

Affective Disorders

Computational Psychiatry Course 2019

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Case example

Janet, 25y, PhD-student in microbiology

- Separated from boyfriend
- Can't focus, trouble falling asleep, low energy
- Feels more sad, more insecure than usually
- less social activity, drinks alcohol to relax/fall asleep
- Weekly panic attacks
- 2 months now; similar episode in past
- Seeks help in an outpatient clinic



ICD-10 Diagnosis

Key symptoms	Additional symptoms	Diagnosis
Persistent sadness or low mood	Low self-confidence	F32.- depressive episode
Loss of interests or pleasure	Guilt or self-blame	F32.0 mild
Fatigue or low energy	Suicidal thoughts or acts	F32.1 moderate
	Poor concentration or indecisiveness	F32.2 severe without psychotic
	Agitation or slowing of movements	F32.3 severe with psychotic
	Disturbed sleep	F33.- recurrent depressive disorder
	Poor or increased appetite	F32.0 mild
		F32.1 moderate
		F32.2 severe without psychotic
		F32.3 severe with psychotic
		F33.4 currently in remission

ICD-10 Diagnosis

Key symptoms

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Loss of interests or pleasure

Fatigue or low energy

Additional symptoms

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Guilt or self-blame

Suicidal thoughts or acts

Poor concentration or indecisiveness

Agitation or slowing of movements

Disturbed sleep

Poor or increased appetite

Min. 2 key criteria, in total at least 4

Diagnosis

F32.- depressive episode

F32.0 mild

F32.1 moderate

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Min. 2 key criteria, in total at least 6

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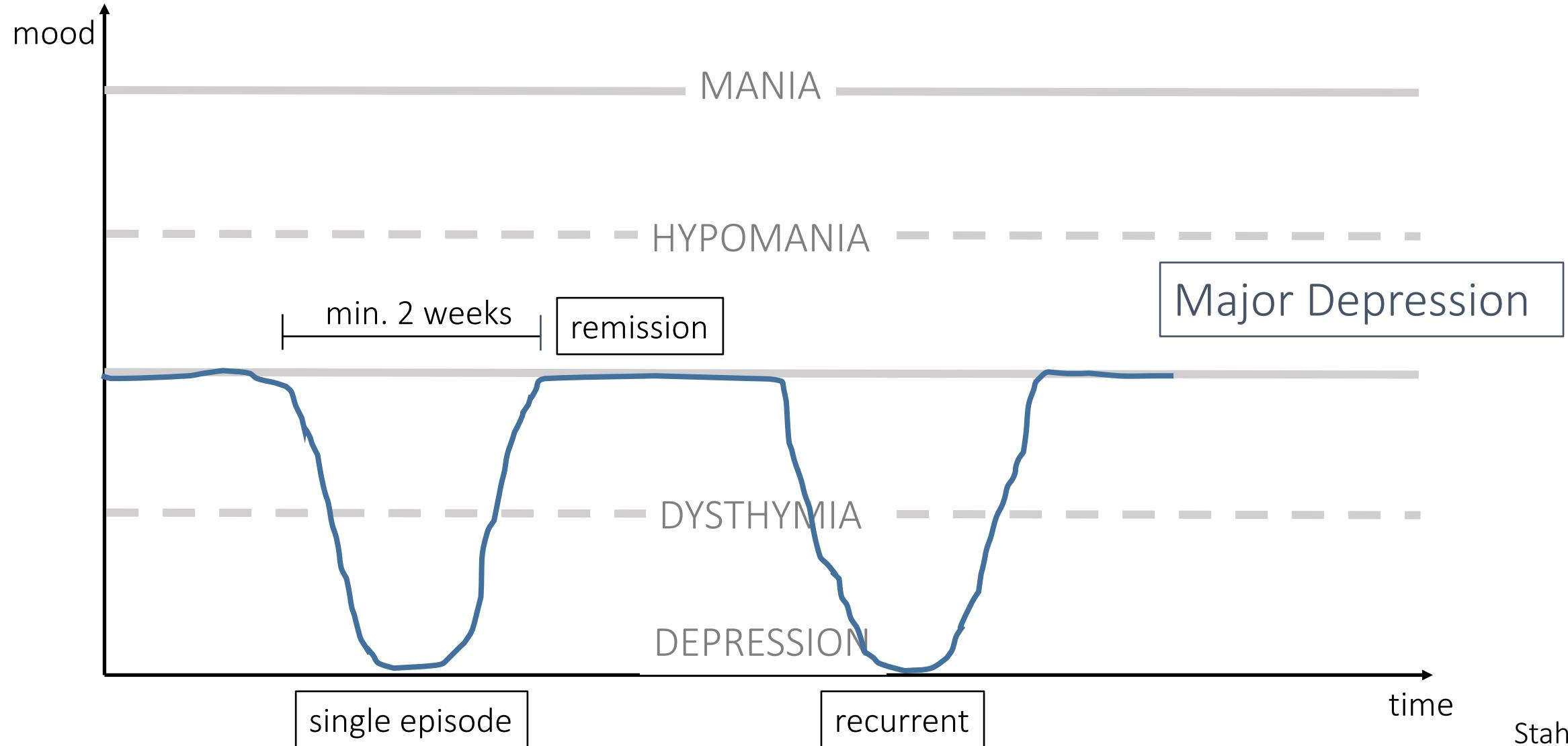
F32.2 severe without psychotic

