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EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS

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EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS

Content:

- Definitions of “addiction”
- Neuroimaging of the reward-system
- Psychological criticism of the addiction-(abstinence) model
- Motivation for behavioral excess disorders: positive and negative reinforcement
- Behavioral and drug treatments for behavioral excess disorders: A multimodal (motivational) analysis- and treatment model
- Behavioral and addiction treatments: outcome with Problem-/ Pathological Gamblers

Conclusion: Excessive behaviors are not “addictions”-
but: many drug addictions may start as “neuroses”



EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS

DEFINITIONS OF “ADDICTION”



EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS LABELLING AND DIAGNOSING

WHEN NORMAL BEHAVIORS TURN EXCESSIVE (I)

When **cleaning, ordering, shopping, gambling**, sexual or sport activities etc. **become excessive** and **lead to suffering** of the **individual** and/or his **social surrounding**, **mental health professionals** will **classify** them in quite different ways, e.g.:

PROBLEM BEHAVIORS → PATHOLOGICAL BEHAVIORS

(Dimensional approach)

PATHOLOGICAL BEHAVIORS

Impulse **C**ontrol **D**isorder

Obsessive-**C**ompulsive **S**pectrum **D**isorders

Behavioral **E**xcess **D**isorders

(mostly in psychiatric services)

Substance Independent **A**ddictions

Behavioral **A**ddictions

(mostly in addiction services)



EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS LABELLING AND DIAGNOSING

WHEN NORMAL BEHAVIORS TURN EXCESSIVE (II)

But:

Excessive behaviors - even within one class of behavior, like gambling - are **extremely heterogeneous** with regard to **causes, maintaining variables, long-term courses, and (professional) help needed.**

We will therefore now investigate the **usefulness of these types of labels**, exemplarily in Problem- and Pathological Gambling (PG).



EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS LABELLING AND DIAGNOSING

Some Definitions of Addiction

Addiction is a **chronic brain disorder** with uncontrollable search for and consumption of drugs....it is a **medical disorder**.....**medications** can reverse the pathology of the disease.(Lukas, McLean Hospital, in Time 2007)

Addiction is a **chronic, relapsing brain disorder** to be managed with all tools at medicine`s disposal (NIDA experts in Newsweek 23.02.008)...In 10 years we will be **treating** addictions as a disease.. **with medicine** (N.Volkov, director of NIDA, in Newsweek, 2008)

Addiction is the **inability to resist temptation**.
(Coggan and Davis, 1988)

Addiction is a **disorder of the will**
(Valverde, 1998)



EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS

NEUROIMAGING OF THE REWARD - SYSTEM



EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS BRAIN IMAGING OF THE REWARD SYSTEM (I)

The Reward System:

- Is **activated by** e.g.: „Drugs“; Pleasurable behaviors; Looking at beautiful faces; Listening to music etc.
- Is **based on the interaction** between different areas of the brain, which process rewarding (and punishing!) stimuli and trigger cognitive-emotional and behavioral reactions. And vice versa!
- Responses are **gender-specific**.
- **Responses probably** are **different** in gamblers (shoppers etc.) with **positive** as compared to **negative reinforcement**, and with regard to psychiatric **comorbidities**.



EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS BRAIN IMAGING OF THE REWARD SYSTEM (II)

The speaker's co-authored misinterpretation of brain imaging results:

- „... a decreased activation of the ventral striatum,..., and decreased VMPFC activation... favours the view, that pathological gambling is a **non-substance related addiction**“ (Reuter et al., Nature Neuroscience, 2005)
- The reviewers of the journal judged this interpretation as a new scientific finding. Hand's early **objections to this exclusive interpretation** had not persuaded the other authors to skip it.
- Hand's **dissenting hypotheses** were presented at the EASG conference in Malmö, 2005, and are published in the internet publication of that conference.



EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS BRAIN IMAGING OF THE REWARD SYSTEM (III)

The “Reward Deficiency Syndrome” (RDS) and some strange conclusions:

- **One quarter of the population** is not able to enjoy personal activities in their everyday life. Reason is a **genetic fault** leading to “dopamine hunger” (Blum et al., 1996).
- “**Dopamine hunger**“ is the **cause for** most of the **neurotic** and self-destructive **behaviors** (Blum et al., 1996).
- This individual and social **problems** will be **resolved through** „**genetic engineering**“ (Carter, 1999).
- **Question:** Which model of man is behind such a claim ?



EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS BRAIN IMAGING OF THE REWARD SYSTEM (IV)

Future research on the Reward System (Abler, Erhard & Walter, 2005)

- A great diversity of **very different stimuli trigger the same pathways** in the brain.
- The **results of brain imaging studies** must be **integrated** into a **psychological model of motivation**. Such a model has to comprise learning from the connections between behavior and reward, as well as positive emotions and the motivation to act („wanting“).
- The **decisive attribute of an addiction** is not a positive dopamine induced excitement („liking“), but the **anticipation of a reward („wanting“)**. A lot of addicts take their drugs without „liking“!
- Therefore we have to study, **which kind of reward leads to „wanting“ without „liking“?**

Speaker's hypothesis: **Negative reinforcement!**



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PSYCHOLOGICAL CRITICISM OF THE ADDICTION - (ABSTINENCE) MODEL



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CRITICISM OF THE ADDICTION-ABSTINENCE PARADIGM

„Addiction-abstinence behavior“ – A reasonable goal in treatment of „behavioral addictions“?

I. CONSEQUENCES OF ABSTINENCE IN „SUBSTANCE-INDEPENDENT ADDICTIONS“

- „Craving for food“ ---> Death of the individual
- „Sex addiction“ ---> Death of the species
- „Workaholism“ ---> Death of the society
- „shopping addiction“ ---> collapse of economy

II. CONSEQUENCES OF „SELF-CONTROL“ OF THE PREFERRED BEHAVIOR

- The controlled behavior remains the preferred behavior ---> relapse
- “Self control” is subject to external control in published studies (by therapist, relatives) ---> relapse

III. CONSEQUENCES OF „EXTERNAL-CONTROL“ OF THE PREFERRED BEHAVIOR?

- „Voluntarily“ (because of guilty feelings and social pressure)
accepted external control ---> relapse
- “Pressure produces counter-pressure” – the healthier the individual the more applicable is this „reactance“-model of Brehm ---> relapse
- External Control of a behavior (e.g. gambling) leads to external control of other behaviors. („Where were you, since when ?“)
---> reactance ---> r



EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS ADDICTION AND DEPRIVATION

“Craving” symptoms
(e.g. G.Meyer)

- Reluctance
- Touchiness
- Sleep disturbances
- Nightmares
- Sweating
- Trembling
- Agitation
- Uneasiness

Question: Symptoms of Addiction or Anxiety/Depression?



EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS

MOTIVATION FOR BEHAVIORAL EXCESS DISORDERS: NEGATIVE AND POSITIVE REINFORCEMENT



EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS MOTIVATION FOR BEHAVIORAL EXCESSES

Positive and Negative Reinforcement in “Social Gambling”

Positive reinforcement		Negative reinforcement	
Expectation of wins	50,5%	For distraction	41,1%
For entertainment	33,4%		
To have fun	18,4%		
Out of curiosity	10,6%		
Because of liking	4,1%		
As a hobby	3,6%		

WAGER survey USA (1998):
Telephone interviews of 937 „social“ gamblers



EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS MOTIVATION FOR BEHAVIORAL EXCESSES

Positive and Negative Reinforcement (PG): Gender differences

Positive reinforcement	male	female
Expectation of wins	42,0%	21,7%
For entertainment	29,5%	0,0%
To have fun	22,6%	0,0%
	(94,1%)	(21,7%)

Negative reinforcement	male	female
Reduction of stress	18,4%	24,6%
Reduction of boredom	0,0%	36,5%
Avoidance of loneliness	0,0%	31,3%
Reduction of anxiety	0,0%	12,2%
	(18,4%)	(104,6%)

ARI Survey, Australia (1996):

