SECONDARY DATA ANALYSIS REPORT

AN EXAMINATION OF THE EFFECTS OF PROBLEM GAMBLING ON RETIREMENT TRANSITIONS

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ABSTRACT

Population aging represents a major demographic shift and older adults gamble at higher rates than ever before. However, little is known about the impact of gambling on retirement transitions. Therefore, we examined the consequences of recreational levels and problem levels of gambling for retirement timing and the stability of retirement. To better understand how the positive and negative consequences of gambling have an impact on retirement timing and the potential return to work for those in retirement, data were analyzed from the Quinte Longitudinal Study of Gambling and Problem Gambling (QLS; Williams et al., 2014). Logistic regression was used to predict retirement outcomes. Among people who were employed and aged 50 and over at baseline, problem gambling and gambling to socialize encouraged people to retire two years later; however, gambling to socialize at baseline was not associated with retirement four years later. For people who were retired and aged 55 and over at baseline, problem gambling did not pull them out of retirement two years or four years later. This study addressed the call for prospective research on the consequences of gambling (Desai, Desai, & Potenza, 2007). Findings are of value to problem gambling treatment and service providers, adults planning for or in retirement, and retirement planning professionals.

Keywords: gambling, retirement, recreational gambling, problem gambling

BACKGROUND

Currently, population aging is a major demographic shift (Sanderson & Scherbov, 2010). Coupled with this shift, up to 75 percent of older adults have gambled in the past year (McCready, Mann, Zhao, & Eves, 2005). Similar results were found by Williams, Volberg, and Stevens (2012) who reported that 76.7% of Ontario adults over the age of 60 gambled in the past-year compared to 82.9% of all adults. van der Mass, Mann, Turner, Matheson, Hamilton, and McCready (2018) reported a lifetime prevalence of gambling for older adults in Ontario of 85.0%, past-year participation of 69.7%, and past-month participation of 44.0%. For most older adults, gambling is an enjoyable and sociable activity (Ariyabuddhiphongs, 2012), however, problem gambling has been linked to both poor health and diminished financial resources (Langham, Thorne, Browne, Donaldson, Rose, & Rockloff, 2016). Thus, a clearer understanding of older adults' gambling behaviour is a priority for problem gambling prevention and treatment (Elton-Marshall et al., 2018).

Older adults tend to engage with simple games instead of complex games (Moufakkir, 2012; Tira & Jackson, 2015). Research from the mid-2000s reported that the most common form of gambling for older adults was lottery (58.0%), followed by raffle tickets (47.9%), electronic gaming machines in casinos (23.0%), and scratch tickets (19.7%) (Wiebe, Single, Falkowski-Ham, & Mun, 2004). Similar results were reported more recently by van der Maas et al. (2018) who stated that lottery draws (56.5%) were the most common form of gambling involvement, followed by small charity draws (32.5%), playing electronic gaming machines (22.5%), instant lottery (22.0%), and large charity draws (21.0%).

Understanding various motivates for gambling provides knowledge about why people gamble (Binde, 2009). Weibe et al. (2004) reported that of 991 participants, the chance of winning money was the highest perceived benefit of gambling (33.9%) followed by fun and excitement (30.7%), no perceived benefit (29.0%), socialization (20.9%), decrease isolation (8.9%), decrease boredom (8.8%), escapism (4.5%), support charity (2.3%), and other (6.4%). However, older adults' reasons for gambling are mixed as other sources reported that instead of trying to win money, older adults' motivations for gambling typically consisted of a desire to socialize, to reduce boredom, provide stimulation, and release tension (Desai, Maciejewski, Dausey, Caldarone, & Potenza, 2004; Hope & Havir, 2002; McNeilly & Burk, 2002; Wiebe & Cox, 2005).

Consequences of Gambling

For most older adults, gambling is an enjoyable sociable recreation activity (Hope & Havir, 2002). Recreational gambling is associated with fun and excitement (Shaffer & Korn, 2002), is a source of social integration and support (Hope & Havir, 2002), and is linked to better physical and mental health among older adults (Desai et al., 2004, 2007). Gambling,

therefore, can be a positive activity for older adults who gamble recreationally and do not experience problems because of gambling (Tanner, 2017).

However, some older adults may experience problems because of their gambling. Gambling severity is typically classified as non-gambling, recreational gambling, low-risk gambling, moderate-risk gambling, and problem gambling (Currie, Hodgins, Cassey, el-Guebaly, Smith, Williams, & Schopflocher, 2017). Among 2,187 adults aged 55 and over in Ontario, van der Maas et al. (2014) found that 0.1% were problem gamblers, and 1.7% experienced moderate problem gambling for a total of 1.8% of the study population.

