

Psychometric properties of the *LoPF-Q 6-18* *Parent* in a school and clinic sample (Levels of Personality Functioning Questionnaire)

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Symposium: Very early detection of PD: First results with *personality functioning* in children from 6 years up assessed in parent rating

Structure of this talk

1. What is the **LoPF-Q 6-18 Parent?**

(Levels of Personality Functioning Questionnaire)

Background of the test construction for this new inventory for parent report:

- ★ The personality functioning concept to diagnose PD (DSM-5 AMPD, ICD-11)
- ★ The age-specific self-report questionnaire LoPF-Q 12-18 for adolescents

2. The study „Personality functioning and structure in children and adolescents in self and informant report”

- ★ The study design: schools and clinics

LoPF-Q 6-18 Parent + OPD-CA2-SQ 6-18 Parent + LoPF-Q Therap*

SCID-2 + STiP5.1 + PID5 BF+(M) A IRF + CBCL

LoPF-Q 12-18 + OPD-CA2-SQ 12-18 + YSR + PID5 BF+(M) A



3. Empirical results: Is it possible to detect beginning Personality Disorders (PD) already from 6 years up by assessing functioning in parent report?

- ★ The pilot test (N= 80)

- ★ The main test part1 (N= 283) → Delay in assessments due to the pandemic

Who we are: The research group „Phenotyping healthy and impaired personality development“ from Basel / Switzerland around Prof. Klaus Schmeck

Our goal since 2010:

Early detection and treatment of adolescent patients with personality disorders

- matching the agenda of the **GAP: Global Alliance for Prevention and Early Intervention for Borderline Personality Disorder**
- Matching the new dimensional severity approach for diagnosing PD described in the DSM-5 AMPD and the ICD-11 and the OPD-CA-2



promote early detection ↔ improve diagnostics ↔ investigate new approaches
↔ develop high quality assessment tools matching these new approaches

Early detection = Assessment

Our tasks:

- Developing new age-appropriate instruments in a team of clinicians and statisticians
- Supporting the development of culture-adapted versions
- Building research cooperations to investigate the clinical utility
- Promoting an easy access to our instruments for research and diagnostics

Our project website to provide fast access to information and tests

<https://academic-tests.com>



Self-publishing project: academic-tests

All instruments can be **administered and scored online** for a small fee. Administration + SPSS scoring is **free of charge for research** projects. Tests and manuals **all can be downloaded for free** by registered users.

AIDA
Assessment of Identity Development in Adolescence

LoPF-Q
Levels of Personality Functioning Questionnaire

OPD-CA2-SQ
Operationalised Psychodynamic Diagnostics in Children and Adolescents - Structure Question.

Languages

- | | | | | |
|------------|----------------|-----------|-------------------|---|
| German | Arabic | Serbian | Hebrew | → |
| English | Russian | Czech | Romanian | |
| Spanish | Finish | French | Polnish | |
| Turkish | Hungarian | Portugesh | Bosnian | |
| Lithuanian | Bulgarian | Swahili | Farsi | |
| Urdu | Slovenian | Chinese | Greek | |
| Italian | English-Africa | Danish | English-Singapore | |
| Croatian | Albanian | Dutch | English-Australia | |

Versions

- | |
|--------------|
| 12-18 |
| 19+ |
| Adult |
| Short |
| 6-18 Parent |
| 6-18 Therap* |

You are welcome to perform own studies with established test versions or pre-versions, or to develop own culture-adapted versions with support of the original authors

■ = published ■ = in publication process ■ = in validation

The questionnaire LoPF-Q 12-18

(Levels of Personality Functioning Questionnaire) – 97 items, 5-step answer format 0-4

LoPF-Q 12-18 is a self report questionnaire to assess 4 dimensions of **impairment in personality functioning** in adolescents aged 12 – 18 years

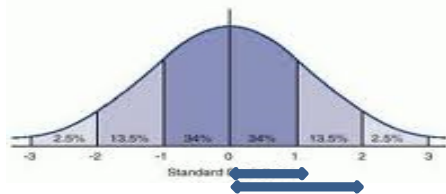
LoPF-Q 12-18 Levels of Personality Functioning Questionnaire für das Jugendalter
Funktionsniveau der Persönlichkeit: Identität, Selbststeuerung, Empathie, Nähe

Auf den folgenden Seiten findest Du Aussagen, die Deine Einstellungen, Meinungen, Interessen und Gefühle beschreiben könnten. Bitte lies jede Aussage durch und markiere (durch ankreuzen), was für Dich am besten zutrifft. Bitte beantworte jede Aussage, auch wenn Du Dir mit der Antwort nicht ganz sicher bist.

