

Behavior Analysis and CBT Approach the Military

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Who are we?

- Current service?
- Veteran?
- Married to or other family member who is/has been?

Areas of Interest

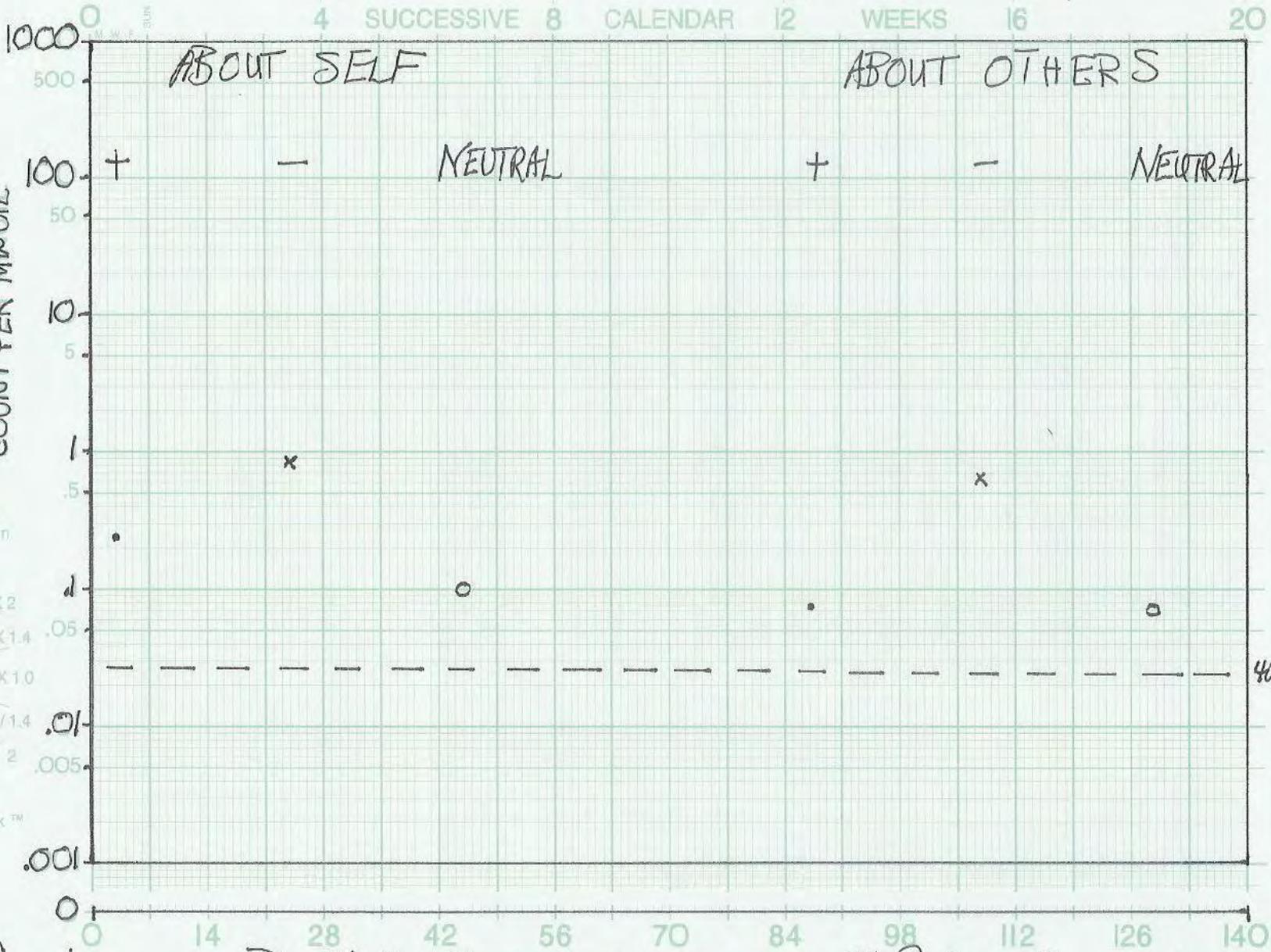
- Pigeon-guided missiles (WWII)
- Cricket signaling at Normandy 1944
- Dog Training (Lackland AFB 1958)
- **Traumatic Brain Injury (TBI)**
- **Suicide**
- **Post-traumatic Stress Disorder (PTSD)**

Behavioral Definitions

- Respondent
- Operant
- Thought—an operant, verbal behavior with no emotion
- Feeling—operant, verbal behavior with a mild physiological component
- Urge—a respondent behavior. A strong impulse, force or compulsion

Military Data

- Three all-day workshops with the clinical staff working with active duty soldiers diagnosed with PTSD
- Opportunity to observe one therapy group for two hours
- 40-min record floor
- What one psychotherapist learned from the workshop...



