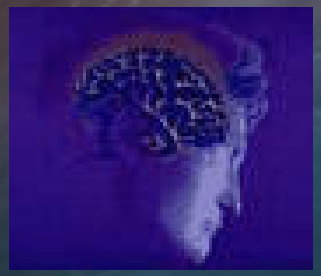
Interpersonal Diagnosis and Functioning After Acquired Brain Injury



Jay M. Uomoto, Ph.D.
Seattle Pacific University
Department of Graduate Psychology
uomoto@spu.edu

"The human brain, this most sophisticated of instruments, capable of reflecting the complexities and intricacies of the surrounding world – how is it build and what is the nature of its functional organization? What structures or systems of the brain generate those complex needs and designs which distinguish man from animals?"

From A. R. Luria – ***The Working Brain***

- “He who is unable to live in society, or who has no need because he is sufficient for himself, must be either a beast or a god”

From Aristotle - ***Politics***

- “For solitude sometimes is best society,

  And short retirement urges sweet return”

From Milton – ***Paradise Lost***

At The Mall

- Interpersonal behavior of those with disability (TBI; Stroke; DD)
- My Daughter's Tripartie Interpersonal Typology
  - "Emo"
  - "Emo-Wanna-Be's"
  - Everybody Else

- "…mental functions, as complex functional systems, cannot be localized in narrow zones of the cortex or in isolated cell groups, but must be organized in systems of concertedly working zones, each of which performs its role in a complex functional system, and which may be located in completely different and often far distant areas of the brain." A. R. Luria, *The Working Brain*, p.31

- Example – Cognitive dysmetria in schizophrenia
- Prefrontal-thalamic-cerebellar circuitry dysfunction
- Poor rapid coordination of sequential mental activities

Andreasen, N.C., et al., (1996). Schizophrenia and cognitive dysmetria: A positron-emission tomography study of dysfunctional prefrontal-thalamic-cerebellar circuitry. *Proc Natl Acad Sci U.S.A.*, *93*, 9985-9990.

Brain Injury and Interpersonal Dysfunction

- Family/caregiver stress and burden
- Wade, et al. (2004)
  - Role of interpersonal resources and stressors to parental adaptation following pediatric TBI.
  - Life Stressors and Social Resource Inventory – Adult Form (LISRES-A; Moos & Moos, 1994); Family Burden of Injury Interview (FBII; Burgess et al., 1999)
  - "Support from friends and spouse was associated with less psychological distress, whereas family and spouse stressors were associated with greater distress"
  - Interpersonal resources attenuated long-term burden

Wade, S. L., et al. (2004). Interpersonal stressors and resources as predictors of parental adaptation following pediatric traumatic injury. JCCP, 72, 776-784.

Brain Injury and Interpersonal Dysfunction

- Wood, Liossi, & Wood (2005).
- Impact of neurobehavioral dysfunction on personal relationships
- 48 partners – one who sustained TBI
- Factors perceived as placing the greatest burden on the relationship:
  - Mood swings
  - Aggression and quick temper
  - Unpredictable pattern of behavior

Wood, R. LI, Liossi, C., & Wood, L. (2005). The impact of head injury neurobehavioural sequelae on personal relationships: Preliminary findings. Brain Injury, 19, 845-851.

Brain Injury and Interpersonal Dysfunction

- Eslinger, P. J. & Damasio, A. R. (1985).
- Patient EVR
  - Age 35 “after a brief period of personality changes and visual disturbances, a cerebral tumor was diagnosed”
  - Orbitofrontal meningioma

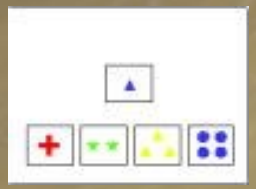
Eslinger, P. J. & Damasio, A. R. (1985). Severe distrubance of higher cognition after bilateral frontal lobe ablation: Patient EVR. *Neurology*, *35*, 1731-1741.

Brain Injury and Interpersonal Dysfunction

- Post-surgery changes
  - Employers complained patient was tardy and disorganized
  - Deterioration of marriage after 17 years
  - Age 45 – considering another marriage
  - EVR could solve social problems in the abstract; could not execute in "real life."
  - "Many of his actions could be described as 'sociopathic.'
  - MMPI "did not indicate psychopathology."
- Interaction between cognitive and interpersonal behavior

Brain Injury and Interpersonal Dysfunction

- Eslinger, P. J. (1998). Neurological and neuropsychological bases of empathy. *European Neurology*, *39*, 193-199.
- Sharing of emotional experiences and states with others
- Empathy – emotional, cognitive, and physiologic elements
- Inverse relationship between empathy and WCST



Brain Injury and Interpersonal Dysfunction

- Shammi, P., & Stuss, D. T. (1999). Humour appreciation: A role of the right frontal lobe. *Brain*, *122*, 657-666.
- Those with damage to the right frontal region reacted less, with diminished physical or emotional responses.
- Affective prosody aspect

Brain Injury and Interpersonal Dysfunction

- Personality changes after brain injury
  - Prigatano, G. P. (1992). Personality disturbances associated with traumatic brain injury. *JCCP*, *60*, 360-368
    - Irritability, agitation, belligerence, agner, abrupt and unexpected acts of violence or episodic dyscontrol syndrome, impulsiveness, impatience, restlessness, inappropriate social responses, emotional lability, anxiety, suspiciousness, delusional, paranoia, mania, aspontaneity, sluggish, loss of interest in the environment, loss of drive or initiate, tires easily, depressed, childishness, self-centered, insensitivty to others, giddiness, overtalkativeness, exuberance, helplessness, lack of insight.

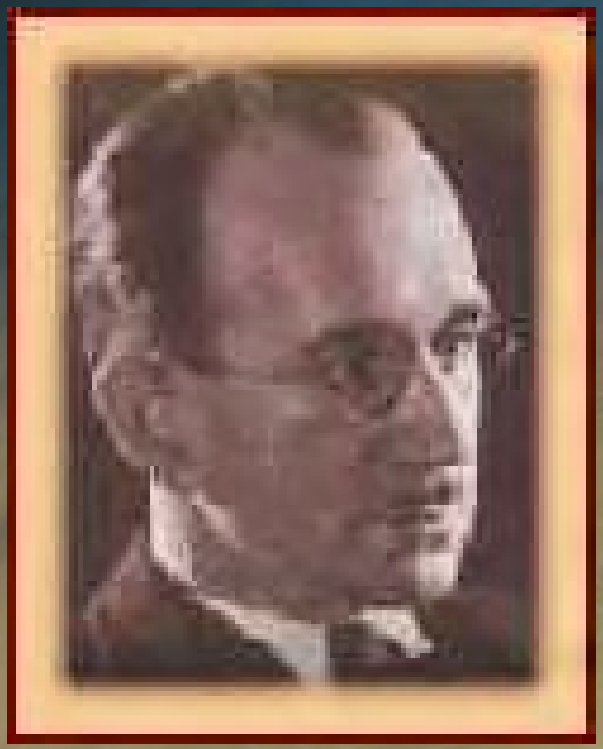
Influences

- Anchin, J. C. & Kiesler, D. J. (Eds.). (1982). *Handbook of Interpersonal Psychotherapy.* New York: Pergammon Press.
- Leary, T. (1957). *Interpersonal Diagnosis of Personality: A Functional Theory and Methodology for Personality Evaluation*. New York: John Wiley & Sons.
- Sullivan, H. S. (1953). *The Interpersonal Theory of Psychiatry*. New York: W.W. Norton.

History of Interpersonal Diagnosis

- Sullivan, H.S. (1950). The illusion of personal individuality. *Psychiatry*, *13*, 317-332.
  - Science of interpersonal living
  - Departure from mainline psychoanalytic theory
  - Evidenced in milieu therapy in the inpatient psychiatry units
  - Washington School of Psychiatry/Sheppard-Pratt Hospital

Interpersonal Theory



- "The field of psychiatry is the field of interpersonal relations…a personality can never be isolated from the complex of interpersonal relations in which the person lives and has his being" - From *Conceptions of Modern Psychiatry*

Interpersonal Theory

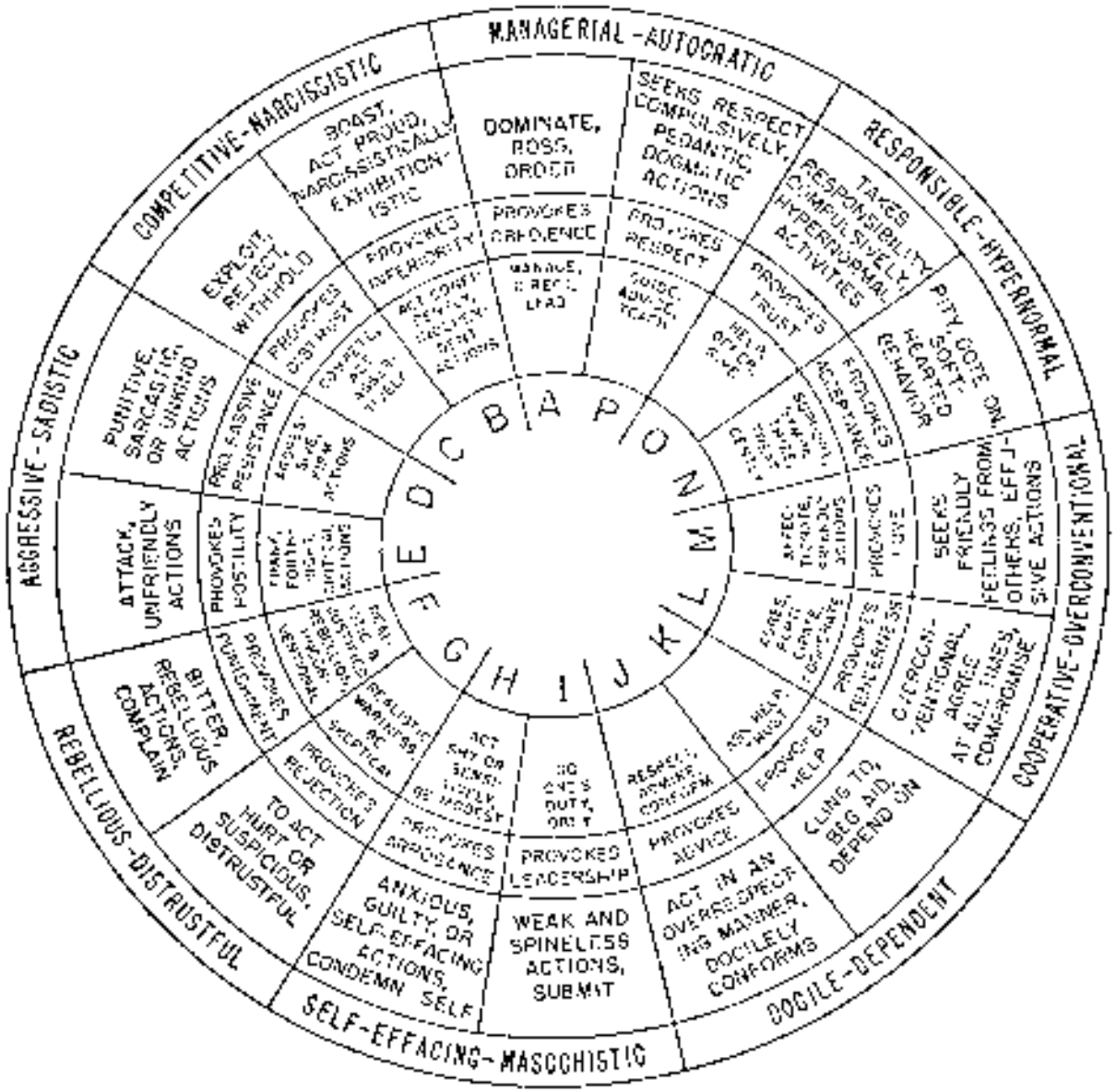
"Personality is made manifest in interpersonal situations and not otherwise".