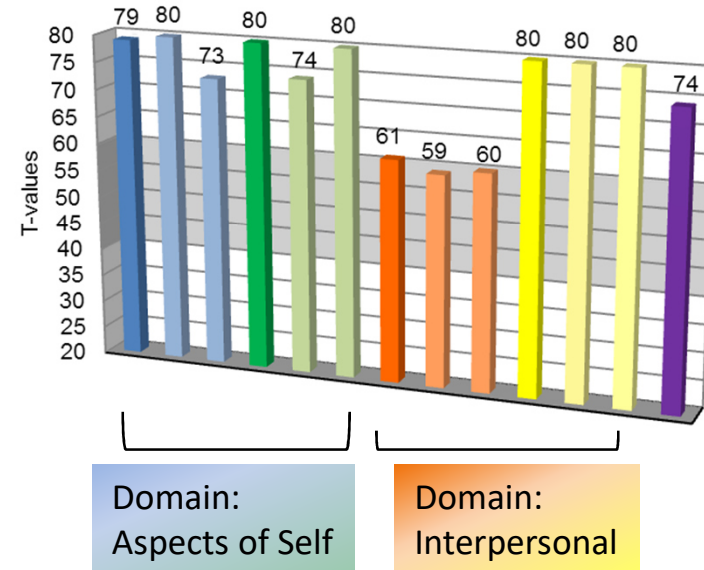
Es gibt keine "richtigen" oder "falschen" Antworten - beschreibe einfach, wie Du Dich gewöhnlich oder meistens fühlst oder handelst. Wenn Dir manche Aussagen ähnlich vorkommen, dann ist das kein Test, sondern die Möglichkeit, Dich wirklich genau zu beschreiben.

ID-Nr:	Alter:	Geschlecht: <input type="checkbox"/> männlich <input type="checkbox"/> weiblich <input type="checkbox"/> divers
Testdatum:	Initialien / Name:	

Stimmt diese Aussage für Dich?		Nein	eher Nein	teilw./teils	eher Ja	Ja
0 = Nein = trifft gar nicht zu	3 = eher Ja = trifft eher zu					
1 = eher Nein = trifft eher nicht zu	4 = Ja = trifft genau zu					
2 = teils/teils = trifft teilweise zu						
1	Ich weiss genau, wie ich meinen Freunden eine Freude machen kann.	0	1	2	3	4
2	Ich fühle mich unwohl dabei, anderen beim Gespräch in die Augen zu schauen.	0	1	2	3	4
3	Ich habe oft eine schlechte Meinung von mir selbst.	0	1	2	3	4



- IDENTITY
- ID-continuity
- ID-coherence
- SELF-DIRECTION
- SD-self-congruence
- SD-purposefulness
- EMPATHY
- EMP-perspective taking
- EMP-prosociality
- INTIMACY
- INT-close relationships
- INT-reciprocity
- PF TOTAL SCORE

