A Rationale for Therapy Goals and Principles of Success

**European Symposium on Fluency Disorders**

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**Goals for Change**

Increasing Fluency
Improving Communication
Developing greater autonomy (agency)

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**Agentic Behavior**

"Agency is thought of as the ability to live life and achieve a voice in a literal as well as a metaphorical sense; or you could think of it as having a lifestyle where the person can act for themselves and speak on their own behalf." (p. 301)


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**Evidenced Based Treatment**

Parachutes reduce the risk of injury after gravitational challenge, but their effectiveness has not been proved with randomized controlled trials (Smith & Fell, 2003)

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**Evidenced Based Practice and the Medical Model**


- "... the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients ...
- "... the integration of best research evidence with clinical experience and patient values."
The medical model implies that there are specific therapeutic ingredients necessary for the remediation of a disorder; thus manuals are developed in order to specify clinician adherence to the ingredients.

The gold standard: RCTs

Ethical issues & other problems*

- Withholding treatment from controls
- Learning from previous treatment(s)
- Compelling but superficial evidence
- Support for “brands”


Other Problems

- Tyrannized by evidence (Sackett et al, 2000)
- Evidenced Based Practice as a club
- Ratner (2005) our real choice is not between . . .
- some efficacious treatments are not acceptable
  - intention-to-treat
  - non-compliance
- currently without substantial evidence ≠ without substantial value


“To infer that one treatment is more efficacious than another because one has been subjected to empirical scrutiny using a particular set of procedures and the other . . . has not is a logical error.” (p. 878)

- [There is] a need to distinguish the notion of empirically unvalidated from empirically invalidated treatments
- Limits development and application of new approaches

Beyond efficacy data indicating that a treatment works . . .

we need to know why it works so . . .

we can understand the cause-and-effect relationships that are operating and adjust a protocol for individuals and circumstances, especially when things don’t work

Following Psychology
Bruce Wampold (2001) and the Common Factors Model

- Consistent findings of uniform efficacy across treatments provide indirect evidence that specific ingredients associated with treatment approaches are not responsible for treatment benefits.
- Indications that manuals decreased treatment effect.


<table>
<thead>
<tr>
<th>Descriptor</th>
<th>Proportion of Variance</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tx vs. Control</td>
<td>13%</td>
<td>0.80</td>
</tr>
<tr>
<td>Tx A vs. Tx B</td>
<td>0 - 1%</td>
<td>0.20</td>
</tr>
<tr>
<td>Tx Ingredients</td>
<td>0%</td>
<td>0.00</td>
</tr>
<tr>
<td>Placebo</td>
<td>4%</td>
<td>0.40</td>
</tr>
</tbody>
</table>

Wampold & colleagues concluded...

A Contextual (or Common Factors) Model does a better job of explaining therapeutic change than the Medical Model.

- Predicted by: Rosenzweig, S. (1936), Smith and Glass (1977)
- Beginning to find similar results in SLP

The equivalency of both validated and empirically-informed treatments in fluency disorders


For Example

<table>
<thead>
<tr>
<th>Descriptor</th>
<th>Proportion of Variance</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tx vs. Control (absolute efficacy)</td>
<td>13%</td>
<td>0.91</td>
</tr>
<tr>
<td>Tx A vs. Tx B (relative efficacy)</td>
<td>0 - 1%</td>
<td>0.21</td>
</tr>
</tbody>
</table>

Concluded that the critical elements of successful therapy were most likely common factors observed across treatment approaches or factors related to the clinician delivering the treatment.

Similar findings in other areas

Developing Expertise

- Novice
- Advanced Beginner
- Competent
- Proficient
- Expert
  - Characteristics
  - Requirements

The Novice
- Tends to act deliberately; focus on context free rules (e.g., driving)
- relatively inflexible
- pays attention to protocol & rules
- labeling & attaching terms to activities

[Characteristic of: students and first year professionals]

Advanced Beginner
- like the novice, tend to set up barriers to keep authority in their own hands.
- although they now know the rules they are unsure what to do/not to do during unusual circumstances (driving on ice, fog)
- begin to learn when to ignore or break rules

[Characteristic of second and third year professionals]

Competency
- have motivation & additional experience
- make own choices, setting priorities & strategies
- takes responsibility for outcome (their plan)
- learn what to attend to (or not)
- develop a sense of timing

[Characteristic of professionals after 3+ years.]
Proficiency

- develop an intuitive sense of situation; able to make micro adjustments (riding a bike)
- take a holistic approach; see patterns others don’t
- able to predict events with greater precision

[Characteristic of 5+ year professionals]

