Process-Based Therapy

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Disclosure

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Objectives of the Workshop

- Introduction to Process-based Therapy
- Describe the limitations of a latent disease model.
- Develop a functional analysis based on network theory.
- Apply evolutionary science to a mental health issues.
- Identify the dimensions of mental health as adaptation.
- Describe the principles of evolutionary science: Variation, selection, and retention in context.
- Select the most appropriate treatment strategies to a given problem.

Theoretical/Methodological/Review Article

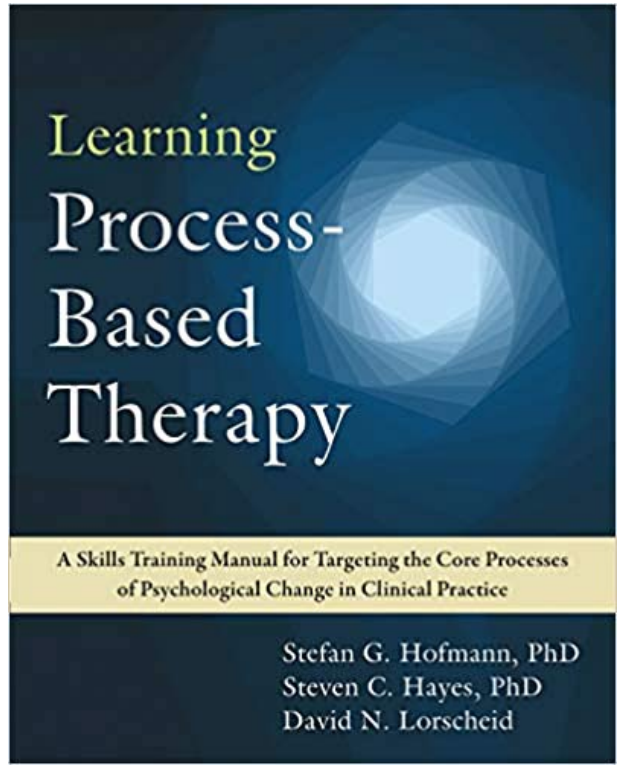
aps ASSOCIATION FOR PSYCHOLOGICAL SCIENCE

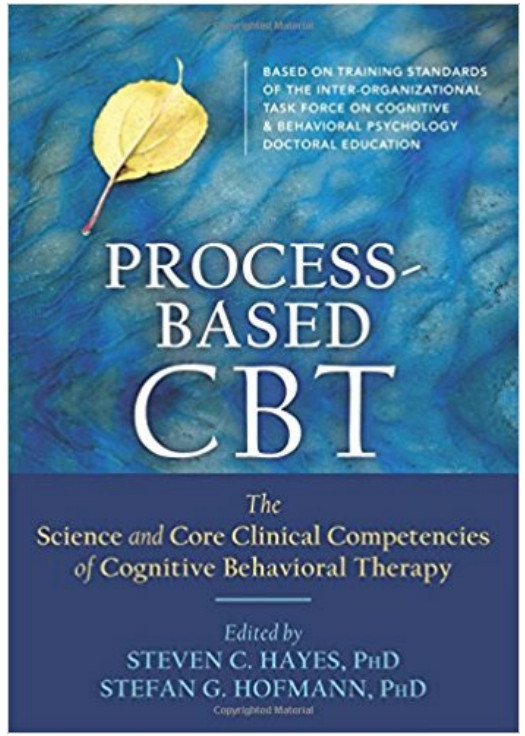
Clinical Psychological Science
2019, Vol. 7(1) 37–50

DOI: 10.1177/2167702618772296
www.psychologicalscience.org/CPS
SAGE

The Future of Intervention Science: Process-Based Therapy

Stefan G. Hofmann[1] and Steven C. Hayes[2]
[1]Department of Psychological and Brain Sciences, Boston University, and
[2]Department of Psychology, University of Nevada, Reno



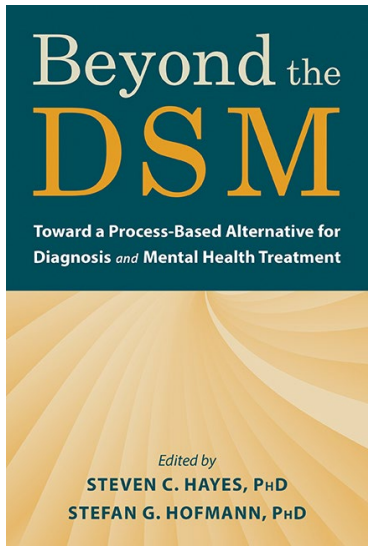


PERSPECTIVES

The third wave of cognitive behavioral therapy and the rise of process-based care

Steven C. Hayes[1], Stefan G. Hofmann[2]
[1]Department of Psychology, University of Nevada, Reno, NV, USA; [2]Department of Psychological and Brain Sciences, Boston University, Boston, MA, USA

World Psychiatry 16:3 - October 2017



A process-based approach to cognitive behavioral therapy: A theory-based case illustration

Clarissa W. Ong[1,2]*, Steven C. Hayes[3]* and Stefan G. Hofmann[2,4]*

Front. Psychol. 13:1002849.
doi: 10.3389/fpsyg.2022.1002849

Cogn Ther Res (2012) 36:427–440
DOI 10.1007/s10608-012-9476-1

ORIGINAL ARTICLE

The Efficacy of Cognitive Behavioral Therapy: A Review of Meta-analyses

Stefan G. Hofmann · Anu Asnaani · Imke J. J. Vonk · Alice T. Sawyer · Angela Fang

Abstract Cognitive behavioral therapy (CBT) refers to a popular therapeutic approach that has been applied to a variety of problems. The goal of this review was to provide a comprehensive survey of meta-analyses examining the efficacy of CBT. We identified 269 meta-analytic studies and reviewed of those a representative sample of 106 meta-analyses examining CBT for the following problems: substance use disorder, schizophrenia and other psychotic disorders, depression and dysthymia, bipolar disorder, anxiety disorders, somatoform disorders, eating disorders, insomnia, personality disorders, anger and aggression, criminal behaviors, general stress, distress due to general medical conditions, chronic pain and fatigue, distress related to pregnancy complications and female hormonal conditions. Additional meta-analytic reviews examined the efficacy of CBT for various problems in children and elderly adults. The strongest support exists for CBT of anxiety disorders, somatoform disorders, bulimia, anger control problems, and general stress. Eleven studies compared response rates between CBT and other treatments or control conditions. CBT showed higher response rates than the comparison conditions in seven of these reviews and only one review reported that CBT had lower response rates than comparison treatments. In general, the evidence-base of CBT is very strong. However, additional research is needed to examine the efficacy of CBT for randomized-controlled studies. Moreover, except for children and elderly populations, no meta-analytic studies of CBT have been reported on specific subgroups, such as ethnic minorities and low income samples.

Cogn Ther Res (2012) 36:427–440
DOI 10.1007/s10608-012-9476-1

ORIGINAL ARTICLE

The Efficacy of Cognitive Behavioral Therapy: A Review of Meta-analyses

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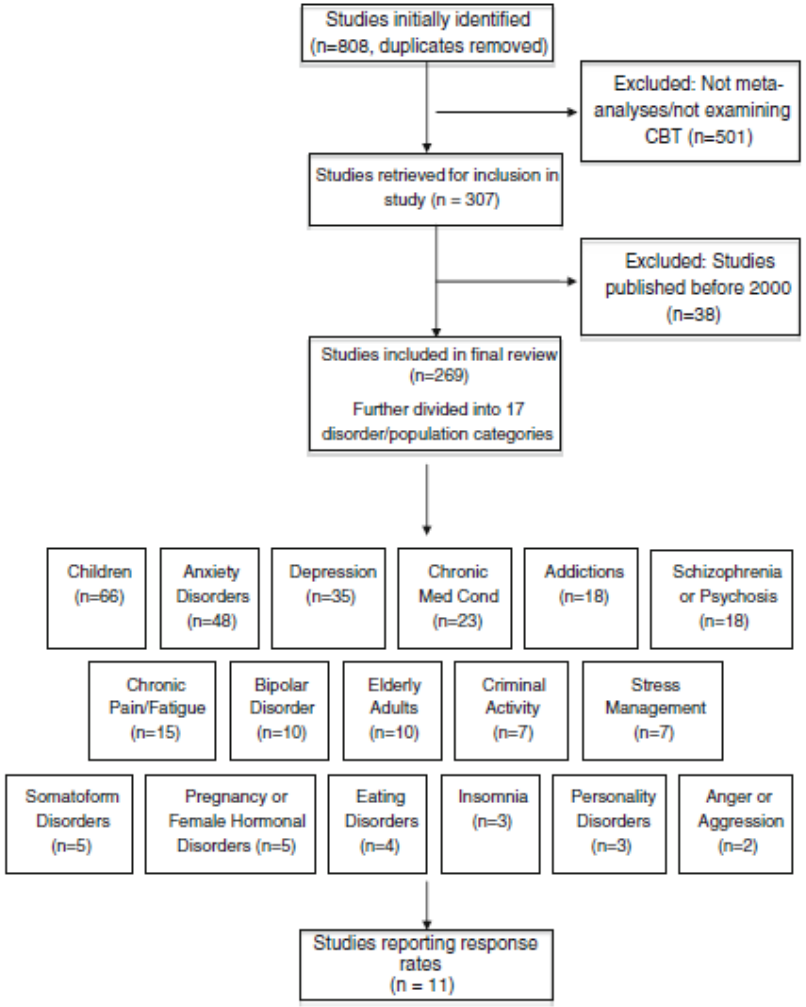
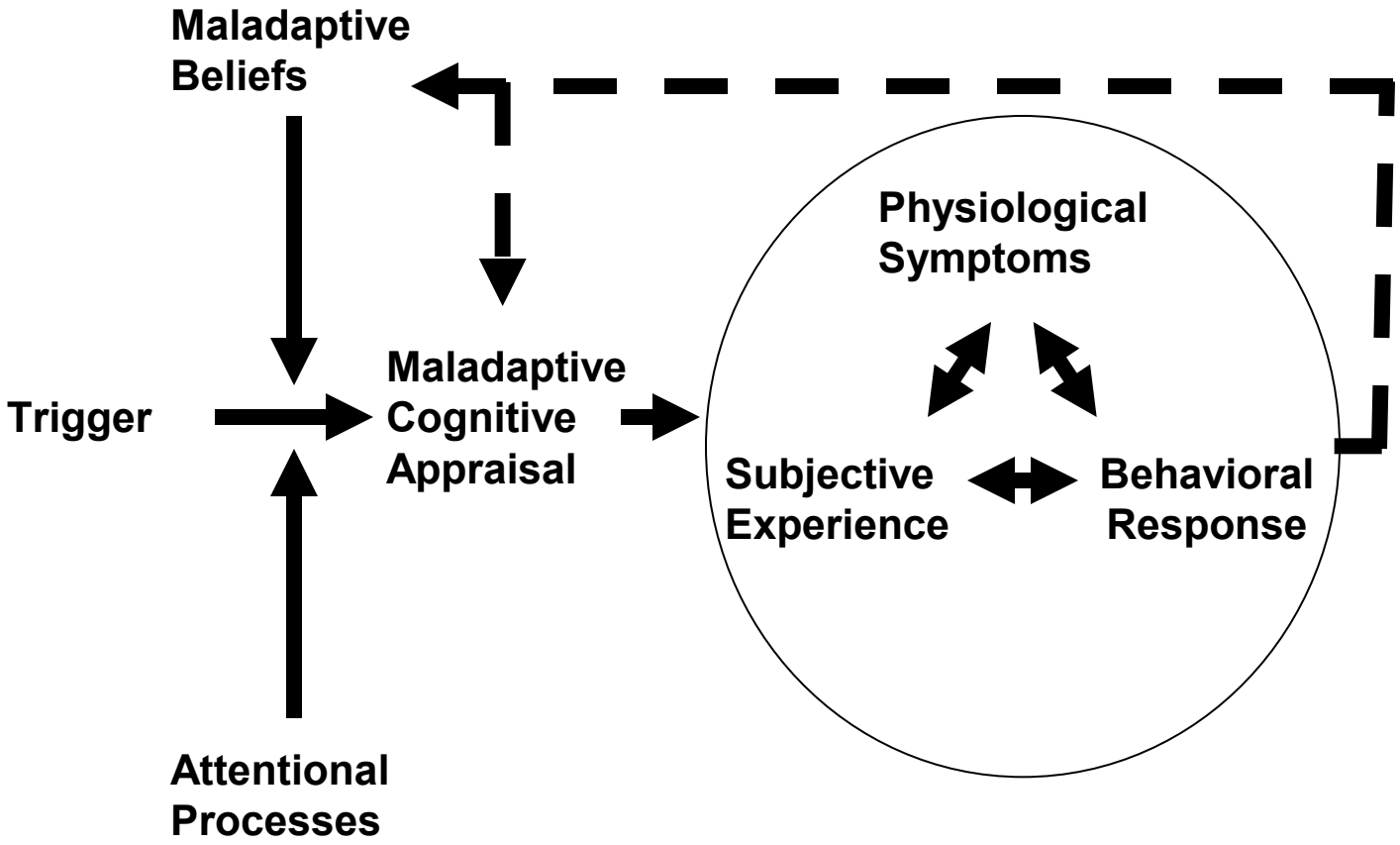
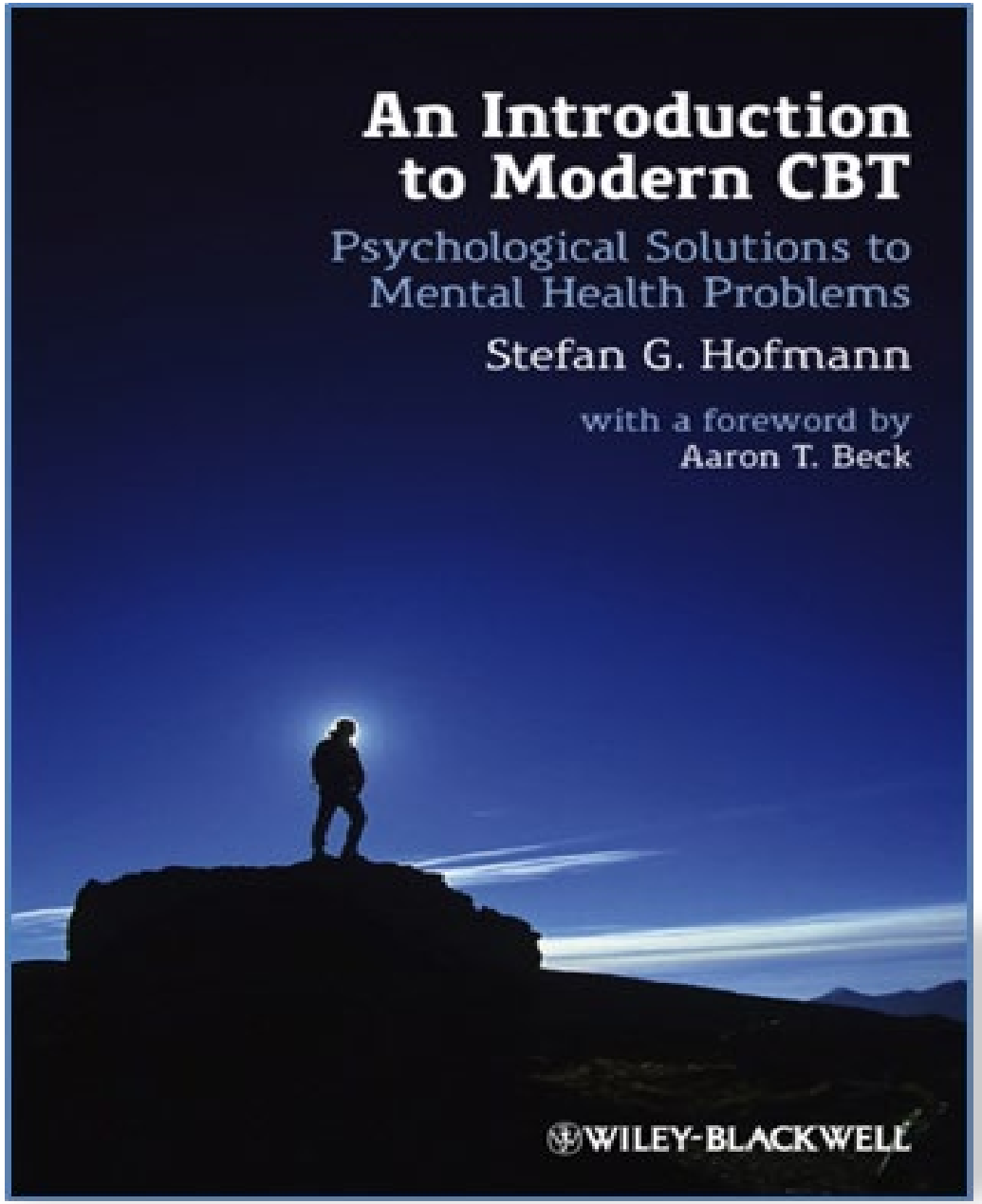


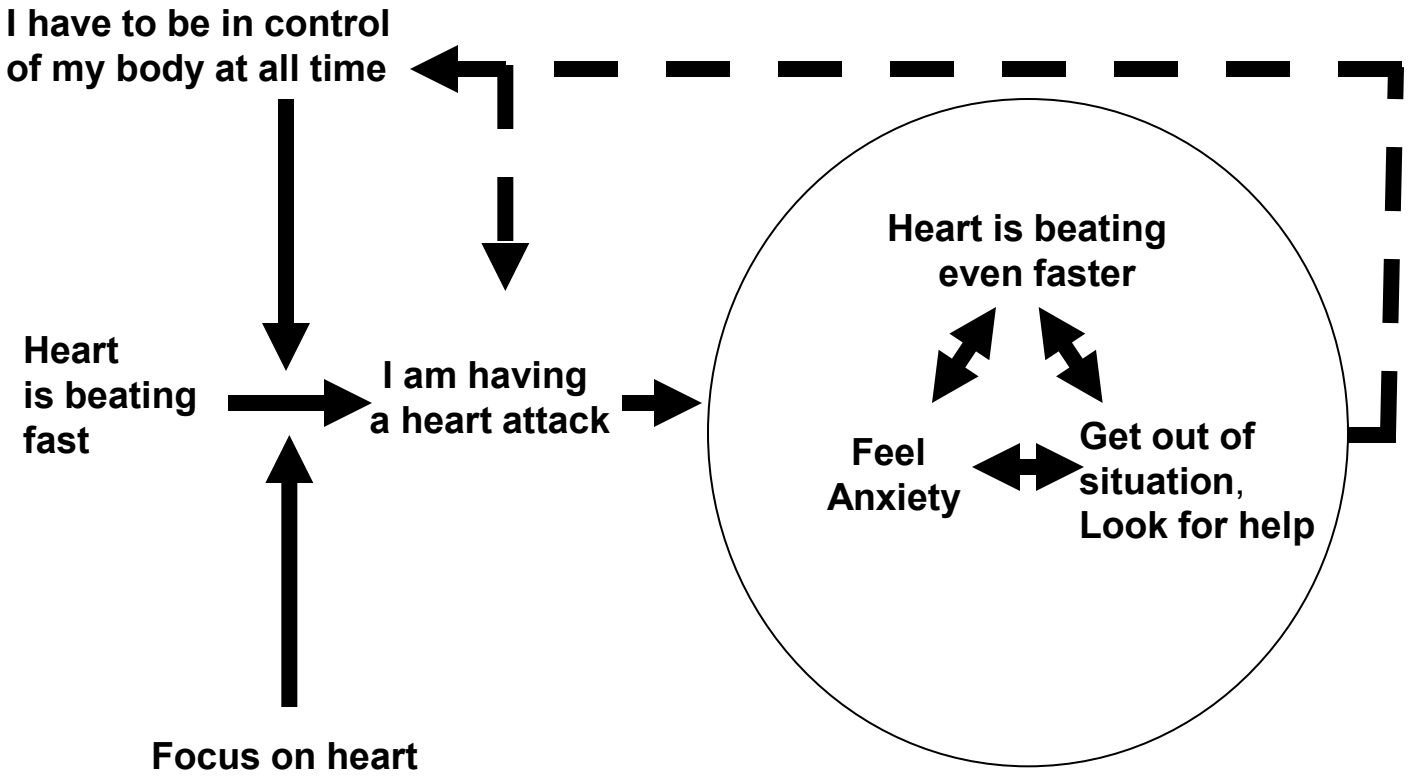
Generic CBT Model



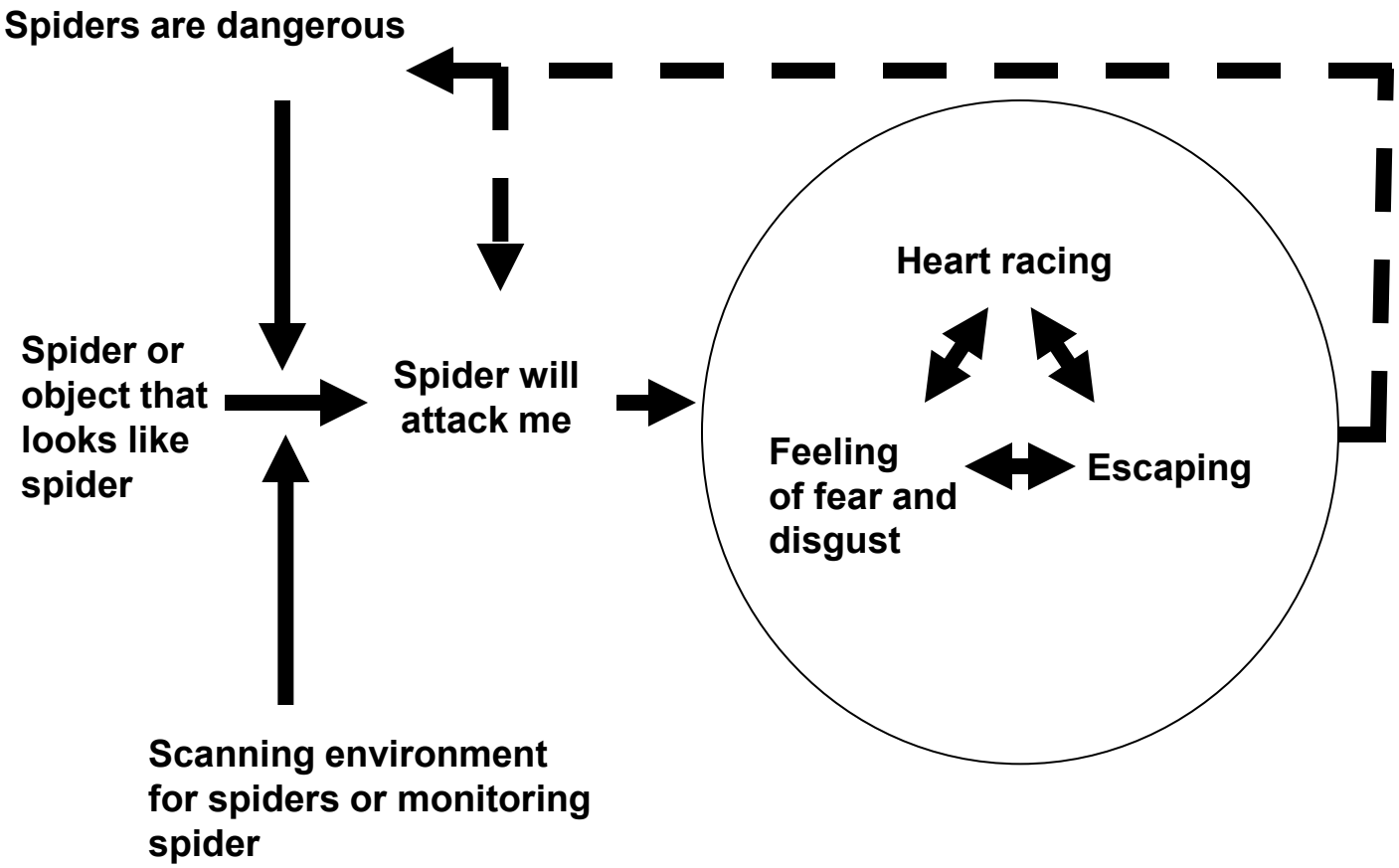
Hofmann, S. G. (2011). An Introduction to Modern CBT. New York: Wiley


An Introduction to Modern CBT
Psychological Solutions to Mental Health Problems
Stefan G. Hofmann
with a foreword by
Aaron T. Beck
WILEY-BLACKWELL

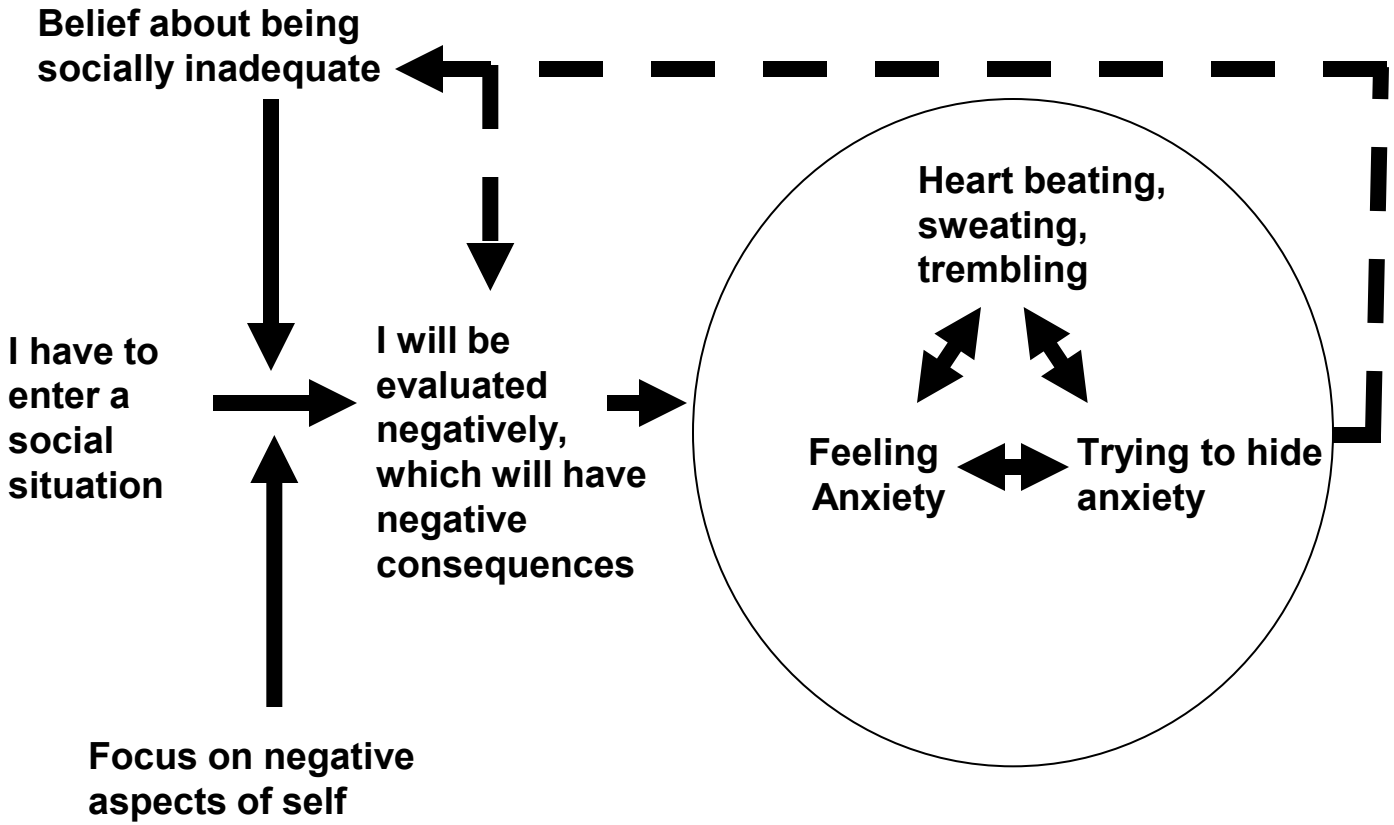
Panic Disorder



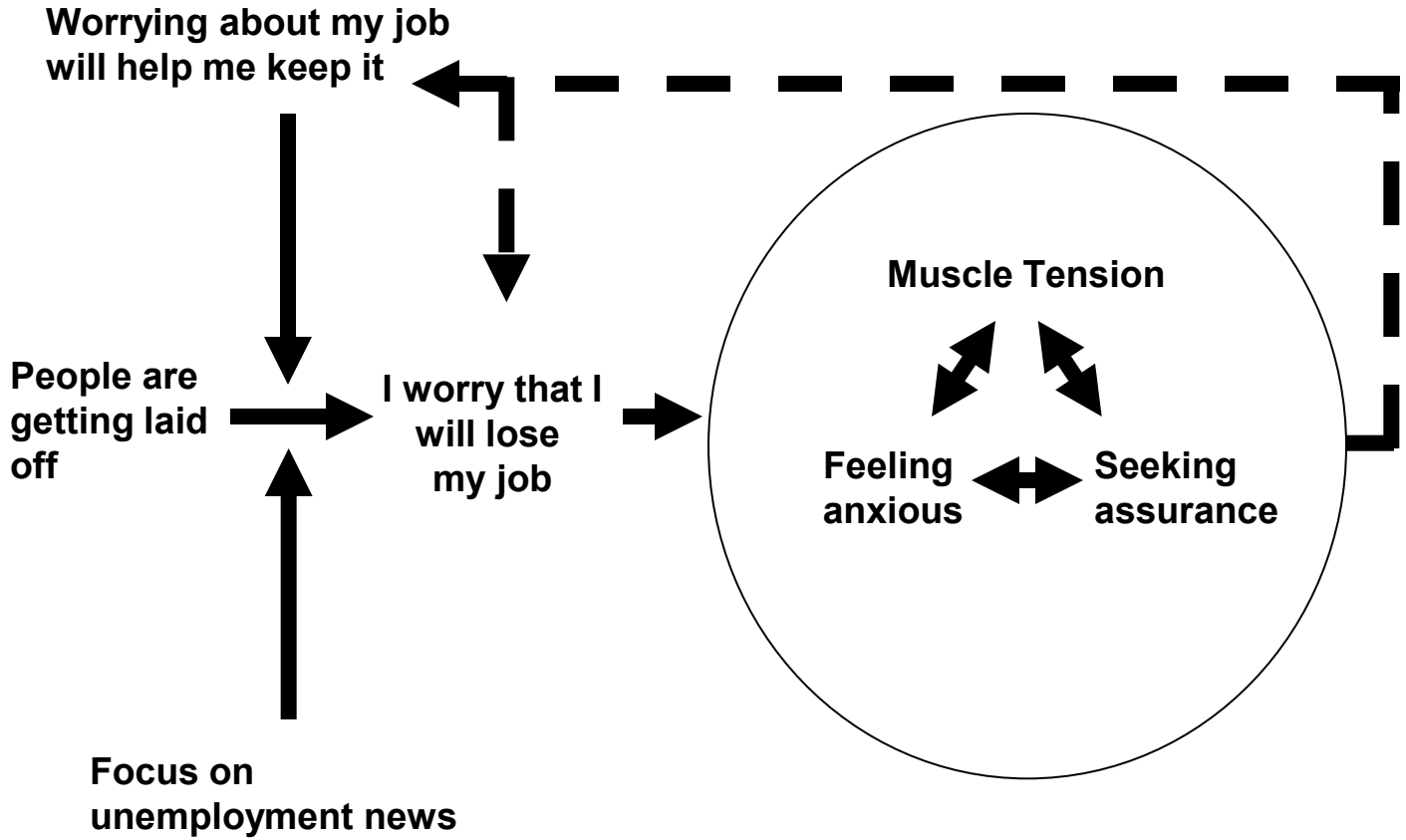
Spider Phobia



Social Anxiety Disorder

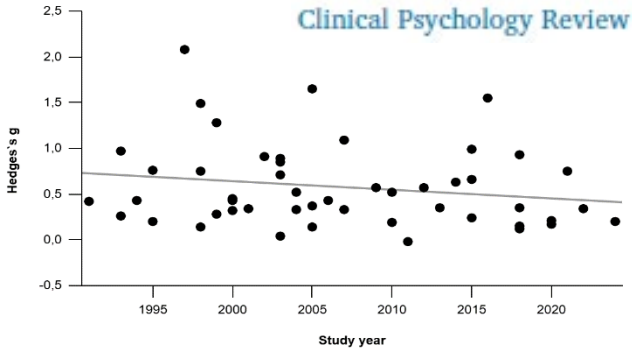


Generalized Anxiety Disorder

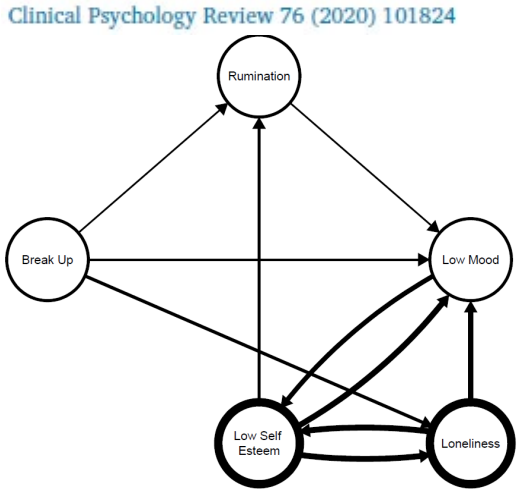


CBT works very well….but…

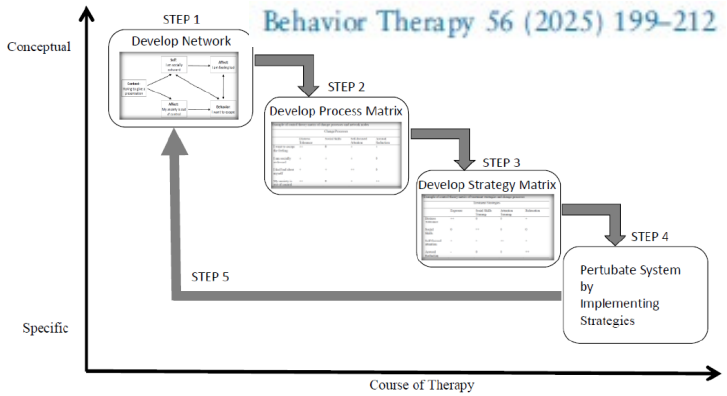
Treatment effects have not been improving over the years.



Treatment change processes are poorly understood.

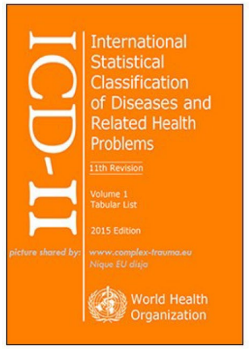


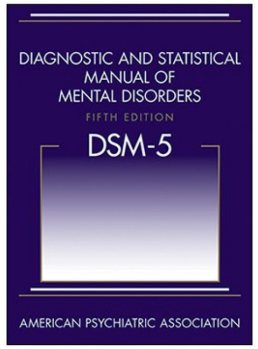
We are still not very good at systematically tailoring treatments to the person.



A long and ever-expanding list of protocols for syndromes…

Acceptance and Commitment Therapy for Depression
Acceptance and Commitment Therapy for Chronic Pain
Acceptance and Commitment Therapy for anxiety disorder
Acceptance and Commitment Therapy
for coping with psychosis
Applied Relaxation for Panic Disorder
Assertive Community Treatment for Schizophrenia
Behavior Therapy/Behavioral Activation for Depression
Behavioral Couple Therapy for Depression
Behavioral and Cognitive Behavioral Therapy for Chronic Low Back Pain
Behavioral Weight Loss Treatment for Obesity and Pediatric Overweight
Biofeedback-Based Treatments for Insomnia
Cognitive Adaptation Training for Schizophrenia
Cognitive Behavioral Analysis System of Psychotherapy for Depression
Cognitive Behavior Therapy for Insomnia
Cognitive Behavioral Therapy for Anorexia Nervosa
Cognitive Behavioral Therapy for Binge Eating Disorder
Cognitive Behavioral Therapy for Bulimia Nervosa
Cognitive and Behavioral Therapies for Generalized Anxiety Disorder
Cognitive Behavioral Therapy for Panic
Cognitive and Behavioral Therapies for Social Phobia/Public Speaking Anxiety





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Cognitive Behavioral Therapy for Chronic Headache
Cognitive Behavioral Therapy for Schizophrenia
Cognitive Processing Therapy for Post-Traumatic Stress Disorder
Cognitive Remediation for Schizophrenia
Cognitive Therapy for Bipolar Disorder
Cognitive Therapy for Depression
Cognitive Therapy for Obsessive-Compulsive Disorder
Dialectical Behavior Therapy for Borderline Personality Disorder
Emotion-Focused Therapy for Depression
Exposure and Response Prevention for Obsessive-Compulsive Disorder
Exposure Therapies for Specific Phobias
Eye Movement Desensitization and Reprocessing for Post-Traumatic Stress Disorder
Family-Based Treatment for Anorexia Nervosa
Family-Based Treatment for Bulimia Nervosa
Family Focused Therapy for Bipolar Disorder
Family Psychoeducation for Schizophrenia
Healthy-Weight Program for Bulimia Nervosa
Interpersonal Therapy for Depression
Illness Management and Recovery for Schizophrenia
Interpersonal Psychotherapy for Binge Eating Disorder
Interpersonal Psychotherapy for Bulimia
Interpersonal and Social Rhythm Therapy for Bipolar Disorder

Multi-Component Cognitive Behavioral Therapy for Fibromyalgia
Multi-Component Cognitive Behavioral Therapy for Rheumatologic Pain
Paradoxical Intention for Insomnia
Problem-Solving Therapy for Depression
Prolonged Exposure for Post-Traumatic Stress Disorder
Psychoanalytic Therapy for Panic Disorder
Psychoeducation for Bipolar Disorder
Psychological Debriefing for Post-Traumatic Stress Disorder
Relaxation Training for Insomnia
Reminiscence/Life Review Therapy for Depression
Schema-Focused Therapy for Borderline Personality Disorder
Self-Management/Self-Control Therapy for Depression
Self-System Therapy for Depression
Short-Term Psychodynamic Therapy for Depression
Sleep Restriction Therapy for Insomnia
Social Learning/Token Economy Programs for Schizophrenia
Social Skills Training for Schizophrenia
Stimulus Control Therapy for Insomnia
Supported Employment for Schizophrenia
Systematic Care for Bipolar Disorder
Transference-Focused Therapy for Borderline Personality Disorder

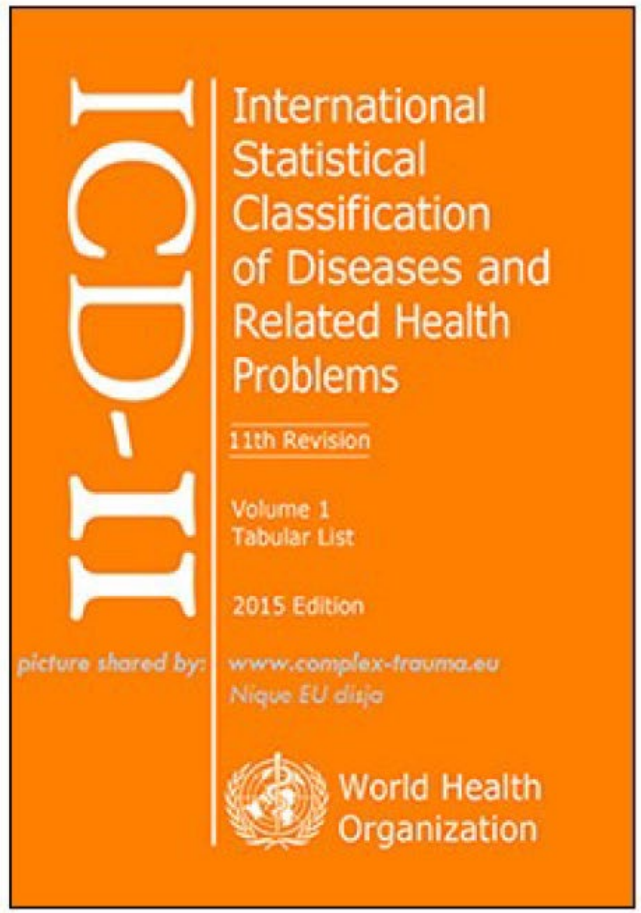
…but a limited list of effective strategies

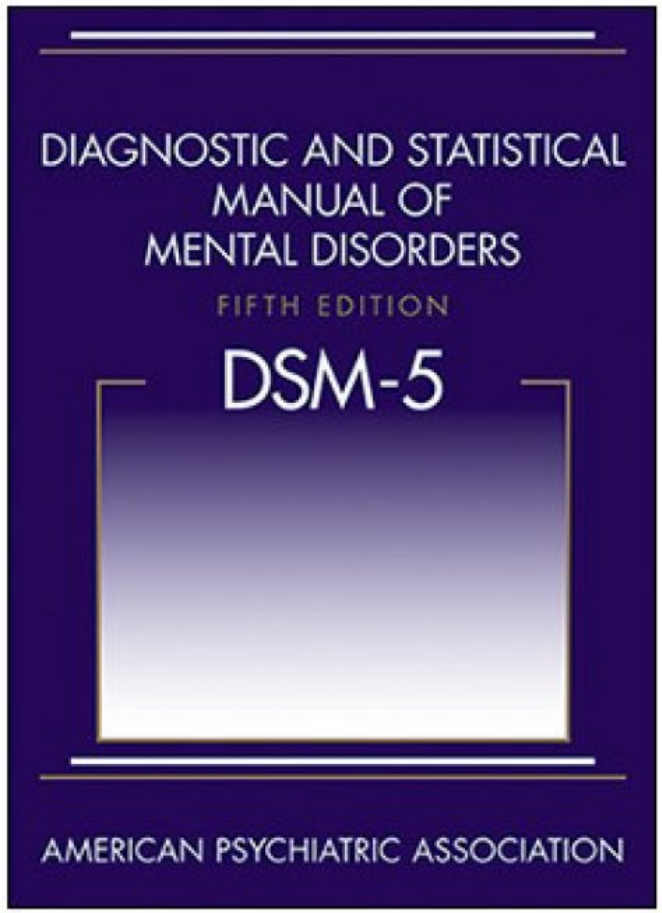
- Contingency management
- Stimulus control
- Shaping
- Self-management
- Arousal reduction
- Coping and emotion regulation
- Problem solving
- Exposure strategies
- Behavioral activation
- Interpersonal skills

- Cognitive reappraisal
- Modifying core beliefs
- Cognitive defusion
- Experiential acceptance
- Attentional training
- Values choice and clarification
- Mindfulness practice
- Enhancing motivation
- Crisis management and treating suicidality

Klepac et al., 20212, Behavior Therapy

Protocols Linked to Syndromes





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The Miraculous Appearance and Disappearance of Psychiatric Disorders

- DSM-III (1980): 265
- DSM-III-R (1987): 292
- DSM-IV (1994): 297
- DSM-5: 157
  - 15 new (e.g., disruptive mood regulation disorder, premenstrual dysphoric disorder, hoarding)
  - 2 deleted
  - 55 collapsed into 22 (e.g., autistic disorder/autism, Asperger's disorder, childhood disintegrative disorder, and pervasive developmental disorder NOS into Autism Spectrum Disorder).

