PSYC-314 Health Psychology

by David King, PhD

8. In Poor Health: Chronic Pain/Symptom Management

Quality of Life; Defining & Measuring Pain; Chronic Illness Response & Management; A Look at Cancer

Chronic Conditions

Quality of Life

The degree of excellence people appraise their lives to contain.

Based on physical, psychological, vocational, and social functioning; includes disease or treatment related symptoms.

Emphasis placed on daily living, such as sleeping, eating, going to work, and engaging in social activities.

Quality of life is an important indicator of recovery from or adjustment to chronic illness.

Evaluating Quality of Life

An important aspect of quality of life is a person's perceptions of their own health.

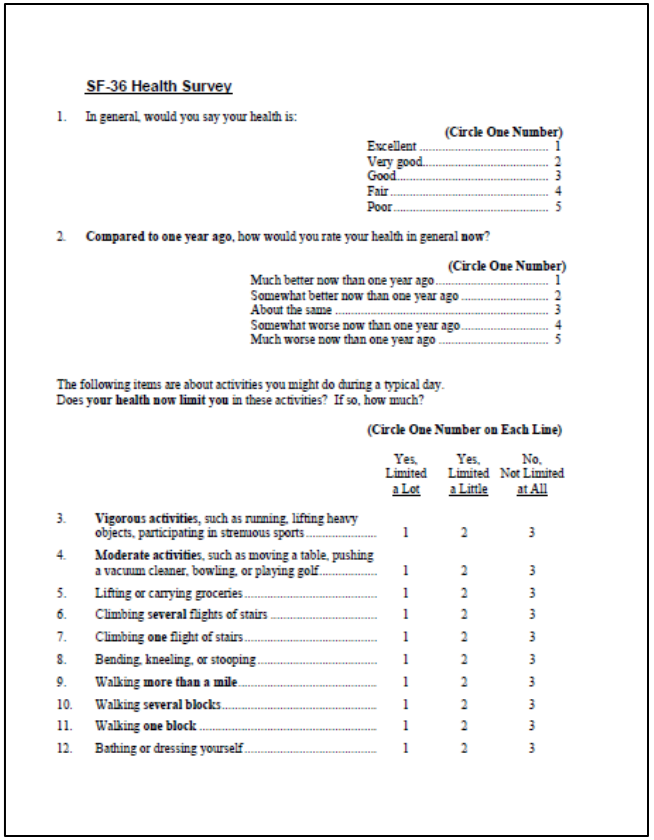
Health questionnaires/surveys with Likert response scales.

e.g., Would you rate your current health as…

(1) very poor, (2) poor, (3) fair, (4) good, or (5) excellent ?

e.g., Medical Outcomes Short Form Health Survey (SF-36)

Health Concept
Physical Functioning
Role Limitations due to Physical Health
Bodily Pain
General Health
Vitality
Social Functioning
Role Limitations due to Emotional Problems
Mental Health



SF-36 Health Survey

1. In general, would you say your health is:

(Circle One Number)

Excellent 1
Very good 2
Good 3
Fair 4
Poor 5

2. **Compared to one year ago**, how would you rate your health in general **now**?

(Circle One Number)

Much better now than one year ago 1
Somewhat better now than one year ago 2
About the same 3
Somewhat worse now than one year ago 4
Much worse now than one year ago 5

The following items are about activities you might do during a typical day.
Does **your health now limit you** in these activities? If so, how much?

(Circle One Number on Each Line)

		Yes, Limited a Lot	Yes, Limited a Little	No, Not Limited at All
3.	**Vigorous activities**, such as running, lifting heavy objects, participating in strenuous sports	1	2	3
4.	**Moderate activities**, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	1	2	3
5.	Lifting or carrying groceries	1	2	3
6.	Climbing **several** flights of stairs	1	2	3
7.	Climbing **one** flight of stairs	1	2	3
8.	Bending, kneeling, or stooping	1	2	3
9.	Walking **more than a mile**	1	2	3
10.	Walking **several blocks**	1	2	3
11.	Walking **one block**	1	2	3
12.	Bathing or dressing yourself	1	2	3

Self-Reported Health

Discussion: Is health, as assessed by these questionnaires, a *physical* or *psychological* variable?

Self-Reported Health

Is subjective health consistent with objective health?

YES: SRH is associated with prevalence of all diseases, onset of all diseases, and laboratory parameters of health (e.g., Jylhä, 2009; Latham & Peek, 2013; Wu et al., 2013).

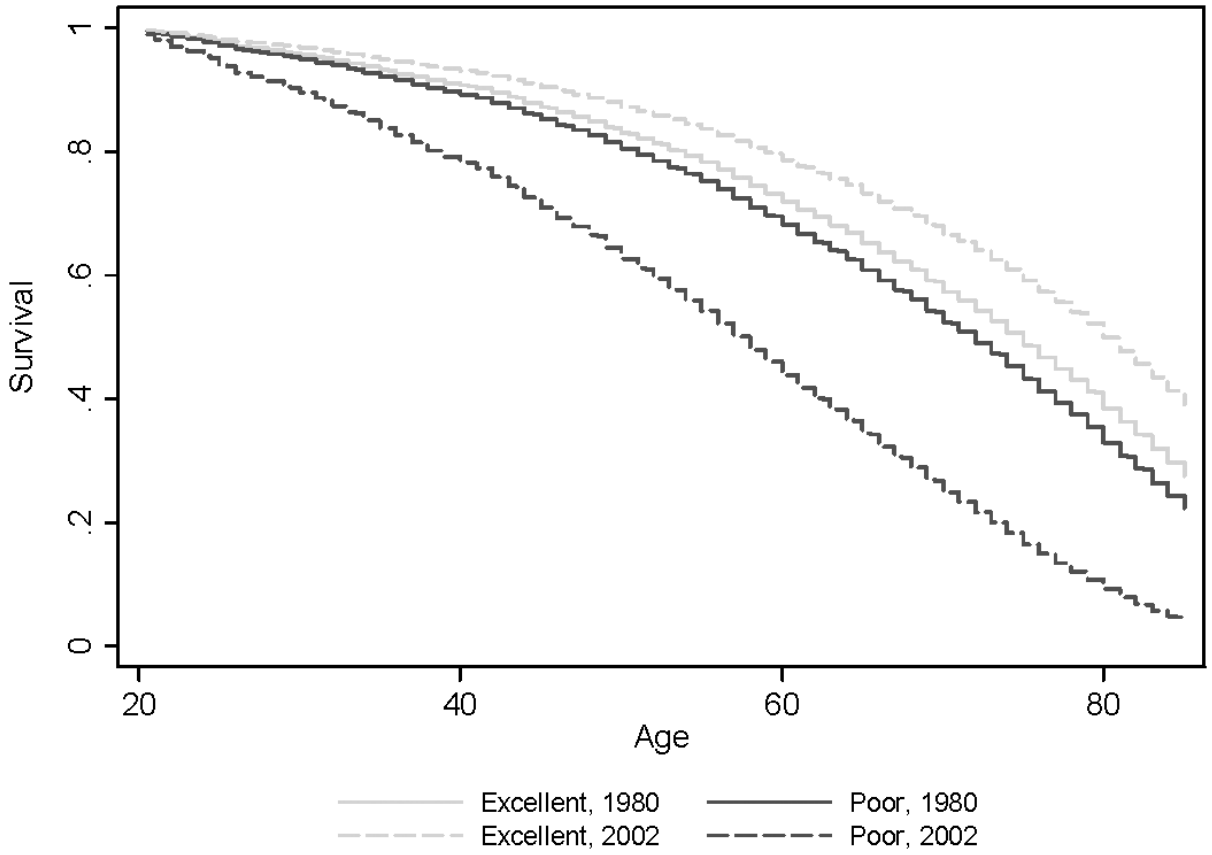
> *Some studies have found a lack of association with cancer (e.g., Latham & Peek, 2013; Roelsgaard et al., 2016).*

Is subjective health predictive of mortality?