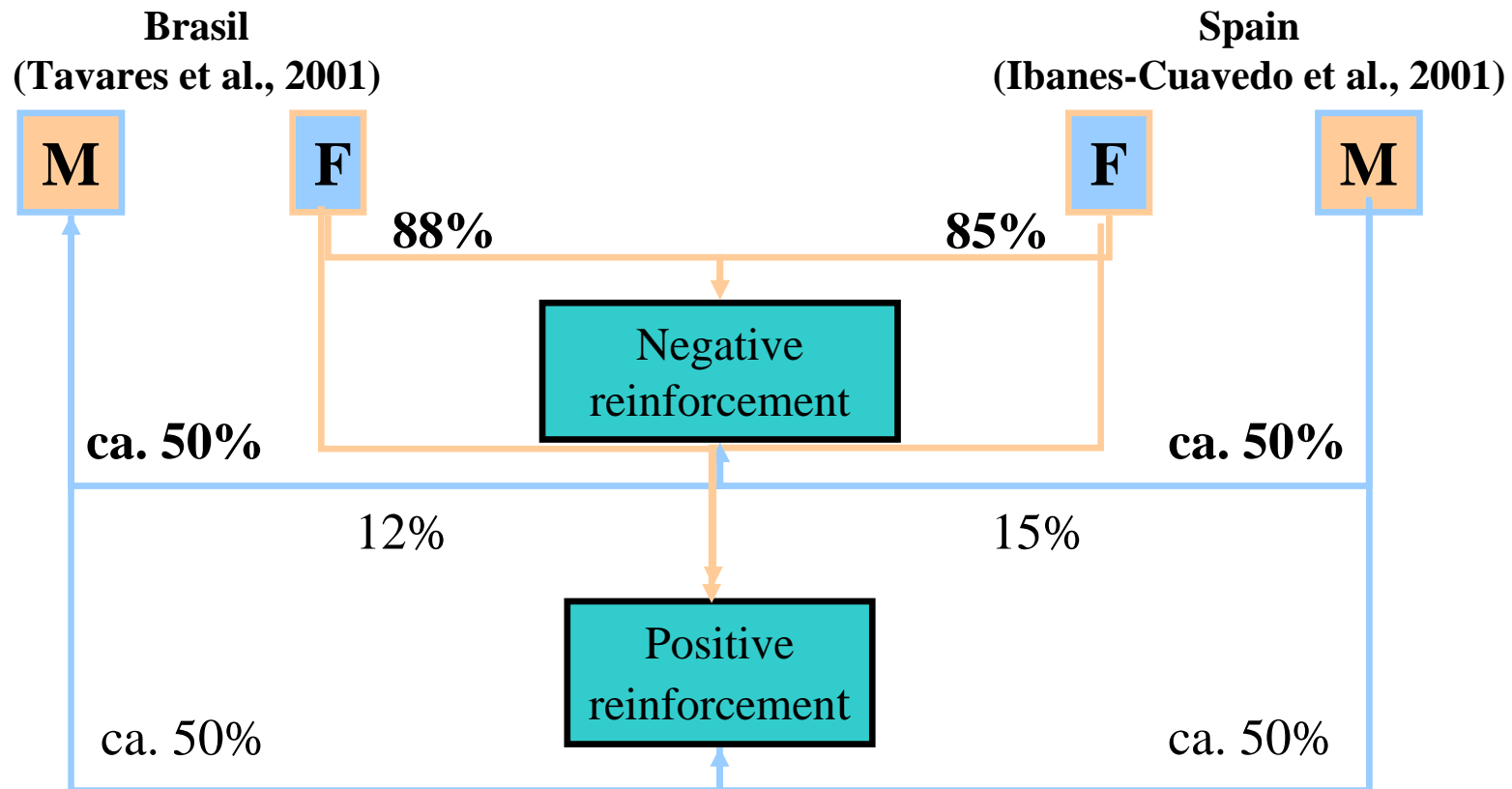
Telephone interviews with 234 Problem Gamblers

Note: In both surveys multiple answers were possible



EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS MOTIVATION FOR BEHAVIORAL EXCESSES

Motivation for gambling: Cultural and gender specific differences



Comparison of these “latin” (american and european) results with those from the USA/ New Zealand:

- Same result with female gamblers
- A lot more men are gambling to avoid negative emotions „escape gamblers“ (negative reinforcement)



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BEHAVIORAL AND DRUG TREATMENTS FOR BEHAVIORAL EXCESS DISORDERS: A MULTIMODAL (MOTIVATIONAL) ANALYSIS- AND TREATMENT MODEL



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BEHAVIOR THERAPY OF BEHAVIORAL EXCESSES

