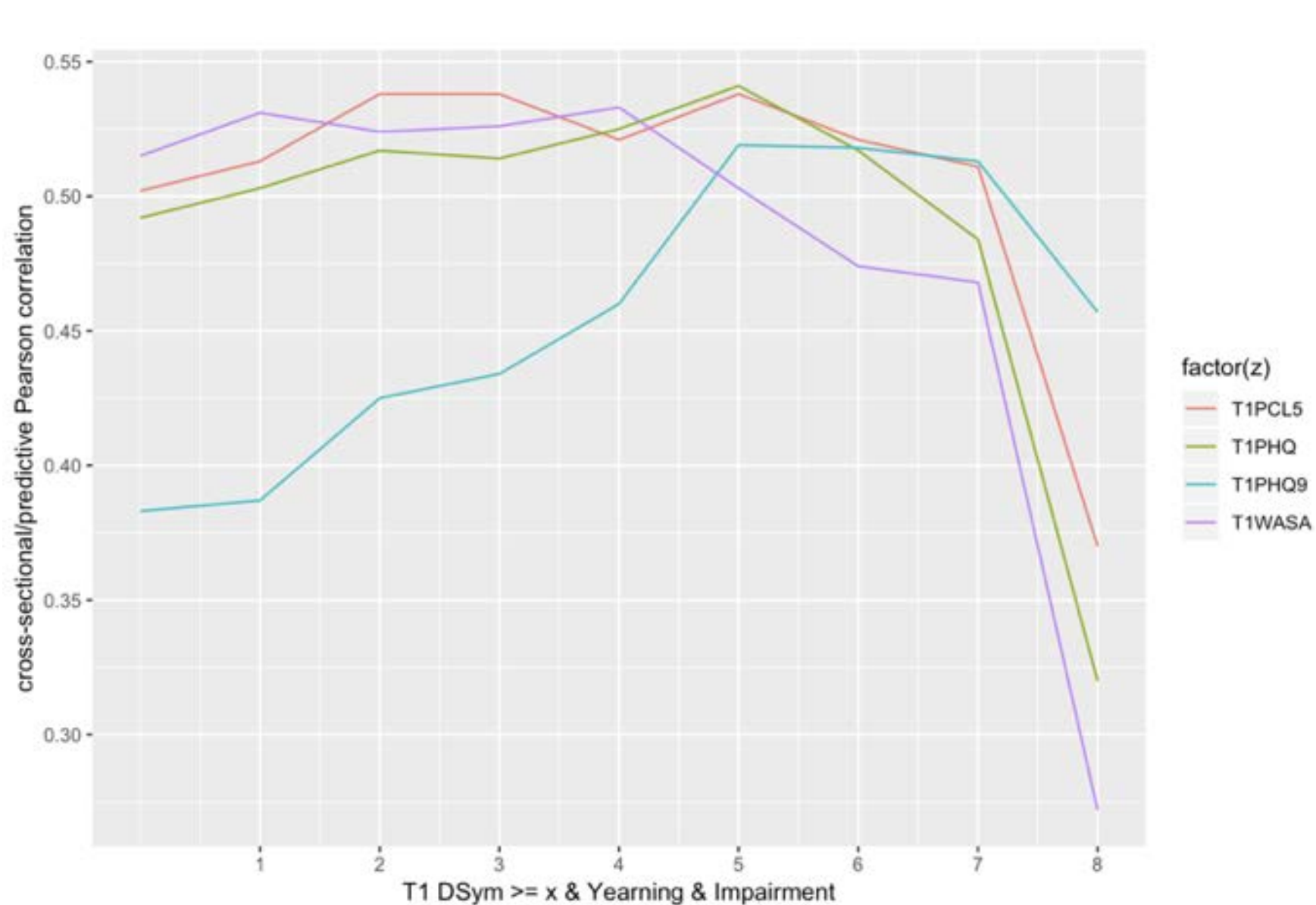
cross-sectional

a subset longitudinal: post 12 vs loosen the window to 12 median first assessment