YES: SRH significantly predicts mortality in longitudinal research, often more than objective indices of physical health (DeSalvo et al., 2006; Falconer, 2016; Idler & Benyamini, 1997; Jylhä, 2009; Nery Guimarães et al., 2012)

Self-Reported Health

AND the predictive validity of self-reported health has increased over time (Schnittker & Bacak, 2014)…



e.g., Satisfaction with Life Scale

(Diener et al., 1985)

Indicate your agreement with each item using a scale of 1 (strongly disagree) to 7 (strongly agree).

1. In most ways, my life is close to ideal.
2. The conditions of my life are excellent.
3. I am satisfied with my life.
4. So far, I have gotten the important things I want in life.
5. If I could live my life over, I would change almost nothing.

Satisfaction with Life

Is life satisfaction predictive of morbidity?

YES: There is also a significant association between life satisfaction and onset of many chronic diseases (e.g., Feller et al., 2013).

Is life satisfaction predictive of mortality?

YES: Life satisfaction scores predict mortality (e.g., Koivumaa-Honkanen et al., 2000; Li, 2013; St. John et al., 2014), although less consistently than self-reported health.

Discussion

Why does this matter more…

In general, how would you rate your health?

- ❑ Excellent
- ❑ Average
- ❑ Poor

And what mechanisms may be involved

A Closer Look at Pain

Pain is the symptom of greatest concern to patients

Specificity Theory of Pain (Descartes, 1664)

Pain is directly proportional to the amount of tissue damage.

1. Upon injury, pain messages originate in nerves associated with damaged tissue and travel to the spinal cord.

2. A signal is then sent to

(a) a motor nerve, and

(b) the brain, where pain is perceived.

A Purely Biomedical Approach…

- Assumption of one-to-one correspondence to injury/ disease.
- Unfortunate practices (e.g., blaming the patient, assuming psychiatric disorder or intentional faking of symptoms).
- Focus on pharmacological, surgical, or other medical interventions to control pain.

Gate Control Theory (Melzack & Wall, 1965)

Pain is NOT directly proportional to tissue damage.

A neural pain gate in the spinal cord opens or closes to modulate pain signals to the brain.

Involves inhibitor and projector neurons that respond to somatosensory input and send certain signals to the brain.

Gate Control Theory (Melzack & Wall, 1965)

Type of Factor	What Opens the Gate?	What Closes the Gate?
Physical	→ Extent of injury → Inappropriate activity level; inactivity	→ Medication → Counter stimulation (massage, heat)
Emotional	→ Anxiety or worry → Tension → Depression → Relationship problems	→ Positive emotions → Relaxation → Social support
Cognitive	→ Focusing on pain → Boredom	→ Distraction → Concentration → Involvement and interest in activities

The Meaning of Pain

Pain can be more or less intense depending on the meaning of the pain or underlying injury.

E.g., enjoyment of pain during sex (masochism).

E.g., relief and optimism following injury in war (vs. civilian surgery).

Pain without (Known) Pathology

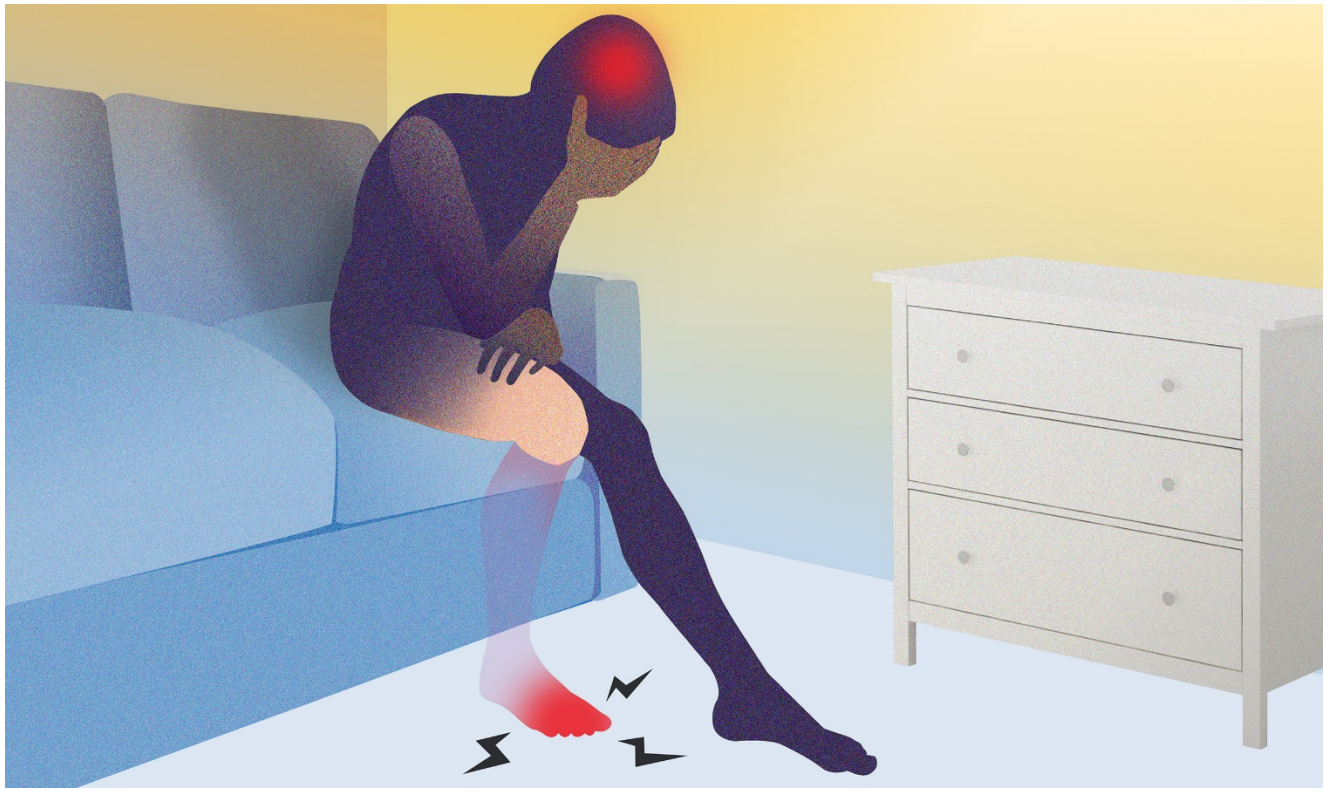
In studies of multiple pain conditions, objective findings have no clinically significant correlation to pain levels

(Bogduk, 2012; Cheung et al., 2009; Guermazi et al., 2012).

American Medical Association (2001) – “In up to 85% of individuals who report back pain, no pain-producing pathology can be identified.”

Phantom Limb Pain

Phantom limb pain is pain experienced in an amputated limb.



How can pain be originating in site of tissue damage if there is no tissue?

Neuromatrix Theory (Melzack, 1990, 2001)

The neuromatrix is distributed throughout many areas of the brain, comprising a widespread network of neurons that generates a pattern that is felt as a whole body possessing a sense of self.