Behavioral - and functional analyses

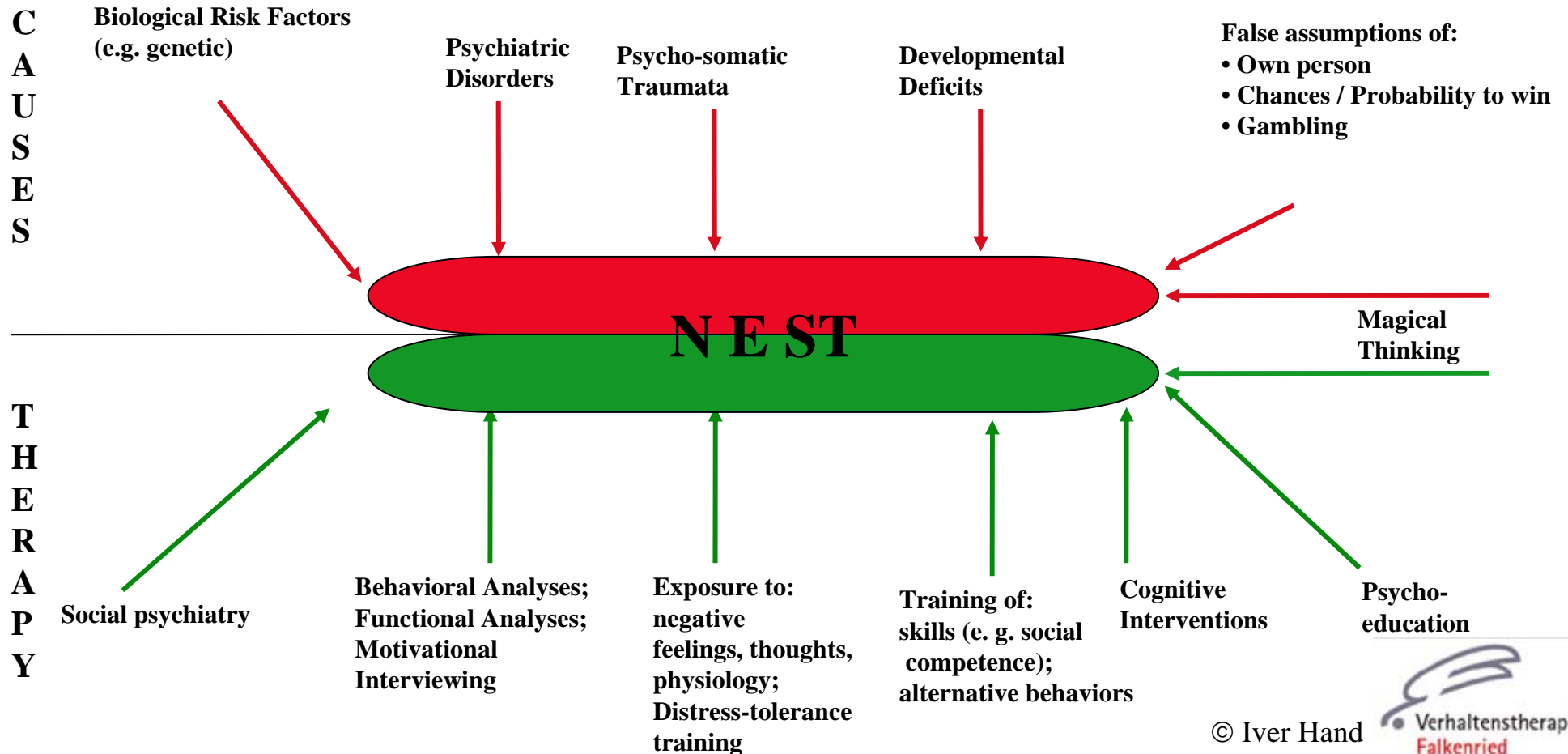
<p>“SOCIAL” GAMBLING</p> <p>C⁺ - model: Positive reinforcement</p>	<p>PROBLEM GAMBLING</p> <p>∅⁻ - Model: Negative reinforcement</p>	<p>„PATHOLOGICAL“ GAMBLING</p> <p>Pre ---> Para- Suicidal behavior</p>
<p>TO HAVE FUN (Action orientated)</p> <p>STIMULATION when bored</p> <p>„NOW - ISM“ Instant satisfaction of “ needs”</p> <p>MATERIALISTIC “PURPOSE IN LIFE”</p>	<p>ESCAPISM</p> <ul style="list-style-type: none"> • everyday life = “pain“ Depression, anxiety, guilty feelings, ambivalence • Intraindividual functions <ul style="list-style-type: none"> - Avoidance of pain and negative feelings by gambling; illusional and fairy tale like situation while gambling - Avoidance of “disgrace” and loosing self-confidence after loosing (chasing) • Interpersonal functions: <ul style="list-style-type: none"> - Abreaction of aggressions against close others - provoking significant others e.g to split up <p>LACK OF “PURPOSE IN LIFE”</p>	<p>UNCONSCIOUS SUICIDAL INTENTION (passive avoidance)</p> <ul style="list-style-type: none"> • Intraindividual functions : <ul style="list-style-type: none"> - Abreaction of self-destructive impulses - loosing increases „internal” pressure to “commit suicide” • Interpersonal functions: <ul style="list-style-type: none"> - e.g. taking revenge on the partner (loss of his wealth) <p>DESIRE TO DIE</p>