Interpersonal Theory

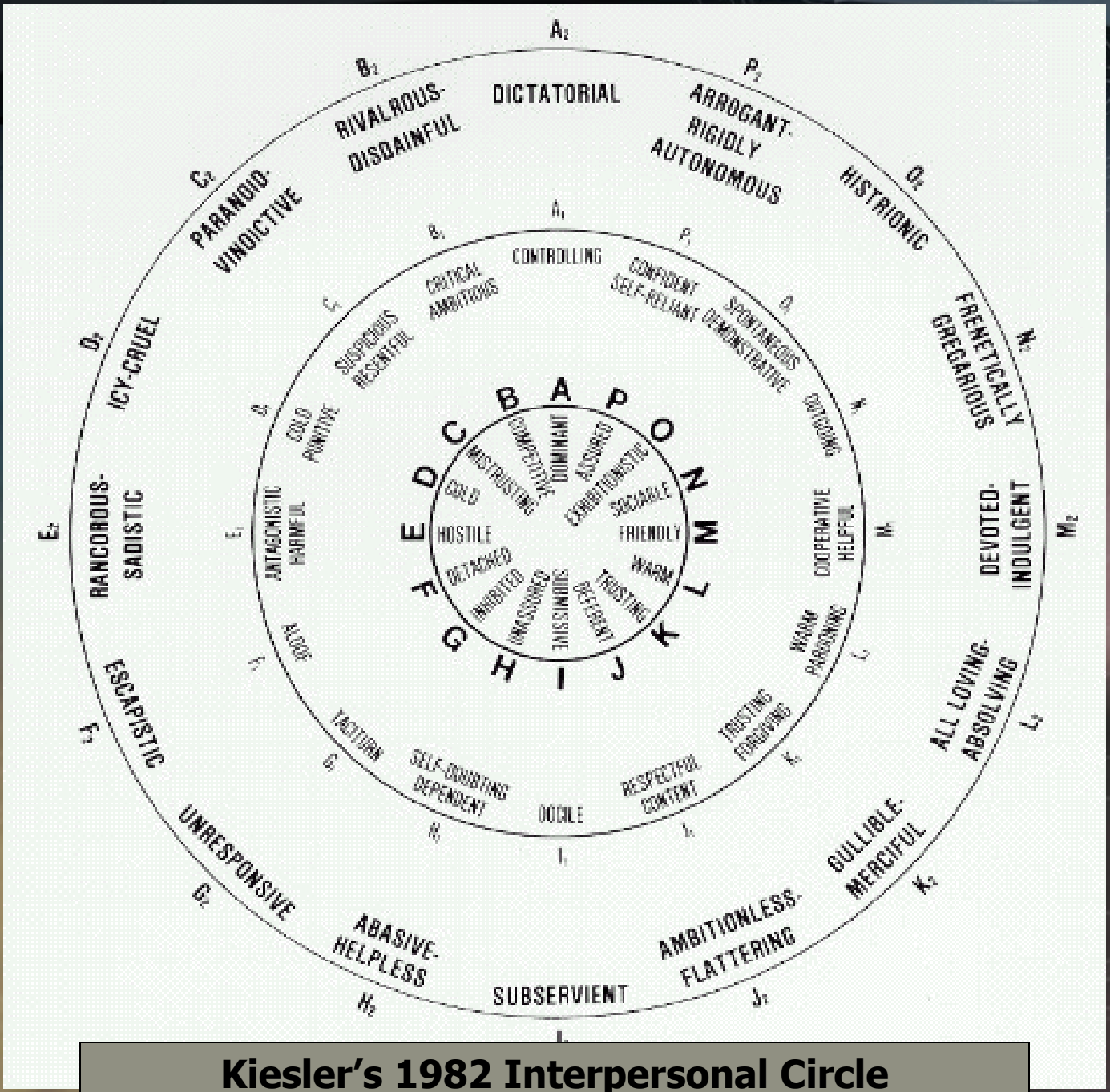
- *Interpersonal Theory of Psychiatry (1953)*
- Developmental-interpersonal theory
  - Infant-Caregiver (mother) interaction
  - Anxiety – “glial cells of the psyche”
  - Theorem of Reciprocal Emotions - The interpersonal transaction is a reciprocal process that involves:
    - **Complementary needs are resolved or aggravated**
    - **Reciprocal patterns of activity are developed or disintegrated**
    - **Forsight of satisfaction or rebuff of similar needs is facilitated**

Enter Timothy Leary

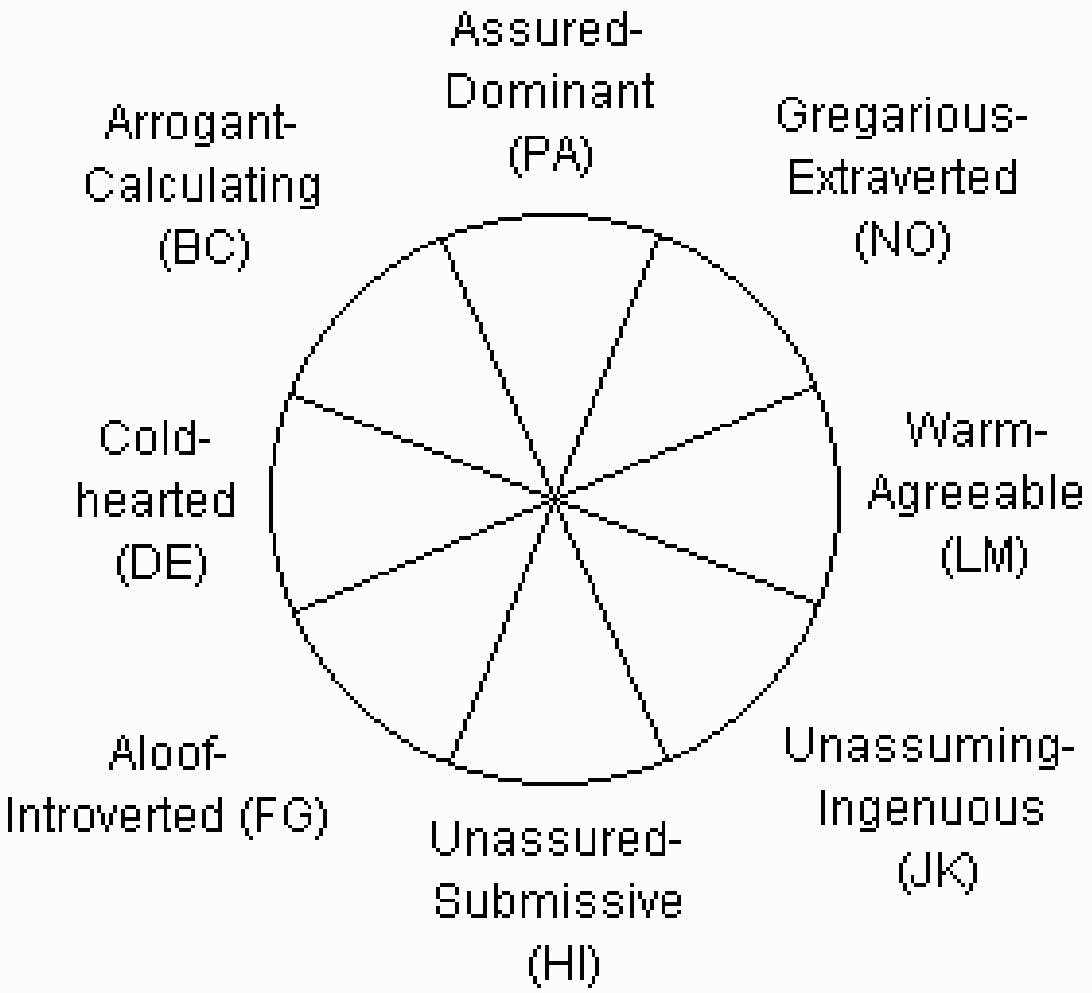
- Kaiser Foundation Hospital – Oakland
  University of California – Berkeley
- Circumplex Model of Personality