Traditional Classification Principles

- Splitting vs. Lumping
- Dimensional vs. Categorical
- Subjective vs. Objective
- Etiology vs. Phenotype

Critique of the DSM-5

- Specific diagnoses
  - major depressive disorder during 2-months of bereavement
  - disruptive mood dysregulation disorder to avoid overdiagnosis of bipolar disorder in children
  - female sexual dysfunction
  - hoarding disorder, skin picking (excoriation disorder)
  - personality disorders
- Poor reliability of some diagnoses (e.g., GAD, MDD)
- NOS
- Comorbidity

Critique of DSM-5 (cont'd)

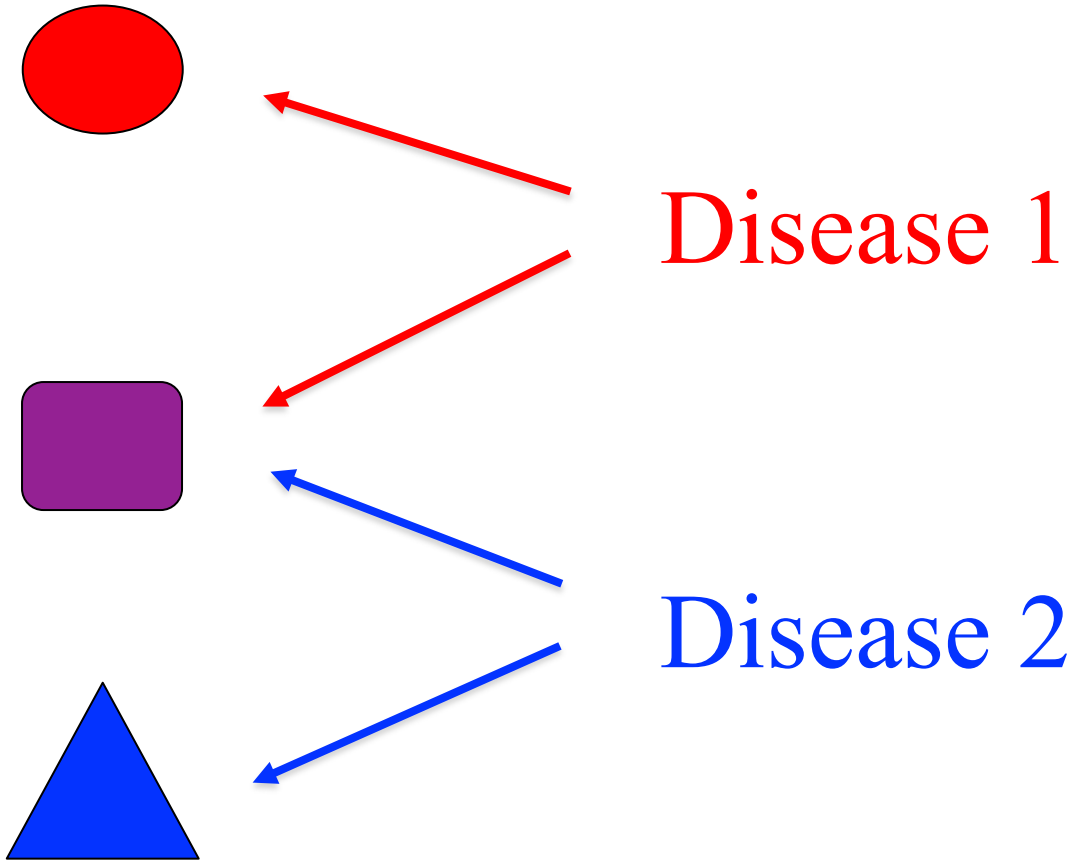
- Pathologizing of normality using arbitrary cut-points
- Symptom focus while ignoring "etiology"
- Other
  - financial – Amazon Bestseller ranking #3
  - lack of transparency, political
  - pet interests
  - Big Pharma

RDoC Approach

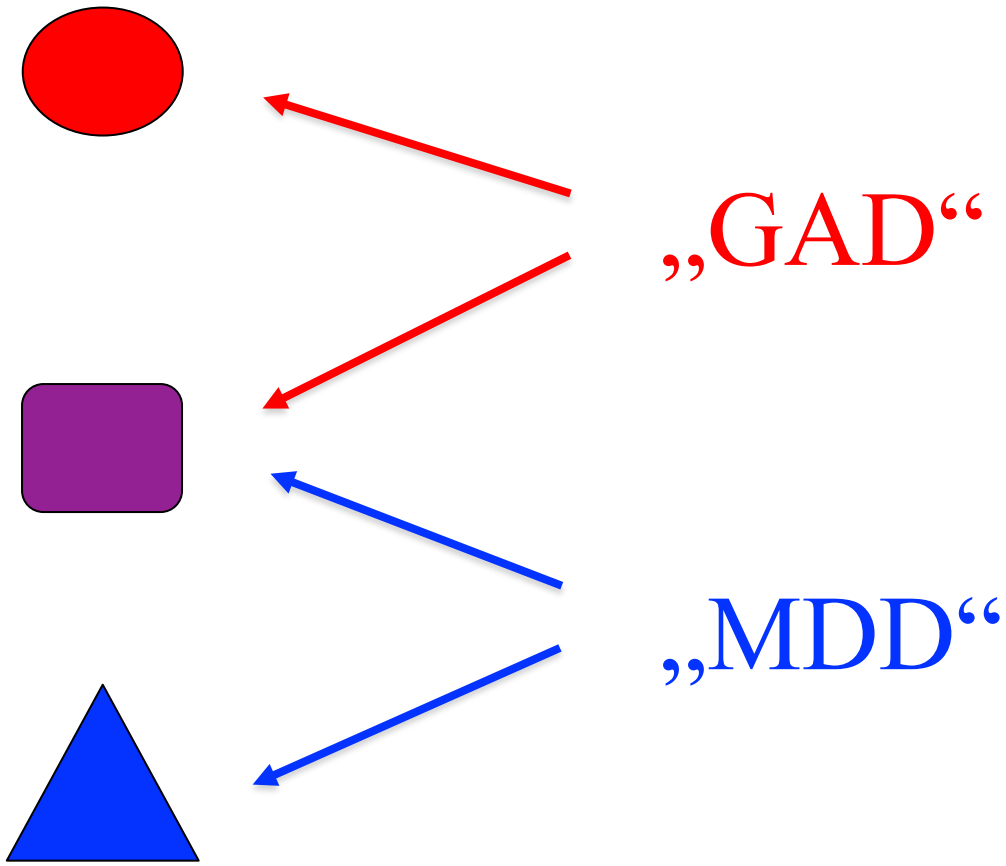
Thomas Insel: “RDoC is conceived as a dimensional system (reflecting, e.g., circuit-level measurements, behavioral activity, etc.) spanning the range from normal to abnormal. As with dimensions like hypertension or cholesterolemia in other areas of medicine, this approach incurs both the problem and advantage of defining cutpoints for the definition and extent of pathology – e.g., mild, moderate, and severe (NIMH, Research Domain Criteria, 2011).

			UNITS OF ANALYSIS					
DOMAINS/CONSTRUCTS	**Genes**	**Molecules**	**Cells**	**Circuits**	**Physiology**	**Behavior**	**Self-Reports**	**Paradigms**
Negative Valence Systems								
Acute threat ("fear")								
Potential threat ("anxiety")								
Sustained threat								
Loss								
Frustrative nonreward								
Positive Valence Systems								
Approach motivation								
Initial responsiveness to reward								
Sustained responsiveness to reward								
Reward learning								
Habit								
Cognitive Systems								
Attention								
Perception								
Working memory								
Declarative memory								
Language behavior								
Cognitive (effortful) control								
Systems for Social Processes								
Affiliation/attachment								
Social communication								
Perception/understanding of self								
Perception/understanding of others								
Arousal/Modulatory Systems								
Arousal								
Biological rhythms								
Sleep-wake								

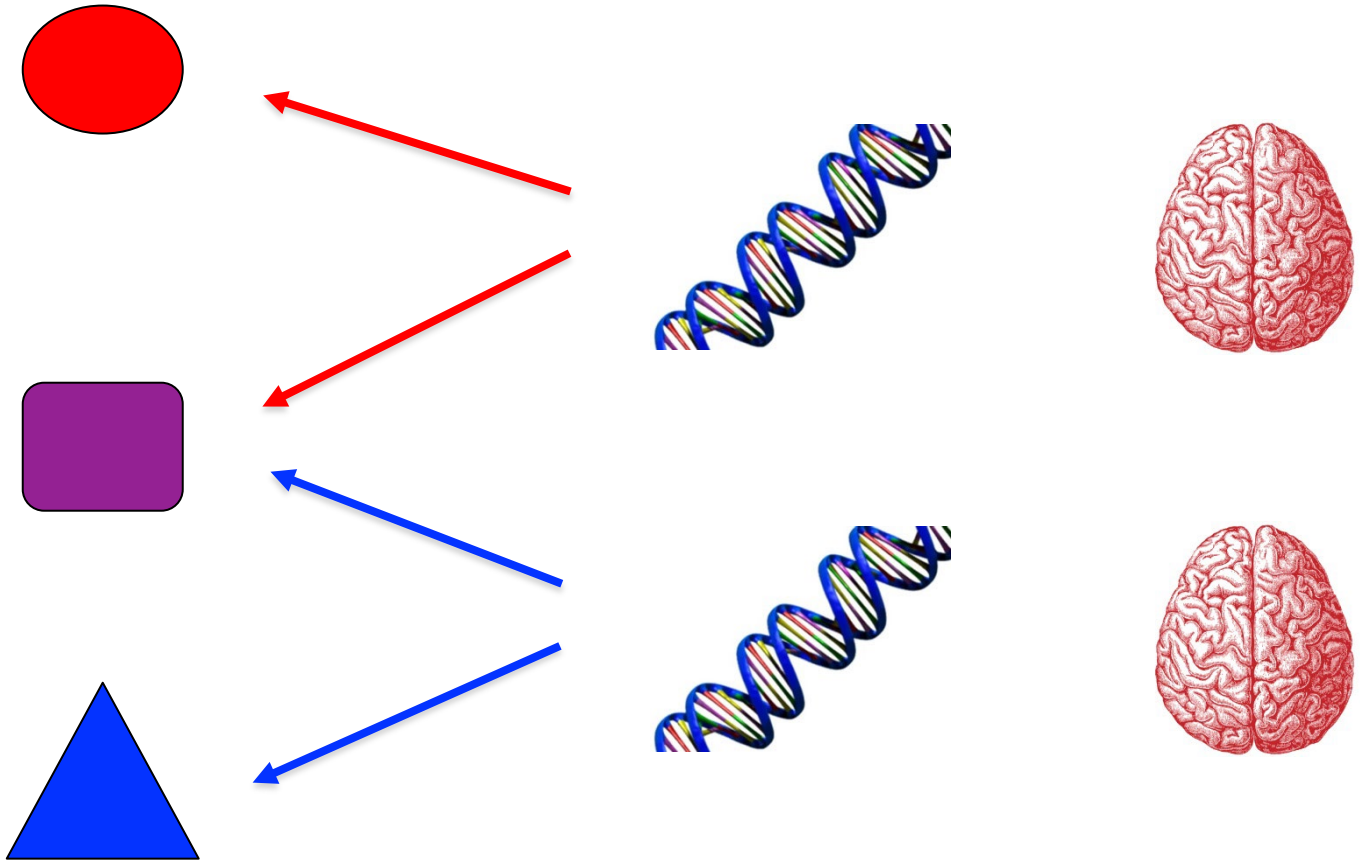
Latent Disease Model



DSM/ICD



RDoC

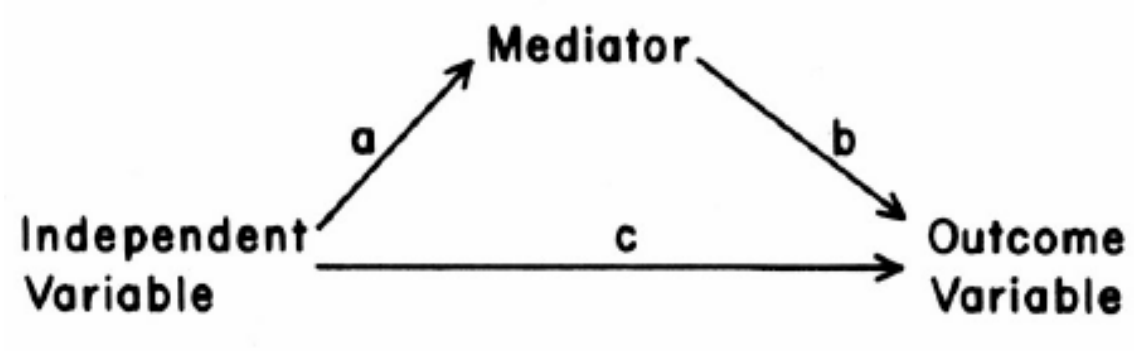


Journal of Personality and Social Psychology
1986, Vol. 51, No. 6, 1173-1182

0022-3514/86/$00.75

The Moderator–Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations

Reuben M. Baron and David A. Kenny
University of Connecticut



#33/100!

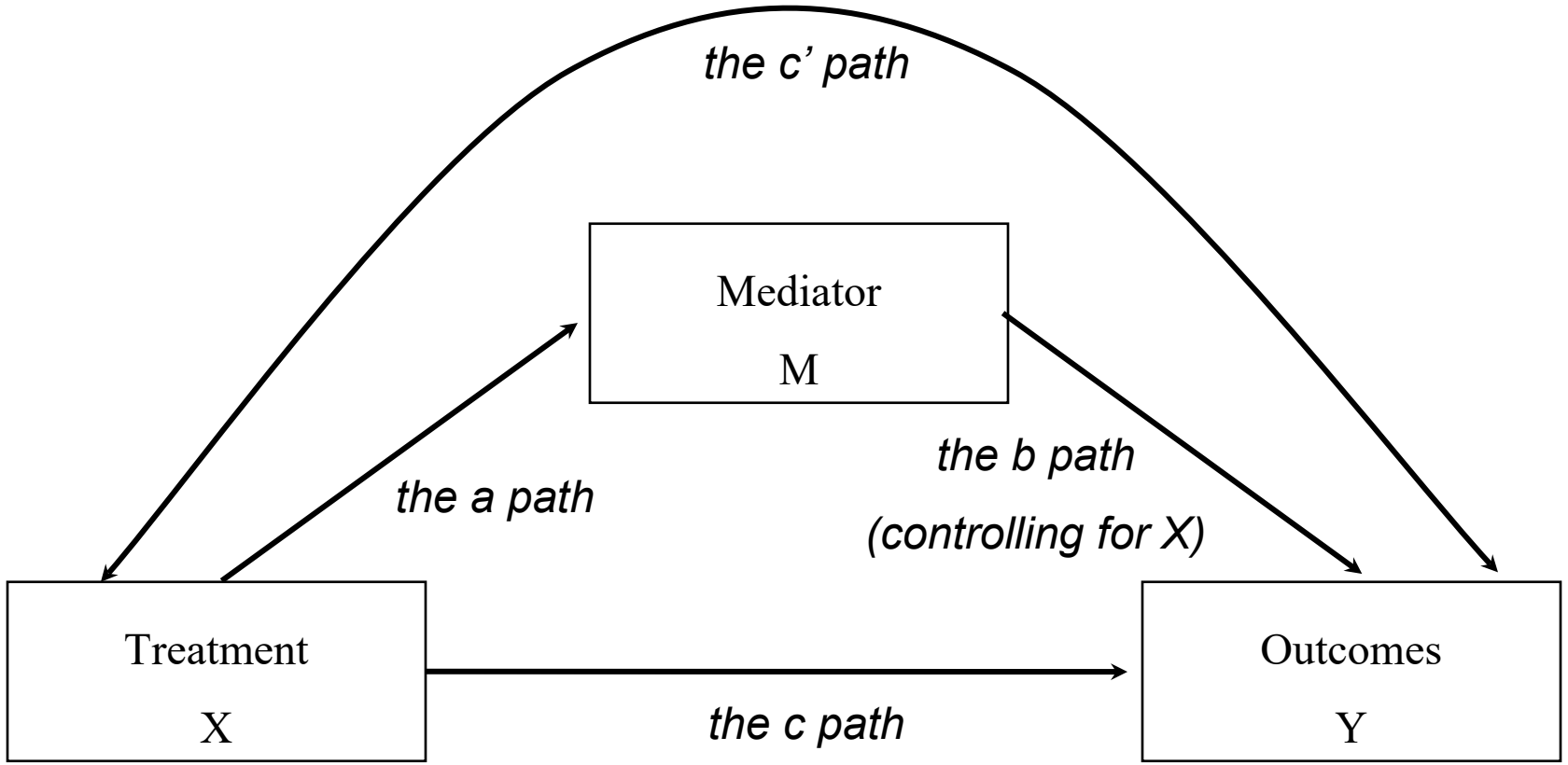
NEWS FEATURE

THE TOP 100 PAPERS

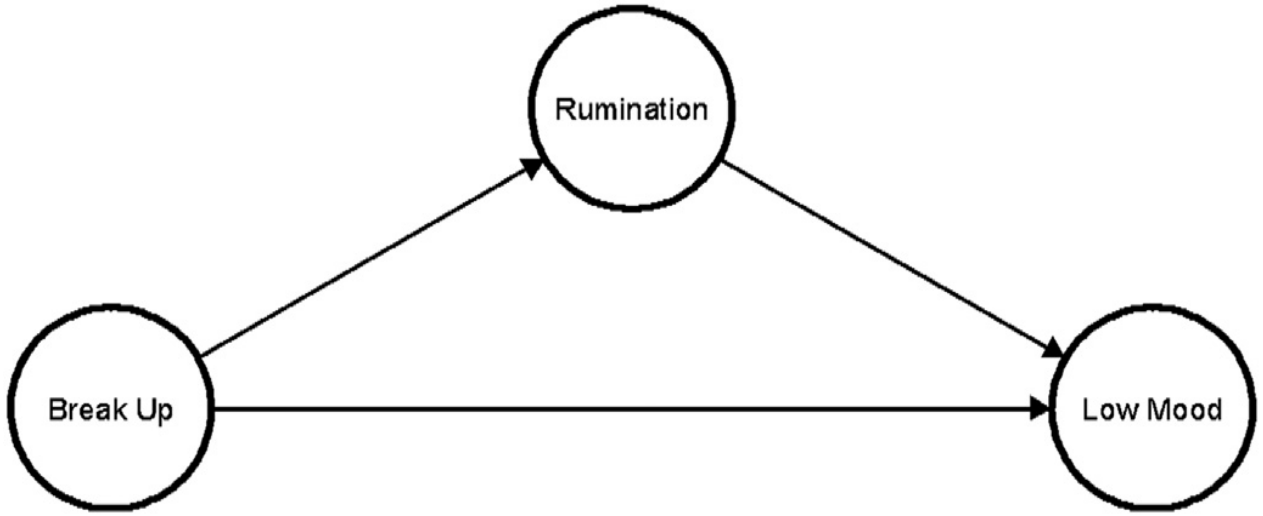
Nature *explores the most-cited research of all time.*

BY RICHARD VAN NOORDEN, BRENDAN MAHER AND REGINA NUZZO

The Usual Way To Study Mediation



Typical Mediation Analysis: Example



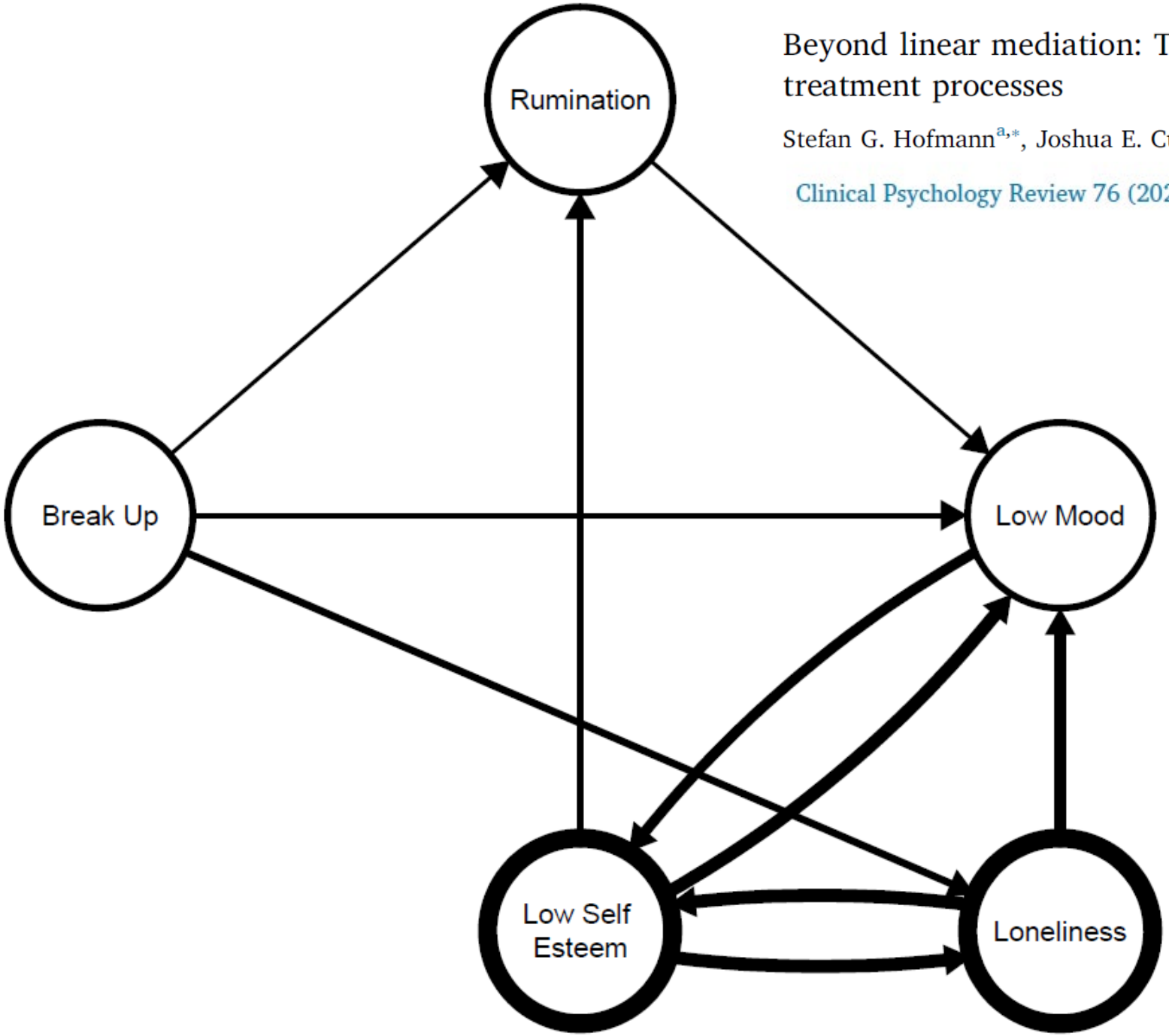
Problems with Baron & Kenny for Therapy Research

- Therapy mechanism is due to one (or a few) variables.

- Variables have to form linear relationship.

- Variables are in uni-directional relationship.

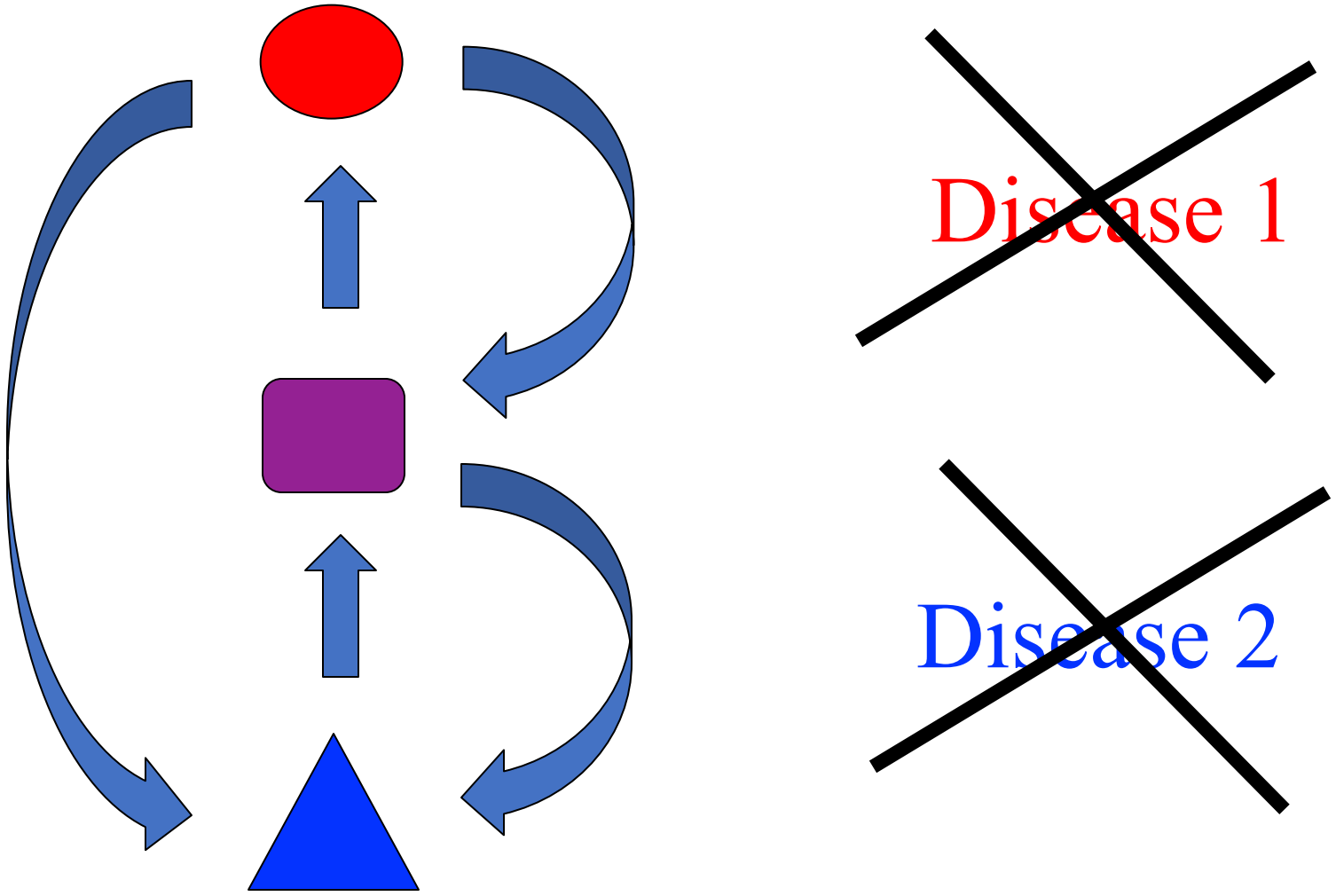
- Mediation results from groups of people are supposed to apply for the individual.



Beyond linear mediation: Toward a dynamic network approach to study treatment processes

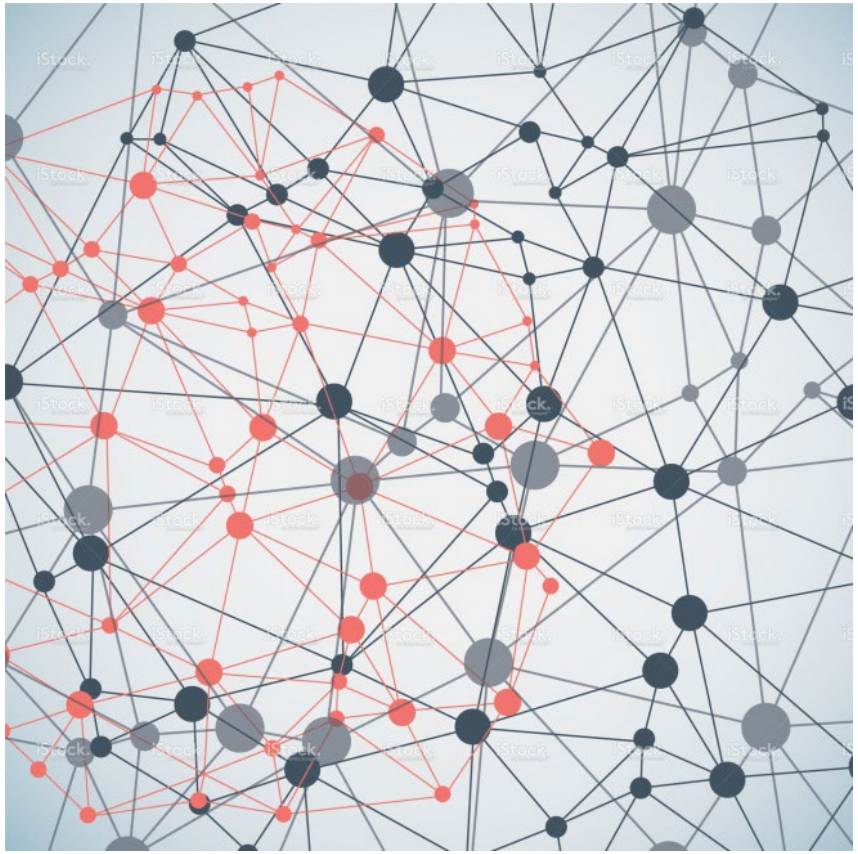
Stefan G. Hofmann[a,*], Joshua E. Curtiss[a], Steven C. Hayes[b]

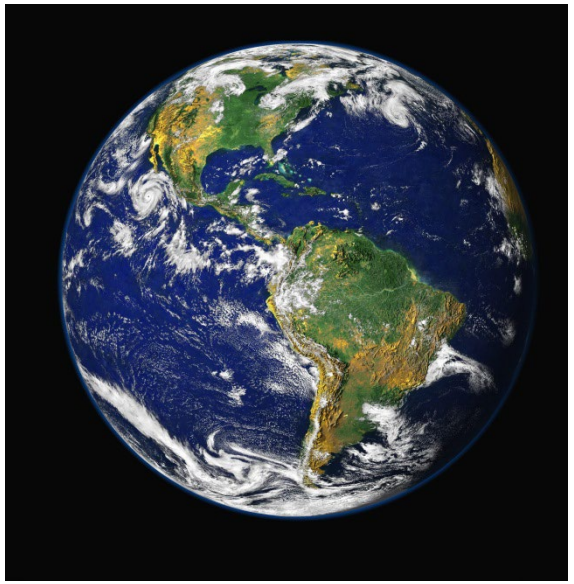
Clinical Psychology Review 76 (2020) 101824



Hofmann, S. G., Curtiss, J., & McNally, M. J. (2016). A complex network perspective on clinical science. *Perspectives on Psychological Science, 11,* 597-605.

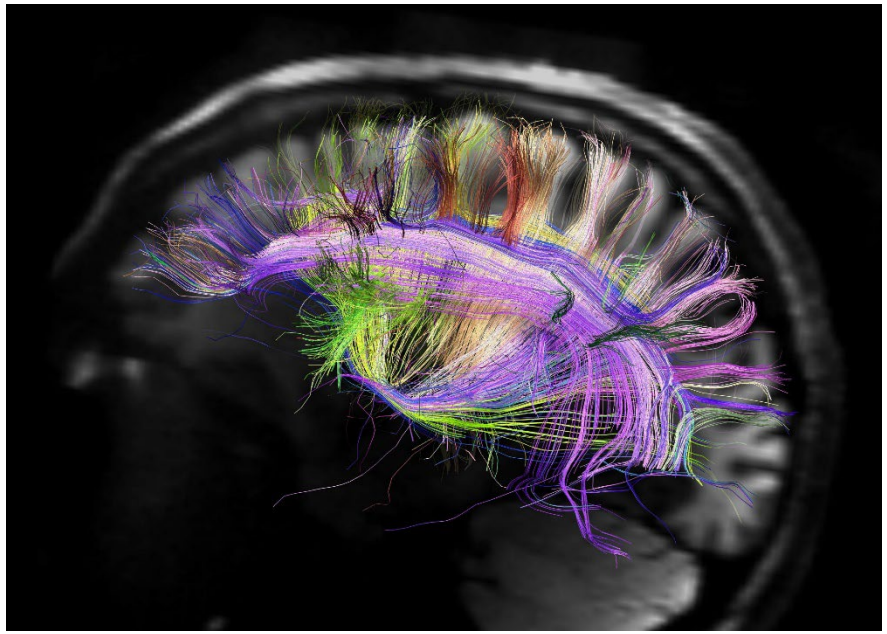
Complex Network

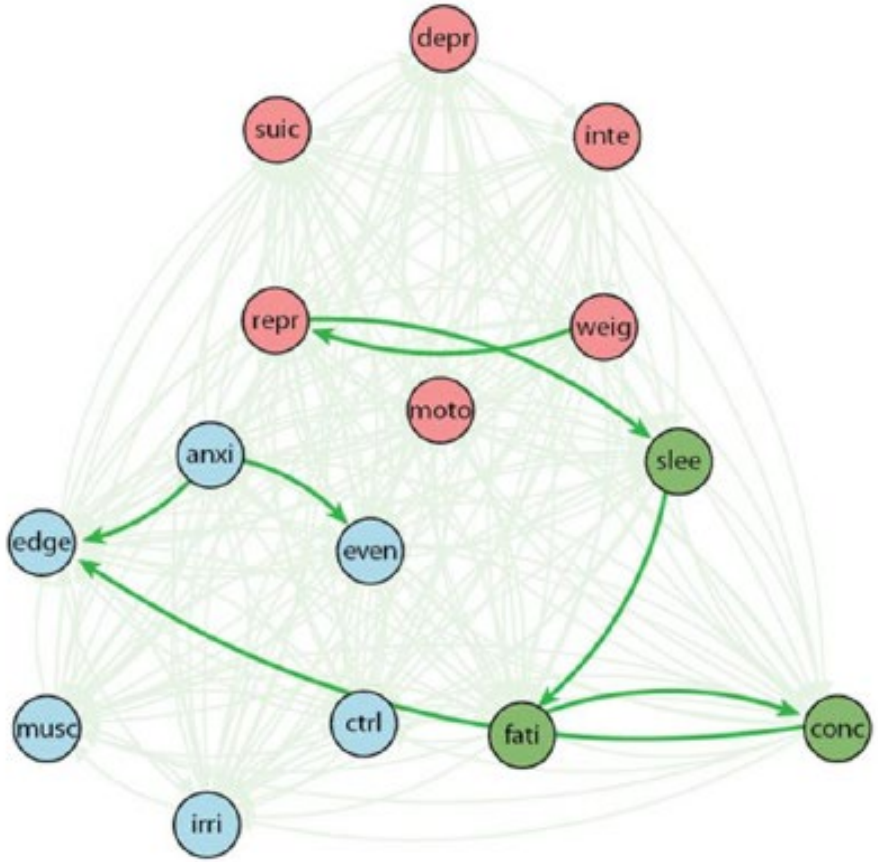




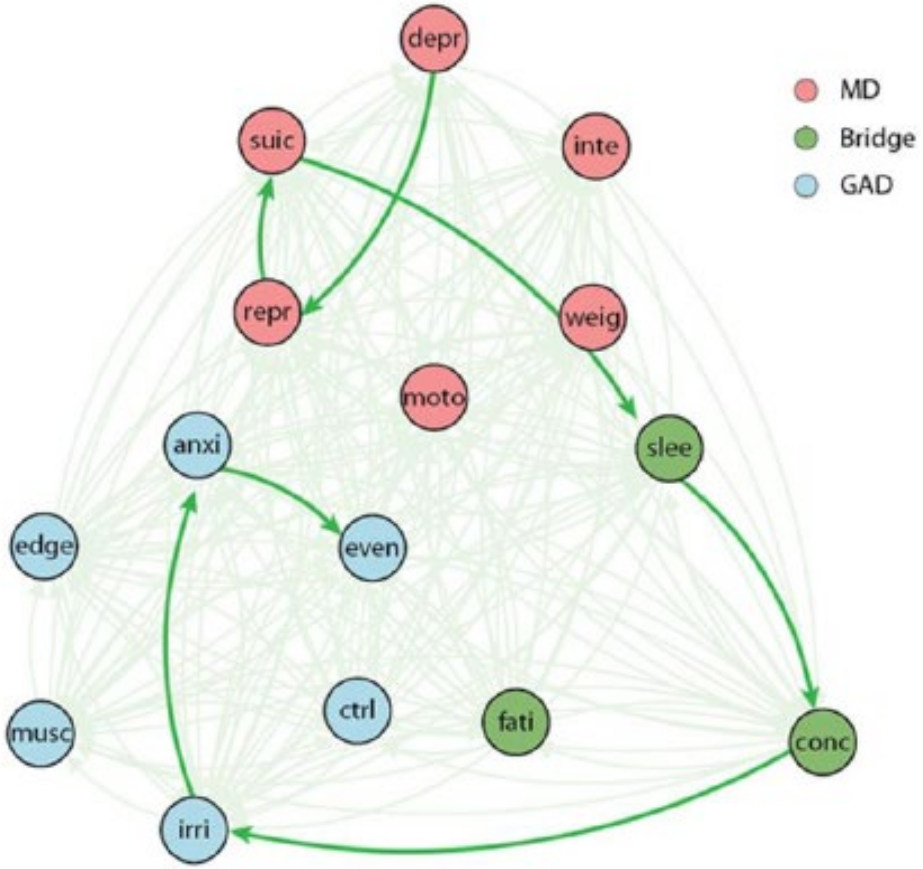

78.60%
61.81%
indexes - day, 5
indexes - day, 12
50.00%
38.19%
indexes - day, 55
indexes - day, 144
23.88%
November
December
October