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BEHAVIOR THERAPY OF BEHAVIORAL EXCESSES(I)

Problem directed interventions for Negative State (NEST)





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BEHAVIOR THERAPY OF BEHAVIORAL EXCESSES(II)

Behavior Therapy: Reinforcement-specific

<p>TYPES OF REINFORCEMENT</p>	<ul style="list-style-type: none"> • ACTION-SEEKER (Lesieur, 1988) • C+ (POSITIVE REINFORCEMENT)-GAMBLER (Hand, 1992, 1998b) 	<ul style="list-style-type: none"> • ESCAPE-SEEKER (Custer u. Milt, 1985; Lesieur, 1988) • ♀ (NEGATIVE REINFORCEMENT)-GAMBLER (Hand, 1992, 1998b) • “SELF-MEDICATION” GAMBLER (Khantzian, 2002)
<p>REINFORCEMENT SPECIFIC BEHAVIOR THERAPY</p>	<p>“SYMPTOM”-INTERVENTIONS (1st Choice)</p> <ul style="list-style-type: none"> - Modification of motivation - Psycho-education about <ul style="list-style-type: none"> - <i>chance statistics</i> - <i>psychological traps in various games</i> - Modification of personal misbeliefs about: <ul style="list-style-type: none"> - <i>gambling</i> - <i>own personality</i> - Clarification of the reasons for the switch from social to pathological gambling - Training of alternative positive reinforcement strategies <p>(“CAUSAL”-INTERVENTIONS ?)</p>	<p>„CAUSAL”-INTERVENTIONS (1st Choice)</p> <ul style="list-style-type: none"> - Modification of motivation for change - Accurate psychopathological assessment - Detailed biographical and functional analyses - Hierarchical, multimodal hypothesis and interventions - Daily patient protocol about events and feelings before, during and after gambling - Reduction of developmental deficits - Training of alternative positive reinforcement strategies <p>(„SYMPTOM”-INTERVENTIONS ?)</p>





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PHARMACOTHERAPY OF BEHAVIORAL EXCESSES

Pharmacotherapy: Reinforcement-specific (Rosenthal, 2004)

	I.	II.
TYPES OF REINFORCEMENT	<ul style="list-style-type: none"> • ACTION-SEEKER (Lesieur, 1988) • C+ (POSITIVE REINFORCEMENT)-GAMBLER (Hand, 1992, 1998b) 	<ul style="list-style-type: none"> • ESCAPE-SEEKER (ESCAPISM) (Custer u. Milt, 1985; Lesieur, 1988) • ∅ - (NEGATIVE REINFORCEMENT)-GAMBLER (Hand, 1992, 1998b) • „SELF-MEDICATION“ GAMBLER (Khantzian, 2002)
REINFORCEMENT-SPECIFIC DRUG TREATMENT	<ul style="list-style-type: none"> • OPIOID-ANTAGONISTS Naltrexon Naltrexon + SSRI Nalmefen Cave: Drug-induced dysphoria/depression • BETABLOCKER no clinical trail yet; recommendation from Rosenthal, 2004 • MOOD STABILIZER ? • PLACEBO ! 	<ul style="list-style-type: none"> • ANTIDEPRESSANTS • TRICYCLICS Imipramine • SELECTIVE SEROTONIN REUPTAKE INHIBITORS (SSRI) Fluvoxamine; Fluoxetine; Paroxetine; Citalopram • „MOOD STABILIZER“ Lithium; Carbamazepine; Valproate • PLACEBO ?