B. CALKIN
SUPERVISOR
ARMY
ORGANIZATION

ADVISER
DIVISION

PHIL FLANDERS
MANAGER
PTSD GROUP CALKIN
ROOM

CALKIN
TIMER
CALKIN
COUNTER

8 SOLDIERS
PERFORMER
CALKIN
CHARTER

COMMENTS
COUNTER
• POSITIVE
x NEGATIVE
o NEUTRAL

TBI definition

- Traumatic brain injury occurs when an external mechanical force causes brain dysfunction.
- Traumatic brain injury usually results from a violent blow or jolt to the head or body. An object penetrating the skull, such as a bullet or shattered piece of skull, also can cause traumatic brain injury.
- Mild traumatic brain injury may cause temporary dysfunction of brain cells. More serious traumatic brain injury can result in bruising, torn tissues, bleeding and other physical damage to the brain that can result in long-term complications or death.

PTSD

- Post-traumatic stress disorder
- DSM III
 - Its first diagnosis and inclusion in 1980
 - Vietnam War ended in 1975
- Individual behaviors within PTSD
 - Probably hundreds
 - Wild guess: 10-20 within an individual person?

PTSD Behaviors—p. 1

- Intrusive thoughts recalling the traumatic event
- Nightmares
- Flashbacks
- Efforts to avoid feelings or thoughts that trigger memory of the traumatic event
- Feelings of detachment or inability to connect with loved ones
- Depression, hopelessness
- Feelings of guilt (from belief that you were responsible for the traumatic incident)