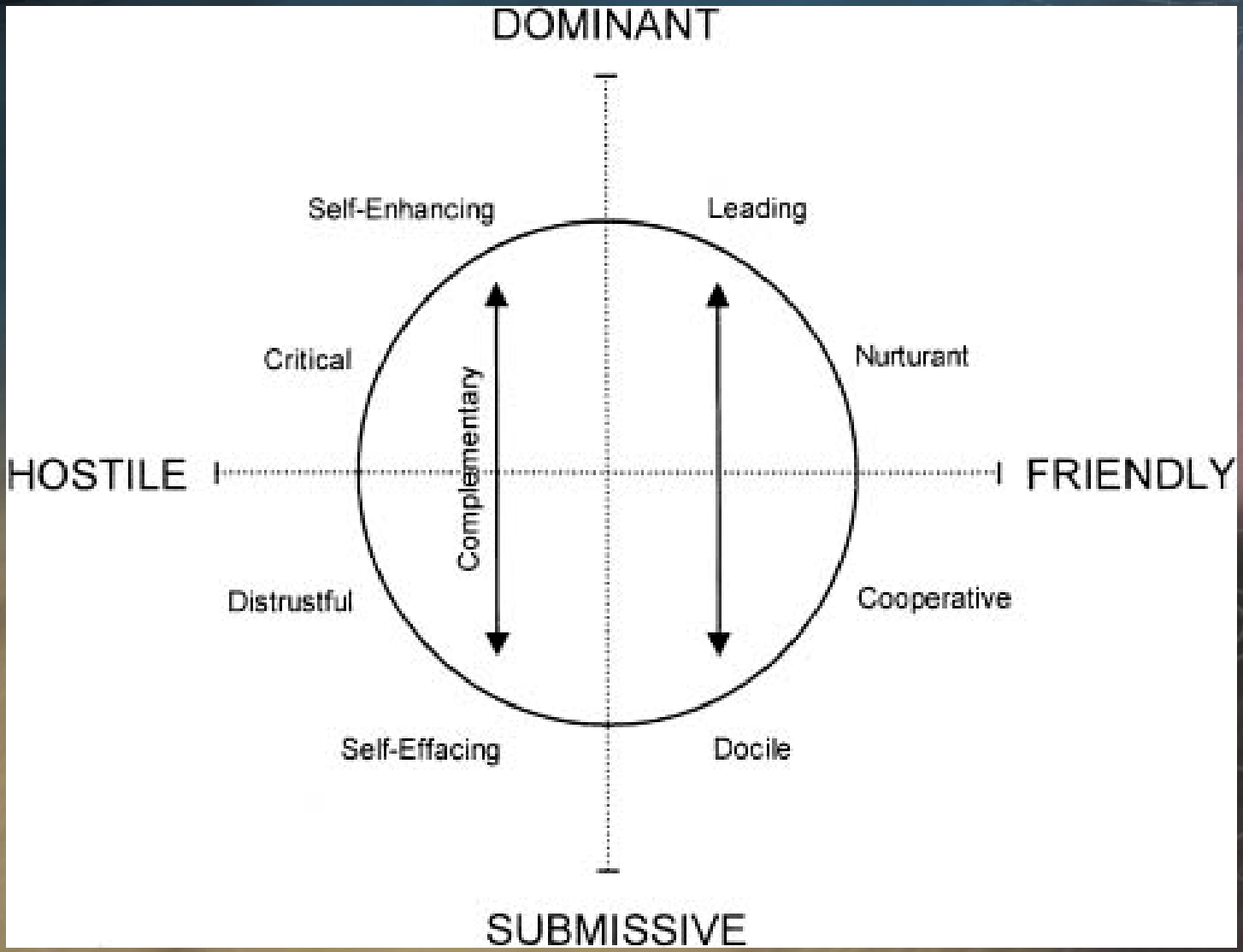
Leary's (1957) Circumplex Model of Interpersonal Functioning



Kiesler's 1982 Interpersonal Circle


Assured-
Dominant
(PA)
Gregarious-
Extraverted
(NO)
Warm-
Agreeable
(LM)
Unassuming-
Ingenuous
(JK)
Unassured-
Submissive
(HI)
Aloof-
Introverted (FG)
Cold-
hearted
(DE)
Arrogant-
Calculating
(BC)

Concept of Complimentarity



Interpersonal Diagnosis

- Multilevel pattern of interpersonal responses
- Leary's Fifth Working Principle (1957):

  "Any statement about personality must indicate the level of personality to which it refers" (p.41).

Leary, T. (1957). *Interpersonal diagnosis of personality: A functional theory and methodology for personality evaluation*. New York: John Wiley & Sons.

Interpersonal Diagnosis

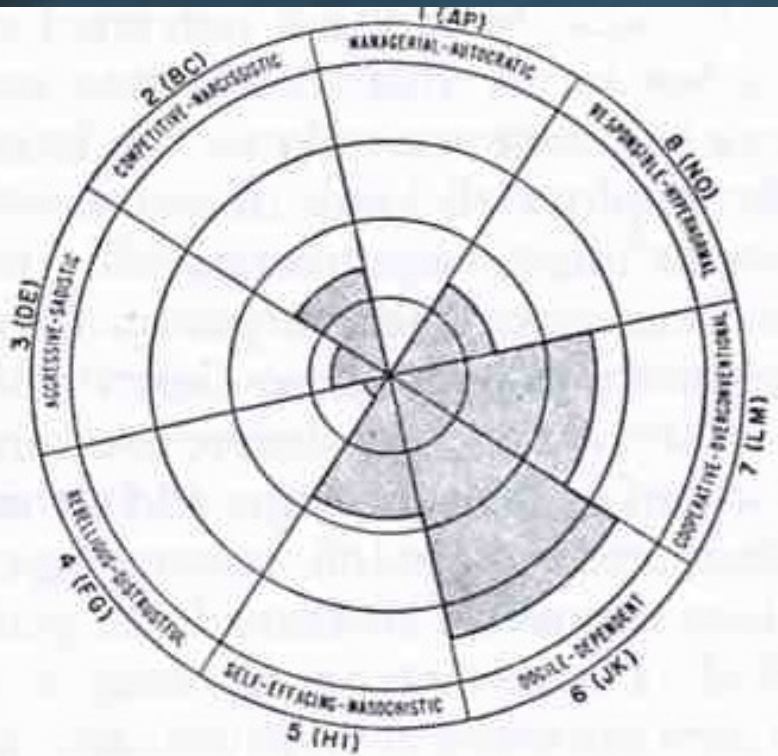
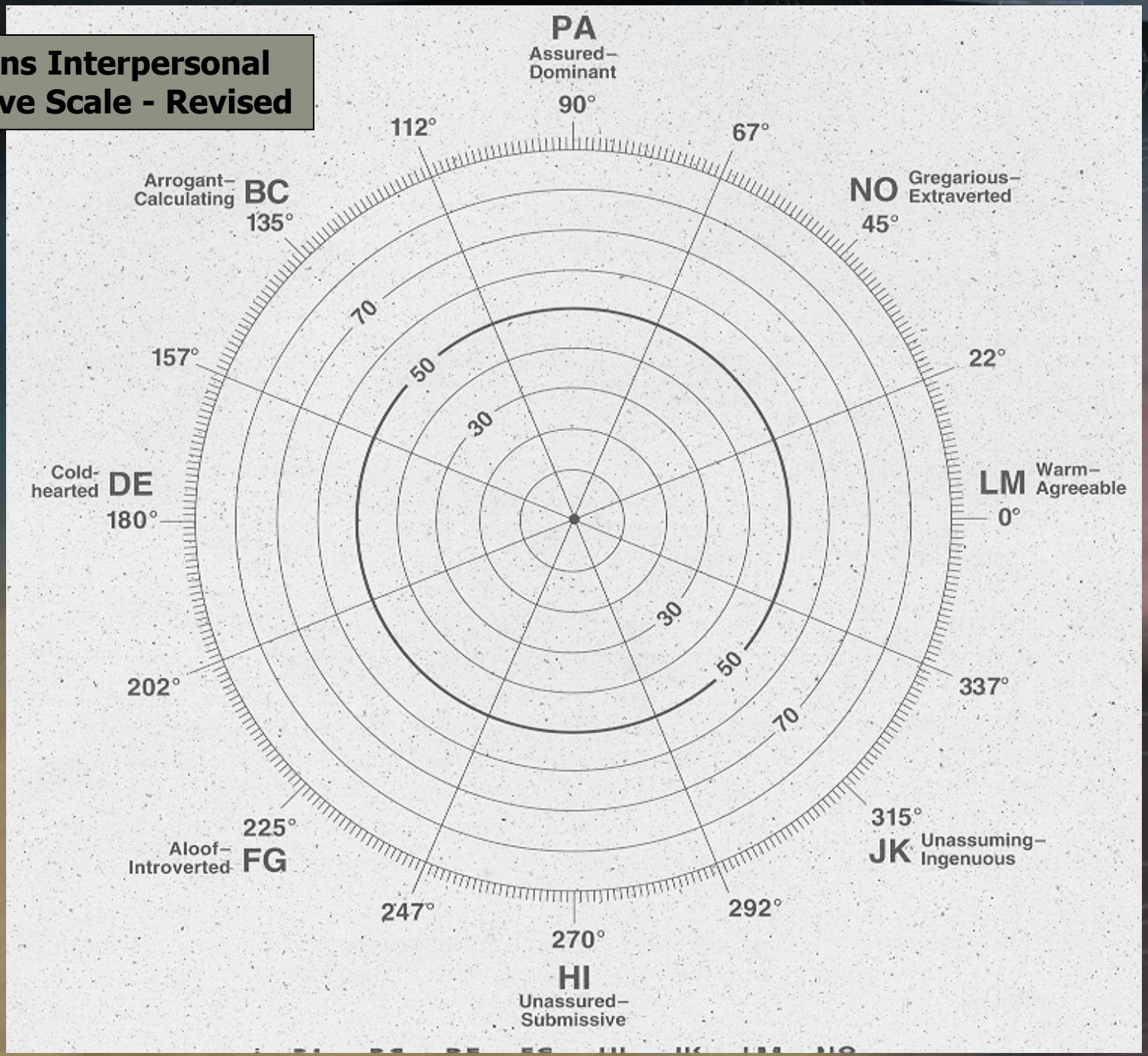


FIGURE 2. Diagrammatic Representation of Interpersonal Interaction of a Patient During Twenty Hours of Psychotherapy. Radius of circle equals 1,000 interactions. This patient manifested 820 docile-dependent interpersonal actions (*JK* octant) and 260 confident-narcissistic actions (*BC* octant).

