Sam Goldstein, PhD
Neurology, Learning, and Behavior Center
www.samgoldstein.com

TREATMENT-INFORMED NEUROPSYCHOLOGICAL EVALUATION IN TBI & GENETIC DISORDERS

26TH ANNUAL CONFERENCE
CRITICAL ISSUES FACING CHILDREN & ADOLESCENTS
Providing Behavioral Health & Addiction Treatment Tools for Professionals Working with Youth & Families

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Sam Goldstein, PhD

Sam obtained his PhD in school psychology from the University of Utah and is licensed as a psychologist and certified school psychologist in the state of Utah. He is also board certified as a pediatric neuropsychologist and listed in the Council for the National Register of Health Service Providers in psychology. He is a Fellow of the American Psychological Association and the National Academy of Neuropsychology. Sam is an adjunct assistant professor in the Department of Psychiatry at the University of Utah School of Medicine. He has authored, co-edited, or co-authored over 50 clinical and trade publications, three dozen chapters, nearly three dozen peer-reviewed scientific articles, and eight psychological and neuropsychological tests. He is developing a behavioral assessment tool to evaluate disruptive mood dysregulation disorder (DMDD) and is editing a clinical volume about DMDD. Sam is the editor in chief of the *Journal of Attention Disorders.* Since 1980, he has served as the Clinical Director of the Neurology, Learning, and Behavior Center in Salt Lake City, Utah.

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Disclosures

- I have developed tests marketed by Multi-Health Systems, Pro-Ed, Giunti Psychometrics, and Western Psychological Services.
- I have authored books published by Springer, Wiley, Guilford, Doubleday, McGraw Hill, Brookes, Kluwer, and Specialty Press.
- I am editor in chief of the *Journal of Attention Disorders* (Sage) and co-editor of the *Encyclopedia of Child Development* (Springer).
- I am the chief scientific officer for Neurotech.

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Goals for Today

- Define and discuss rationale for treatment-informed evaluation (TIE).
- Discuss and describe an evaluation process and necessary components.
- Discuss critical issues in completing a TIE across a variety of educational and mental health settings.
- Briefly present and review assessment components.
- Begin the discussion of creating an effective treatment plan.
- Explain that diagnosis or eligibility determination is just the start, not the end, of the assessment process.

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Treatment-Informed Evaluation (TIE)

- The primary goal of a mental health, neuropsychological, educational, or language evaluation is to generate sufficient foundation to "see the world through the child's eyes."
- This lens then affords evaluators the ability not only to generate sufficient data to make diagnostic and eligibility determinations, but even more importantly to seamlessly design treatment goals and educational plans.
- In this presentation I will provide a framework for designing an evaluation, beginning with an appreciation of need and then creating a set of assessment modules to generate the data required to treat and educate effectively. I will discuss how to integrate various forms of data in the case-conceptualization process and how to understand the often-voluminous information generated during assessment.

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Treatment-Informed Evaluation (TIE) *(cont.)*

- This process begins by understanding internalizing and externalizing conditions in childhood and progresses to an examination of the increasing number of diagnoses and eligibility categories that must be considered in a comprehensive assessment and the process of differential diagnosis.
- Any professional tasked with evaluating the developmental, intellectual, neuropsychological, language, emotional, motor, and/or adaptive behaviors of children must operate from a TIE framework.
- A Patterns of Strengths and Weaknesses approach is essential.
- I will briefly discuss broad- and narrow-band questionnaires, as well as intellectual, educational, and developmental assessment tools administered in face-to-face settings.

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This Presentation Is Initially About Assessment

- The tools that are most often used are those that assess for a diagnosis or determine eligibility.
- Second-tier tools are for important concepts that people are interested in (e.g., resilience, trauma, etc.). They are not directly used for diagnosis nor to determine eligibility.
- Third-tier tools are the hardest to fit into a test battery, often because of limited time. These tools offer valuable information as well but cover topics not as often of interest to the evaluator (e.g., self-concept, impairment). They too are not directly used for diagnosis nor to determine eligibility.
- However, TIE requires the utilization of all these tools to create an effective treatment plan and evaluate treatment progress.

