

# Steps towards scale construction

The example of the Personality  
Research Questionnaire

# Steps toward scale construction

- Develop theory of construct to be measured
- Develop items to measure construct
- Administer items
- Find internal consistency reliabilities
- Find intercorrelation with other constructs
  - (discriminant validity)

# Personality Research Questionnaire

## Alpha reliabilities on diagonal

	selfS	selfI	selfN	selfA
selfS	<i>0.88</i>	0.37	0.07	-0.13
selfI	0.37	<i>0.76</i>	-0.18	-0.23
selfN	0.07	-0.18	<i>0.78</i>	-0.10
selfA	-0.13	-0.23	-0.10	<i>0.76</i>

# Estimates of Validity

- Discriminant Validity
  - Do measures of different things not correlate?
- Convergent Validity
  - Need to have a criterion to measure
  - Consider peer ratings of same construct

# Structure of Peer ratings

	Soc	Imp	Nach	Anx
Soc	<i>1.00</i>	0.29	0.09	-0.09
Imp	0.29	<i>1.00</i>	-0.26	-0.28
Nach	0.09	-0.26	<i>1.00</i>	0.39
Anx	-0.09	-0.28	0.39	<i>1.00</i>

# Convergent and Discriminant Validity: Multiple measures

selfS	selfI	selfN	selfA	Soc	Imp	Nach	Anx	
<i>0.88</i>	0.37	0.07	-0.13		0.55	0.25	-0.01	-0.12
0.37	<i>0.76</i>	-0.18	-0.23		0.09	0.33	-0.23	-0.41
0.07	-0.18	<i>0.78</i>	-0.10		-0.08	-0.05	0.21	-0.05
-0.13	-0.23	-0.10	<i>0.76</i>		-0.04	-0.14	-0.10	0.48
<b>0.55</b>	0.09	-0.08	-0.04	<i>1.00</i>	0.29	0.09	-0.09	
0.25	<b>0.33</b>	-0.05	-0.14	0.29	<i>1.00</i>	-0.26	-0.28	
-0.01	-0.23	<b>0.21</b>	-0.10	0.09	-0.26	<i>1.00</i>	0.39	
-0.12	-0.41	-0.05	<b>0.48</b>	-0.09	-0.28	0.39	<i>1.00</i>	

# Alternative measures of constructs: PRQ vs. Big 5

	selfS	selfI	selfN	selfA	Soc	Imp	Nach	Anx	ext	con	open	stability	agree
selfS	<i>0.9</i>	0.4	0.1	-0.1	0.6	0.3	0.0	-0.1	0.7	0.1	0.2	0.2	0.5
selfI	0.4	<i>0.8</i>	-0.2	-0.2	0.1	0.3	-0.2	-0.4	0.4	-0.4	0.2	0.2	0.0
selfN	0.1	-0.2	<i>0.8</i>	-0.1	-0.1	-0.1	0.2	-0.1	0.1	0.7	0.5	-0.1	0.1
selfA	-0.1	-0.2	-0.1	<i>0.8</i>	0.0	-0.1	-0.1	0.5	-0.2	0.1	-0.3	-0.6	-0.2
Soc	<b>0.6</b>	0.1	-0.1	0.0	<i>1.0</i>	0.3	0.1	-0.1	0.4	0.0	0.1	0.2	0.3
Imp	0.3	<b>0.3</b>	-0.1	-0.1	0.3	<i>1.0</i>	-0.3	-0.3	0.2	-0.2	0.1	0.0	0.1
Nach	0.0	-0.2	<b>0.2</b>	-0.1	0.1	-0.3	<i>1.0</i>	0.4	0.1	0.2	0.1	0.0	0.2
Anx	-0.1	-0.4	-0.1	<b>0.5</b>	-0.1	-0.3	0.4	<i>1.0</i>	-0.2	0.1	-0.3	-0.3	0.0
ext	<b>0.7</b>	0.4	0.1	-0.2	<b>0.4</b>	0.2	0.1	-0.2	<i>0.6</i>	0.2	0.4	0.1	0.4
con	0.1	<b>-0.4</b>	<b>0.7</b>	0.1	0.0	<b>-0.2</b>	<b>0.2</b>	0.1	0.2	<i>0.6</i>	0.3	-0.1	0.3
open	0.2	0.2	<b>0.5</b>	-0.3	0.1	0.1	0.1	<b>-0.3</b>	0.4	0.3	<i>0.6</i>	0.1	0.3
stability	0.2	0.2	-0.1	<b>-0.6</b>	0.2	0.0	0.0	<b>-0.3</b>	0.1	-0.1	0.1	<i>0.6</i>	0.3
agree	<b>0.5</b>	0.0	0.1	-0.2	<b>0.3</b>	0.1	0.2	0.0	0.4	0.3	0.3	0.3	<i>0.3</i>