→ *the*

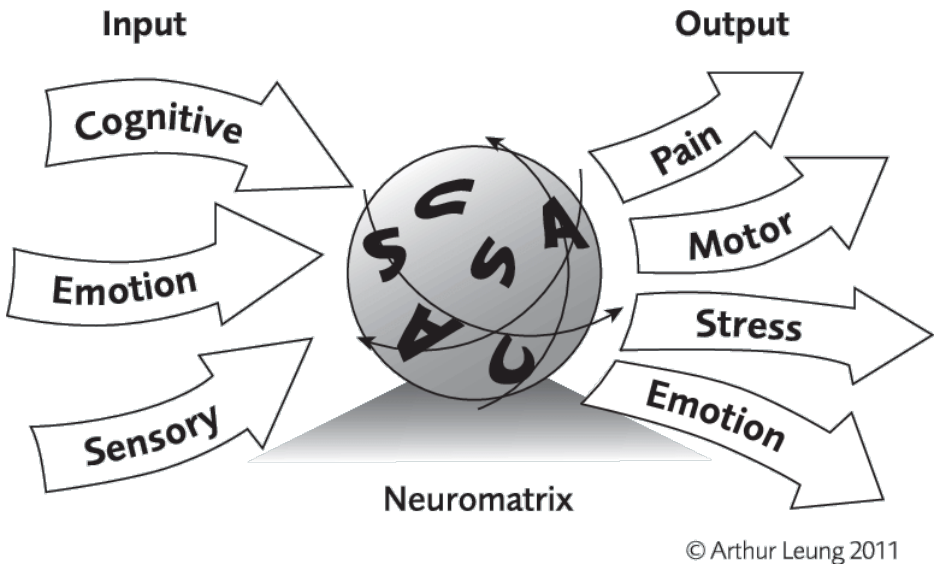
neuromatrix'

Neuromatrix Theory (Melzack, 1990, 2001)

This matrix of neurons in the brain can generate pain (and other sensations) in the absence of signals from sensory nerves.

Pain is produced in the central nervous system (brain, spinal cord).

Various parts of the nervous system work together to respond to stimuli from the body and/or environment to create the experience of pain.



How do we define pain?

“An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.”

(International Association for the Study of Pain, 1994)

What is Social Pain?

Social pain – the experience of pain as a result of interpersonal rejection or loss, such as rejection from a social group, bullying, or the loss of a loved one (MacDonald & Jensen-Campbell, 2011).

From an evolutionary perspective, social pain is adaptive.

Linguistically, we describe social pain and physical pain in similar terms – *"hurt feelings," "broken-hearted"*

(Baumeister; MacDonald & Jensen-Campbell, 2011; Panksepp, 19

Same as 'physical pain'?

Negative social experiences rely on the same neural system supporting the affective component of physical pain [dorsal anterior cingulate cortex (dACC) and anterior insula (AI)].

fMRI research:

dACC (left) is associated with degree of distress; right ventral prefrontal cortex (right) is associated with regulating distress.

(Eisenberger et al., 2003; Kross et al., 2011; Meyer et al., 2015)

Implications for Treatment?

Acetaminophen (AKA Tylenol) appears to reduce social pain.

Lowers daily self-reported social pain (better than placebo).

fMRI measures of brain activity found that acetaminophen reduced neural responses to social rejection in the dACC and anterior insula.

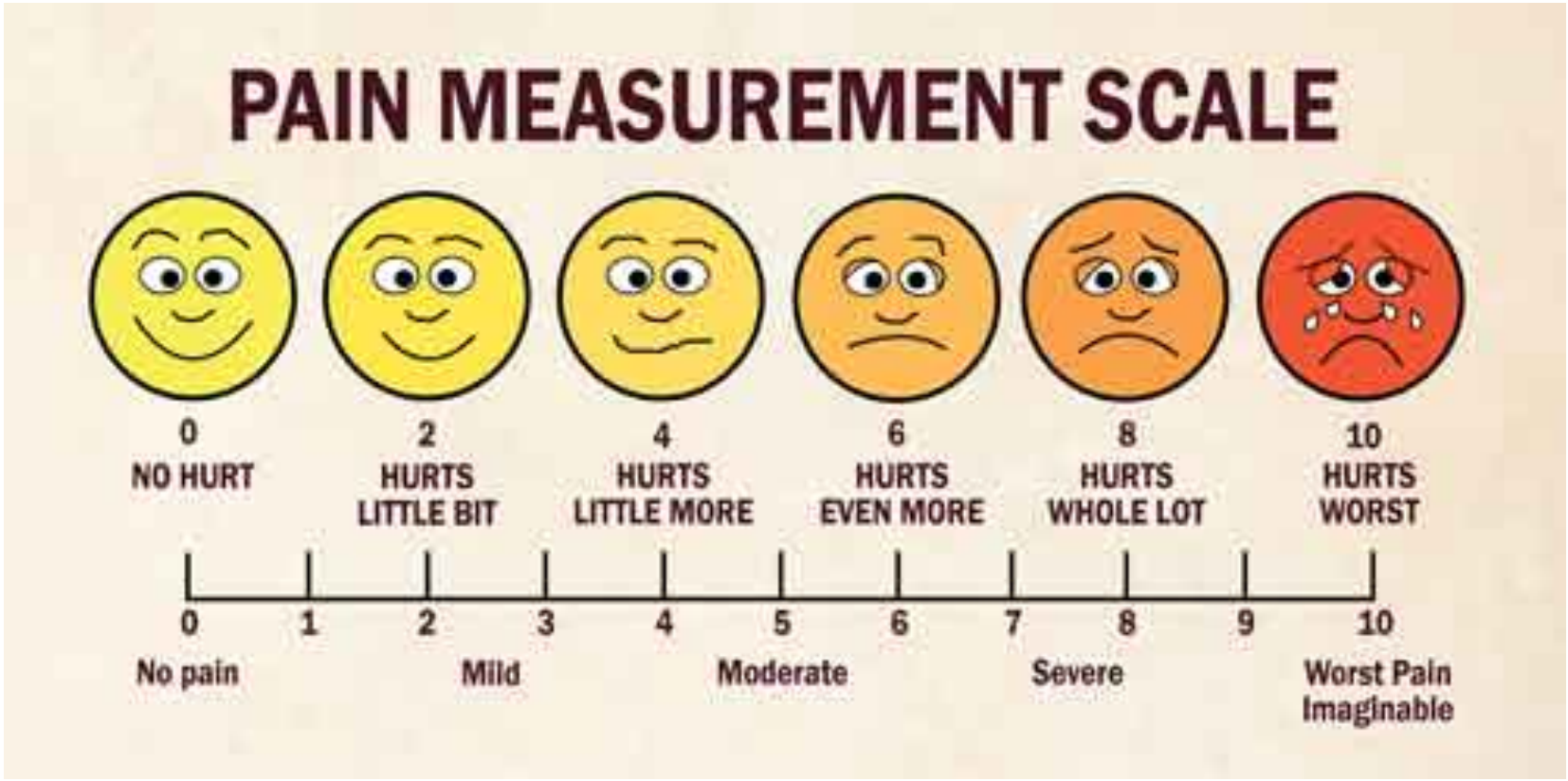
(DeWall et al., 2010)

How do we measure pain?

