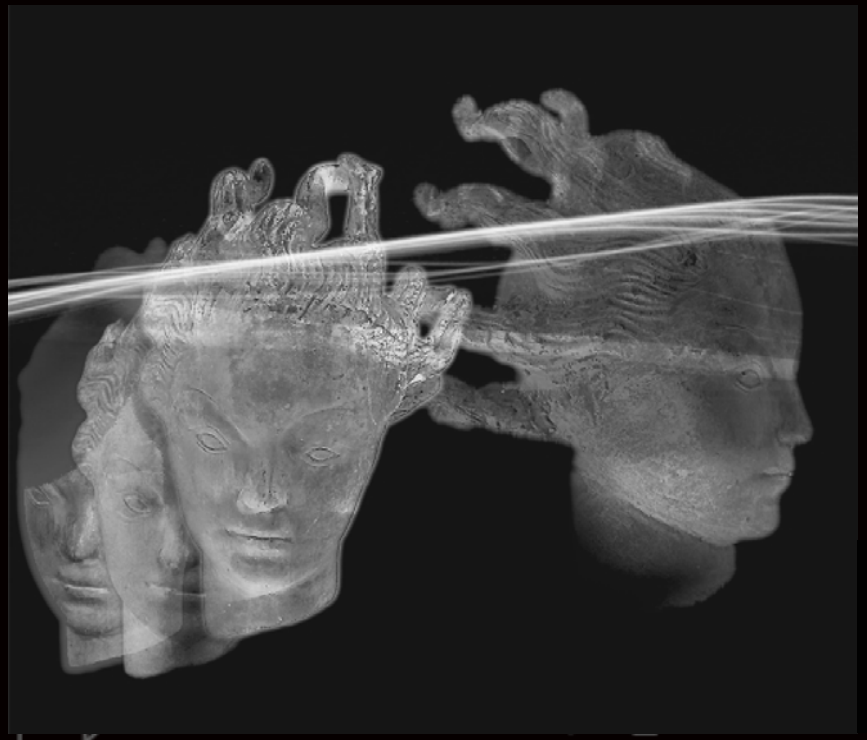
EVIDENCE BASED PRACTICE and MOHO:

issues and directions in the development and dissemination of evidence



Gary Kielhofner

The State of Evidence-Based Practice

- Increasing demand for practice based on evidence
- Concerns expressed by practitioners about availability/relevance of evidence
- Discussions among proponents of EBP about what constitutes adequate evidence:
  - Cochrane criteria (RCT's) really the highest evidence?
  - Qualitative versus quantitative?
  - Role of participatory and other methods to increase relevance?
  - Role of the consumer voice in deciding criteria?
- Confusion/disagreement over who is responsibile to organize evidence for practice (Practitioner? Researcher? Panels?)

Our guiding principles

- The “right evidence” depends on:
  - What practice decision is being informed (e.g., what needs to address, how to assess, what services to provide?)
  - The generation/arbitration of evidence should be shared responsibility of:
    - Research community (scientists)
    - Practitioners
    - consumers

Our guiding principles

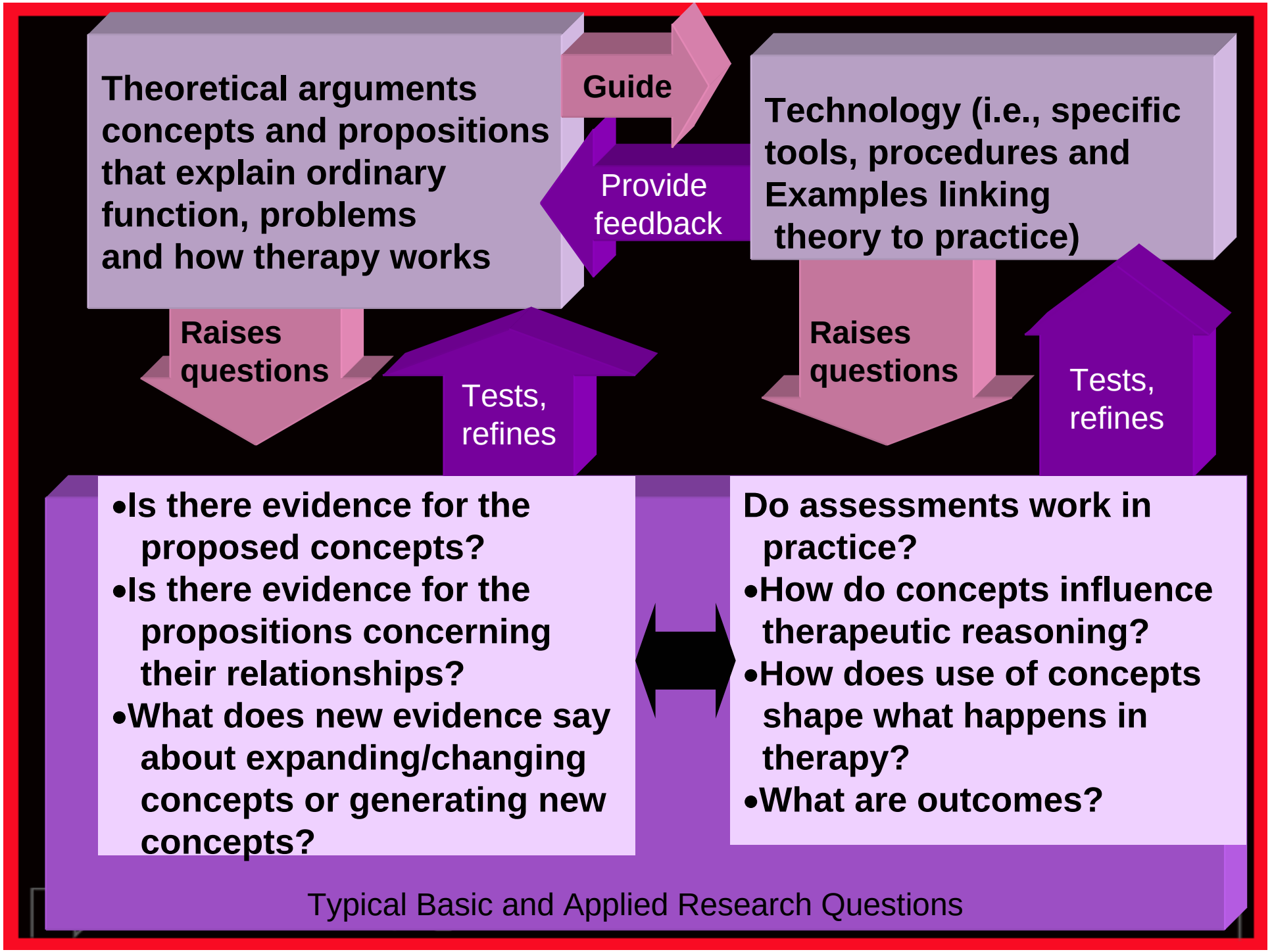
Relevant evidence for practice is multifaceted and includes:

- Clinical knowledge (perspectives and experiences of experts)
- Perspectives of clients (focus groups and qualitative studies)
- Applied studies (psychometric, outcome)
- Basic studies that contribute to understanding phenomena address in practice and provide evidence about theories used in practice

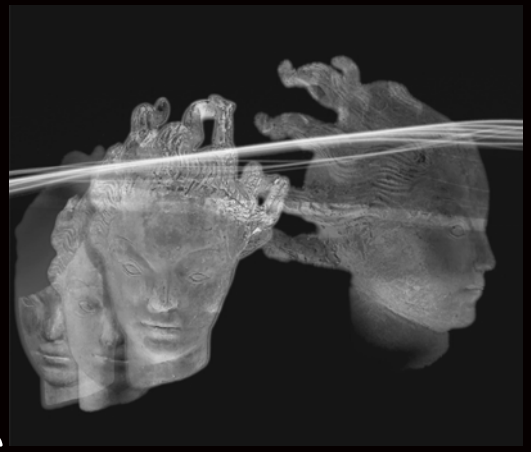
Our guiding principles

Evidence will be most relevant and accessible when:

- organized under models of practice (e.g., MOHO, Motor Control, SI, etc. –also viewpoint of NIH)
- Made available to practitioners in more readily usable forms by developers of knowledge
- Full range of evidence is represented in the tradition of the model