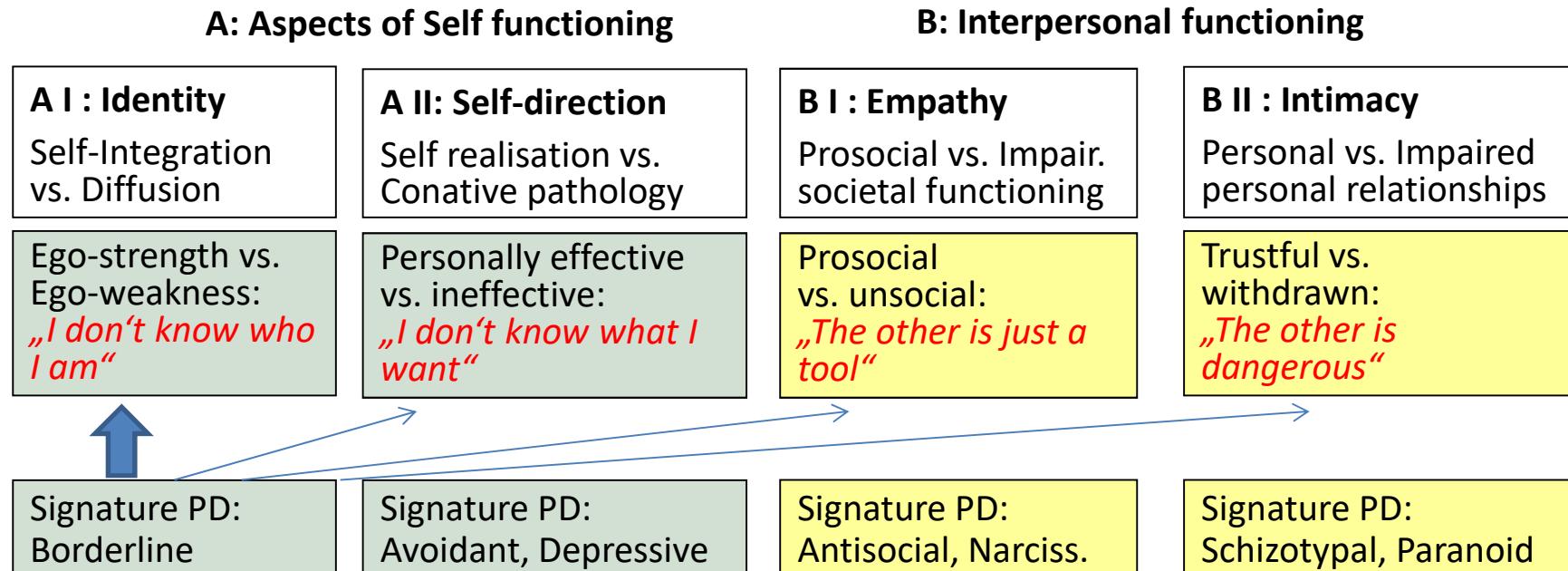


- Following the dimensional approach of DSM-5 (AMPD) and ICD-11 for **Criterion A** = diagnosing Personality Disorders by evaluating the severity of impairments in core aspects of personality functioning
- Following the ICD-11 “lifetime perspective” = A unified system of psychopathology for all ages; definition of precursors and early signs for any disorder

Development of LoPF-Q 12-18:

Modelling the dimensions of PD severity for self-report in adolescence

1. Simplification of the of DSM-5 AMPD and ICD-11 beta draft concept on Criterion A / personality functioning to elaborate the pathological core suitable for adolescents
2. In-depth content analysis of related models and inventories and their clinical validity
 - Broader concepts and scales e.g. GAPD, SIPP-118, JTCI 12-18 R, DAPP-BQ, MACI, PAI-A, SWAP-II-A
 - Specific concepts and scales e.g. for interpersonal problems (IIP, SCORS-G), Borderline pathology (BSL, BPFSC), emotion regulation (DERS, FEEL-KJ, EER), empathy and psychopathy (EAI, EQ, TEQ, ICU, YPI, PCL-YV), and attachment (FIS, IS, ECR, ASQ, RSQ, MSIS)



Development of LoPF-Q 12-18:

Operationalization of the 4 dimensions of functioning for self-report in adolescence

A I : Identity

1. Continuity

pathological pole:
lack of identity-consolidating goals, roles, and emotional self-experience

2. Coherence

pathological pole:
inconsistent self pictures, lack of autonomy, diffuse representations

A II : Self-direction

1. Self congruence

pathological pole:
impaired self-acceptance, self-regardance, self-regulation

2. Purposefulness

pathological pole:
impaired self-determination, goal-setting, resources, goal-achievement

B I : Empathy / Social Behavior

1. Perspective taking

pathological pole:
impaired affective empathy / emotionality, cogn. empathy, considering social causality

2. Prosociality

pathological pole:
uncooperative, bitter, reckless, callous-manipulative

B II : Intimacy / Attachment

1. Capacity for close relationships

pathological pole:
impaired tolerance of closeness, emot. openness, trust

2. Reciprocity

pathological pole:
lack of deepness, affiliation, accepting sociability, mutuality

I can imagine the kind of person that I will be in a few years (-)

I have nothing in common with the most people my age.

I often feel lost, as if I have no clear inner self.

I am confused about what kind of person I really am.

I would like to be very different from what I am actually.

I often have a bad opinion about myself.

Often I don't know what to do with my life.