"Pain is whatever the person says it is and exists whenever the person says it does…" (McCaffery & Pasero, 1999)

"Pain is a complex multidimensional phenomenon, and is defined as whatever the person experiencing the pain says it is, existing whenever the person says it is." (Lewis, 2000)

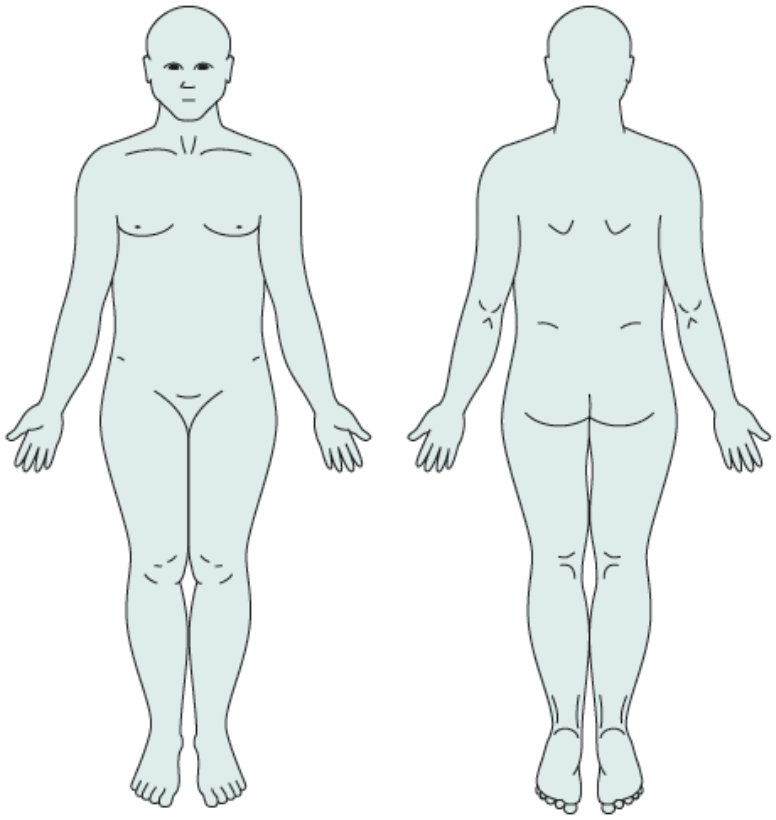
Self-Report Measures of Pain



Wong-Baker FACES Pain Rating Scale → asks patients to rate how much something hurts.
[Wong-Baker FACES Foundation]

Part 1. **Where Is Your Pain?**

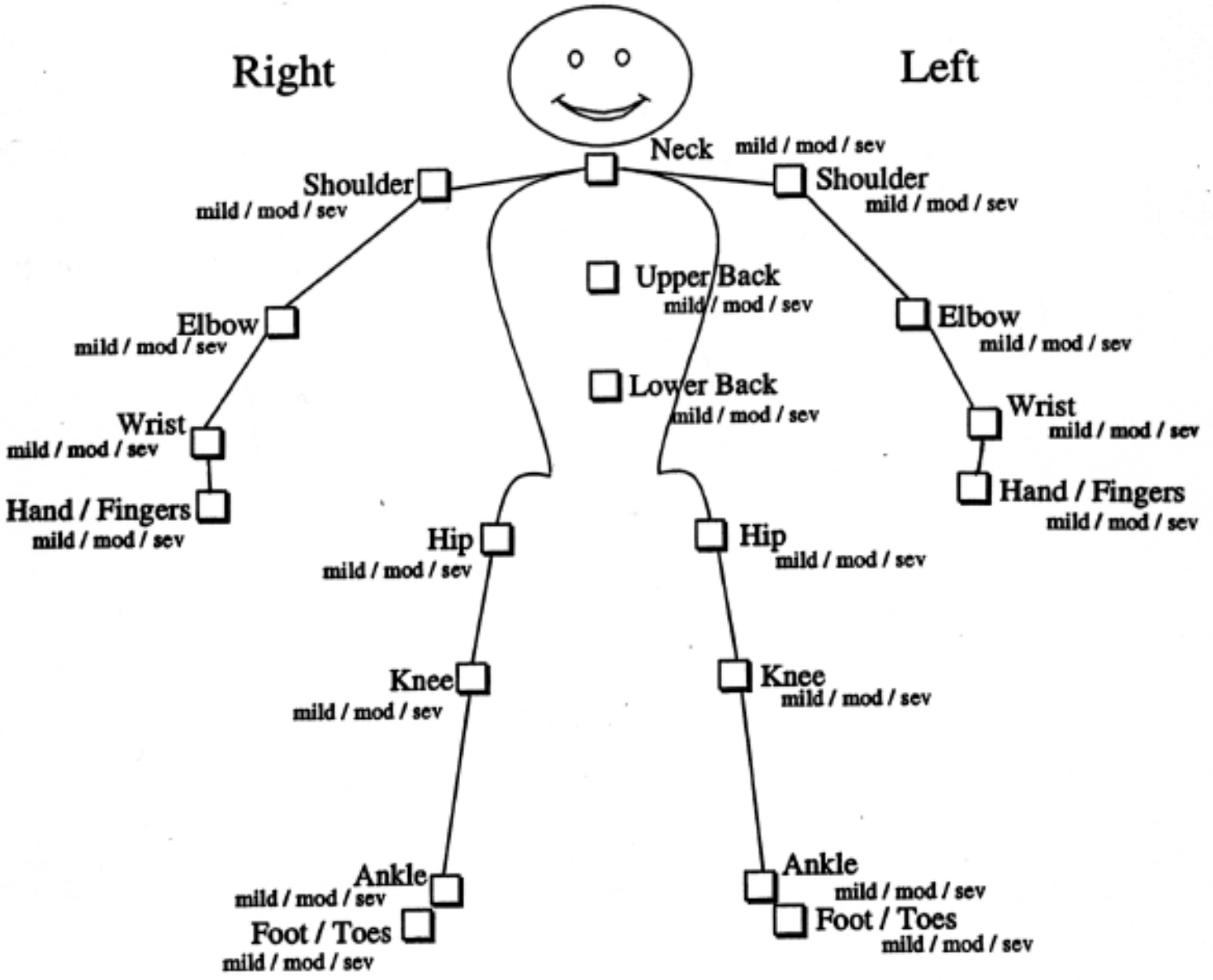
Please mark on the drawing below, the areas where you feel pain. Put E if external, or I if internal, near the areas which you mark. Put EI if both external and internal.



Part 2. **What Does Your Pain Feel Like?**

Some of the words below describe your present pain. Circle ONLY those words that best describe it. Leave out any category that is not suitable. Use only a single word in each appropriate category–the one that applies best.

1	2	3	4
Flickering	Jumping	Pricking	Sharp
Quivering	Flashing	Boring	Cutting
Pulsing	Shooting	Drilling	Lacerating
Throbbing		Stabbing	
Beating		Lancinating	
Pounding			
5	**6**	**7**	**8**
Pinching	Tugging	Hot	Tingling
Pressing	Pulling	Burning	Itchy
Gnawing	Wrenching	Scalding	Smarting
Cramping		Searing	Stinging
Crushing			
9	**10**	**11**	**12**
Dull	Tender	Tiring	Sickening
Sore	Taut	Exhausting	Suffocating
Hurting	Rasping		
Aching	Splitting		
Heavy			
13	**14**	**15**	**16**
Fearful	Punishing	Wretched	Annoying
Frightful	Grueling	Blinding	Troublesome
Terrifying	Cruel		Miserable
	Vicious		Intense
	Killing		Unbearable
17	**18**	**19**	**20**
Spreading	Tight	Cool	Nagging
Radiating	Numb	Cold	Nauseating
Penetrating	Drawing	Freezing	Agonizing
Piercing	Squeezing		Dreadful
	Tearing		Torturing


Right
Left
Neck
mild / mod / sev
Shoulder
mild / mod / sev
Shoulder
mild / mod / sev
Upper Back
mild / mod / sev
Elbow
mild / mod / sev
Elbow
mild / mod / sev
Lower Back
mild / mod / sev
Wrist
mild / mod / sev
Wrist
mild / mod / sev
Hand / Fingers
mild / mod / sev
Hand / Fingers
mild / mod / sev
Hip
mild / mod / sev
Hip
mild / mod / sev
Knee
mild / mod / sev
Knee
mild / mod / sev
Ankle
mild / mod / sev
Foot / Toes
mild / mod / sev
Ankle
mild / mod / sev
Foot / Toes
mild / mod / sev

Nonverbal Measures of Pain

Pain behaviours are observable behaviours that occur in response to pain.