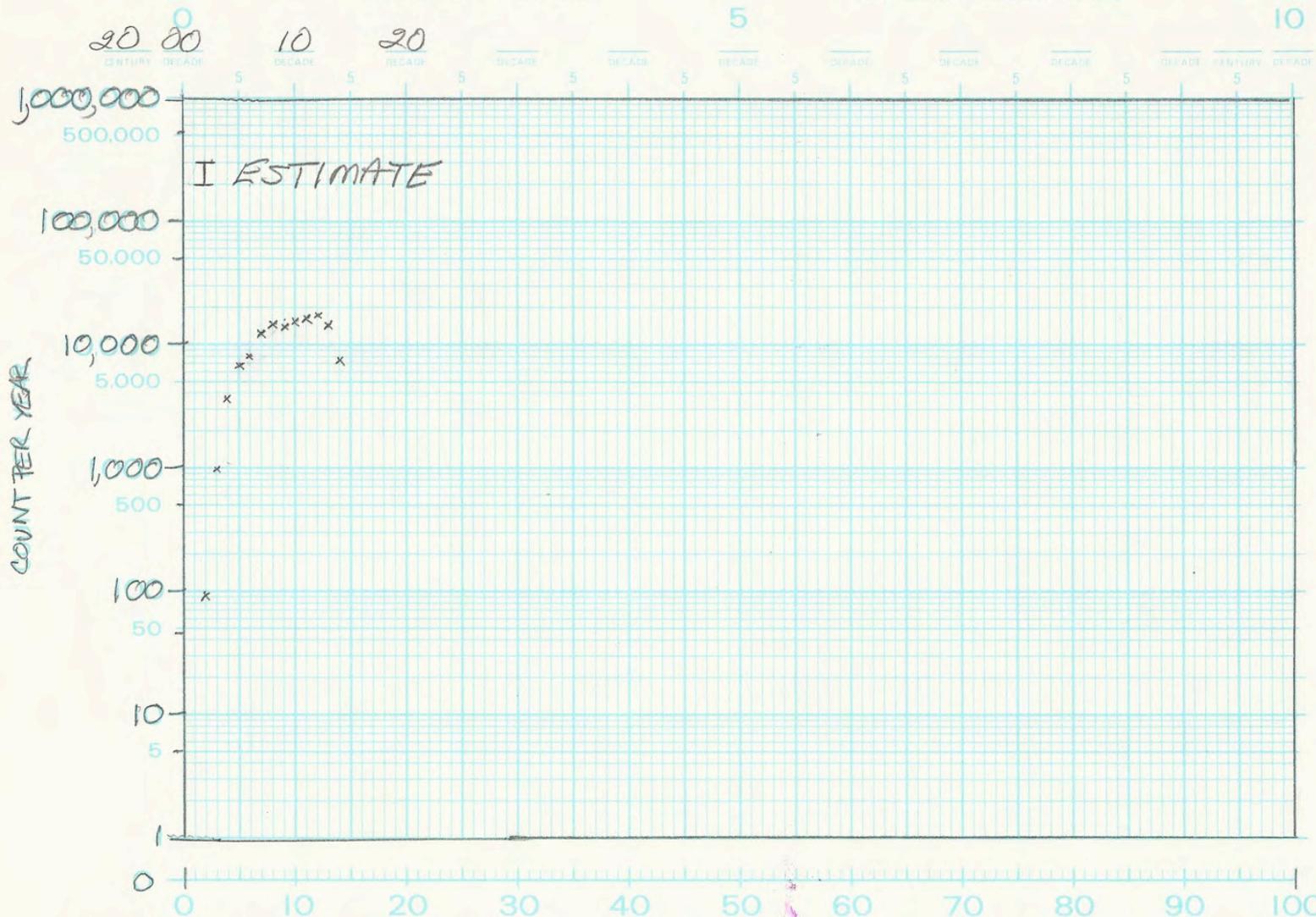
PTSD Behaviors—p. 2

- Irritability or angry outbursts
- Disrupted sleep, insomnia
- Hypervigilance (being overly aware of possible danger)
- Headache
- Hypersensitivity, including at least two:
 - sleep difficulty
 - anger
 - difficulty concentrating
 - startling easily,
 - a physical reaction (rapid heart rate or breathing, increase in blood pressure)

CALENDAR DECADES



YEARLY BEHAVIOR CHART (YBC-1EN)
8 CYCLE - 100 YEARS (10 DECADES)
BEHAVIOR RESEARCH CO.
BOX 3551 KANSAS CITY KANS 64103



SOURCE: <http://www.fas.org/sqp/crs/natsec/RS22452.pdf>

SUCCESSIVE CALENDAR YEARS ALL SERVICES
SUPERVISOR ADVISER MANAGER BEHAVIOR AGE LABEL COUNTED
DEPOSITOR AGENCY TIMER MILITARY COUNTER CALKIN CHARTER
PTSD

Those most at risk—1

- Have a history of sexual or physical abuse
- Work in a high-risk occupation, e.g., firefighting, military, or law enforcement
- Have a history of depression or other psychological disorder
- Abuse drugs or alcohol
- Do not have adequate social support

Those most at risk—2

- Are women. Women are twice as likely as men to show signs of PTSD
- Are veterans of war
- Are civilians who survived unexpected events such as car wrecks, fires, natural disasters or terrorist attacks.
- Are depressed

Reasons PTSD stats are poor

- We have numbers for
 - Suicide
 - TBI
- We lack numbers for PTSD. Why?
 - Denial
 - Fear
 - Lack of access to facilities, VA or otherwise
 - Not visible and, therefore, harder to name
 - Mostly percentage estimates

Military Branch Suicides

- The US Army, Air Force, Navy, and Marines have lost more troops to suicide over the past 10 years than the US and its many allied have lost to combat in Afghanistan. Since 2003, at least 3,429 American troops have taken their own lives, compared with 3,254 combat deaths.
 - Army 1,939 (35/10,000)
 - Air Force 643 (20/10,000)
 - Navy 492 (15/10,000)
 - Marine Corps 355 (17/10,000)

What was my inner behavior?

Disposition	Stimulus	Behavior	Kontingency	Consequence
House	Phone rings “We’re going to blow up your house, kill your family.” (3-5 times)	<ul style="list-style-type: none"> • Heart rate increase. • Glance in room. • Look out windows. • Wake up. • Answer it. • Dry mouth. • Tense muscles. • Write time & content. 	<p>1: +/-5</p> <p>1:1</p>	Hear threat.

What is a soldier's inner behavior?