deoxyribose
thymine
guanine
adenine



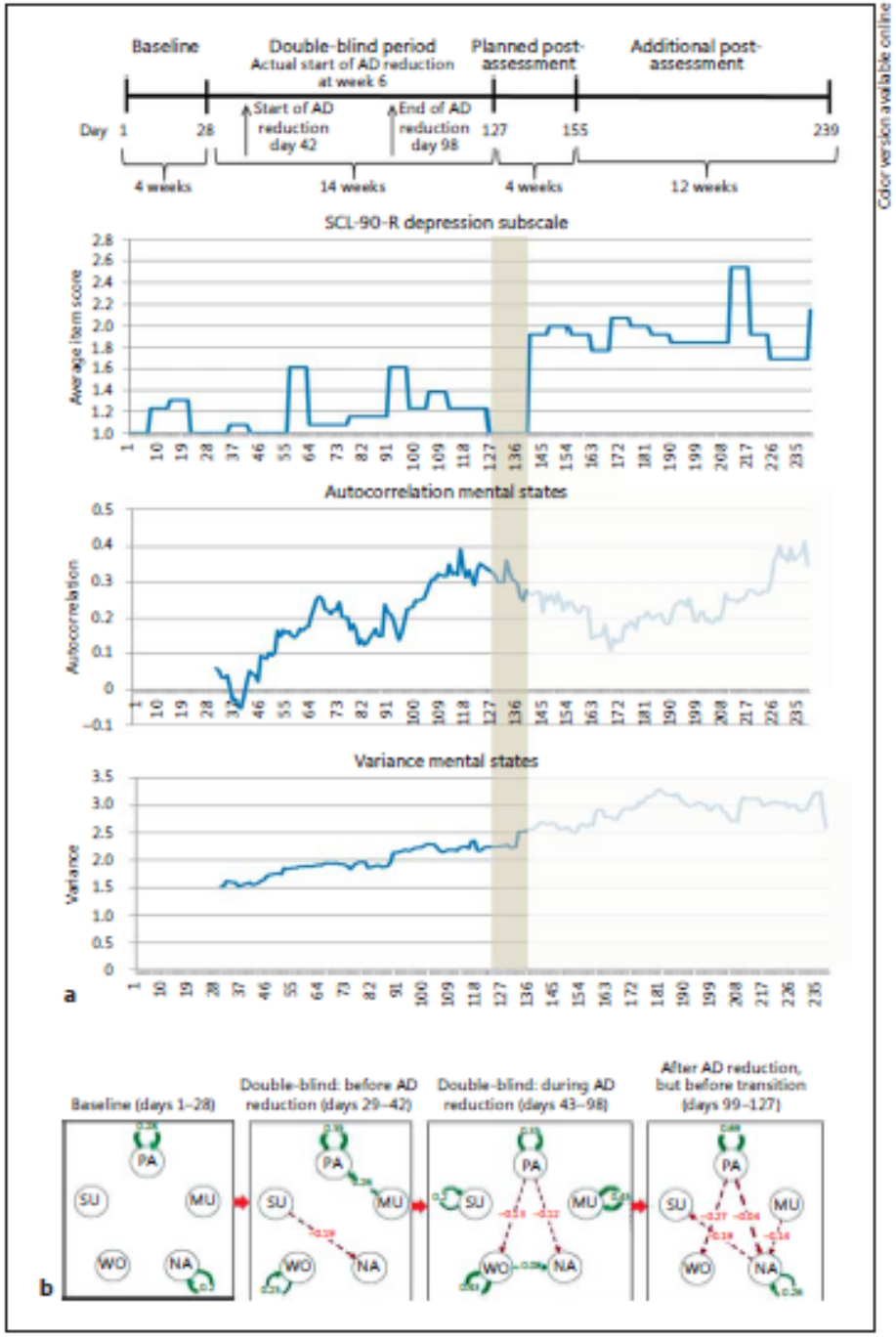


Bob



Alice

D. Borsboom & A. O. J. Cramer, 2013

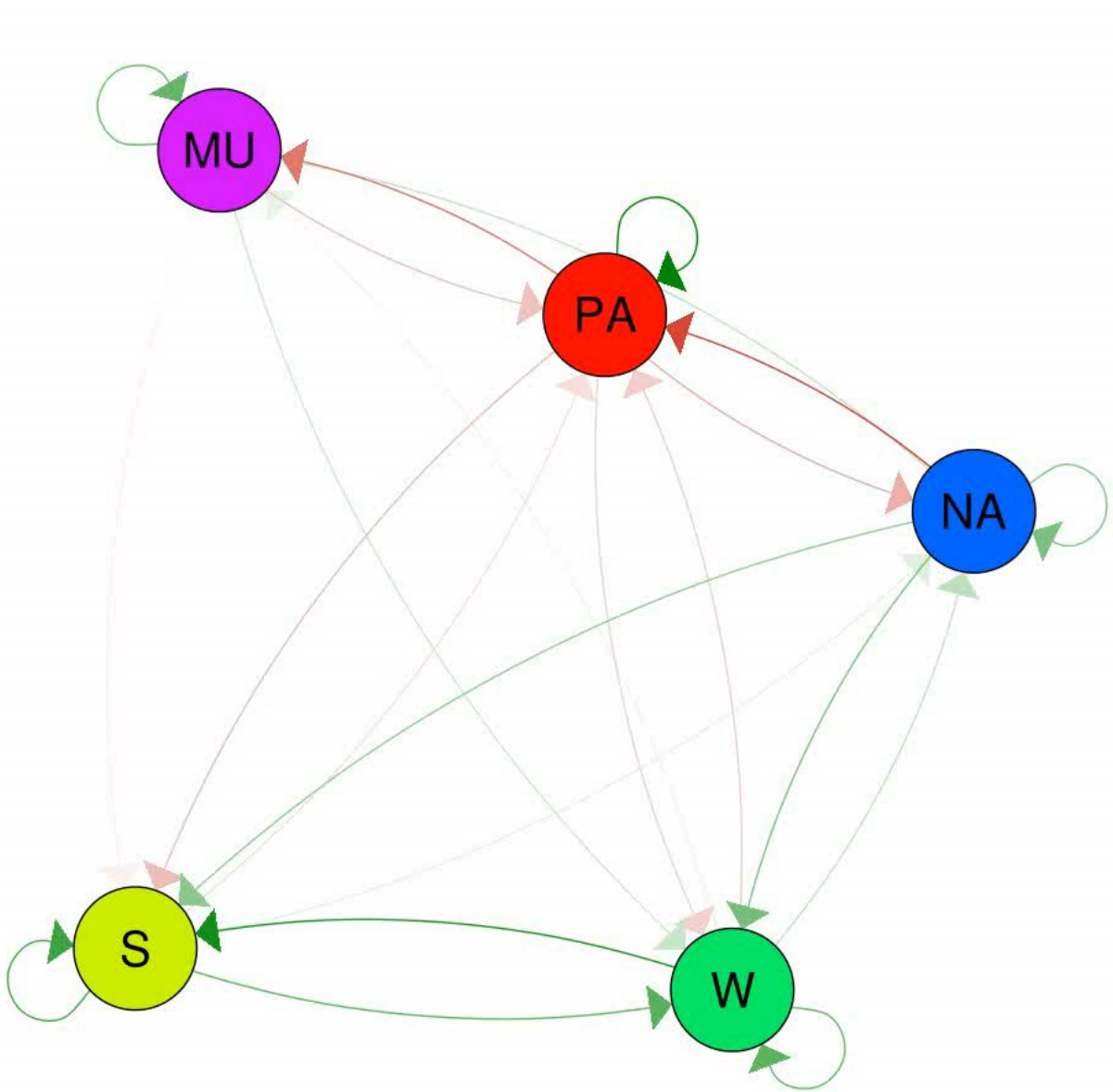


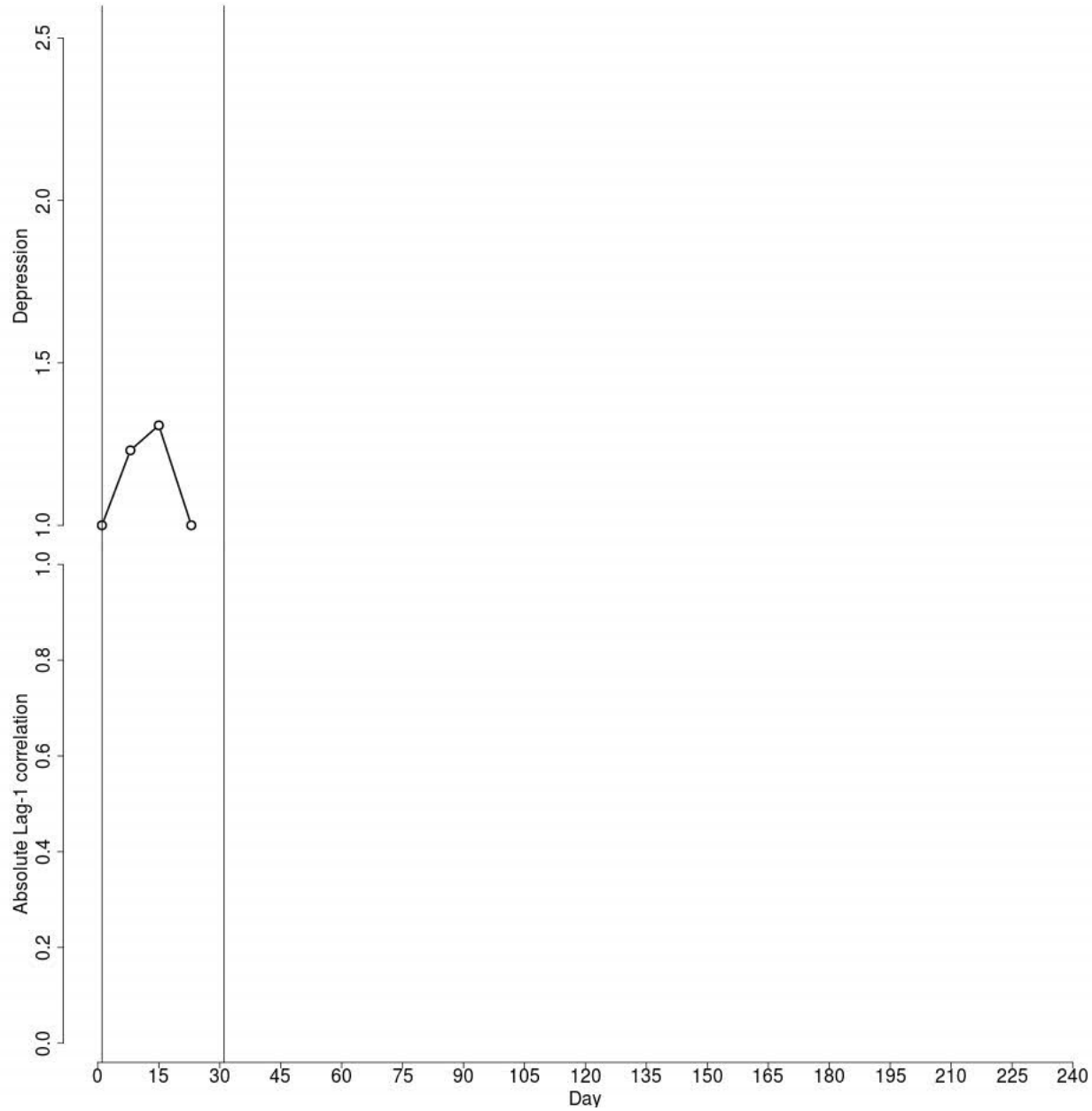
Color version available online

Psychother Psychosom 2016;85:114–116
DOI: 10.1159/000441458

Critical Slowing Down as a Personalized Early Warning Signal for Depression

Marieke Wichers[a, c], Peter C. Groot[b], Psychosystems, ESM Group, EWS Group


MU
PA
NA
S
W
PA = Positive Affect
S = Suspicion
W = Worry
NA = Negative Affect
MU = Mental Unrest


Depression
2.5
2.0
1.5
1.0
Absolute Lag-1 correlation
1.0
0.8
0.6
0.4
0.2
0.0
0
15
30
45
60
75
90
105
120
135
150
165
180
195
210
225
240
Day

Focus on Processes of Change

A sequence of changeable events that lead to good outcomes, that are theoretically sensible, dynamic, progressive, multi-level, and contextual bound.

Extending the Tradition

Gordon Paul (1969):

"What treatment, by whom, is most effective for this individual with that specific problem, under which set of circumstances, and how does it come about?" (Paul, 1969, p. 44).

Hofmann and Hayes (2019):

"What core biopsychosocial processes should be targeted with this client given this goal in this situation, and how can they most efficiently and effectively be changed?"

Foundations of Processes-based Therapy

- Understanding the individual as a dynamic complex network
- Understanding psychopathology is maladaptation to a given context.
- Understanding therapy as changing a dynamic system from maladaptation to adaptation.

Maladaption is due to unhealthy Variation and/or Selection and/or Retention in a given Context

Adaptation is healthy variation, selection, and retention in a given context.

Example: Selecting and remembering the right key to unlock a door or choosing the best way to get to work.

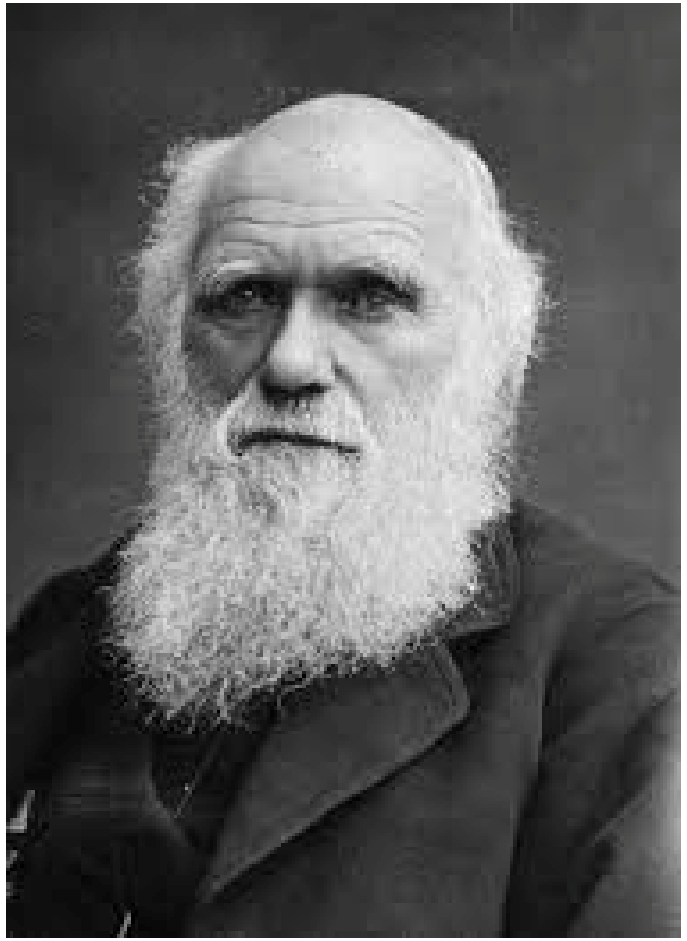
A Meta Model of Adaptive Change

Variation

Selection

Retention

Context



Clinical Psychology Review 81 (2020) 101892

Clinical psychology is an applied evolutionary science

Steven C. Hayes[a,*], Stefan G. Hofmann[b], David Sloan Wilson[c]

Clinical Psychology Review 82 (2020) 101908

A process-based approach to psychological diagnosis and treatment:The conceptual and treatment utility of an extended evolutionary meta model

Steven C. Hayes[a,*], Stefan G. Hofmann[b], Joseph Ciarrochi[c]

Variation

Selection

Retention

Context

Effective treatment is combining strategies…

…to tailor them to achieve specific goal

Model of Models - Dimensions

Consider the dimensions you have examined. Are there elements in the areas of:

- Affect
- Cognition
- Attention
- Self
- Motivation
- Overt behavior

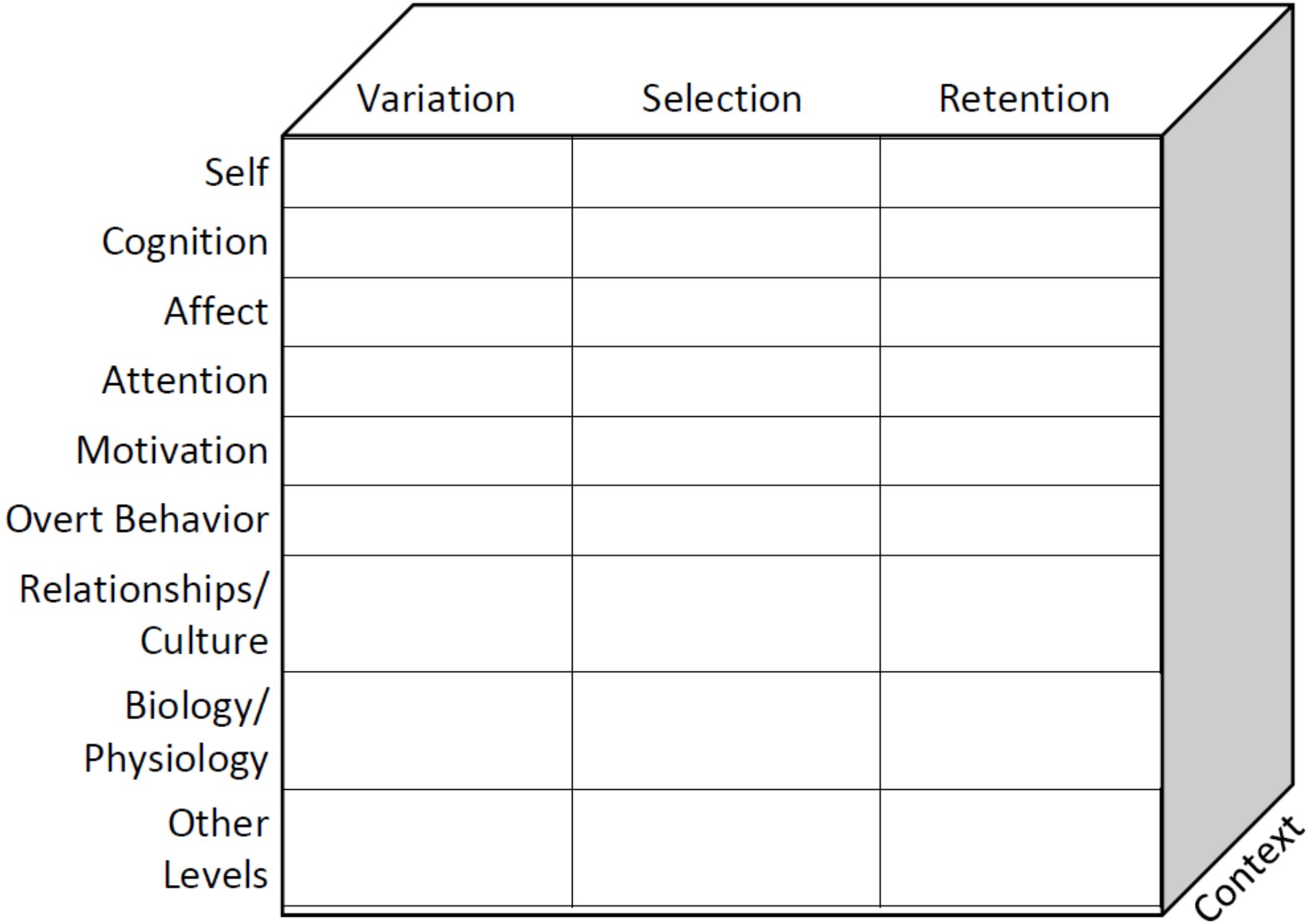
And These Additional Levels

Social and cultural factors

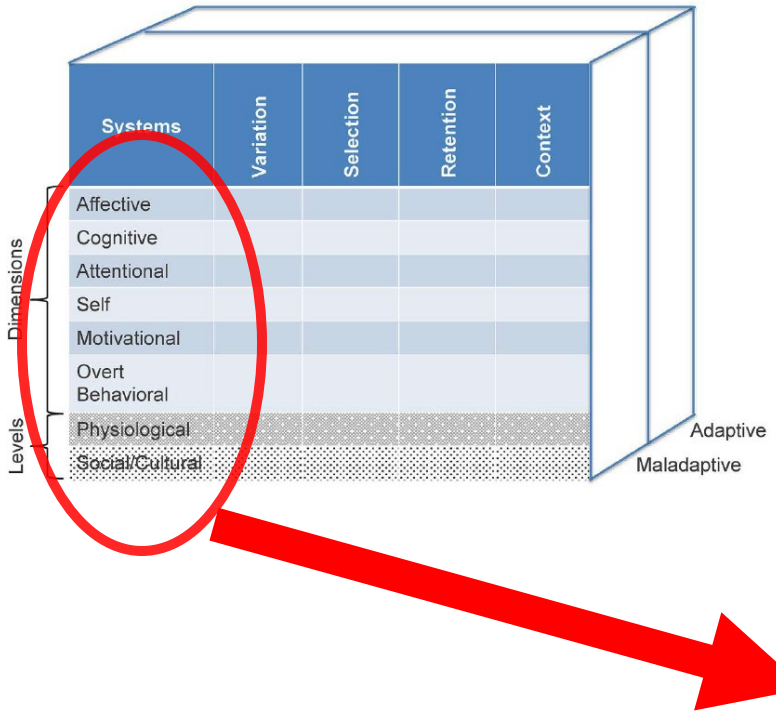
- Therapeutic relationship
- Social support
- Couples / Family / Friends

Biological and Physiological factors

- Physical abilities and disabilities
- Diet, Exercise, Sleep
- Measures of biological functioning (brain imaging; genetic and epigenetic factors)


Variation
Selection
Retention
Self
Cognition
Affect
Attention
Motivation
Overt Behavior
Relationships/
Culture
Biology/
Physiology
Other
Levels
Context

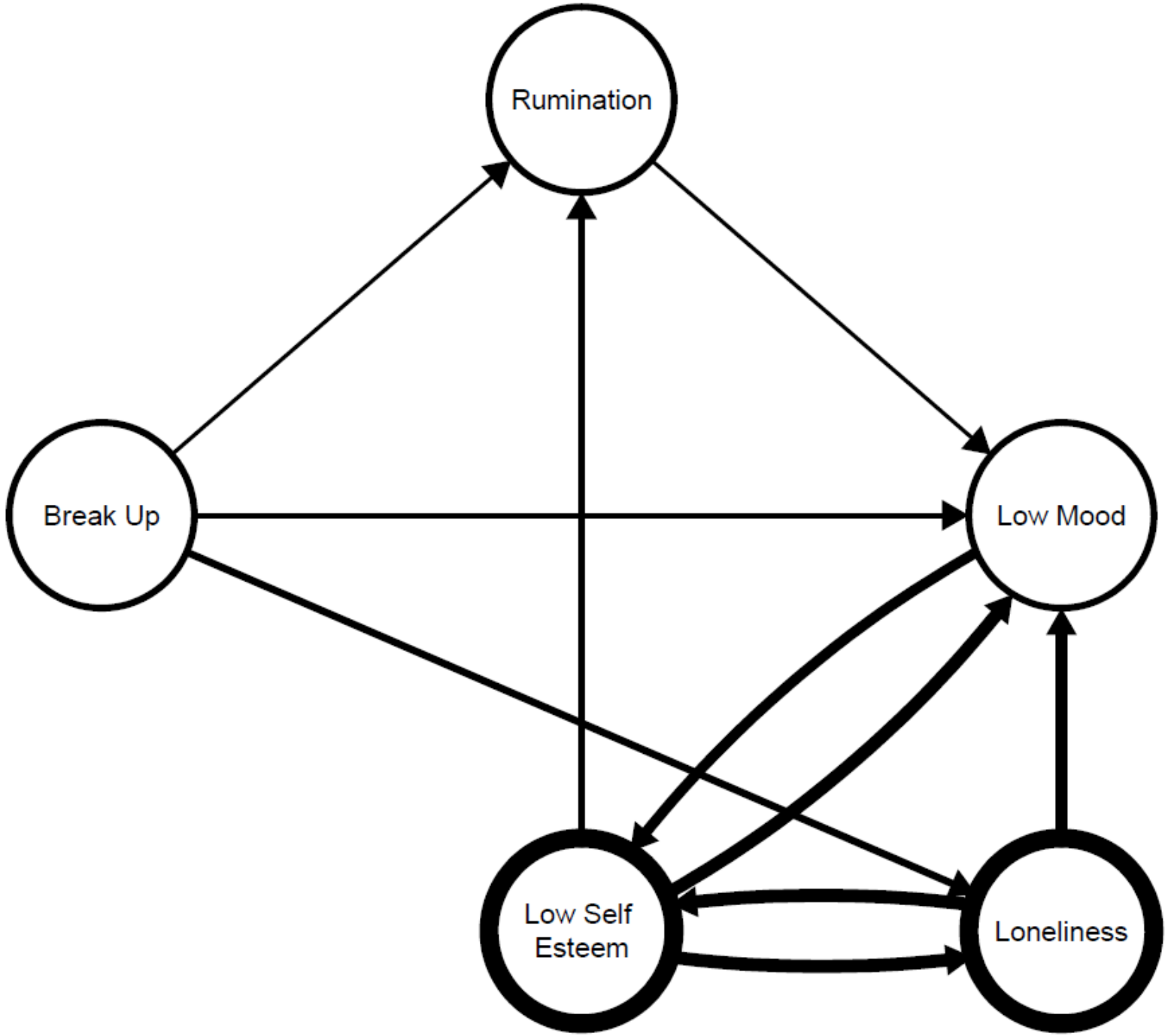
	Maladaptive				
		Variation	**Selection**	**Retention**	**Context**
Psychological dimensions	**Cognition**	Worrying, Rumination	Jumping to conclusion	Broadening negative schemas, habits, etc.	Limited context sensitivity
	Affect	Suppression	Experiential avoidance		
	Self	Rigidity of self	Discounting positive aspects of self		
	Attention	Attentional inflexibility	Attention bias toward threat		
	Motivation	Goal fixation	Pleasing others or only looking out for #1		
	Behavior	Impulsivity, inaction, or avoidant persistence	Thrill seeking		
Sociobiological Level	**Socio Cultural**				
	Bio Physiological				

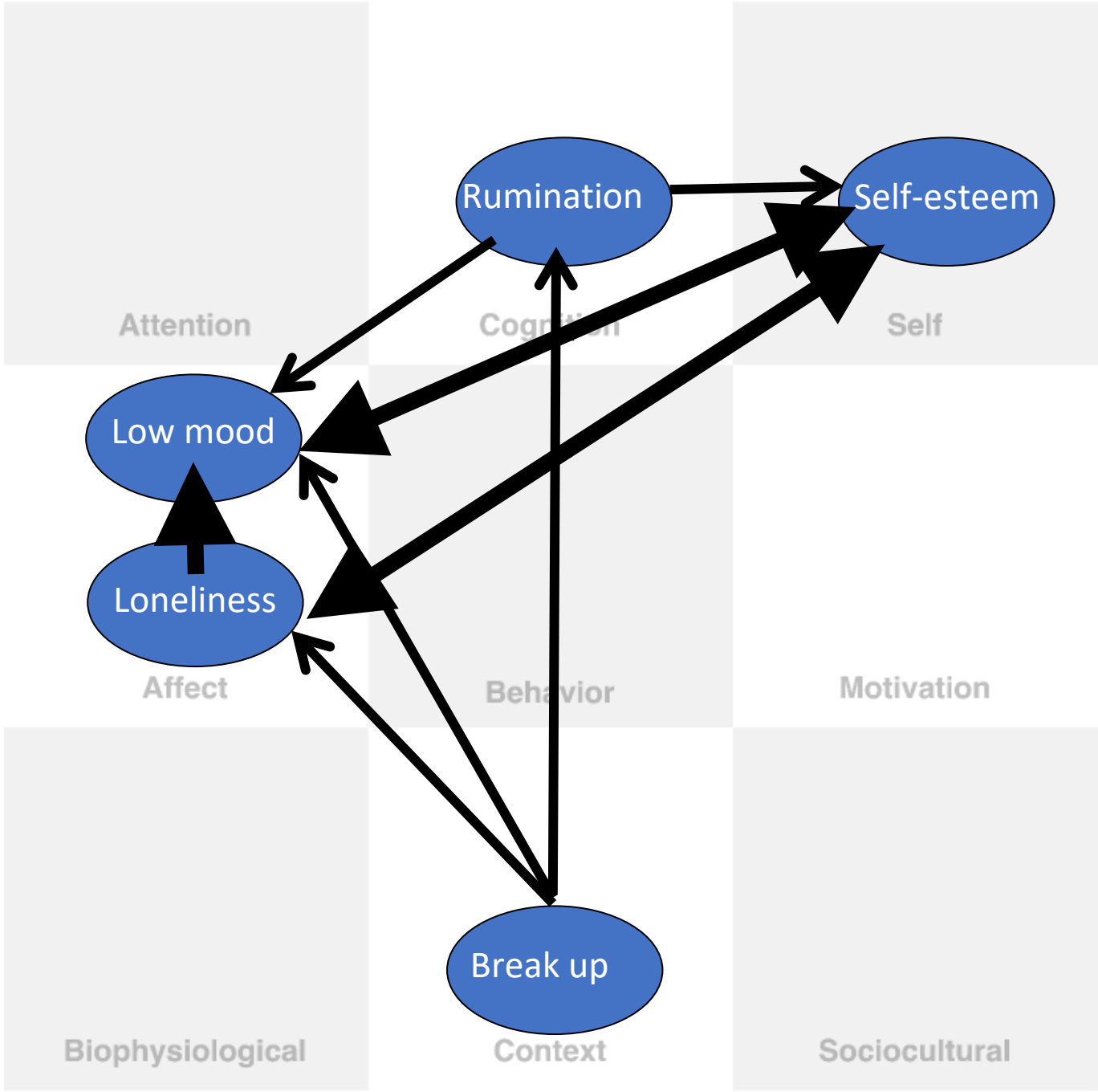


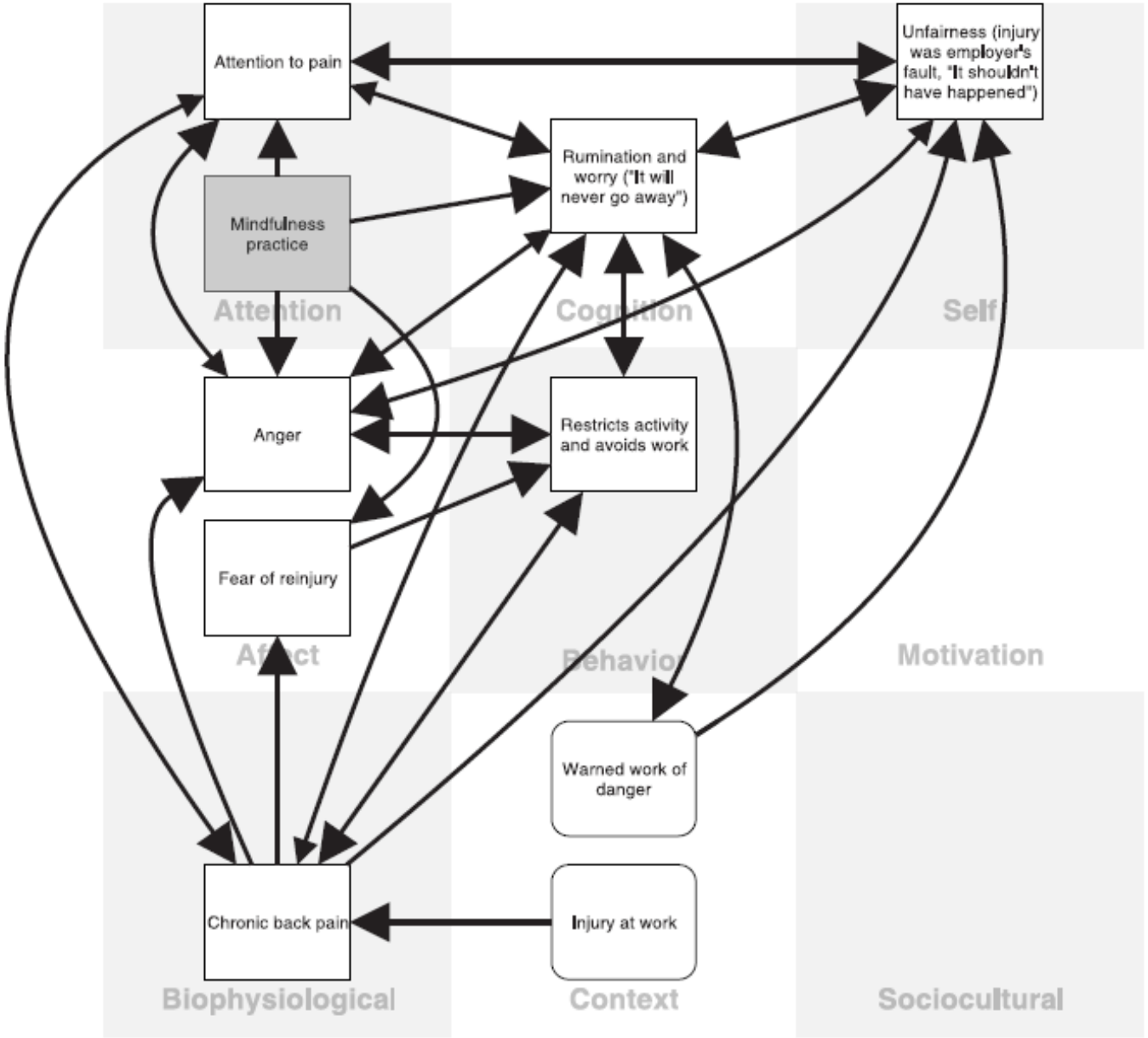
Attention | Cognition | Self

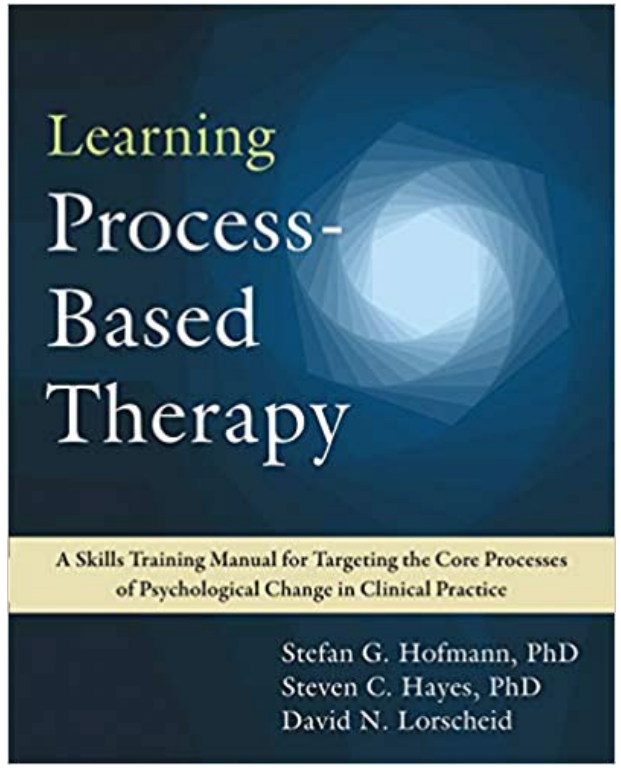
Affect | Behavior | Motivation

Biophysiological | Context | Sociocultural


Rumination
Break Up
Low Mood
Low Self Esteem
Loneliness


Rumination
Self-esteem
Low mood
Loneliness
Break up
Attention
Self
Affect
Motivation
Biophysiological
Context
Sociocultural


Attention to pain
Unfairness (injury was employer's fault, "It shouldn't have happened")
Rumination and worry ("It will never go away")
Mindfulness practice
Attention
Cognition
Self
Anger
Restricts activity and avoids work
Fear of reinjury
Affect
Behavior
Motivation
Warned work of danger
Chronic back pain
Injury at work
Biophysiological
Context
Sociocultural


Learning
Process-Based Therapy
A Skills Training Manual for Targeting the Core Processes of Psychological Change in Clinical Practice
Stefan G. Hofmann, PhD
Steven C. Hayes, PhD
David N. Lorscheid

Let’s Build a Network

Psychopathology is not the expression of a latent disease. Instead, it is maladaptation to a given context.

Adaptation is a result of a 3-step algorithm:
(1) Surveying possible options (healthy variation)
(2) Selecting a successful option (healthy selection)
(3) Holding on to this option (heathy retention)

If the context changes to such a degree that the chosen option is no longer adaptive, repeat process.

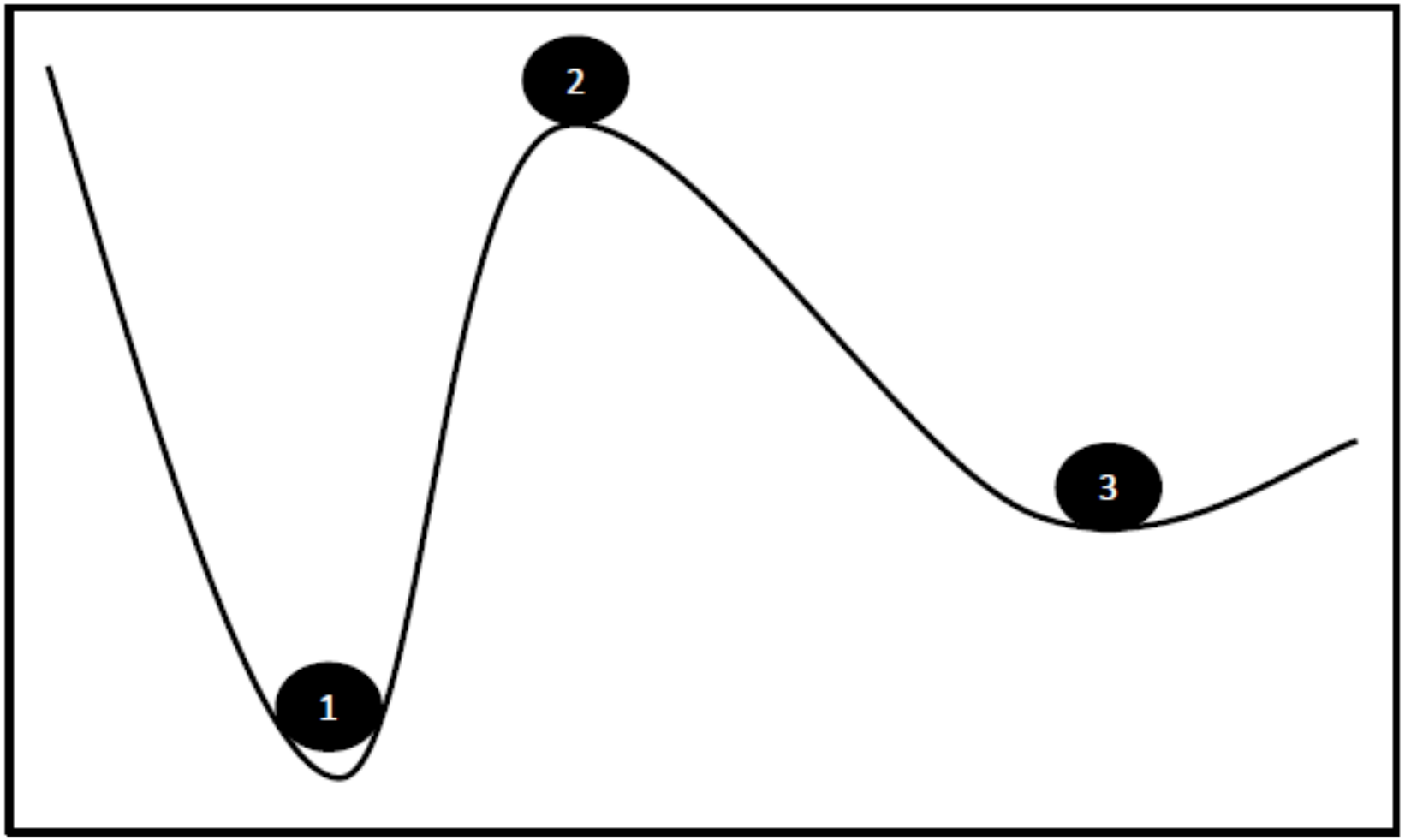
Therapy involves processes of change by applying specific treatment kernels that

- introduce new responding (variation),
- identify which strategies are most adaptive for a client given their goals (selection),
- help clients persist in useful responding (retention),

across various psychological facets on intrapersonal and interpersonal scales (dimension/levels), in ways that are sensitive to history, situational demands and personally relevant aspirations (context).

Therapy as a way to change a network from **maladaptive** to **adaptive**.

We also want adaptive networks to be **self-sustaining**.