- Negative affect (mood, anxiety, depression).
- Facial and audible expression of distress.
- Distortions in posture or gait.
- Avoidance of activity.

IASP (2002): “The inability to communicate verbally in no way negates the possibility that an individual is experiencing pain and is in need of appropriate pain relieving treatment.”

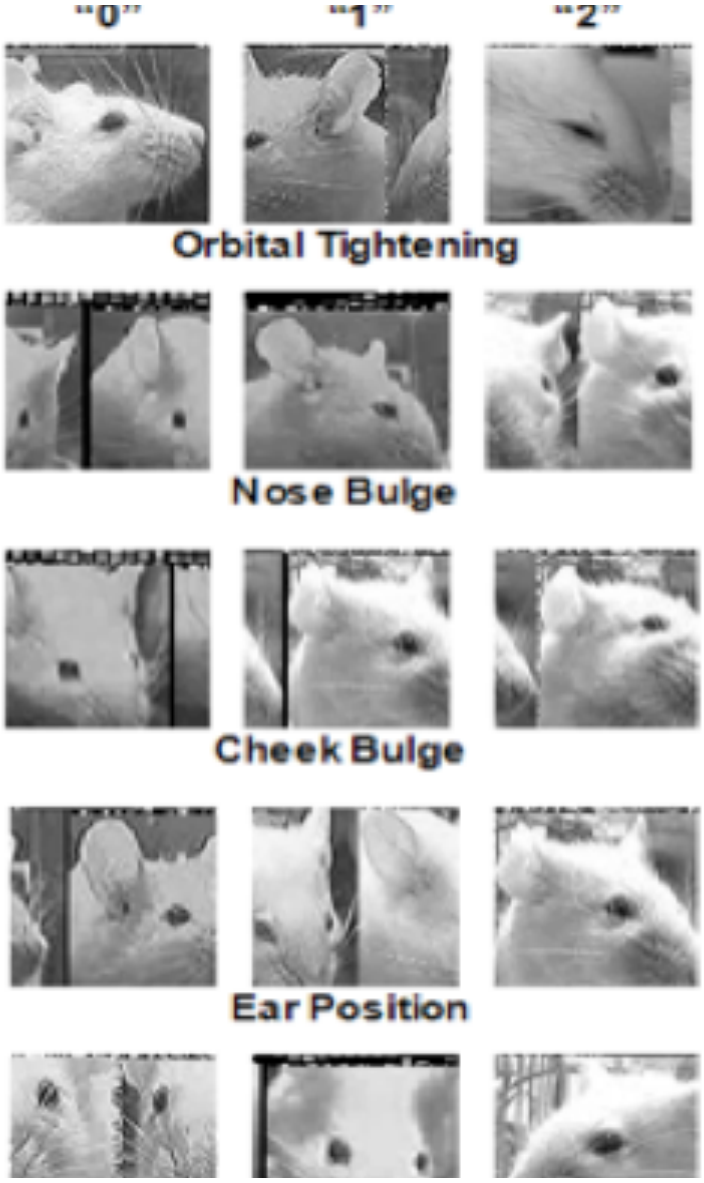
Neonatal Facial Coding Scale

Brow Lower
Eye Squeeze
Squint
Blink
Flared nostril
Nose Wrinkler
Nasolabial Furrow
Cheek Raiser
Open Lips
Upper Lip Raiser
Lip Corner Puller
Horizontal Mouth Stretch
Vertical Mouth Stretch

Coding Pain in Mice

Langford et al. (2010), Nature Methods

Coding of facial expressions of pain in the laboratory mouse.



Discussion:

Based on what we've learned so far, what are some likely adaptive strategies for coping with pain?

And what are some maladaptive strategies?

How do people cope with pain?

Coping with Pain

Adaptive Coping → Relaxation, distraction, redefinition, readiness to change, or taking an active role.

Acceptance → Patients' lives are often consumed by unsuccessful efforts to eliminate pain.

Maladaptive Coping → Destructive forms of thinking.

Catastrophizing: magnification, rumination, & helplessness.

Coping with Pain

Adaptive Coping → Relaxation, distraction, redefinition, readiness to change, or taking an active role.

Acceptance → *Patients' lives are often consumed by unsuccessful efforts to eliminate pain.*

Maladaptive Coping → Destructive forms of thinking.

Catastrophizing:

Primary Appraisal: Focusing on and exaggerating the threat value of pain

Secondary Appraisal: Appraisals of helplessness and of inability to cope

Coping with Pain

Positive reappraisal attenuates feelings of pain…

E.g., Positive self-statements (e.g., “No matter how cold it gets, I can handle it”) reduce pain ratings following cold-pressor task IF subjects receive explanation of how self-statements can help (Girodo & Wood, 1979).

Social Support & Pain

Social support also attenuates feelings of pain…

E.g., Verbal support during the cold-pressor task more strongly reduced participant pain ratings (in addition to stress) compared to mere presence of other person and being alone (Roberts et al., 2015).

Communal Coping Model of Pain
Catastrophizing (Sullivan, 2012)

Social Context

The goal: To manage distress in a social context rather than an individual one.

Person in Pain

Pain

Pain Catastrophizing
(As a result, person appears less able to cope with pain.)

