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Nevada Problem Gambling Study
Information Management and Research

Quarterly Progress Report, Q1 FY2022

Major Changes and updates to DMS

- New service codes for FY22 were added and reimbursement rates were adjusted.
- IGI updated the gambler intake form in collaboration with the treatment providers, which reflects current practices and programmatic goals.
- IGI has developed a concerned other specific intake form in collaboration with the treatment providers. It is currently being tested for errors and will be live next week.

Expanding Problem Gambling Research in Nevada

Long-term Follow-up Research Project (Extended Follow-up)

IGI has begun conducting interviews. These are long form interviews conducted by Marta Soligo with clients in long term recovery.

BRFSS Research Project

IGI has received the BRFSS 2020 data with the added gambling module that includes the NODS-CLiP screener. We are currently cleaning and preparing the data for analysis and identifying key areas of focus.

UNLV Behavioral Addition Lab

Clinical workshop

Dr. Shane Kraus and Graduate Student Repairer Etuk presented a 90 minute training for psychiatry residents at UNLV Medical School (see attached).

Data Collection

Dr. Shane Kraus has begun data collection at Robert Hunter International Problem Gambling Center

Problem Gambling Mini-Grants

In collaboration with The Nevada Council on Problem Gambling, we have prepared and distributed a call for proposals to fund graduate students in Nevada who are studying problem gambling. Recipients will be selected by October 15, 2021.

Gambling Disorder

Shane W Kraus, Ph.D. & Repairer Etuk, M.A.

Department of Psychology, UNLV

July 21, 2021: UNLV Psychiatry Resident Addiction and Gambling Lecture

BA
Behavioral Addictions Lab

UNLV
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COVID and Gambling: Should We Be Worried?

- Compared 2016 data to 2020 data in Sweden.
- Four percent of adults surveyed reported an increase in gambling behavior.
- The proportion of individuals reporting an increase, compared to individuals reporting a decrease, was markedly higher for online casinos, online horse betting and online lotteries, and lower for sports betting .
- **Gambling increases were associated with gambling problems and increased alcohol consumption**.

International Journal of *Environmental Research and Public Health*

MDPI

Article

Changes in Gambling Behavior during the COVID-19 Pandemic—A Web Survey Study in Sweden

Anders Håkansson [1,2]

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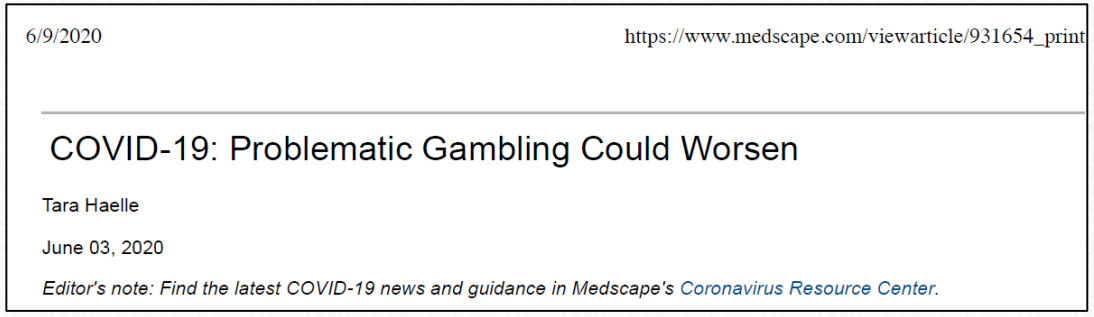
2 Region Skåne, Gambling Disorder Unit, S-20502 Malmö, Sweden



COVID-19: Problematic Gambling Could Worsen

Tara Haelle

June 03, 2020

Editor's note: Find the latest COVID-19 news and guidance in Medscape's Coronavirus Resource Center.

When Is Gambling A Problem?

Problem gambling is not just about losing money.

Gambling problems can affect a person's *whole* life.

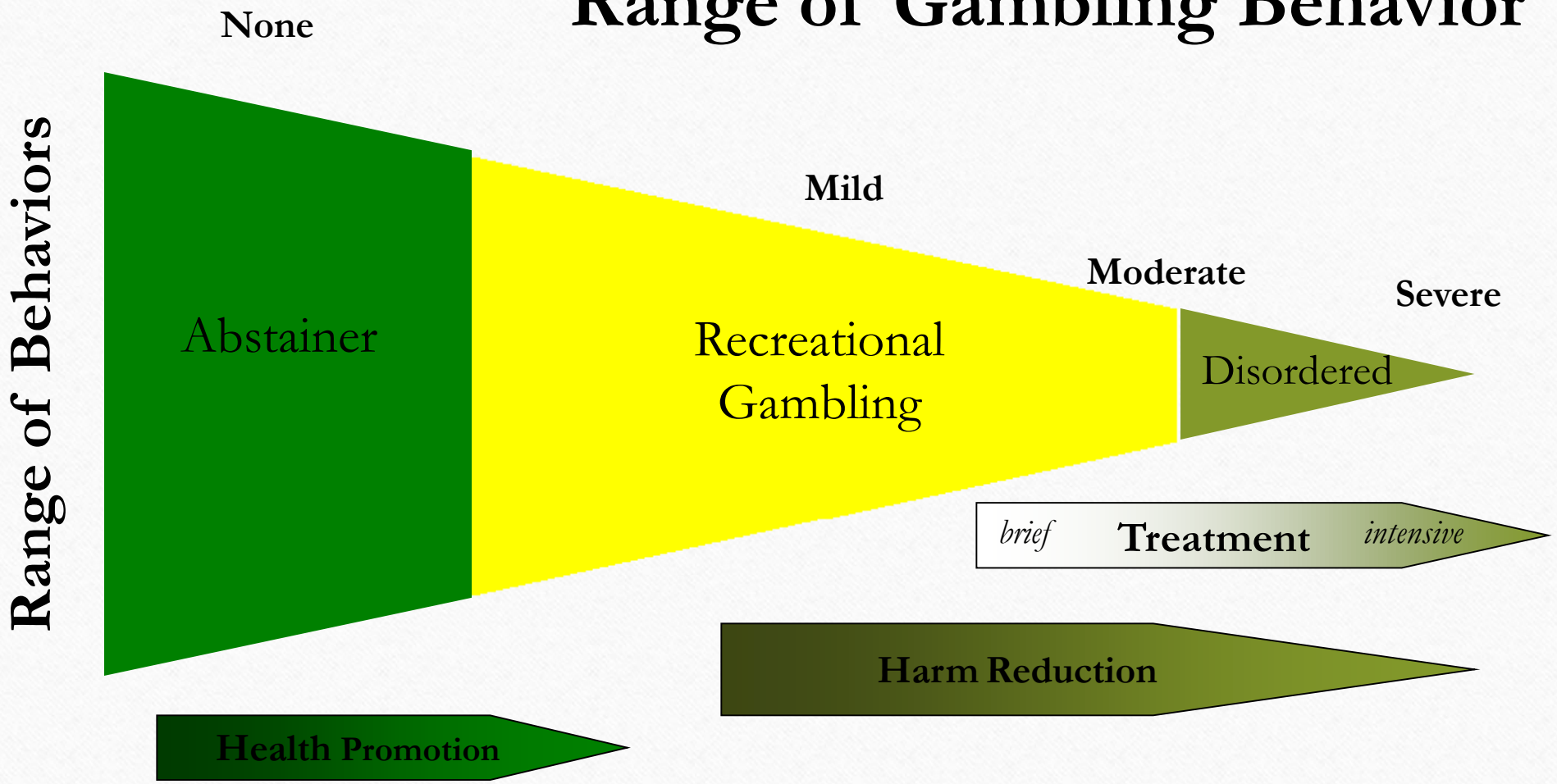
Gambling is a problem when it:

- gets in the way of work, school or other activities
- harms your mental or physical health
- hurts you financially
- damages your reputation
- causes problems with your family or friends.

The frequency of a person's gambling does not determine whether or not they have a gambling problem.

- The amount of money lost or won does not determine when gambling becomes a problem.
- Anyone can develop a problem with gambling, regardless of age, gender, race, ethnicity, or socio-economic status.

Range of Gambling Behavior



Behavioral Addictions in DSM-5 & ICD-11

Gambling

- DSM-5 Substance Use Disorders & Impulsive/Compulsive-Spectrum Disorders workgroups both considered gambling.
- "Pathological gambling" from DSM-IV was added to "Substance-Related and Addictive Disorders" category in DSM-5 and renamed "gambling disorder."

Show Me the Money: Common Types of Gambling

- Casino-type table games
- Slot machines
- Scratch tickets
- Card games
- Lotteries
- Dice games
- Wagering
- Sports betting / E-sports
- Bingo
- Roulette

Growing Gambling Industry: Forecasts, Technologies, and Trends. According to The Business Research Company, the global **gambling** market is expected to reach a value of around $565.4 billion, **growing** at an annual rate of 5.9% through 2022

DSM-5 Gambling Disorder Criteria

- Persistent and recurrent problematic gambling behavior leading to clinically significant impairment or distress as indicated by the individual exhibiting 4 (or more) of the following in a 12-month period:
  - Increasing amounts of money to achieve desired excitement
  - Restless/irritable when attempting to cut down or stop
  - Repeated unsuccessful efforts to control, cut back, or stop
  - Preoccupied with gambling
  - Gambling when distressed
  - **Often returning another day to get even***
  - Lying to conceal the extent of involvement with gambling
  - Jeopardizing or losing relationship/job/educational opportunities
  - Borrowing money

"He'll be alright. He forgot our wedding anniversary because he was so busy gambling online, so I sold the computer. Now he's going through withdrawals."

DSM-5 Gambling Disorder Criteria

Specify if:

- *Episodic*: Meeting diagnostic criteria at more than one time point, with symptoms subsiding between periods of gambling disorder for at least several months.
- *Persistent*: Experiencing continuous symptoms, to meet diagnostic criteria for multiple years.
- Specify if:
- *In early remission:* After full criteria for gambling disorder were previously met, none of the criteria
- for gambling disorder have been met for at least 3 months but for less than 12 months.
- *In sustained remission*: After full criteria for gambling disorder were previously met, none of the
- criteria for gambling disorder have been met during a period of 12 months or longer.
- *Specify current severity:*

  Mild: 4–5 criteria met.

  Moderate: 6–7 criteria met.

  Severe: 8–9 criteria met.(APA, 2013)

Gambling Disorder Prevalence in U.S. Adults

- **Up to 90%** of U.S. adults gamble
- **Lifetime problem gambling:**
  - 2-5% of U.S. adults
  - **10% of U.S. veterans (see Etuk et al., 2020 for review)**
- **Lifetime gambling disorder:**
  - 6% college students
  - 1-2% of U.S. adults
  - **3% of U.S. veterans**
- **About 1/3** of problem gamblers experience natural remission (Slutske et al., 2012).

Gambling among Women (vs. Men)

- Prevalence:
  - Problem Gambling: 0.7% women vs. 2.7% men
  - At-Risk Gambling: 5.6% women vs. 9.6% men

- Development (telescoping for women):
  - Start later
  - Progress faster

- Clinical Characteristics:
  - Psychiatric & Substance Use
  - Sensation-seeking for men

Psychiatric Co-Occurring Disorders

- Individuals with gambling disorder have high rates of co-occurring disorders, including mood, personality, substance-use, and post-traumatic stress disorder (PTSD) (Kessler, Hwang, LaBrie et al., 2008; Petry, Stinson, & Grant, 2005).
- At-risk/pathological gamblers is associated with any personality disorders, particularly for cluster-B personality disorders (Ronzitti, Kraus, Hoff, Clerici, & Potenza, 2017).
- Gambling disorder is often associated with reduced quality of life and impaired functioning (e.g., bankruptcy, divorce, and incarceration (Hodgins, Stea, & Grant, 2011).
- Among veteran problem gamblers seeking treatment, high rates of alcohol (77%), cocaine (43%), opioids (23%), and cannabis (16%) use disorders (Shirk, Kelly, Kraus et al., 2018)

Risk Factors for Problem Gambling

- History of an early big win (leading to false expectation of future wins)
- Cognitive distortions about the odds of winning (i.e., luck)
- Recent loss or change (e.g., divorce, job loss, retirement, bereavement)
- Self-esteem is tied to gambling wins or losses
- History of risk taking or impulsivity
- History of financial problems
- Depression
- Trauma history (Post traumatic stress disorder)
- Family history of gambling
- Substance use

Seeking Help for Problem Gambling

- Public funding for substance abuse treatment is **281 times** greater than for problem gambling services ($17 billion vs. $60.6 million) (Marotta, 2013).
- **~ 11% of U.S. adults** with gambling disorder seek professional help in their lifetime (Lister et al., 2015).
- A study of veterans with gambling disorder found that **less than 5%** had previously sought treatment (Shirk et al., 2018).