Program	Antecedent Event	Behavior	Arrangement	Arranged/Su bsequent Event
Street	- See/hear threat.	<ul style="list-style-type: none"> • Heart rate increase. • Dry mouth. • Tense muscles. 	1: +/-5	
	- - - - - -		1:1	Threat is not real. 3 times
	...See/hear threat...	NOW YOU IMAGINE		Threat is real. 1 time





Sleep



A small, orphaned Afghan girl
in an orange top and shorts
bears a half moon scar across her shaved scalp.
She sleeps against his shoulder and neck.
He sleeps, too, in a large blue soft plastic armchair
a bulk of an Air Force Master Sergeant who
comes every night to hold
the little girl who whimpers in anyone else's arms.
How do we understand love spoken only through touch
—across language and culture?
Does he have a daughter this age?
Will he dream about the little Afghan girl
as his child grows older?
How do we know whom to trust when we sleep?

Methods to evaluate suicide data

- Clinical
 - Person by person by person
 - Many clinicians, and therefore, many methods used
 - Many different data collection systems; also true of PTSD
 - Currently the most common
- Systemic

Primary Reasons for Military Suicide

- Financial,
- Legal,
- Relationship problems

Military Suicide Data

- Army, Marines, Navy, Air Force suicide data
- Air National Guard study of 10 (out of 89) wings.
 - Pilot study
 - The data and findings are proprietary to the ANG.