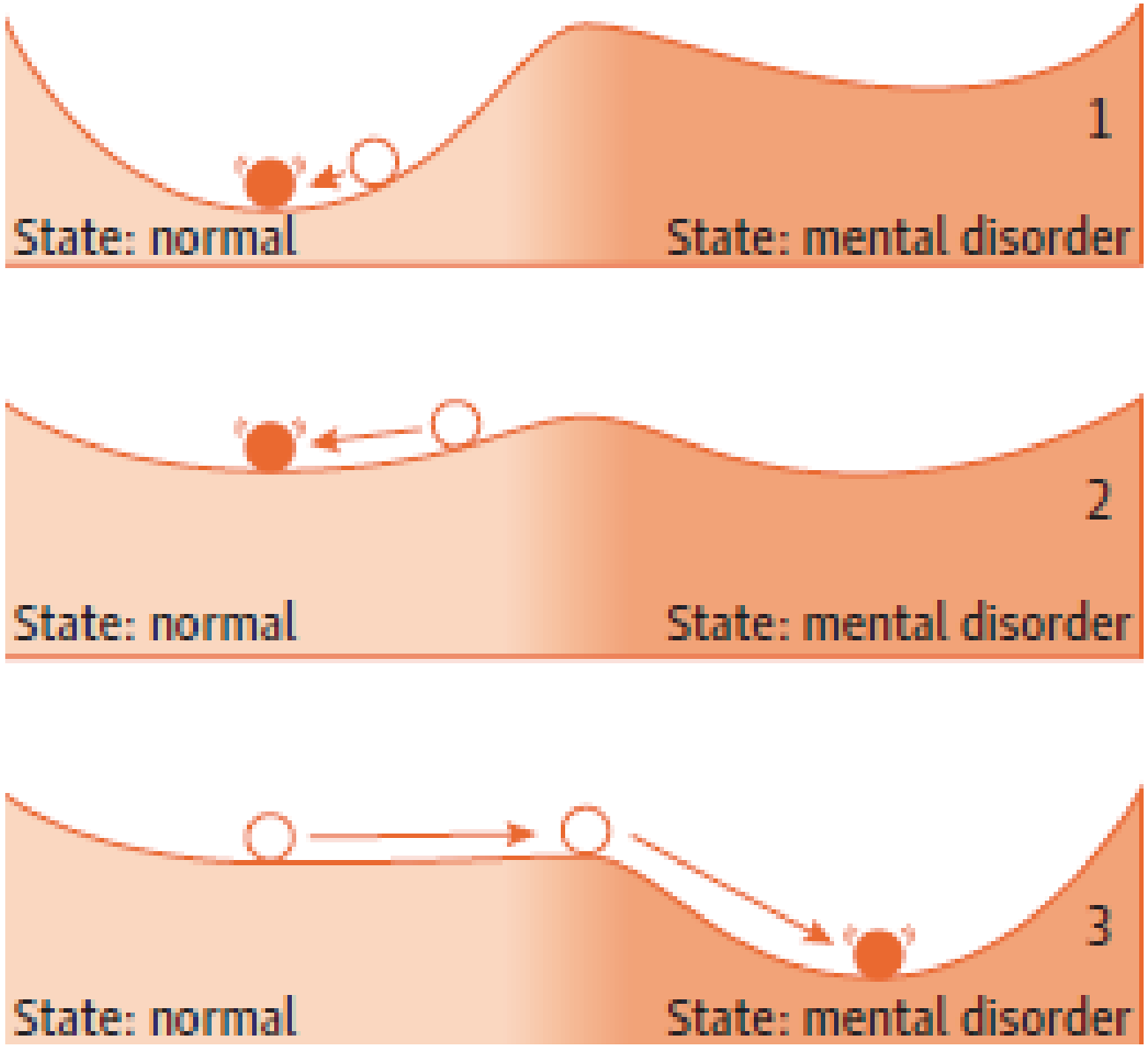


Hofmann, S. G., Curtiss, J., & McNally, M. J. (2016). A complex network perspective on clinical science. *Perspectives on Psychological Science, 11,* 597-605.

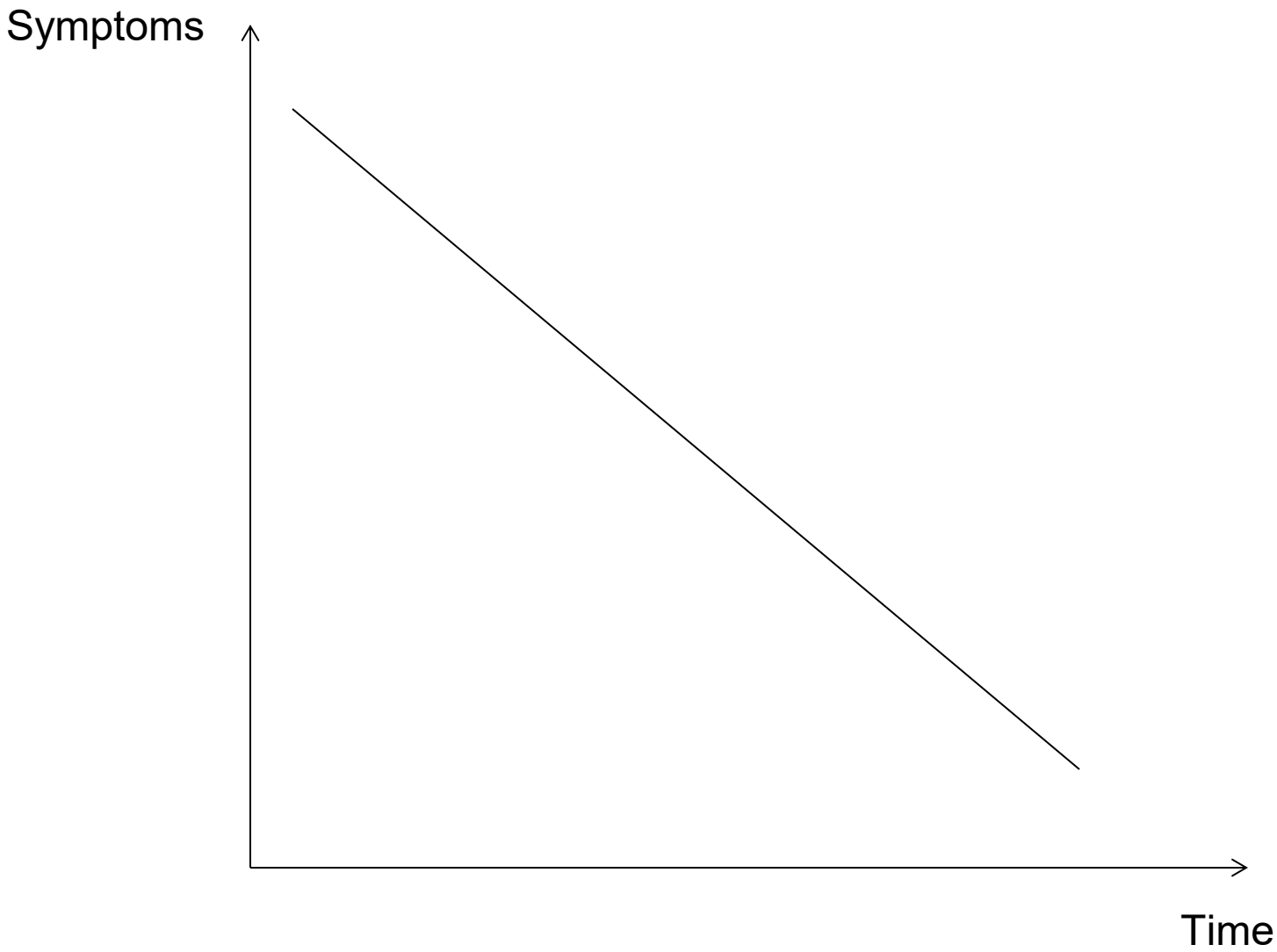
Network Application to Therapy

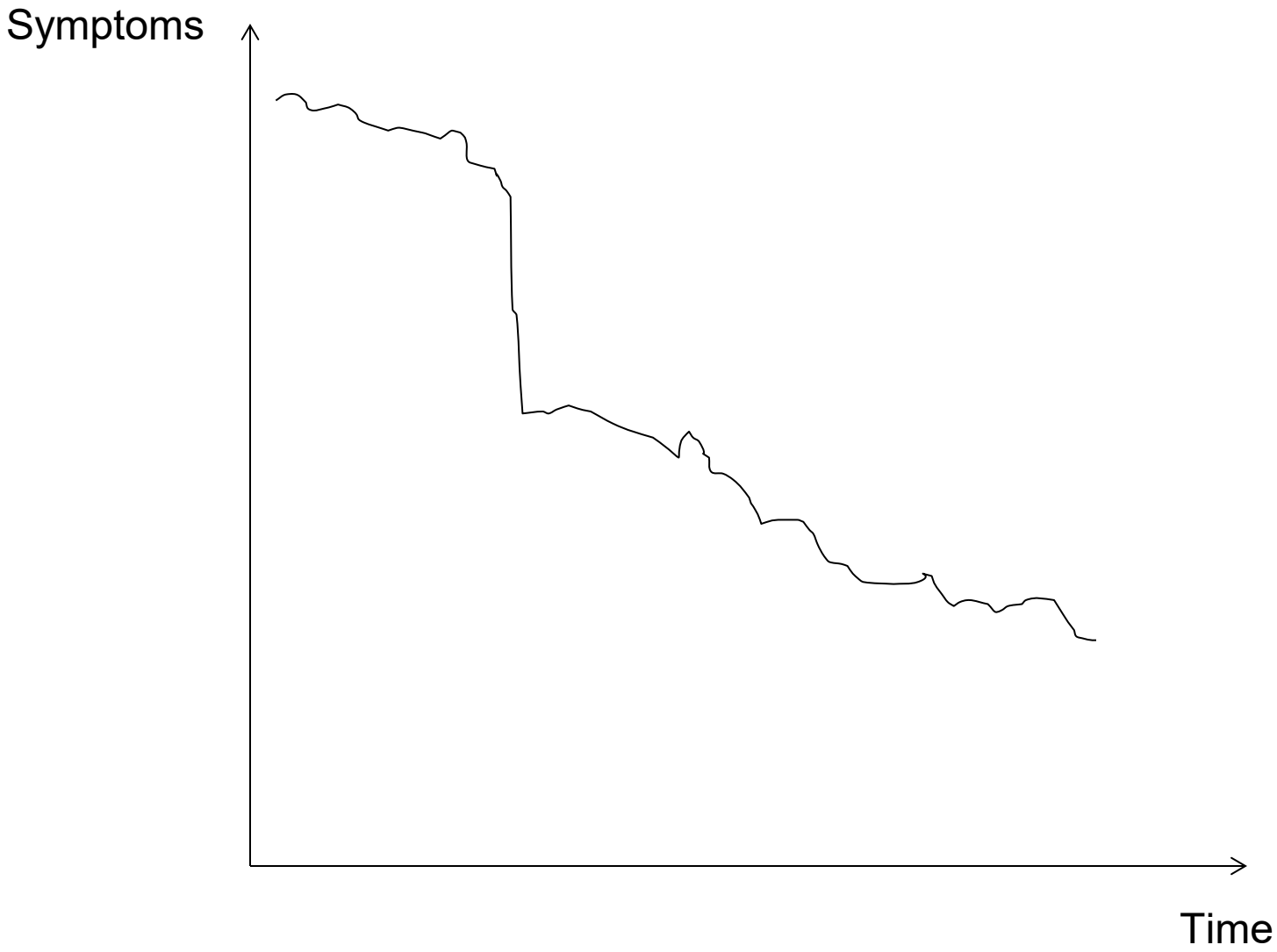
Network Structure: What maintains a problem?

Network Dynamic: How can the problem be solved?

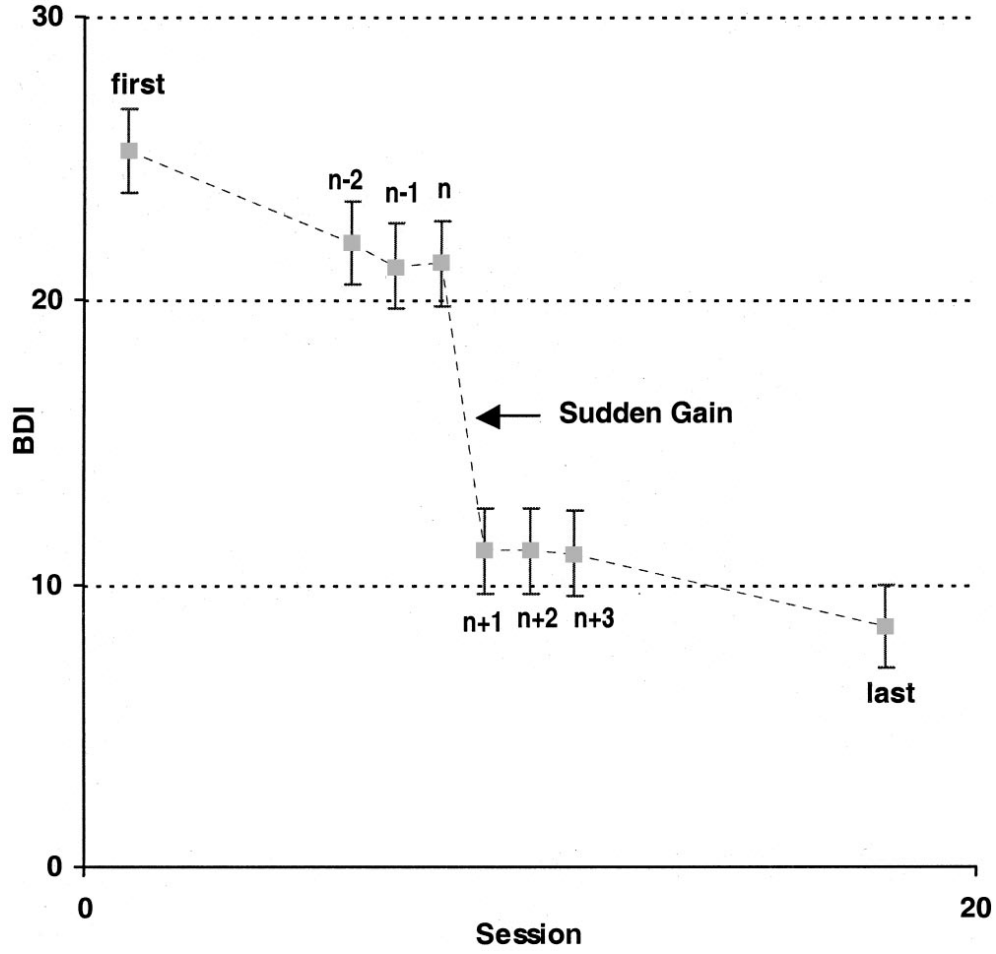


Nelson et al., 2017, *JAMA Psychiatry*


Symptoms
Time


Symptoms
Time

“Sudden Gains”



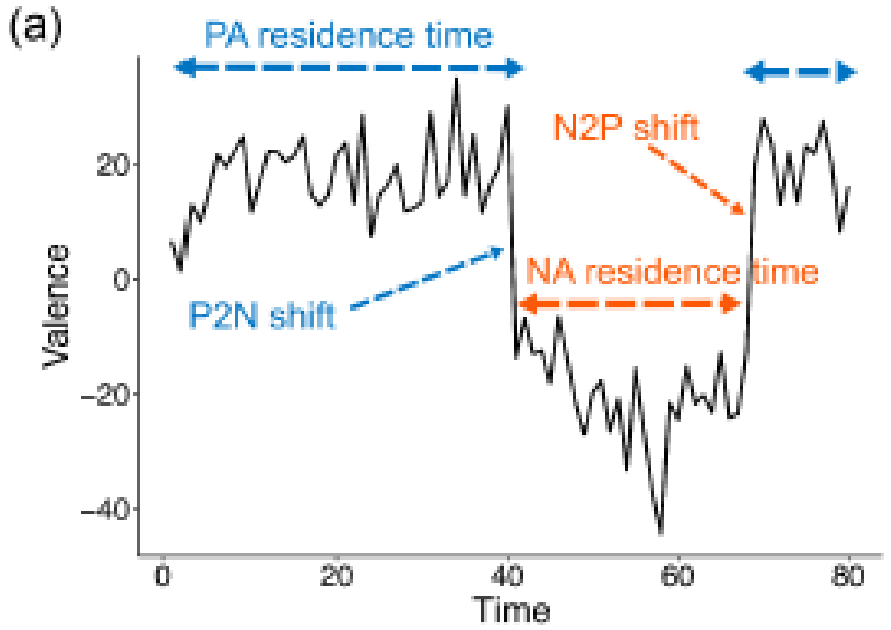
Aderka, I. M., Nickerson, A., Bøe, H. J., & Hofmann, S. G. (2012). Sudden Gains during psychological treatments of anxiety and depression: A meta-analysis. *Journal of Consulting and Clinical Psychology, 80,* 93-101.

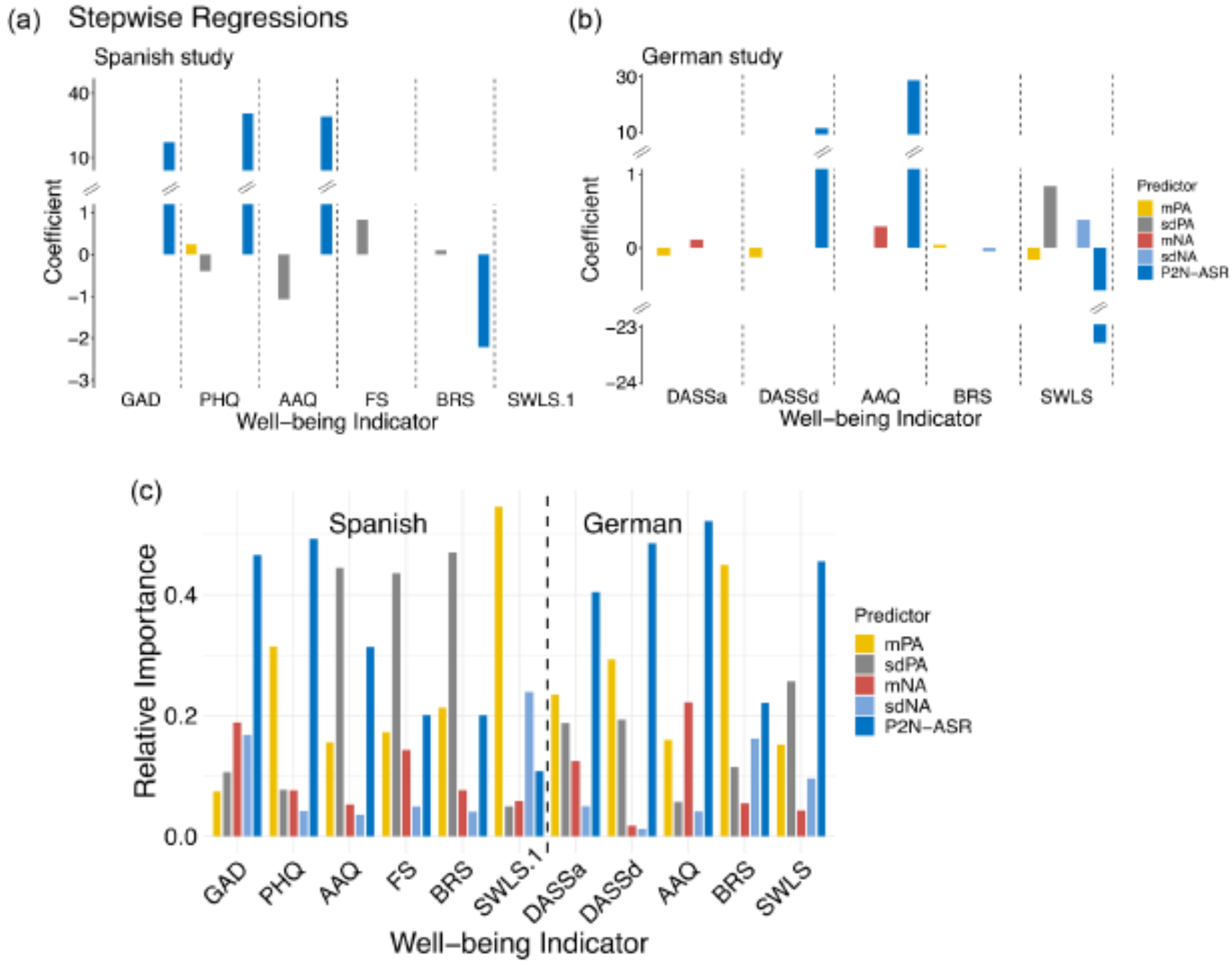
Bistability and Affect Shift Dynamics in the Prediction of Psychological Well-Being

Carmen Goicoechea[1, 2], Vasilis Dakos[3], Daniel Sanabria[1, 2], Saida Heshmati[4], Marlon Westhoff[5], Oresti Banos[6], Hector Pomares[6], Stefan G. Hofmann[5], and Pandelis Perakakis[7]

We analyzed self-report measures in two EMA studies from Spain (N = 65) and Germany (N = 56). Participants were asked to rate how they feel on a single bipolar visual analogue scale ranging from very bad to very good, 6 times a day over the course of 29 days (Spanish study) and 5 times a day during 21 days (German study). We observed bistability in 61.5% of the Spanish and 46% of the German sample.

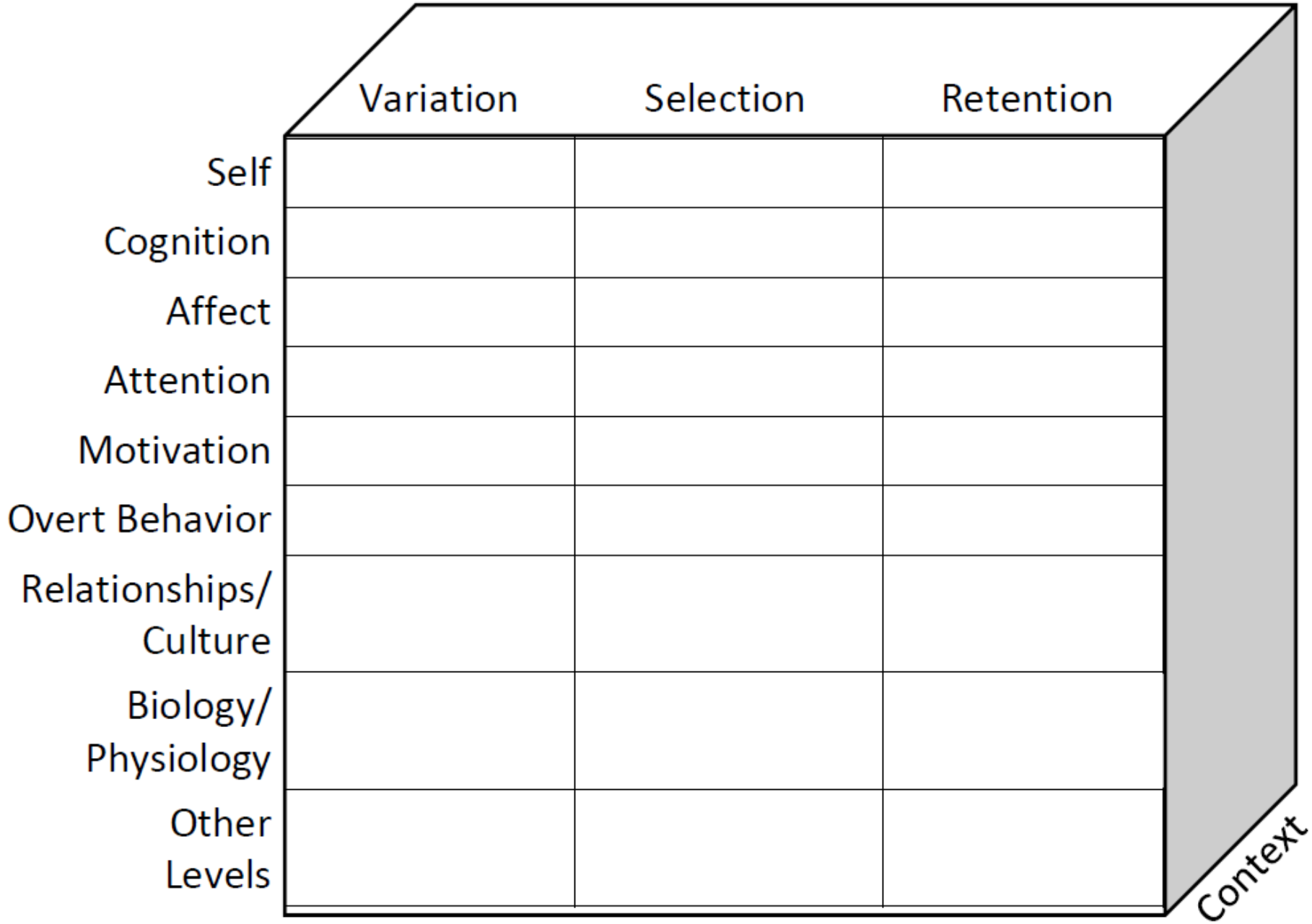
Affect Shift Metrics




(a) Stepwise Regressions
Spanish study
Coefficient
40
10
1
0
−1
−2
−3
GAD
PHQ
AAQ
FS
BRS
SWLS.1
Well−being Indicator
(b)
German study
30
10
1
0
−23
−24
DASSa
DASSd
AAQ
BRS
SWLS
Well−being Indicator
Predictor
mPA
sdPA
mNA
sdNA
P2N−ASR
(c)
Spanish
German
Relative Importance
0.0
0.2
0.4
GAD
PHQ
AAQ
FS
BRS
SWLS.1
DASSa
DASSd
AAQ
BRS
SWLS
Well−being Indicator
Predictor
mPA
sdPA
mNA
sdNA
P2N−ASR

Therapy is not a linear, unidirectional, paucivariate mechanism.

Instead, it is a complex, multivariate, and dynamic process!


Variation
Selection
Retention
Self
Cognition
Affect
Attention
Motivation
Overt Behavior
Relationships/
Culture
Biology/
Physiology
Other
Levels
Context

	Variation	Selection	Retention	Context
Affect	I turn down social situations that might make me anxious.	I immediately feel better, but I also soon fear the next situation.	My fear grows stronger whenever I buy into it and escape it.	It gets reinforced by my history, my focus, and my actions.
Cognition	I think that I will embarrass myself, and people will not like me.	I get a sense of control if I am just vigilant enough.	Regardless of how others react, I have to stay vigilant of not embarrassing myself.	It gets reinforced by my history and my actions.

	Variation	Selection	Retention	Context
Attention	I watch out for signs of impending anxiety.	I feel safer and less vulnerable, even if it interferes with my performance.	Regardless of what happens, I need to stay vigilant to make sure I don't embarrass myself.	It gets reinforced by my history, my emotions, and body sensations.
Self	I think of myself as a "loser" and "not good enough."	By rejecting myself first, I soften the rejection by others.	I only make experiences that confirm my self-perception.	It gets reinforced by my history, my actions, and my focus.
Motivation	I'm primarily concerned with not embarrassing myself. I want others to like me.	I want to feel safe and appreciated.	Regardless of how others react, I have to stay vigilant of not embarrassing myself.	It gets reinforced by my history, my actions, and my focus.

	Variation	Selection	Retention	Context
Overt Behavior	I overcompensate and try to be funny, or I retreat home.	I want to be liked, or I want to avoid feeling hurt from rejection.	Regardless of how others react, I have to prove myself or escape my pain.	It gets reinforced by my feelings, my self-perception, and my motivation.
Biophysiological	My stomach tightens, my heart beats faster, I begin to get fidgety.	My body prepares for imminent danger.	These sensations grow stronger when I escape my fear.	It gets reinforced by my feelings, my actions, and my thoughts.
Sociocultural	I learned in high school that there are "winners and losers."	Clinging to these black/white terms gives me a false sense of security.	These beliefs get reinforced whenever I act on them.	It gets reinforced by my actions, my history, and my feelings.

Therapist: What brings you here today?

Julie: I actually have a pressing issue, but I feel like it's a more general pattern as well. So I was hoping we could talk a little bit about it, and maybe find a solution of some sort to help me get better.

Therapist: Why don't you go ahead and tell me more about this pressing issue.

Julie: Yes, so a little bit of a backstory: My husband is a full-time student and he is about to finish his bachelor's degree and go on with his master's. And I'm a dentist with my own private practice. And as part of my ongoing education, I want to attend an important dental conference, which is occurring at the same time as his finals.

Therapist: Okay.

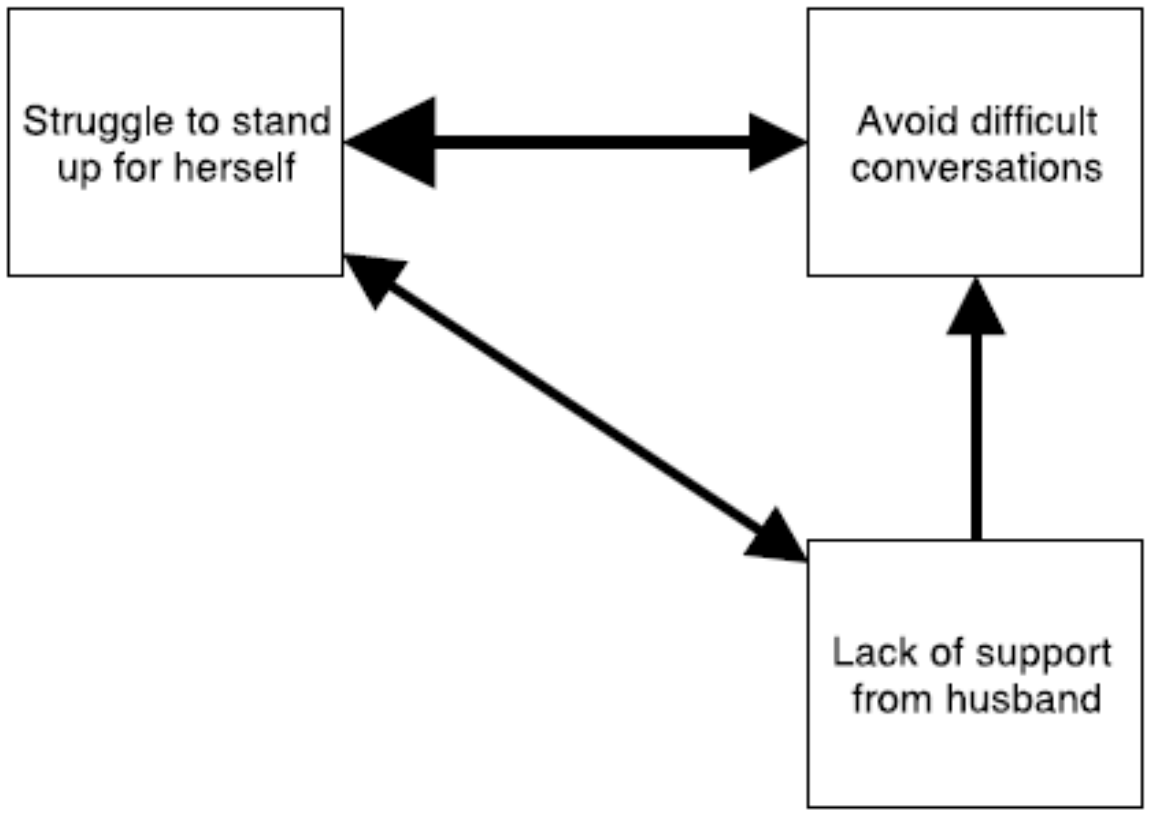
Julie: When I said that I would be going to this conference, he made a comment of "No, you're not." And today is the deadline to register for the conference, and I have been in anguish about having this conversation with him so I can go.

Therapist: So your husband does not support your wish to attend, and you have been avoiding talking to him about it.

Julie: Yes. I haven't really talked to him about it since he made that comment. And I'm committed to going to the conference. I'm going. But I don't really know how to stand up for myself and tell him I'm going. That's why I have been putting it off.

Therapist: You also mentioned that this might be a general pattern. Would it be fair to assume that this is not the first time you have been putting off difficult conversations?

Julie: Yes, that is true. I never know what to say or how to convince him.


Struggle to stand up for herself
Avoid difficult conversations
Lack of support from husband

Therapist: You mentioned you struggle to stand up for yourself in difficult conversations with your husband. Do you notice this being a difficulty for you with other people as well?

Julie: I think I have never been really good at it. I often feel shy and timid around others. I definitely notice that I struggle to stand up for myself in general, not just with my husband.

Therapist: When you say that you have "never been really good at it," about how old would you say you were when this first became apparent to you?

Julie: I'm not sure, but pretty young. I don't know, maybe five or six or so?

Therapist: Five or six. That is pretty young. So, you were just a small child.

Julie: Yes.

Therapist: And who would five-year-old Julie need to stand up to?

Julie: I'm not sure…definitely my mother.

Therapist: Your mother?

Julie: Yes. My mother and I often got into each other's faces. She had these ideas of how little girls are supposed to be. I mean, I think we had a good relationship, and we still do. But I wasn't allowed to do much of what I wanted when I was younger, because she had different ideas for me.

Therapist: Can you tell me more about what you mean by "different ideas"?

Julie: Sure. I was always the type of girl to get myself dirty playing outside, and I mostly used to play with boys. And my mom did not really like that. She always told me that "nice girls don't behave like this," and she tried to make me more "girly" in general. This has pretty much continued to this day even. And part of that is I'm supposed to serve others—including her really. What I wanted was not necessarily in the picture.

Therapist: And when you behaved unlike a "nice girl" and acted in your own self-interest, what would your mother say to you?

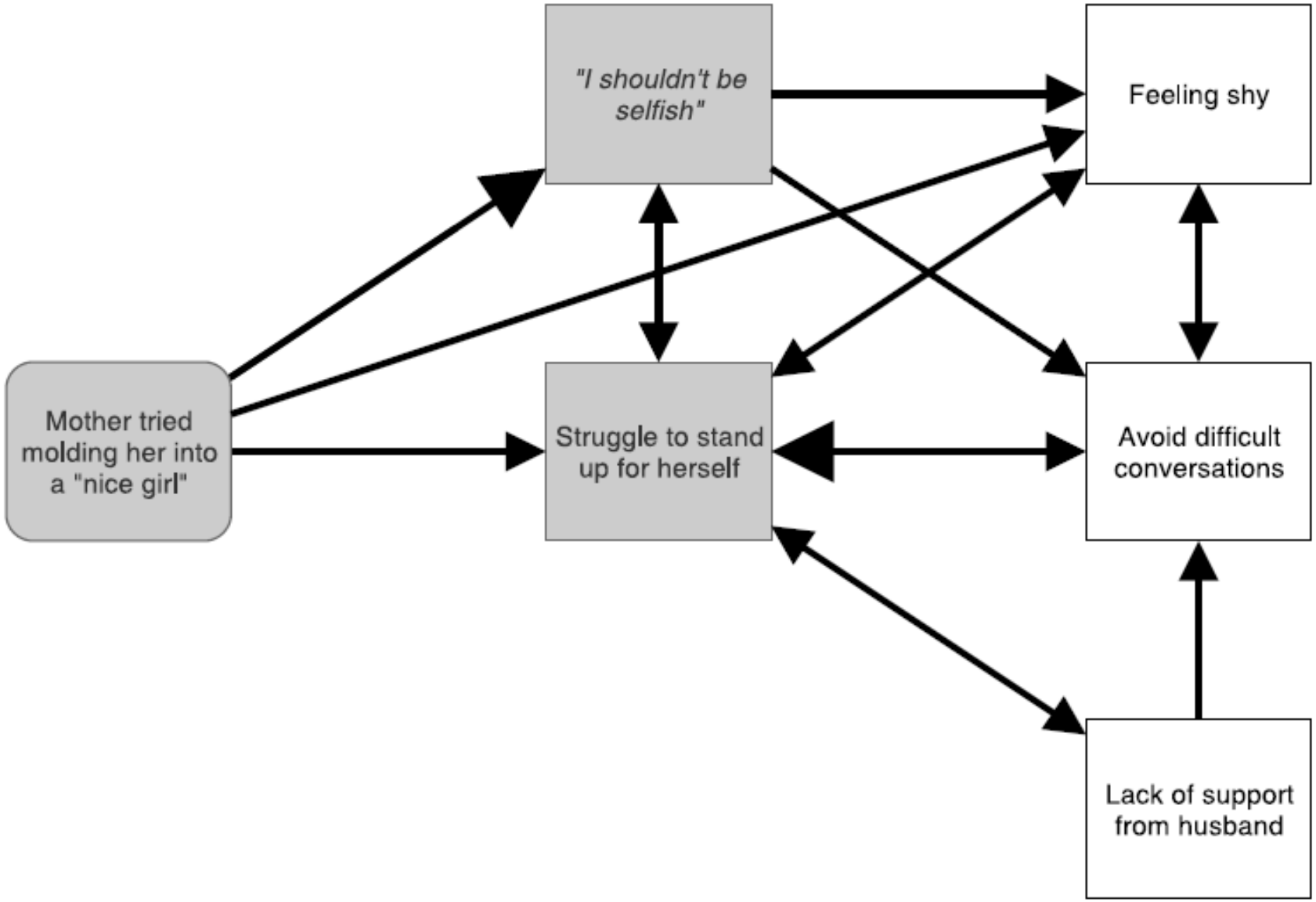
Julie: Well, she would quickly shut it down. If I didn't do what she wanted, she often told me that I "shouldn't be so selfish."

Therapist: Does that programming still echo into the present in this situation with your husband and thinking about going to the conference? Does "selfish" show up in your mind?

Julie: Yes, I think it does. I really want to go to the conference—I'm going—but once this selfish thought pops up, I get even more nervous about what everybody else will think of me, and it makes me want to retreat into a shell. When it's like this, I easily falter with the tiniest bit of pushback.

Therapist: So when this thought of "I shouldn't be selfish" comes up, along with this feeling of wanting to retreat, you struggle even more to stand up for yourself, and you are even less likely to get into confrontations, did I get that right?

Julie: Yes, pretty much. I just tuck my head in and don't speak up.


"I shouldn't be selfish"
Feeling shy
Mother tried molding her into a "nice girl"
Struggle to stand up for herself
Avoid difficult conversations
Lack of support from husband

Guiding Questions – Self

Explore problems in variation--Is there a sense of self, or a self-concept, that shows up for the client when they are in their struggle, or that fails to appear that might be helpful? Is there any sense of rigidity or a lack of healthy variation in the domain of self?

Explore problems in selection--What are the functions of a problematic sense of self? If or when a healthier sense of self or self-concept appears, what functions might it serve?

Explore problems in retention--In the area of self, how do these dominant patterns support, facilitate, or maintain the client's problems in the network model? In the case of a more adaptive sense of self or self-concept, why is it not retained when it occurs? What other features of the network are interfering with retention of gains that may occasionally occur?

Action Step 5.1 Self

See if you can apply the three sets of guiding questions above to the dimension of self in the problem area of yours that you selected to work on. Write a paragraph about each.

Example

Problems in variation: The sense of self that shows up is that *I'm a loser* or *I'm an idiot*, and *I'm not good enough*. These thoughts seem very convincing in the middle of my struggle.

Problems in selection: By denouncing myself first, I protect myself from potential attacks of outsiders. By rejecting myself first, I avoid getting rejected by others.

Problems in retention: My sense of self as a "loser" is never challenged, because I never show up in a way that would allow others to embrace who I am. Instead, this self-perception is reinforced each time I reject myself (i.e., only a loser would think of themself as a loser).

Therapist: We have talked a bit about what you don't want, that you don't want to be seen as "selfish," and that you wish to avoid difficult conversations. Let's flip this around and look at the other side of things you actually *do* want for yourself.

Julie: Okay, that sounds good to me.

Therapist: You mentioned you are a dentist with your own private practice, right?

Julie: Yes, exactly.

Therapist: Tell me more about your work. How is this going for you?

Julie: Well, it actually is going pretty well. Since my husband doesn't really work yet other than his studies, I'm the sole breadwinner in our relationship. And my practice is doing well, so it's not really a problem. My patients seem to like me, and my schedule is frequently full.

Therapist: Great! So it would be fair to say you have a highly successful career?

Julie: Yes, I think that's fair to say.

Therapist: And what about being a dentist is important for you?

Julie: Well, there's a lot really. I really like my field, and I think I'm pretty good at it too. And I feel like I can help other people, which is very important for me. And I'm being recognized for my work…that's one reason for going to this conference. I mean, some of that programming is probably from my mother to be honest, but I genuinely want to make a positive difference in people's lives.

Therapist: How does your wish to help other people relate to your struggle to stand up for yourself?

Julie: Realistically it helps, but emotionally it's different. When I assert myself, it helps me do what I came to do…but then there is this nagging sense that I'm doing it on the back of other people.

Therapist: Let's do a quick experiment. We don't really need any equipment, and it might be insightful for you about how we can bring about change.