Gambling Among US Veterans

- A national survey of veterans found that approximately 2.2% screened positive for at-risk/problem gambling (Stefanovics, Potenza, & Pietrzak, 2017)
  - At-risk/problem gambling associated with greater prevalence of substance use, anxiety, and depressive disorders, as well as with a history of physical trauma or sexual trauma, and having sought mental health treatment (from the Veterans Administration)
- 4.2% of Iraq/Afghanistan veterans exhibit at-risk/probable pathological gambling (Whiting et al., 2016)
- 40% of veteran gamblers seeking treatment reported a previous suicide attempt (Kausch, 2003)

Gambling Problems in US Military Veterans (Etuk et al., 2020)

1. U.S. veterans have higher rates of gambling disorder compared with civilian populations.
2. Gambling disorder often co-occurred with trauma-related conditions, substance use, and suicidality, which may complicate treatment outcomes.
3. The lack of standardized screening for gambling problems among Veterans across U.S. federal agencies (e.g., Department of Defense, Department of Veterans Affairs) is concerning and remains a significant gap for ongoing prevention and treatment efforts.


36%
LOOSER
Looser than
Clark County
Average*
*Based on Gaming revenue report for period 11/1/17 – 10/31/18.
Verified by Anthony Curtis
5:47 42°
3
MESQUITE
9AM
62°
12PM
73°
4PM
72°
TOP STORIES
NIFER WILLIAMS TO TESTIFY IN HOUSE IMPEACHMENT INQUIRY
HOUSE JUDICIARY COMMI
SPORTS
NBA CLEVELAND 105 NEW YORK 123 F

Cognitive Distortions (Fortune & Goodie, 2012)

Representativeness: An event is judged likely to be drawn from a particular class, to the extent it resembles (or is representative of) a typical member of that class.

- **Gambler's Fallacy:** When events generated by a random process have deviated from the population average in a short run (for example, when a roulette ball has fallen on a red slot four consecutive times), individuals may erroneously believe that the opposite deviation (in the example, a black winner) becomes more likely
- **Overconfidence:** Phenomenon wherein individuals express a degree of confidence in their knowledge or ability that is not warranted by objective reality
- **Trends in Number Picking:** Lottery players commonly try to apply long-run random patterns to short strings in their picks, for example, avoiding duplicate numbers and adjacent digits in number strings

Cognitive Distortions (Fortune & Goodie, 2012)

Availability: An event is deemed more likely to occur if it is easier to recall from memory, or in other words is more available in memory.

- **Illusory Correlations**: Individuals believe that events they expect to be correlated, due to previous experiences.
- **Availability of Others' Wins**: When reinforces the belief that they will win if they continue to play. individuals see and hear fellow gamblers winning, it fosters a belief that winning is a regular occurrence and
- **Inherent Memory Bias:** Individuals' memory is biased to recollect wins with greater ease than losses. This interpretive bias allows gamblers to reframe their memories regarding gambling experiences in a way that focuses on positive experiences (wins) and disregards negative experiences (losses), facilitating the rationalization of a decision to maintain their gambling behaviors

The Hidden Epidemic: We Need to Screen!!

- There is no biological test to screen for gambling disorder.
  - The absence of a physical sign of gambling problems allows a person to hide gambling behavior for longer periods of time.

- Clinicians don't often recognize the symptoms and rarely screen for problem gambling.
  - If they don't ask, those with the problem won't tell.

- 85 to 90 % of problem gamblers do not seek treatment. Possible causes include:
  - The individual's denial that there is a problem
  - Ambivalence about changing the gambling behavior
  - Lack of health insurance or access to professional treatment

Screening and Treatment

Screening for Gambling Disorder in Primary Care

- Assessed for gambling disorder among Veterans seeking mental health services in Primary Care Behavioral Health at the Bedford VAMC, Bedford, MA (funded by the Massachusetts Gaming Commission; Kraus, Potenza, et al., 2020).
- Used the Brief Biosocial Gambling Screen (Gebauer, LaBrie & Shaffer, 2010) to assess for problem gambling and used the DSM-5 criteria for diagnosing gambling disorder.
- Gambling behaviors were assessed during a routine, one-hour intake appointment for all new Veteran patients seeking mental health services in primary care.
- 260 Veterans were screened for gambling disorder between Nov 1, 2017, and Sept 15, 2018.- **5% of patients reported at-risk/problem gambling**.

Brief Biosocial Gambling Screen (BBGS)

Have you gambled in the past 12 months? No/ Yes*

1. **During the past 12 months, have you become restless irritable or anxious when trying to stop/cut down on gambling?** No / Yes
2. During the past 12 months, have you tried to keep your family or friends from knowing how much you gambled? No / Yes
3. During the past 12 months, did you have such financial trouble as a result of your gambling that you had to get help with living expenses from family, friends or welfare? No / Yes

Any "yes" responses, suggestive of possible problem gambling. (Gebauer et al., 2010)

Other Problem Gambling Screening Instruments

- National Opinion Research Center DSM-IV Screen (Gerstein et al., 1999)
- Massachusetts Gambling Screen (Shaffer et al., 1994)
- Problem Gambling Severity Index (PGSI) (Ferris & Wynne, 2001) – Score higher than 8, indicative of problem gambling
  - No risk, low-risk (1-2), moderate risk (3-7), and high-risk (8 or higher)

Treatments for Gambling Disorder

- Gambling disorder responds to similar treatments as substance use disorders.
  - Recovery support services–peer support & 12-step program (Gamblers Anonymous)
  - Brief advice-giving/psychoeducation
  - Cognitive behavioral therapies (Petry, Rash, & Alessi, 2016)
- Oral naltrexone (opioid antagonist) has shown efficacy in controlled trials (Bartely & Bloch, 2013).
- Veterans with gambling problems **and** alcohol use disorder had worst outcomes on medication (disulfiram or naltrexone) compared to Veterans with only alcohol use disorder (Grant, Potenza, Kraus & Petrakis, 2017) in terms of mental health functioning.

Medications for Gambling Disorder

- Few randomized controlled trials have studied pharmacotherapies for gambling disorder.
- Opioid antagonists like naltrexone showed promise in the pharmacological treatment of gambling disorder. Pharmacotherapy combined with psychotherapy treatments for gambling disorder may provide better rates of patient retention in comparison to pharmacology-only treatments, though further research is needed in this area.
- Future studies should address gaps relating to considerations of racial, ethnic, gender and other individual differences in clinical studies (Kraus, Etuk, & Potenza, 2020).

