

### STEPS IN SCALE DEVELOPMENT

- 1. Determine the content of the scale
- 2. Generate an item pool- item writing
- Determine a response format
- Have experts review the item pool
- 5. Pilot testing and item analysis
- 6. Appling the scale to the target population
- 7. Reliability and validity analysis
- 8. Final version of the scale

# Step 1: Determine the Content of the Scale

- Theory is key for clarity
- Specify a theoretical model to guide the scale's development
  - Can be as simple as a well-formulated definition of the construct being measured
  - Can be as involved as a description of how the new construct will relate to existing constructs

# Step 1: Determine the Content of the Scale

- Specificity is key to clarity
  - Constructs relate better to each other when they match in levels of specificity
    - Do you want your measure to assess very specific behaviors or be a more global measure of the construct?
    - Actively decide the level of specificity that is appropriate based on the intended use of the scale

# Step 1: Determine the Content of the Scale

- Be clear about what to include
  - Is your construct distinct from others?
  - Does the measure match my goals for its use?
  - Be cautious of similar items that may assess very different phenomena- NEYİ ÖLÇÜYORSUN?
    - Know the frame of reference for and intended purpose of your scale

- Create and select items with the specific measurement goal in mind
  - Use your description of the scale's purpose to guide this process.
  - Each item is a test of the strength of the latent variable
  - Think creatively about the construct of interest



- Be over inclusive and redundant- BAŞLANGIÇTA!
  - Theoretical models that guide scale development are based on redundancy
  - Redundancy allows you to compare items and have a preference for one over the other- BENZER MADDELER VE SEÇİMLER...
  - While redundancy is most prevalent in the initial item pool, some redundancy in the final item pool is desirable- Nihai FORMDA KAÇININI

- How many items do you need?
  - More than you plan include in the final scale
  - Lots of items increases your chances of good internal consistency
  - Initial pool can be three to four times larger than the final pool

- Starting the writing process
  - Focus less on quality and more on expressing relevant ideas
  - Write quickly and uncritically
  - Be critical after you have 3 to 4 times as many items as you need
- Identify a variety of ways to state the central concept the scale is intending to measure
  - Paraphrase the construct of interest
  - Create additional statements that get at the same idea somewhat differently
  - Seek alternative ways to express important ideas

#### ○ Good Items ②

- Unambiguous
- Targets the appropriate reading level for the intended sample
- Specific
- Avoid jargon
- Avoid asking opinions
- Avoid biased language

#### Bad Items 8

- Exceptionally lengthy
- Unnecessarily wordy
- Multiple negatives
- Double barreled items
- Nonmonotonic questions

- Positively and negatively worded items
  - Positively worded
  - Negatively worded
  - Purpose of including both in a scale is to avoid acquiescence, affirmation, or agreement
  - Can be confusing to respondents
  - Reverse worded items can perform poorly

### Are these items GOOD or BAD?

- 1. "Okulda eğlenceli şeyler yapmaktan zevk alırım."
- "Okulda düzenlenen etkinliklerde aktif olarak yer almayı tercih ederim."
- "Sosyal ortamlarda rahat hissediyorum, insanlar arasında kendimi ifade edebilirim, arkadaşlarımın desteğiyle güçlü hissediyorum, yalnızken üzülüyorum."
- "Sosyal ortamlarda rahat hissediyorum."

- Equally weighted items
  - All items in the scale are viewed as equivalent "detectors" of the construct of interest
  - They are imperfect indicators but can be aggregated into an acceptably reliable scale
  - Allows for a variety of response options

- Optimum number of response categories
  - Variability is important CEŞİTLİLİK!
    - Have lots of items
    - Have lots of response options within items
  - Respondents must be able to meaningfully discriminate between options
    - Ability to discriminate between items may depend on specific wording or physical placement of the response options
  - Investigator's ability and willingness to record a large number of values for each item

- Optimum number of response categories
  - Odd or even number of response options depends on the investigator's purpose
    - Odd = implies a central "neutral" point
    - Even = forces commitment in one direction
    - Neither is superior to the other



#### Types of response formats

#### Likert Scale

- Item is presented as a declarative statement, followed by response options
- Response options are worded so they have roughly equal intervals of agreement
- Used most frequently to measure opinions, attitudes, beliefs
- Must consider how strongly you should word items in the initial item pool