F32.3 severe with psychotic

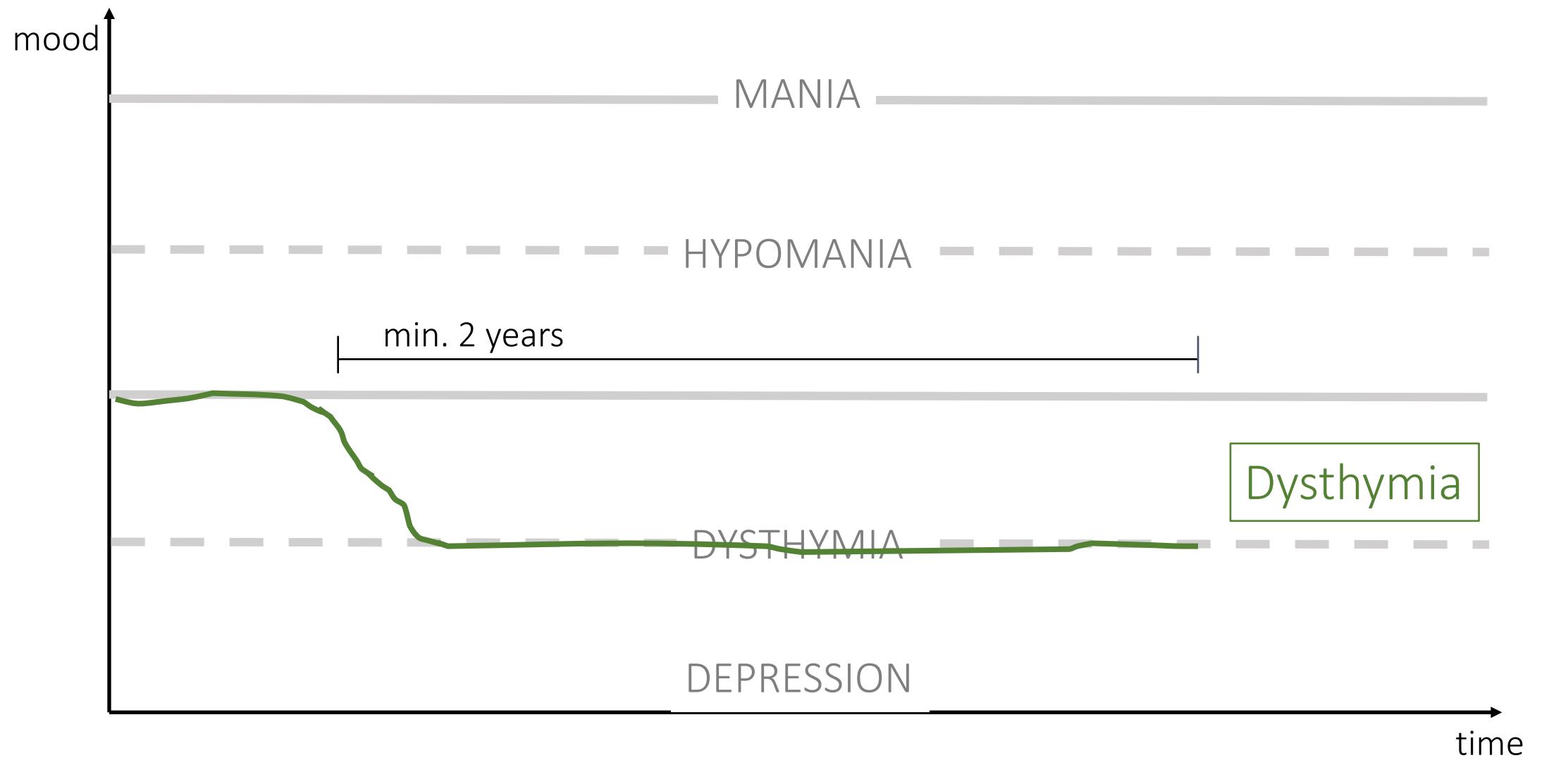
F33.4 currently in remission

All key criteria, in total at least 8

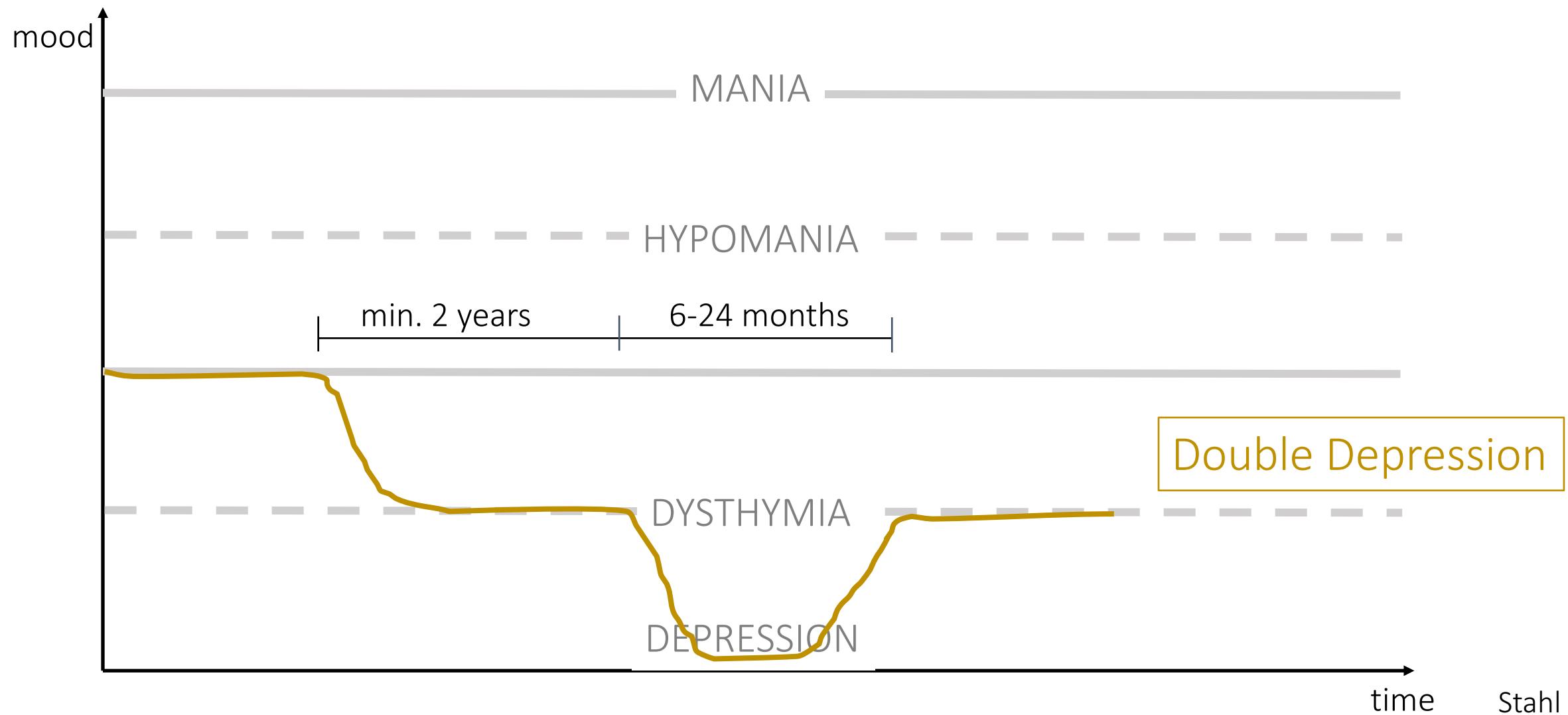
Disease progression



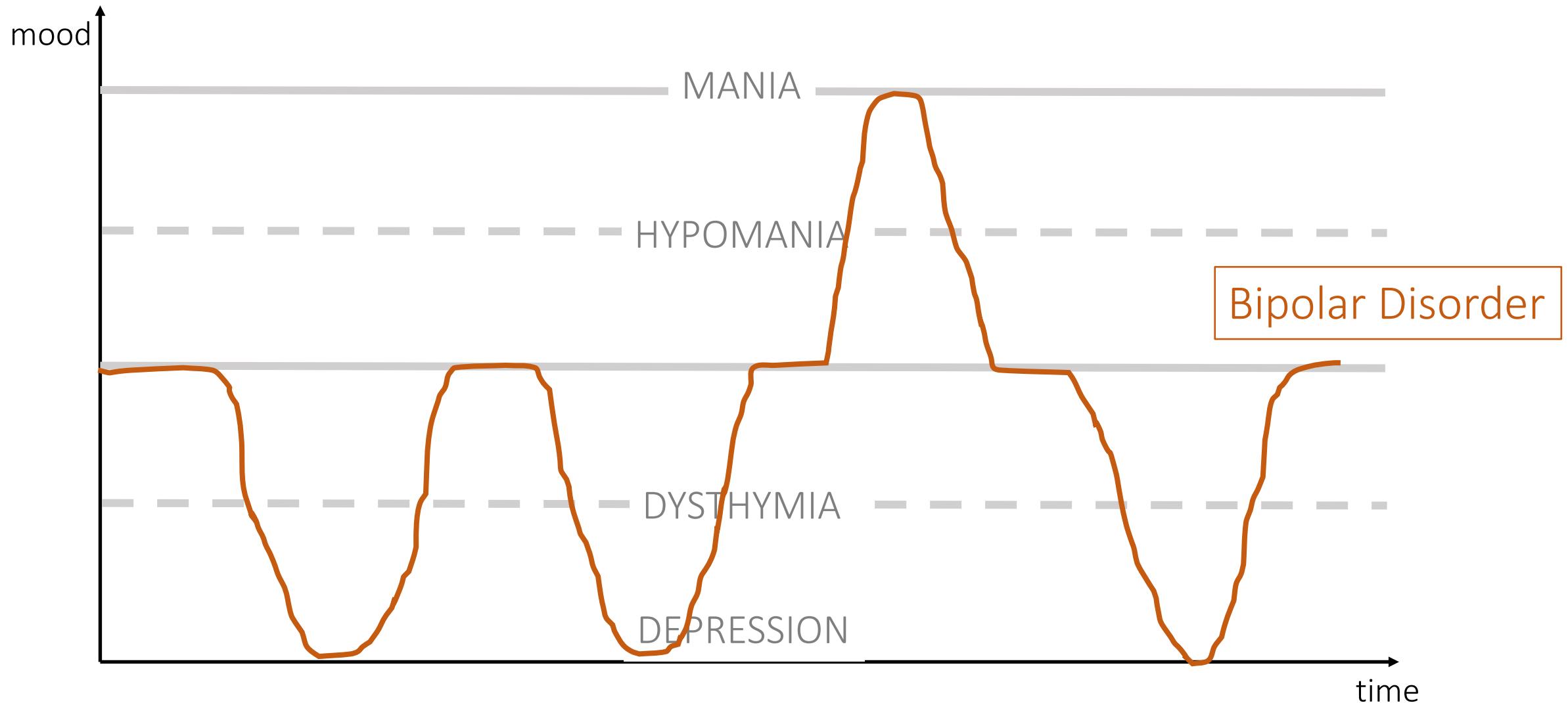
Disease progression



Disease progression