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The Process of Assessment

- TIE assessment begins with the collection and measurement of brain-based skills responsible for thinking, learning, feeling, and behavior.
- The next step involves developing an understanding of the complex interaction of these skills with each other and with environmental factors.
- Finally, TIE assessment concludes with etiological opinions and prescriptive interventions.
- TIE focuses on functional limitations or impairment.

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Assessment Follows a Logical Course

- Review of all available records.
- Completion of Parent and Teacher checklists evaluating symptoms, behaviors, executive functioning, adaptive behavior, and impairment.
- Completion of a history form by parents.
- Meeting with parents prior to seeing the child to take history and discuss checklists. Reconciling differences between multiple parent raters. At the conclusion of this meeting, preliminary hypotheses should be made.
- Classroom observation if an Individuals with Disabilities Education Improvement Act (IDEIA) or Americans with Disabilities Act (ADA) school evaluation is being completed.
- Assessment with the youth. This includes history, testing, and clinical interview.

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Assessment Follows a Logical Course *(cont.)*

- Educational and medical history
- Pre-vocational history (if teen)
- Personal and psychiatric history
- Nature of trauma or development
- Recent versus chronic symptom course
- The integration of historical, qualitative, and quantitative data as a means of testing hypotheses and prescribing intervention

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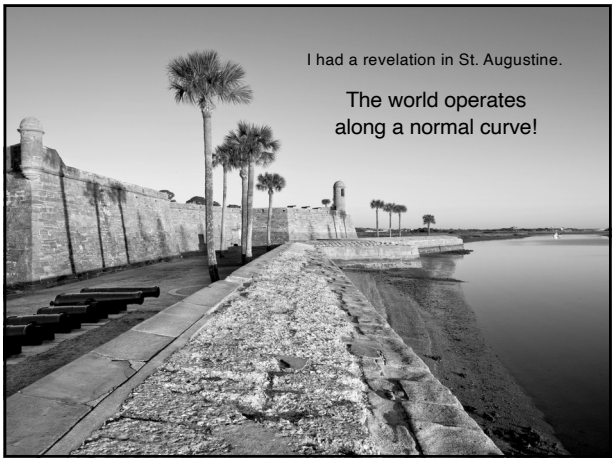

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The Bus Test

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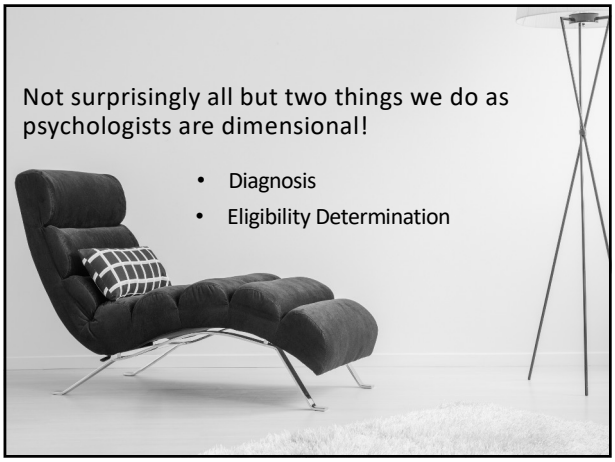
Not surprisingly all but two things we do as psychologists are dimensional!

- Diagnosis
- Eligibility Determination



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The Disruptive Continuum of Behavior

- Difficult Temp
- Attention Deficit
- Oppositional Defiance
- Conduct Disorder

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The Non-disruptive Continuum of Behavior

- Temperament & Development
- Depression
- Anxiety
- Learning & Social Problems

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How do you see the world through the child's eyes?

- Take a history.
- Use well-validated assessment tools to give insight into how they function.
- Administer face-to-face tasks.
- Create a perspective through the child's eyes. Tell me what they see, feel, and do—not what you diagnose.
- Most mental health professionals rush into treatment rather than take the time to understand the person.
- Tell me about the person conceptually—not the test scores. Let's talk about holistic ways of treating the child. Not just what's wrong with them, *but also what's right with them.*

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Critical Issues for TIE

- Assess for intervention.
- Understand sensitivity versus specificity.
- Understand positive versus negative predictive power.
- Begin with the disruptive/nondisruptive continuum.
- Keep low-incidence disorders in mind.
- Consider resilience factors.