Often I am my own biggest enemy.

Others perceive me as unfeeling

I often don't understand the reactions of other people on my behavior.

It gives me a good feeling to point out others' mistakes.

If someone allows that I treated him badly, then he deserves no better.

I prefer others not to know too much about me.

I feel like I don't really belong with anyone."

It is important for me to get to know my friends very well, so that we can be "real friends". (-)

Development of LoPF-Q 12-18: Focus for **item formulation** for the questionnaire

A big item pool was developed in an **expert panel** to integrate the psychologists', psychiatrists' and method-specialists' view in order to find adequate wording. Items should be:

- **culture-adequate**
for each culture an adequate prototype behavior or attitude should be found to reflect the targeted content

e.g. culture-adaption for "Identity-consolidating social roles and relations":

"I am proud of my roots"



O.K. for Mexico, not for Germany

"I feel at home and safe in my neighbourhood"



O.K. for Germany, not for Mexico

- **bias free**
no significantly different response pattern for different sex, age, socio-economic or cultural background; no social desirability; no "loosing face" when saying yes / no
- **adequate for self report in adolescence**
clear content, unambiguous formulation, easy to understand
- **catching higher-order content: a truly pathology-related component**
ensuring an inner linear scale from "healthy to pathological" behavior in each item

"I enjoy making other people feel better"
(Empathy)



Score 0 = NO = impaired ???
Score 4 = Yes = healthy ???

Development of LoPF-Q 12-18: Focus for **empirical item selection** for the final questionnaire

Study design: progressive step-by-step item pools

2014: Development of the **first item pool** with 182 items (≈ 7 items per aspect)
Beta test and pilot test in students and patients (N=379).

2015: Refinements for the **main test version** with 242 items (55% new; ≈ 9 items per aspect)
Assessment in schools and clinics

2016: Statistical item selection (main test: N= 592 students and patients including 46 PD patients) of the **final test version** with 97 items (selected ≈ 3 items per aspect).

2017: In depth **clinical validation** with 472 patients from 6 clinics, age 11-19 years ,
N= 96 SCID-2 diagnosed PD patients (46% BPD)

Method

Criteria for empirical item selection

- percentage of symptomatic answers (5-95%), missing analysis (<10%), item-total correlation ($r_{it} > .30$), effect size of gender- or age-related item bias ($\eta^2_p < .14$),
+ **effect size (η^2_p) of the differentiation between the groups “PD vs. NoPD” on item level**
→ Focus on clinical validity
- Potential improvement of Scale reliability Cronbachs Alpha on total scale, primary scale and subscale level + **with respect of keeping a balanced content** in the process of item selection (balanced number of items per aspect)
→ Focus on full coverage of all aspects of the LoPF concept

Development of LoPF-Q 12-18: Scale reliability α and clinical validity



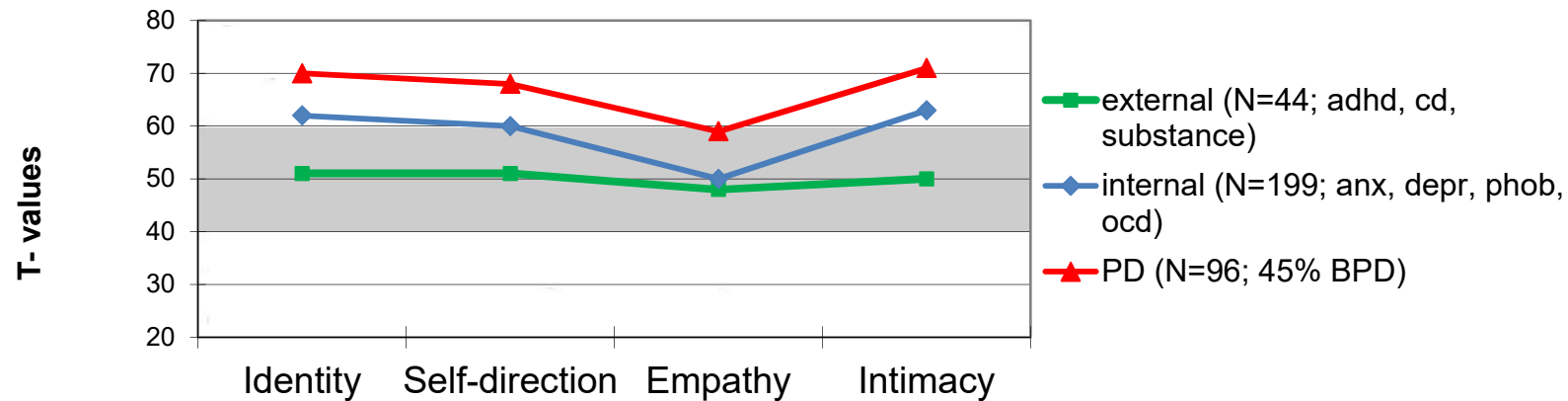
Clinical validity: All scales differentiated between the Swiss-German students and the PD patients with significance $p=.000$ and big effect sizes $d>0.80$ **matching our goal of test construction to capture relevant impairments associated with PD pathology**