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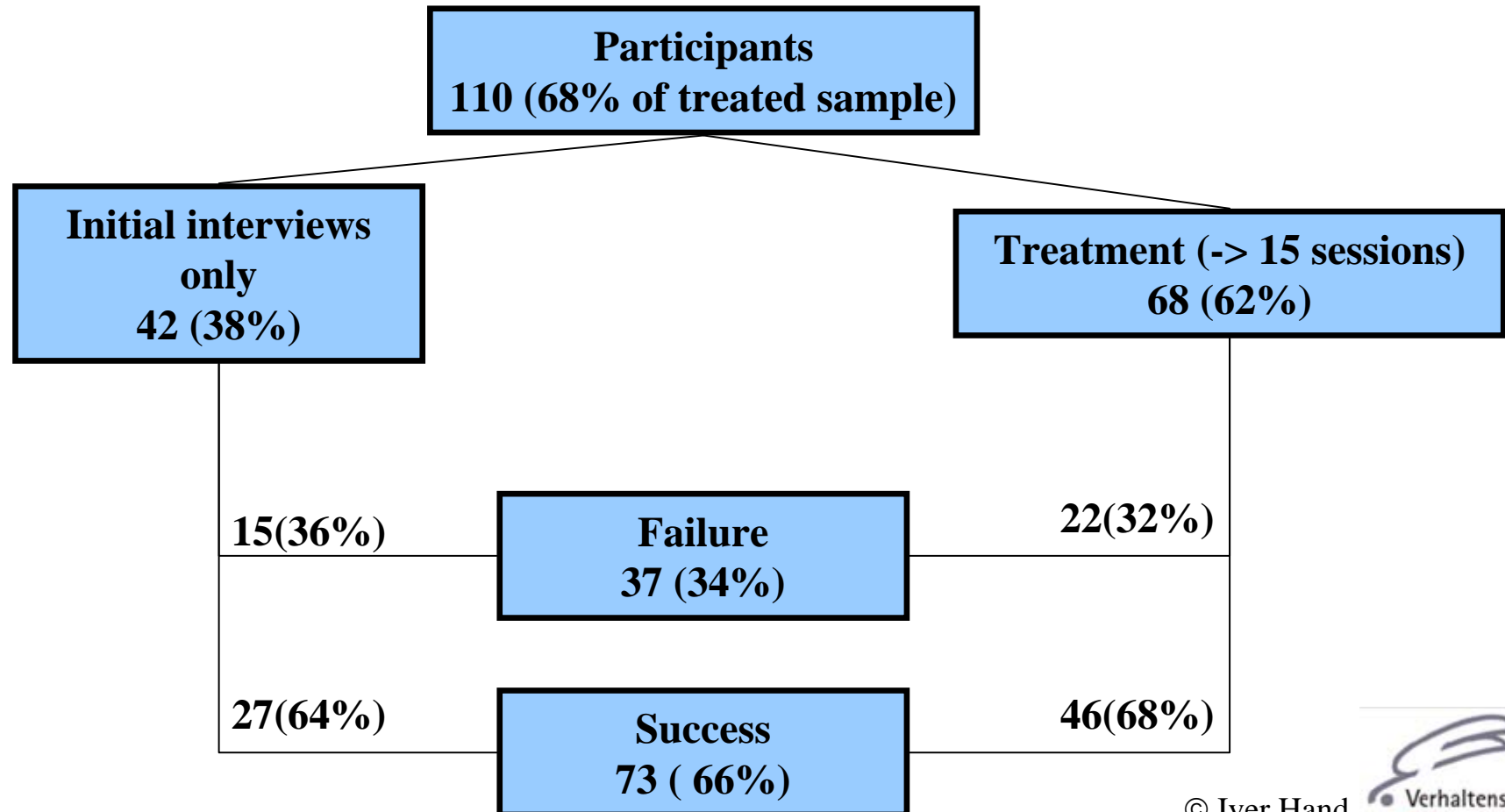
BEHAVIORAL AND ADDICTION TREATMENTS: OUTCOME WITH PROBLEM-/ PATHOLOGICAL GAMBLERS



