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The Relationship Between Person Served Effort and Outcomes in Post-Acute ABI Rehabilitation

On With Life Annual Best Practice Conference
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SMALL STEPS. GIANT STRIDES.

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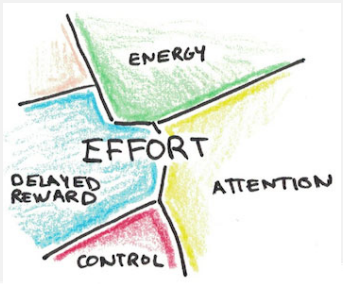
Topic List

- Effort…definitions and constructs
- OWL / U of I Level of Effort Study Results
- Treatment Design for Effort
  - Person-Centered Rehabilitation
  - EDSO Competencies



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"Doing" Dreams

How do we better define the climb?

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Effort…What is it?

- Sometimes equated with "engagement."
- Sometimes equated with "participation."
- General agreement that it is not an independent construct, but rather the result of several constructs.
- Most widely accepted rating scale for effort in rehabilitation is the ***Rehabilitation Intensity of Therapy Scale.***
- Not well studied…especially in post-acute brain injury rehabilitation.


ORIGINAL RESEARCH | VOLUME 96, ISSUE 8, SUPPLEMENT , S235-S244, AUGUST 01, 2015

Patient Effort in Traumatic Brain Injury Inpatient Rehabilitation: Course and Associations With Age, Brain Injury Severity, and Time Postinjury

Ronald T. Seel, PhD , Jr. ✉ • John D. Corrigan, PhD • Marcel P. Dijkers, PhD • Randall J. Smout, MS • William Garmoe, PhD • Susan D. Horn, PhD • Show all authors

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How do we conceptualize effort in brain injury rehabilitation?

- **Cognitive and Emotional Factors**
  - Insight / Awareness
  - Attention (focused and selective)
  - Initiation / vigilance
  - Agitation / restlessness
  - Coping Skills
- **Medical and Physical Factors**
  - Pain
  - Fatigue / Arousal
  - Medication-related factors
- **Treatment Design**
  - Task Salience
  - Therapeutic Alliance & Rapport
  - Person-Centered Rehabilitation

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OWL Level of Effort (LoE) Scale

- Inter-rater reliability was assessed using 6, scenario-based assessments
- Reliability across all scenarios and therapists was 0.96.

7 maximal effort	max participation, fully engaged in treatment goals, full effort
6 maximal (minus) effort	max (minus) participation, partially engaged in goals, but insight may limit to some extent, nearly full effort
5 moderate (plus) effort	moderate (plus) participation, insight limits engagement, good effort
4 moderate (minus) effort	moderate (minus) participation, fatigue, insight and/or initiation adversely affect engagement, partial effort
3 minimal (plus) effort	minimal (plus) participation, little engagement in treatment goals due to cognitive and/or neurobehavioral challenges, some effort
2 minimal (minus) effort	minimal (minus) participation, insight, agitation, and/or distraction severely limit engagement, very little effort
1 no effort / passive	passive intervention, low arousal or severe agitation prevents engagement, no effort

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OWL / University of Iowa Research Collaboration

An Observational Cohort Study of the Role of Level of Effort in Post-Acute Brain Injury Rehabilitation

- David Anders, MS, CCC-SLP, CBIST
- Knute Carter, Ph.D.
- Daniel Logan, BS
- James Malec, Ph.D.
- Sarah Perry, MS
- Jean Shelton, MBA, FACHE, CBIS
- Joseph Walters, MS, CPHQ, CBIS

THE UNIVERSITY OF IOWA

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Objective, Design, & Outcome Measures

Objective:

- Investigate the role of person served level of effort (LoE) on outcome in post-acute, inpatient brain injury.
- Is greater effort associated with more positive outcomes? To what degree?

Design:

- Observational cohort study

Outcome Measures:

- Mayo Portland Adaptability Inventory (MPAI-4)
- Supervision Rating Scale (SRS)

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COMBI The Center for Outcome Measurement in Brain Injury

Mayo Portland Adaptability Inventory (MPAI-4)

The MPAI is a measurement of current functional status of individuals with acquired brain injury (ABI) in the post-acute period of the recovery continuum.

Ability Index

- Examines sensory, motor and cognitive functioning

Adjustment Index

- Examines mood, interpersonal interactions and insight

Participation Index

- Examines social contacts, initiation, money management, leisure/rec, self-care, residence, transportation and work/school

T-Score Change of at least **5 points** = Minimally Clinically Important Difference (MCID)

T-Score change of at least **9 points** = Robust Clinically Important Difference (RCID)

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Supervision Rating Scale (SRS)

The Supervision Rating (SRS) measures the level of supervision that a patient/subject receives from caregivers.

