

## Background & Aims

Pain-related anxiety manifests in three ways: a) cognitive (rumination about pain), b) motoric (avoidance of activities that might cause pain), and c) physiological (e.g., increased heart rate). The Pain Anxiety Symptom Scale (PASS) (McCracken et al., 1992) is a widely used tool to measure this type of anxiety. This study assessed the psychometric properties of the Polish version of the 20-item version of Pain Anxiety Symptoms Scale (PASS-20) in individuals with chronic pain.

## Methods

- Translation:** PASS-20 was translated and back-translated into Polish following ISPOR's Translation and Cultural Adaptation Principles.
- Administration:** Conducted online via ARIADNA Research Panel (largest independent nationwide research panel in Poland).
- Online Survey Components:**
  - Demographic data
  - Chronic pain data
  - Medical care data
  - Standardized questionnaires: PASS-20, DASS-21, STAI, CSQ
- Study's Eligibility Criteria:**
  - Age >18 years
  - Fluency in Polish
  - Physician-diagnosed chronic pain (self-reported)
- Participants:**
  - Invited: N=15,760
  - Screened: N=2,569
  - Excluded: N=2,151 (not meeting inclusion criteria/low data quality)
  - Final Sample:
    - \* First Measurement: N=418 (40% men, 60% women, aged 19–86,)
    - \* Second Measurement (after 30 days): N=330 (44% men, 56% women, aged 19–84,)

## Results

- Reliability:**
  - Internal consistency:  $\alpha = 0.96$  for the total score
  - Test-retest reliability:
    - ICC = 0.54 for the avoidance subscale
    - ICC = 0.67 for the fearful thinking subscale
    - ICC = 0.64 for the cognitive anxiety subscale
    - ICC = 0.69 for the physiological responses subscale
- Group Differences:**
  - Higher PASS-20 scores in:
    - \* women
    - \* individuals on pain relief medication
    - \* patients on sick leave
    - \* individuals who had given up work or studies
    - \* individuals who needed to limit activities important to them

Table 1. Sociodemographic and pain characteristics of the sample

Characteristics	N	Mean $\pm$ SD or percentage
<b>Demographic variables</b>		
Age (years)	418	49.37 $\pm$ 15.20
Gender		
Female	249	59.6%
Male	168	40.2%
Other	1	0.2%
Race		
White	417	99.8%
Latino/a	1	0.2%
Education		
Primary school	2	0.5%
Secondary school	162	38.8%
Vocational	51	12.2%
Higher	202	48.3%
Other	1	0.2%
Job situation		
Student	6	
Full-time job	232	
Part-time job	28	
Unemployed	35	
Retired	124	
Income	258	
Less than 2,000 PLN	11	2.6%
2,000 – 3,999 PLN	112	26.8%
4,000 – 5,999 PLN	62	14.8%
6,000 – 9,999 PLN	32	7.7%
More than 10,000 PLN	9	2.2%
Prefer not to say	32	7.7%
Marital status		
Married	257	61.5%
Domestic partnership	63	15.1%
Single	47	11.2%
Divorced	35	8.4%
Widowed	16	3.8%
Residence		
Village	88	21.1%
City up to 20,000 residents	46	11.0%
City of 20,000 – 50,000 residents	60	14.4%
City of 50,000 – 100,000 residents	60	14.4%
City of 100,000 – 200,000 residents	41	9.8%
City of 200,000 – 500,000 residents	58	13.9%
City over 500,000 residents	65	15.5%
<b>Pain-related variables</b>		
Duration of chronic pain		
3–6 months	24	5.7%
6–12 months	38	9.1%
1–3 years	100	23.9%
3–5 years	72	17.2%
>5 years	184	44.0%
Treatment of chronic pain		
<3 months	18	4.3%
3–6 months	29	6.9%
6–12 months	38	9.1%
1–3 years	72	17.2%
3–5 years	54	12.9%
>5 years	119	28.5%
Pain location		
Lumbar-sacral area	251	
Legs	115	
Knees	107	
Neck	94	
Shoulder girdle	77	
Pelvis	57	
Head	76	
Other	54	

## Results

- Factor structure:**
  - Four first-order factors
  - One second-order factor: general pain anxiety
- Model fit:**  $\chi^2/df = 1.24$ , NFI = 0.99, CFI = 1.00, RMSEA = 0.02, 90%CI [0.01, 0.03]
- Correlations:**
  - Pain catastrophizing:  $r(416) = 0.53-0.71$ , all  $p < 0.001$
  - Depression:  $r(416) = 0.30-0.48$ , all  $p < 0.001$
  - Stress:  $r(416) = 0.33-0.48$ , all  $p < 0.001$
  - State anxiety:  $r(416) = 0.40-0.62$ , all  $p < 0.001$
  - Trait anxiety:  $r(416) = 0.32-0.50$ , all  $p < 0.001$
  - Pain intensity:  $r(416) = 0.23-0.28$ , all  $p < 0.001$

## Conclusions & Relevance for patients care

The Polish version of PASS-20 demonstrates very good psychometric properties, making it a valid and reliable tool for assessing pain anxiety in Polish populations with chronic pain.