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BEHAVIOR THERAPY OUTCOME

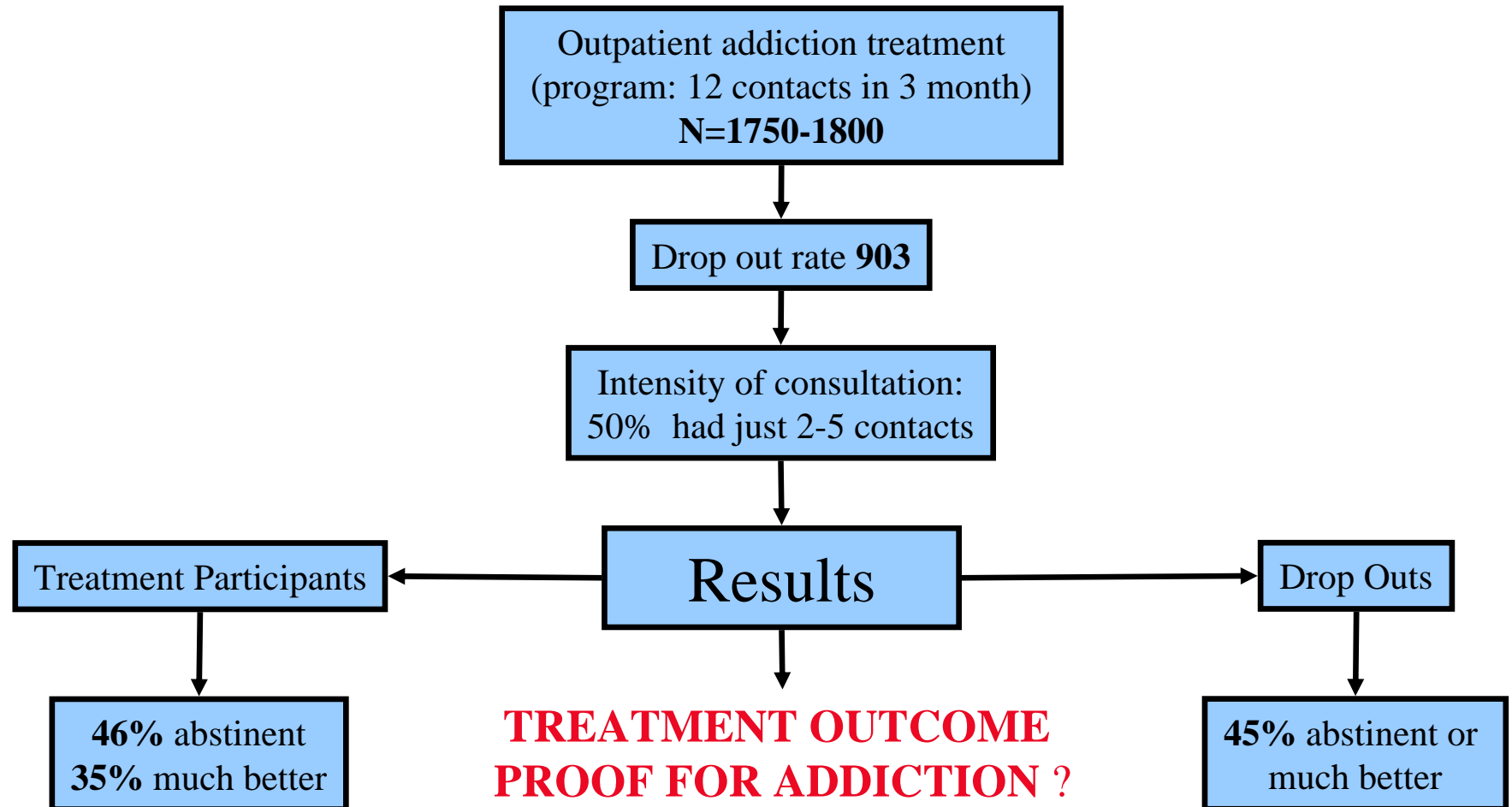
Hamburg Follow-Up Studies (I-III) : up to 4 years after treatment





EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS TREATMENT OUTCOME

Pathological Gamblers in Outpatient Addiction Treatment,
(Sonntag u. Welsch, 2005)





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GAMBLERS IN ADDICTION OR BEHAVIORAL TREATMENT

Motivation for Addiction Treatment or Behavior Therapy ?

Problem **gamblers**, who **seek help** in **outpatient addiction units** do **not differ** in terms of socio-economic variables **from gamblers**, who attend outpatient **behavior therapy**.
(Schmidt et al., 2007, not published yet)

Outcome of short-term treatment seems to be **similar** in both settings.

Questions:

- **How** do Pathological Gamblers make their **treatment choice**?
- And: **Does it matter**?



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Lack of treatment research

CLAIMS FOR TREATMENT RESEARCH

“Treatment is one of the most under-researched aspects of gambling disorders and consequently, there is not yet a treatment standard for the disorder”

(NCRG Annual Report, 2007 (12.7))

**AND: Treatment research in PG should be done in units with experts in:
psychopathology, behavioral or psychodynamic psychotherapy, and
psychopharmacology!**

(Hand, ever since 1984)



EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS

DISCUSSION



EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS

DISCUSSION (I)

The term “**Behavioral Addiction**” (BA)

is currently **helpful** for **obtaining** research and treatment **funding**

BUT:

It does impede understanding, treatment and research in excessive behaviors



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DISCUSSION (II)