The scales differentiated even higher when contrasted to different PD types (each assigned relevant PD-group / signature impairments according to AMPD)

	Item nr	α	School N=351	PD Patients N=96	Effect size d-all	PD Patients Each relevant	Effect size d-relevant	
			M (SD)	M (SD)		M (SD)		
Personality functioning	97	.97	114.0 (48.4)	215.1 (52.5)	2.1	-	-	
PF1: Identity	23	.92	28.3 (13.6)	57.4 (16.7)	2.0	59.3 (14.9)	2.3	→ N=43 Borderline
1.1 Continuity	11	.84	13.4 (6.8)	27.4 (8.6)	1.9	27.7 (7.6)	2.1	
1.2 Coherence	12	.88	15.0 (8.4)	30.0 (9.6)	1.7	31.6 (9.0)	2.0	
PF2: Self-direction	25	.94	30.8 (16.9)	61.7 (21.0)	1.7	70.2 (21.1)	2.3	→ N=22 avoidant
2.1 Self congruence	11	.87	15.6 (8.8)	29.1 (10.0)	1.5	32.9 (8.6)	2.0	
2.2 Purposefulness	14	.90	15.2 (9.2)	32.6 (12.2)	1.8	37.3 (13.2)	2.3	
PF3: Empathy	26	.87	31.4 (13.4)	44.5 (18.8)	0.9	66.5 (15.2)	2.6	→ N=13 antisocial + narcissistic
3.1 Perspective taking	10	.76	12.4 (6.1)	18.9 (6.9)	1.0	24.2 (5.7)	1.9	
3.2 Prosociality	16	.82	19.0 (8.7)	25.5 (13.6)	0.7	42.4 (11.1)	2.7	
PF4: Intimacy	23	.92	23.5 (11.8)	51.8 (16.0)	2.2	55.1 (9.3)	2.7	→ N=10 schizoid+ paranoid
4.1 close relationships	9	.84	11.5 (5.9)	23.2 (6.7)	1.9	24.5 (3.4)	2.2	
4.2 Reciprocity	14	.87	12.0 (7.3)	28.5 (10.8)	2.0	30.6 (6.8)	2.6	

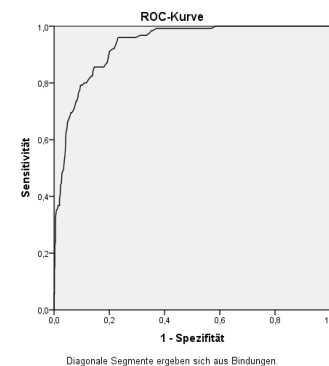
effect size: $d >0.20$ small, >0.50 medium, >0.80 large

Development of LoPF-Q 12-18: Clinical validity & clinical utility



ROC analysis of SCID-2 diagnosed PD-patients (N= 96) vs. students (N= 337 below Cut-off BPFSC-11) showed a high predictive power of the LoPF-Q total score with an AUC of 0.92 (95% CI: 0.89 - 0.95, $p < 0.001$). Youden-Index yielded an **optimal cut-off score ≥ 163 for school settings**

ROC analysis PD vs No-PD patients (N= 319) showed AUC of 0.75 (0.75 sensitivity and 0.59 specificity) and an **optimal cut-off score ≥ 180 for clinical settings**