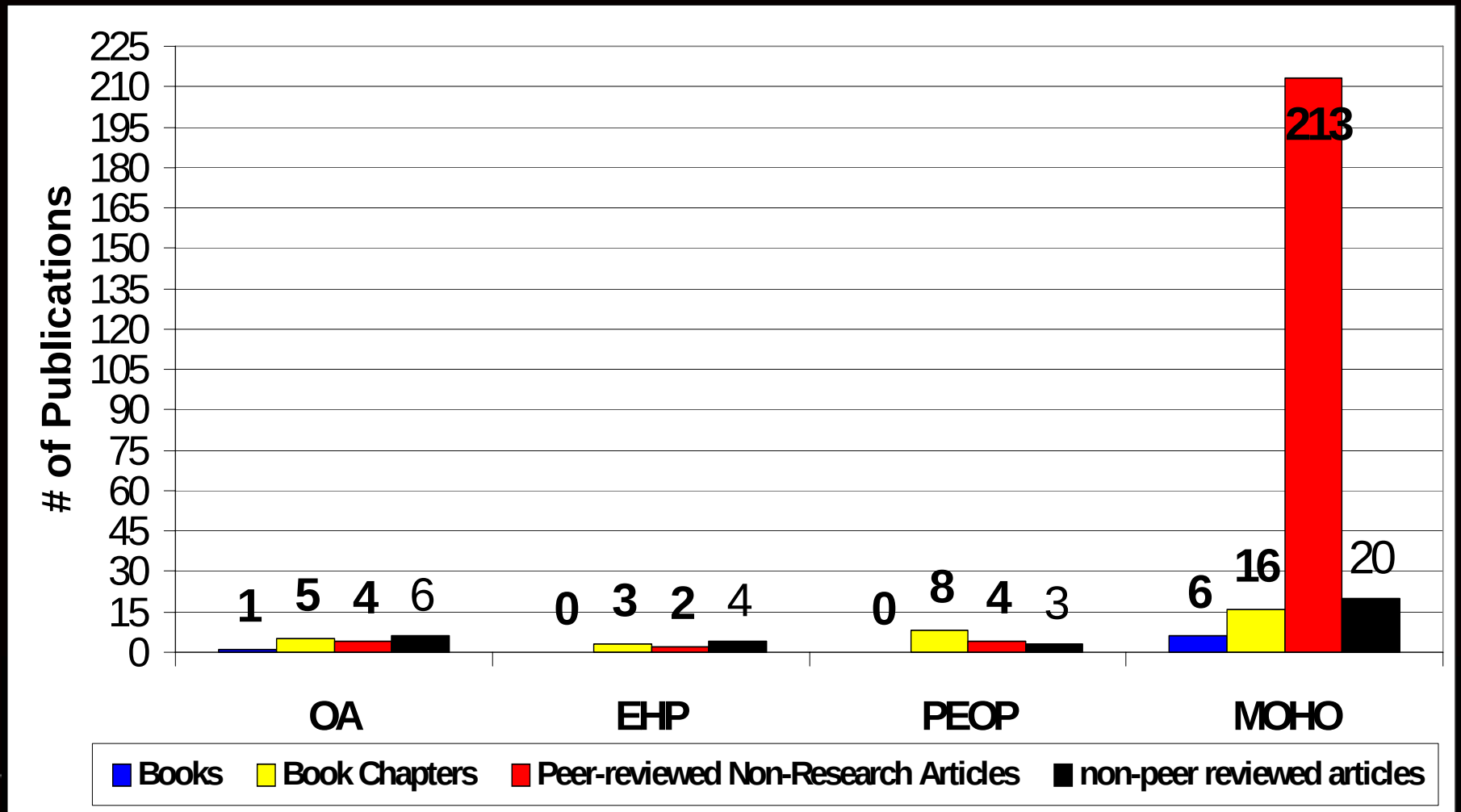

Theoretical arguments concepts and propositions that explain ordinary function, problems and how therapy works
Guide
Provide feedback
Technology (i.e., specific tools, procedures and Examples linking theory to practice)
Raises questions
Tests, refines
Raises questions
Tests, refines
•Is there evidence for the proposed concepts?
•Is there evidence for the propositions concerning their relationships?
•What does new evidence say about expanding/changing concepts or generating new concepts?
Do assessments work in practice?
•How do concepts influence therapeutic reasoning?
•How does use of concepts shape what happens in therapy?
•What are outcomes?
Typical Basic and Applied Research Questions

MOHO:
evidence to support practice



- Over 400 articles/chapters published
- Largest contemporary body of evidence in the field

Comparison of Non Research-Based Publications Across Occupation-Based Models



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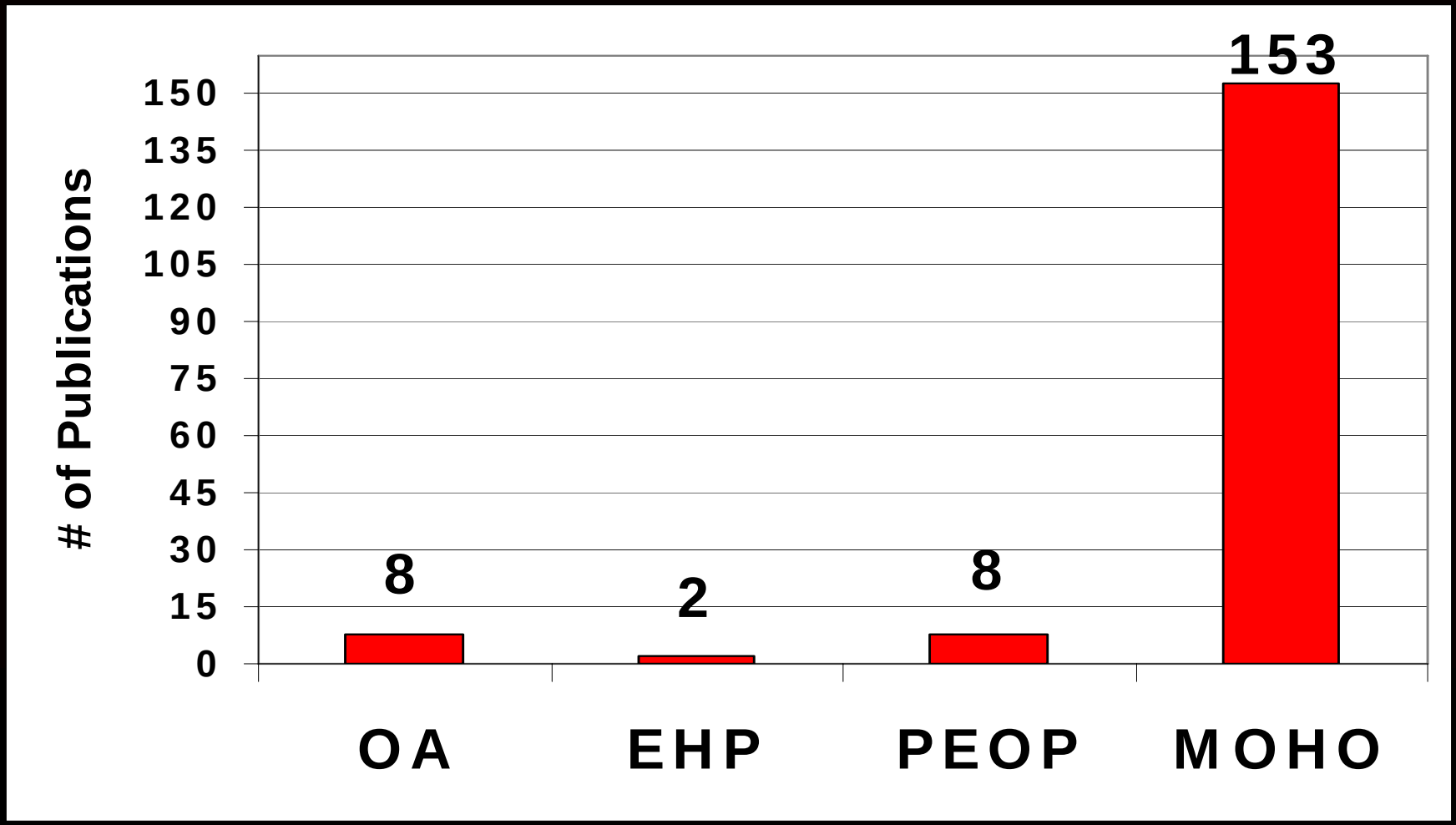