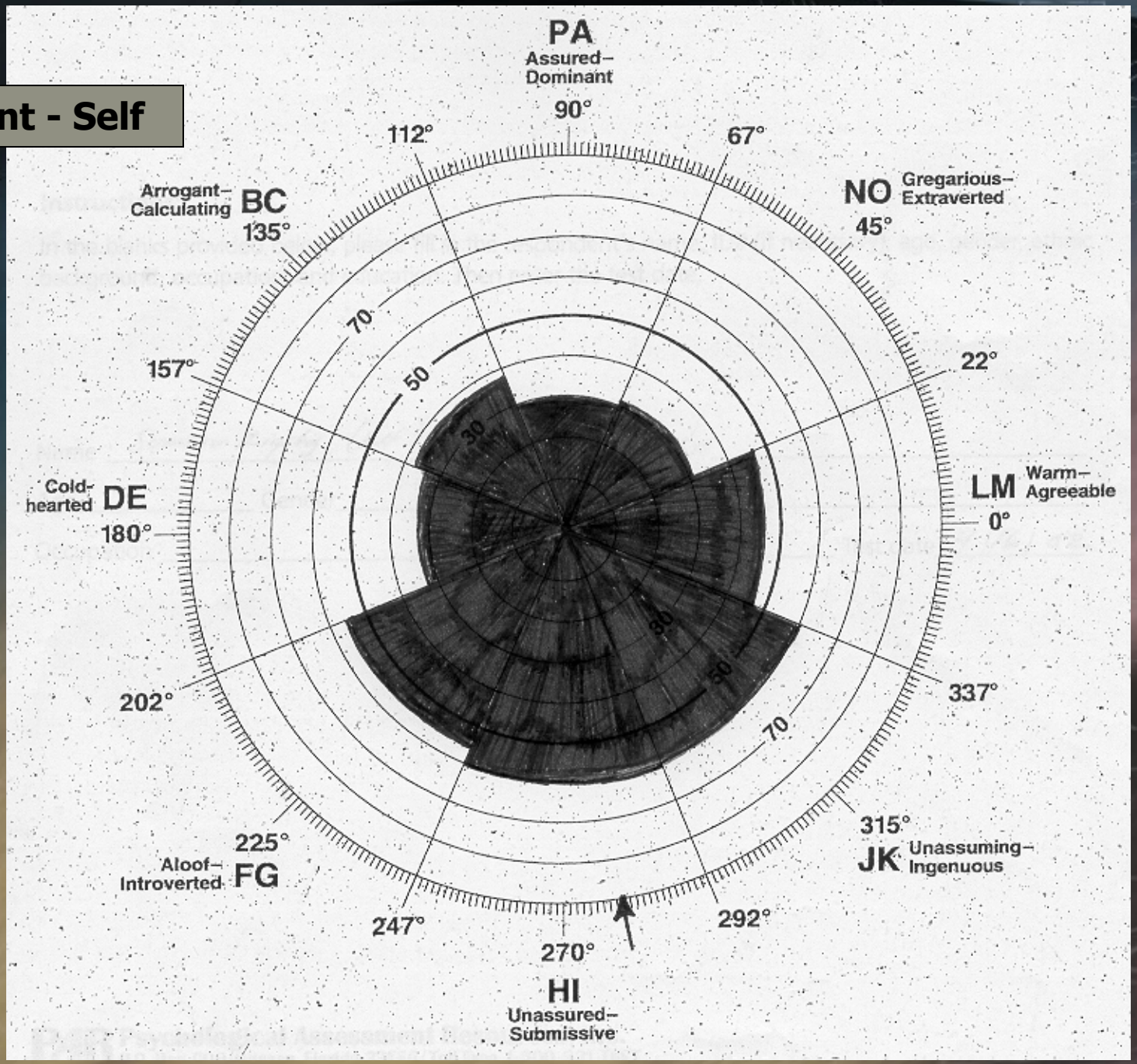
Brain Injury and Interpersonal Dysfunction

- Rankin, et al. (2003). Double dissociation of social functioning in frontotemporal dementia. *Neurology*, *60*, 266-271.
- Interpersonal Adjective Scales
- Compared to controls, those with frontotemporal dementia showed changes in social functioning
- Temporal variant shifted toward severe interpersonal coldness with mild loss of dominance; frontal variant showed opposite pattern.

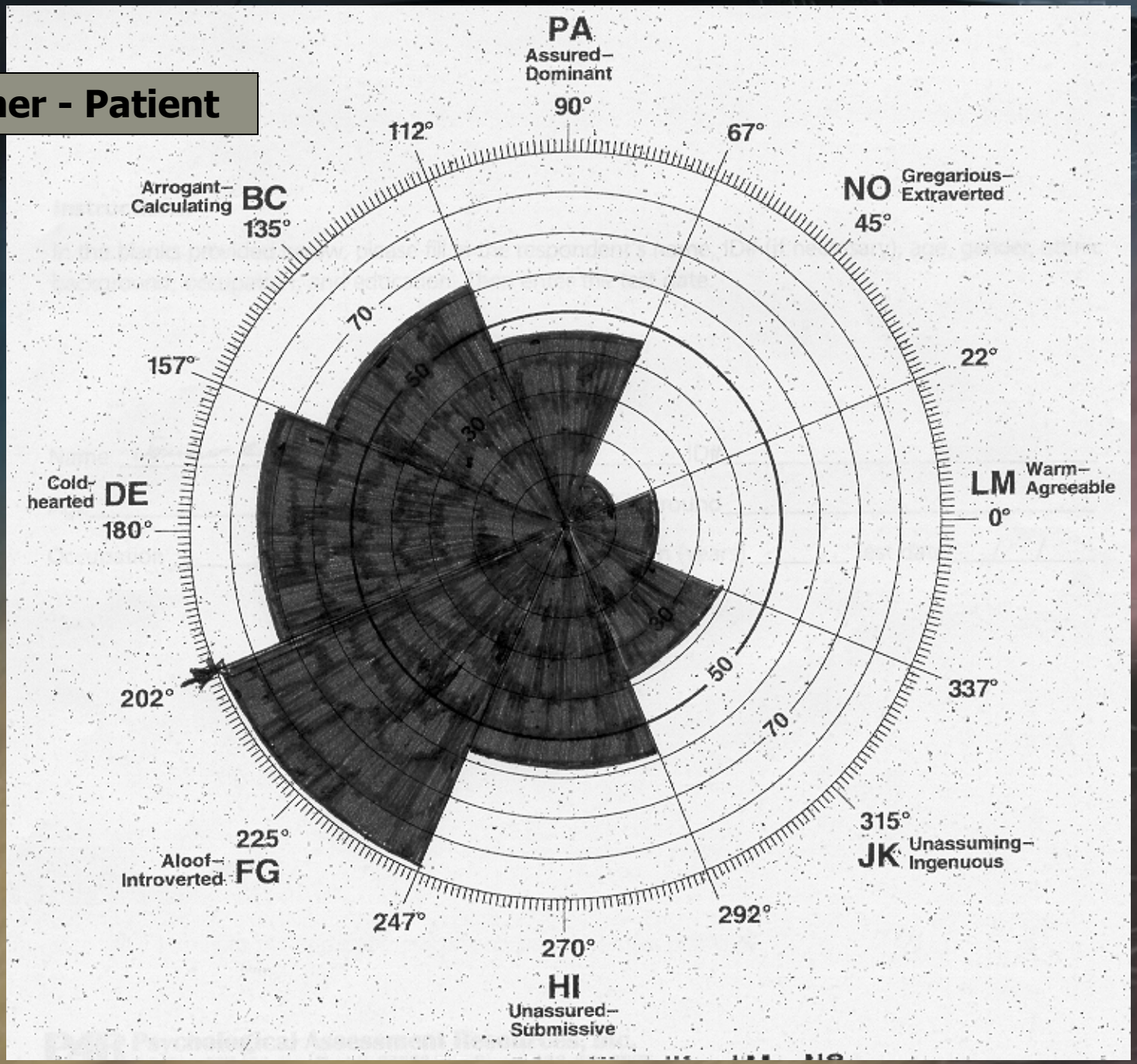
Wiggins Interpersonal Adjective Scale - Revised



