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Jacobs Journal of Addiction and Therapy

Research Article

A Preliminary Examination of Gambling Problems in Mentally Ill Offenders

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Received: 06-02-2015

Accepted: 10-15-2015

Published: 11-20-2015

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Abstract

This study examines the prevalence of problem gambling in incarcerated mentally ill male offenders. Forty-four respondents serving sentences of less than two years in a Canadian correctional facility completed three commonly used measures of problems with gambling: the *Canadian Problem Gambling Index*, the *South Oaks Gambling Screen*, and the *Gamblers Anonymous 20 Questions* measures. Prevalence rates of problem gambling varied dependent on the measure used and its index of severity of problem. Among this population, the rates of problem gambling ranged from 19.5% to 31.8%. The *Problem Gambling Severity Index* from the *Canadian Problem Gambling Index* appeared to have the best potential as a measure for use with the unique population examined in this study. Implications for future research and the treatment of problem gambling in this group are discussed.

Introduction

Since the introduction of government-sanctioned gaming in Canada, there has been increasing interest in problem gambling and its impact [1-4]. As the number of opportunities for gambling rise, so too does the prevalence of problems with gambling [5,6].

Worldwide estimates of the prevalence of problem gambling in the general population appear to range from 0.5 % to 4.0% [4]. Previous research on the prevalence of pathological gambling in the general population in Canada estimates the range to be between 1.6% [7] to 5.5% [8]. Though research has examined the prevalence of problem gambling in various populations, there is a paucity of data on the prevalence of problem gambling in mentally ill offenders. Though some studies have examined inmates with mental health issues from wider prison populations [9,10] no studies have examined problem gambling among seriously mentally ill inmates. Mentally ill offenders are among the special populations considered to be at significant risk for gambling problems [11,12].

Estimates suggest that up to one third of prisoners will have a pathological gambling problem (range 12% to 38%), which is significantly higher than in other populations [4]. Only substance abusers have comparable rates of problems with gambling, with 15% to 30% of this population having a comorbid gambling problem [13,14]. Research has shown high rates of mental illness among incarcerated offenders [15] and comorbidity between mental illness and problem gambling is high [16-18] Therefore, seriously mentally ill offenders are expected to have high rates of gambling problems.

Many of the risk factors for problem gambling have also been shown to be characteristics of the mentally ill and incarcerated offenders [19]. Risk factors for problem gambling include: demographic variables (e.g., age, gender); cognitive distortions (e.g., erroneous perceptions, illusions of control); sensory characteristics; schedules of reinforcement; comorbid disorders (e.g, OCD, substance abuse); and delin-

quency/illegal acts [19]. Social risk factors such as impulsivity, lack of parental supervision and delinquency, are also common throughout chemical and/or behavioural addictions [20].

Despite the multiple vulnerabilities and risk factors for problem gambling among mentally ill offenders, there has been no research on problem gambling among this population.The current study, then, will examine the prevalence of problem gambling in a previously unexamined population: incarcerated seriously mentally ill offenders. Although the lack of existing research on this specific population makes it difficult to make predictions, based on observed rates in inmates in general, it seems likely that at least one-third of the offenders in this study will evidence problems with gambling. There also exists no empirical direction as to which currently available problem gambling measure is best to use with this specific population; the instruments do not appear to have been validated for this specific population and there are unique characteristics/challenges with these types of respondents. Consequently, this study will use a number of commonly used measures of gambling problems and examine their utility for this unique population.

Method

Participants

Overall, forty-four incarcerated mentally ill male offenders completed the assessment packages. The respondents were serving a mean sentence of 324.5 days (SD = 45.80) for a variety of offences including Break and Enter (17%), Violent Offences (15%), Assault (13%), Miscellaneous Offences against a Person (harassment, threats, intimidation) (14%), Theft (30%), and Others (11%). The respondents had mean age of 34.49 years (SD = 10.8, Range = 18-81 years). Although most residents had more than one psychiatric diagnosis, the rate of primary diagnosis was Schizophrenia 38%, Mood/Affective Disorder 35%, Personality Disorder 24%, and Other 3%. More than 79% of the respondents were involved in substance abuse treatment while at the facility.