To Achieve expert performance

- Focus and excel in specific domain(s)
- great dedication and persistence
- practice
  - 10-20k hours for chess players
  - 10-15k hours of teaching
  - read 100,000 X rays)

Characteristics of Experts

- perform appropriately and effortlessly
- become one with the activity - driving, flying, speaking
- appear to be non-analytic and non-deliberative
  - [e.g., martial artist, fluent speaker]
  - deliberate calculation is not necessary
  - not easily described as deductive or analytic behavior
  
  Wayne Gretsky

Expert Instructors (& Clinicians)

- able to transfer their ability to new and changing situations
- willing to change strategy when appropriate
- flexible in approach, not likely to follow a manual
  - opportunistic about ways to connect and change (rather than following pre-planned approach)
  - consider alternative responses, follow the lead of the learner
- become integrated individual; focus moves from self to the other person; unusually sensitive to the affective concerns of the learner.

Decision Making with Rules & Principles

**Rules** - specific prescriptions for regulating or evaluating:
- formalized, consistently applied, often quantitative
- follows a prescribed or programmed approach & specific techniques
- work best when the activity is
  - simple, context free
  - results in “gaming” the rules

... Are less specific and clear cut

- Emphasize expert discretion, intuition, personal knowledge
- Qualitative and contextual
- Allows choice of several approaches and associated techniques
- Work best when the activity is - complex, dynamic, contextual
4 Principles of Therapeutic Change
(common factors across treatments)

- Move toward rather than away from the problem
- Assume the responsibility for taking action
- Restructure the cognitive view of the self and the problem
- Recruit the support of others

Locus of causality

- Who is in charge . . . me or the stuttering?
- Self-reporting by the speaker
- How to determine?
  - Locus of Control - 17 item scale (Craig, et al. 1984)
    - a single dimensional trait construct
  - Pawns & Origin Scaling
    - a two dimensional state construct

Origin and Pawn
(DeCharms, 1968)

Self-perception of one’s locus of causation:
- Origin: originator of behaviors
  - internal - agency
- Pawn: influenced by others/environment
  - external - helpless

Origin and Pawn Scaling

- A psychological state is reflected in a language that a person uses
- Less restrictive than the LCB scale (a limited set of 17 specific, clinician-provided responses)
- Individual verbal or written responses by the speaker to an open-ended question
- Thus: more sensitive and valid than the LCB?


Manning, W., Hodak, M., & Plexico, L.
2005 ISAD Conference
Generally speaking I am now focusing more on reducing fear and emotional tension, on improving fluency, on increasing my self-confidence, and on engaging in some sports. Also I am trying to increase physical activity and to engage in some sport. I think it will be much easier to use those techniques when I substantially improve my self-confidence. I feel that I understand stuttering better now, some emerging fears are making progress difficult. Despite the fact that I am spending best years of my life in the "mud", I feel I am in position to see and to feel the full potential of the struggle-free life. Also I feel much more freedom as I am accepting my stuttering and decreasing emotional attachment and sensibility to it. I am now in position to feel and to see the full potential of the struggle-free life that I can achieve. If I put enough effort in this process of change, I generally speaking I am now focusing more on reducing fear and emotional tension, on improving the quality of my life than on techniques for improving fluency.
OASES: Total Impact Scores by Year

Oases I: General Information

Oases II: Reactions to Stuttering

Oases III: Communication in Daily Situations

Oases IV: Quality of Life

Plexico, et al. (2005) ASHA
Origin and Pawn Scores by Past (P), Transitional (T) and Current (C)

ORIGIN
PAWNS
Origin and Pawn Scaling for Adults who Stutter: Documenting Changes in Self-Perception During Treatment

Kyungjoe Lee, Ph.D.
Oklahoma State University

Goals of the investigation

- Achieve better reliability from previous studies
- Refine guidelines for scoring
- Determine patterns of Origin and Pawn scores as a result of treatment
- Determine concurrent validity with other measures of therapeutic change
- Determine the relationship between Origin & Pawn scores & the LCB

Participants

- 20 adult native speakers of English who stutter
  - X age: 26 yrs old
  - 15 males, 5 females
- 3-week intensive stuttering treatment provided by the American Institute for Stuttering in NYC

Pre- and post-treatment Measures

Overt Features
  - %SS (average of interview and reading)

Covert Features
  - Origin and Pawn Scales
  - LCB (Craig et al., 1984)
  - PST-A, E & S (Woolf, 1967)
  - OASES (Yaruss & Quesal, 2008)

Training: a clause is categorized as Origin if it expresses . . .

- Intention
  - “I intended to speak slowly.”
- Exertion or trying
  - “I tried to focus on breathing.”
- Ability
  - “I was able to maintain slow speech.”
- Overcoming influence from others or environment
  - “I have become more open about my stuttering.”
- Self-perception as a cause or Origin
  - “I own my voice and speech.”