Clinical Vignettes

Patient 1: Mr. V

- Middle-aged, white, male Veteran
- Sought treatment to stop using scratch-off tickets—met criteria for mild gambling disorder.
  - Had recently self-initiated refraining from scratch ticket use; $50-$100 per week
- 6 treatment sessions (spread out over ~4 months)
- Treatment strategies (psychoeducation + CBT)
  - Cognitive distortions about gambling (i.e., luck)
  - Money spent vs. identified values (scratch tickets vs. vacation with the family; time with spouse)
  - Behavioral control strategies
  - Stress management (recognize when feeling stressed, upset). Noticing thoughts to gamble when stressed at work.
  - Identifying compulsive vs. "safe" gambling (e.g., setting a limit, asking spouse for support)
  - Relapse prevention strategies (watching for triggers, avoiding liquor stores/gas stations – pay outside)

Patient 2: Mr. X

- Mid-30s, male Veteran of southeast Asian descent. Unemployed. Casino players (400K in two years)
- Diagnostic history: bipolar disorder and severe traumatic brain injury (TBI) with bilateral damage to frontal lobe; started gambling prior to TBI.
  - Flat affect, thought process often tangential and disorganized
- Referred following psychiatric inpatient hospitalization for sustained financial losses at casinos.
- Veteran had no significant abstinence from gambling and preferred not to talk about it.

Mr. X: Example of Gambling Problem

- Treatment approach: develop SMART goals, operationalizing values, family therapy.
- To make sure your goals are clear and reachable, each one should be:
  - **S**pecific (simple, sensible, significant).
  - **M**easurable (meaningful, motivating).
  - **A**chievable (agreed, attainable).
  - **R**elevant (reasonable, realistic and resourced, results-based).
  - **T**ime bound (time-based, time limited, time/cost limited, timely, time-sensitive).

- Had sister help him with money. Restricted his access to money. Referred him to supportive employment. Helping Veterans manage their money is often necessary.

Gambling Resources

Veteran patients: VA Southern Nevada Healthcare System, Las Vegas, NV

- Las Vegas VA Residential Recovery and Renewal Center (LVR3)

All patients: The National Problem Gambling Helpline, **1-800-522-4700**, is available 24/7 and is 100% confidential.

Nevada resource locator: https://www.nevadacouncil.org/get-help-now/resource-locator/

Las Vegas: Robert Hunter Problem Gambling Treatment Center: https://gamblingproblems.org/

Research Studies

Study 1: Study of US Veterans

- In Fall 2018, we surveyed 1,019 US military veterans. This study was funded by US Department of Veterans Affairs.

- We assessed for gambling behaviors and other mental health issues, including whether they were enrolled in VA health care services or had knowledge of VA health care services.

- Of the sample, 551 (54.1%) reported they did not gamble in past 12 months.
- **467 (45.9%)** endorsed past-year gambling behavior:
  - n=420 (89.9%) were considered recreational gamblers (denied any problems).
  - n=47 (4.6%) reported at least one problem with gambling on the Brief Biosocial Gambling Screen (BBGS) – at-risk/problem gamblers (ARPG).

Screening Instrument: Brief Biosocial Gambling Screen

Have you gambled in the past 12 months? N=467	Yes	No
1. During the past 12 months, have you become restless irritable or anxious when trying to stop/cut down on gambling?	29 (6.2%)	438 (93.8%)
2. During the past 12 months, have you tried to keep your family or friends from knowing how much you gambled?	32 (6.3%)	435 (93.1%)
3. During the past 12 months, did you have such financial trouble as a result of your gambling that you had to get help with living expenses from family, friends or welfare?	20 (4.4%)	447 (95.9%)
BBGS SUM (0-3).	N=467	
No - items were endorsed (none)	420 (89.9%)	
1 problem	22 (4.7%)	
2 problems	16 (3.4%)	
3 problems	8 (2.0%)	

Recreational Gamblers vs. At-risk Problem Gamblers

	Recreational gamblers (N=420)	At-risk/problem gamblers (N=47)
Gambling Type		
Card games	6.0%	9.0%
Horses/dogs	1.3%	4.4%
Sports betting	9.7%	11.3%
Slots or poker machines	29.8%	35.5%
Lotto	42.4%	28.1%
Scratch ticket/pull tabs	9.1%	5.7%
Money spent typical month		
Under $50	65.5%	27.5%
Under $100	17.3%	12.8%
$250 or more	10%	45%

Non-Gamblers, Recreational Gamblers vs. At-risk Problem Gamblers

	Total sample (N= 1,019)	Non-gamblers (n=551)	Recreational Gamblers (n=420)	At-Risk Problem Gamblers (n=47)	Difference between groups F or χ^2	Partial Eta Square / Cramer's V
Served In Combat Zone	476 (46.7%)	275 (49.8%)	175 (41.7%)	26 (**55.3%**)	7.8*	0.09
Discharge Status						
Honorable/General	968 (95%)	518 (93.8%)	410 (97.6%)	40 (**85.1%**)	17.3**	0.13
Lifetime Thoughts Of Suicide	278 (27.3%)	155 (28.1%)	102 (24.3%)	21 **(44.7%)**	9.3*	0.10
Past 2-week Suicidal Ideation	160 (15.7%)	97 (17.6%)	46 (11.0%)	17 (**35.4%**)	22.8**	0.15
Past 2-week Thoughts Of Self-harm	93 (9.1%)	59 (10.7%)	19 (4.5%)	15 (**31.9%**)	41.8**	0.20
Lifetime Suicide Attempts	80 (7.9%)	46 (8.7%)	22 (5.3%)	10 (**20.8%**)	15.6**	0.12
Any Homelessness History	99 (13.1%)	64 (11.6%)	22 (5.2%)	13 (**27.1%**)	28.4**	0.17
Positive Screen						
Generalized Anxiety	155 (15.2%)	88 (15.9%)	47 (11.2%)	20 (**46.2%**)	32.7**	0.18
Major Depression	151 (14.8%)	91 (16.5%)	45 (10.7%)	15 (**31.9%**)	17.7**	0.13
Posttraumatic Stress Dx	164 (16.1%)	88 (15.9%)	53 (12.6%)	23 (**49.0%**)	41.4**	0.20

Study 2: Screening for Gambling Disorder in Primary Care

- Assessed for gambling disorder among veterans seeking mental health services in Primary Care Behavioral Health at the Bedford VAMC, Bedford, MA (funded by the Massachusetts Gaming Commission). (Kraus, Potenza, et al., 2020)

- Used the Brief Biosocial Gambling Screen (Gebauer, LaBrie & Shaffer, 2010) to assess for problem gambling and used the DSM-5 criteria for diagnosing gambling disorder.

- Gambling behaviors were assessed during a routine, one-hour intake appointment for all new veteran patients seeking mental health services in primary care.
  - **Goal**: Determine rates of gambling disorder among VA patients seeking mental health services in primary care.