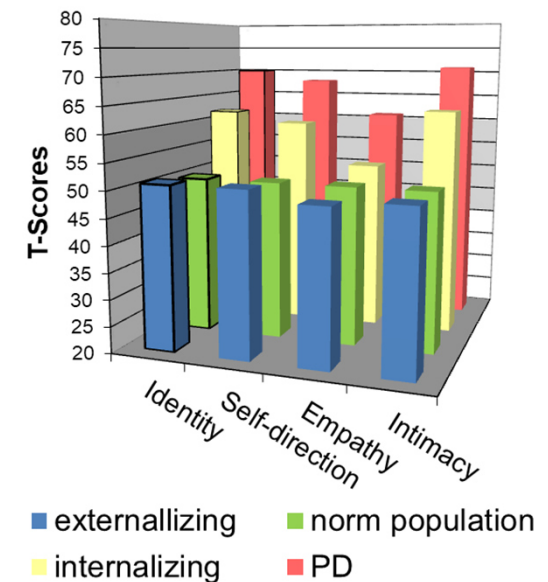
	Score ≥ 163		N	Correct classification
	no	yes		
Students	284	53	337	84,3% Specificity
PD patients	18	87	96	81.3% Sensitivity
N	302	131	433	83,6% Total

Synopsis: The LoPF-Q 12-18 self report questionnaire

Specific and thorough test construction led to

- an age-appropriate and reliable questionnaire
- that showed a high clinical validity
- equivalent in several languages / cultur-adaptions

→ personality functioning - like it is described for adults to detect Personality Disorders (Criterion A) - can be assessed and used in the same way for adolescents from 12 years up

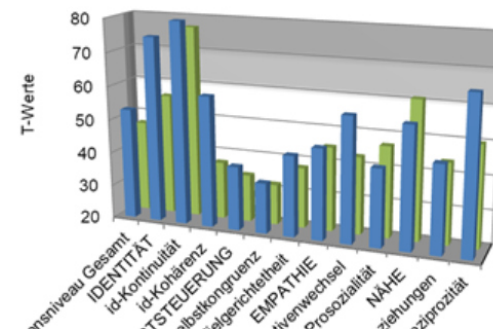


- Goth K, Birkhoelzer M, Schmeck K (2018). Assessment of Personality Functioning in Adolescents with the LoPF-Q 12-18 self-report questionnaire. *Journal of Personality Assessment*, 100:6, 680-690. <https://doi.org/10.1080/00223891.2018.1489258>
- Gander M, Buchheim A, Bock A, Steppan M, Sevecke K, and Goth K (2020). Unresolved Attachment Mediates the Relationship Between Childhood Trauma and Impaired Personality Functioning in Adolescence. *Journal of Personality Disorders*. e-View Ahead of Print. https://doi.org/10.1521/pedi_2020_34_468
- Birkhoelzer M, Schmeck K, Goth K (2021). Assessment of Criterion A. *Current Opinion in Psychology*, Volume 37, Pages 98-103. Epub ahead. <https://doi.org/10.1016/j.copsyc.2020.09.009>

New research questions in line with the lifetime perspective of ICD-11:

1) Is it possible to transpose this concept for assessment into **younger ages from 6 years up** and into **informant report** (parent report + therapist report)?
= good reliability?

2) If yes, is it possible to **detect significant impairments** / beginning personality disorders with this new inventories?
= good validity?



Parent report
Self report

The new LoPF-Q 6-18 Parent report version

1) In an expert panel, we developed an item pool suitable for parent report to evaluate personality functioning of children from 6 years up as well as of adolescents up to 18 years in German language. The final item set was supposed to be selected by empirical results (reliability + validity on item level)

	The reliable and valid items from the LoPF-Q 12-18 Self report → basis for LoPF-Q 6-18 Parent report
Personality functioning	Goal for construction = about 12 items per dimension of functioning = about 6 items per subdimension to keep equivalent the weight of content between all LoPF-Q versions
PF1: Identity	e.g.
1.1 Continuity	Self 12-18: „Sometimes I feel like a fake, because the way I behave outside doesn't match the way I feel inside. “
1.2 Coherence	Parent 6-18: „It often seems as if ... only plays a role.“
PF2: Self-direction	e.g.
2.1 Self congruence	Self 12-18: „Often I don't know what to do with my life. “
2.2 Purposefulness	Parent 6-18: „... often doesn't know what to do with his/her time.“
PF3: Empathy/Prosocial	e.g.
3.1 Perspective taking	Self 12-18: „Mostly, I just feel nothing. “
3.2 Prosociality	Parent 6-18: „... often seems emotionally uninvolved and insensitive.“
PF4: Intimacy/Attachment	e.g.
4.1 close relationships	Self 12-18: „I am sure that other people are there for me when I need them. “ (+)
4.2 Reciprocity	Parent 6-18: „... has great difficulty in trusting others .“

The new LoPF-Q 6-18 Parent report version: **Beta and pilot test**

2) In a beta test with N=12 parents + kids, the first item pool was discussed to reach easy-to-understand formulations with age-appropriate relations to problem behavior.