Types of published evidence concerning MOHO :

- Group intervention (outcomes) studies
- Single subject design studies
- Case illustrations
- Program descriptions and evaluations
- Studies of client experience and perspectives
- Studies of the process of therapy
- Psychometric studies of MOHO Assessments
- Studies to test (quantitative) or elaborate (qualitative) MOHO theory

Efforts to organize evidence for practitioners

- **Evidence based search engine on MOHO website**
  - locates all forms of evidence not readily available through other searches such as a case discussed in a paper/chapter about another topic and list serve discussions
- Evidence Briefs
  - Summarizes studies noting the research questions, population, methods and findings and finishes with practice implications

Efforts to organize evidence for practitioners

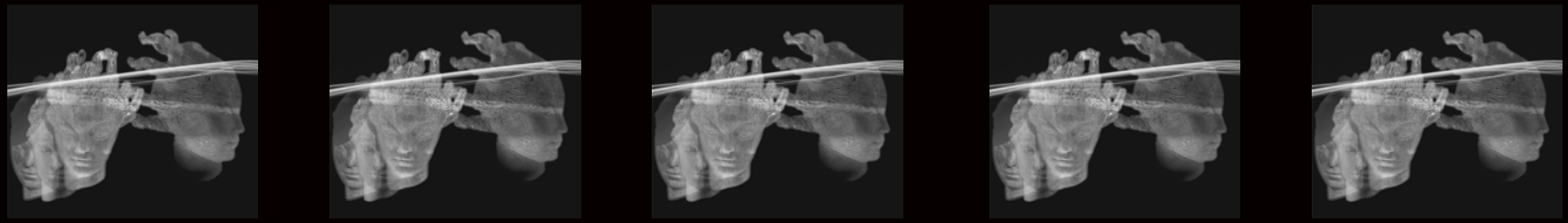
- Evidence based discussion in new text:
  - Organizes evidence around practice relevant categories
  - gathers, locates and synthesizes evidence for the practitioner on specific issues

Example: Outcomes of Intervention

Reference	Type of study	Sample Info	Description of Intervention	Findings & Clinical Implications
Gitlin, Winter, Corcoran, Dennis, Schinfeld, & Hauck (2003)	Pretest, intervention, posttest with control group. Stratified, random assignment to group.	-89 caregivers in experimental group. -Mean age 60.4 (SD= 13.6 years). -42.7% Caucasian, 53.9 % African Amercian, 3.4% other. -24.7% male, 75.3% female. -41.9% of group had education beyond high school. Mean age of care recipient was 80.2 years, 71.9% female. -101 caregivers in control group. No significant difference between groups at baseline.	-The Environmental Skill Building Program seeks to provide caregivers with strategies and problem solving skills to modify environment (as conceptualized on a MOHO concept of physical, task, and social layers) to make caregiving easier and reduce care recipient problem behaviors.	An individualized intervention focused on the environment, as described by MOHO, can improve the experience of giving care to a person with dementia in the home. This includes decrease in assistance needed from others in caregiving, less upset, improved ability to manage caregiving, and less time spent in caregiving. Outcomes differ according to the gender of the caregiver.

Example: Psychometric research on the WRI

Citation	Findings
Biernacki (1993)	When using the WRI to evaluate clients with UE injuries, OTs with experience in rehab demonstrated high test- retest reliability. However. Some WRI items did not meet standards for reliability and further development of the assessment was recommended.
Haglund, Karlsson, & Kielhofner (1997)	The items and rating scale on a Swedish translation of the WRI can be used in a valid manner and represent a continuum of ability to return to work. However, environmental items should be revised to ensure they validly represent the construct of return to work.
Velozo, Kielhofner, Gern, Lin, Lai, & Fischer (1999)	A series of three studies: Study one: WRI items represent a valid, sensitive construct of return to work, represent a continuum of ability to return to work, and can measure clients in a valid way. However, environmental items should be revised to ensure they validly represent the construct of return to work. Study two: Revised WRI items represent a valid, increasingly sensitive construct of return to work, measure an increased number of clients in a valid manner, including clients with diverse physical injuries. Only one environmental item continues to not have acceptable statistics. Items represent continuum of return to work, and replicate past item hierarchies. Study three: When the WRI was used with clients with back injuries, no variables were significant predictors of return to work.
Ekbladh, Haglund, & Thorell (2004)	For a variety of Swedish clients with musculoskeletal, connective tissue, and mood disorders, WRI personal causation items (“Assess abilities and limitations”, “Expectations of job success”, and “Takes responsibility”), one role item (“Appraises work expectations”), and one environmental item (“Perception of work setting”) have tentative predictive validity for return to work.
Jackson, Harkess, & Ellis (2004)	The use of two standardized work assessment, the WRI or the Valpar Component Work Samples assessment, by skilled occupational therapists with clients with physical and mental health disabilities improved the reporting of clients' work abilities across 12 domains that include physical demands, environment, and personal characteristics.