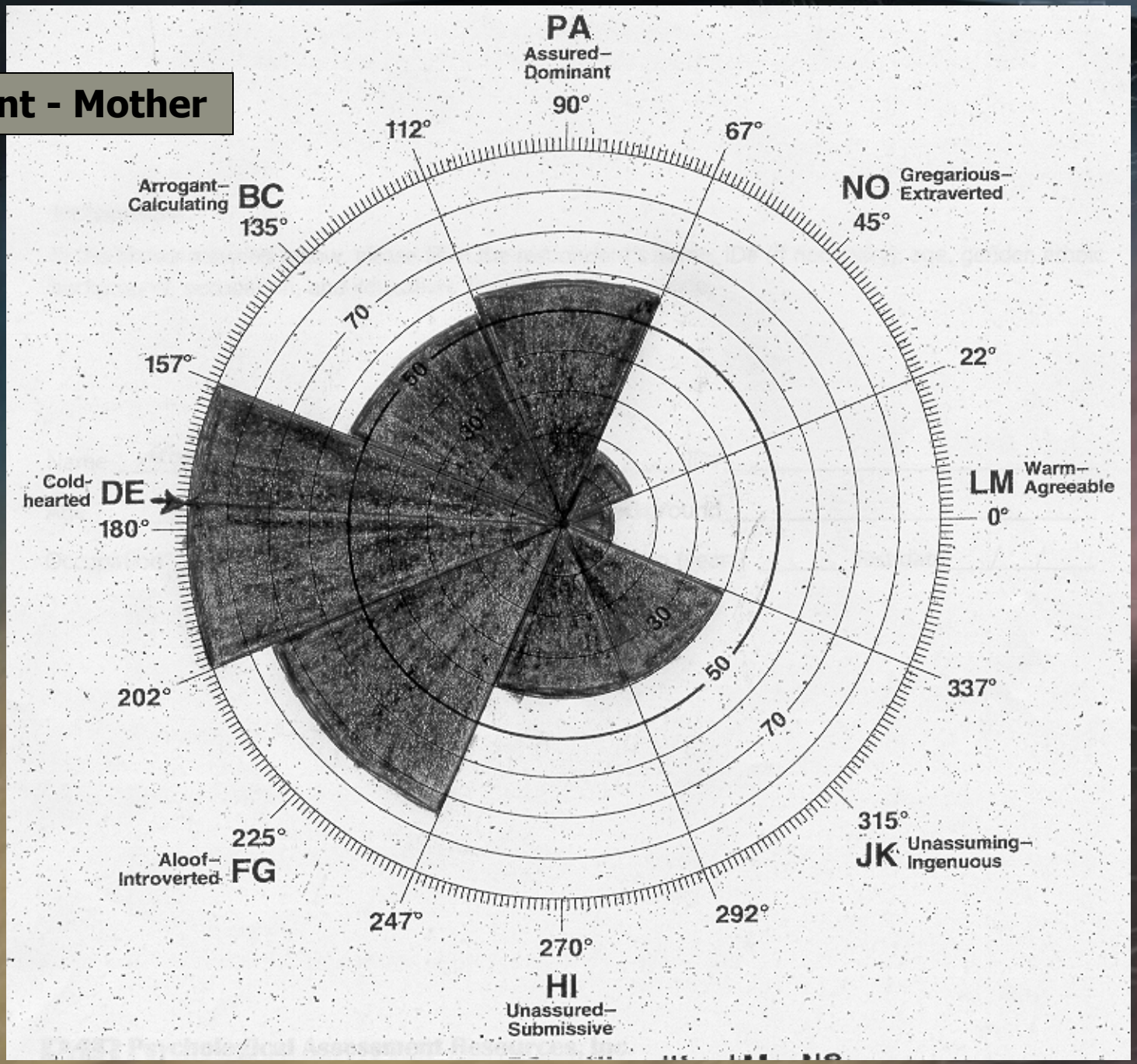
Patient - Self

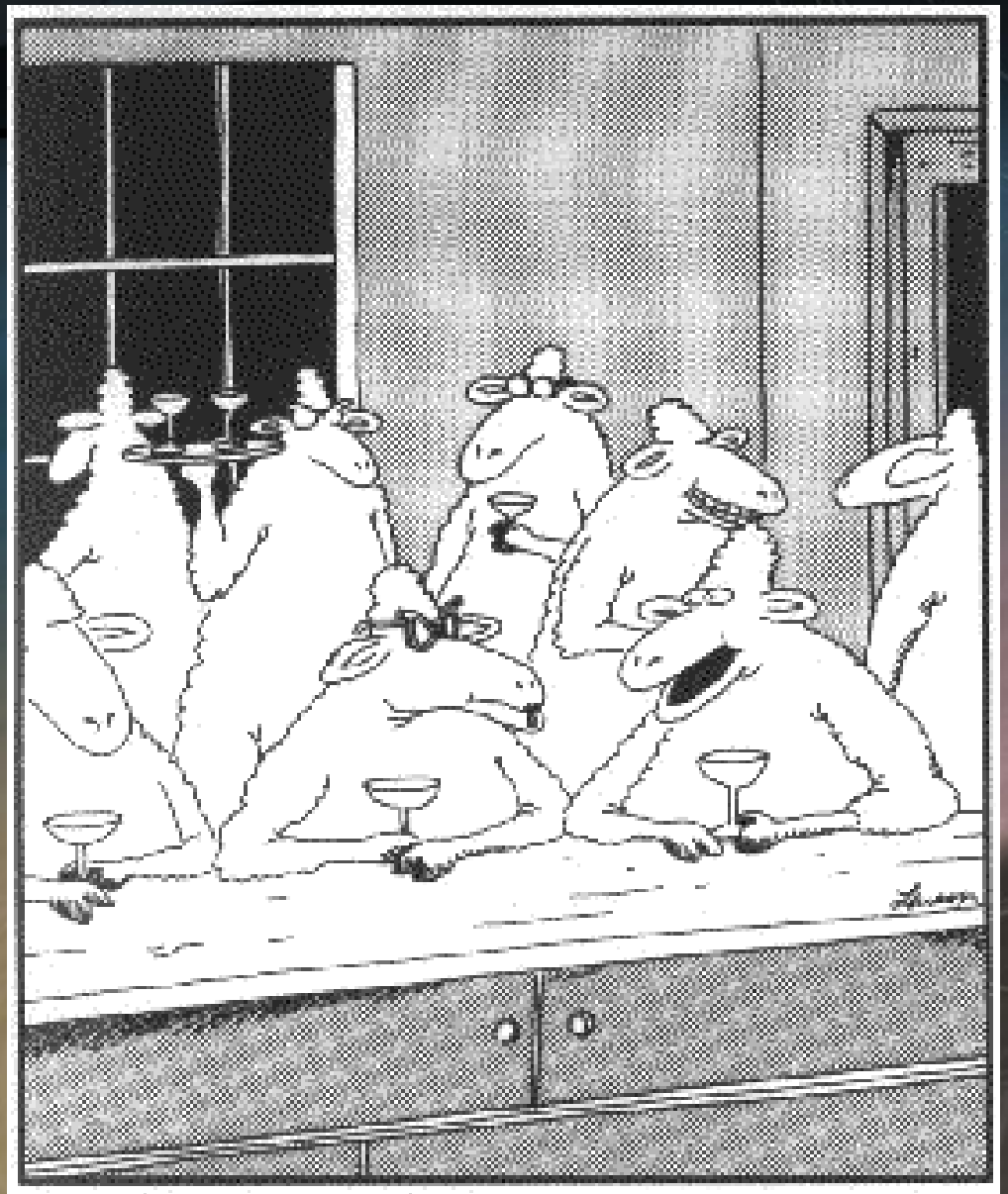


Mother - Patient

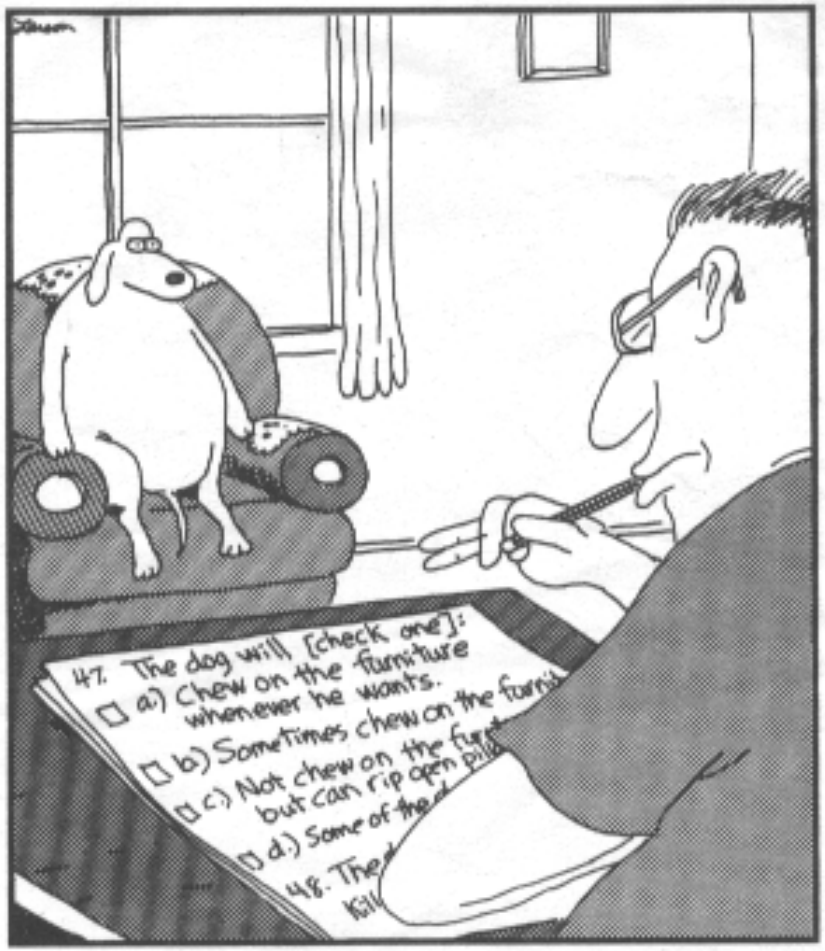


Patient - Mother





"Well, what d'ya know! . . . I'm a follower, too!"



The questions were getting harder, and Ted could feel Lucky's watchful glare from across the room. He had been warned, he recalled, that this was a breed that would sometimes test him.

MMPI-2

- “Interpersonal” scales
  - Scale Pd
  - Scale Si
- Restructured Scales (Tellegen)
  - RCd Demorlization
  - RC1 Somatic Complaints
  - RC2 Low Positive Emotions
  - RC3 Cynacism
  - RC4 Antisocial Behavior
  - RC6 Ideas of Persecution
  - RC7 Dysfunctional Negative Emotions
  - RC8 Aberrant Experiences
  - RC9 Hypomanic Activation

MMPI-2

- “Interpersonal” content scales
  - ASP: Antisocial Practices
    - ASP 1: Antisocial Attitudes
    - ASP 2: Antisocial Behavior
  - SOD: Social Discomfort
    - SOD 1: Introversion
    - SOD 2: Shyness
  - FAM: Family Problems
    - FAM 1: Family Discord
    - FAM 2: Familial Alienation
  - Do: Dominance
  - MDS: Marital Distress

MMPI-2

- "Interpersonal" content scales
  - PSY-5 (Personality Psychopathology Five)
  - AGGR - Aggressiveness
    PSYC - Psychoticism
    DISC - Disconstraint
    NEGE - Negative Emotionality/Neuroticism
    INTR - Introversion/Low Positive Emotionality
  - Social Introversion Subscales
  - Si1 – Shyness/Self-Consciousness
  - Si2 – Social Avoidance
  - Si3 – Alienation—Self and Others