Julie: Okay, sure.

Therapist: Suppose I had a gun in my hand. And I would point this gun at you, and I would tell you that I will shoot unless you feel the confidence you need to stand up for yourself. And I'm talking about genuine confidence. Not fake confidence. So unless you feel really confident, I would shoot you. Now how do you think this will go?

Julie: Well, you will probably shoot me.

Therapist: Yes, exactly. I would notice you don't feel fully confident, and I would shoot you. Now suppose we do it a little differently: I would shoot you unless you genuinely believed that you have what it takes to stand up to me. And for some reason I could really tell if you are faking it. Now what would happen?

Julie: I guess I would be shot again.

Therapist: I agree. So, there's no winning here. Now let's try this one last time, but this time I would tell you that I will shoot you unless you say "No." No big explanation, and no assertive facial expressions, but just uttering the word "No." Do you think you would be able to make it?

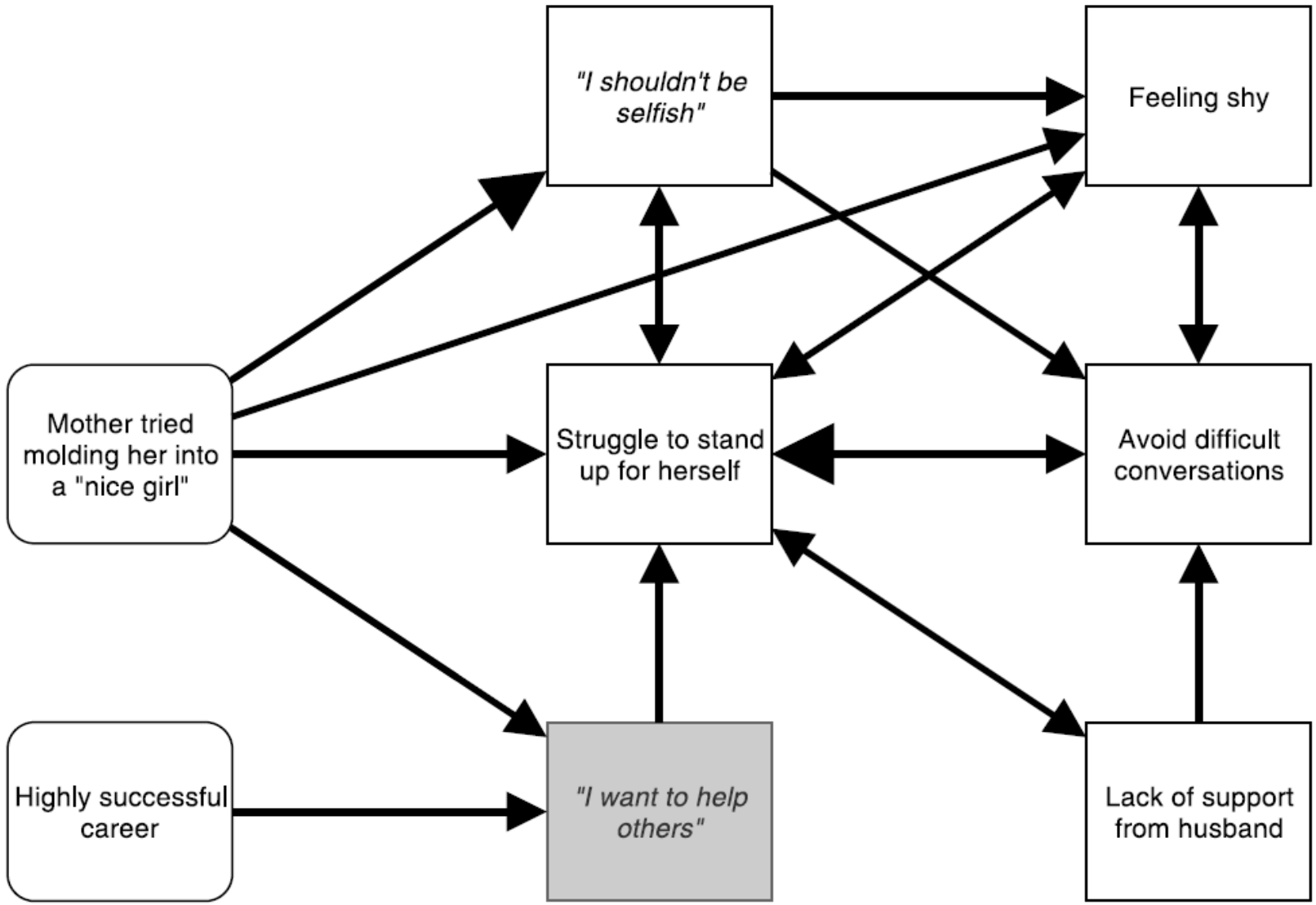
Julie: Of course. I might want to cry, but I would say "No."

Therapist: The point of this little exercise is that it's much easier to change our actual behaviors than to change how we think and feel. And if we want to make a change, it's often best to start by looking at our behavior—the things we actually do—as a place to start. Let's look at what you are actually doing when you are struggling. So far you have mentioned that you tend to avoid difficult conversations, and that you do not speak up for yourself.

Julie: Right.

Therapist: These things are really about *not* doing something. *Not* speaking up, and *not* having a difficult conversation. And when you are in a difficult moment with someone, what do you actually *do*?

Julie: I just try to please. My husband calls me a "people pleaser." I think it actually annoys him even though he'll also do things like tell me not to go to this conference. I know when I say, "I'm going," he'll back down, but it's just hard for me emotionally, especially when I'm already feeling nervous. That's really why I'm here. I know I have to change my behavior.


"I shouldn't be selfish"
Feeling shy
Mother tried molding her into a "nice girl"
Struggle to stand up for herself
Avoid difficult conversations
Highly successful career
"I want to help others"
Lack of support from husband

Guiding Questions – Motivation

Explore problems in variation--Are there characteristic maladaptive patterns of motivation for the client when they are in their struggle, or more adaptive patterns that fail to appear that might be helpful? Is there any sense of rigidity or a lack of healthy variation in the domain of motivation?

Explore problems in selection--What are the functions of the maladaptive forms of motivation that are present in the network? When healthier forms of motivation appear, what functions might they serve?

Explore problems in retention--How do these dominant patterns in the area of motivation support, facilitate, or maintain the client's problems in the network model? In the case of more adaptive forms of motivation, why are they not retained when they occur? What other features of the network are interfering with retention of gains that may occasionally occur?

Action Step 5.2 Motivation

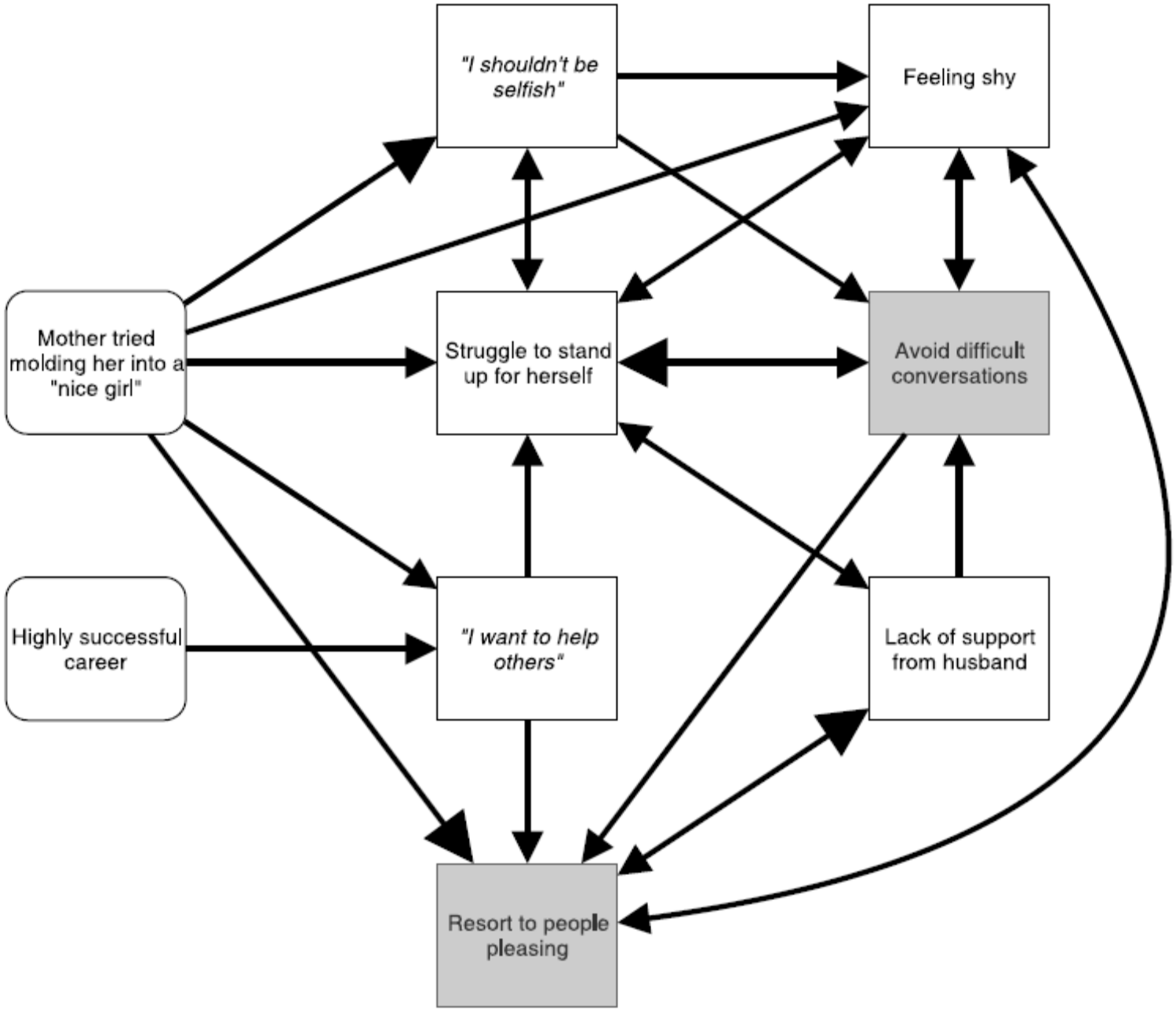
Considering the same problem area as before, but now focusing on motivational patterns, see if you can apply the three sets of guiding questions above to the motivation domain in your problem area. Write a paragraph about each.

Example

Problems in variation: In conversations with others, I'm primarily concerned with not embarrassing myself, or not saying something stupid. I want others to like me. I also want to be genuine and authentic, but it's so hard with my fear showing up.

Problems in selection: My motivation of "not embarrassing myself" serves to avoid getting rejected and ridiculed by others. It is a motivation primarily grounded in what I don't want, rather than what I do want. My other motivation to be genuine and authentic serves to create real connections, but it's overshadowed by my avoidance of getting hurt.

Explore problems in retention: Whenever I don't embarrass myself—which is more often than not—the belief that it didn't happen because I actively monitored myself gets reinforced. Whenever I do embarrass myself, I ascribe it to my not doing enough to avoid embarrassment. Either way, my motivation is reinforced.


"I shouldn't be selfish"
Feeling shy
Mother tried molding her into a "nice girl"
Struggle to stand up for herself
Avoid difficult conversations
Highly successful career
"I want to help others"
Lack of support from husband
Resort to people pleasing

Guiding Questions – Behavior

Explore problems in variation--What patterns of overt behavior show up for the client when they are in their struggle, or fail to appear that might be helpful? Is there any sense of rigidity or a lack of healthy variation in the domain of overt behavioral patterns or habits?

Explore problems in selection--What are the functions of problematic forms of overt behavior in the client's network? If or when more adaptive forms of overt behavior appear, what functions might these overt action patterns serve?

Explore problems in retention--How do these dominant overt behavioral patterns support, facilitate, or maintain the client's problems in the network model? In the case of more adaptive overt patterns of action, why are they not retained when they occur? What other features of the network are interfering with retention of behavioral gains that may occasionally occur?

Action Step 5.3 Behavior

See if you can apply the three sets of guiding questions above to the dimension of overt behavior in the problem area of yours that you selected to work on. Write a paragraph about each.

Example

Problems in variation: When I get nervous in social situations, I either overcompensate and try to be the funniest, most interesting person in the room, or I retreat, often excusing myself and going home. It's almost always one or the other.

Problems in selection: I overcompensate in the hopes of being more liked by others and building close relationships. On the other hand, I retreat in order to not get hurt by others. I reject myself before I can get rejected by others.

Explore problems in retention: When I overcompensate and other people react positively, I assume it must have been because I put on a show. When they react negatively, however, I assume it must have been because I didn't try hard enough. Either way, the behavior is reinforced. Whenever I retreat, the nervousness and fear dissipate; thus, the behavior is reinforced.

Guiding Questions – Biophysiological Level

Explore problems in variation--What biophysiologically relevant behavior patterns show up for the client when they are in their struggle, or fail to appear that might be helpful? Is there any sense of rigidity or a lack of healthy variation in the level of these biophysiologically relevant actions (e.g., failure to try healthier eating, unwillingness to explore ways to exercise)?

Explore problems in selection--What are the functions of problematic biophysiologically relevant actions in the client's network? For example, does not exercising allow them to avoid experiencing shame about their body? Are poor eating patterns cultural? If or when more adaptive forms of the biophysiological level appear, what functions might these patterns serve?

Explore problems in retention--How do these dominant biophysiologically relevant patterns support, facilitate, or maintain the client's problems in the network model? In the case of more adaptive biophysiological patterns, why are they not retained when they occur? What other features of the network are interfering with retention of biophysiologically relevant gains that may occasionally occur?

In order to explore these key questions, you will also need to know a lot about key biophysiologically relevant actions. These questions are more of the common sense type, but they include:

Explore adaptive and maladaptive patterns in diet

- What do you eat that is healthy/unhealthy in an average day?
- How often and when do you overeat, or restrict what you eat?
- What do you drink? And how much?

Explore adaptive and maladaptive patterns in exercise

- Do you exercise? How often?
- What type of exercise do you do?
- How intensely do you exercise?
- How long have you been exercising/not been exercising?

Explore problems in sleep

- How well do you sleep?
- Do you experience difficulty falling asleep?
- What time do you go to sleep/wake up?
- Do you feel rested after sleeping?

Explore problems in other health-related habits

- Do you take any drugs? If so, what, how often, and how much?
- How much time in a day do you spend sitting?
- Do you meditate? If so, how often and for how long?
- How much time do you spend outside?
- How do you relax?

Action Step 6.1 Biophysiological Level

Let's return to the problem area you identified in your own life. Consider the three sets of guiding questions above and answer each related to selection, variation, and retention. Do the answers appear to be of relevance to your problem? If so, write about how these areas may restrict or foster healthy variation and the selection or retention of gains.

Example

Problems in variation: When I get scared, I notice my stomach tightening. Everything in me feels like it's getting pulled together. My heart beats faster, I tend to sweat more, and I notice that I get fidgety.

Problems in selection: I assume it's my body's way of preparing myself for danger. My body wants to protect me, but it actually makes it harder for me.

Problems in retention: When my fear gets to be too much, I just leave. I almost always let my fear control me, and therefore the fear and the biophysiological symptoms remain (or even grow stronger). In my struggle, I'm much too agitated to calm down and relax.

Guiding Questions – Sociocultural Level

Explore problems in variation--What sociocultural patterns show up for the client when they are in their struggle, or fail to appear that might be helpful? Is there any sense of rigidity or a lack of healthy variation in the sociocultural level?

Explore problems in selection--What are the functions of problematic sociocultural patterns in the client's network? If or when more adaptive forms of the sociocultural level appear, what functions might these patterns serve?

Explore problems in retention--How do these dominant sociocultural patterns support, facilitate, or maintain the client's problems in the network model? In the case of more adaptive sociocultural patterns, why are they not retained when they occur? What other features of the network are interfering with retention of sociocultural gains that may occasionally occur?

In order to explore these key questions, you will also need to know a lot about key socially and culturally relevant actions. These questions are more of the common sense type, but they include:

Explore issues in cultural beliefs

- What is your cultural background?
- What are your religious beliefs?
- How does your culture think about (insert critical topic of relevance to the network)?
- How are problems such as these discussed with your family and friends?
- Do you feel as though you are violating cultural norms or that you would need to do so in order to address this problem area?

Explore problems in social support

- How would you describe the relationship with your family and friends?
- How openly can you be yourself with your family and friends?
- How many close friends do you have?
- Whom do you reach out to for personal problems?

Explore problems in stigma

- What was your experience with prejudice?
- Have you been on the receiving end of prejudice?
- In which ways have you been stigmatized?
- How did prejudice affect you personally?

Action Step 6.2 Sociocultural Level

Let's return to the problem area you identified in your own life. Consider the three sets of guiding questions above and answer each. Do the answers appear to be of relevance to your problem? If so, write about how these areas may restrict or foster healthy variation and the selection or retention of gains.

Example

Problems in variation: Ever since high school, I have believed that there are "winners" and "losers." And if you're not one of the popular kids, you're a loser. If I want to be a winner, I have to be confident and charming and witty.

Problems in selection: If I explain the world to myself in these simple black/white terms, it gives me a false sense of security, because even though I end up being a loser, at least I know where I belong. Also, it gives me a strategy to feel better about myself: be more confident and more charming.

Problems in retention: The belief that there are "winners and losers" gets reinforced whenever I act on it (either by overcompensating to be a winner or by retreating to avoid feeling even more like a loser). The paradigm keeps itself in place.

The Problem...

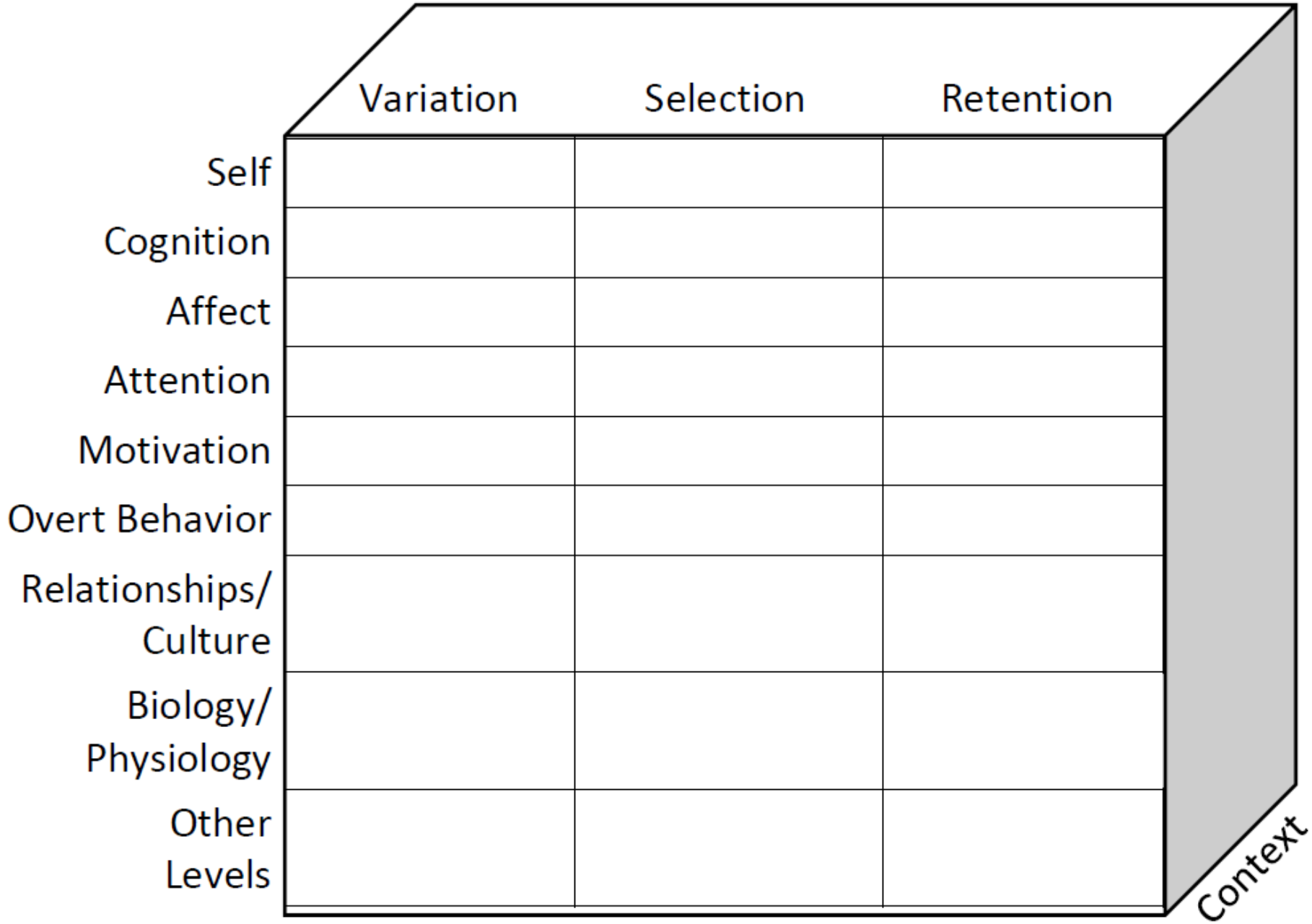
Not everybody will benefit from the protocol!

How can we effectively treat every single person?

What works for whom and why?

Strategies

- Contingency management
- Stimulus control
- Shaping
- Self-management
- Arousal reduction
- Coping and emotion regulation
- Problem solving
- Exposure strategies
- Behavioral activation
- Interpersonal skills
- Cognitive reappraisal
- Modifying core beliefs
- Cognitive defusion
- Experiential acceptance
- Attentional training
- Values choice and clarification
- Mindfulness practice
- Enhancing motivation
- Crisis management and treating suicidality

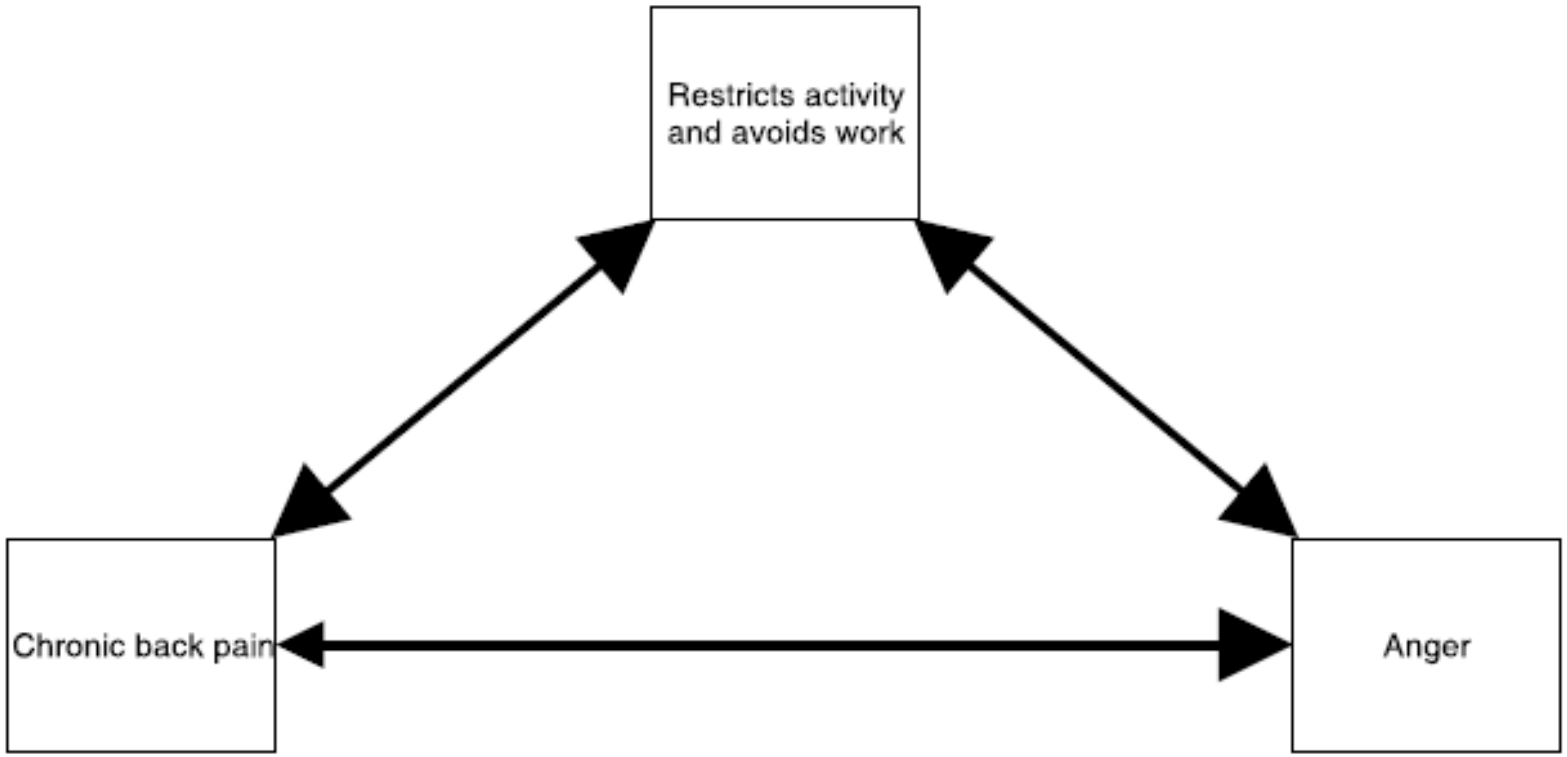

Variation
Selection
Retention
Self
Cognition
Affect
Attention
Motivation
Overt Behavior
Relationships/
Culture
Biology/
Physiology
Other
Levels
Context

The Case of Maya

- Maya is a 30 year old nurse working in a hospital.
- One day, she had an accident where he slipped and fell in the storage room.
- As a result, she now suffers from chronic back pain, which cases her to restrict activities and to avoid work.
- She is angry and resents her superiors, because she had warned them about the safety hazard in the cluttered storage room – but to no avail.
- She focusses a lot on his pain, ruminates about the unfairness, and worries that „it may never go away“.
- She is also scared of re-injuring himself, and so she barely leaves the house.

Let’s Build Her Network

- What is the primary problem?
- What is are obvious mediators?


Restricts activity and avoids work
Chronic back pain
Anger

MAYA'S STRUGGLE

Therapist: What brings you here today?

Maya: Well, I was told by a friend from work that you might be able to help. And at this point I'm really at my end. So here I am. I'll try anything.

Therapist: You'll try anything? And how do you think I could help you?

Maya: Isn't that your job? I mean, I've got this constant pain in my back, and sometimes it hurts so much that I can barely get out of bed, let alone go about my day or go to work or anything. I really don't know what to do anymore. It just makes me so angry, and I'm here to find out how you can help me.

Therapist: Tell me more about this back pain. How and when did that start?

Maya: About six months ago, I had this injury at work. I'm a nurse and I work in the intensive care unit. And I often have to get supplies for the patients from the storeroom. And so about six months ago, I went to get supplies as usual, and I slipped and fell on my back. And ever since then, I have this excruciating pain that just won't go away.

Therapist: I'm sorry that this has happened to you. How do you normally deal with the pain?

Maya: It's just awful. It hurts so much, and it makes everything so much harder. I mean, I barely go to work anymore. The pain is just always there, and it makes me worry so much, like *What if it stays like this? What if it will never go away?* and so on…

Therapist: So you spend a lot of time thinking about whether the pain will stay.

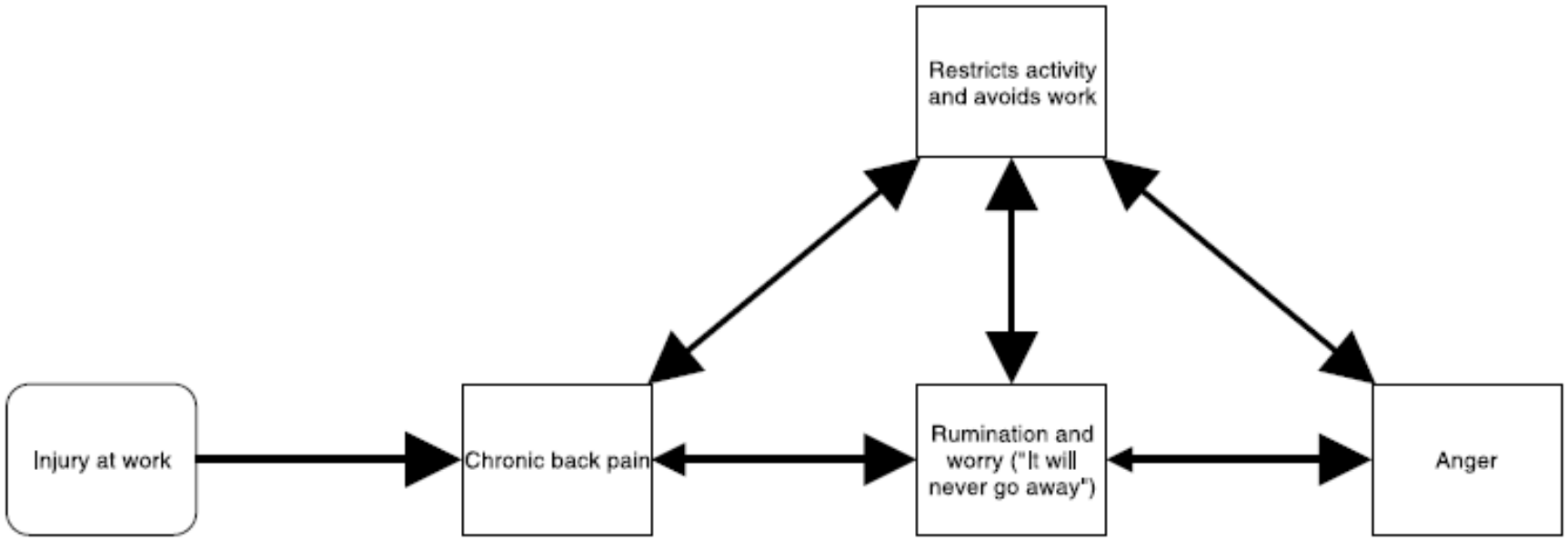
Maya: Yes. Exactly.

Therapist: And if I would watch you from the outside when you are in the middle of worrying, what would I see you do?

Maya: Not much, I can tell you. I just sit there. Caught up in my own head. And I don't do anything else really.

Therapist: And is this helping you, or is this part of the problem?

Maya: It's definitely part of the problem. When I stay home and do nothing, I just have more time to worry and ruminate. And it just makes me so angry about everything.


Restricts activity and avoids work
Injury at work
Chronic back pain
Rumination and worry ("It will never go away")
Anger

Therapist: And how has your condition affected your work?

Maya: Well, I don't work as much as I used to, because I just cannot. I literally cannot. But it really serves them right.

Therapist: How do you mean?

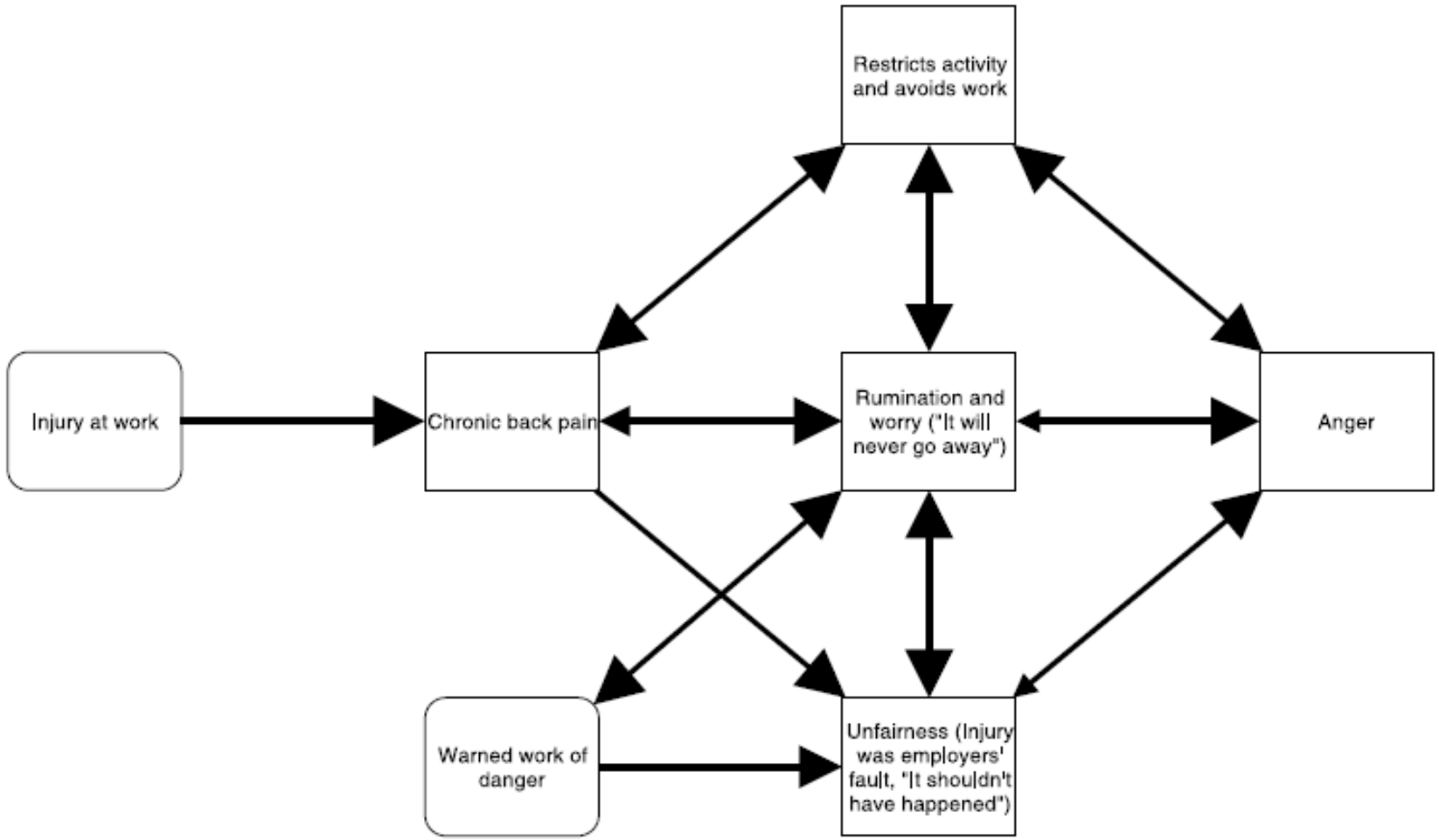
Maya: I mean, I told my supervisors about this cluttered storeroom again and again. And they just brushed me off, said they are going to do something, and nothing ever happened. The room was a safety hazard, and it was only a matter of time until something happened.

Therapist: So you think the accident was a result of the negligence of your supervisors, and in a way "it shouldn't even have happened."

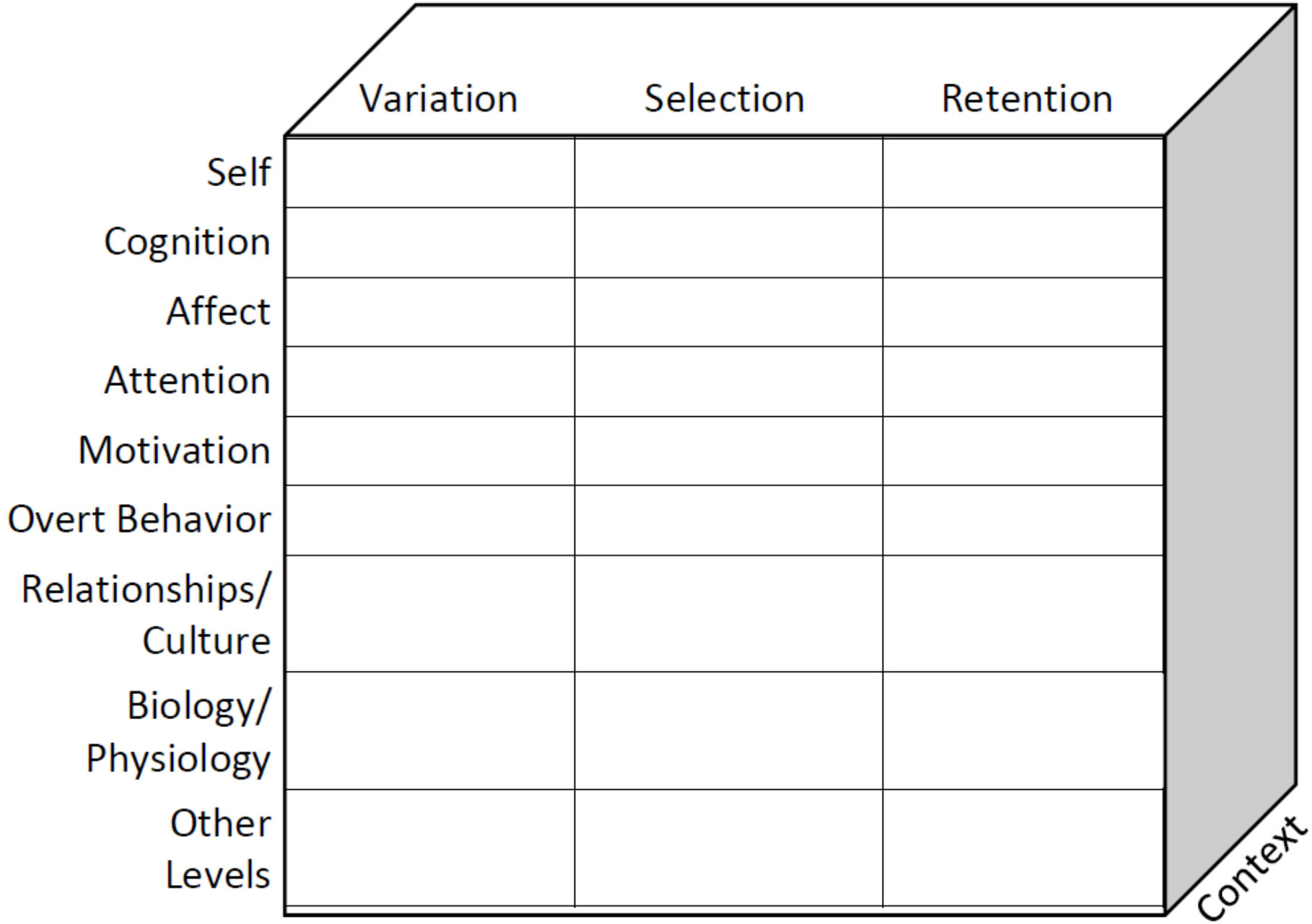
Maya: Yes. It definitely happened because of my bosses. I mean, it makes me angry just thinking about how unfair it is.

Therapist: And when this sense of unfairness comes up, does it make things easier, or do things become harder?

Maya: I know it doesn't really help. I definitely feel worse then. But I mean, it's true though. It really was their fault, because they didn't take me seriously. I mean, I warned them at least on three occasions!


Restricts activity and avoids work
Injury at work
Chronic back pain
Rumination and worry ("It will never go away")
Anger
Warned work of danger
Unfairness (Injury was employers' fault, "It shouldn't have happened")

The Cognitive Dimension


Variation
Selection
Retention
Self
Cognition
Affect
Attention
Motivation
Overt Behavior
Relationships/
Culture
Biology/
Physiology
Other
Levels
Context

Guiding Questions – Cognition

Explore problems in variation--What are the thoughts (and strategies for dealing with thoughts) that show up for the client when they are in their struggle? Which ones have become dominant? Is there any sense of rigidity present in particular cognitions (e.g., dominant "schemas" or repetitive negative thinking) or forms of adjustment to them (e.g., treating them as all literally true)?

Explore problems in selection--Which functions do these thought patterns or forms of adjustment to thoughts serve? Begin with dominant, repetitive, and maladaptive ones, but then move on to more adaptive thoughts or forms of adjustment, however infrequently they make occur.

Explore problems in retention--How do these dominant thought patterns and forms of adjustment maintain and facilitate the client's problems in the network model? In the case of thoughts and adjustment patterns that are adaptive, why are they not retained when they occur? What other features of the network are interfering with retention of gains that may occasionally occur?