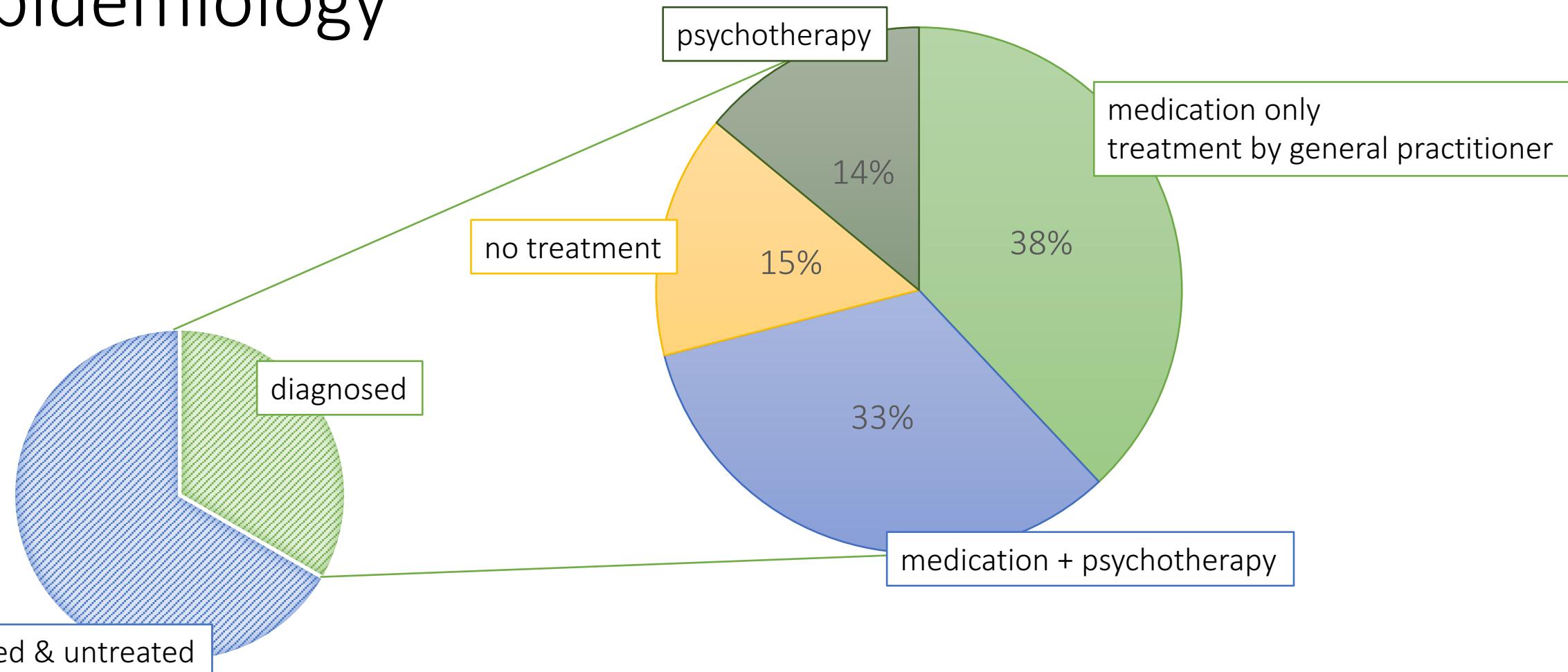
Disease progression



Epidemiology

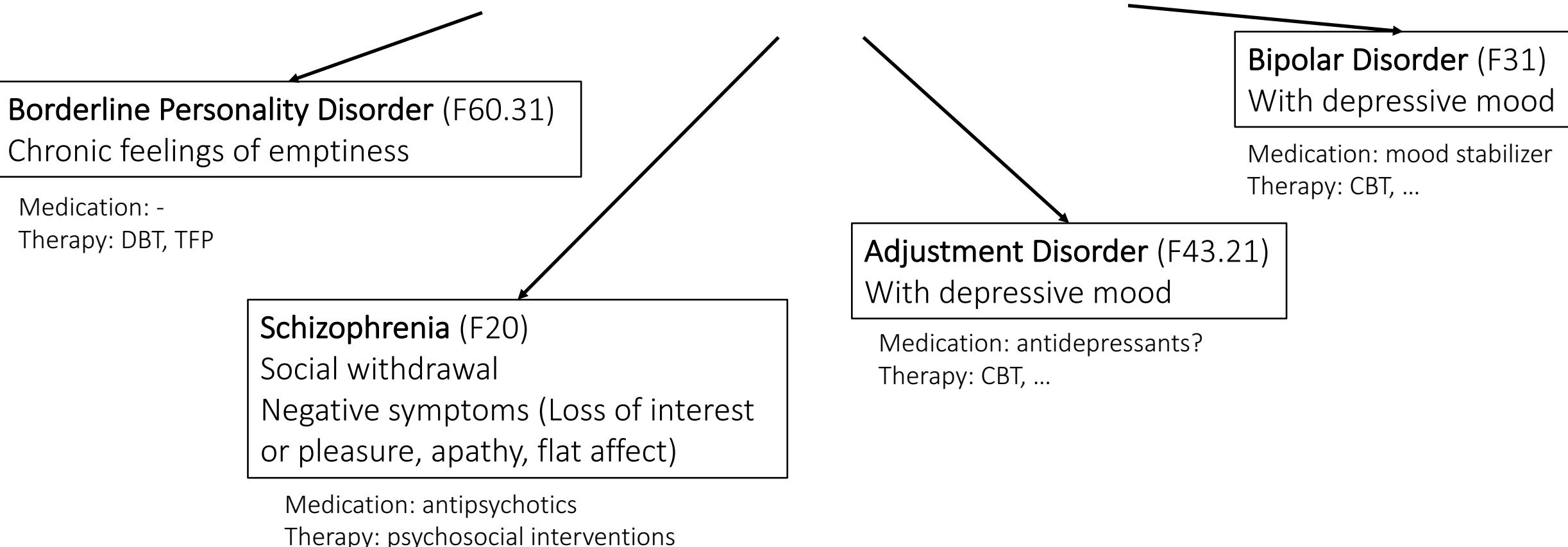
- Lifetime prevalence 20% (♂ 12.3% ♀ 25%)
 - Major Depression (MDD) 15%, Dysthymia 4.5%
- Age at onset: 25-35 years
- Suicidality
 - thoughts 40-80%
 - attempt \sim 30%
 - death after attempt \sim 15%
- Heritability: \sim 35%
- Risk factors: low socio-economic status, urban (vs. countryside), adverse life events (early/chronic), comorbidities
- Comorbidities of MDD
 - anxiety/panic disorders (20-30%)
 - substance abuse (\sim 20%)
 - personality disorders (\sim 50%)!