Based on that, a **pilot test version** with 89 5-step items was established and assessed in **N=80 parents** in a balanced design according age, gender, and problems of the kids.



Already with the pilot test version it was possible to built a questionnaire with 46 items, **covering all aspects of functioning** and providing **good scale reliabilities** Cronbachs Alpha of .96 for the total scale „personality functioning“, .88, .91, .91 and .86 for the different areas of functioning Identity, Self-Direction, Empathy and Intimacy.



The **scales differed highly significant and with big effect sizes between kids with and without psychiatric problems.**



For the main test version, only 8 items of the item pool with slightly weak coefficients had been re-formulated to improve psychometric properties

The new LoPF-Q 6-18 Parent report version: **main test study**

3) In 2020 we started the main test with several new inventories to assess personality functioning and structure, and also maladaptive personality traits. In addition we assessed broad psychopathology and life circumstances of children, adolescents and parents. We planned to assess about 1000 persons in schools and clinical units in Basel/Switzerland. We combined self-report, parent report and interviews.

Parent report: **LoPF-Q 6-18 Parent + OPD-CA2-SQ 6-18 Parent + PID5 BF+(M) A IRF + CBCL**
Therapists' report: **LoPF-Q Therap***
Clinical interview: **SCID-2 + STiP5.1**
Adolescent self report: **LoPF-Q 12-18 + OPD-CA2-SQ 12-18 + YSR + PID5 BF+(M) A**

As the LoPF-Q + OPD-CA2-SF 6-18 parent test-set showed very good psychometric properties already in the pilot test, preliminary T-norms had been extracted and the tests are provided for use in clinics of cooperating researchers, who contribute with (anonymous) patient data to the full clinical validation sample. **Many thanks to:**

- **Prof. Kathrin Sevecke and team, University clinics Innsbruck / Austria**
- **Prof. Eva Moehler and team, University clinics Saarland / Germany**

Unfortunately, due to the pandemic, the required sample sizes could not be reached and the assessments could not be completed yet. Thus, first results are presented here using part 1 of the assessments.

The school + clinic sample – part 1 (September 2021)

	School sample 6 schools: SUI	Clinic sample 3 clinics: SUI, AUT, GER	Full sample
N	172	111	283
Sex %	male 49.7 / female 50.3	male 56.8 / female 43.2	male 52.5 / female 47.5
Age	6 - 21 / AM 10.9 / SD 3.8	7-17 / AM 14.1 / SD 2.4	6-21 / AM 12.1 / SD 3.7
6-11	66.4 % (N=117)	14.4 % (N= 16)	47.2 % (N= 133)
12-18+	31.6 % (N= 54)	85.6 % (N= 95)	52.8 % (N= 149)
Diagnose / status	CBCL T-scores > 70: Internalizing = 9.0% Externalizing = 4.2% Total score = 13.2% N= 16.8% had therapy / diagnose / problems	SCID-2/classific. conference: 29.7%= comorbid intern + extern (AD, PTSD, ADD) 21.6%= external (ADHD, CD, substance) 24.3%= internal (Anx, Depr, Phobia, OCD, ED) 19.8%= PD*	*= PD group: N= 22; Age 13 -17 64% antisocial 9% narcissistic 5% paranoid 18% Borderline



school sample:
 Small but
 representative
 concerning age,
 gender, health status



Clinic sample:
 Big but not representative
 → More younger patients are needed
 → More other PD diagnoses are needed to cover the full
 spectrum

The new LoPF-Q 6-18 Parent report version: Results main test - part 1

Reliability: It was possible to build a reliable questionnaire with 48 items with

- good scale reliabilities Alpha (α) on total scale, primary scale and subscale level
- good item-total correlation (r-it) of all items as part of total, primary and subscales