External Validity: Oxford Data

M2T1 cross-sectional



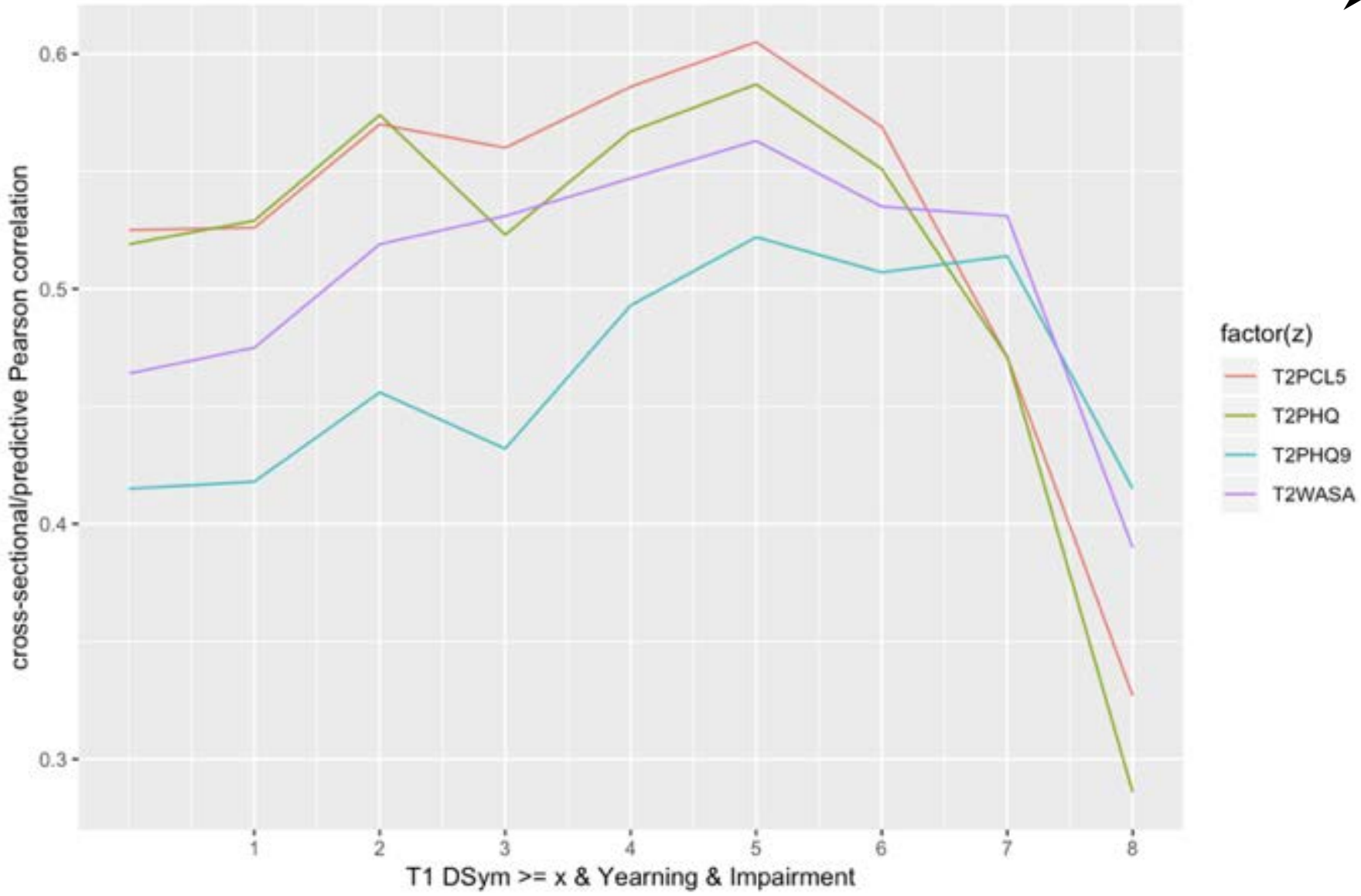
x	cor	temp	tempf	z
0	0.3259492	16	133	1
1	0.3259492	16	133	1
2	0.3259492	16	133	1
3	0.3523751	15	134	1
4	0.3837112	14	135	1
5	0.3474413	7	142	1
6	0.2974193	5	144	1
7	0.2513926	2	147	1