CALENDAR DECADES

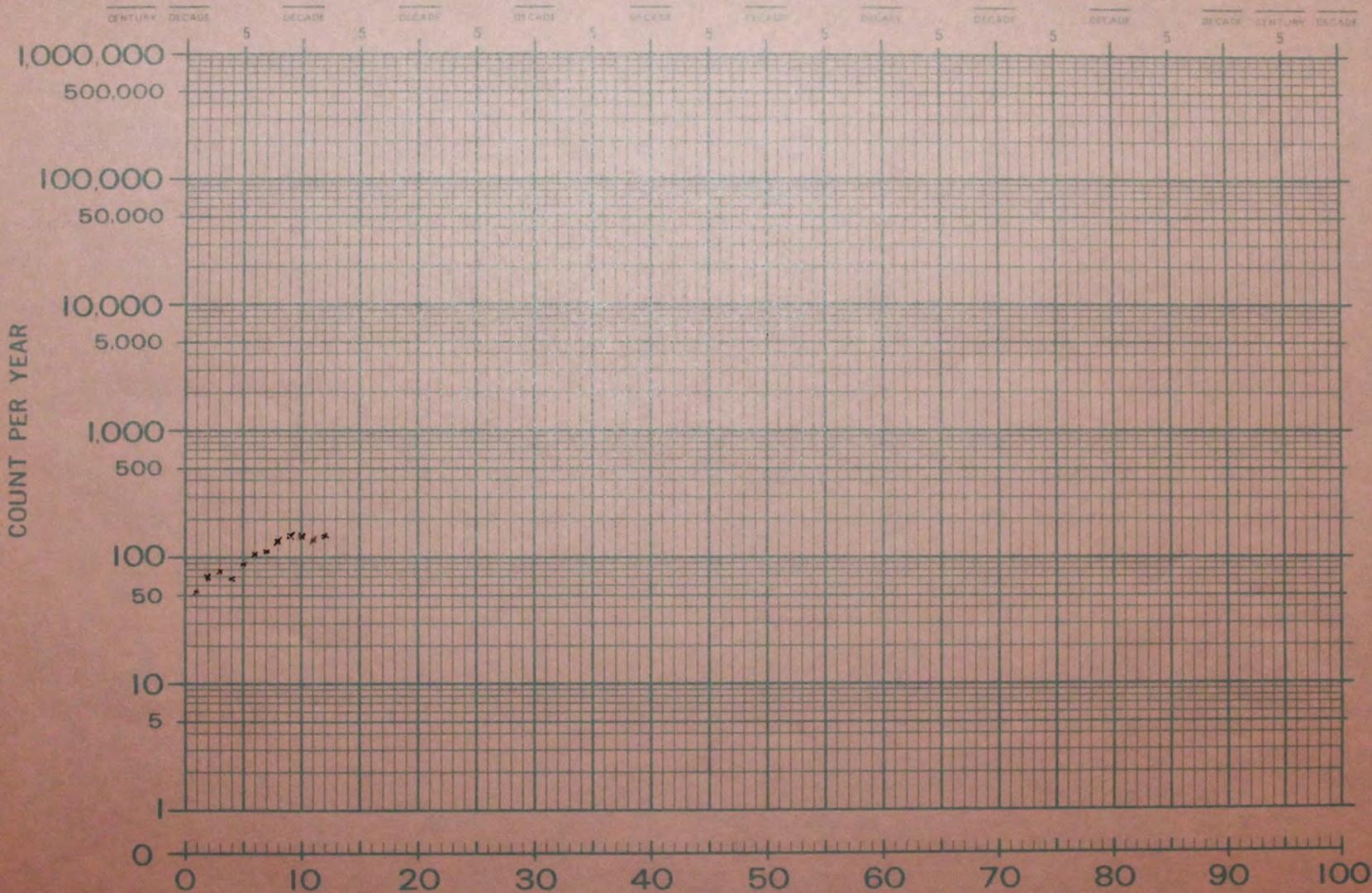


YEARLY BEHAVIOR CHART (YBC-1EN)
 1 CYCLE - 100 YEARS (10 DECADES)
 REMINGTON RESEARCH CO.
 BOX 5861 - KANSAS CITY, KANSAS 64108

2000

5

10



SUCCESSIVE CALENDAR YEARS

SUPERVISOR _____
 ADVISER A. Calkin MANAGER _____
 DEPOSITOR _____
 AGENCY _____

TIMER _____
 COUNTER _____

VS Army
 BEHAVIOR
 K. Corso
 CHARTER

AGE _____
 LABEL x Suicide
 COUNTED _____
 2001-2009 Source: ODSuicideProj. TF Report 8/03/0
 2010-2011 Source: ADSERS