Measures

The self-report instruments used in this study are three commonly used measures of gambling problems, namely the *South Oaks Gambling Screen* (SOGS) [21], the *Canadian Problem Gambling Index* (CPGI) [22], and the *Gamblers Anonymous 20 Questions* screening measure (GA-20) [23]. All of these measures have received some empirical validation.

The *South Oaks Gambling Screen* (SOGS) is a 20-item questionnaire based on DSM-III criteria for Pathological Gambling. It may be self-administered, administered by nonprofessional, or professional interviewers [21]. This measure is scored on "at risk" or yes responses; the scores from five items are not counted in the total score. Total scores can range from 0 to 20 with a total score of 0 to 2 indicating no problems with gambling, 3 or 4 indicating a potential problem with gambling, and a total score of 5 or more indicating probable pathological problems with gambling. Although this screener has received criticisms (e.g., Orford, Sproston, & Erens,[24]; Stinchfield, [25]), it is still commonly used throughout the gambling research field. The SOGS has been shown to significantly correlate with the DSM-IV criteria and other gambling screening instruments [26,27].

The *Canadian Problem Gambling Index* (CPGI) [22] is a 33-item self-report screening measure of problems with gambling. Of the 33 available, 9 items are scored to determine the prevalence of problems with gambling. This subset of the CPGI is referred to as the *Problem Gambling Severity Index* (PGSI) [27]. The PGSI is scored such that those whose total score is 0 are classified as not having any problems with gambling, total scores of 1 or 2 indicate a low level of problems with gambling, total scores of 3 to 7 are classified as moderate gambling problems, and a total score of 8 or higher indicates problem gambling. This measure has demonstrated high internal consistency, with alphas typically in the.90+ range (e.g., Gainsbury, Russell, Blaszczynski, & Hing,[28]). The PGSI has been found to have a high correlation (r = 0.83) with both the SOGS and DSM-IV criteria [27]

The *Gamblers Anonymous 20 Questions* (GA-20) screening measure [23] is a twenty-item self-report measure of problems with gambling. Higher scores indicate greater problems with gambling. The Gamblers' Anonymous website suggests a cutoff score of 7 or higher for ascribing a label of problems with gambling. This measure has demonstrated good internal consistency, with alphas ranging from .84 [29] to .94 [30]. In terms of its relationship to other measures of gambling problems, the GA-20 has been found to have a high correlation to DSM-IV pathological gambling criteria, $r = .79$, $p < .001$, and the SOGS $r = 0.72$; $p < 0.001$ (Toneatto, 2008) and $r = 0.94$; $p < 0.001$ [30].

Procedure

Residents of the facility were approached by an addiction counseling student and asked to complete the forms for this study as part of a treatment programming needs evaluation. Possible participants were informed that their decision to be or not to be, part of the study and their answers to the questionnaires would in no way affect their treatment at the facility. They were also assured that their responses would remain anonymous and that if the study were presented or published, the results would be presented in a way that assured their anonymity. Participants were also informed that if they later changed their mind about participating, their data would be removed from the study and destroyed. No participants subsequently asked to have their data removed. However, of the nearly one-hundred potential participants, 21 were consid-

ered too ill to be able to participate, and the remaining possible participants (N = 32) either declined to participate or took the forms but then never turned them in to the researchers. Future research could examine whether there are any systematic differences between participants and refuses in this type of study. However, the non-participants were not able to be differentiated by a DSM-IV based diagnosis of problem with gambling as none of the residents of the facility had such a diagnosis at the time of the research.

As noted earlier, the actual and potential respondents in this study come from a population with some vulnerabilities and challenges. For example, some of the actual and potential respondents had a history of Fetal Alcohol-related problems. Persons with this disorder are particularly susceptible to wanting to please others [31] and therefore extra steps were taken to ensure the respondents understood their options about participating, or not, in the study. Further, the addictions counseling student who did the data collection was instructed to pay attention for any signs of distress in any of the respondents and if any distress was detected or even suspected, to immediately ensure the respondents well-being in whatever way was necessary to ameliorate any distress (e.g., stopping the data collection, informing primary caregivers, referral to psychology/psychiatry).