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Critical Issues for TIE *(cont.)*

- Family factors.
- Socioeconomic status.
- Easy temperament.
- Social relations.
- Sense of self-esteem.
- Organized religion.
- Internal locus of control.
- Sense of humor.

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Critical Issues for TIE *(cont.)*

- Demographics.
- Symptoms versus consequences.
- Categories versus dimensions.
- Developmental pathways: accept a moment in time.
- There are no shortcuts.
- Assess the environment.
- Know what you know and what you don't
- Consider common but often unrecognized genetic disorders of childhood such as Fragile X, Marfans, Turners, or Prdaer-Willi.

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Person Attributes Associated With Successful Coping*

- Affectionate, engaging temperament.
- Sociable.
- Autonomous.
- Above average IQ.
- Good reading skills.
- High achievement motivation.
- Positive self-concept.
- Impulse control.
- Internal locus of control.
- Planning skills.
- Faith.
- Humorous.
- Helpfulness.

*Replicated in 2 or more studies.

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Environmental Factors Associated With Successful Coping*

- Smaller family size.
- Maternal competence and mental health.
- Extended family involvement.
- Close bond with primary caregiver.
- Supportive siblings.
- Living above the poverty level.
- Friendships.
- Supportive teachers.
- Successful school experiences.
- Involvement in pro-social organizations.

*Replicated in 2 or more studies.

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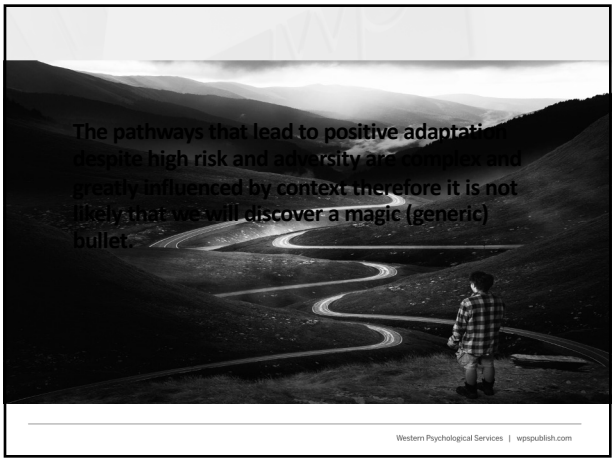

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Requirements for Assessment

- Careful history
- Valid, reliable, normative behavioral measures of
  - ability, knowledge, and skill
  - impairment and adaptive functioning
- Methods to integrate the data; test hypotheses; form diagnostic conclusions; design, implement, and monitor treatment

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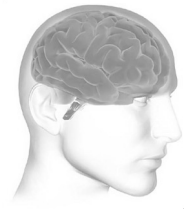
How the Brain Works

Ability.
Knowledge.
Skill.



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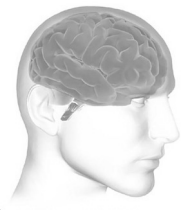
How the Brain Works *(cont.)*

PASS theory is a modern way to define brain-based abilities by measuring neurocognitive functioning.

Planning = Thinking about thinking
Attention = Being alert
Simultaneous = Getting the big picture
Successive = Following a sequence



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Components of a Thorough Assessment

Step 1: Take history in a standardized way.

Step 2: Assess impairment.

- Rating Scale of Impairment (RSI)
- Comprehensive Executive Function Inventory (CEFI)
- Risk Inventory and Strengths Evaluation (RISE)

Step 3: Administer broad spectrum.

- Conners Comprehensive Behavior Rating Scales (Conners CBRS)
- Conners Early Childhood (Conners EC)
- Behavior Assessment System for Children (BASC)

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Obtain a Thorough History

- Immediate and extended family risks.
- Pregnancy and birth issues (e.g. BIND, Apgar)
- Infancy and toddlerhood (temperament)
- Medical history
- Preschool and school history
- Socialization
- Family relations
- Sleep, appetite and hygiene
- Past treatments or educational services
- Discipline
- Situational problems

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Components of a Thorough Assessment *(cont.)*

Step 4: Decide on narrow-spectrum tools.