Study 2: Study Participants

- 260 veterans were screened for GD between November 1, 2017 and September 15, 2018.
- Mostly seen in primary care for depression and anxiety.
- 85 (32.7%) reported gambling within the past 12 months.
- Most common gambling behaviors: traditional lottery (25%); instant lottery (scratch tickets) (31%); and playing cards (10%) (Table 1).
- No significant differences between recreational and non-recreational Veteran gamblers on demographics, medical, or mental health comorbidities (Tables 2 and 3).

Table 1. Gambling Behaviors among Veterans with Recreational Gambling	
Gambling Type:	N (%)
Traditional lottery	21 (25.3%)
Instant lottery (scratch tickets)	26 (31.3%)
Card gambling	8 (9.6%)
Slot machines	3 (3.6%)
Keno	4 (4.8%)
Casino	7 (8.4%)
Horse races	1 (1.2%)
Sports betting	1 (1.2%)
Online	2 (2.4%)
Unknown	10 (12.1%)
Note. Values based upon available data. N=54 due to missing data	

Table 2. Demographics of VA Patients Stratified by Gambling Status

Demographics:		Total Sample (n=260)	Non-gambling (n=175) N (%) / M (SD)	Gambling (n=85) N (%) / M (SD)	Chi – Square/t test	Effect Size	p value
Age		52.6 (17.8)	52.4 (18.3)	52.9 (16.8)	-0.23	0.03	0.822
Gender	Female	29 (11.2%)	22 (12.6%)	7 (8.2%)	1.09	0.06	0.298
	Male	231 (88.9%)	153 (87.4%)	78 (91.8%)			
Race	White	220 (84.6%)	150 (85.7%)	70 (82.4%)	0.93	0.06	0.627
	Black	11 (4.2%)	6 (3.43%)	5 (5.9%)			
	Other	29 (11.2%)	19 (10.9%)	10 (11.8%)			
Employment Status	Currently Employed	134 (51.5%)	84 (48.6%)	50 (58.8%)	2.54	0.10	0.281
	Retired	72 (27.7%)	53 (30.6%)	19 (22.4%)			
	Unemployed	34 (13.1%)	22 (12.7%)	12 (14.1%)			
Marital Status	Married	136 (52.3%)	96 (55.2%)	40 (47.1%)	6.03	0.15	0.110
	Formerly Married	5 (1.9%)	3 (1.7%)	2 (2.4%)			
	Widowed	5 (1.9%)	1 (0.6%)	4 (4.7%)			
	Never Married	113 (43.5%)	74 (42.5%)	39 (45.9%)			
Service Era	Korean	6 (2.3%)	4 (2.3%)	2 (2.4%)	0.95	0.06	0.917
	Post-Korean	6 (2.3%)	5 (2.9%)	1 (1.2%)			
	Vietnam	87 (33.5%)	58 (33.1%)	29 (34.1%)			
	Post-Vietnam	27 (10.4%)	17 (9.7%)	10 (11.8%)			
	Persian Gulf	133 (51.2%)	90 (51.7%)	43 (50.6%)			
Combat Veteran	Yes	87 (33.5%)	59 (33.9%)	28 (32.9%)	0.02	-0.01	0.877

Table 3. Comparison of Psychiatric, Medical, and Substance Use Diagnosis Stratified by Gambling Status

Diagnosis:	Total Sample (n=260) N (%) / M (SD)	Non-gambling (n=175) N (%) / M (SD)	Gambling (n=85) N (%) / M (SD)	Chi – Square/t test	Effect Size	p value
Major Depression	101 (38.8%)	58 (33.1%)	22 (25.9%)	1.42	-0.07	0.234
Generalized Anxiety Disorder	74 (28.5%)	36 (20.6%)	12 (14.1%)	1.58	-0.08	0.208
Post-Traumatic Stress Disorder	68 (26.2%)	50 (28.6%)	18 (21.2%)	1.62	-0.08	0.203
Adjustment Disorder	22 (8.5%)	11 (6.3%)	11 (12.9%)	3.27	0.11	0.071
Military Sexual Trauma	15 (5.8%)	12 (7.1%)	3 (3.5%)	1.28	-0.07	0.259
Suicide Ideation:	39 (13.9%)	21 (12.0%)	15 (17.7%)	1.53	0.08	0.216
Insomnia	13 (5.0%)	8 (4.6%)	5 (5.9%)	0.82	-0.06	0.365
Traumatic Brain Injury	13 (5.0%)	11 (6.3%)	2 (2.4%)	1.10	-0.07	0.295
Tobacco Use	30 (11.5%)	16 (9.1%)	14 (16.5%)	3.01	0.11	0.083
Any Substance Use Disorder	27 (10.9%)	15 (8.9%)	12 (15.0%)	2.06	0.09	0.151
PCL-5	35.2 (19.0)	35.6 (17.7)	34.3 (21.8)	0.35	0.07	0.725
PHQ-9	10.7 (8.5)	10.2 (5.9)	11.7 (12.2)	-0.99	0.16	0.326
GAD-7	11.0 (8.4)	10.7 (5.8)	11.7 (11.9)	-0.65	0.16	0.518

Study 2: Results

- Of the 85 Veterans who gambled, 5 (5.9%) endorsed at least one item on the BBGS; 3 of the 5 were later diagnosed with GD.

- The prevalence of at-risk/problem gambling for the full sample is **1.9%.** Because so few Veterans endorsed issues with problem gambling on the BBGS, we were unable to examine the sensitivity and specificity of the questionnaire.

Study 3: Money Spent on Gambling

- Of those who spent $100 (*n*=15) or more a month, 2 endorsed 1 BBGS question, 11 did not endorse any of the 3 BBGS items, and 2 were not screened.
- Of those who did not endorse any of the BBGS items, 3 Veterans reported high amounts of spending per month ($1,000, $1,440, and $2,000).
- Of the two Veterans who were not screened with the BBGS, one reported spending $450 and the other reported spending $1,600 in the past month.

Study 3: Discussion

- We found 1/3 of Veterans seeking mental health services in primary care reported past-year gambling. This finding is consistent with prior research (Stefanovics et al., 2017).
- Among past-year gamblers in the study, 6% were considered to have at-risk/problem gambling. This finding is consistent with prior research (Toce-Gerstein, Gerstein, & Volberg, 2009, Welte et al, 2015).
- Across all study participants, we found a prevalence estimate for at-risk/problem gambling to be less than 2% which mirrors a recent study that found an estimate of 2.2% in a national study of 3157 US Veterans (Stefanovics et al., 2017).