Results

This section will examine both the prevalence of problem gambling and the psychometric properties of the measures used in order to determine their applicability to the unique population, mentally ill, incarcerated offenders. All of the measures used in this study evidenced good internal consistency, SOGS alpha = .95, PGSI alpha = .92, GA-20 alpha = .95. As shown in Table 1 the measures were not found to be statistically significantly correlated with each other. Because the total scores of the gambling measures could be interpreted as not truly continuous variables we repeated correlational analyses using Spearmans' rho and found essentially the same, non-statistically significant, relationships between the gambling measures.

MEASURE	Statistic	SOGS	PGSI
PGSI	*r*	-.19	
	p	.21	
	rho	-.17	
	p	.29	
GA-20	*r*	.08	-.13
	p	.62	.43
	rho	.13	-.03
	p	.45	.87

Table 1. Correlations between the SOGS, PGSI, and GA-20among Mentally Ill Offenders.

The median and modal scores and the means and standard deviations of the measures used in this study are reported in Table 2. Because a significant number of respondents reported a total score of zero on the scales, SOGS = 61%, PGSI = 49%, and GA-20 = 50%, the modal score for all of the scales was zero and this was also reflected in the median scores, SOGS = 0.00, PGSI = 1.00, and GA-20 = 0.50. The means on all three measures ranged between 3.37 for the PGSI to 3.74 for the GA-20. The SOGS mean score indicates a potential problem with gambling. The mean score on the PGSI suggests a moderate level of gambling problems. Finally, the mean score on the GA-20 is below the threshold for problem gambling, suggesting non-problem gambling. The standard deviations ranged from 4.86 on the PGSI to 5.62 on the SOGS, indicating considerable variation in the severity of problems with gambling among this sample.

Measure	N	Median	Mode	Mean	SD	Range	Alpha
SOGS	44	0	0	3.73	5.62	0-17	0.95
PGSI	44	1	0	3.37	4.86	0-20	0.92
GA-20	44	0.5	0	3.74	5.53	0-18	0.95

Table 2. Mean Scores on the SOGS, PGSI, and GA-20

As shown in Table 3, the total prevalence of any level of problems with gambling was 38.6% on the SOGS and 51.2% on the PGSI. On the SOGS, 31.8% of respondents classified as probable pathological gamblers. Using the PGSI, 19.5% were classified problem gamblers. Finally, 23.7% of respondents were problem gamblers according to the GA-20.

Severity of Problem	South Oaks	PGSI	GA
No Problem	61.40%	48.80%	76.30%
Some Problems	6.80%	14.60%	
Moderate Problems	31.80%	17.10%	
Pathological Gambler		19.50%	23.70%

Table 3. Prevalence of Gambling Problems using the SOGS, PGSI, and GA-20.

Principal Components Analysis (PCA) was used as the method of exploratory factor structure analysis. The SOGS was found to be composed of one factor accounting for 54% of the variance in scores and four other factors with Eigen values greater than 1 accounting for 9%, 7%, 6%, and 5% of the variance in scores respectively. The PGSI was found to have a single factor accounting for 61% of the variance in scores.The GA-20 measure did not evidence a discernable factor structure. This was

at least in part due to one item (#20) having no variance; all respondents circled "no" to "Have you ever considered self-destruction or suicide as a result of your gambling?" Therefore, we reanalyzed the GA-20 without the no-variance item. The revised GA-19 evidenced high internal consistency without Item 20 from the original version, alpha = .96. Principal Components Analysis showed the 19-item version of the GA-20 to be comprised of a single factor accounting for 57% of the variance. Four other factors with Eigen values of greater than 1 accounted for 8%, 7%, 6%, and 5% of the remaining variance. Finally, the GA-19 was not statistically significantly correlated with the SOGS or the PGSI, r = .08, p = .62, and r = .13, p = .43, respectively.

Discussion

This paper examined the prevalence of problems with gambling in a high risk and, heretofore, unstudied population, namely incarcerated mentally ill offenders. We also examined the psychometric properties of commonly used measures of problems with gambling to see if they were useful for this specific population.

There were some promising and disappointing psychometric findings using these measures. Of the three measures used, the PGSI appears, based on the results of this study, to be the most psychometrically sound measure to use with a male incarcerated mentally ill population. The PGSI evidenced high internal consistency and a discernable factor structure with a single factor, presumably problems with gambling, accounting for a significant proportion (61%) of the variance in scores. This finding is similar to that reported by McMillen and Wenzel [32] where, although there were some limitations, the PGSI appeared to be the best of the three measures used in their general population study, namely the PGSI, SOGS, and the *Victorian Gambling Screen* (developed by Ben-Tovim & colleagues, [33]).