Disruptive/Nondisruptive Problems:

- Autism Spectrum Rating Scales (ASRS)
- Autism Diagnostic Interview–Revised (ADI-R)
- Social Responsiveness Scale, Second Edition (SRS-2)
- Adaptive Behavior Assessment System, Third Edition (ABAS-3)
- Multidimensional Anxiety Scale for Children, Second Edition (MASC-2)
- Children's Depression Inventory, Second Edition (CDI 2)
- Cognitive Assessment System Teacher Questionnaire (CAS)

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Components of a Thorough Assessment *(cont.)*

Step 5: Achievement, ability testing, and social.

- Woodcock-Johnson
- Wechsler Individual Achievement Test (WIAT)
- Cognitive Assessment System (CAS)
- Kaufman Assessment Battery for Children, Second Edition Normative Update (KABC-II NU)
- Wechsler Intelligence Scale for Children (WISC)
- Autism Diagnostic Observation Schedule, Second Edition (ADOS-2)
- Monteiro Interview Guidelines for Diagnosing the Autism Spectrum, Second Edition (MIGDAS-2)

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Components of a Thorough Assessment *(cont.)*

Step 6: Resilience.

- Risk Inventory and Strengths Evaluation (RISE)
- Resiliency Scales

Step 7: Personality.

- Millon Pre-adolescent/Adolescent Clinical Inventory (MACI)
- Minnesota Multiphasic Personality Inventory (MMPI)

Step 8: Clinical interview (my form or others, and projectives).

Step 9: Explaining the data to stakeholders. Making sense of differing data sources.

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A Day In the Life . . .

- The first thing I do is review the reasons for assessment.
- Next, I offer a day in the life of the youth incorporating data from all sources.
- Then I discuss diagnosis(es) and impairment incorporating an ability/knowledge/skill framework.
- Then I offer components of a treatment plan designed to address compensation and remediation moving forward.

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Case Study: Joey

- Thirteen-year-old Joey has a history of attention and social problems.
- He has been diagnosed with attention-deficit/hyperactivity disorder (ADHD) and is currently taking psychiatric medication.
- Despite the medical, psychological, and educational interventions he receives, Joey continues to struggle in school, in his interpersonal relationships, and in many related aspects of daily living.

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Case Study: Joey *(cont.)*

- The assessment of Joey's school, home, and social domain functioning was to identify areas of limitations and strengths, while assisting with setting up goals and identifying strategies for developing independent living and improved social skills.
- The interview with Joey's mother provided a comprehensive history.
  - She mentioned Joey's ADHD symptoms have caused him to struggle in several areas of life.

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Case Study: Joey *(cont.)*

- His mother reported that she has been unsatisfied with the effect of the medical and educational interventions that Joey has received, as he continues to struggle significantly in school.
- Joey appears to be advanced in some academic areas but very behind in others.
- He does not seek out friendships at school, nor is he sought out by peers.
- He is passive and avoids social interactions.

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Case Study: Joey *(cont.)*

- At home, Joey demonstrates poor hygiene; he refuses to brush his teeth and needs constant reminding to wash his hands after using the bathroom.
- Joey refuses to cooperate in the completion of any assigned chores at home, and he often leaves his room a mess.
- Joey also tends to become very disruptive when told what to do. He does not seem to learn well from experience.

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Case Study: Joey *(cont.)*

- Parent and teacher reports on standardized behavioral checklists noted concern in both home and school settings for emotional distress, social impairment, academic challenges, inattention, depression, and anxiety.
- Furthermore, his Wechsler Intelligence Scale for Children, Fourth Edition (Wechsler, 2004), Cognitive Assessment System, Second Edition (Naglieri, Das, & Goldstein, 2014), and Woodcock-Johnson III (Woodcock, McGrew, & Mather, 2001) scores demonstrated average intellect with problems noted in Processing Speed (via WISC-IV) and Planning and Attention abilities (via CAS2).

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Case Study: Joey *(cont.)*

- When assessed for reading, math, and written language (via WJ III), Joey was placed several grades below his current placement.
- During the clinical interview, Joey appeared to lack much insight into his problems. His self-reports did not reflect elevated symptoms of depression or anxiety.