External Validity: Oxford Data

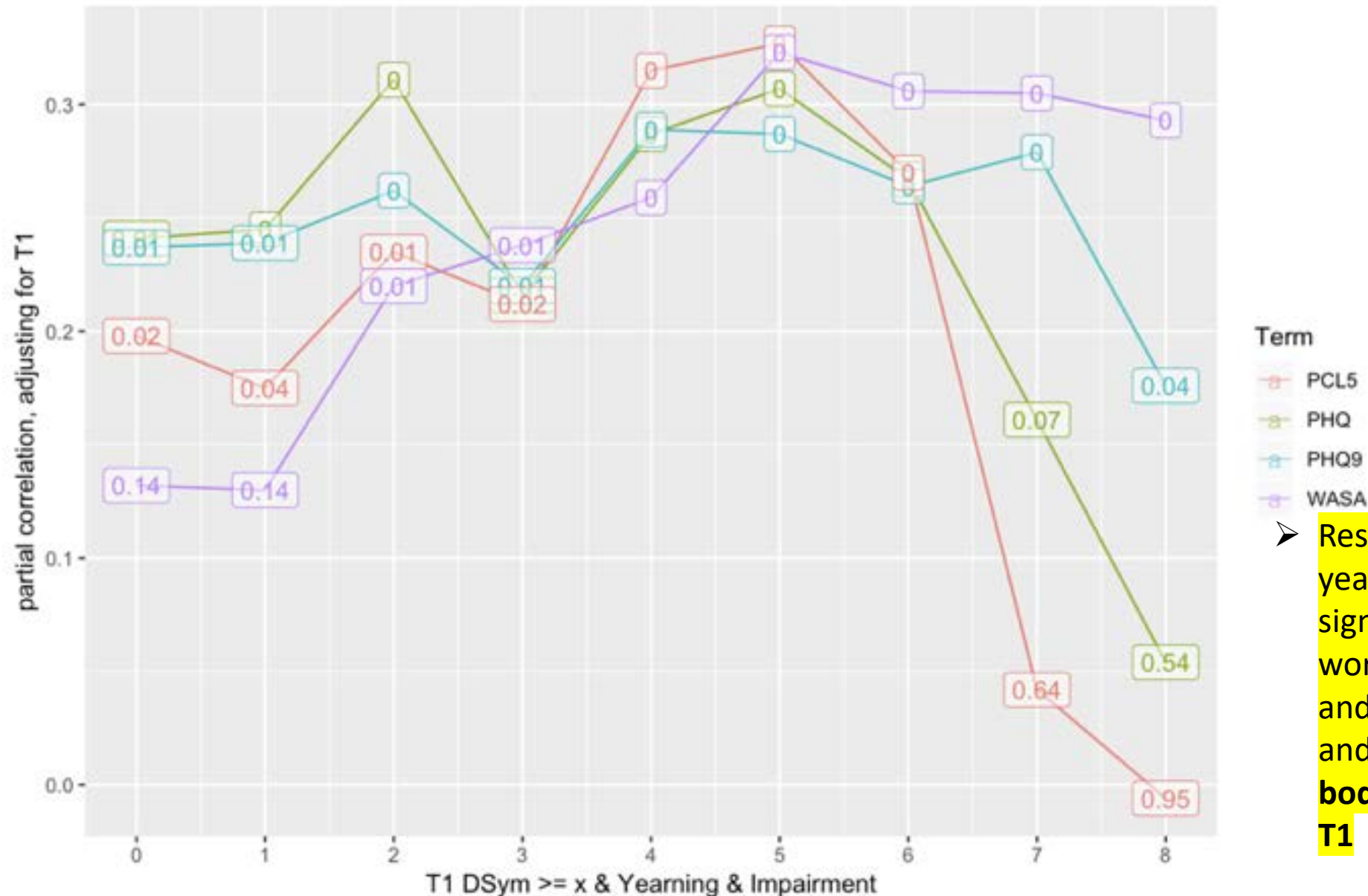
M2T1 vs M2T2 predictive correlation

- Associations with future symptoms of depression and posttraumatic stress appear overall highest for 5 of 8 required PGD items for Criterion C



External Validity: Oxford Data

M2T1 vs M2T2 predictive correlation



➤ Results suggest 2-6 of 8, with yearning & impairment are significantly associated with worse depression, PTSD and **work** and **social** adjustment and less with **general health** and **bodily pain** at T2, controlling for T1

Conclusions from Oxford Data

DIMENSIONALITY

- Results suggest the PGD DSM-5-TR criteria form a single, **unidimensional** factor/dimension

RELIABILITY

- Results suggest **reliability** (Cronbach's alpha of .92, though slight improvement with deletion of avoidance item; ICC = .71 – highest -- for 3 of 8)

PREVALENCE

- With **3 of 8** required, and yearning and impairment required, prevalence is **14.8%** at 12-120 months