	No items	r-it range	Reliability α
Personality functioning total	48	.44-.75	.97
PF1: Identity	12	.46-.73	.89
1.1 Continuity	5	.43-.57	.73
1.2 Coherence	7	.50-.70	.85
PF2: Self-direction	12	.50-.74	.91
2.1 Self congruence	6	.45-.68	.83
2.2 Purposefulness	6	.60-.74	.86
PF3: Empathy/Prosocial	12	.56-.75	.92
3.1 Perspective taking	5	.53-.77	.85
3.2 Prosociality	7	.55-.78	.88
PF4: Intimacy/Attachment	12	.54-.74	.91
4.1 close relationships	6	.49-.74	.83
4.2 Reciprocity	6	.51-.69	.83

Empirical item selection was based only on r-it and α

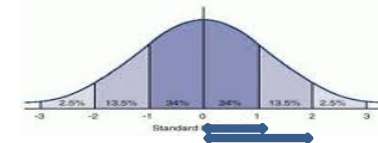
→ After assessment part 2, the differentiation between the groups "PD vs. NoPD" on item level (effect size η^2_p) will be a further criteria for item selection

= Especially more young diagnosed PD-patients are needed!

The new LoPF-Q 6-18 Parent report version: Results main test - part 1

Clinical validity: All scales differentiated between the school sample and the PD patients with significance $p=.000$ and big effect sizes $d>0.80$

	sample				Clinical validity	
	School N=172		PD-patients N=22		p	d
	mean	SD	mean	SD		
Personality functioning total	17,0	10,9	44,2	14,6	.000***	2.4
PF1: Identity	5,9	5,1	19,1	8,8	.000***	2.4
1.1 Continuity	2,6	2,2	8,2	3,3	.000***	2.4
1.2 Coherence	3,3	3,4	10,9	6,0	.000***	2.0
PF2: Self-direction	11,7	7,7	24,3	8,2	.000***	1.6
2.1 Self congruence	6,0	4,3	11,5	4,5	.000***	1.3
2.2 Purposefulness	5,6	4,1	12,8	4,6	.000***	1.7
PF3: Empathy	9,0	6,7	23,5	9,3	.000***	2.1
3.1 Perspective taking	3,1	2,7	8,8	4,8	.000***	1.9
3.2 Prosociality	5,4	4,2	13,8	5,5	.000***	1.9
PF4: Intimacy	7,4	6,2	21,6	8,6	.000***	2.2
4.1 close relationships	3,9	3,0	10,9	4,3	.000***	2.2
4.2 Reciprocity	3,6	3,6	10,7	4,8	.000***	1.9



Effect size d:

1 d = 1 standard deviation

Results are matching our main goal of test construction

= to capture relevant impairments associated with PD pathology

= More variation in PD diagnoses are needed (64% antisocial)

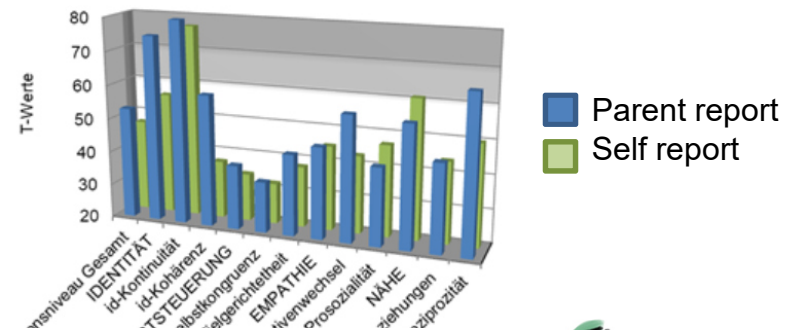
Conclusion + Perspectives - LoPF-Q 6-18 Parent

Although only the first part of the assessments could be analyzed and the clinic sample was not optimal:

1. Reliable assessment of personality functioning in **parent report seems possible** for childrens and adolescents between 6 and 18 years
2. The results point to a **promising clinical validity** in terms of capturing relevant aspects of impairment, as the scales differed remarkably between the school and the PD clinic sample

→ The assessments will be continued and more colleagues from specialized clinics will be asked to contribute with patient data using the pre test-versions with preliminary T-norms, especially for the age 6 – 12 years

→ Final results – also for the other parent report inventories around PD **OPD-CA2-SQ** and **PID-5 BF + (M) CA IRF** – will be presented in detail in 2022!



Thank you for your attention!