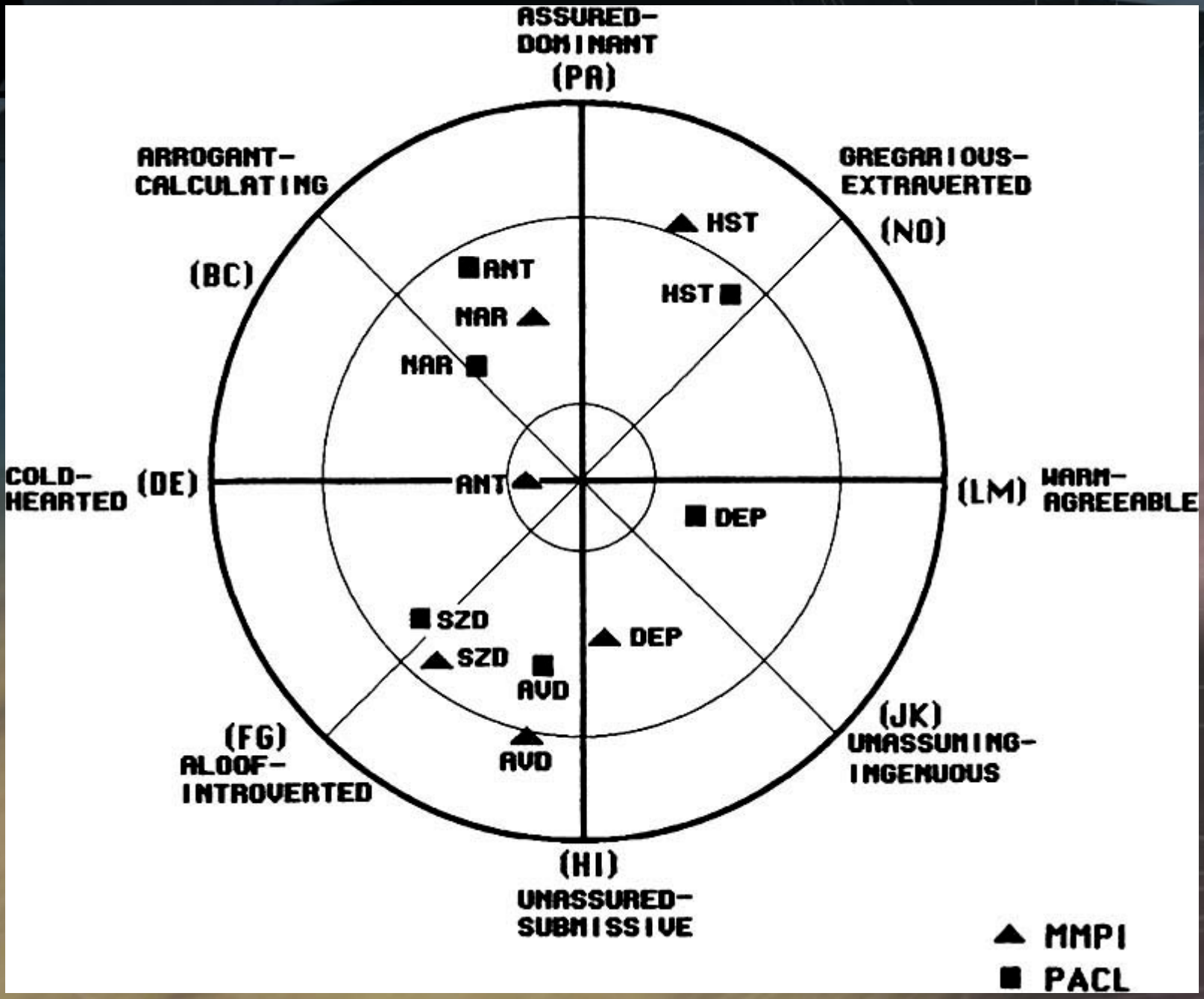
The Millon Matrix

Millon Personality Theory and MCMI-III

	Existential Aim		Replication Strategy		
	Life Enhancement vs. Life Preservation		Propagation versus Nurturance		
Polarity	Pleasure versus Pain		Self versus Other		
Deficiency, Imbalance, or Conflict	Pleasure (low) Pain (low or high)	Pleasure-Pain Reversal	Self (low) Other (high)	Self (high) Other (low)	Self-Other Reversal
	Personality Disorder				
Passive: Accommodation	Schizoid / Depressive	Masochistic	Dependent	Narcissistic	Compulsive
Active: Modification	Avoidant	Sadistic	Histrionic	Antisocial	Negativistic
Structural Pathology	Schizotypal	Borderline Paranoid	Borderline	Paranoid	Borderline Paranoid

Interpersonal Conduct

- Style of relating to others
- Impact message
- Attitudes that underlie, prompt, and give shape to behavioral acts
- Interpersonal theory and style


ASSURED-
DOMINANT
(PA)
ARROGANT-
CALCULATING
(BC)
GREGARIOUS-
EXTRAVERTED
(NO)
COLD-
HEARTED
(DE)
(LM)
WARM-
AGREEABLE
(FG)
ALOOF-
INTROVERTED
(JK)
UNASSUMING-
INGENUOUS
(HI)
UNASSURED-
SUBMISSIVE
HST
HST
ANT
NAR
NAR
ANT
DEP
SZD
SZD
DEP
AVD
AVD
MMPI
PACL

Case Study

- 40’s Female, TBI (moderate), 1 year post-injury
- MMPI-2
- Millon Behavioral Medicine Diagnostic

MMPI-2

- L-F-K hovering around T50
- VRIN, TRIN, F(B), S all WNL
- D – T58
- Hy – T60
- RCs all under T65
- All Content Scale under T65
- Do – 40-ish
- PSY-5 all within T48 to T58

MBMD

- Developed and standardized on medical patients
- Earlier version: Millon Behavioral Health Inventory (MBHI)
- Interpersonal Coping Scales parallel MCMI-III scales
- Grounded in Millon Personology Theory

Medical Problem(s): Stroke

Code: - // - ** - * // - ** B * D F + // - ** - * J I + //

Valid Profile

Response Patterns	X. DISCLOSURE	Y. DESIRABILITY	Z. DEBASEMENT
Negative Health Habits	ALCOHOL	DRUG	EATING
	CAFFEINE	INACTIVITY	SMOKING

unlikely problem area
possible problem area
likely problem area

		SCORE RAW	SCORE PS	PROFILE OF PREVALENCE SCORES 0 35 75 85 100+	CLINICAL SCALES
Psychiatric Indications	AA	4	45		ANXIETY-TENSION
	BB	4	40		DEPRESSION
	CC	9	55		COGNITIVE DYSFUNCTION
	DD	5	45		EMOTIONAL LABILITY
	EE	5	30		GUARDEDNESS
Coping Styles	1	2	20		INTROVERSIVE
	2A	1	30		INHIBITED
	2B	0	15		DEJECTED
	3	4	35		COOPERATIVE
	4	10	59		SOCIABLE
	5	8	50		CONFIDENT
	6A	4	30		NONCONFORMING
	6B	3	20		FORCEFUL
	7	14	35		RESPECTFUL
	8A	4	50		OPPOSITIONAL
	8B	3	50		DENIGRATED
Stress Moderators	A	11	68		ILLNESS APPREHENSION
	B	18	83		FUNCTIONAL DEFICITS
	C	13	74		PAIN SENSITIVITY
	D	0	5		SOCIAL ISOLATION
	E	8	68		FUTURE PESSIMISM
	F	0	5		SPIRITUAL ABSENCE
Treatment Prognostics	G	6	50		INTERVENTIONAL FRAGILITY
	H	3	53		MEDICATION ABUSE
	I	0	5		INFORMATION DISCOMFORT
	J	0	5		UTILIZATION EXCESS
	K	10	73		PROBLEMATIC COMPLIANCE
Management Guides	L	5	70		ADJUSTMENT DIFFICULTIES
	M	1	20		PSYCH REFERRAL

Increasingly Problematic →

Persistent Postconcussion Syndrome

- 40’s male, concussion, major disability
- 4 years post-injury
- Chronic pain, physically deactivated, dizziness
- Psychiatric hospitalization, voices, unusual behavior
- Major depressive disorder

MBMD™
ID 6212005

Profile Report

Medical Problem(s): Accident/Injury, Pain

Valid Profile

Code: BB AA CC DD // 8B 2A 3 2B 1 ** 7 8A * // C D E B A ** - * F + // G H J ** - * K + //

Response Patterns	X. DISCLOSURE	Y. DESIRABILITY	Z. DEBASEMENT
Negative Health Habits	ALCOHOL	DRUG	EATING
	CAFFEINE	INACTIVITY	SMOKING

unlikely problem area
possible problem area
likely problem area

		SCORE RAW	SCORE PS	PROFILE OF PREVALENCE SCORES (0 / 35 / 75 / 85 / 100+)	CLINICAL SCALES
Psychiatric Indications	AA	29	95		ANXIETY-TENSION
	BB	38	95		DEPRESSION
	CC	27	95		COGNITIVE DYSFUNCTION
	DD	25	80		EMOTIONAL LABILITY
	EE	20	61		GUARDEDNESS
Coping Styles	1	15	85		INTROVERSIVE
	2A	31	110		INHIBITED
	2B	18	106		DEJECTED
	3	24	110		COOPERATIVE
	4	3	10		SOCIABLE
	5	5	20		CONFIDENT
	6A	12	55		NONCONFORMING
	6B	6	20		FORCEFUL
	7	28	82		RESPECTFUL
	8A	27	80		OPPOSITIONAL
	8B	25	110		DENIGRATED
Stress Moderators	A	34	95		ILLNESS APPREHENSION
	B	28	95		FUNCTIONAL DEFICITS
	C	40	95		PAIN SENSITIVITY
	D	29	95		SOCIAL ISOLATION
	E	28	95		FUTURE PESSIMISM
	F	0	0		SPIRITUAL ABSENCE
Treatment Prognostics	G	27	95		INTERVENTIONAL FRAGILITY
	H	18	95		MEDICATION ABUSE
	I	3	40		INFORMATION DISCOMFORT
	J	23	95		UTILIZATION EXCESS
	K	5	14		PROBLEMATIC COMPLIANCE
Management Guides	L	18	105		ADJUSTMENT DIFFICULTIES
	M	17	105		PSYCH REFERRAL

Increasingly Problematic →

Personality Assessment Inventory (PAI)

- Validity, Clinical, Treatment, Interpersonal Scales
- “Interpersonal” Clinical Scales
  - Borderline Features (BOR)
  - Antisocial Features (ANT)
- “Interpersonal” Treatment Scales
  - Nonsupport (NON)
- “Interpersonal” Subscales
  - Social Detachment (SCZ-S)
  - Negative Relationships (BOR-N)
  - Antisocial Behaviors (ANT-A)
  - Egocentricity (ANT-E)
  - Aggressive Attitude (AGG-A)