CALENDAR DECADES

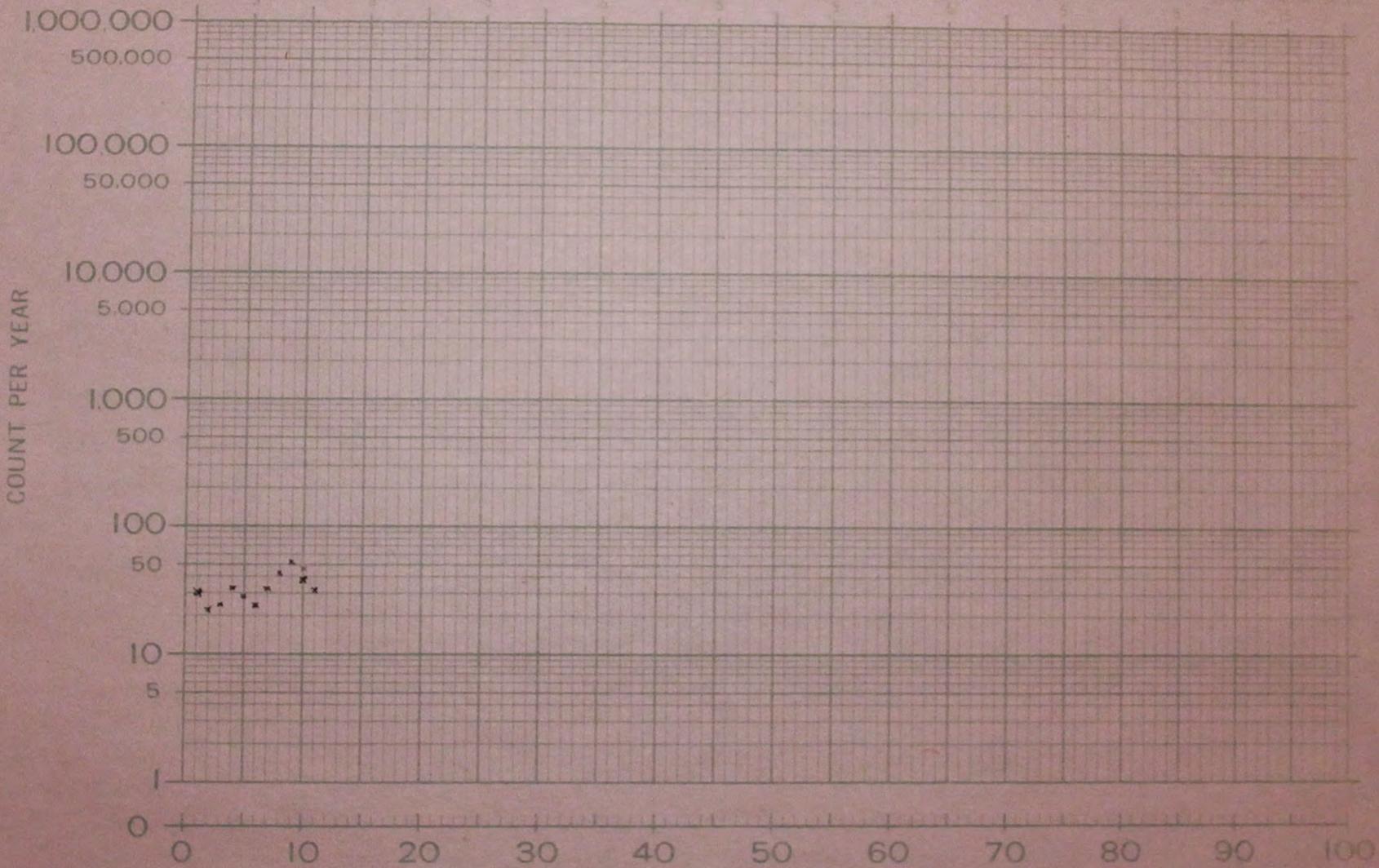


TO PLOT BEHAVIOR CHART OF THE
 U.S. DEPARTMENT OF DEFENSE
 THROUGH THE FISCAL YEAR
 FOR THE BUDGET FISCAL YEAR

20 00

5

10



A. Calkin

SUCCESSIVE CALENDAR YEARS

US Marine Corp

X Suicide

SUPERVISOR ADVISER MANAGER

BEHAVIOR AGE LABEL COUNTS

DEPOSITOR AGENCY TIMER COUNTER

K. Corso

2008-2009 Source: ^{DoD} Suicide Pro. TF Report
 2010-2011 Source: DODSERS
 8/24/10

Military Training

- It is an application of behavior analysis, at least 2000 years prior to Pavlov, Skinner, Lindsley, and the field of behavior analysis.
- Based heavily on punishment
 - Personal insults
 - Demotions
 - Restrictions
- Rewards are an increase in responsibility and rank.
- Dave Grossman, *On Killing* and *On Combat*. Both mention Pavlov and Skinner.

- *“The war is done for me now. The days of standing in the hot desert sun, setting up ambushes on the sides of mountains and washing the blood from my friend’s gear are over. The battles with bombs, bullets, and blood are a thing of the past. I still constantly fight a battle that rages inside my head.”*
-
- *Brian McGough, a 32 year-old Army staff sergeant whose convoy was attacked with IEDs in 2006. From his blog “Inside my Broken Skull.”*

PTSD-DSM 5 Characteristics

- Direct or indirect experience of Stressor—
- Re-experiencing intrusive symptoms, e.g., nightmares
- Avoidance of triggering stimuli
- Negative alterations in cognition and mood
- Alterations in arousal and reactivity
- Duration
- Functional significance
- Exclusion



101st Division—Screaming Eagles

- Normandy paratroopers & crickets
- To locate buddies
 - 1 click
 - 2 click reply





Homefront

By Ed Mercer (1949-2015) Sergeant, Vietnam

I saw a friend to war today
Then left him mending men
Half-stepping home
Feet as heavy as my head
I wish I had told him...
Wish I had said...
I hope he knows my heart.

Because
I've never waited for a soldier
To win a war or die
Like some of those who've clasped their hands
And bowed their heads to cry

What else does one do?
Burn a candle? Tie a ribbon?
My stars already fly
But my stripes should do more
 Maybe I will shine my boots/And clean a
 weapon/The way I did before
In those simple days
When others waited.



Behavior Analysis and Inner
Behavior with PTSD and suicide
in mind

The term *Behavior Therapy*

- Lindsley first used the term Behavior Therapy in 1953 in the article by Skinner, Solomon, & Lindsley (1953, 1954a, 1954b).
- Skinner, B. F., Solomon, H. C., & Lindsley, O. R. (1954). A new method for the experimental analysis of the behavior of psychotic patients. *Journal of Nervous and Mental Disorders*, 120, 403–406.

What's happening in ABA?