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Case Study: Joey
RSI Scores

RSI Scale Scores

Scale	Raw Score	*T*-score	90% Confidence Interval	Percentile Rank	Classification
School/Work	42	85	77 to 86	99	Considerable Impairment
Social	37	79	69 to 81	99	Considerable Impairment
Mobility	2	47	42 to 53	38	No Impairment
Domestic	33	79	69 to 81	99	Considerable Impairment
Family	13	63	54 to 67	90	Mild Impairment
Self-Care	24	85	68 to 85	99	Considerable Impairment
Total Raw Score	438				

Total Score

Total Score	Raw Score	*T*-score	90% Confidence Interval	Percentile Rank	Classification
	438	81	76 to 83	99	Considerable Impairment

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Case Study: Joey
Treatment Targets

School/Work	
• being organized • learning at school or work • finding solutions to problems • remembering to do things • remembering where he put things	• completing work • concentrating • preparing school or work • following instructions

Social	
• participating in group events • talking to friends • asking for help • socializing • having fun with others	• communicating his needs • having friends at school or work • talking in a group of people • working well with others

Mobility
No *Elevated* Items

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Case Study: Joey
Treatment Targets *(cont.)*

Domestic	
• helping around the house • cleaning up after himself • putting clean clothes away • completing chores • picking up dirty clothes	• cleaning his room • putting things away in the house

Family
• having fun with family • participating in family activities

Self-Care	
• washing or bathing • cleaning himself when dirty • clean clothes • brushing his teeth • feeding himself	• dressing • getting undressed • washing his hands after using the bathroom

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Case Study: Joey
Summary

- A day in Joey's life.
- The modified treatment plan for Joey based upon currently obtained impairment scores began with a discussion with Joey's physician concerning the effectiveness of his current regime of medication.
- With the input of the current data, Joey's physician adjusted the dosage and time of administration for the medication Joey was taking to alleviate ADHD symptoms.
- Plans were made to track Joey and begin to consider his transition needs after high school.

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Case Study: Joey
Summary *(cont.)*

- Additionally, Joey's parents began working with a behavioral consultant, specifically targeting areas of impairment within the home setting.
- A multilevel response-cost behavioral program was set in place at home, as the behavioral therapist determined that Joey's impairments were not the result of a lack of knowledge concerning domestic, family, or self-care behaviors.

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Case Study: Joey
Summary *(cont.)*

- At school, Joey's Individualized Education Plan was rewritten to include specific strategies to improve efficiency of functioning within the classroom and social relations.
- The school psychologist consulted with Joey's teacher to include Joey in a social skills development group.

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Case Study: Joey
Pre/Post-RSI Scores

RSI Scale Scores

Scale	Raw Score	Pre T-score	Post T-score
School/Work	42	85	72
Social	37	79	61
Mobility	2	47	47
Domestic	33	79	62
Family	13	63	50
Self-Care	24	85	75
	Total Raw Score	438	367

Total Score

Total Score	Raw Score	Pre T-score	Post T-score
	438	81	65

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Conclusions

- Assessment must begin with a clear set of goals and appreciation of the ultimate use of the data generated.
- Assessment to determine eligibility or diagnosis is a limited process that, once completed, falls far short of the therapeutic and educational needs of the child.
- TIE follows a logical process. It is founded on the knowledge that in today's world children at risk rarely if ever experience an isolated challenge or liability.
- TIE is also founded on the principle that symptom relief is valuable in the immediate present but nurturing assets over time is far more valuable to paving a road for a child's successful transition into adult life.

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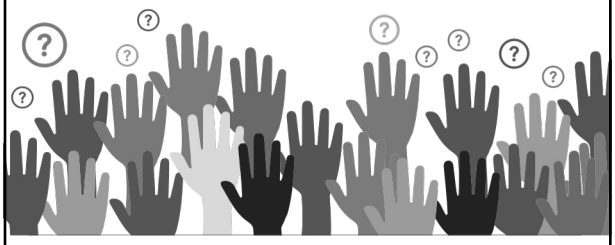
Questions?



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Thank You

Would you like to be part of my data collection or contribute to my DMDD textbook?

www.samgoldstein.com
info@samgoldstein.com
@drsamgoldstein
@doctorsamgoldstein
@CommonSenseScience

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Sam Goldstein, Ph.D.
sam@samgoldstein.com

The Power Of Resilience

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