Action Step 4.1 Cognition

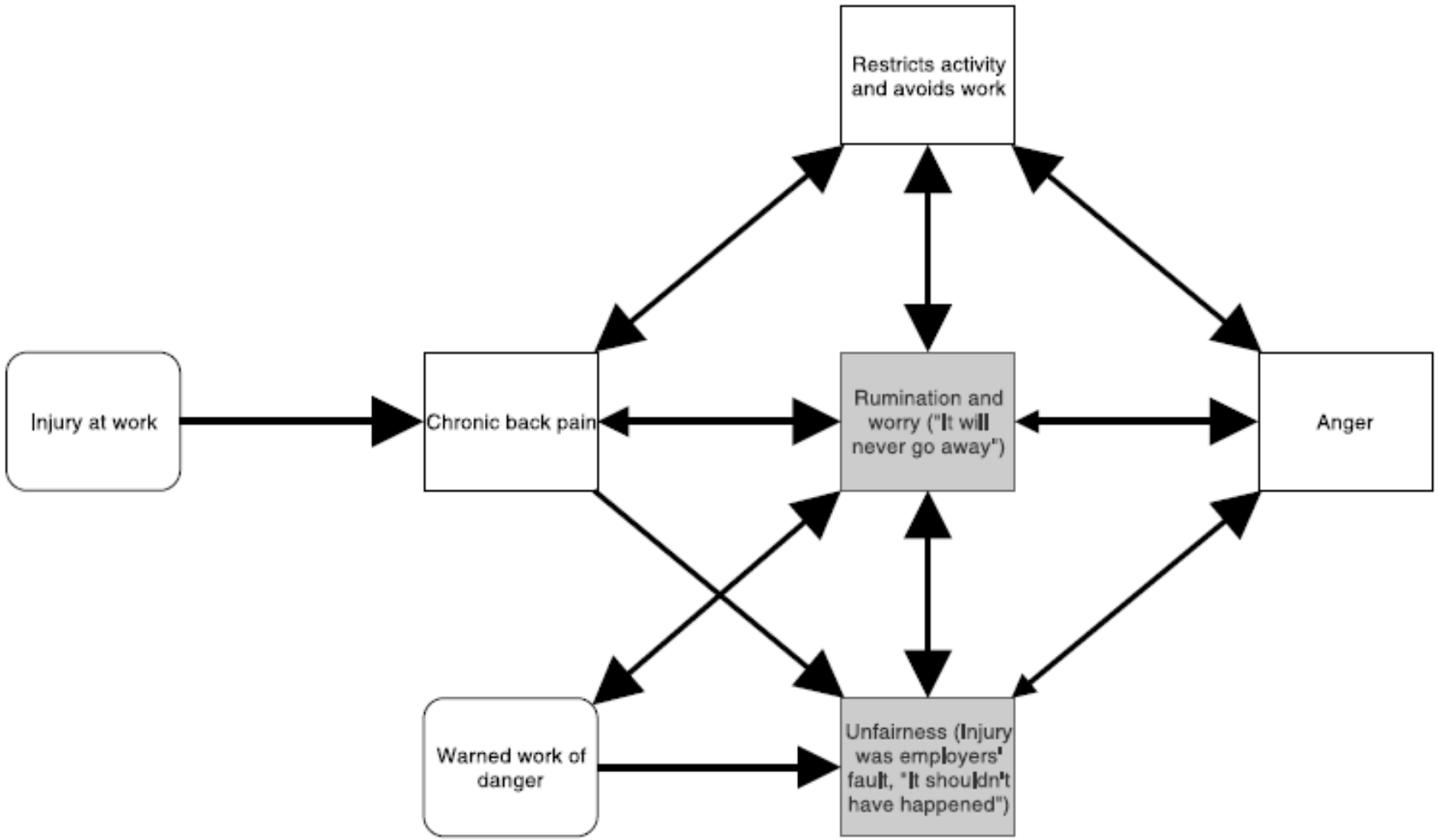
Let's return to a problem area you identified in your own life in previous chapters. In the "guiding questions," we are asking directly about variation, selection, and retention issues in the area of cognition. See if you can apply the three sets of guiding questions above to the domain of cognition in your own problem area. Write a paragraph about each.

Example

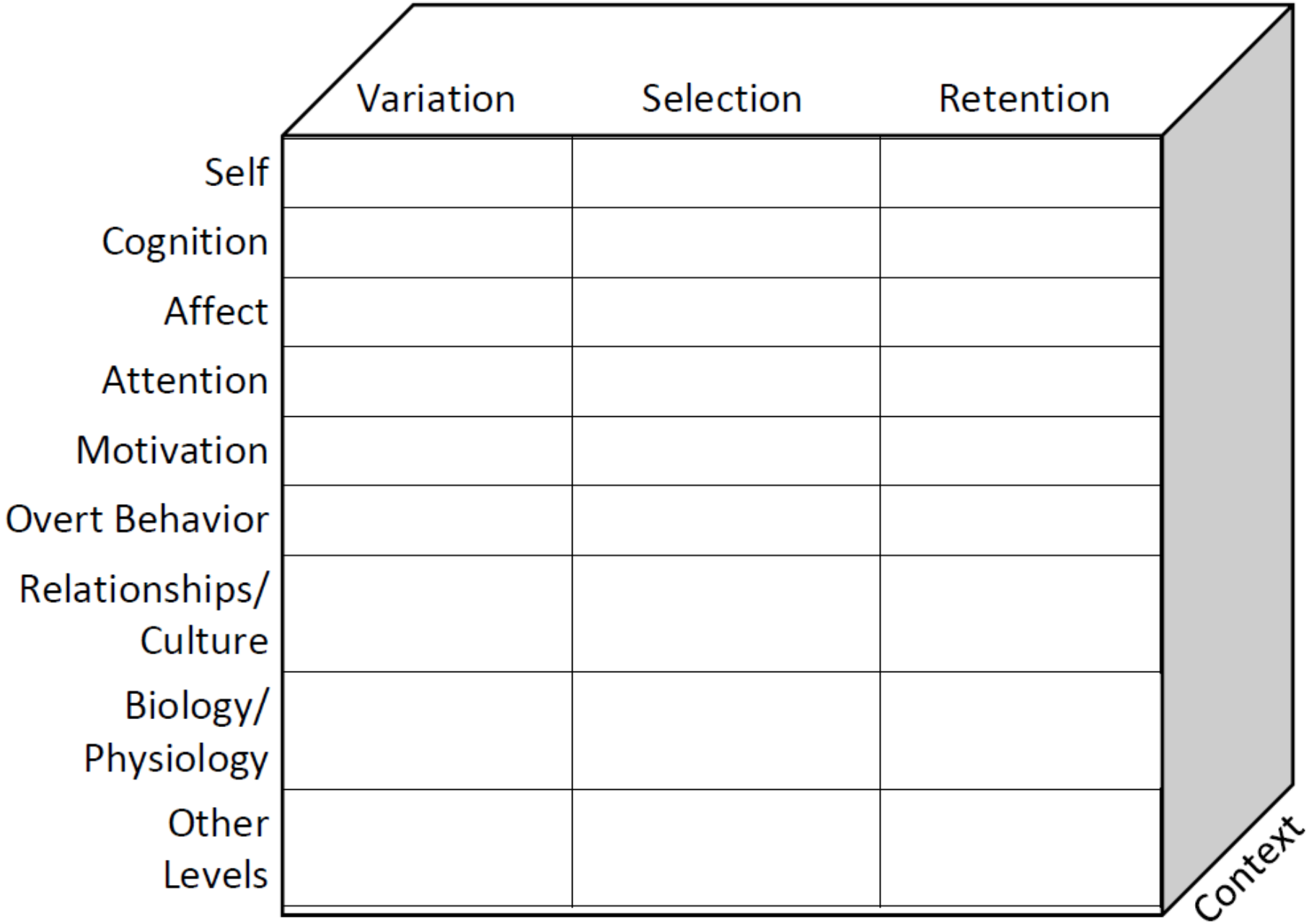
Problems in variation: Thoughts that show up in the middle of my struggle are *I'm embarrassing myself, They won't like me, I just don't have it in me, What am I even doing?* Even though there is a small part of me that knows that this is all just my inner dictator, in the moment it feels like the inevitable truth.

Problems in selection: These thoughts might prevent me from being rejected by others—by rejecting myself first. The alternative, more adaptive thoughts serve to prevent me from rejecting myself and help me stay in touch with what matters to me, namely being present in social situations, potentially building important relationships.

Problems in retention: When I reject myself first, I cannot experience getting accepted as I am—either by myself or by others. The thought ***Others will not like me*** remains unchallenged, because I do not show my real self to others in the first place. Alternative, adaptive thoughts are available but hard to reach because fear diminishes their believability.


Restricts activity and avoids work
Injury at work
Chronic back pain
Rumination and worry ("It will never go away")
Anger
Warned work of danger
Unfairness (Injury was employers' fault, "It shouldn't have happened")

The Affective Dimension


Variation
Selection
Retention
Self
Cognition
Affect
Attention
Motivation
Overt Behavior
Relationships/
Culture
Biology/
Physiology
Other
Levels
Context

Therapist: You mentioned you often restrict yourself when your pain and anger become too much. And you just said that it's not really helping, and yet you continue doing it, right? So what would you say is good about staying home? If you had to find a reason, what would you say?

Maya: Well, at least I don't get into any more accidents. I'm actually scared of reinjuring myself. I'm afraid of what it might do to my body. And next time, I might end up needing a wheelchair, or even worse.

Therapist: And so your mind says, ***It's better to stay home. Just to be safe.***

Maya: Yes, exactly.

Therapist: And are there situations when this fear of reinjuring yourself gets worse? When do you feel it the most?

Maya: Well, it comes up almost anywhere. I used to be especially scared when I thought about returning to work, but now this fear shows up when I get into the supermarket, or even when I get out of the shower or out of bed. I feel my back pain, and I'm immediately scared.

Guiding Questions – Affect

Explore problems in variation--What are the emotions and strategies for adjusting to them that show up for the client when they are in their struggle? Which ones have become dominant? Is there any sense of rigidity present in particular emotional patterns and/or forms of adjustment to them (e.g., a restricted range of affect, dominant emotion regulation strategies)?

Explore problems in selection--Which functions do these emotions and patterns of responding to emotions serve? Begin with dominant, repetitive, and maladaptive ones, but then move on to adaptive forms, however infrequently they may occur.

Explore problems in retention--How do these dominant patterns of emotion and adjustment to emotion facilitate the client's problems in the network model? In the case of emotions and adjustment to emotions that are adaptive, why are they not retained when they occur? What other features of the network are interfering with retention of gains that may occasionally occur?

Action Step 4.2 Affect

We will return to the same problem area you chose in Action Step 4.1, but we'll now address emotions and patterns of responding to emotions.

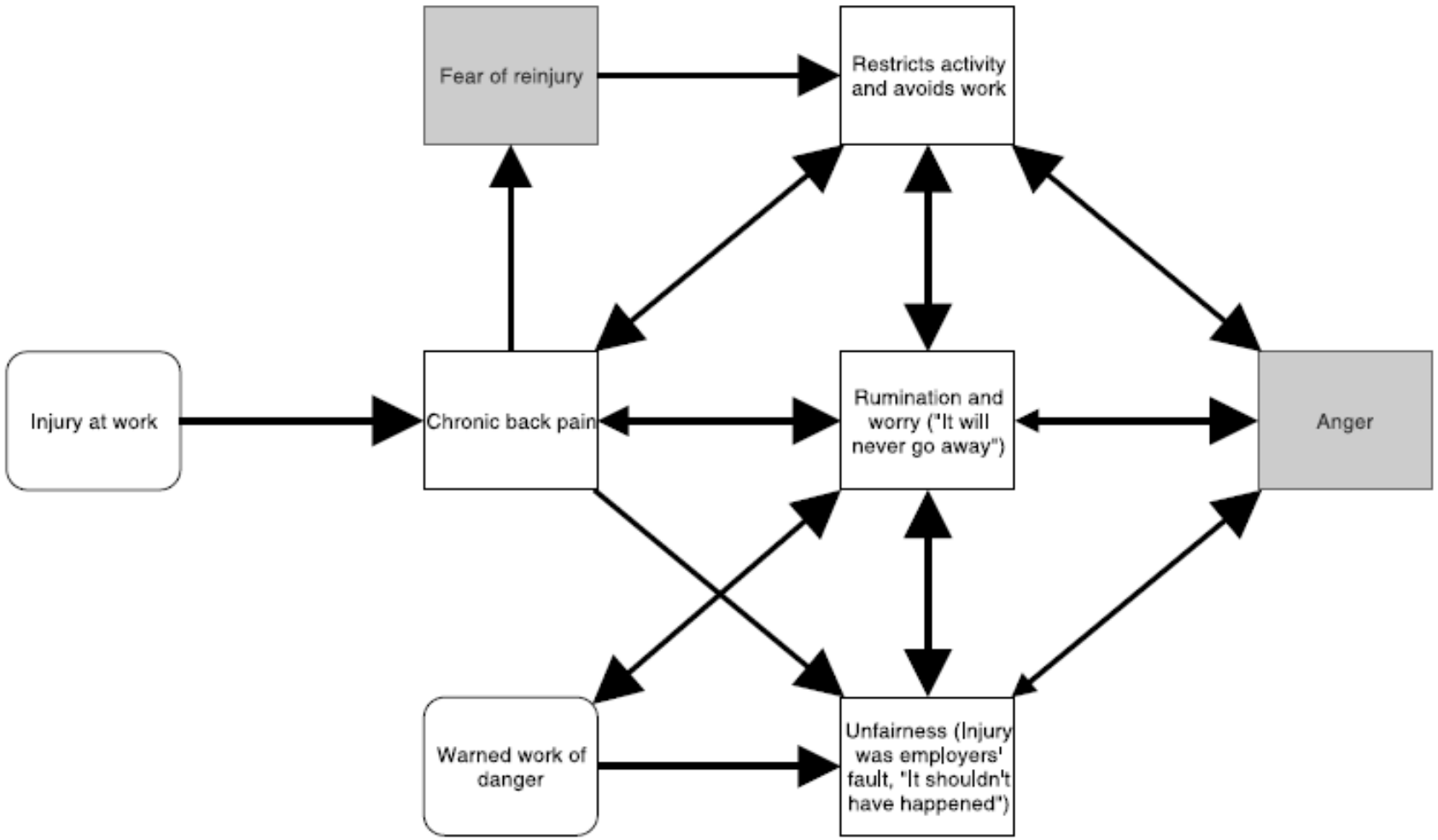
See if you can apply the three sets of "guiding questions" above to the affective domain in your problem area. Write a short paragraph about each.

Example

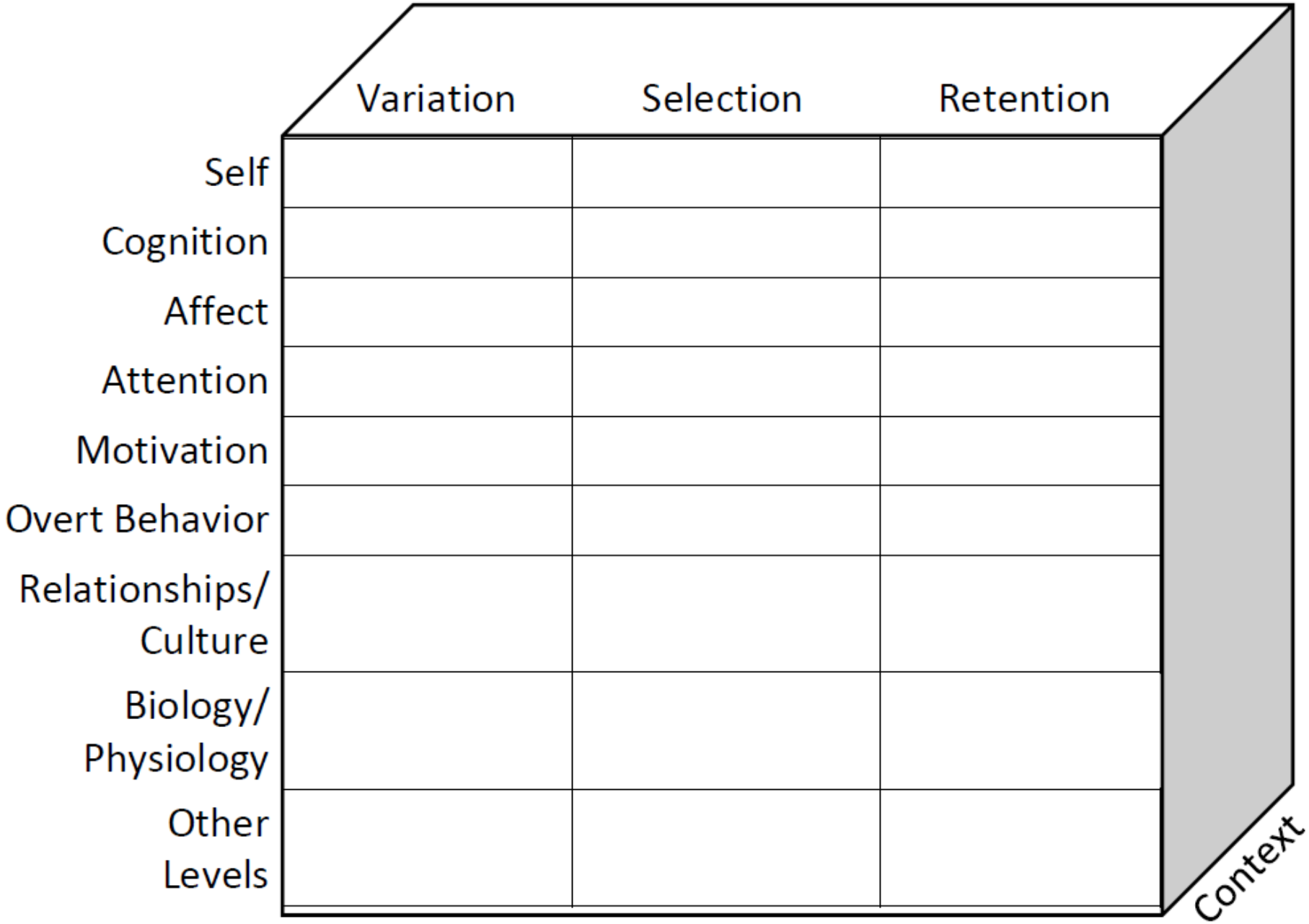
Problems in variation: Fear, anxiety, and nervousness show up when I enter a conversation with others (especially strangers, attractive people, and authorities). These emotions become stronger when I actually talk to them.

Problems in selection: The fear signals me that something is dangerous and I might get hurt. By having these fears and removing myself from the situation, I can avoid getting hurt. No matter how irrational this seems, the logic holds true in the moment in my mind.

Problems in retention: When I escape a situation because of fear, I never experience the reality that there is nothing to be scared about. I don't experience the fact that getting rejected doesn't hurt nearly as much as I imagine it will. As a result, the fear persists. And even more, the nervousness may even grow stronger the more consistently I escape. After all, if the situation wasn't truly scary, I wouldn't have to escape in the first place.


Fear of reinjury
Restricts activity and avoids work
Injury at work
Chronic back pain
Rumination and worry ("It will never go away")
Anger
Warned work of danger
Unfairness (Injury was employers' fault, "It shouldn't have happened")

The Attentional Dimension


Variation
Selection
Retention
Self
Cognition
Affect
Attention
Motivation
Overt Behavior
Relationships/
Culture
Biology/
Physiology
Other
Levels
Context

Therapist: Can I ask you to do a little exercise with me? It only takes ten seconds, but it might be insightful.

Maya: Yes, sure.

Therapist: Great. In a moment, I will set the timer for ten seconds, and during that time, I want you to count everything you can see in this room that is brown. And when I say stop, I want you to close your eyes. Ready?

Maya: Yes, I'm ready.

Therapist: Alright, go! Look for brown, look for brown, look for brown *(waits ten seconds)*. And stop. Now, with your eyes closed, please tell me everything you saw that is red!

Maya: *(chuckles)*

Therapist: You can open your eyes again. It's difficult isn't it?! It's a silly little exercise, but it shows that whatever we focus on will take center stage in our mind, while we miss out on a lot of other things around us.

Maya: I get it, but what does this have to do with me?

Therapist: Well, when you are in the middle of your struggle, what do you focus on?

Maya: Hm, I'm not sure. I would think my back pain. And how hard and unfair this whole mess is, and how angry it makes me.

Therapist: And when you focus on your pain like this, does it get better or worse?

Maya: I can definitely feel it more when I fully focus on it.

Therapist: And how about these thoughts of "this is unfair" and "it shouldn't have happened"? Do these thoughts get bigger, smaller, or stay the same when you focus on them?

Maya: They definitely get bigger. It feels so heavy sometimes.

Therapist: I understand. And what would you say, when are you most likely to focus on your pain?

Maya: I think when it gets really hard for me, and when I get caught up in my own head. You know, it feels like there's nothing else then.

Guiding Questions – Attention

Explore problems in variation--Where does the client put their attentional focus when they are in their struggle? Is there any sense of rigidity present in their attentional process (e.g., being unable to maintain a focus or to shift focus from a particular area, being drawn into the interpreted past or imagined future while missing the ongoing present, or being excessively broad or narrow in attentional focus)?

Explore problems in selection--Which functions do these attentional patterns serve within the client's network of events? Begin with dominant and problematic attentional patterns, but then move on to more adaptive attentional patterns that are more flexible, fluid, and voluntary.

Explore problems in retention--How do attentional patterns facilitate the chronic occurrence of client's problems in the network model? Why are more adaptive attentional patterns not retained when they occur? What other features of the network are interfering with a healthy retention of gain?

Action Step 4.3 Attention

Consider the same problem area you have been addressing in this chapter, but now focus on attentional patterns. See if you can apply the three sets of guiding questions above to the attention domain in your problem area. Write a paragraph about each.

Example

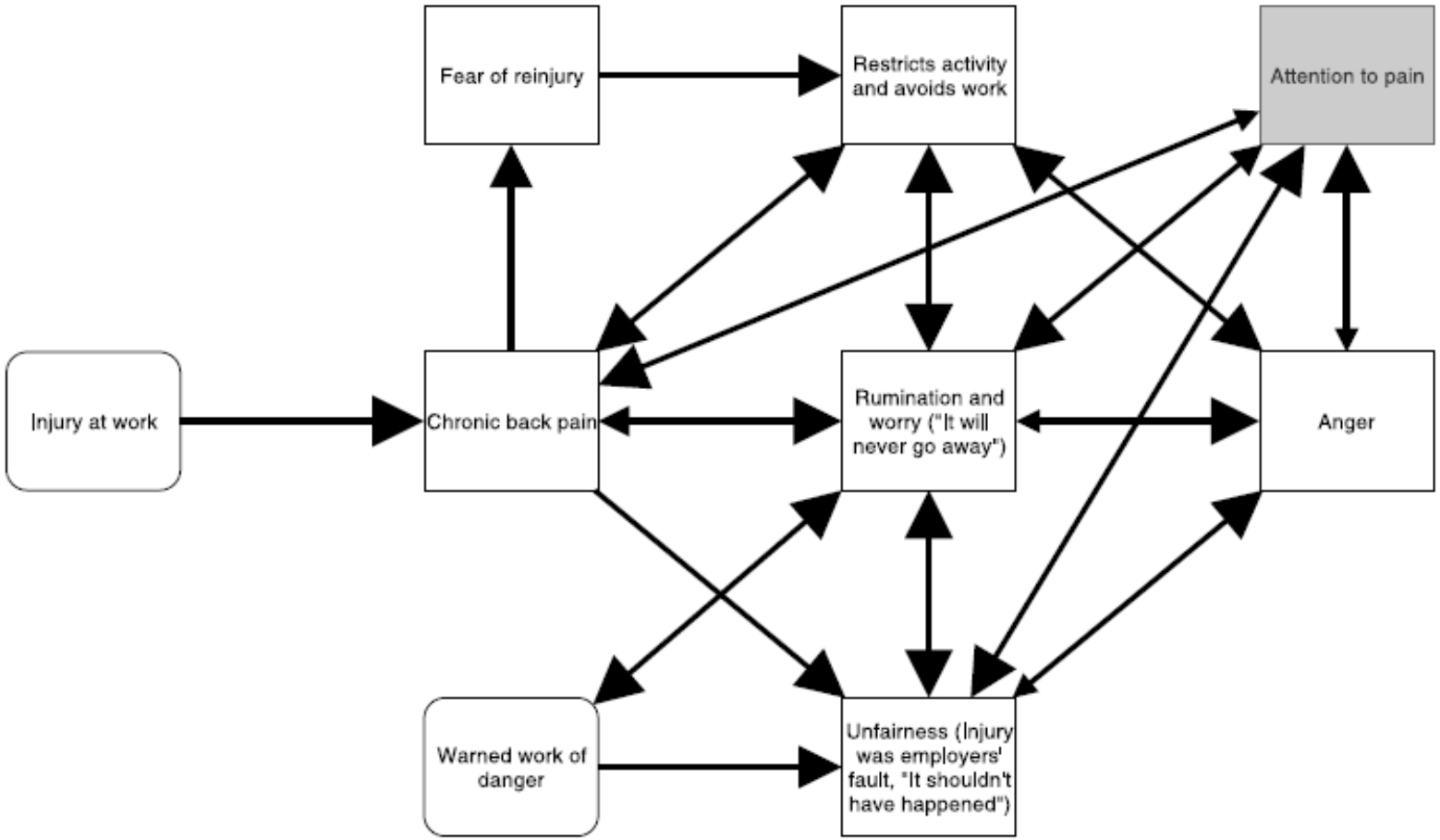
Problems in variation: When I'm inside my struggle, I focus on myself. I focus on my thoughts, my nervousness, and the weird feelings inside my body. I lose touch with what is happening around me.

Problems in selection: I believe I do not want to make any mistakes, and therefore I monitor myself much more in social settings than I would normally do. Additionally, I try to solve the problem of my fear and nervousness by thinking my way out of it, hence I focus on myself yet again.

Problems in retention: By excessively focusing on myself, I play it safe. I miss what is out there, and who knows what I might have missed, had I dared to stop monitoring myself?! The attention on myself gives me a false sense of safety that is never challenged—hence it persists. Putting the focus outside, on the other hand, seems risky, because I might say something stupid.

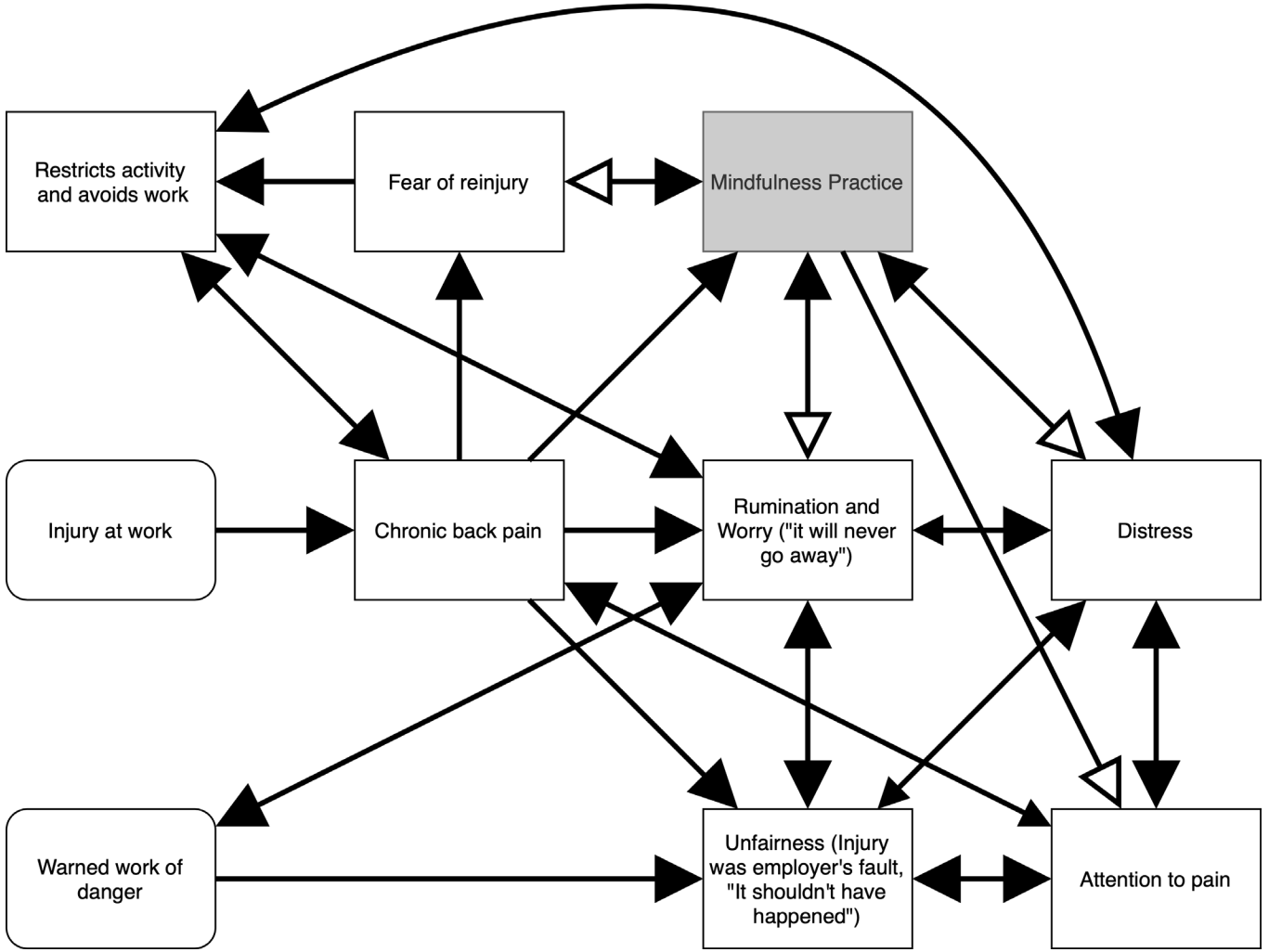
Table 4.3 Maya's EEMM: Cognition, Affect, and Attention

	Variation	Selection
Cognition	Rumination and dysfunctional thoughts of fairness	Making sense of the past; dealing with the future; social support; anger; avoidance behavior leads to more pain
Affect	Fear of pain; anger	Focus on the past makes sense of anger; avoidance behavior leads to more pain
Attention	Attention to pain	Attention to pain when feeling anger; attention to pain after thoughts of unfairness; felt pain

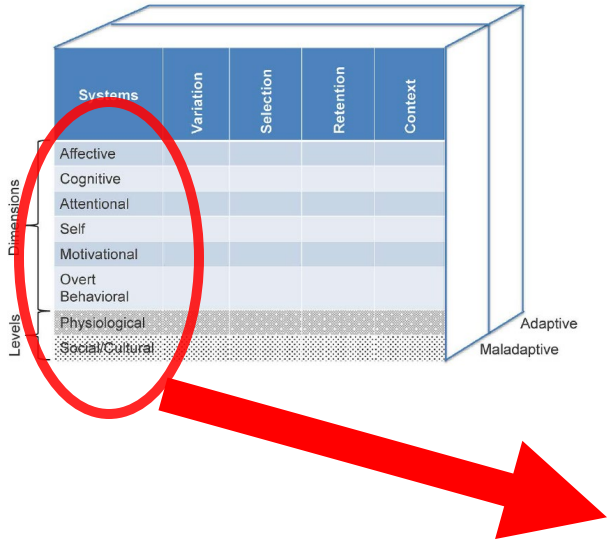

Fear of reinjury
Restricts activity and avoids work
Attention to pain
Injury at work
Chronic back pain
Rumination and worry ("It will never go away")
Anger
Warned work of danger
Unfairness (Injury was employers' fault, "It shouldn't have happened")

Let’s Try to Pertubate Her Maladaptive Network

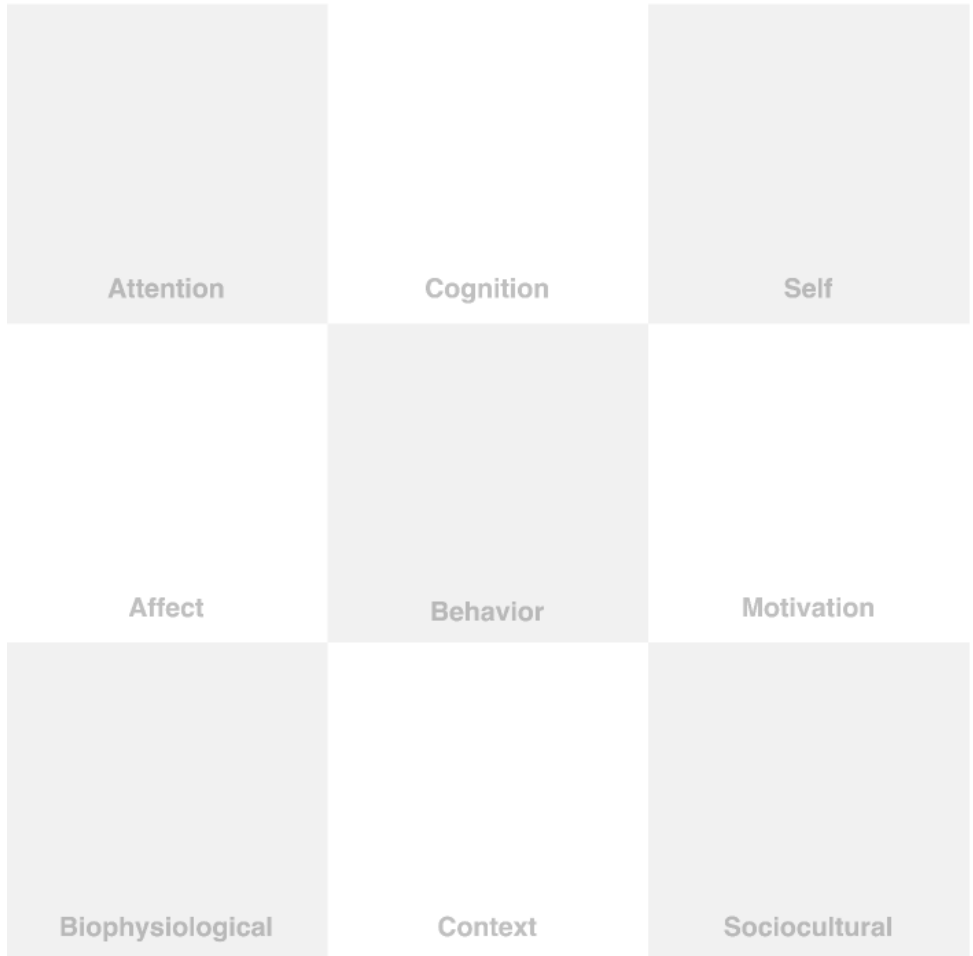
Trying out Mindfulness

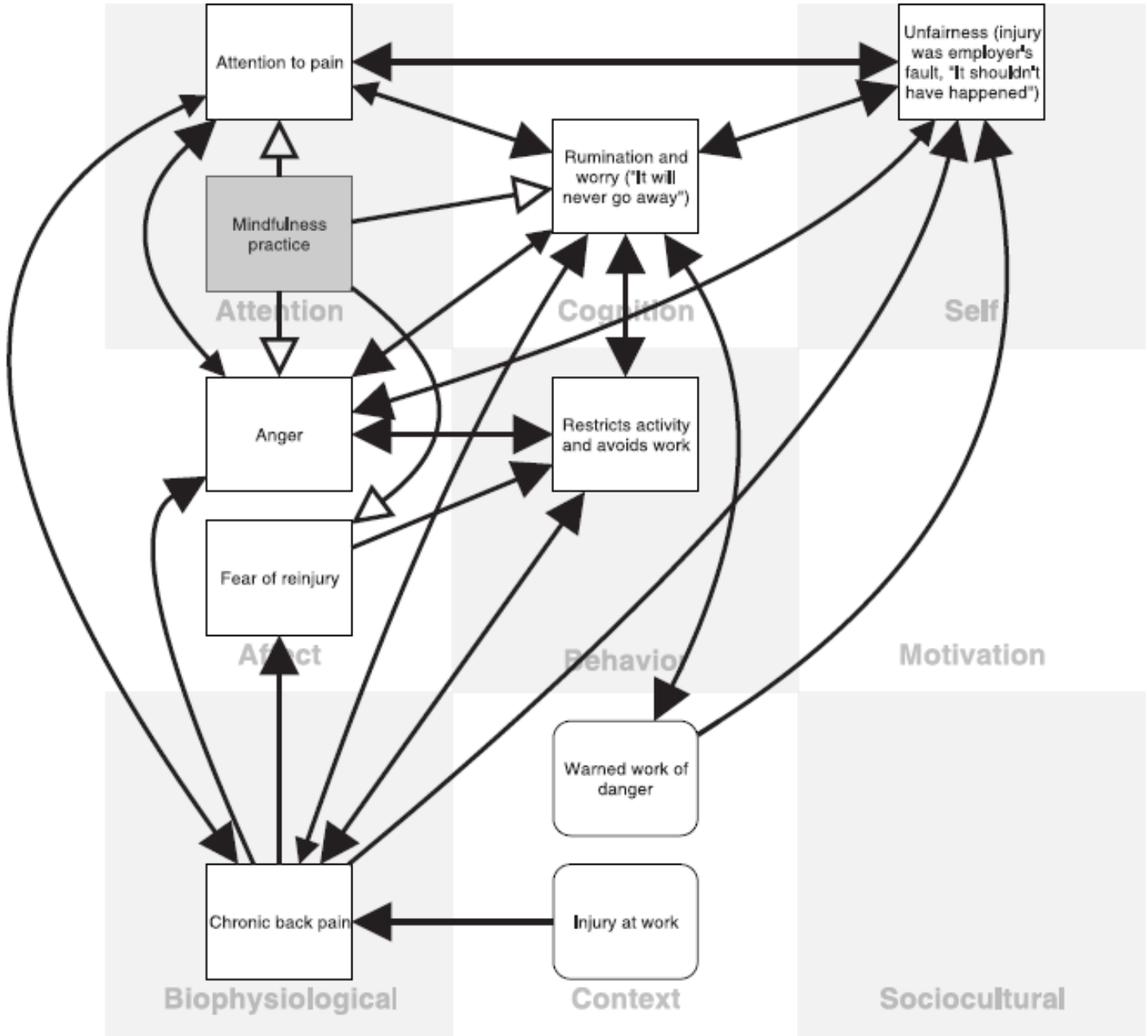


Before we continue….let's apply EEM to be systematic



Attention	Cognition	Self
Affect	Behavior	Motivation
Biophysiological	Context	Sociocultural


Attention
Cognition
Self
Affect
Behavior
Motivation
Biophysiological
Context
Sociocultural


Attention to pain
Unfairness (injury was employer's fault, "It shouldn't have happened")
Rumination and worry ("It will never go away")
Mindfulness practice
Attention
Cognition
Self
Anger
Restricts activity and avoids work
Fear of reinjury
Affect
Behavior
Motivation
Warned work of danger
Chronic back pain
Injury at work
Biophysiological
Context
Sociocultural

Let’s Probe the Network

MAYA'S MEDITATION STRUGGLE

Therapist: Maya, as we discussed, there is a good possibility that mindfulness practices will lower your fear of reinjury, rumination and worry, and anger—or at least reduce their unwelcome impact. Are you still willing to try to establish a practice?

Maya: Sure. I'm interested. Let's try it.

Therapist: That's great. But why don't we make sure that the practices actually have the intended effect. This is a bit of a hassle because I will need to ask you to keep a record of some of these things.

Maya: Oh that's quite okay; I don't mind as long it's not too much work (*laughs*).

Therapist: It won't be. But it's quite important for us to understand how these things hang together. Once we understand it, we can effectively intervene. Makes sense?

Maya: Sure.

Therapist: Great. So let's keep it as straightforward as possible so we can minimize the time you spend on it while gathering the most important information to tailor your treatment. What do you think is most important to know based on the network we developed?

Maya: Definitely my pain. I want to feel less pain.

Therapist: Absolutely. So let's include a column of pain intensity. Let's say that you rate your pain intensity on a 0–10 point scale when you meditate. Let's take a look at the network. What else seems to be important that we should record to see if our network is accurate?

Maya: I guess that I am worried about reinjuring myself and that I am thinking about it a lot.

Therapist: I agree. So let's record the following about your mindfulness practice every day for the next two weeks (*hands client the form* [see table 11]).

Table 11.2 Maya's Completed Monitoring Form—Week 1

Day and Time	Duration of Meditation (min.)	Depth of Meditation (0–10)	Fear of Reinjury (0–10)	Rumination/Worry (0–10)	Anger (0–10)	Pain (0–10)
First: Wed, 9 a.m.	10	5	9	9	9	9
Second: Wed, 3 p.m.	10	5	9	8	9	9
First: Thurs, 9 a.m.	15	6	9	9	9	9
Second: Thurs, 4 p.m.	15	6	8	9	9	9
First: Fri, 9 a.m.	20	6	8	9	9	9
Second: Fri, 3 p.m.	20	6	9	9	9	9
First: Sat, 10 a.m.	30	7	8	9	9	9
Second: Sat, 2 p.m.	30	7	8	9	9	9
First: Sun, 10 a.m.	30	7	9	9	9	9
Second: Sun, 2 p.m.	30	6	9	9	9	9
First: Mon, 9 a.m.	10	5	9	9	9	9
Second: Mon, 4 p.m.	10	6	9	9	9	9
First: Tues, 8 a.m.	20	6	9	9	9	9
Second: Tues, 6 p.m.	20	6	8	9	8	9

Therapist: Thank you for doing the meditation practices and filling out the form. How was that?