Mindfulness

What is Mindfulness

- Mindfulness is a ***philosophy*** and a ***practice*** of cultivating increased awareness of our moment-to-moment experience in a non-judgmental way.
- The practice of mindfulness, although based on many principles of Buddhism, was medicalized by Dr. Kabat-Zin and has been applied to a variety of psychological and medical issues, including addition.

Attention and Attitude

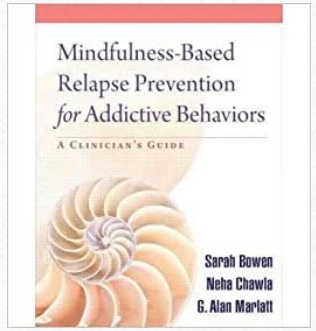
Attention

1. Self-regulation of attention so that it is maintained on immediate experience, thereby allowing for increased recognition of mental events in the present moment.

Attitude

2. Adopting a particular orientation toward one's experiences in the present moment, characterized by curiosity, openness, and acceptance.

Mindfulness Based Relapse Prevention (Bowen, Chawla, & Marlatt, 2011)



- **Mindfulness Based Relapse Prevention (MBRP)** is a novel treatment approach developed at the Addictive Behaviors Research Center at the University of Washington, for individuals in recovery from addictive behaviors.

- MBRP is best suited to individuals who have undergone initial treatment and wish to maintain their treatment gains and develop a lifestyle that supports their well-being and recovery.

Mindfulness Based Relapse Prevention (Bowen, Chawla, & Marlatt, 2011)

Key Goals of MBRP:

- 1. Develop awareness of personal triggers and habitual reactions and learn ways to create a pause in this seemingly automatic process.
- 2. Change our relationship to discomfort, learning to recognize challenging emotional and physical experiences and responding to them in skillful ways.
- 3. Foster a nonjudgmental, compassionate approach toward ourselves and our experiences.
- 4. Build a lifestyle that supports both mindfulness practice and recovery.

MBRP Session Content

Session 1:	Automatic Pilot and Relapse	Awareness, Presence
Session 2:	Awareness of Triggers and Craving	
Session 3:	Mindfulness in Daily Life	
Session 4:	Mindfulness in High-Risk Situations	Mindfulness and Relapse
Session 5:	Acceptance and Skillful Action	
Session 6:	Seeing Thoughts as Thoughts	
Session 7:	Self-Care and Lifestyle Balance	Finding Balance
Session 8:	Social Support and Practice	

MBRP for Behavioral Addictions

- Veterans engaged in outpatient care in the Behavioral Addictions Clinic in Veterans Affairs Hospital in Northeast United States. Closed group psychotherapy for 9 sessions.
- Six Veterans engaged in a MBRP group at the Behavioral Addictions Clinic in Bedford Massachusetts.
- The participants identified problems resulting from behaviors related to gambling (N=3) and compulsive sexual behavior (N=3).

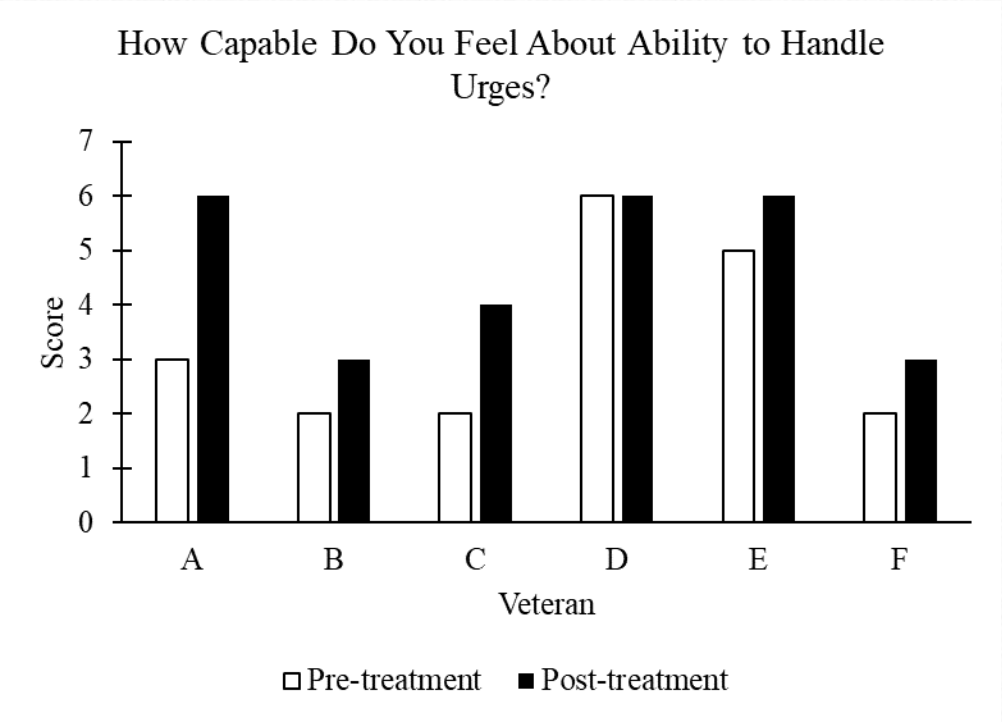
(Shirk, Muquit, Deckro, Sweeney, & Kraus, 2021)