- Verbal mapping w/ TBI
- Suicide prevention
- Mil/Vet ABAI SIG
- PTSD
- Return adjustment
- Ted Hoch, GMU, VA
- ANG with ABA, 2016-2017
- Facebook page
- Abigail and others in ABAI working on it
- Darlene Crone-Todd, SSU, MA. SAFMEDS

What can ABA offer? (1)

- PTSD is a confluence of behaviors.
 - UCS → CS → paired with operants
- Reduce or eliminate the negative or unpleasant inner behaviors such as
 - Suicide thoughts and urges
 - Aggression (toward self or others) thoughts and feelings
 - Depression

What can ABA offer? (2)

- Use of 1-min timing procedure with inner behaviors...
- Pair with contrary—*Always* have a *pair*
 - thoughts about reasons to live
 - Loving or complimentary thoughts toward others
 - List and repeat at least once per day good things in life; physical activity
 - Pair with outer behavior

What can ABA offer? (3)

- Inner behavior
- Count behaviors in pairs—inner and outer
- How many work with veterans?
- How many want to?
- How many will?
- Continued research needed
 - Definition of the behavior—what are we looking for?
 - Most effective ways to change the behaviors?
- Keep it behavioral.
- Be as precise as medicine & astronomy.

What can ABA offer? (5)

- Reduce or eliminate the inner behaviors of
 - suicide thoughts and urges
 - aggression (toward self or others) thoughts and feelings
 - depression
- Increase the paired contrary
 - thoughts about reasons to live
 - loving or complimentary thoughts toward others
 - list and repeat at least daily good things in life; physical activity—what psychotherapist did
 - pair with outer behavior

ABA

Applied Behavior Analysis

- Inner behavior
 - 1-min timing on positives
 - 1-min timing on self-respect
- Fleshing out the dimensions
 - Defining PTSD more behaviorally and precisely
 - Identifying specific behaviors

CBT

Cognitive Behavior Therapy

- EMDR (eye movement and desensitization & reprocessing)
- Stress inoculation
- Relaxation
- ACT (mindfulness)

CBT & Exposure Therapy

- CBT
 - Focus thoughts & maladaptive thought patterns
 - Behavioral
 - Change problematic behaviors, actions, & responses.
- Exposure Therapy
 - Its roots come from Wolpe's systematic desensitization.
 - Now it is education, breathing, practice, talking.
 - Has become CBT according to practice, but
 - Not according to Wolpe who changed the stimulus or...Cautela who changed the consequence.

- CBT internet article on CBT for partial history.
- <https://www.apa.org/ptsd-guideline/treatments/cognitive-behavioral-therapy>

Other

- Exercise
 - Cross Fit Training
 - Other
- Service dogs
 - Dog can sense distress before individual does
 - Dog then interacts with person with affectionate touch, which causes distraction from anxiety.

One size does not fit all.

- ABA
- CBT
- Cross Fit Training—Cogan Nelson, YouTube (Exercise)
- Inner behavior—self-respect
- Service dogs
- VA, friends, or buddies
- Does not include drinking or drugs

Current Therapy Practices in the Military Community

- Cognitive Behavior Therapy (CBT)
- Exposure Therapy
- EMDR
- Biofeedback
- Family Therapy
- Psychotherapy
- Dog/Horse Therapy—TAG teaching
- ABA with military children with autism

Those who do not go to war:
Picture yourself



UEVARA
EN GERARDO
SP4 USA
VIETNAM
1947 2011
LOVED GOD
D COUNTRY

HOUSTON
ALEXANDER
LT USN
WORLD WAR II
1912 2005

ALICE G.
1911 1981
PROUDLY
SERVED

MITCHELL
CHAD E.
OS2 USN
PERSIAN GULF
1969

CHRISTIAN
WARREN G.
TEC3 USAF
WORLD WAR II

FLETCHER
EDWARD JOHN
MAJ USAF
WORLD WAR II
USA 2001
FLY WITH
THE ANGELS

BUTLER
ROBERT W.
COL USAF
1974
USA 2001
SERVED

HENDERSON
MICHAEL
1944
USA 2001
SERVED

WENNETT
DANIEL
1944
USA 2001
SERVED

WATSON
WILLIAM
1944
USA 2001
SERVED

WATSON
WILLIAM
1944
USA 2001
SERVED

ROBEL
MICHAEL C.
CPL USAF
WORLD WAR II
1927 2010

SULLIVAN
DANIEL JOSEPH
1LT USAF
1933 2010
IN LOVING
MEMORY

YOU
ALWAYS REMEMBER





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<http://www.abigailbcalkin.com/flashbacks.htm>
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- Corso, K.A., Meador, J., Kondis, M, Calkin A. B. (2017). Evaluating System-Level Variables Using Applied Behavior Analysis. Report of NCR Behavioral Health, LLC, for the U.S. Air National Guard.

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