Development of MOHO Evidence

- Early studies focused on theory (group comparison studies ,correlational studies, qualitative studies)
- Since the mid 1980's there has been a focus on psychometric work, resulting in 18 assessments
- Current era focuses on:
  - development of programs/standardized interventions and evidence of process and outcomes

Research based on Two Federally Funded Programs To Enhance Productivity Of Persons with HIV/AIDS

Employment Options

(Rehabilitation Services Administration $729,000)

Enhancing Self Determination

(National Institutes of Disability and Rehabilitation Research $450,000)

Outcomes Study: Employment Options

1st phase (8 weeks) :

- Self and functional assessment (OSA, OPHI, WRI, ACIS)
- Groups (informational, support)
- Training in Job skills & seeking

2nd Phase

- Volunteering/employment
- "On the Job" Club
- Job coaching
- Onsite support

3rd Phase

- Work placement assistance
- Support and referral as needed

Subject Demographics N=129

Male	**106**
Female	**21**
Transgendered	**2**

Caucasian	**51**
African American	**57**
Hispanic	**14**
Other	**7**

<High school	**18**
GED	**11**
High school	**15**
>high school	**61**
College degree	**24**

Subject Demographics N=129

Incarcerated	**17**	**13%**
Domestic Violence Victim	**12**	**9%**
Substance Abuse History	**57**	**44%**
Mental Illness History	**108**	**84%**
Additional Physical Diagnosis	**34**	**26%**

Program Participation

Dropped program in first 8 weeks	**40**	**31%**
Completed program	**89**	**69%**

Client Outcomes (N=89)

Positive outcomes	60	67%
Working	50	56%
Volunteer or school	10	11%

Work outcomes in groups that share characteristics with clients in the present study ranged from 48% to 70% (average= 57%)

Enabling Self Determination

- study of the effectiveness of an intervention program designed to enhance productive participation of persons with HIV/AIDS

- in 4 transitional living facilities in greater Chicago

Funded by the National Institutes of Disability and Rehabilitation Research

Enabling Self Determination

Design

- compared 2 groups receiving ESD or standard care program

- Logistics ruled out a conventional randomized design and an interrupted times series design

- The most rigorous design that could be implemented for the study was a non-randomized two-group design (2 facilities served as the ESD sites and 2 as standard care sites)

The ESD program:

- Based on the Model of Human Occupation
- Provided group and individual interventions designed to enhance volition for and support the development of routines habits and skills that would support the choice and enactment of new productive occupational roles.
- Elements of the program were incorporated from EO
- Informed by focus groups with residents and staff in transitional living facilities

Standard Care Program:

- Series of educational groups (two hours weekly for 8 weeks followed by monthly presentations) designed to provide residents with awareness and access to community resources and services

- participants were provided written materials

- additional information given individually when requested

- Level of intensity and individualization of the control intervention chosen to provide a fair comparison to ESD and to reflect standard care (i.e., services that persons with HIV/AIDS typically receive)

Demographics of participants in the ESD and Standard Care programs (n=65) Note: no statistically significant differences

Variable	ESD Program	Standard Care Program
Mean Age [SD]	42.68 [8.00]	42.17 [7.54]
Gender		
Male	31 (82%)	21 (78%)
Female	7 (18%)	6 (22%)
Ethnicity/Race		
Caucasian	8 (21%)	6 (22%)
African-American	27 (71%)	20 (74%)
Hispanic/Latino	2 (5%	1 (4%)
Other	1 (3%)	0 (0.0%)

Demographics of participants in the ESD and Standard Care programs (n=65)

History of mental illness, substance abuse, or felony conviction

Mental Illness	23 (61%)	15 (56%)
History of Substance Abuse	30 (79%)	17 (63%)
Felony conviction	15 (40%)	10 (37%)

Impairment

Mean Symptom Intensity	31.33	21.86
Mean Symptom Total	18.73	13.60

Comparison of productive outcomes among participants in the ESD and standard care programs at 3, 6, and 9 months post intervention (n=45)

	ESD Program Participants with Productive Participation f/n (%)	Standard Care Participants with Productive Participation f/n (%)	Chi-Square Value	P-value*	Odds Ratio
3 months	20/28 (71.4%)	6/17 (35.3%)	5.66	.019	4.58
6 months	21/27 (77.8%)	5/18 (27.8%)	11.07	.001	9.10
9 months	18/25 (72.0%)	5/14 (35.7%)	4.88	.031	5.66

- **1-tailed Fisher's Exact Test**

Clients' and Therapists' Perceptions of the Occupational Performance History Interview – II (OPHI - II)

Study Aims

- To understand from the perspectives of therapists how they used the interview and narrative slope, and what value and limitations they saw in them

- To examine how clients understood and experienced the interview and narrative slope and whether they found it useful for themselves

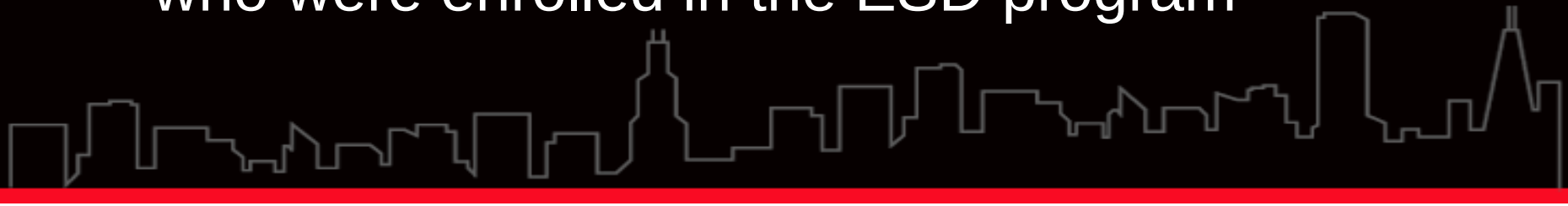
Methods: Design

Anthropological Rapid Ethnographic Approach (Scrimshaw and Hurtado, 1987; Bernard,1994)

Two groups of participants:

- A convenience sample consisting of the three occupational therapists providing services

- Purposive sample – 7 client participants who were enrolled in the ESD program



Findings: Therapists

Perceptions of the Interview Process

- A rapport-building opportunity
- Enabled clients to think more systematically about their own lives
- Provided them important insights about the client Therapeutic in itself

Influence of Client Characteristics on the Interview

- How articulate the client was & how he/she responded How much the client trusted the therapist
- Extent to which the therapist shared background with the client
- Where the clients were in their lives

Client Participants' Perspectives on the Interview Process

- positive and useful process
- Impact of the Interview Process:
  - Increased communication and trust with the therapist
  - Personal Insights that emanated from the interview
  - Clarified their own thoughts and feelings
  - Help to see life more positively
  - Clarified thinking about the future

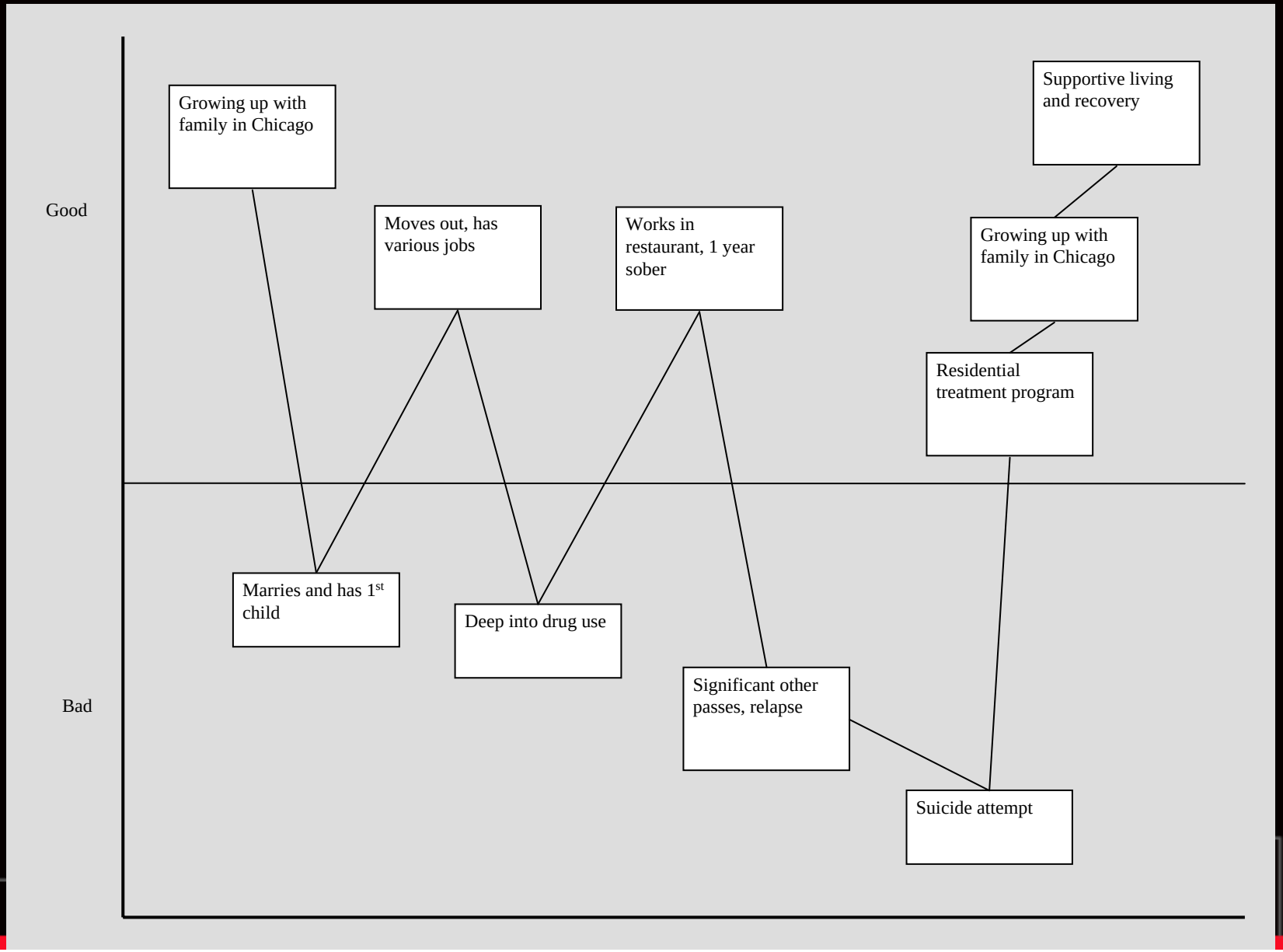
Client Perspectives on the Narrative Interview as a Positive and Useful Process

"I could see where I am, you know, where's my strengths, where's my weakness, then you know, cause it gave time to reflect after the interview, like when I finished talking, then I could see how I feel about this, when I am all by myself, I could reflect on what I had said" – Client

Client Participants' Perspectives on Impact of the Interview Process

"That interview made me realize that I was wasting a lot of time not doing anything, and now after the interview I am doing things that I should have been doing more aggressively, than just sitting back and waiting on it to come to me, so I woke up and started working towards those ideas"

Typical Client Slope



Client Perspectives on the Narrative Slope

"negative events below the line serve as an index of what needs to be changed and that the overall upward direction of the narrative slope encourages me"