Training, a clause is categorized as Pawn if it expresses . . .

- Lack of Intention
  - “I was surprised that I stuttered to her.”
- Lack of Exertion or trying (unintended outcomes)
  - “I happened to speak fluently.”
- Lack of Ability
  - “I was unable to say what I wanted to say.”
- Being influenced by others or environment
  - “Familiarity with friends made me fluent.”
- Self-perception as a Pawn
  - “I’m never completely sure when I’m going to get stuck.”
**Adjustment processes of raw scores (length of response & skewness)**

- Raw scores: # of Origin/Pawn clauses
- Possible to have no Origin or Pawn clauses
- Value of 0.5 added to the raw scores
- Multiply by a correction (CF) for length of passage

\[ CF = \frac{1}{(\text{total number of words}) \times 100} \]

Adjusted scores = \( \sqrt{\text{Total raw score} + 0.5 \times CF} \)

**Origin and Pawn Analysis**

Writing samples (M = 135 words)

“We would like you to think about a recent experience where you have spoken to one or more people. Please write about this experience for at least 10 minutes.”

Reliability of assigning Origin & Pawn scores:

<table>
<thead>
<tr>
<th>Measure</th>
<th>Origin</th>
<th>Pawn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohen’s kappa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inter-rater reliabilities</td>
<td>.76</td>
<td>.68</td>
</tr>
<tr>
<td>Scoring-rescoring with consensus of two raters</td>
<td>.92</td>
<td>.85</td>
</tr>
</tbody>
</table>

**Treatment was effective!**

Significant improvement in pre-post measures; effect size

- %SS: \( p = .004; \ d = 0.97 \)
- PSI-A: \( p = .001; \ d = 1.39 \)
- PSI-S: \( p = .001; \ d = 1.02 \)
- OASES: \( p = .001; \ d = 1.71 \)
- Origin: \( p = .001; \ d = 1.44 \)
- Pawn: \( p = .003; \ d = 1.11 \)

Non-significant improvement in pre-post measures

- LCB: \( p = .057; \ d = 0.34 \)
- PSI-E: \( p = .050; \ d = 0.49 \)

**Group Changes in Origin and Pawn Scores (n = 20)**

**Concurrent & Construct Validity (Origin & Pawn and OASES)**

Origin scores and OASES scores have significant negative relationships
- That is, higher Origin scores correspond with less impact of stuttering

Pawn scores and OASES scores have significant positive relationship
- That is, higher Pawn correspond with more impact of stuttering

**Individualized patterns for Origin and Pawn Scores**

- 11 participants
- 5 participants
- 2 participants
- 2 participants
**Concurrent & Construct Validity (PSI and %SS)**

A significant positive relationship between Pre-treatment Pawn scores and PSI-Avoidance ($r = .52$)
- That is, higher Pawn scores correspond to greater avoidance

A significant positive relationship between decreases in disfluency (%SS) and lower post-treatment Pawn scores ($r = .45$)

A significant positive relationship between pre-treatment disfluency (%SS) and increases in the Origin scores ($r = .47$) (Sig. increase in fluency post Tx)

**Origin and Pawn & LCB Scale**

Origin & Pawn Scaling may be more sensitive than the LCB
Using a threshold of 5% as an indicator of clinically meaningful change (Craig et al., 1984; Craig & Andrews, 1985):
- 18 of the 20 participants (90%) showed an increase in Origin or a decrease in Pawn scores
- However, pre-treatment LCB scores (28.68) were similar to normally fluent speakers (28.30) (Craig, et al., 1984)
- Still, 12 of the 20 participants (60%) showed (desirable) decreases of 5% in their LCB scores.

**Origin and Pawn & LCB Scale**

- Non significant relationships ($r$) among (Pre, Post, Change) Origin scores, Pawn scores and LCB Scale
- Support for Origin & Pawn as a two-dimensional state (rather than a single-dimensional trait) construct
  - Prior to therapy, a non significant relationship for Origin and Pawn scores ($r = -.15, p = .531$)
  - Following therapy, a significant negative relationship for Origin & Pawn scores ($r = -.70, p = .001$)

**Other considerations**

- Origin and Pawn scaling procedure likely to be less reactive and allow multiple testing
- A clinician who knows and understands a speaker may be better able to identify Origin and Pawn clauses (we did not administer the treatment)
- Adjustment of post-treatment pawn clauses for increased sensitivity (references to pre-Tx speaking)
- Future study: Patterns of change in Origin and Pawn scores to predict post-treatment success

"That's all folks!"