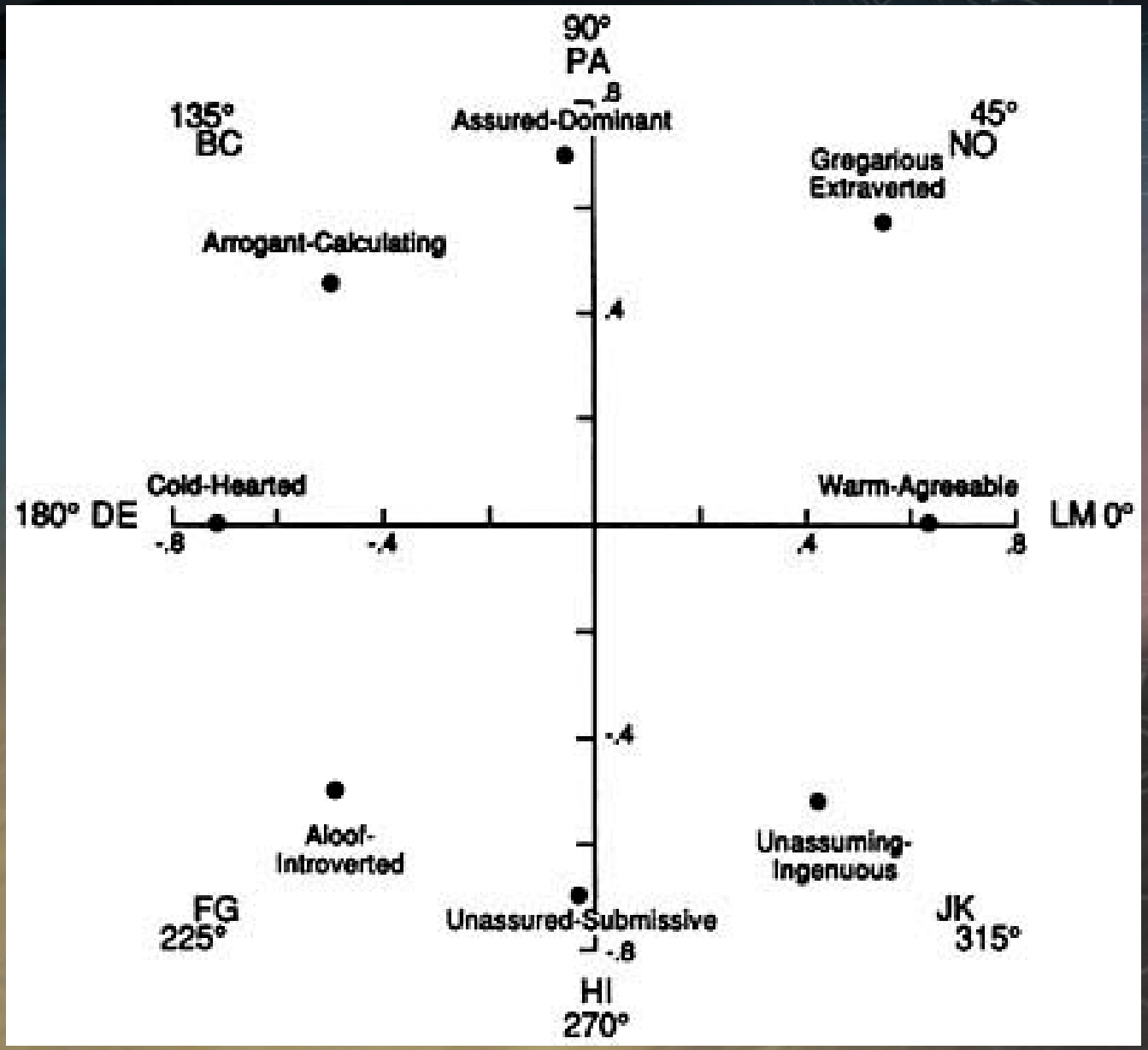
PAI

- Interpersonal Scales
  - Dominance (DOM): “Assesses the extent to which a person is controlling and independent in personal relationships. A bipolar dimension with a dominant style at the high end and a submissive style at the low end”.
  - Warmth (WRM): “Assesses the extent to which a person is interested in supportive and empathic personal relationships. A bipolar dimension with a warm, outgoing style at the high end and a cold, rejecting style at the low end.”

Morey, L. C. (1996). *An interpretive guide to the Personality Assessment Inventory (PAI).* Lutz, FL: Psychological Assessment Resources, Inc.

PAI

- DOM and WRM correlate: .31, .37
- DOM – IAS Dominance = .61
- DOM – IAS Warmth = .08
- WRM – IAS Dominance = .25
- WRM – IAS Warmth = .65


90°
PA
.8
135°
BC
Assured-Dominant
45°
NO
Gregarious
Extraverted
Arrogant-Calculating
.4
180° DE
Cold-Hearted
Warm-Agreeable
LM 0°
-.8
-.4
.4
.8
-.4
Aloof-
Introverted
Unassuming-
Ingenuous
FG
225°
Unassured-Submissive
-.8
JK
315°
HI
270°

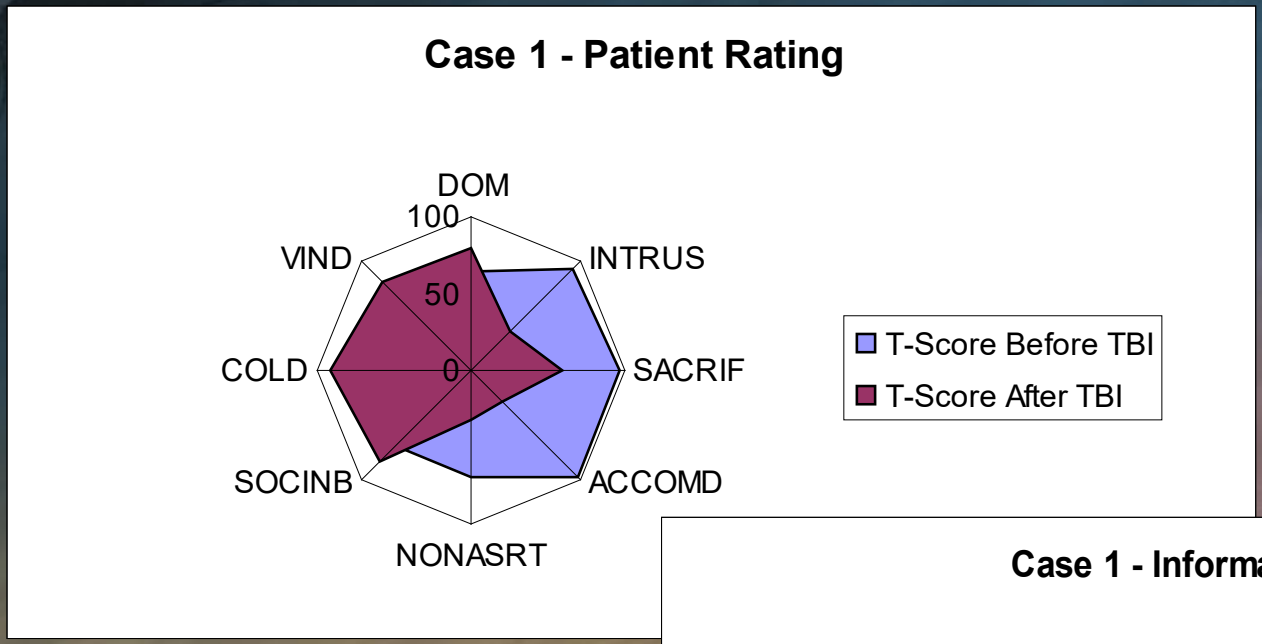
Inventory of Interpersonal Problems

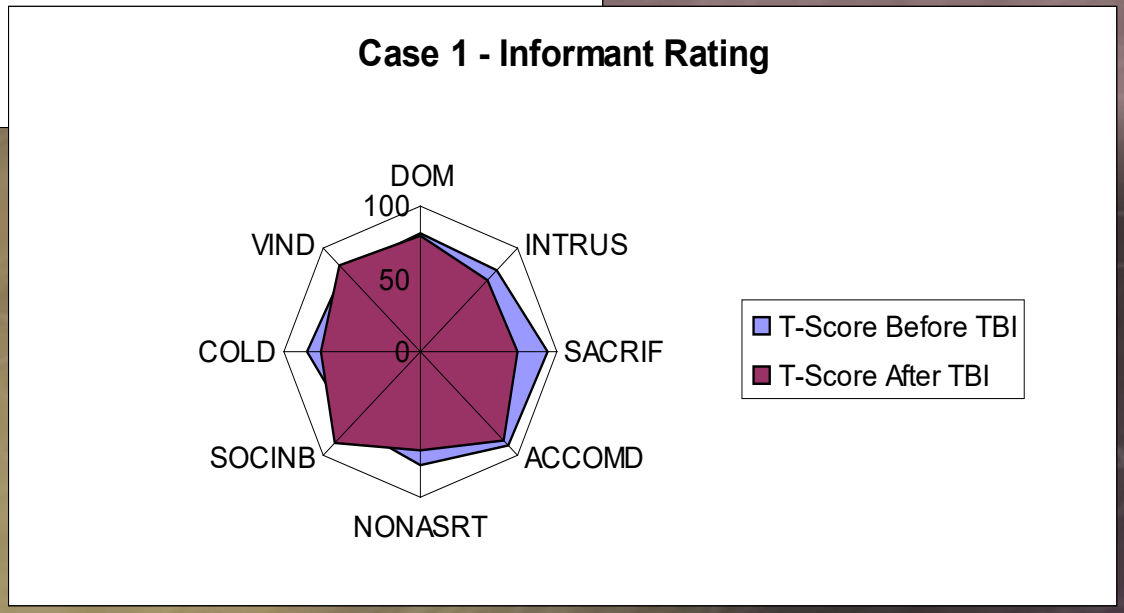
- 64-Items, 4-point Likert Scale
- It is hard for me to….
  - …Join in on groups
  - …Feel close to other people
  - …Forgive another person after I've been angry
  - The following are things that you do too much.
  - …I open up to people too much
  - …I argue with other people too much.

IIIP

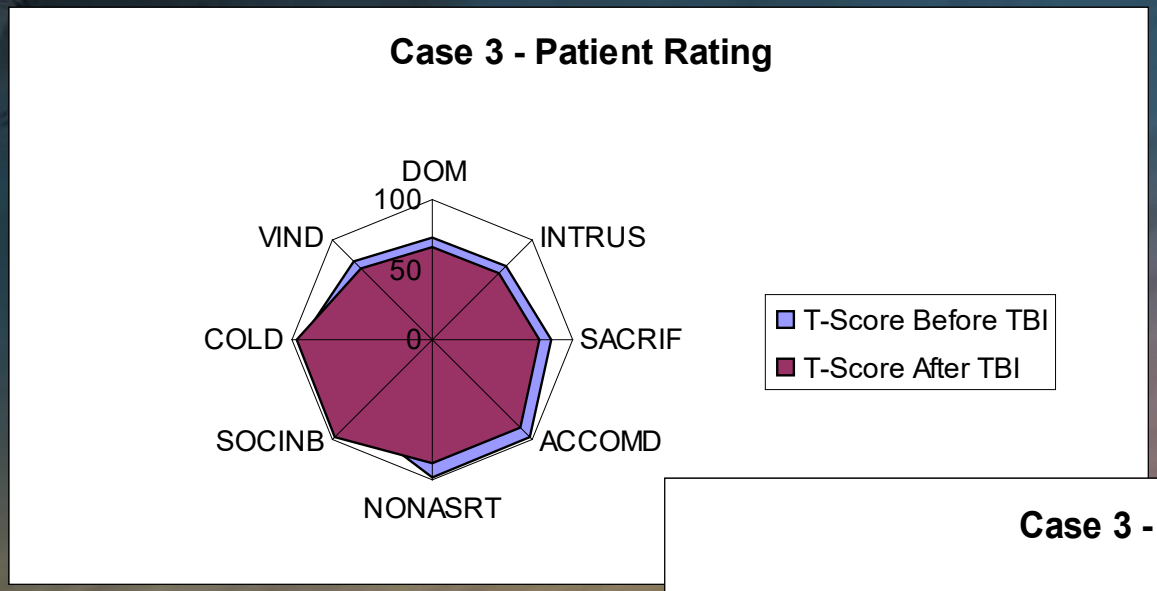
- Octant Scales (T-Score)
  - Domineering/Controlling
  - Vindictive/Self-Centered
  - Cold/Distant
  - Socially Inhibited
  - Nonassertive
  - Overly Accommodating
  - Self-Sacrificing
  - Intrusive/Needy