- The **term BA is misleading from a scientific point of view**, because:
 - **No** generally accepted **definition** of “addiction”
 - **No** generally accepted “addiction” **treatment**
 - AA/GA concept of “ day-by-day life long **abstinence**” questioned even in drug addiction, **inapplicable** in excessive normal behaviors
 - **Chronic course** of PG **exception** rather than the rule
 - The **symptoms of “ withdrawal”** are typically **those of anxiety / depression**
 - Most often mentioned “**cause**” for **PG** is “**self-medication**” in unbearable emotional-physiological-mental states
 - The **highest risk factor** for problem gamblers **to become pathological gamblers** is **Negative Emotional State (NEST, Hand, 2002)** prior to problem gambling (Major Depression, Bipolar Disorder, and lifetime alcohol dependence as additional risk factors.)
(LaPlante et al., 2008)



EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS PROBLEMS WITH THE “ADDICTION” LABEL

DISCUSSION (III)

- **Good recovery** from different short-term treatments
- **Modern “addiction treatments”** (e.g. Harvard Univ.; D. Jacobs) **are actually psychodynamic-behavioral treatments**
- And **what happens to pathological gamblers in addiction units** that do not apply the Harvard or Jacobs or a similar approach?
- **Modern behavioral treatments** (symptomatic and/ or causal) are similarly successful for excessive behaviors as they are in many “neurotic” disorders. But, to establish motivation for change is as difficult as in obsessive compulsive disorder!

QUESTION:

Do “neuroses” treatments become “addiction” treatments when successfully applied to excessive (drug independent) behaviors in addiction units ? **Or, should those addiction units better be re-labelled “neuroses” units ?**



EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS FUNCTIONS OF THE “ADDICTION” LABEL

DISCUSSION (IV)

- The “**Addiction**” label - even more than the “pathology” label - **does de-motivate** those in need **for help** (but not yet “on the bottom”) to search for and accept it.

WHY IS IT SO MUCH EASIER TO ACQUIRE SUBSTANCIAL FUNDING FOR RESEARCH AND TREATMENT IN “ADDICTIONS” THAN IN OTHER PSYCHO-BIOLOGICAL HEALTH PROBLEMS (that are not less painful and costly for sufferers and society)

???



EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS

BEHAVIOR THERAPY AND AA / GA

AND JUST AS A REMINDER:

Bill W., founder of AA in 1935,

- Suffered from **Social Phobia**
- Used **alcohol** to reduce suffering (“**self-medication**”!!!)
- Developed abuse of alcohol, as Social Phobia got worse
- There was **no Behavior Therapy**:
Neither for Social Phobia nor for “self-medication”
- Founded Alcoholics Anonymous**
- Stopped alcohol** abuse
- Improved Social Phobia** (by founding and **attending AA group settings**)

Question:

With Behavior Therapy around in the 1930s - No Alcoholics Anonymous?

(Would have been really bad for substance addicts - but for pathological gamblers?)



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Some References:

HAND I. (1998). Pathological gambling – a Negative State model and its implications for behavioral treatments. *CNS Spectrums*; 3: 58-71.

HAND I. (2000). A „Low-Threshold” outpatient behavioral treatment program for pathological gamblers. *Report on Problem Gamblers: Oct/Nov: 26-28 (Nevada/USA)*.

HAND I. (2004). Negative und positive Verstärkung bei pathologischen Glücksspielen: Ihre mögliche Bedeutung für die Theorie und Therapie von Zwangsspektrumsstörungen. *Verhaltenstherapie*; 14 (2): 133-144. (Includes papers on behavior therapy, outcome in pathological gambling, trichotillomania, cleptomani, pathological shopping - each with english summary and extensive international references). Free access via

<http://content.karger.com/ProdukteDB/produkte.asp?Aktion=Ausgabe&Ausgabe=230232&ProduktNr=224158>

Hand, I. (2008). Verhaltensexzesse – keine Verhaltenssüchte. *Neurotransmitter*, 4, 72-78.

LaPlante et al. (2008). Stability and Progression of Disordered Gambling: Lessons from Longitudinal Studies. *The Canadian Journal of Psychiatry*, 53; 1:52-60.

Pallesen, S., Mitsem, M., Kvale, G., Johnsen, B.-H., Molde, H. (2005). Outcome of psychological gambling: a review and meta-analysis. *Addiction*, 100, 1412-1422.

Petry, N.M., Ammerman, Y., Bohl, J., Doersch, A., Gay, H., Kadden, R., Molina, C., Steinberg, K. (2006). Cognitive- Behavioral Therapy for Pathological Gamblers. *Journal of Consulting and Clinical Psychology*, Vol. 74, 3, 555-567.



EXCESSIVE BEHAVIORS ARE NOT ADDICTIONS !

THANK YOU FOR YOUR ATTENTION