# Sociability items

Meeting new people excites me	Q28	0.71	0.3	0.19	-0.09
I make friends quickly	Q8	0.67	0.29	0.02	-0.11
I often meet new people	Q12	0.66	0.24	0.23	-0.14
I am skilled in handling social situations.	Q83	0.65	0.24	0.05	-0.11
I feel at ease with people.	Q98	0.64	0.34	0.27	-0.36
I am likely to be the first to approach someone I know	Q64	0.61	0.32	0.14	-0.09
I consider myself to be a shy person	Q72	-0.6	-0.24	0.04	0.29
I enjoy group outings	Q36	0.6	0.04	0.14	0.04
I am the life of the party.	Q88	0.59	0.38	-0.06	-0.11
Social events make me nervous	Q56	-0.56	-0.26	-0.14	0.28
I enjoy participating in and contributing to conversations	Q48	0.55	0.03	0.24	-0.18
	Soc	0.55	0.09	-0.08	-0.04
I am interested in people.	Q81	0.54	0.06	-0.03	0
I talk to strangers on airplanes, buses, etc	Q4	0.53	0.23	0.13	-0.16
I feel happiest when I am with others	Q76	0.53	0.11	-0.18	0.15
I am much more likely to go to a party than to read the newspaper	Q32	0.52	0.13	0.02	0.08
I have more fun when I am with friends than when I am alone	Q16	0.52	0.2	-0.11	0.07
I am tempted to talk to others even when talking is inconvenient	Q60	0.51	0.4	-0.08	-0.02
I try to avoid speaking to people who are not well-known	Q68	-0.49	-0.26	-0.16	0.32
I enjoy speaking in front of people	Q44	0.49	0.32	0.18	-0.31
I prefer spending time alone to spending it with other people	Q40	-0.44	-0.11	0.03	0.15

# Impulsivity

I am spontaneous and like to make plans at the last r	Q19	0.29	0.75	0.01	-0.28
I engage in a lot of high risk activities	Q35	0.23	0.68	0.09	-0.08
My friends think I'm spontaneous	Q67	0.43	0.67	0.04	-0.28
I tend to act on the spur of the moment to get what I	Q59	0.37	0.65	-0.03	-0.08
I often act without a plan	Q39	0.33	0.63	-0.24	-0.21
I prefer activities that most people would consider d	Q7	0.18	0.6	0.04	-0.11
I don't like changing my plans at the last minute	Q11	-0.19	-0.56	-0.2	0.42
I often speak without thinking first	Q23	0.32	0.52	-0.2	0.1
I tend to live in the present rather than prepare for th	Q15	0.22	0.52	-0.47	-0.19
I often end up in dangerous/risky situations because	Q47	0.05	0.51	-0.28	0.07
I live by the motto "you only live once"	Q27	0.21	0.49	0.09	-0.18
I usually drive far above the speed limit	Q43	0.07	0.47	0.07	-0.06
I avoid activities that involve potential harm/injury (	Q51	-0.05	-0.46	-0.15	0.08
I am easily distracted	Q79	0.22	0.45	-0.43	0.34
I am always prepared.	Q82	0.14	-0.42	0.5	-0.06
In my work I do just enough to 'get by'	Q14	0.09	0.42	-0.4	-0.14
I do not like new situations.	Q5	-0.28	-0.41	-0.2	0.48
	Anx	-0.12	-0.41	-0.05	0.48
I do things according to a plan.	Q97	0.09	-0.41	0.33	0.2