- Uses a 13-point ordinal scale (1 = Independent, 13 = in physical restraints)
- Ordinal scale is grouped into five ranked categories:
  - Independent
  - Overnight Supervision
  - Part-Time Supervision
  - Full-Time Indirect Supervision
  - Full-Time Direct Supervision

Boake, C. (2001). The Supervision Rating Scale. *The Center for Outcome Measurement in Brain Injury*. http://www.tbims.org/combi/srs .

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Results

Findings:

- Linear regression showed that discharge MPAI-4 Total scores were significantly associated with:
  - Mean LoE rating
  - Admission MPAI-4 scores
  - Age at admission
  - Days from injury
- Linear regression showed that discharge MPAI-4 Total scores were not significantly associated with:
  - Standard deviation of LoE rating
  - Sex
  - Condition
  - Length of stay
  - Treatment before or during the COVID pandemic

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Results

Findings:

- Discharge SRS scores were significantly associated with:
  - Mean LoE rating
  - Admission SRS scores
  - Age.

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Results
Findings:
After controlling for other variables, a one-unit increase in mean LoE rating was associated with:
An improvement of 5.1 in discharge Total MPAI-4 score
An improvement of 1.5 in discharge SRS score

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Results
Findings:
Logistic regression showed the odds of achieving a Minimal Clinically Important Difference on the MPAI-4 were 8.34 times higher with each one-unit increase in mean LoE after controlling for other variables.

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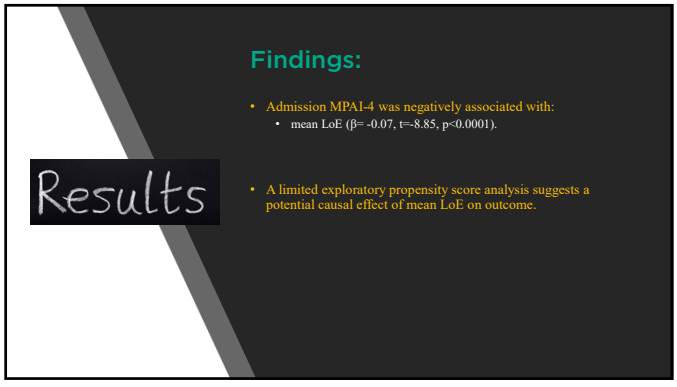
Results
Findings:
Admission MPAI-4 was negatively associated with:
mean LoE (β= -0.07, t=-8.85, p<0.0001).
A limited exploratory propensity score analysis suggests a potential causal effect of mean LoE on outcome.

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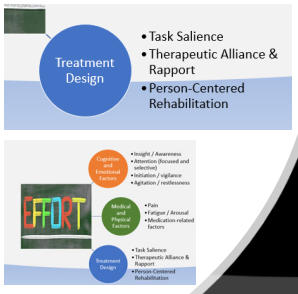

Better Defining the Climb

- What skills / competencies do clinicians need to get the most from the people we serve?
  - PCR Principles
  - EDSO Competencies.

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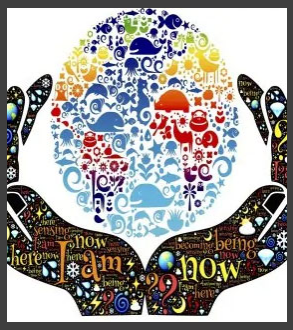

What is PCR?

Thought processes that center on provision of rehabilitation "**with**" the PS and family.

Emphasis is placed on the way rehabilitation is experienced by the person served.

PCR is embedded across

- The person-professional dyad
- The microsystem level (team and family dynamics) (e.g., "we" vs. "they")
- The macrosystem level (organizational structures)

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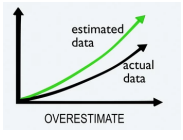
Arch Phys Med Rehabil. 2022 Jan;103(1):106-120. doi: 10.1016/j.apmr.2021.05.005. Epub 2021 Jul 3.

Person-Centered Rehabilitation Model: Framing the Concept and Practice of Person-Centered Adult Physical Rehabilitation Based on a Scoping Review and Thematic Analysis of the Literature

Tiago S Jesus [1], Christina Papadimitriou [2], Felicity A Bright [3], Nicola M Kayes [3], Cátia S Pinho [4], Cheryl A Cott [5]



Person-Centered Rehabilitation (PCR)

Conceptual models of person-centered care have proliferated including scoping reviews in the broader healthcare literature.

This is the first scoping review in rehabilitation

PCR remains more rhetoric than standard practice

- We all think we do it. But do we? Really?

Research suggests there's a disconnect between clinicians' perceptions of their person-centeredness and the perceptions of their patients.

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We all think we do it. But do we? Really?

- Avoids protocolization or prescription
- Gives undivided attention and empathy
- Prioritizes the relationship over all else
- Connects with the PS outside of "required" time
- Requires the professional to be a little bit vulnerable.