None of the observed means of the measures used in this study were within the problem gambling range, though most did indicate some level of problems. This suggests that problem with gambling is not a homogeneous issue in mentally ill incarcerated offenders and therefore only some will require intervention for gambling issues. The standard deviations of the means suggest that the participants evidenced a wide range of scores and therefore a wide degree of problems with gambling. The means and standard deviations reported here are consistent with other reports in the literature on both incarcerated offenders and people with mental illness [4,34].

The prevalence rates of moderate to pathological problems with gambling on all three measures (SOGS = 31.8%, PGSI = 36.6%, GA-20 = 23.7%+) are significantly higher than the prevalence reported for the general Canadian population (1.6% - 5.5%, [7,8] respectively) and appear to be similar to rates reported in other offender populations (12% to 38%, [4]). This finding seems to suggest that gambling problems may be more strongly related to offender issues than mental health problems. However, research has shown high rates of mental illness among incarcerated offenders and therefore perhaps it is mental illness in incarcerated offenders which contributes to the high rates of gambling problems in that population. More research is needed to clarify the relationship between mental illness, offending, and gambling problems. Further, a study comparing the prevalence rates of gambling problems by type of mental illness may shed more light on this issue.

Limitations

Although this research was intended to be a preliminarily examination of gambling problems in incarcerated mentally ill offenders, there are a number of limitations to the findings of this research. The population examined has a number of features which make the reliability of their self-report somewhat dubious. First, offenders have been known to engage in deception of both self and others. That is, they either are unaware of their problems or purposefully attempt to deceive to convince others that they do not have issues; often due to a, not necessarily false, belief that acknowledging problems results in longer incarceration.

Second, some of the respondents may have been suffering from mental health issues which impacted their reporting of problems with gambling. Although attempts were made to ensure respondents were literate and could understand the questions on the measures used, some may have been dishonest or unaware that they did not understand the questions asked. For example, one of the hallmarks of people with Fetal Alcohol problems is a false confidence about their abilities to interpret reading material [31].

This research is also limited by sample size in that we were unable to examine the differential effect of gambling problems by mental illness. It is possible that different mental illnesses result in greater or lesser problems with gambling. However, our goal was to begin the process of better understanding gambling problems in this population. The results of this research certainly suggest utility in pursuing this line of inquiry and future research could examine specific mental illnesses to better understand the differential effect on gambling problems of various mental illnesses.

We also did not compare our respondents with other populations to see if our results are only due to mental illness, which again provides an avenue for future research. We did make efforts to cross validate our results with psychiatrist diagnosis of gambling problems however no patients at the facility had a diagnosis of a gambling problem at the time we conducted the research. This was, at least in part, one of the motivations for our research. Our addictions counselors believed that some of the patients did indeed have a gambling problem and were

concerned that none had been diagnosed. We hoped to assist diagnosticians to recognize or at least assess for, gambling problems.

Despite these limitations, the current study sheds some light on gambling problems in incarcerated mentally ill offenders. Two results from this study, in particular, suggest the need for further research on this issue in this population: 1) the high prevalence rates in this population suggest that if not properly dealt with, untreated gambling problems may lead to reincarceration of a significant percentage of identified offenders with mental illness; and 2) that the available self-report measures for detecting problems with gambling are also useful for examining this issue in mentally ill offenders. Not all of the available measures of gambling problems were used in this study and there may therefore be a better measure available. However, the PGSI and SOGS appear to have the potential to at least screen for gambling problems in this population.

Implications for Research and Treatment

The results of this study are preliminary but do suggest a need for treatment and further examination of problem gambling among incarcerated mentally ill offenders. The findings in this study suggest that roughly a fifth to a third of incarcerated mentally ill men would benefit from treatment for gambling problems. The offenders in some facilities spend too little time at the facility for extensive treatment. However, there have been some promising results from brief interventions for problem gambling reported in the literature (e.g., Lipinski, Whalen, & Meyers [35]). Further, offenders at longer-term facilities could benefit from extensive treatment programs for problem gambling. More research is needed, and underway, to better understand assessing and treating gambling problems in incarcerated mentally ill offenders.

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