Epidemiology



Why do we need a Diagnosis?
Indication for treatment!

Depressive Syndrome



***Differential Diagnosis**
= distinguishing a condition from others with similar features
≠ subgroups

Treatment



Intervention: Psychotherapy and/or medication

Setting: outpatient vs. inpatient



guidelines: DGPPN (Germany), NICE (UK)

Treatment: pharmacological

Selective serotonin reuptake inhibitors (SSRIs)

e.g. fluoxetine, escitalopram
> "serotonin-hypothesis"

Serotonin-noradrenaline reuptake inhibitors (SNRIs)

e.g. duloxetine, venlafaxine

Serotonin-antagonist/Alpha2-antagonist

e.g. mirtazapine

Tricyclic antidepressants (TCAs)

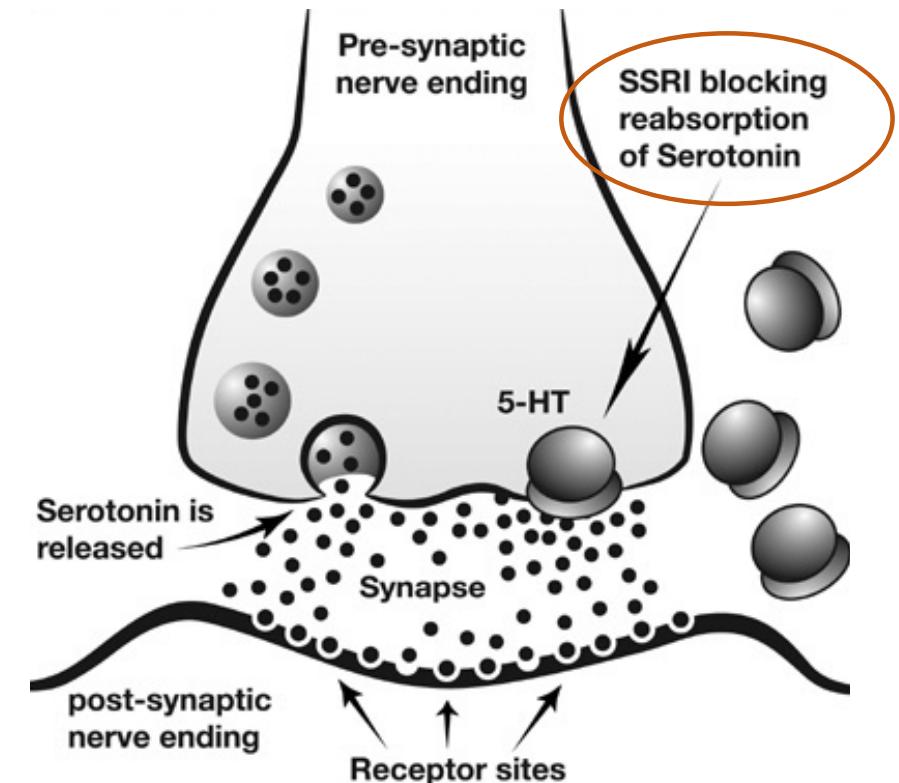
e.g. trimipramine, clomipramine

Monoamine oxidase inhibitors (MAOIs)