VALIDITY

- Associations with symptoms of work and social impairment, depression and posttraumatic stress are highest with **5 of 8** cross-sectionally and longitudinally
- Associations with future symptoms of depression and posttraumatic stress appear overall highest for **5 of 8** required PGD items for Criterion C, but are significant for 2-6 of 8

Yale Bereavement Study Data

(PI: Prigerson; Statistical Architect: Maciejewski)

- Community-based sample of bereaved residents of Connecticut, US
- Sample analyzed included 250 bereaved subjects assessed 12-24 months post-loss; 108 subjects were included in analysis of 9-12 months post-loss predicting 12-24 months post-loss
- Assessments included PG-13, CES-D, including suicide item #9, sleep disturbance, SCID assessments of MDD, PTSD, GAD

Dimensionality of Grief Construct (N=250)

Component	Eigenvalue	Difference	Proportion	Cumulative
1	3.148	2.022	0.315	0.315
2	1.126	0.047	0.113	0.427
3	1.079	0.096	0.108	0.535
4	0.984	0.190	0.098	0.634
5	0.793	0.033	0.079	0.713
6	0.761	0.160	0.076	0.789
7	0.600	0.052	0.060	0.849
8	0.549	0.049	0.055	0.904
9	0.500	0.040	0.050	0.954
10	0.460		0.046	1.000

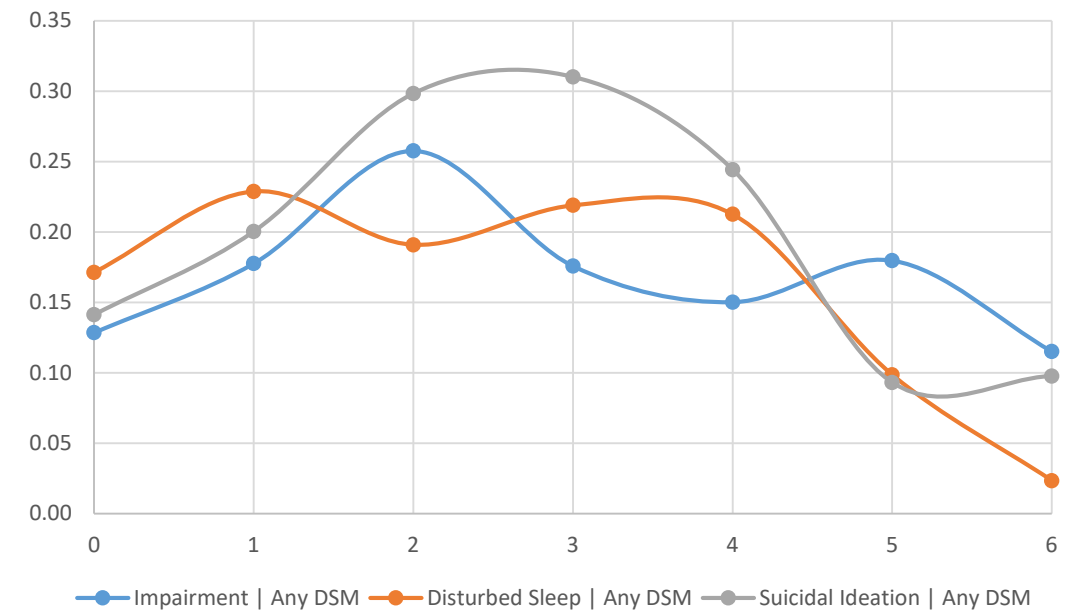
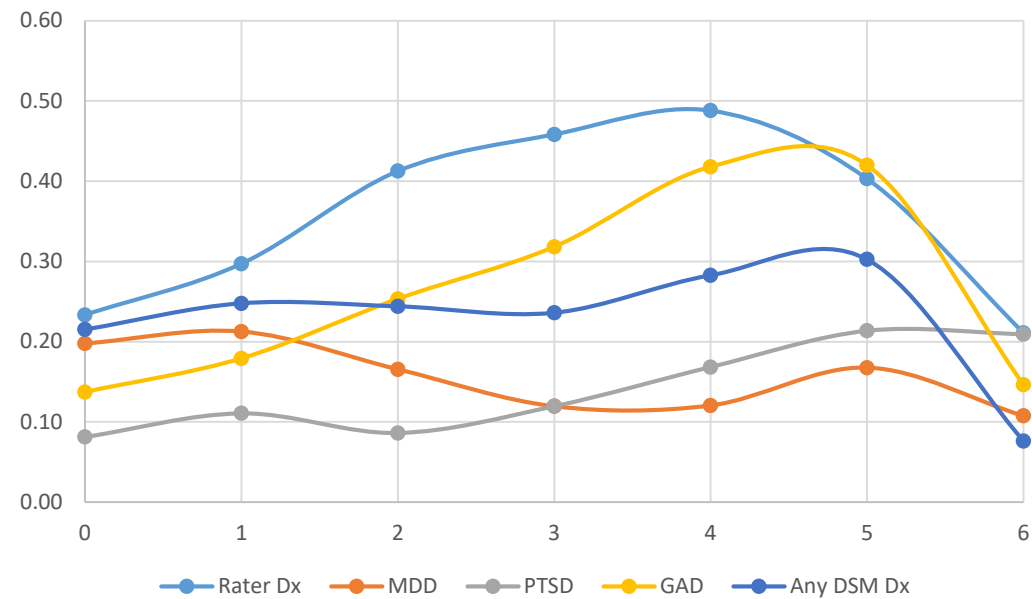
Internal Consistency of Grief Construct (N=250)