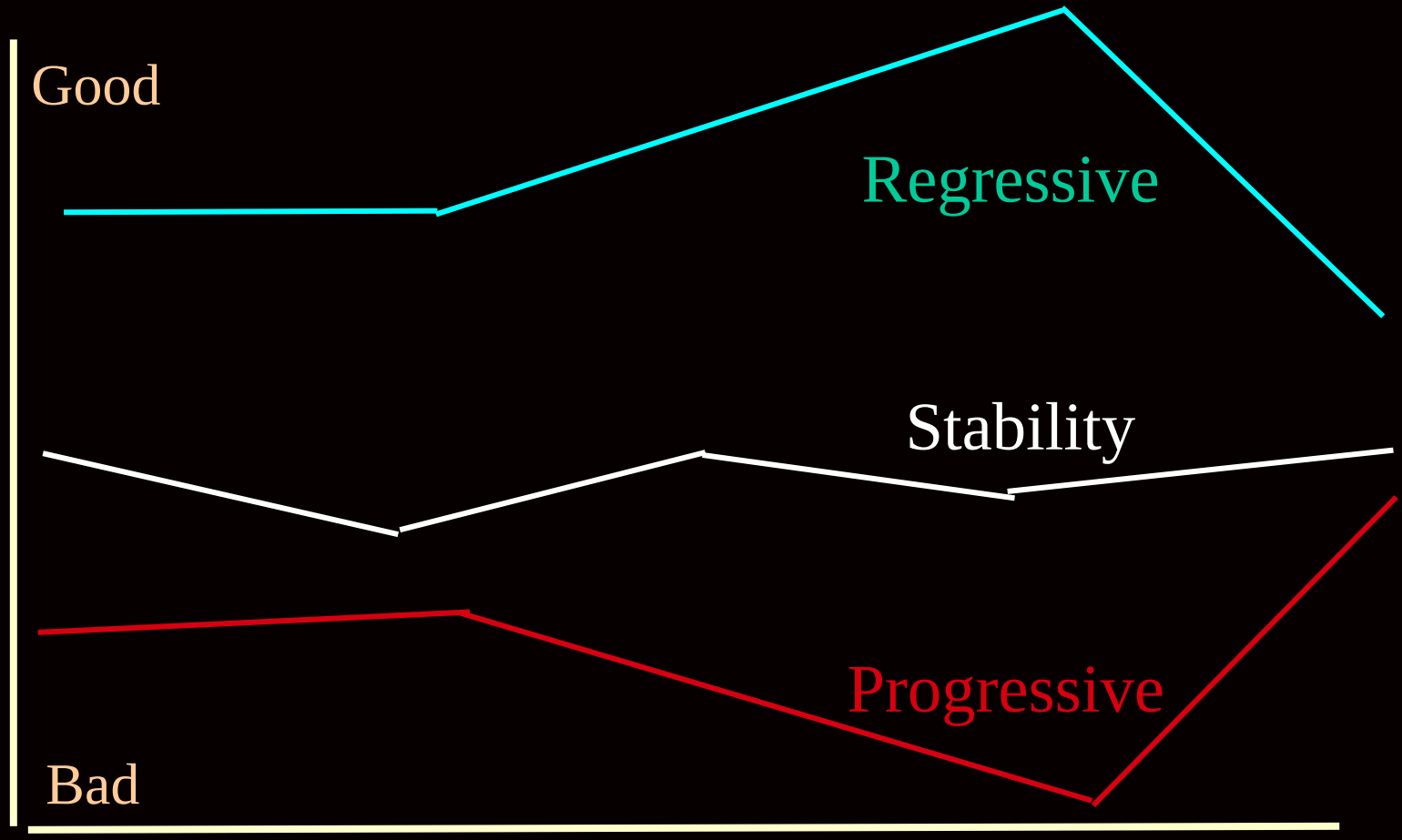
Client Participants' Perspectives on the Narrative Slope

"It should be given to clients, its good to know, because the 1st thing which I would do is to hang it on my wall, it will show me what I am accomplishing where I am failing, where to go. . . this [narrative slope] will help me keep focused"

Client Participants' Perspectives on the Narrative Slope

"I think the clients should draw the line. They have a good idea of where they are at with their life. It would be more helpful for the client that way. Therapist drawing is not so helpful, unless the client wants the therapist to help. The client should be given choice. For me it would have been good, I would include some more events"

Predictive value of Narrative slope-2 studies



Prospective study of 129 clients by type of narrative slope showed it was the only significant predictor of outcomes

	Regressive (n=49)	Progressive (n=41)	Stability (n=32)
Dropped out	39%	15%	25%
Completed- no work or school	29%	27%	31%
Competed, - work or school	32%	58%	44%