Maya: Thanks. Well, I think it went okay. I had trouble sitting for so long in a stretch, but eventually I got the hang of it.

Therapist: Great. How did you like the meditation practices?

Maya: I don't know. I am sorry to say, but I don't think it works. It really didn't do much for my pain and my concerns around it. But maybe it just needs much more time and maybe I should just keep trying.

Therapist: That's certainly a possibility. Maybe we should just keep trying it for a little longer and see how it goes. But it's also possible that this is simply not the right approach for you, and we want to make sure that we are choosing the right strategy for your problem. What do you think? Should we take a close look at it first before we decide to keep going?

Maya: Sure, makes sense.

Therapist: I want to better understand why meditating is not helping and may even make things worse. This can clarify the process we need to focus on. Could we please do the meditation here in session and you share with me every thought and image that pops into your mind as you do it? It might be easiest if I could ask you at various points what you are thinking this very moment. So when I ask, "Now?" I want you to verbalize and tell me your thoughts, images, or experiences you have at this very moment as you are doing the practice. You don't need to give an elaborate answer. You could just say something like "focus on breath" or "hear sound" or "tingling in leg," etcetera. I will ask you "Now?" at pretty random intervals every few minutes. Makes sense?

Maya: Yes.

Therapist: Great. Go!

Maya: *(Meditates)*

Therapist: *(after about two minutes)* Now?

Maya: Breath more slowly.

Therapist: Great. *(after about two minutes)* Now?

Maya: Breath more slowly.

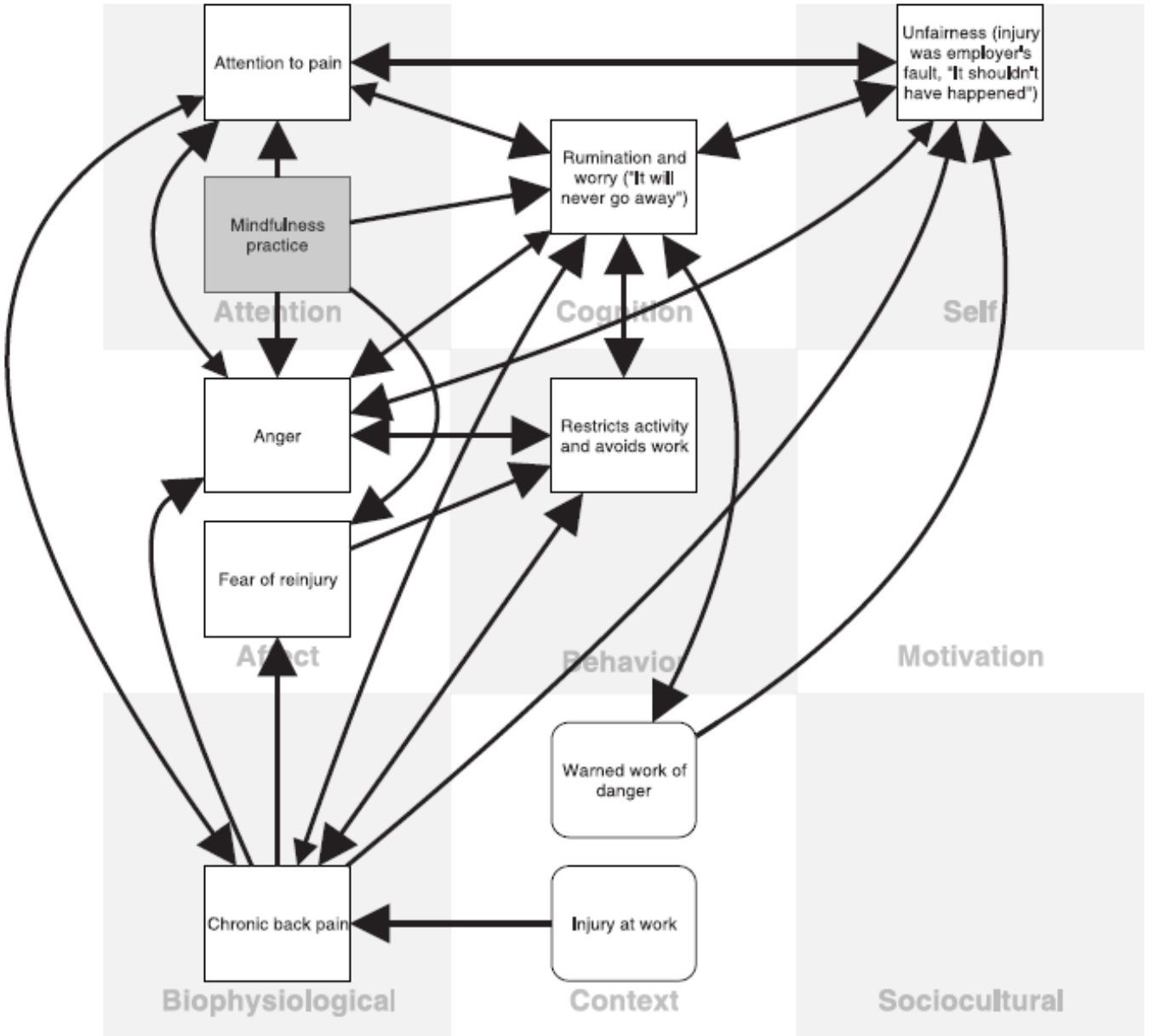
Therapist: Okay *(takes notes…after about two minutes)* Now?

Maya: Back hurts.

Therapist: Okay *(takes notes…after about two minutes)* Now?

Maya: Frustrated that back hurts. I need to shift position to make it less painful.

Redrawing the Network


Attention to pain
Unfairness (injury was employer's fault, "It shouldn't have happened")
Rumination and worry ("It will never go away")
Mindfulness practice
Attention
Cognition
Self
Anger
Restricts activity and avoids work
Fear of reinjury
Affect
Behavior
Motivation
Warned work of danger
Chronic back pain
Injury at work
Biophysiological
Context
Sociocultural

Selecting Alternative Strategies to More Effectively Pertubate the Network

Therapist: Does this network and its influence of mindfulness make sense?

Maya: Yes, I am afraid it does.

Therapist: I really don't think you need to be sorry about it. We learned something very important: meditation raises your pain and anger, and even your fear of reinjury, rumination/worry, and attention to pain. What do you think the process is through which this happens? How come meditating raises your pain experience?

Maya: Well, maybe I am not doing it right.

Therapist: I think you are doing great. Really. We were able to show that this practice, which can be quite helpful, is not working for you in your current situation. Maybe later it will work for you. But not now. So why do you think we are getting the effect we are getting?

Maya: It seems like I am concentrating too much on my pain. It's always with me. It's constantly there. I can't escape. Just sitting there makes it worse because my mind just goes there.

Therapist: It makes a lot of sense. So we could even redraw the network to show that meditation raises your attention toward pain, which in turn raises your pain experience, anger, etcetera. Is that right?

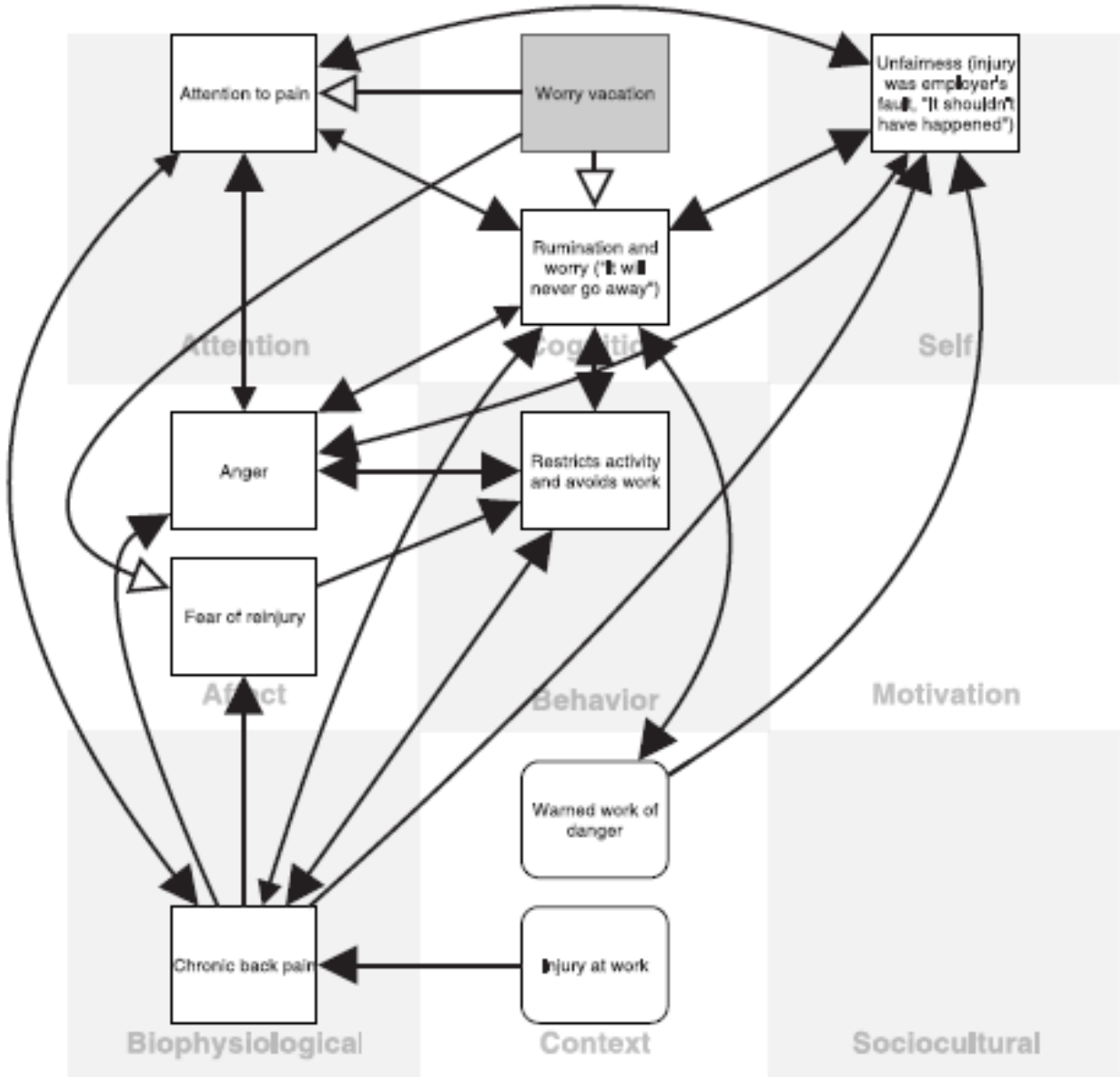
Maya: Yes.

Therapist: Okay. Knowing that, what could help you with your pain?

Maya: Well, if my mind is not constantly focused on it.

Therapist: I agree. It's very difficult to not think of something when you don't want to think of it. For example, if I told you not to think of a white bear, this white bear would turn into an intrusive image (***therapist illustrates it***). What we can do, however, is to take some vacation from your worrying. What do you think?

Maya: That would be great! But how I would I do that?


Attention to pain
Worry vacation
Unfairness (injury was employer's fault, "It shouldn't have happened")
Rumination and worry ("It will never go away")
Attention
Cognition
Self
Anger
Restricts activity and avoids work
Fear of reinjury
Affect
Behavior
Motivation
Warned work of danger
Chronic back pain
Injury at work
Biophysiological
Context
Sociocultural

Day and Time	Worry Vacation (min.)	Feeling Good (0–10)	Fear of Reinjury (0–10)	Rumination/Worry (0–10)	Anger (0–10)	Pain (0–10)
First: Second:						

Exploring Other Strategies to Pertubate the Network

Treatment Kernel	Target(s)	Likelihood of Success (0–10)
Contingency management		
Stimulus control		
Shaping		
Self-management		
Problem solving		
Arousal reduction		
Coping/Emotion regulation		
Exposure		

Treatment Kernel	Target(s)	Likelihood of Success (0–10)
Behavioral activation		
Interpersonal skills		
Cognitive reappraisal		
Modifying core beliefs		
Cognitive defusion		
Experiential acceptance		
Attentional training		
Values choice and clarification		
Mindfulness practice		
Enhancing motivation		
Crisis management		

Guiding Questions – Course of Treatment

Understand the Problem

- What are the main problems/critical nodes?
- How are the nodes functionally connected?
- Where are the self-sustaining and positive feedback loops?
- Have all EEMM dimensions been considered?

Plan the Treatment

- What are the short-term goals?
- What are the long-term goals?
- What are the elements in the network that prohibit or interfere with these goals?
- What are possible strategies to intervene effectively?

Implement Strategies

- How do you tailor a particular strategy to the client's particular network?
- How do you ensure that the strategy is implemented correctly?
- Can the strategy be practiced in your office?
- How do you monitor the implementation?

Examine Effect of Strategy on Network

- How do you best quantify the change?
- Is the change process moving along in the expected direction?
- Do the nodes show the expected degree of covariation (and directionality)?
- Should the strategy/network be revisited/revised?

Let’s Pertubate Your Network

frontiers | Frontiers in Psychology

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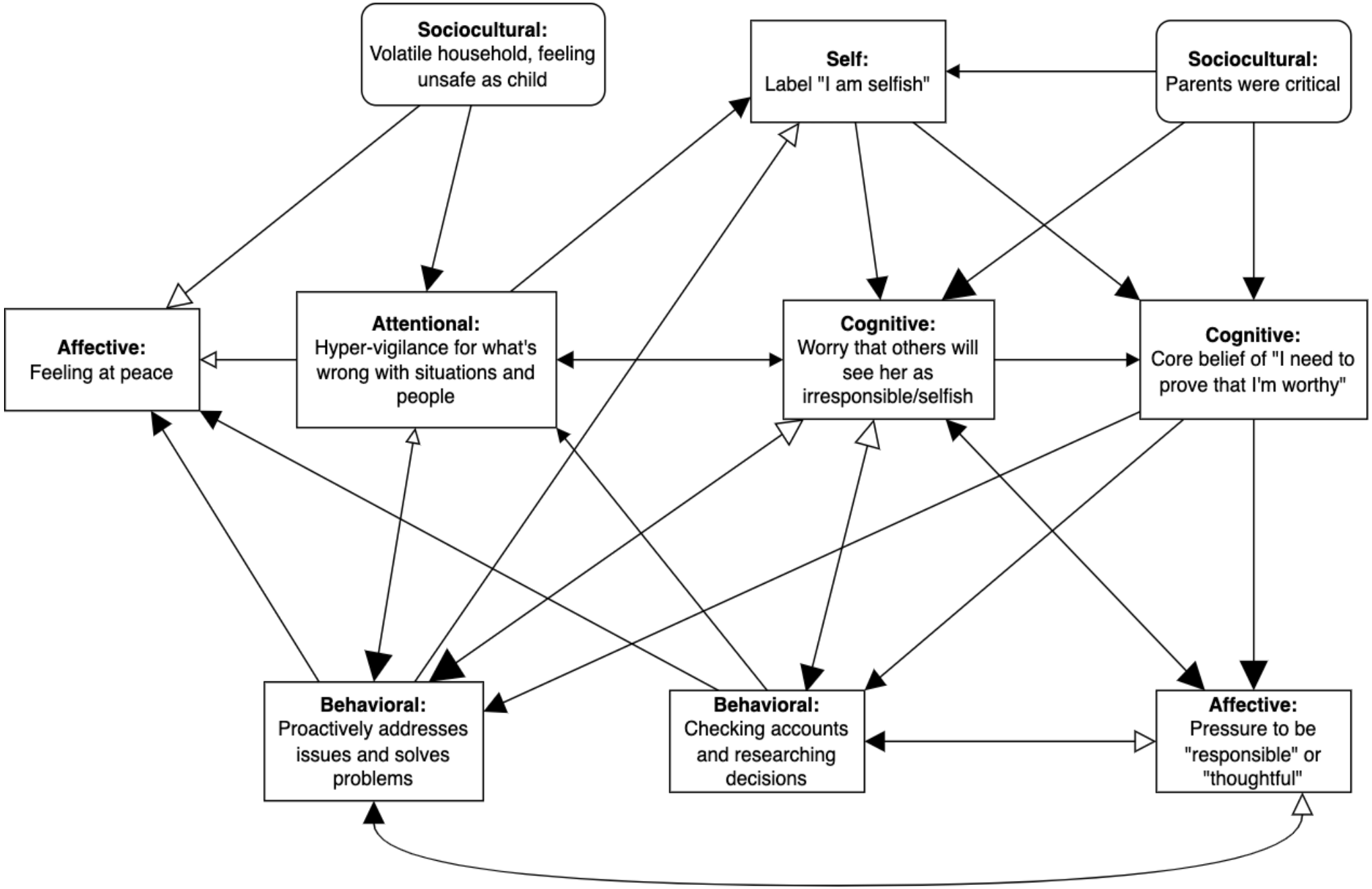
A process-based approach to cognitive behavioral therapy: A theory-based case illustration

Clarissa W. Ong[1,2]*, Steven C. Hayes[3]* and Stefan G. Hofmann[2,4]*

"Psyche Award for Most Valuable Paper with broad appeal" from the *Journal of Contemporary Psychotherapy.*

Amy (she/her) was a cisgender White woman in her late 30s working full-time at a university administrative job while managing a consultation business part-time. She reported **"incessant checking" of financial and email accounts, avoidance of going outside due to compulsion to report public hazards to local authorities, indecision around her own career path, and rigid adherence to standards around being "responsible."** Her initial treatment **goals were to clarify her values, increase physical activity, develop a plan for leaving her full-time job to focus on her consulting business, be more present in interpersonal interactions, and maintain healthy interpersonal boundaries with loved ones**.


Sociocultural:
Volatile household, feeling unsafe as child
Self:
Label "I am selfish"
Sociocultural:
Parents were critical
Affective:
Feeling at peace
Attentional:
Hyper-vigilance for what's wrong with situations and people
Cognitive:
Worry that others will see her as irresponsible/selfish
Cognitive:
Core belief of "I need to prove that I'm worthy"
Behavioral:
Proactively addresses issues and solves problems
Behavioral:
Checking accounts and researching decisions
Affective:
Pressure to be "responsible" or "thoughtful"

	Start	End	Frequency	Items
Behavioral Goals	Baseline	1-month follow-up	Once a day	• Since the start of today… How many minutes did you use your Mail app for? • Since your last response… How many minutes have you been engaged in physical activity? Estimate as best as you can.
Network Nodes (Initial)	Baseline	Midtreatment	4 times/day	In the past 3 hours, to what degree did you… • Focus on what's wrong (with yourself others situations environments etc.)? • Feel at peace? • Feel pressure to be responsible or thoughtful? • Act on a compulsion to solve problems or take care of others?
Network Nodes (Revised)	Mid-treatment	Posttreatment	4 times/day	In the past 3 hours, to what degree… • Did you feel empowered? • Did you act in ways that serve your well-being? • Did you demonstrate flexibility regarding standards? • Were you aware of how you were feeling? • Did you build connection with people?
Progress	Mid-treatment	Posttreatment	Once a day	Considering your choices and actions in the past 3 days, to what extent... • Are you making progress on your goals? • Do you trust yourself?

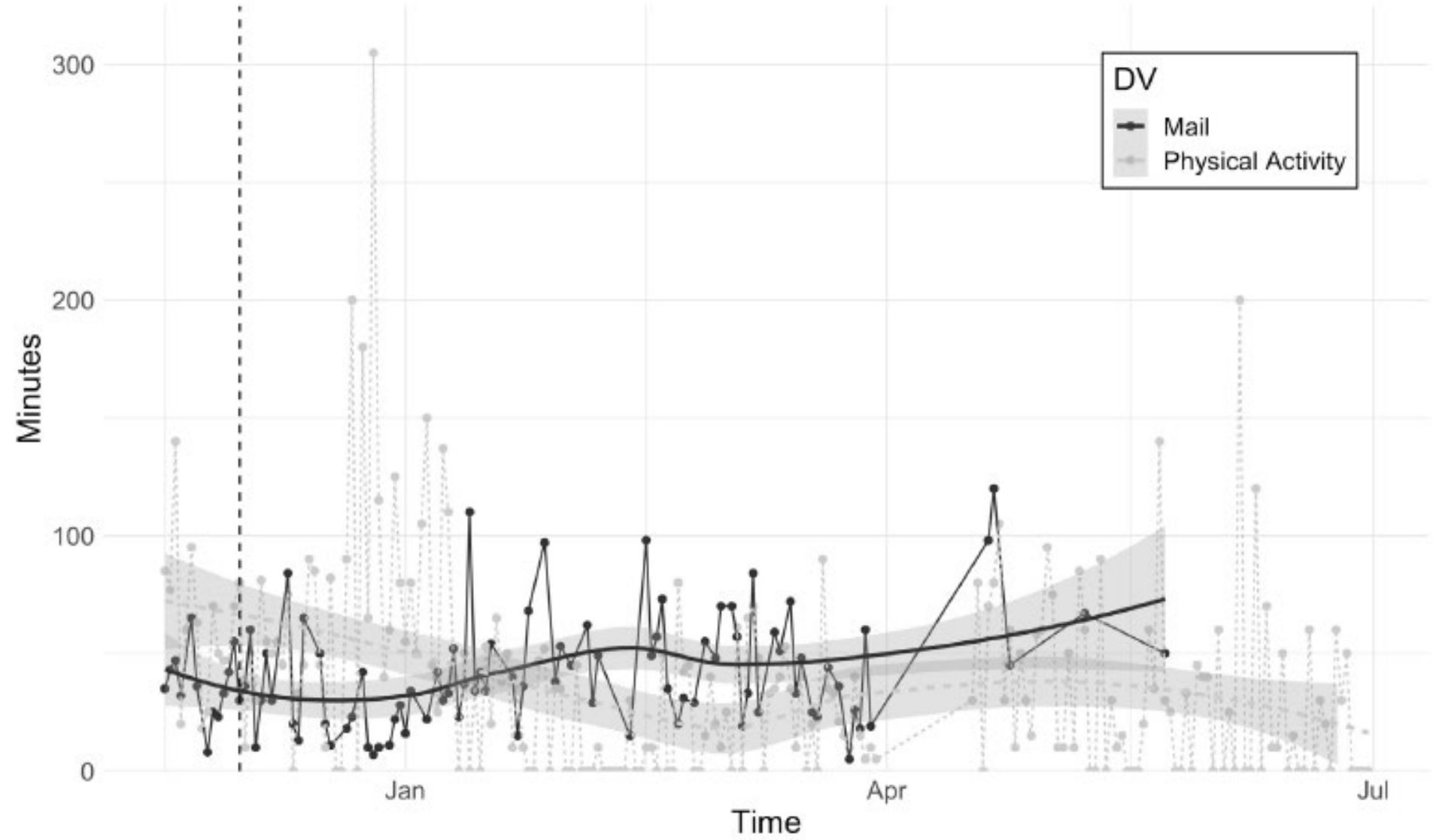


FIGURE 6
Minutes spent using mail app and engaging in physical activity over the course of treatment. The dashed vertical line indicates the start of treatment. Shaded area shows 95% confidence intervals for best-fitting lines.

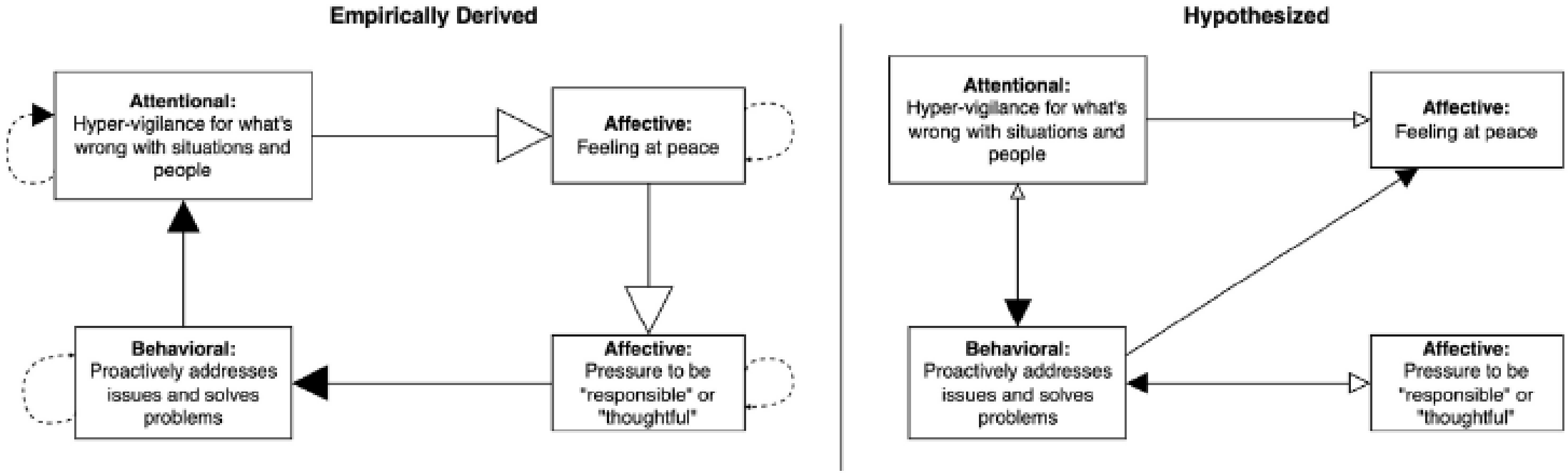


FIGURE 8

Group Iterative Multiple Model Estimation (GIMME)-derived network showing contemporaneous and lagged relationships among EMA items completed by Amy in the first month of treatment on the left, compared to our hypothesized network on the right. Solid lines, contemporaneous; dashed lines, lagged; solid arrowhead, excitatory or positive relationship; blank arrowhead, inhibitory or negative relationship. Size of arrowheads corresponds to strength of relationship estimated by GIMME analyses. Beta estimates are presented in **Supplementary Table S1** in **Supplementary material**.

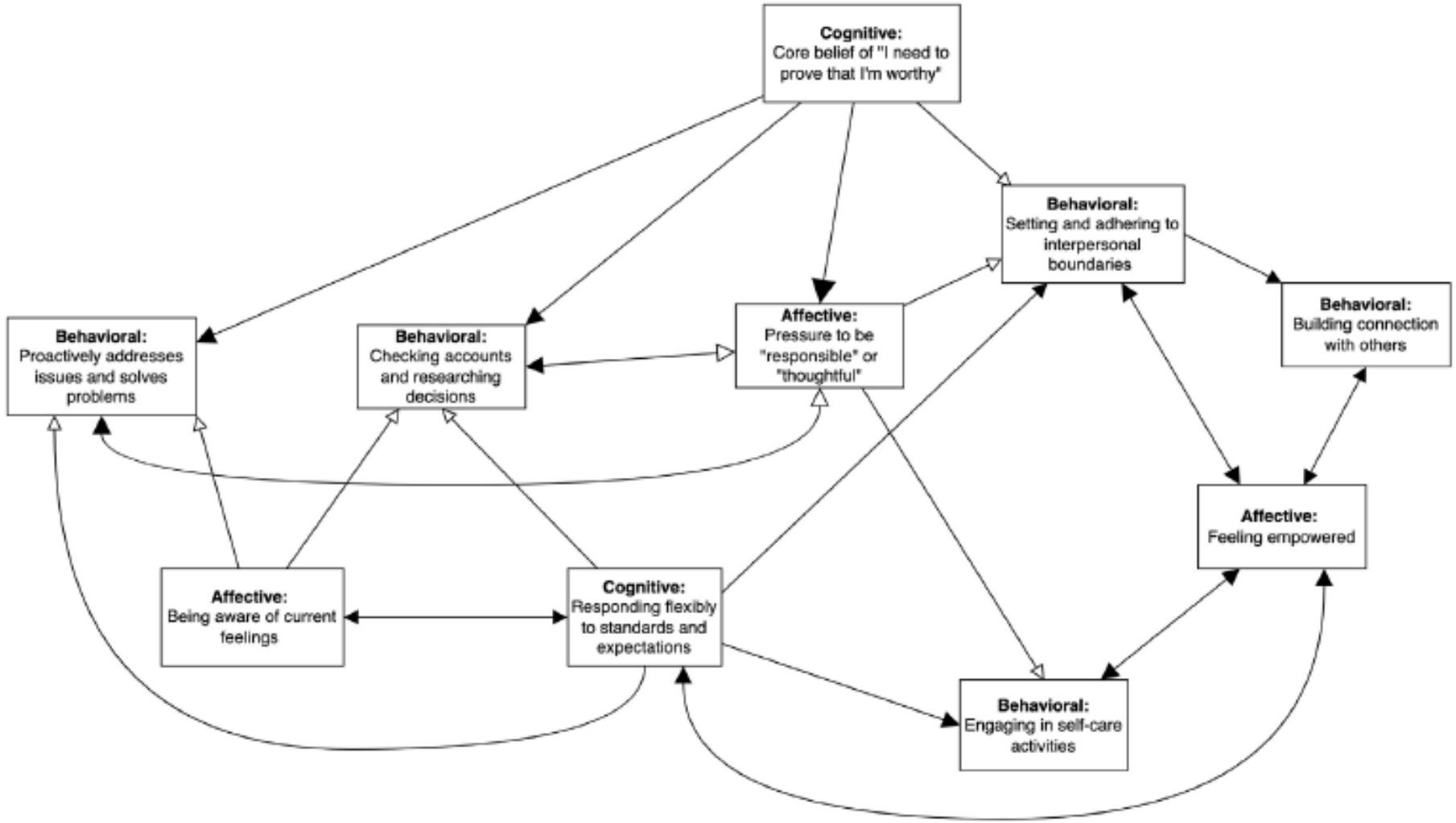


FIGURE 5

Subnetwork with adaptive nodes added after start of treatment. EEMM dimensions represented by each node are bolded. Size of the arrowheads indicates hypothesized strength of the relationship (bigger arrowheads = stronger correlation), and opacity reflects direction of the relationship (opaque = positive/excitatory, transparent = negative/inhibitory). Right-angled rectangles reflect manipulable variables and rounded rectangles indicate immutable moderators (e.g., historical events). Reinforcing valence of "feeling empowered" is indicated by double-headed excitatory arrows with "responding flexibly to standards and expectations," "setting and adhering to interpersonal boundaries," "building connection with others," and "engaging in self-care activities."

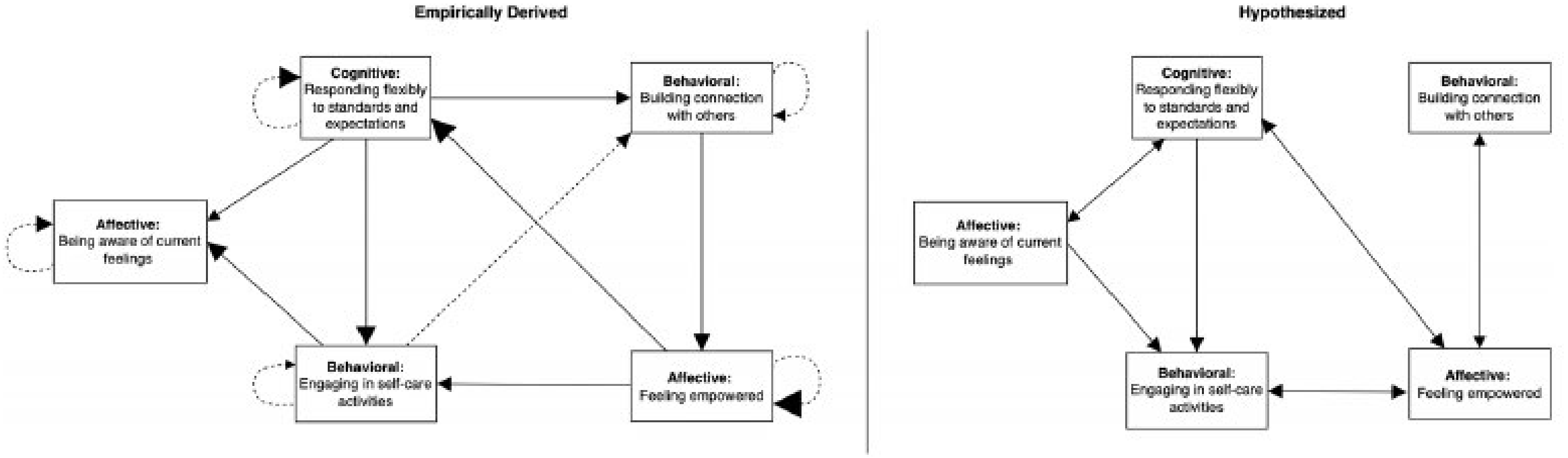
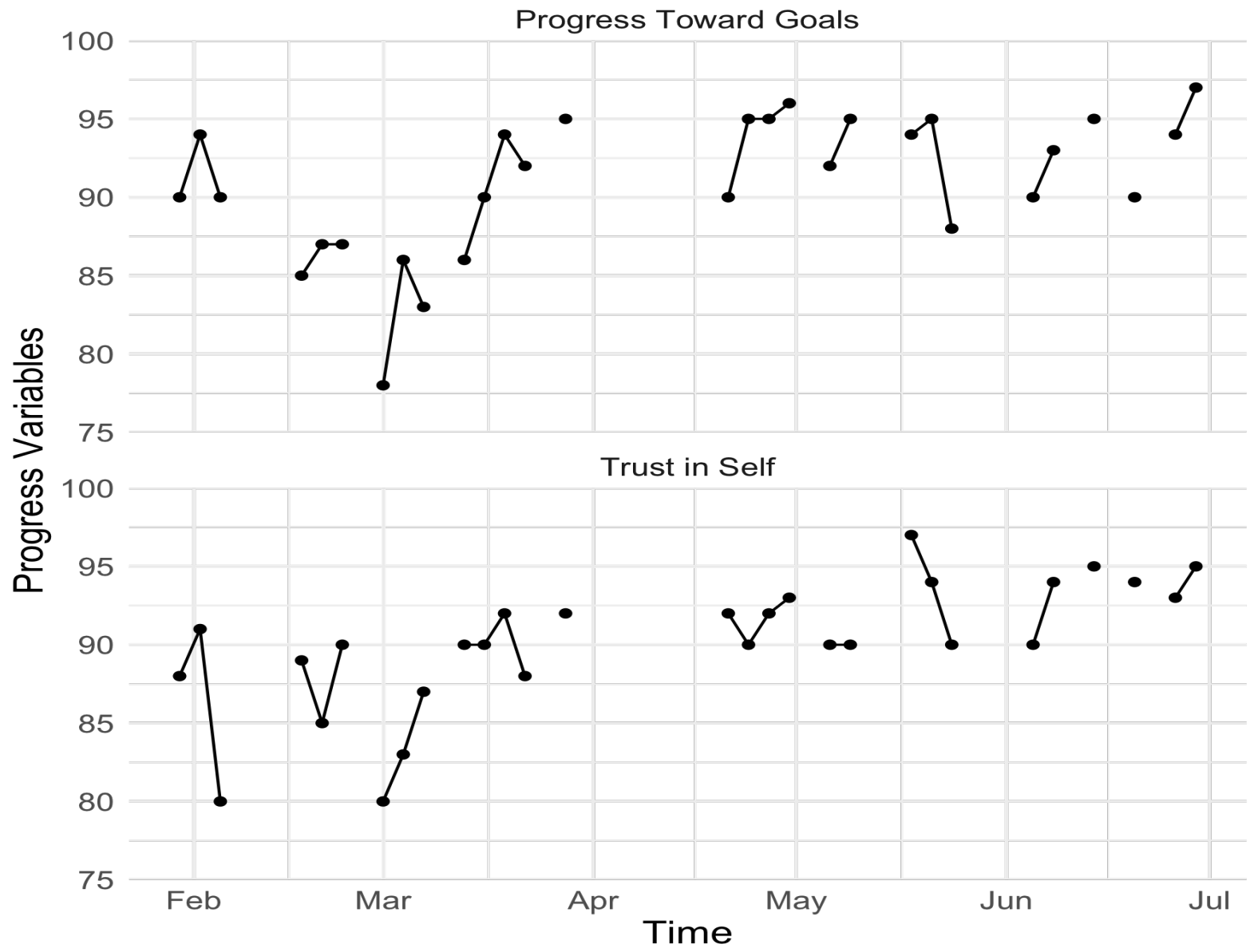


FIGURE 9

Group Iterative Multiple Model Estimation-derived network showing contemporaneous and lagged relationships among EMA items completed by Amy in the final few weeks of treatment on the left, compared to our hypothesized network on the right. Solid lines, contemporaneous; dashed lines, lagged; solid arrowhead, excitatory or positive relationship. Size of arrowheads corresponds to strength of relationship estimated by GIMME analyses. Beta estimates are presented in **Supplementary Table S2** in **Supplementary material**.