Cronbach Coefficient Alpha (all 10 "B" & "C" symptoms) =	0.749			
Symptom	n	%	Correlation with Total	Alpha if Deleted
Yearning	82	32.8%	0.477	0.721
Preoccupation	5	2.0%	0.202	0.751
Disbelief; Trouble accepting death	31	12.4%	0.527	0.711
Life empty, meaningless; Unable to imagine life fulfilling	49	19.6%	0.632	0.689
Loneliness	74	29.6%	0.487	0.718
Avoidance of reminders	7	2.8%	0.161	0.754
Numbness	11	4.4%	0.371	0.737
Part of yourself died	51	20.4%	0.509	0.712
Anger; Bitterness	33	13.2%	0.426	0.726
Difficulty moving on	17	6.8%	0.266	0.746

Prevalence of Meeting Criteria as a Function of Number of Required “C” Symptoms (N=250)

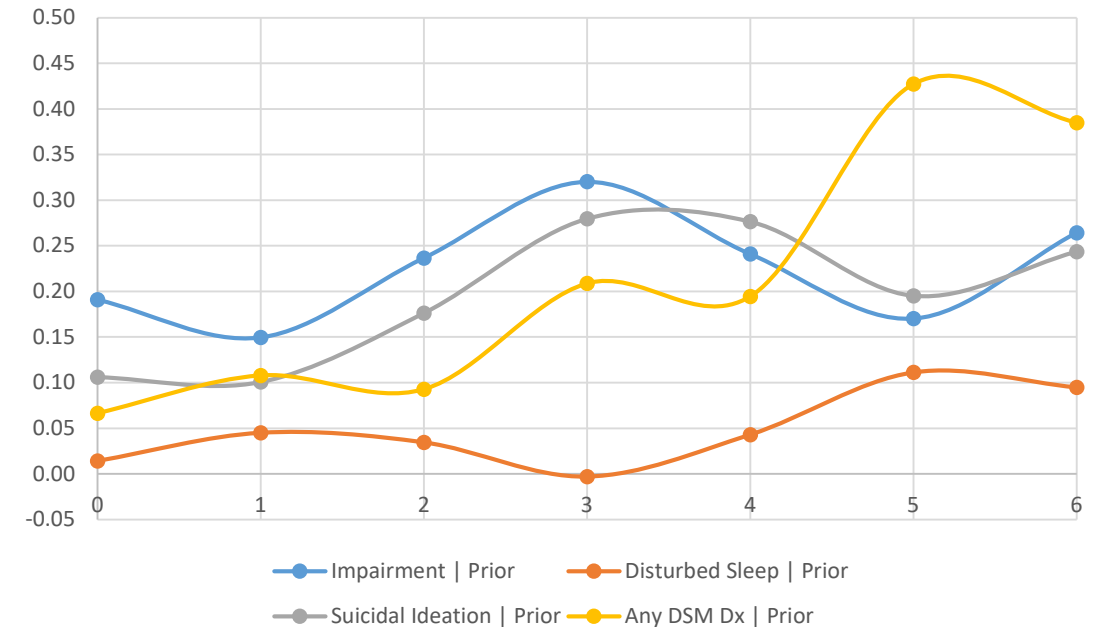
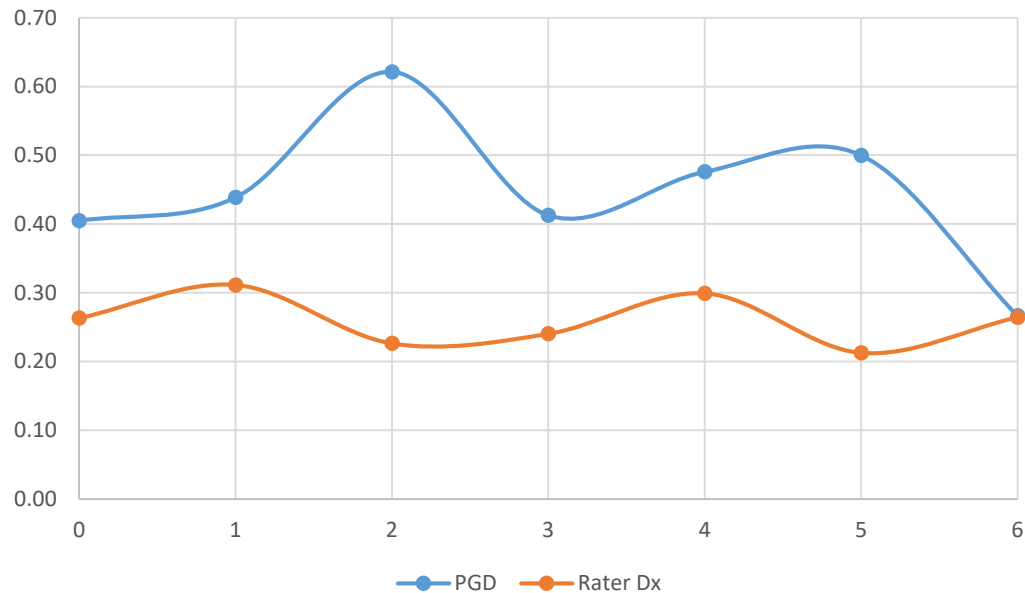
	Meet A, B & C Criteria		Meet A, B, C & D Criteria	
Number of "C" Symptoms	n	%	n	%
0	83	33.2%	19	7.6%
1	65	26.0%	18	7.2%
2	43	17.2%	16	6.4%
3	31	12.4%	11	4.4%
4	20	8.0%	8	3.2%
5	14	5.6%	7	2.8%
6	4	1.6%	2	0.8%