Analysis of Narrative in 65 participants from ESD study

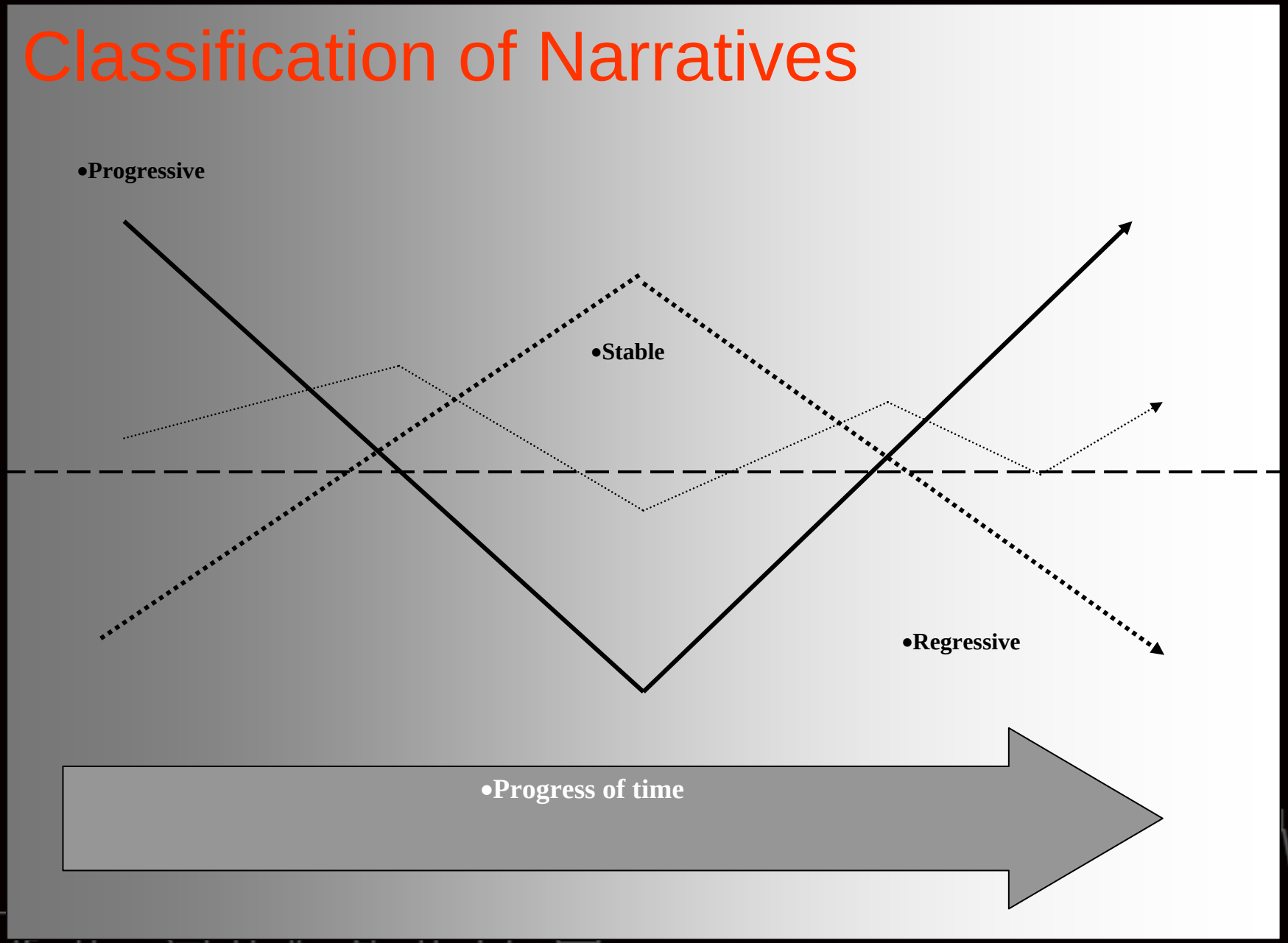
Step One: do demographic variables (age, gender, education, recent work history, current work status, history of mental illness and history of substance abuse, as well level of impairment gleaned from the SSC-HIV) predict outcomes (employment/productive engagement

- Discrete demographic data were examined by examining Chi-square statistics and continuous predictors (e.g., age, impairment) were examined by looking for mean differences (Bonferroni correction for multiple tests was used; testwise alpha of .01 was selected, and this made the experimentwise alpha across the four time periods .041.
- No Significant differences by outcomes were found across any demographic variables

Construction of Narrative Slopes

- 3 occupational therapists were trained in administering the OPHI-II and constructing the narrative slopes.
- participants interviewed with OPHI-II as part of their initial assessment.
- interviews were audiotaped, and tapes were used as reference by therapists when constructing the narrative slopes, as needed.
- Narrative slopes were then confirmed for accuracy of event placement and value assignment with each participant
- changes were made in order to faithfully reflect the views of the clients
- Nature of slope (progressive, regressive, stability) determined at that time by 2 therapists

Classification of Narratives



Relationships Between Narrative Slope at Baseline and Engagement in Employment and Other Productive Activity at Follow-up (Kendall's tau-b)

Follow-up Period	Employment		Other Productive Activity	
	tau-b	p	tau-b	p
Discharge	.35	.003	.23	.006
Three Months	.40	.009	.50	.001
Six Months	.50	.001	.31	.037
Nine Months	.21	.297	.33	.054

Conclusion

- significant relationship between narrative slope and whether a participant was employed at discharge, 3-month and 6-month follow-up.
- 9-month follow-up failed to reach statistical significance but was still positive.
- Narrative slope was also associated with engagement in other productive activity at discharge and 3, 6 and 9 months follow-up.
- Generally, a more positive narrative slope was associated with a higher likelihood of being employed or engaged in other productive activity.
- Relationship peaked between 3- and 6-months post-intervention (may reflect subject attrition at 9 months or may reflect attenuation by other variables)

Examples of Other Publications based on the 2 projects

Published

- Impairments and perceived competence in persons living with HIV/AIDS
- Experiences of twelve men during a one year period following completion of a vocational rehabilitation program for people with AIDS
- Impact of a community-based return to work program on capacity building in supported living facilities
- Resident and staff perceptions of barriers to independence and employment in supportive living settings for persons with AIDS
- Developing employment services for individuals with HIV/AIDS Participatory action strategies at work
- Narrative experiences of 12 men with AIDS who attempted to return to work.
- Occupational narratives and the therapeutic process

In press/preparation

- Factor analysis of the MOHOST
- Psychometric study of the WRI
- Role of peer mentors in service provision