Caregiver

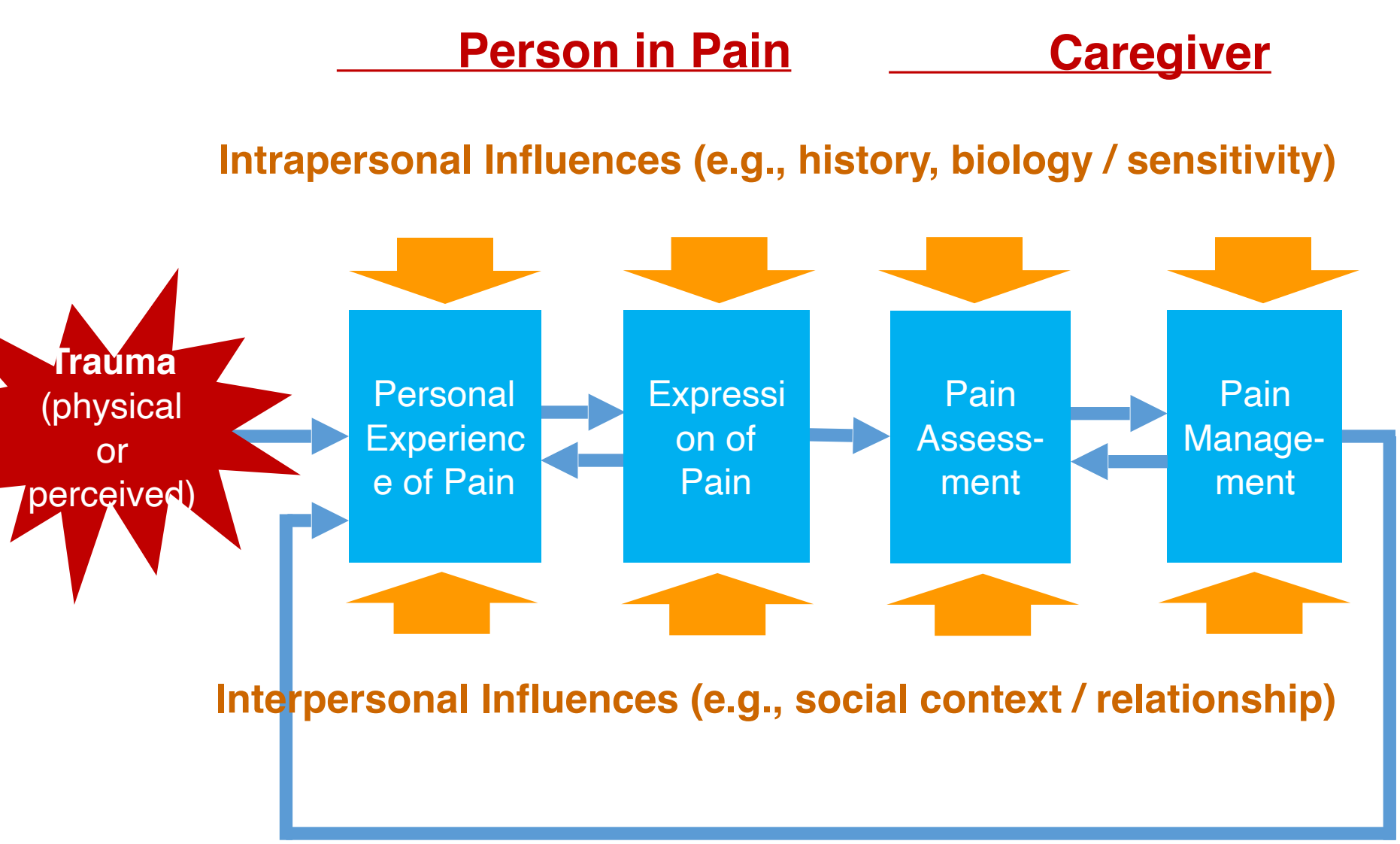
Provides…

- **proximity**
- **support**
- **empathy**
- **assistance**

Pain

But increased attention to pain and exaggerated pain behaviour can worsen the pain experience.

Social Communication Model of Pain (Craig & Korol, 2008)

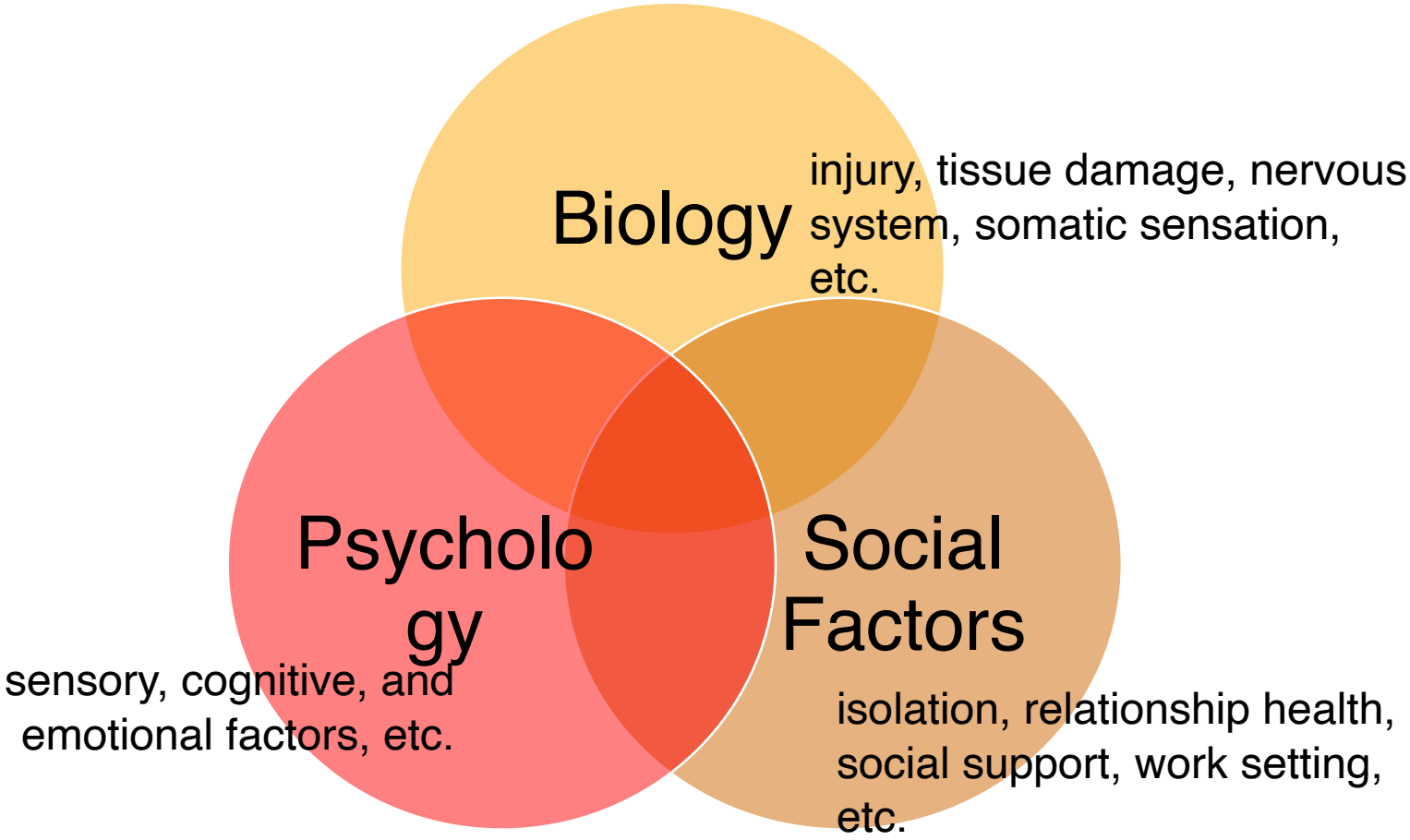


Treating the Social Network

The health and well-being of one's social network also affects pain outcomes…

E.g., In people with rheumatoid arthritis, spouse depression predicted increasing pain and disability over one year, controlling for their own mood (Lam et al., 2009).

A Biopsychosocial Model of Pain



Management of Chronis Illness

A closer look at cancer…

The Initial Response

Immediately after a chronic disease is diagnosed, patients are often in a state of crisis or shock → *an acute stress reaction.*

Stunned, bewildered, and behaving in an automatic & detached way.

Secondary appraisal (especially in regards to social resources).

Engage in more emotion-focused coping early on.

Denial: Inability to recognize, accept, or deal; *plays mixed role.*

Emotional Responses

Anxiety: *Feelings of nervousness, tension, and worry.*

Especially high when awaiting test results, receiving diagnosis, awaiting procedures, and experiencing side effects of treatment.