The validation of the Polish version of PASS-20 holds significant implications for enhancing patient care in chronic pain populations in Poland.

Figure 1. Hierarchical structure of the Polish version of the PASS-20

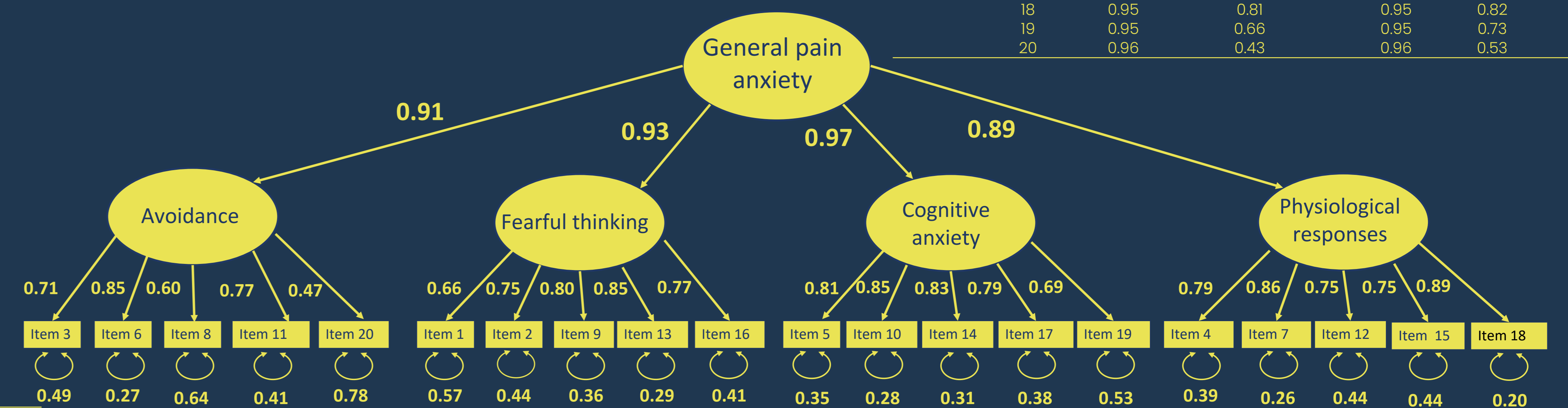


Table 2. Item reliability statistics

PASS-20 Item	Measurement 1 (N=418)		Measurement 2 (N=330)		$\alpha$
	$\alpha$ if Item Dropped	Item-rest Correlation	$\alpha$	$\alpha$ if Item Dropped	
Avoidance					0.80
3	0.78	0.62	0.75	0.60	
16	0.76	0.67	0.71	0.74	
8	0.78	0.60	0.80	0.45	
11	0.76	0.69	0.75	0.61	
20	0.82	0.46	0.78	0.52	
Fearful thinking					0.88
1	0.86	0.64	0.87	0.64	
2	0.84	0.74	0.84	0.79	
9	0.84	0.76	0.85	0.72	
13	0.85	0.72	0.86	0.70	
16	0.86	0.69	0.85	0.72	
Cognitive anxiety					0.91
5	0.88	0.71	0.90	0.71	
10	0.86	0.78	0.88	0.80	
14	0.86	0.78	0.88	0.81	
17	0.86	0.78	0.88	0.80	
19	0.89	0.66	0.90	0.74	
Physiological responses					0.91
4	0.90	0.71	0.89	0.76	
7	0.88	0.78	0.89	0.78	
12	0.88	0.78	0.89	0.76	
15	0.88	0.78	0.89	0.76	
18	0.88	0.76	0.89	0.78	
Total scale					0.96
1	0.95	0.61	0.96	0.60	
2	0.95	0.69	0.95	0.74	
3	0.95	0.64	0.96	0.61	
4	0.95	0.71	0.95	0.75	
5	0.95	0.76	0.95	0.77	
16	0.95	0.77	0.95	0.75	
7	0.95	0.78	0.95	0.72	
8	0.96	0.55	0.96	0.47	
9	0.95	0.74	0.95	0.77	
10	0.95	0.80	0.95	0.80	
11	0.95	0.70	0.96	0.69	
12	0.95	0.68	0.96	0.65	
13	0.95	0.78	0.95	0.77	
14	0.95	0.78	0.95	0.80	
15	0.95	0.68	0.96	0.66	
16	0.95	0.71	0.95	0.75	
17	0.95	0.75	0.95	0.77	
18	0.95	0.81	0.95	0.82	
19	0.95	0.66	0.95	0.73	
20	0.96	0.43	0.96	0.53	

## TU120: Polish Adaptation of the Pain Anxiety Symptoms Scale 20: Psychometric Properties in Individuals with Chronic Pain

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# Polish version of PASS-20 has good psychometric properties