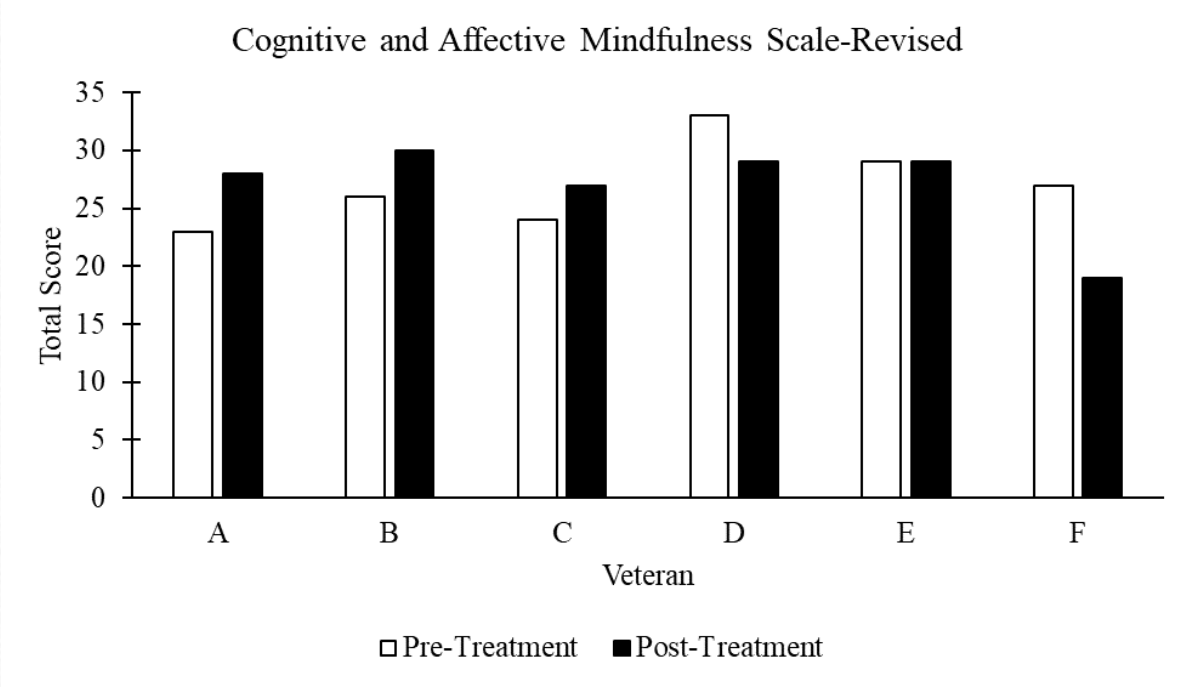
VA Patients with Gambling Disorder

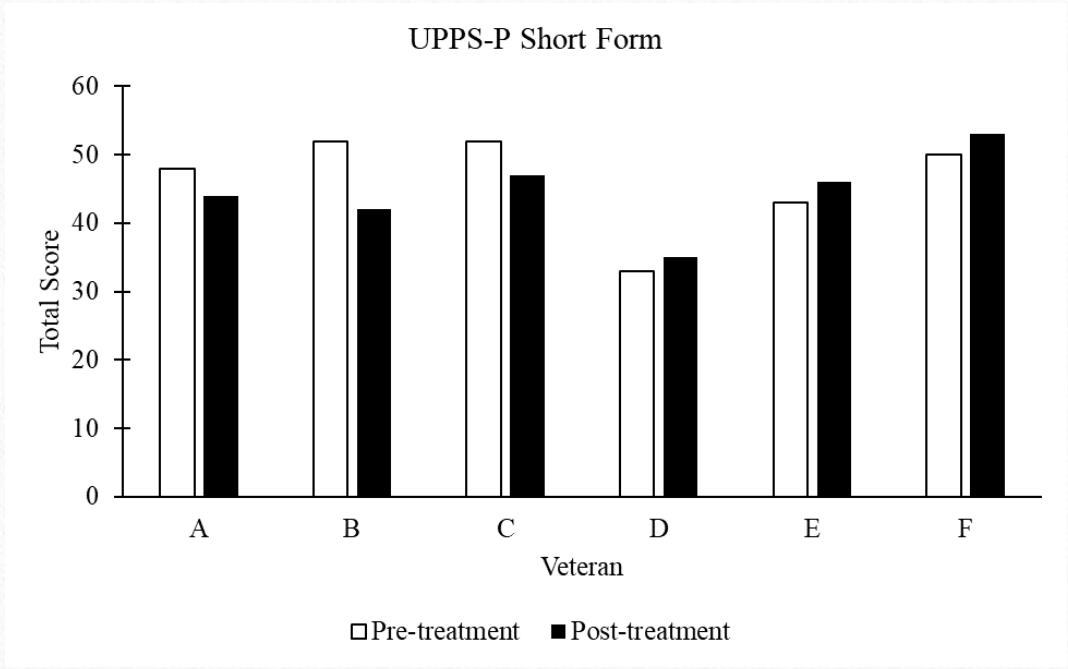
- **V-A:** 57-year-old, African-American male, heterosexual, Army, Baptist, Post-Vietnam Era, High School Education, Employed, Currently Homeless, Single-never married, PTSD; 80% service connection.
- **V-B:** 52-year-old, Latinx/Hispanic, heterosexual, Christian-Other, Army, Persian Gulf, High School Education, unemployed, stable housing, Separated/Divorced, Bi-polar Dx.
- **V-C:** 46-year-old, White, heterosexual, male, Christian-Other, Air Force, 100% service connection, High School Education, Unemployed, At-risk for homelessness, lives alone, single/never married, Schizophrenia Disorder, Tobacco Use Disorder.

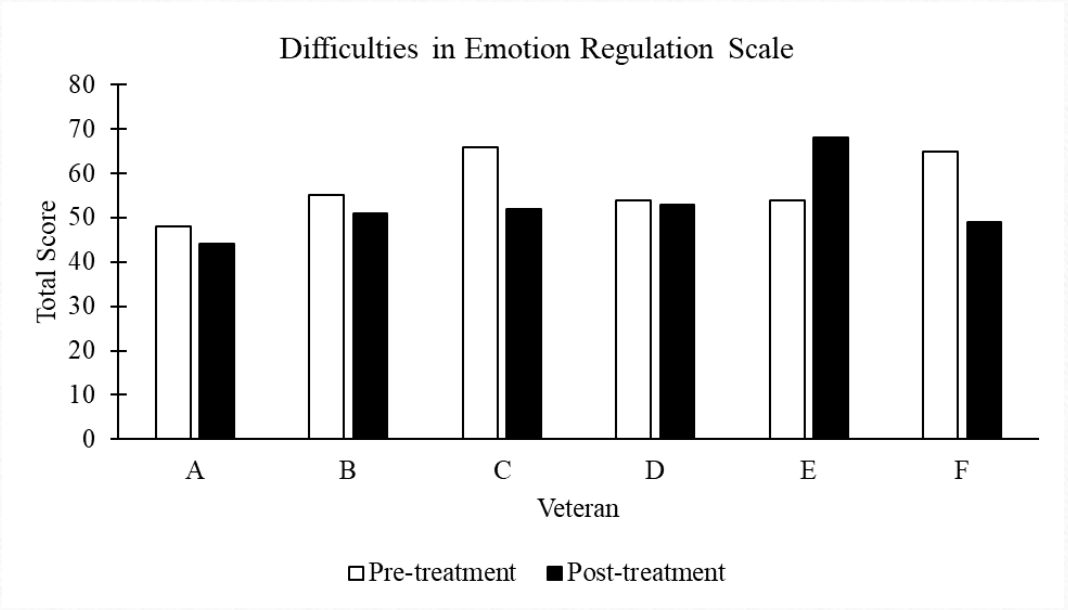
VA Patients with Compulsive Sexual Behavior