# Achievement

I am often called an over-achiever	Q38	0.08	-0.07	0.73	-0.04
I always strive to do better	Q22	0.05	-0.2	0.67	0.05
I strive to complete my work even when it is very ch	Q18	0	-0.25	0.62	-0.01
I am persistent in completing tasks	Q30	0.06	-0.19	0.62	-0.01
I often set goals for myself	Q2	0.07	-0.15	0.6	0.1
I prefer to engage in challenging tasks	Q10	0.04	0.13	0.59	-0.2
I believe in the motto, "if at first you don't succeed,	Q46	0.08	-0.19	0.57	0.03
If I cannot complete a task, I give up	Q6	0.09	0.14	-0.56	0.13
I continue until everything is perfect.	Q92	0.04	-0.05	0.54	0.11
I have a definite five year plan	Q26	0.06	-0.31	0.51	0.12
I am always prepared.	Q82	0.14	-0.42	0.5	-0.06
I tend to live in the present rather than prepare for th	Q15	0.22	0.52	-0.47	-0.19
My ideal future is to not work much and live modes	Q58	-0.03	0.26	-0.46	0.09
I hope to surpass the successes of my parents	Q70	-0.1	0.15	0.46	-0.11
I am easily distracted	Q79	0.22	0.45	-0.43	0.34
I hope to be more successful than my peers in 10 ye	Q54	0.12	0.12	0.43	-0.01
I am full of ideas.	Q84	0.24	0.12	0.42	-0.21
I am exacting in my work.	Q87	-0.04	-0.28	0.41	0.06
I prefer tasks that don't require detailed work	Q75	0.03	0.18	-0.41	0.26
I am particularly excited by success	Q62	0.11	0.05	0.41	0.1

# Anxiety

I am often overwhelmed or consumed by my worries	Q57	-0.06	-0.2	-0.03	0.86
I often feel tense for no particular reason.	Q49	-0.1	-0.1	-0.09	0.78
My friends tell me that I worry too much.	Q37	0.14	-0.12	0.08	0.78
I am a nervous person most of the time.	Q69	-0.43	-0.28	-0.15	0.74
I frequently worry about things that end up being no big deal.	Q53	0.02	-0.28	-0.05	0.74
I often feel uptight or on edge.	Q17	-0.21	-0.12	-0.02	0.74
Worrying prevents me from performing tasks.	Q21	-0.01	0.01	-0.23	0.71
It is hard for me to relax.	Q73	-0.26	-0.15	0.02	0.69
I am relaxed most of the time.	Q90	0.29	0.27	-0.07	-0.68
I worry about past events for many days after the event.	Q65	0.03	-0.04	-0.03	0.65
I am a worry free person most of the time.	Q9	0.03	0.32	-0.06	-0.64
I am afraid I will do or say the wrong things.	Q29	-0.18	0	-0.21	0.6
I cannot concentrate when I am in stressful situations.	Q45	0.02	-0.01	-0.18	0.6
I worry about the future.	Q1	0.23	-0.12	0	0.6
I am not easily bothered by things.	Q85	0.13	0.22	-0.02	-0.57
I spend more time worrying about finishing a paper than I should.	Q33	-0.05	0.03	-0.34	0.53
I worry less about things than I probably should.	Q61	0.06	0.26	-0.2	-0.52
I cannot sleep if I have a lot to do.	Q77	0.1	-0.03	0.18	0.52
I typically take things as they come.	Q25	0.29	0.37	-0.12	-0.5
I seldom feel blue.	Q100	0.12	0.02	0.01	-0.5
I do not like new situations.	Q5	-0.28	-0.41	-0.2	0.48
	Anx	-0.12	-0.41	-0.05	0.48
I don't like changing my plans at the last minute	Q11	-0.19	-0.56	-0.2	0.42
I avoid situations that have a high risk of failure	Q50	-0.03	-0.14	-0.25	0.41
I would rather succeed at an easy task than fail at a hard one.	Q66	-0.05	-0.04	-0.34	0.4