Anger: *Feelings of frustration, irritability, and hostility.*

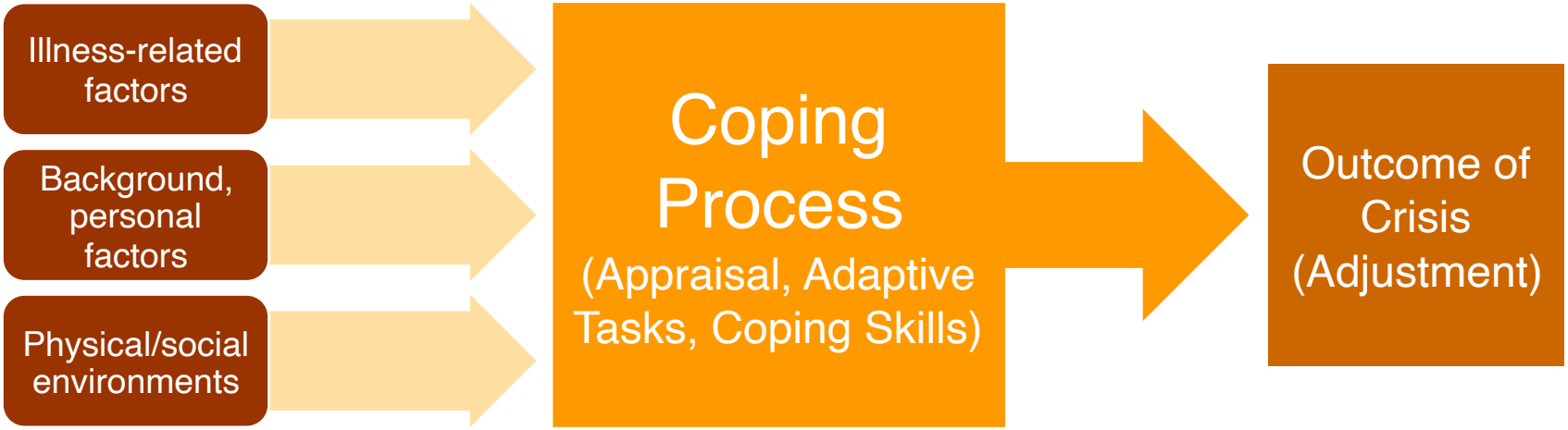
Common early response to diagnosis of chronic illness; can be expressed to family, friends, or care providers.

Feelings of Control in Cancer

Cancer patients' feelings of personal control decline in the several months after the diagnosis and then begin to increase (Ranchor et al., 2010).

Crisis Theory

Describes factors that influence how people adjust/cope after first learning they have a chronic illness.



(Moos, 1982; Moos & Schaefer, 1986)

Adaptive Tasks in Coping

People who are ill must to address 2 types of adaptive tasks:

1. Tasks related to the illness or treatment.

   Coping with the symptoms or disability of illness.
   Adjusting to hospital environment, procedures, treatments.
   Developing good relationships with their practitioners.

2. Tasks related to general psychosocial functioning.

   Controlling negative feelings, having positive outlook.
   Maintaining satisfactory self-image, sense of competence.
   Preserving good relationships with family/friends.
   Preparing for an uncertain future.

(Moos, 1982)

Coping Strategies for Chronic Illness

Denying or minimizing the seriousness of the issue.

Seeking information about diagnosis and treatment.

Learning to provide one's own medical care.

Setting concrete, limited goals.

Recruiting instrumental & emotional support.

Considering possible future events.

Gaining a manageable perspective (via meaning, purpose).

(Moos, 1982)

Coping with Cancer over Time

Dunkel-Schetter et al. (1992) – *Asked cancer patients to indicate the coping strategies they found most useful…*

Social support/direct problem solving
("Talked with someone to find out more about the illness/situation")

Distancing ("I didn't let it get to me")

Positive focus ("I learned something from this experience")

Cognitive escape/avoidance ("I wished that the situation would go away")

Behavioural escape/avoidance (e.g., eating, drinking, sleeping, etc.)

Maladaptive Coping Strategies

Which coping strategies are maladaptive over time?

Rumination is associated with exacerbation of symptoms.

Avoidant coping (e.g., *denial*) is associated with increased psychological distress and can exacerbate the disease process; leads to poor adjustment to illness. → *why?*

Interpersonal withdrawal is associated with loneliness and low relationship satisfaction.

Self-Blame

People who believe they are personally responsible for developing a chronic illness report higher levels of depression over time.

Cancer patients who blame themselves for their illness have more distress, lower quality of life.

(Friedman et al., 2007; Schiaffino, Shawaryn, & Blum, 1998)

Depression

Depression: *Feelings of sadness, despair, helplessness, hopelessness.*

May be delayed as patients try to understand implications of condition; physically debilitating; direct impact on symptoms.

Discussion: How can depression complicate medical evaluations?

History of depression related to poorer adjustment to cancer (Howren et al., 2010; Jim et al., 2012).

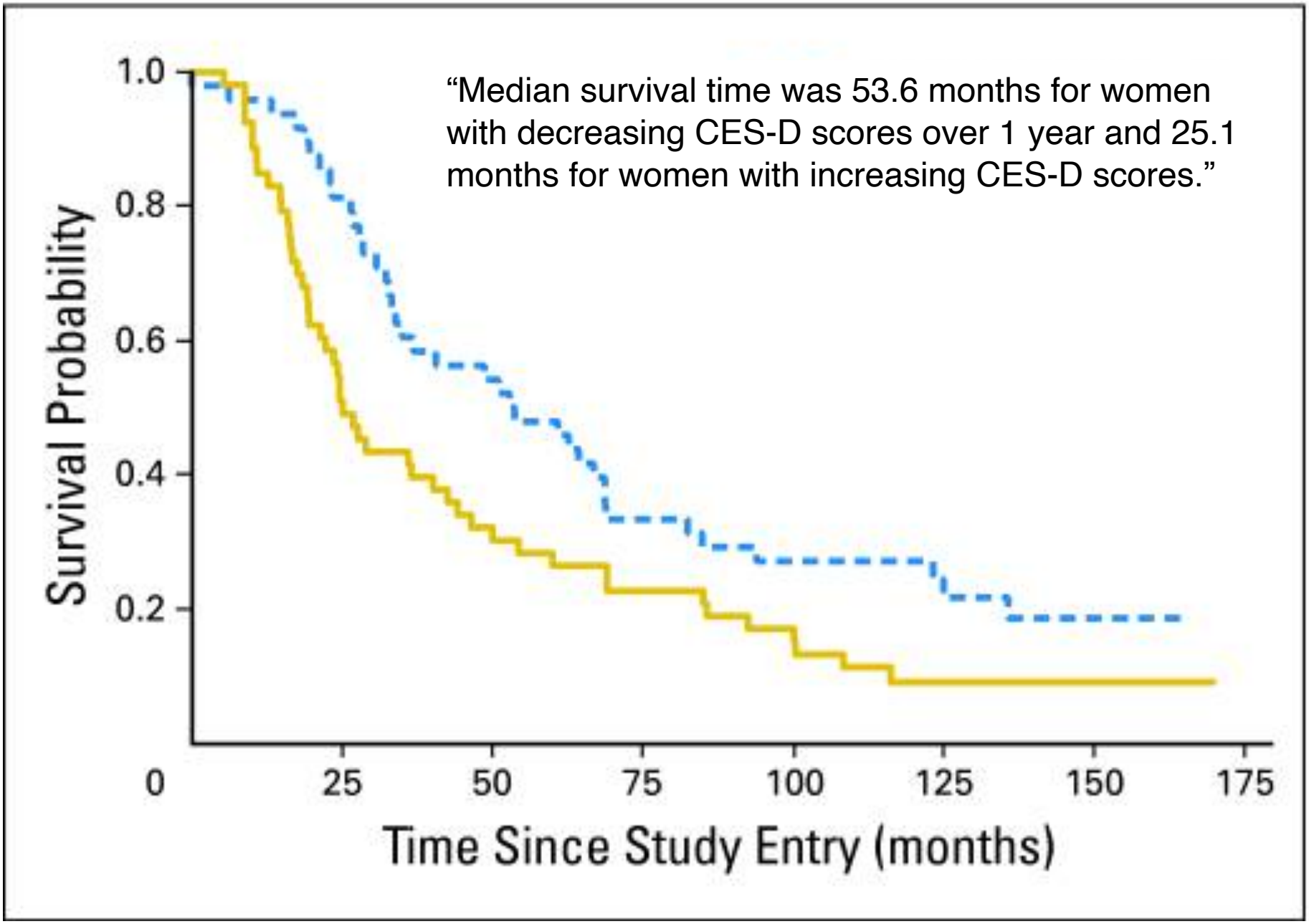
Cancer and Depression

Can depression impact cancer survivability?