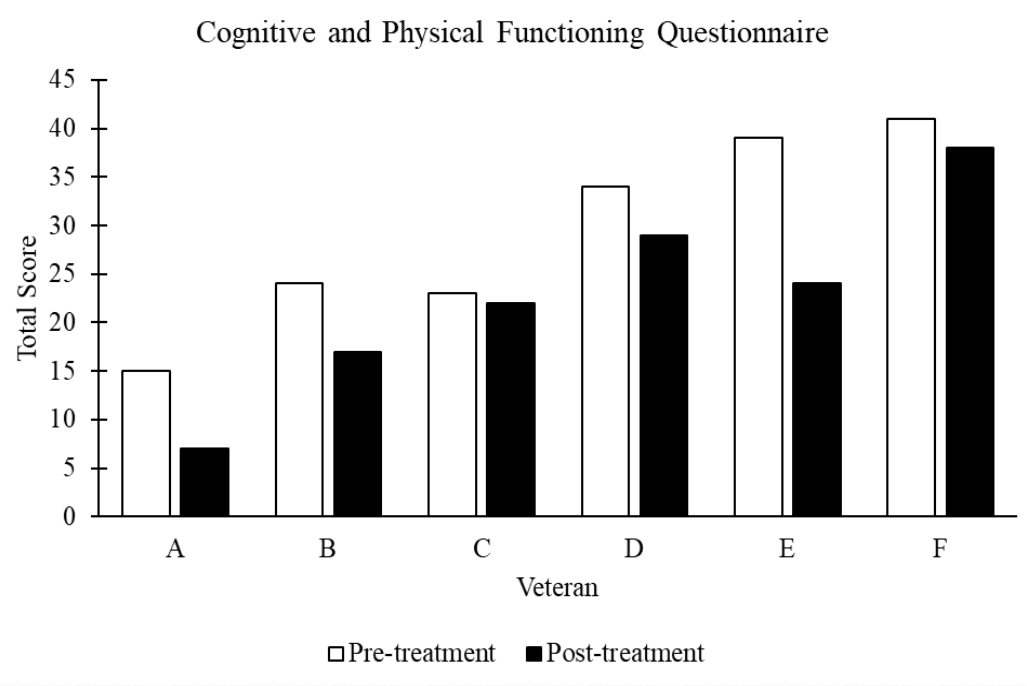
- V-D: 49 year old, White, heterosexual male, Catholic, Marines, Persian Gulf, divorced, unemployed, 70% service connected, CSB, PTSD, Bi-polar, Cocaine Use Disorder.
- V-E: 58 year old, White, heterosexual male, Protestant, Army, post-Vietnam, 100% service connection, Unemployed, married, CSB, Depression.
- V-F: 38 year old, White heterosexual male, Agnostic, Air Force, OIF/OEF/OND, 100% service connection, Associates Degree, Active Duty Full-time, Married, CSB, Shopping, GAD, Depression.

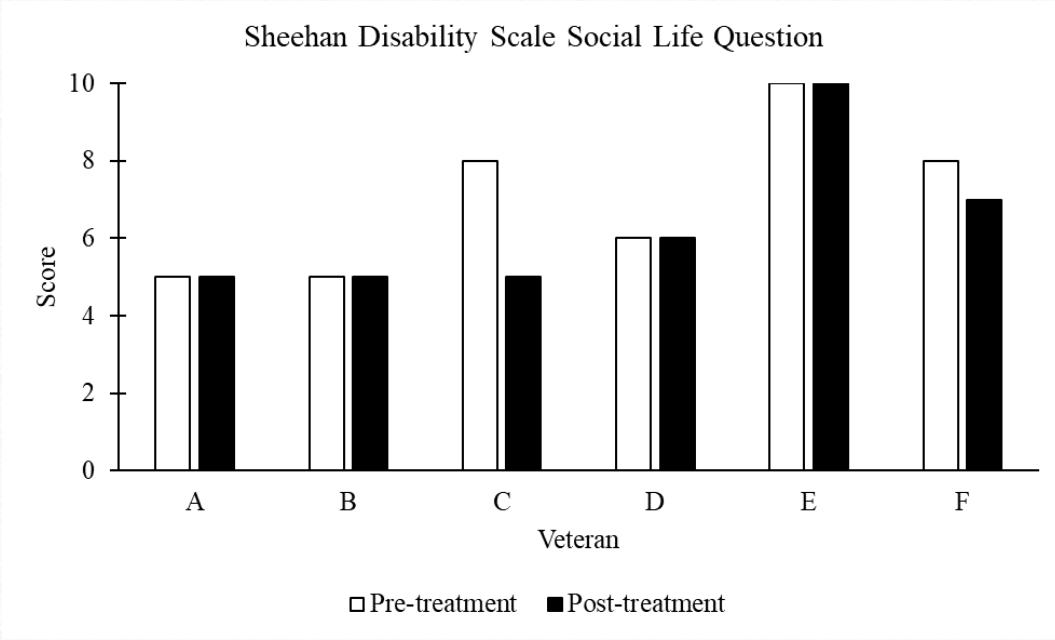

How Capable Do You Feel About Ability to Handle Urges?
Score
0
1
2
3
4
5
6
7
A
B
C
D
E
F
Veteran
Pre-treatment
Post-treatment


Cognitive and Affective Mindfulness Scale-Revised
Total Score
0
5
10
15
20
25
30
35
A
B
C
D
E
F
Veteran
Pre-Treatment
Post-Treatment


UPPS-P Short Form
Total Score
60
50
40
30
20
10
0
A
B
C
D
E
F
Veteran
Pre-treatment
Post-treatment


Difficulties in Emotion Regulation Scale
Total Score
80
70
60
50
40
30
20
10
0
A
B
C
D
E
F
Veteran
Pre-treatment
Post-treatment


Cognitive and Physical Functioning Questionnaire
Total Score
45
40
35
30
25
20
15
10
5
0
A
B
C
D
E
F
Veteran
Pre-treatment
Post-treatment


Sheehan Disability Scale Social Life Question
Score
10
8
6
4
2
0
A
B
C
D
E
F
Veteran
Pre-treatment
Post-treatment

MBRP for Behavioral Addictions – Veterans

- Veterans with gambling disorder seem to fare better with mindfulness.
  - Increases in control, mindfulness, less impulsivity and difficulties dealing with strong emotions
  - Less cognitive difficulties but no changes for psychiatric disability
- Veterans with compulsive sexual behaviors are having mixed responses to mindfulness. They feel more in control but no changes for mindfulness, impulsivity, or emotional regulation but improvements in cognitive functioning. Perhaps a different treatment is needed.

Questions?

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