Concurrent Validators of Meeting Symptom Criteria as a Function of Number of Required “C” Symptoms (N=250)



Notes: Correlations (on vertical axes) above 0.124 would be significant at $\alpha = 0.05$. Criteria applied and outcomes assessed between 12 – 24 months. Partial correlations adjusting for other DSM disorders (MDD, PTSD or GAD) as indicated in legends.

Predictive Validators of Meeting Symptom Criteria as a Function of Number of Required “C” Symptoms (N=108)



Notes: Correlations (on vertical axes) above 0.189 would be significant at $\alpha = 0.05$. Criteria applied between 9 – 12 months. Outcomes assessed between 12 – 24 months. Partial correlations adjusting for prior assessments as indicated in legends.

Conclusions from Yale Data

DIMENSIONALITY

- Results suggest the PGD DSM-5-TR criteria form a single, **unidimensional** factor/dimension (eigenvalue of 1st factor >3.5 with other factors 1 or less, and explaining 32% of variance)

RELIABILITY

- The symptoms are **reliable** with internal consistency (Cronbach's alpha ~.75), but slight improvement with deletion of "preoccupation" and "avoidance of reminders of the deceased" items; and test-retest reliability (ICC=.56)

PREVALENCE

- With **3 of 8 "C" items** required and yearning ("B") required, prevalence is **12.4%** at 12-24 months post-loss
- With **3 of 8 "C" items** required, and yearning ("B") and impairment ("D") required, prevalence is **4.4%** 12-24 months post-loss

VALIDITY

- **3 of 8 "C" items** associated least with PTSD and MDD (divergent validity) $\phi=.124$ ($p=.05$) and 3 or 4 of 8 associated most with rater diagnosis of PGD (convergent validity) ($\phi=.48$); 3 of 8 closest association with suicidality (incremental validity) ($r=.3$; $p<.05$) and disturbed sleep ($r=.22$; $p<.05$), controlling for any DSM dx (MDD, PTSD, GAD)
- **3 of 8 "C" items** associated declines in functioning and increases in suicidal ideation from 9-12 to 12-24 months post-loss ($r=.33$; $p<.05$; $r=.28$; $p<.05$), respectively