Giese-Davis et al. (2011, *Journal of Clinical Oncology*)

Followed 101 women with metastatic breast cancer for 1 year.

- Monitored depression over the course of year; measured 3 X using Center for Epidemiology Studies Depression Scale (CES-D), a leading measure of depression.
- Controlled for demographic & medical factors.



(Giese-Davis, 2011)

Impact on Body Image in Cancer

https://youtu.be/fr4J8p2Jsno (4:49)

Social Challenges in Cancer

Cancer patients often experience problems in relationships.

Discussion: Why?

(Bloom et al., 1991; Lepore et al., 2008)

Cancer Stigma?

Discussion: What are some different ways that stigma can arise with cancer?

Cancer Support Groups

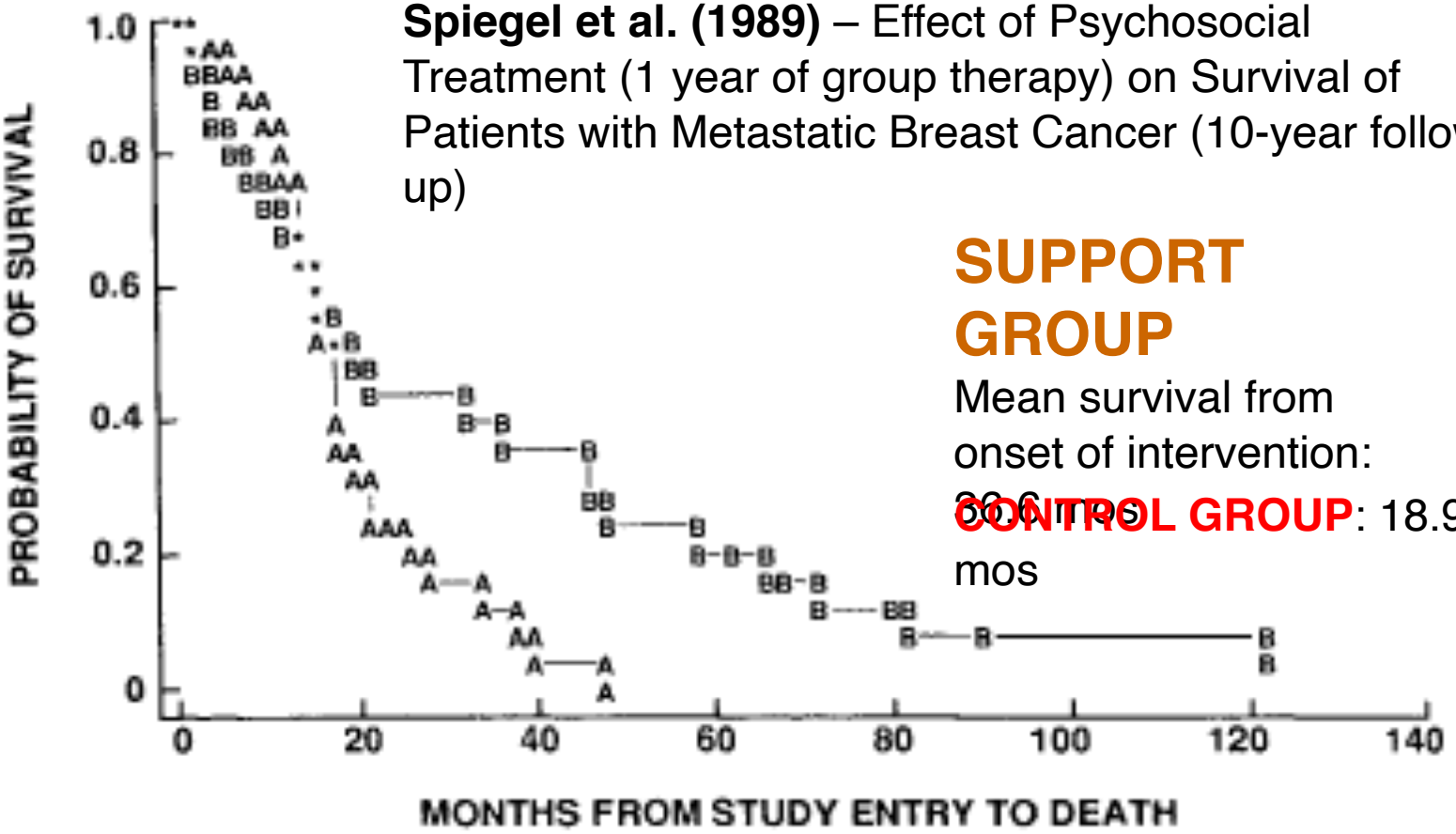
A significant proportion of breast cancer patients attending support groups do so with the belief that they may be extending their lives (Miller et al., 1998).

Spiegel et al. (1989) – Effect of Psychosocial Treatment (1 year of group therapy) on Survival of Patients with Metastatic Breast Cancer (10-year follow-up)

SUPPORT GROUP

Mean survival from onset of intervention: 36.6 mos

CONTROL GROUP: 18.9 mos



Kaplan-Meier survival plot.

A = control (n = 36), B = treatment (n = 50), and * = overlapping control and treatment probabilities of survival. Some points represent more than 1 case.

Cancer Support Groups

Fu et al. (2016, meta-analysis) – Significant survival benefit from support groups at one-year, but not at four years.

We're more certain about the psychosocial benefits of support groups (Goodwin, 2004)…

- Improved mood
- Reduced uncertainty
- Improved self-esteem
- Enhanced coping skills
- Improved quality of life

Cancer Survivorship

Long-term cancer survivors have higher rates of emotional distress, especially those from the lower social classes and those who are unmarried and disabled (Hoffman et al., 2009).

Social relationships are impacted, especially couples (Dorros et al., 2010; Hagedoorn et al., 2008).

But most survivors are resilient…

Cancer Survivorship

Most cancer patients show a remarkable amount of resilience and adapt fairly well (Sawyer et al., 2010).

Learning Objectives

Define quality of life and explain how it is evaluated; define subjective health and describe relationship to objective health.

Discuss the limitations of the specificity model of pain.

Briefly explain the gate control and neuromatrix theories of pain.

Define pain according to the International Association for the Study of Pain (and discuss this definition). Also define social pain.

Explain the different methods for measuring pain.

Describe adaptive and maladaptive methods of coping with pain, including key points from social models of pain.

Discuss, with examples, psychosocial factors in the management of chronic illness (including initial response, coping strategies, depression, body image, social challenges, support groups, etc.); cite examples in cancer where applicable.