Progress Toward Goals
Trust in Self
Progress Variables
100
95
90
85
80
75
Feb
Mar
Apr
May
Jun
Jul
Time

Journal of Contextual Behavioral Science 23 (2022) 200–213

Developing an item pool to assess processes of change in psychological interventions: The Process-Based Assessment Tool (PBAT)☆

Joseph Ciarrochi [a,*], Baljinder Sahdra [a], Stefan G. Hofmann [b], Steven C. Hayes [c]

Process Target	Negative Behavior	Positive behavior
Variation	I felt stuck and unable to change my ineffective behavior.	I was able to change my behavior, when changing helped my life
Selection		
Affect/Yearning to Feel	I did not find an appropriate outlet for my emotions	I was able to experience a range of emotions appropriate to the moment
Cognition/Yearning for Coherence	My thinking got in the way of things that were important to me	I used my thinking in ways that helped me live better
Attention/Yearning to be Oriented	I struggled to connect with the moments in my day-to-day life	I paid attention to important things in my daily life;
Social Connection/Need for Connection	I did things that hurt my connection with people who are important to me	I did things to connect with people who are important to me
Motivation/Need for Autonomy	I did things only because I was complying with what others wanted me to do	I chose to do things that were personally important to me
Overt Behavior/Need for Competence	I did not find a meaningful way to challenge myself	I found personally important ways to challenge myself
Physical Health Behaviors	I acted in ways that hurt my physical health	I acted in ways that helped my physical health
Retention	I struggled to keep doing something that was good for me	I stuck to strategies that seemed to have worked

PBAT

Please mark on the line how much you agree with each statement. Base these respones on how you have been acting _____(time frame). Remember, there are no right or wrong answers

	Strongly Disagree 0 10 20 30 40 50 60 70 80 90 100 Strongly Agree
1. I was able to change my behavior, when changing helped my life	
2. I did things that hurt my connection with people who are important to me	
3. I was able to experience a range of emotions appropriate to the moment	
4. I struggled to keep doing something that was good for me	
5. I did not find a meaningful way to challenge myself	
6. I acted in ways that helped my physical health	
7. My thinking got in the way of things that were important to me	
8. I paid attention to important things in my daily life	
9. I did things only because I was complying with what others wanted me to do	
10. I stuck to strategies that seemed to have worked	

11. I found personally important ways to challenge myself	
12. I felt stuck and unable to change my ineffective behavior.	
13. I used my thinking in ways that helped me live better	
14. I struggled to connect with the moments in my day-to-day life	
15. I did things to connect with people who are important to me	
16. I chose to do things that were personally important to me	
17. I acted in ways that hurt my physical health	
18. I did not find an appropriate outlet for my emotions	

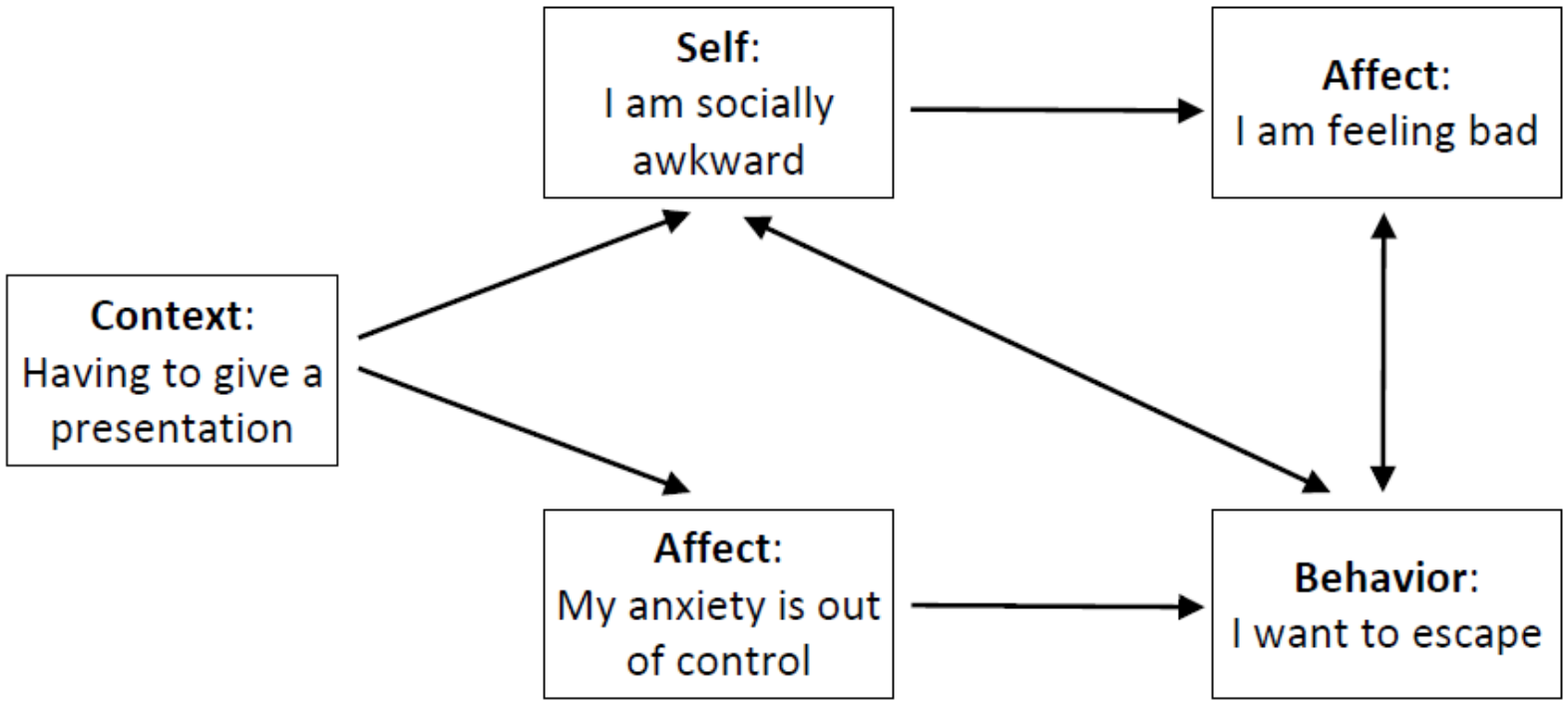
The Goal of Process-Based Therapy is to Become More Versatile (VRSCDL)

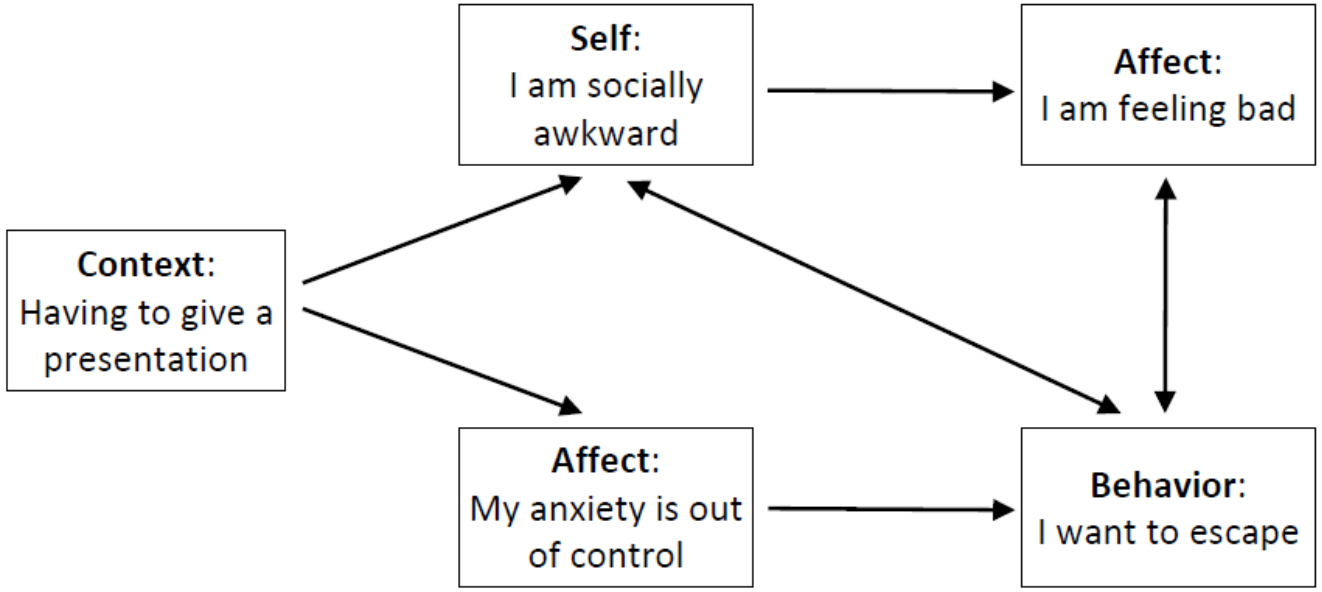
Variation and **R**etention of what is **S**uccessful in **C**ontext at the right **D**imension and **L**evel.

The Case of Bill

Bill is a 30-year-old male with the DSM-diagnosis of social anxiety disorder, performance subtype. Bill reports intense anxiety about an upcoming speech. He is asked to give a presentation in front of his class at his university. This triggers the thought “I am socially awkward” and the believe that his anxiety would be out of control, which triggers avoidance tendencies (“I want to escape”). The negative view about himself causes him to feel bad. This further feeds into his avoidance tendency, which in turn, makes him feel bad.

Hofmann, S. G. (2025). A network control theory of dynamic systems approach to personalize therapy. *Behavior Therapy, 56,* 199-212. doi: 10.1016/j.beth.2024.10.006


Self:
I am socially awkward
Affect:
I am feeling bad
Context:
Having to give a presentation
Affect:
My anxiety is out of control
Behavior:
I want to escape



What are the best treatment strategies?

Perhaps exposure?
Perhaps social skills training?
Perhaps attention training?
Perhaps relaxation?

What are possible change processes?

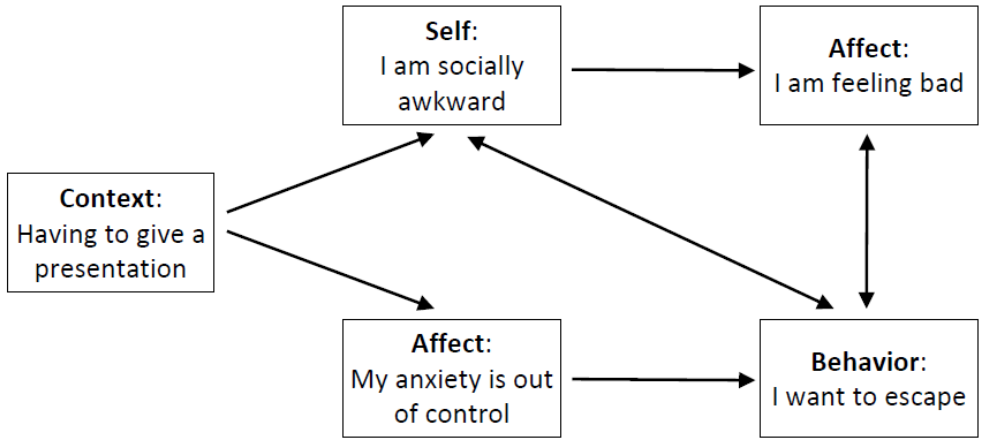
Enhancing distress tolerance
Improving social skills
Modifying self-focused attention
Reducing arousal

Example of control theory matrix of change processes and network nodes

	Change Processes			
	Distress Tolerance	Social Skills	Self-focused Attention	Arousal Reduction
I want to escape the feeling	++	0	+	+
I am socially awkward	+	+	+	0
I feel bad about myself	+	+	++	0
My anxiety is out of control	++	0	+	++

Example of control theory matrix of treatment strategies and change processes

	Treatment Strategies			
	Exposure	Social Skills Training	Attention Training	Relaxation
Distress Tolerance	++	0	0	+
Social Skills	0	++	0	0
Self-focused attention	+	+	++	+
Arousal Reduction	-	0	0	++

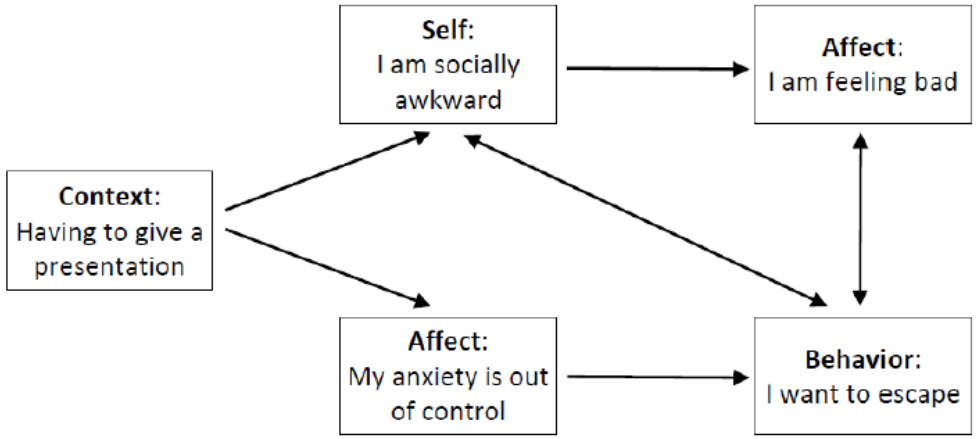


Example of control theory matrix of change processes and network nodes

	Change Processes			
	Distress Tolerance	Social Skills	Self-focused Attention	Arousal Reduction
I want to escape the feeling	++	0	+	+
I am socially awkward	+	+	+	0
I feel bad about myself	+	+	++	0
My anxiety is out of control	++	0	+	++

Example of control theory matrix of treatment strategies and change processes

	Treatment Strategies			
	Exposure	Social Skills Training	Attention Training	Relaxation
Distress Tolerance	++	0	0	+
Social Skills	0	++	0	0
Self-focused attention	+	+	++	+
Arousal Reduction	-	0	0	++

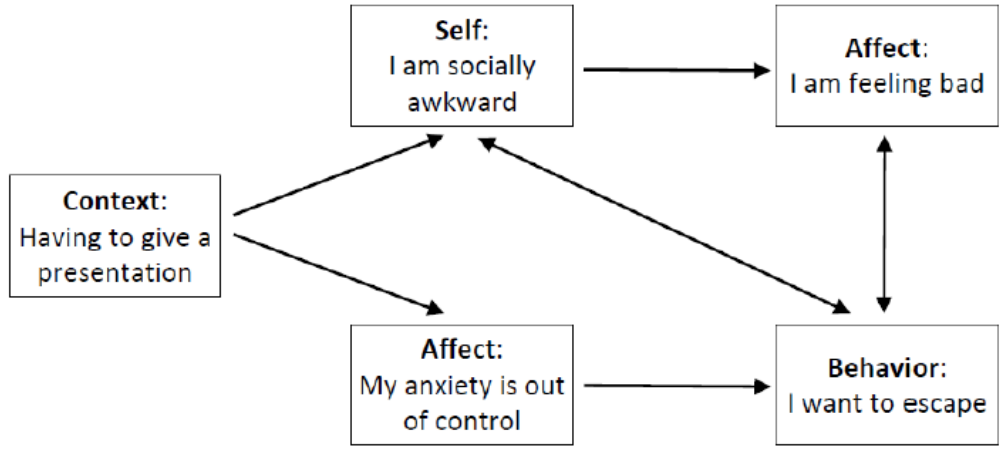


Example of control theory matrix of change processes and network nodes

	Change Processes			
	Distress Tolerance	Social Skills	Self-focused Attention	Arousal Reduction
I want to escape the feeling	++	0	+	+
I am socially awkward	+	+	+	0
I feel bad about myself	+	+	++	0
My anxiety is out of control	++	0	+	++

Example of control theory matrix of treatment strategies and change processes

	Treatment Strategies			
	Exposure	Social Skills Training	Attention Training	Relaxation
Distress Tolerance	++	0	0	+
Social Skills	0	++	0	0
Self-focused attention	+	+	++	+
Arousal Reduction	-	0	0	++

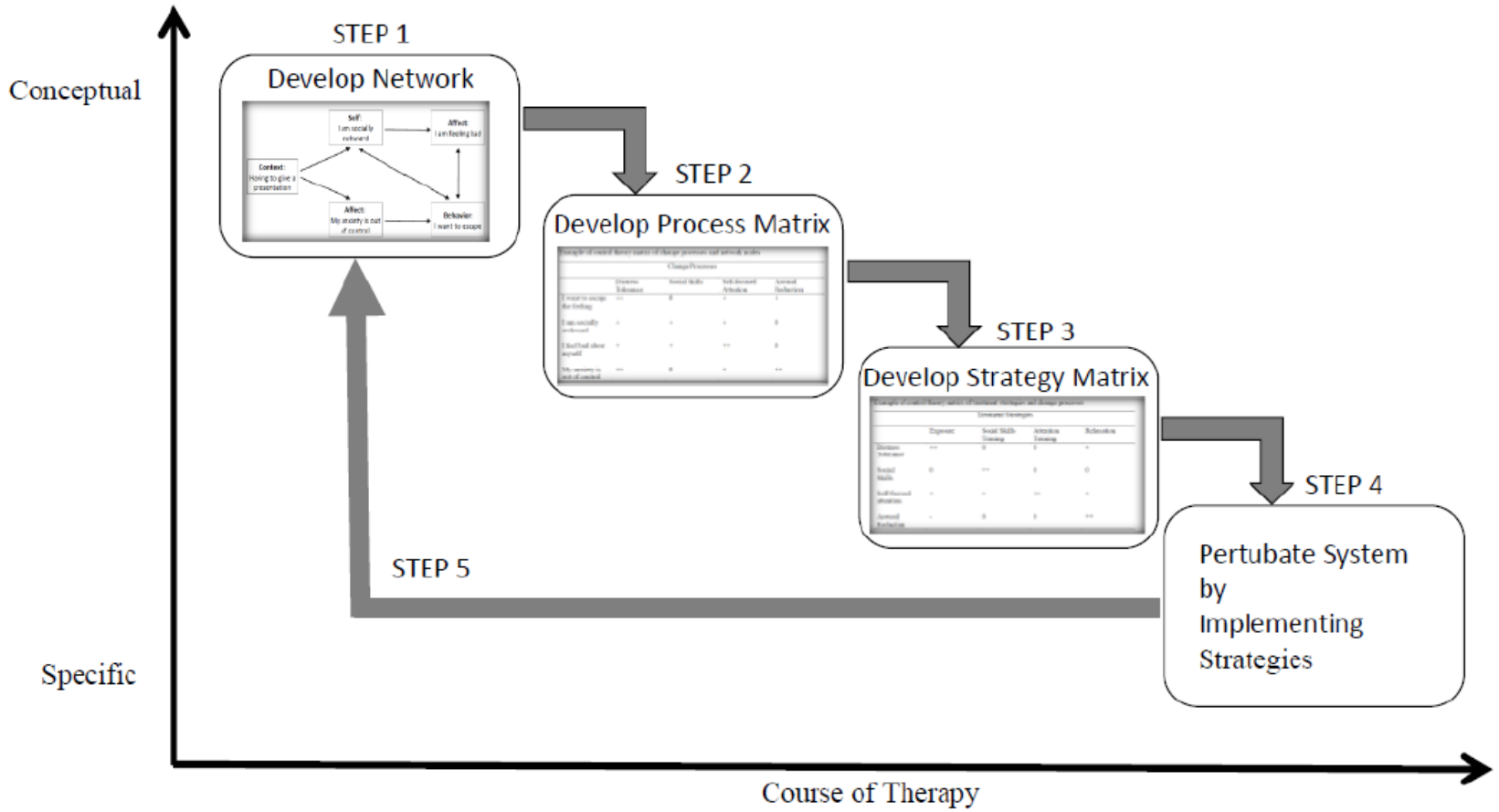


Example of control theory matrix of change processes and network nodes

	Change Processes			
	Distress Tolerance	Social Skills	Self-focused Attention	Arousal Reduction
I want to escape the feeling	++	0	+	+
I am socially awkward	+	+	+	0
I feel bad about myself	+	+	++	0
My anxiety is out of control	++	0	+	++

Example of control theory matrix of treatment strategies and change processes

	Treatment Strategies			
	Exposure	Social Skills Training	Attention Training	Relaxation
Distress Tolerance	++	0	0	+
Social Skills	0	++	0	0
Self-focused attention	+	+	++	+
Arousal Reduction	-	0	0	++

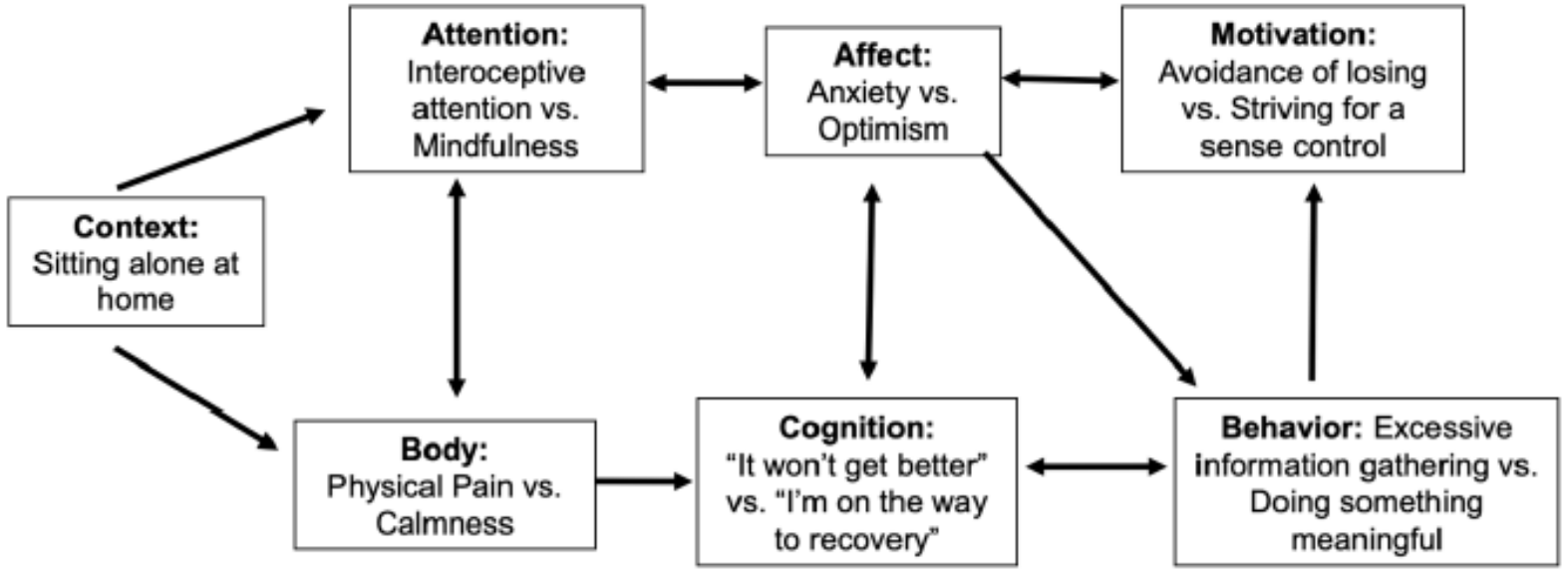


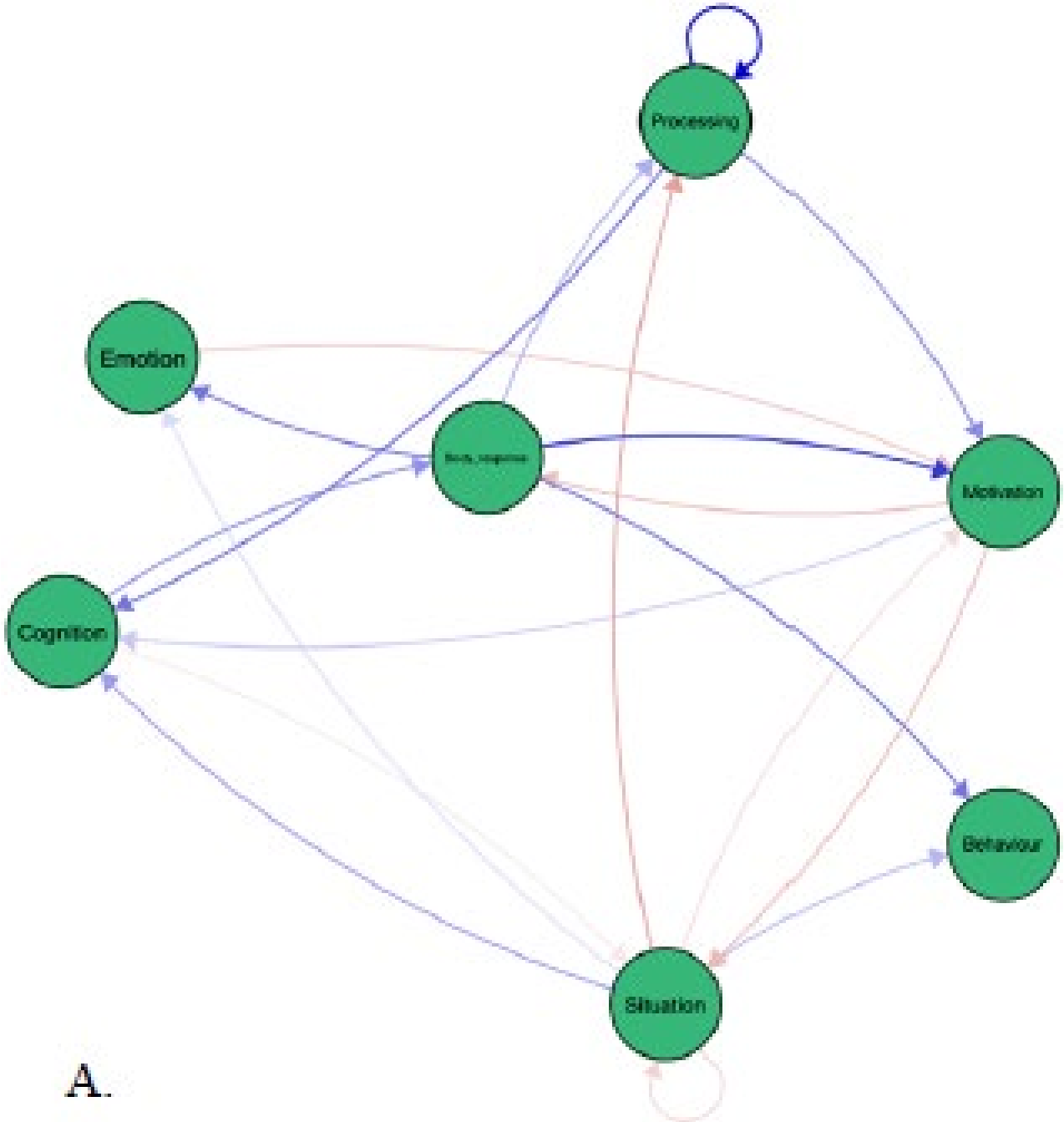
Hofmann, S. G. (2025). A network control theory of dynamic systems approach to personalize therapy. *Behavior Therapy, 56,* 199-212. doi: 10.1016/j.beth.2024.10.006

Network Control Theory: A Proof-of-Concept Case Illustration

Lucie Sendig[1*], Prof. Dr. Ulrich Stangier[1] & Prof. Dr. Stefan G. Hofmann[2]

Figure 1: Conceptual network model




Processing
Emotion
Body_response
Motivation
Cognition
Behaviour
Situation

A.

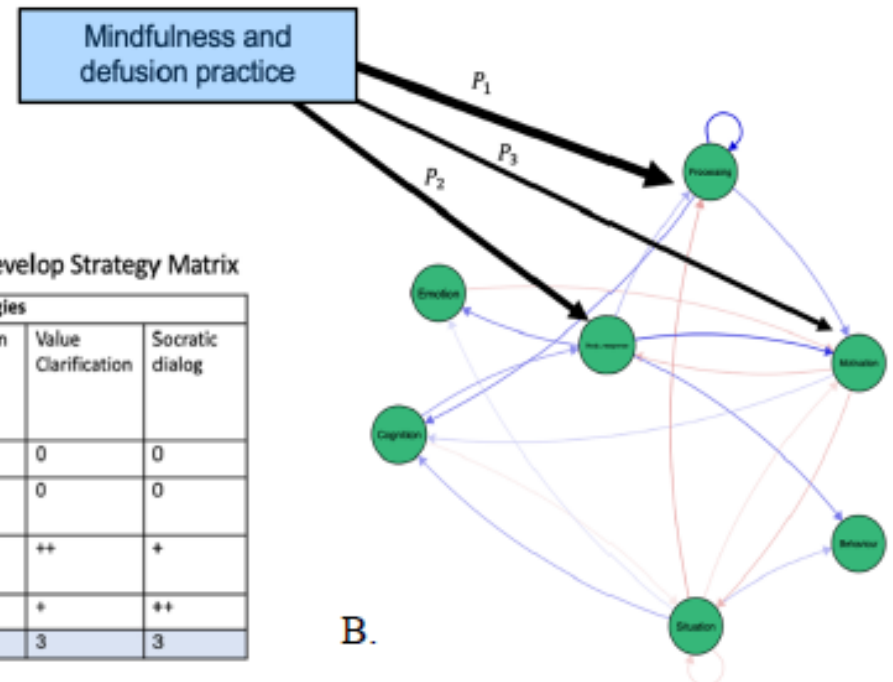
Step 2. Develop Process Matrix

Change process				
EMA nodes **Exkl. context**	Mindfulness	Arousal reduction	Value based motivation	Reappraisal
Pain	0	++	0	0
"It won't get better"	+	+	+	++
Anxiety	+	+	+	+
Interoceptive attention	++	0	0	0
Information gathering	+	0	0	+
Avoidance of a sense of losing control	+	+	++	0
Σ	6	5	4	4

Step 3. Develop Strategy Matrix

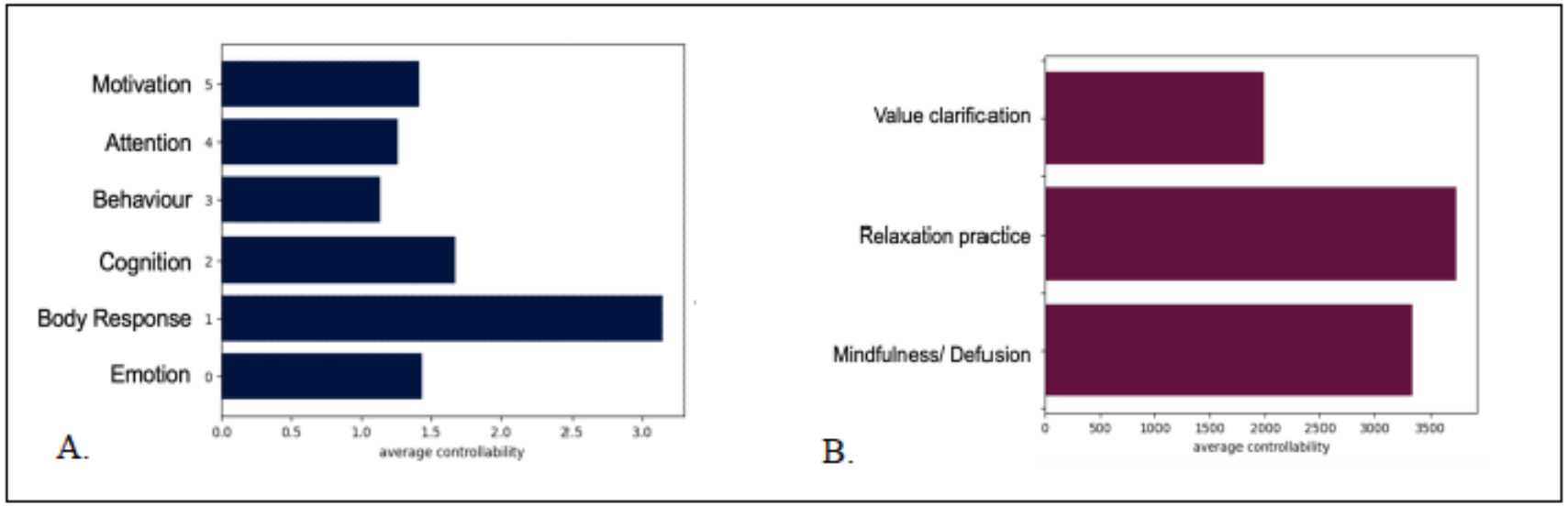
Intervention strategies				
Change processes	Mindfulness and defusion practice	Relaxation practice	Value Clarification	Socratic dialog
Mindfulness	++	+	0	0
Arousal reduction	+	++	0	0
Value based motivation	+	0	++	+
Reappraisal	0	0	+	++
Σ	**4**	3	3	3

A.



B.

Figure 5: Average controllability values per network node and per intervention

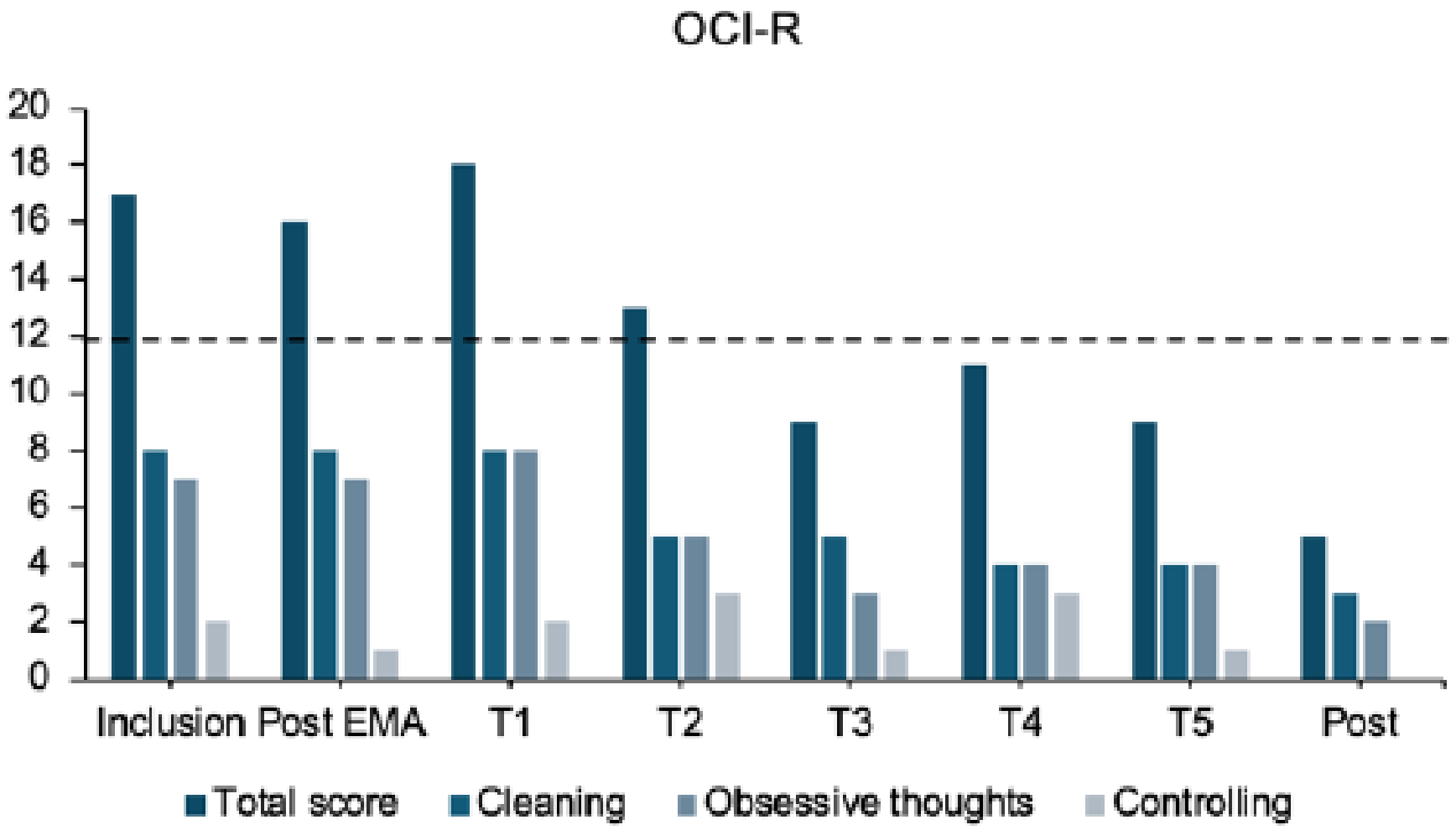


Note. Based on ecological momentary data. A: AC values per network node; B: AC values per interventions (mindfulness and defusion practice, relaxation practices, value clarification)

AC = trace(W_T), where W_T is the controllability Gramian, defined as:

$$W_T = \Sigma(A^t * B * B^T * (A^T)^t) \text{ from } t=0 \text{ to } T-1$$

Figure 4: Treatment changes in obsessive-compulsive symptoms

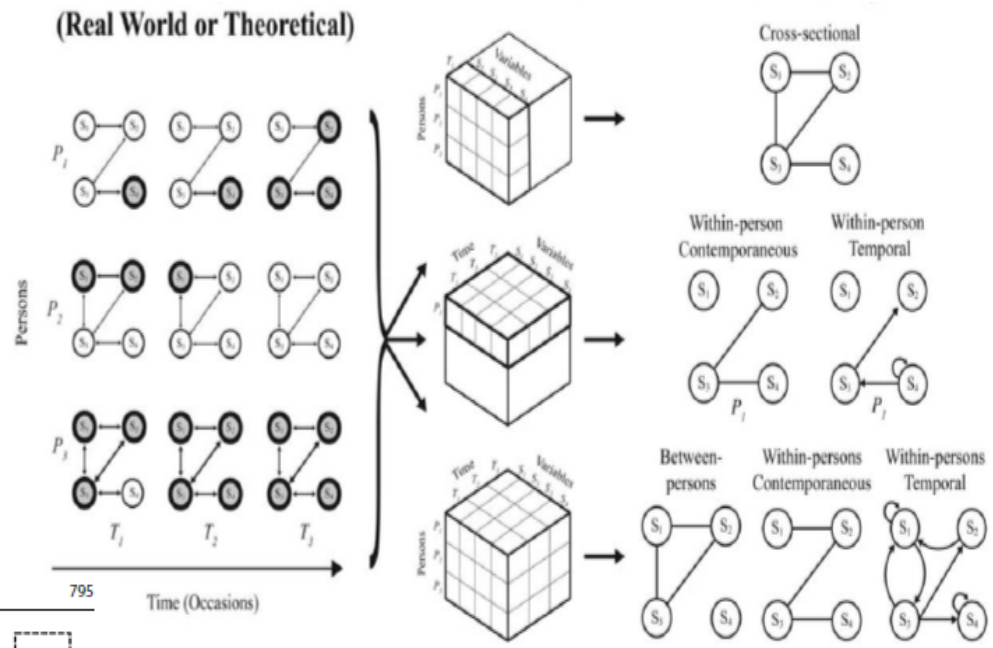


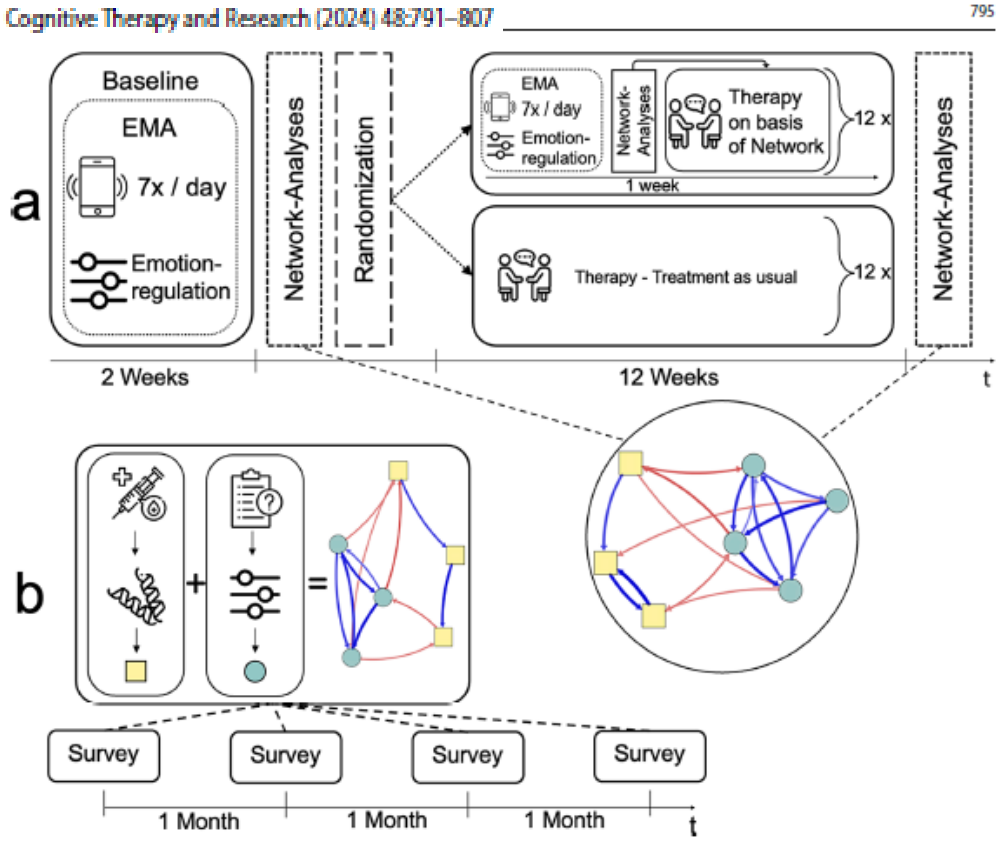
What do we need for personalization?

- Heuristically meaningful theory of treatment change (PBT: theory of adaptation)
- Ways of assessing processes of change (PBT: EMA).
- Consider complexity of phenomena (PBT: biopsychosocial dimensions)

This paves the way toward a new clinically meaningful taxanomy

Dynamic Network Approach to Mental Health Improvement and Change





The adaptive Mind

Alexander von HUMBOLDT STIFTUNG

DYNAMIC

SFB/TRR 393 Trajectories of Affective Disorders

Conclusion

- CBT has not been improving much over the last 3 decades
- But it can be enhanced through pharmacological agents (molecules) that augment learning; it can be predicted using neuromarkers, and it can be enhanced by improving our models to target key processes.
- Let's move forward by building on our tradition: "What treatment, by whom, is most effective for this individual with that specific problem, under which set of circumstances, and how does it come about?" (Paul, 1969, p. 44).

Clinical Significance

- Understanding psychopathology as a self-sustaining maladaptive complex network
- Understanding therapy as a method to change and control a dynamic system toward adaptation. Model of model: Evolution science.
- Utilizing a network approach to isolate and target treatment processes to select the best strategies for a given client.

More research is needed on the processes of change on an idiographic level using EMA data and dynamic network analyses within a testable theoretical framwork.

Implications of PBT for the Future of Intervention Science

- Declined of named therapies
- Greater scalability
- Decline of general schools and rise of testable models
- Rise of mediation and moderation studies
- New forms of diagnosis and functional analysis
- From nomothetic to idiographic approaches
- Processes need to specify modifiable elements
- Importance of context
- Component analyses and the reemergence of laboratory-based studies
- New approaches to training
- Integration of behavioral and psychological science with the other life sciences
- New forms of delivery of care
- A science of the therapeutic relationship
- The role of culture

Summary

- Taking down the walls between traditions, schools, and waves.
- Foundational PBT question is: “What core biopsychosocial processes should be targeted with this client given this goal in this situation, and how can they most efficiently and effectively be changed?”
- Moving from syndrome-based protocols/manuals via treatment modules for specific problems to processes and treatment kernels
- Model of model: Evolution science.
- Utilizing functional analysis and network approach to isolate and target treatment processes.

Questions?