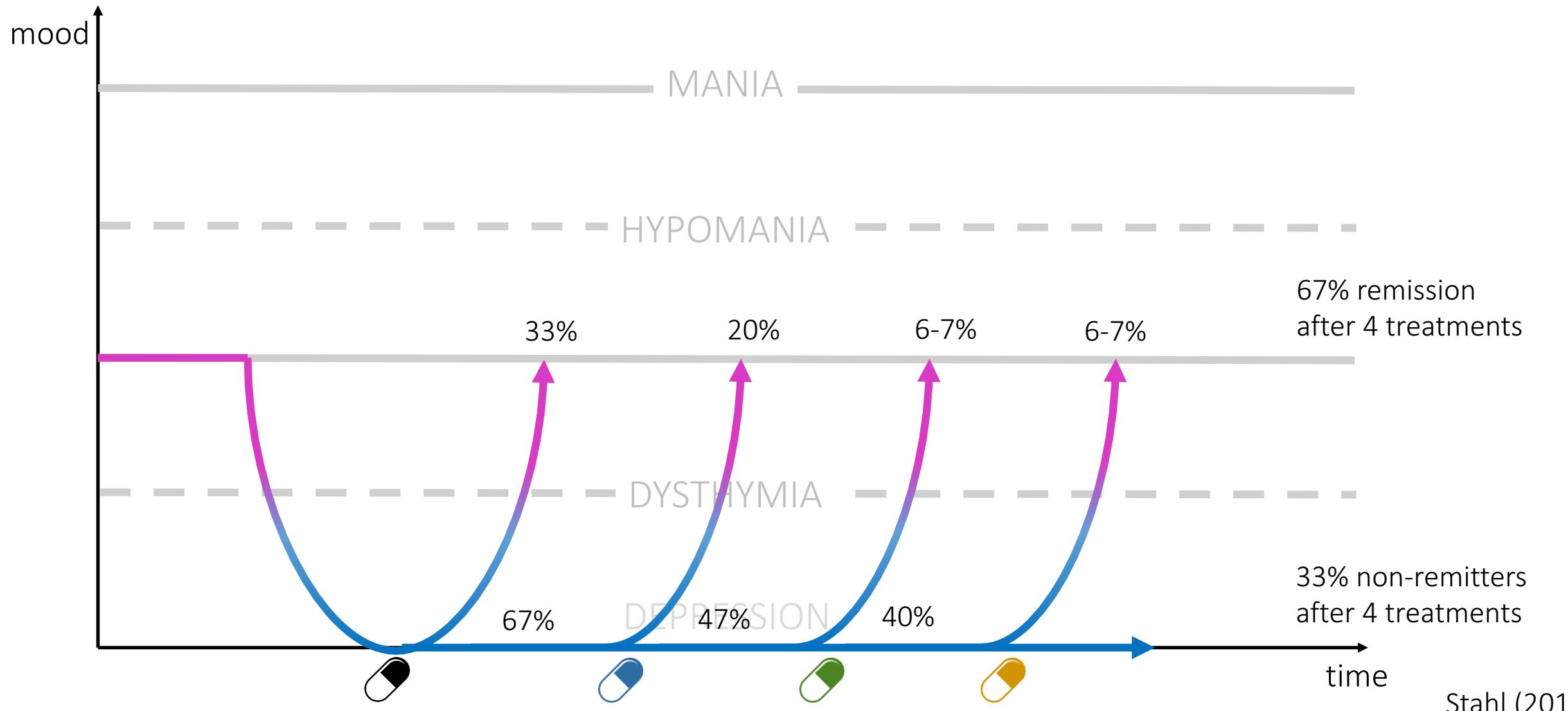
e.g. tranylcypromine

Other drugs

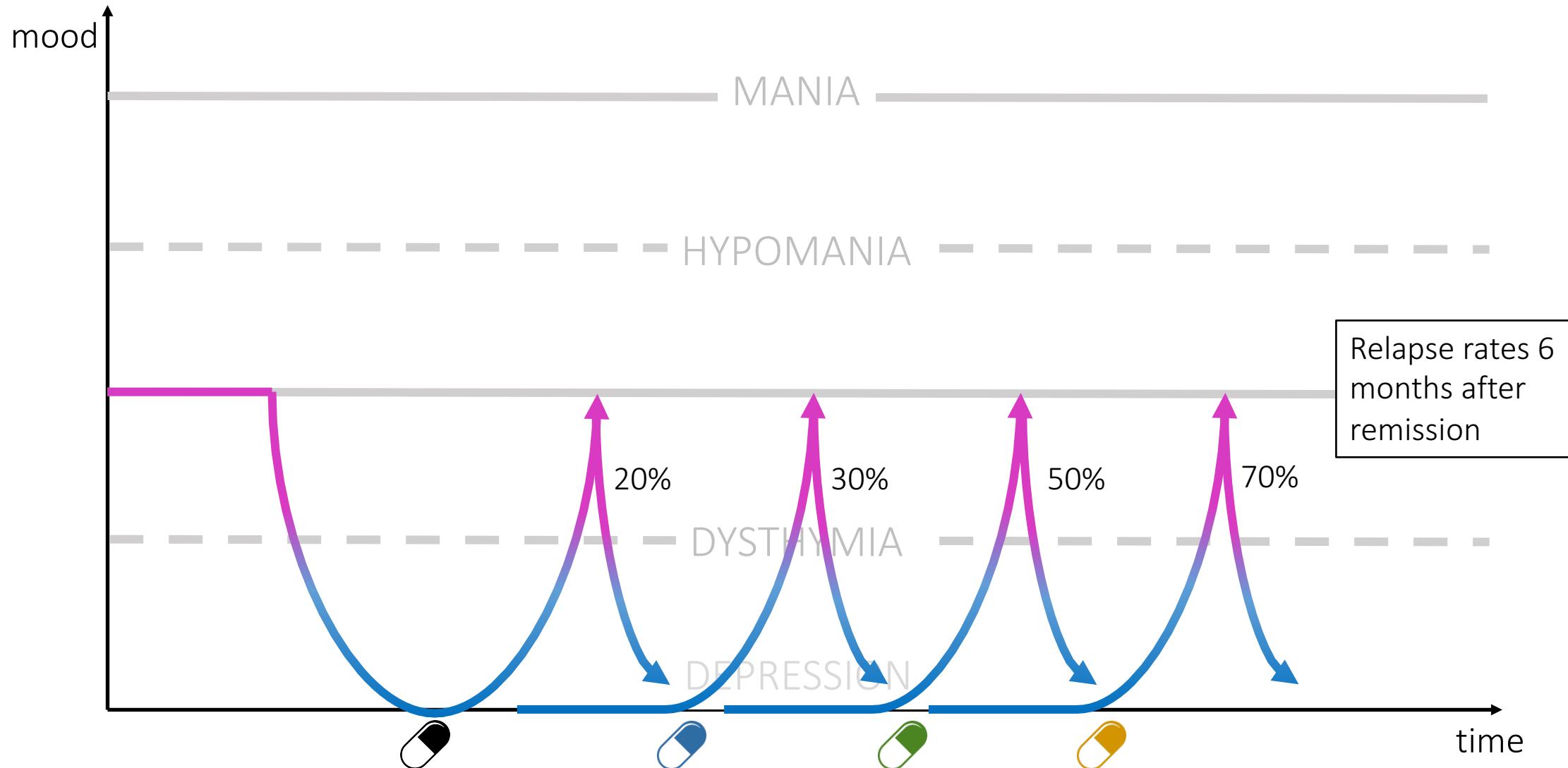
e.g. lithium, bupropion, antipsychotics, ketamine, ...