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The "Life is Good" Neurotransmitters

Simon Sinek – cultural anthropologist, professional speaker, author, and leadership trainer

- *Start With Why*
- *Leaders Eat Last*
- *Together is Better*

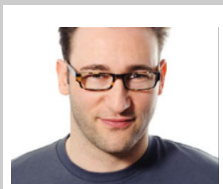
EDSO

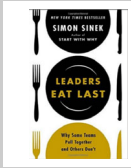
Endorphins – activated when we exercise

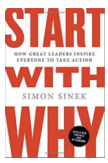
Dopamine – activated when we set goals and achieve them

Serotonin – activated when we feel pride / accomplishment / elevated status...it's associated with self confidence

Oxytocin – activated when we experience friendship, kindness, trust, physical touch







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Mary... a case example

- 55 y/o
- 1 year post- ABI
  - Ongoing executive fu
    and memory defici
- Lost job after BI
- Husband with Alcoholism
- Significant weight gain post BI
- Primarily spends time watching TV

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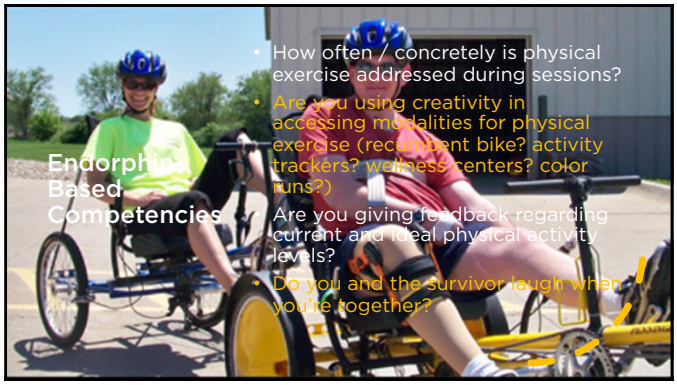
Endorphin-Based Competencies
How often / concretely is physical exercise addressed during sessions?
Are you using creativity in accessing modalities for physical exercise (recumbent bike? activity trackers? wellness centers? color runs?)
Are you giving feedback regarding current and ideal physical activity levels?
Do you and the survivor laugh when you're together?

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perfect
take
towards
review
Every
progress
daily
reach
every
goals
day
goal
one
step
making
setting
attainment
planning
inspiring
Dopamine-Based Competencies
Are we creating VISIBLE goals with the survivor?
Are we providing constant feedback regarding progress toward those goals?
Are we constantly relating the task at hand back to the survivor's goals?
Are we ensuring that the survivor leaves the task feeling as though they have succeeded?
Are we incorporating music into our interventions when appropriate?
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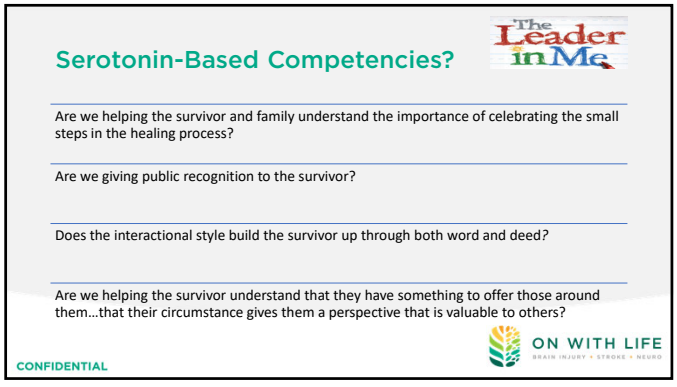
Serotonin-Based Competencies?
The Leader in Me
Are we helping the survivor and family understand the importance of celebrating the small steps in the healing process?
Are we giving public recognition to the survivor?
Does the interactional style build the survivor up through both word and deed?
Are we helping the survivor understand that they have something to offer those around them…that their circumstance gives them a perspective that is valuable to others?
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CARE
Oxytocin-Based Competencies
Does our therapeutic approach instill within the survivor a belief that, without a doubt, we will help them get better?
Are we providing the survivor with opportunities to be a "giver of help" rather than merely a "receiver of help"?
Are we helping survivors and families develop relationships with others who understand what they are going through?
Are we taking time to provide small acts of kindness for the people we serve and their families…are we leading by example?

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Mary's Solutions

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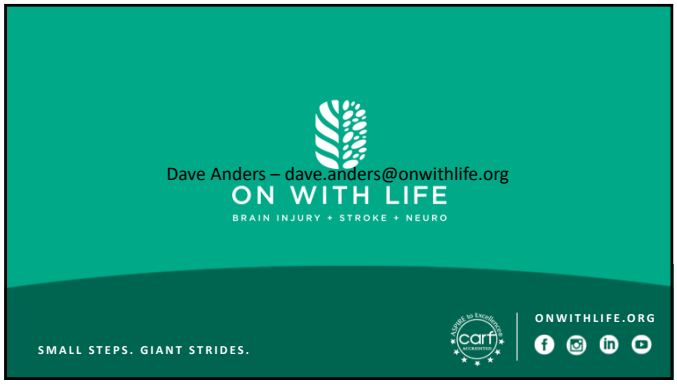
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