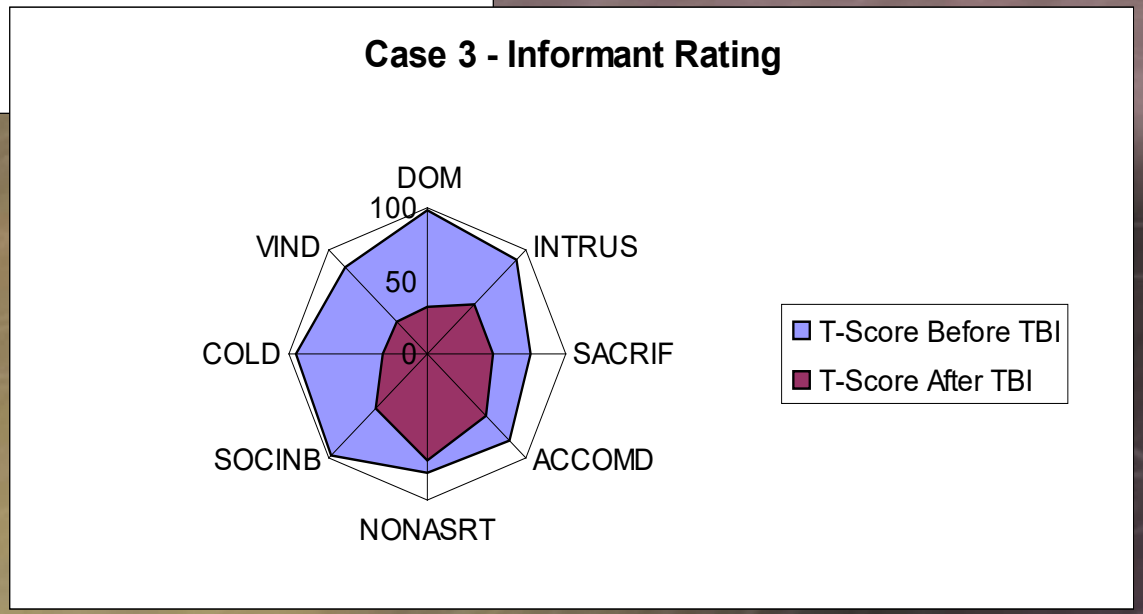
Case Study


Case 1 - Patient Rating
DOM
100
INTRUS
50
SACRIF
0
ACCOMD
NONASRT
SOCINB
COLD
VIND
T-Score Before TBI
T-Score After TBI


Case 1 - Informant Rating
DOM
100
INTRUS
50
SACRIF
0
ACCOMD
NONASRT
SOCINB
COLD
VIND
T-Score Before TBI
T-Score After TBI

Case Study


Case 3 - Patient Rating
DOM
100
INTRUS
VIND
50
SACRIF
COLD
0
ACCOMD
SOCINB
NONASRT
T-Score Before TBI
T-Score After TBI


Case 3 - Informant Rating
DOM
100
INTRUS
VIND
50
SACRIF
COLD
0
ACCOMD
SOCINB
NONASRT
T-Score Before TBI
T-Score After TBI

A conclusion is the place where you got tired of thinking.

- Comedian Steven Wright

Directions for Interpersonal Diagnosis

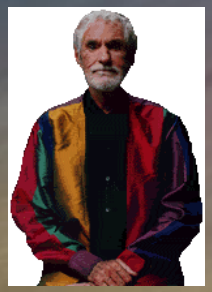
- Personality functioning is difficult to assess in those with acquired brain injury
- Self-Report/Objective Personality Measures – Paper-and-Pencil limitation
- Retrospective analysis difficult
- Enduring and Pervasive aspect of personality disorders is difficult to ascertain in a single evaluation

Directions for Interpersonal Diagnosis

- Inclusion of observational methods
  - Benjamin's *Structural Analysis of Social Behavior (SASB)*
- Impact of interpersonal behavior on the interactant
  - Kiesler's *Impact Message Inventory (IMI)*

Directions for Interpersonal Diagnosis

- Dimensional view of interpersonal functioning
- Multilevel (Leary)



- Spectrum v. categorical (Kraepalin's *forme fruste*)

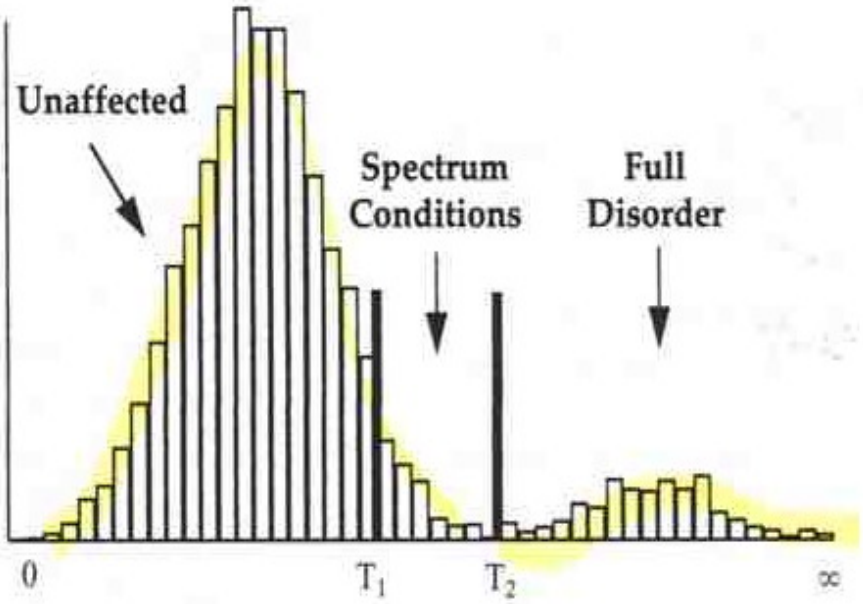
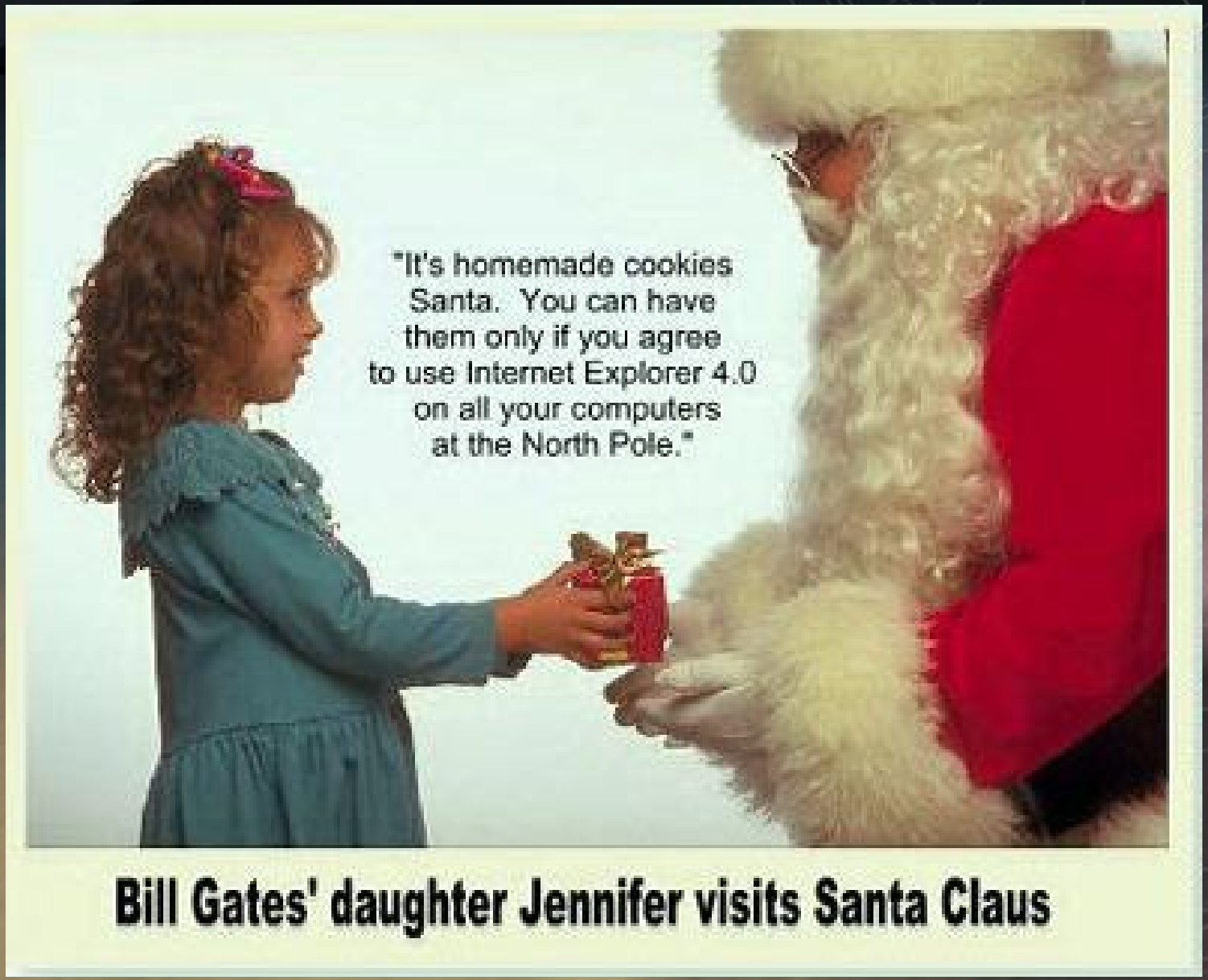


FIGURE 8.2. Modified threshold liability model that accounts for discontinuities in the expression of pathology. Under this model, the same multifactorial causes are still exerting an influence that creates much of the variability between people, 0 to T_1, T_1 to T_2, with the addition of one or more significant genetic and/or environmental causes that creates the patient group (T_2 to ∞). Adapted from Faraone, Tsuang, and Tsuang (1999).

Implications for Treatment in ABI

- Interpersonal interventions that:
  - Modify enduring transaction patterns
  - Take into account neurocognitive and neurobehavioral deficits
  - Incorporate social network of the person with ABI



Bill Gates' daughter Jennifer visits Santa Claus