Treatment: pharmacological



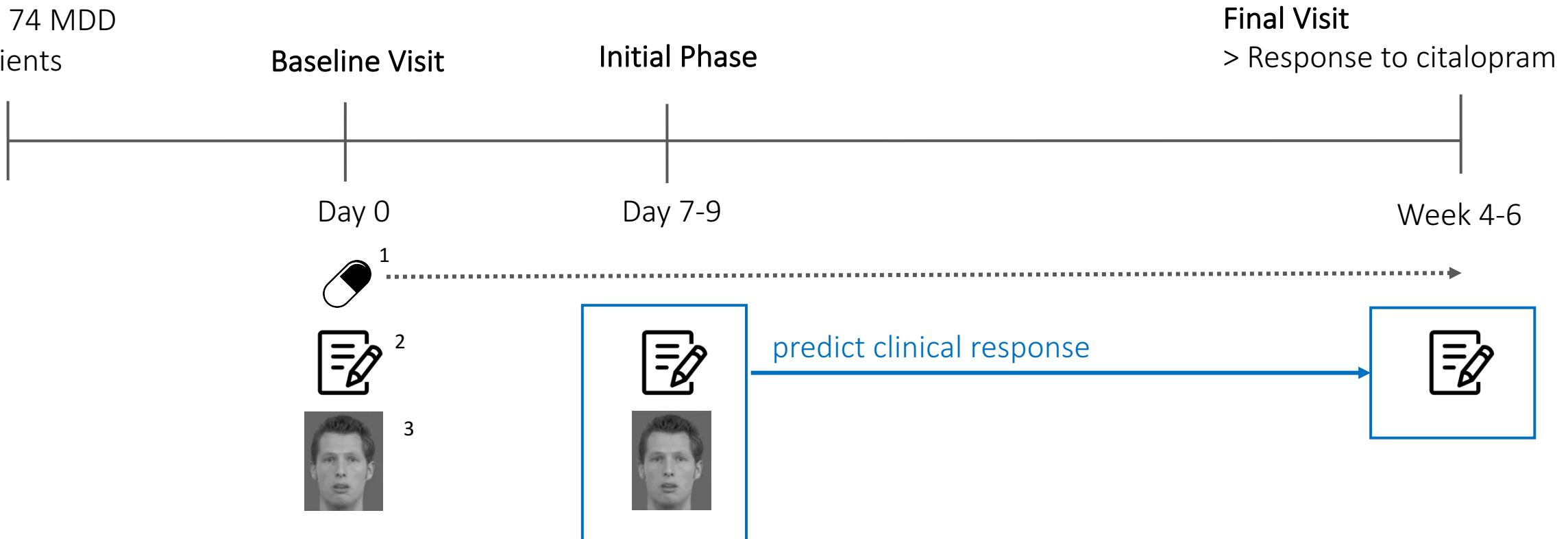
Treatment: pharmacological



Treatment: pharmacological

Recruitment

N = 74 MDD
patients

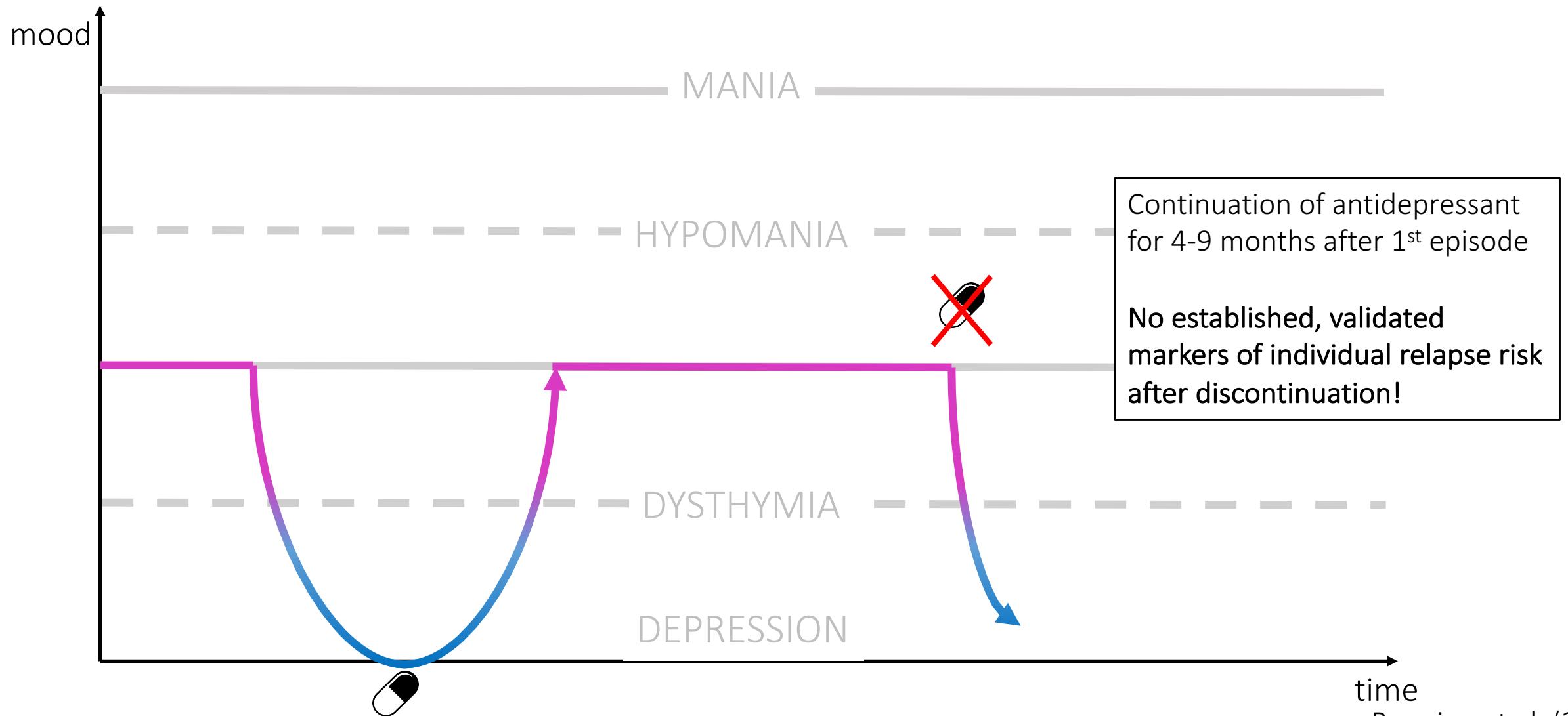


¹ citalopram = medication

² QIDS-SR₁₆ = depressive symptoms

³ face-based emotional recognition task = emotional bias

Treatment: discontinuation



Treatment: psychotherapy

- 70% of MDD patients prefer psychotherapy over pharmacological treatment
- Alliance-outcome association $r = .278$, $d = .579$
 - > Importance of therapeutic relationship!
- Combined treatment (psychotherapy + medication) is more effective than medication alone

Treatment: psychotherapy

CBASP

(McCullough)

Schema-Therapy
(Young)

Behavioural Activation
(Skinner)

Cognitive Behavioural Therapy
(Beck, Skinner, Eysenck ...)