# Likert Scale

Please agree or disagree with the following:									
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree				
The company's current activities reflect a strong focus on the client	0	0	0	0	0				
Our employees are committed to producing the highest quality work for our clients	0	0	0	0	0				
I have the freedom I need to meet customer needs	0	0	0	0	0				
I understand the issues facing our clients	0	0	0	0	0				
The internal practices support my ability to deliver a high standard o quality to my customers	f O	0	0	0	0				
In my work group, we ask our interna customers what they require from us		0	0	0	0				

- Types of response formats
  - Semantic Differential
    - Used in reference to one or more stimuli which are followed by a list of adjective pairs representing opposite ends of a continuum
    - Adjectives can be bipolar or unipolar (depending on the intended purpose of the scale)

### Semantic Differential Scale

## SEMANTIC DIFFERENTIAL SCALE

#### Democratic party

Bad \_\_:\_\_:\_\_:\_\_:\_x\_Good

Cruel \_\_:\_:\_:\_:\_x\_\_Kind

Unpleasant \_\_:\_:\_:\_x\_:\_ Pleasant

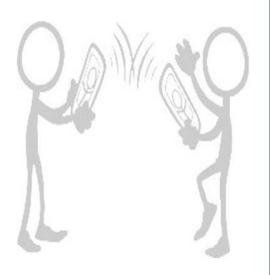
Unfair \_\_:\_:\_:\_:\_x\_Fair

Dirty \_\_:\_:\_:\_x\_Clean

Negative \_\_:\_:\_x\_:\_ Positive

Foolish ::::x Wise

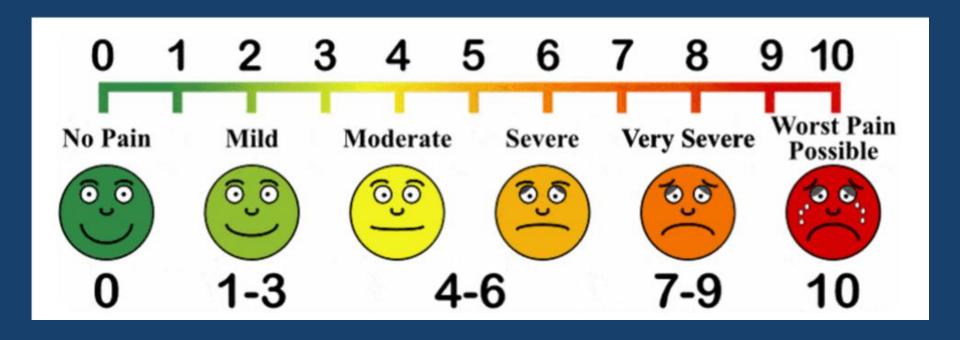
1	2	3	4	5	6	7
		-				



#### Types of response formats

- Visual analog scale
  - Continuous line between a pair of descriptors representing opposite ends of a continuum
  - Respondent marks a point on the line that represents what is being measures
  - Investigator determines/assigns scores to each point selected
  - Disadvantages = marks at the same point may not mean the same thing to different individuals
  - Advantages = very sensitive and useful for measuring construct before and after some intervening event, prevents response bias with repeated measurements

## Visual Analog Scale



Item time frames

**Time period** - the respondent is expected to relate their answer. For example, "How did you feel in the last month about your relationship?" focuses on a specific time frame (last month),

- When formatting items you need to consider what time frame will be specified or implied by your scale – Spesific or much Broader?
  - Not making a reference to a time frame = implying a universal time perspective
  - Choose it actively rather than passively Araştırmanızın amacına göre zamanı planlayın!
  - Use theory to guide your decision

- 1. Determine the content of the scale  $\checkmark$
- 2. Generate an item pool- item writing  $\sqrt{\phantom{a}}$
- 3. Determine a response format √
- Have experts review the item pool
- 5. Pilot testing and item analysis
- 6. Appling the scale to the target population
- 7. Reliability and validity analysis
- 8. Final version of the scale

# ASSIGNMENT-1: SCALE DEVELOPMENT - CREATING ITEM POOL

#### Aim:

 To understand the process of scale development and create an item pool for a specific psychological construct.

#### **Questions:**

- 1. What is your variable for developing a scale?
- Review the literature
  - Find at least 4 articles related to your variable.
  - If applicable, identify the subdimensions of the construct.
- 3. Write at least 60 items related to your variable.
  - O Both positive and negative items!
- 4. Which type of response format will you plan to use? (e.g., Likert scale, Yes/No...)
  - Briefly explain why you prefer to choose that format...

Class ID: 50967686

Key: class2025

Any questions??©