Gestalt Therapy
(Perls, Goodman)

Person-Centred Psychotherapy
(Rogers)

Psychodynamic Therapies
(Kernberg, Fonagy, ...)

Systemic Psychotherapy
(Ackerman)

Psychoanalysis
(Freud, Breuer, Jung, ...)

Emotion-Focused Therapy
(Greenberg & Johnson)

Interpersonal Psychotherapy
(Sullivan, Klerman & Weissman)

Acceptance- & Commitment Therapy
(Hayes)

(and many more)

Etiology: Learned Helplessness

Depression = learned behaviour

Recurring lack of control over aversive aspects of environment
→ generalized belief of low self-efficacy / lack of control → depression

Causal attribution of failure
= internal, global, stable

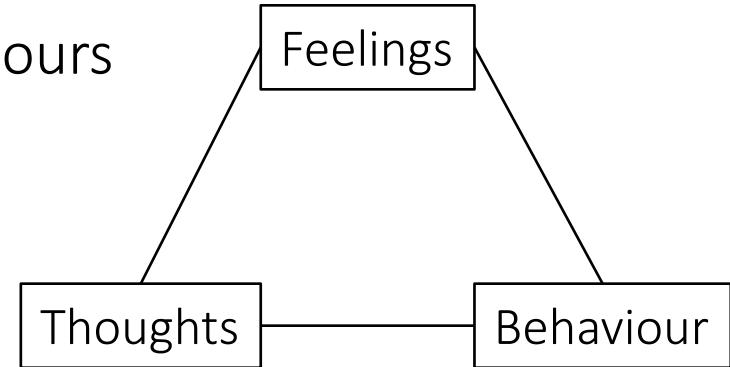


Abramson, Seligman & Teasdale (1978), see also Stephan et al. (2016)

Cognitive Behavioural Therapy

- Focus of interventions: maladaptive thoughts and behaviours

- Self-Monitoring
- Cognitive restructuring
- Increasing pleasant activities
- Exercises/homework

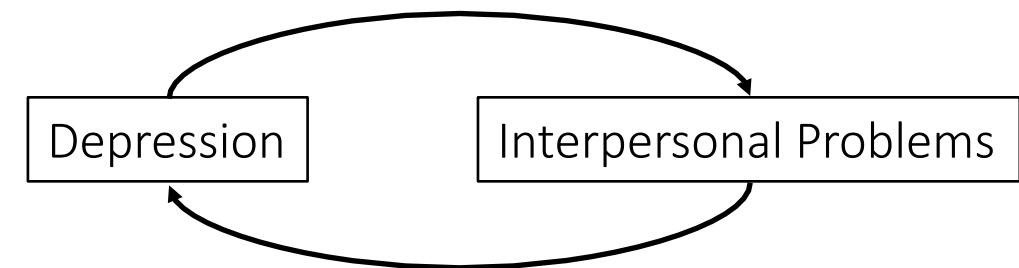


Janet's thought journal

Situation/Trigger	Automatic Thoughts <i>How true? 0-100%</i>	Mood / Feelings <i>How strong? 0-100</i>	Alternative Thoughts <i>How true? 0-100%</i>
My co-worker visited me. She told me what happened at the company during my sick leave.	"I will never be able to work again" - 80 "I'm a failure" - 95 "I am weak" - 100	Hopelessness - 90 Anger - 70 Sadness - 90	"I've already managed to overcome depression once in the past. I will manage again" - 80 "If I work on my difficulties, I will feel better" - 90
...

Interpersonal Psychotherapy

- Focus of interventions: Grief, conflict, role transition, social skills/isolation
 - Exploration of affect
 - Behaviour change techniques
 - Reality testing of perceptions



Janet's role transition

	+	-
Old role: Partner	Closeness Intimacy Financial security ...	Explosive fights Jealousy Mistrust ...
New role: Single	New experiences Freedom More time for friends ...	Loneliness Grief/Sadness ...

Future directions / open questions

- Will the patient profit from a specific medication? Which medication?
- Discontinuation of antidepressants: When and if at all?
- Objective differential diagnosis
- Assessment of suicidality
- How is psychotherapy effective > mechanisms

Tests must be practical and acceptable in clinical context!



Thank you



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... and the whole TNU Team



Appendix

Anxiety Disorders

- F41.1 Generalized anxiety disorder
 - Imaginative exposure to worries
- F41.0 Panic disorder
 - Interoceptive conditioning & -exposure, progressive muscle relaxation (PMR), psychoeducation
- F40.0 Agoraphobia
- F40.1 Social anxiety disorder/social phobia
- F40.2 Specific phobias: e.g. arachnophobia, claustrophobia, acrophobia, emetophobia, ...
 - Two-factor theory (Mowrer), exposure therapy (in sensu vs. in vivo)
- F42.- Obsessive-compulsive disorder and F43.1 post-traumatic stress disorder
(classified as anxiety disorder by ICD-10, but separate chapters in DSM-5)
 - OCD: exposure and response prevention (ERP)
 - PTSD: prolonged exposure therapy, cognitive processing therapy, eye movement desensitization and reprocessing (EMDR), narrative exposure therapy (NET),

Therapy: Psychoeducation, relaxation and exposure therapy are the basis of treatment for any anxiety disorder!

Medication: SSRIs! Careful with benzodiazepines due to addiction potential