Problem gambling may have negative personal, social, familial, and financial consequences (Currie, Miller, Hodgins, & Wang, 2009; Darbyshire, Oster, & Carrig, 2001; Kalischuk, Nowatzki, Cardwell, Klein, & Solowoniuk, 2006; Langham et al., 2016; Walker et al., 2006). Problem and pathological levels of gambling may lead to harm through direct effects (e.g., negative physiological arousal experienced while gambling) and indirect effects (e.g., longer-term negative consequences of financial loss) (Currie, Miller, Hodgins, & Wang, 2009). Problem gambling among older adults is linked to physical health problems, social problems, and psychological difficulties (Ariyabuddhiphongs, 2011; Erickson, Molina, Ladd, Pietrzak, & Petry, 2005; Pietrzak, Molina, Ladd, Kerins, & Petry, 2005).

Longitudinal research documents the negative impact of problem gambling on family functioning and social support (Cowlishaw, Suomi, & Rodgers, 2016). The social, physical health, mental health and financial consequences of pathological levels of gambling can be severe (Ladd, Molina, Kerins, & Petry, 2003; McNeilly & Burke, 2000; Morasco, Pietrzak, Blanco, Grant, Hasin, & Petry, 2006; Petry, 2002). These harms from problem gambling are also factors related to retirement timing and disruption of retirement, in particular physical and mental health, social support, and financial resources.

Retirement Timing

Retirement timing is increasingly complex (Fischer, Chaffee, & Sonnega, 2016). For some, the transition to retirement may be gradual with bridge employment, that is, reduced hours at paid work or a career change before retirement (Beehr & Bennett, 2015). Some who have retired may return to work due to financial needs or to regain the social contacts and sense of mastery and identity they had from paid work (Schellenberg, Turcotte, & Ram, 2005). A planned retirement enhances confidence in, and satisfaction with, that transition (Quick & Moen, 1998; Taylor-Carter, Cook, & Weinberg, 1997).

Diverse factors contribute to volitional or non-volitional transition to retirement (Henretta, Chan, & O'Rand, 1992). Poor health hastens the transition and may have a bigger impact on retirement timing than income security or employment satisfaction (Cobb-Clark & Stillman, 2006; Dwyer & Mitchell, 1999). In a study of men's retirement timing, those who reported poor health expected to retire up to two years sooner than those who were healthy (Dwyer & Mitchell, 1999). Longitudinal research drawing on Canadian data shows both pension wealth and poor health hasten the transition to retirement (Shirle, 2010). In recent research, greater income and perceived social support were associated with an earlier expected retirement age, and greater income, better physical and mental health, and higher perceived social support were linked to greater certainty of expected retirement age (Mock & Schryer, 2017).

After the retirement transition, some may need to return to paid work. Good health and being younger are often linked with greater likelihood of working after retirement, as is financial need (Beehr & Bennett, 2015; Dwyer & Mitchell, 1999). Consistent with the consequences of problem gambling, antecedents of early, on-time, or late retirement included individual characteristics such as health and psychological well-being, social factors like relationship satisfaction, and financial resources (Fisher et al., 2016).

Gambling and Retirement Timing

The harms and benefits found with gambling are also determinants of retirement timing. Significant changes – such as retirement – may predispose older adults to gambling and subsequently problem gambling (McCready et al., 2005). The social isolation that accompanies later life may lead to maladaptive coping. Understanding how people experience later life transitions (e.g., retirement) could possibly provide valuable knowledge about effective ways for intervening if older adults immerse themselves in gambling as a way to cope (Matheson, Sztainert, Lakman, Steele, Zeigler, & Ferentzy, 2018). Experience of later life transitions may differ by gender and therefore Matheson et al. (2018) suggested that it would be advantageous to investigate how men's and women's experiences may differ. Similarly, gender has been identified as an important correlate of gambling and problem gambling for older adults (Holdsworth, Hing, & Breen, 2012).

Most older adults gamble and may derive social and health benefits from gambling. However, problem or pathological gambling is linked to diverse harms (e.g., poor physical and mental health, diminished financial resources, harm to relationships). These same benefits and harms have also been shown to have an impact on retirement timing and the transition out of retirement.

Retired or semi-retired people tend to have more disposable income which is associated with gambling and problem gambling (McNeilly & Burke, 2001, 2002). Also, newly retired people may have access to large lump-sum pensions and therefore are vulnerable to loosing substantial amounts of money if engaged in gambling (Weibe et al., 2004). People living on a fixed income (e.g., retirees) are less likely to recover from serious financial losses. Thus, it is likely that gambling has an impact on retirement timing or disruption of retirement due to these positive and negative consequences of gambling.

Gaps in Knowledge

Little work has been done to link the consequences of gambling to retirement – a significant later life transition. Also, previous research suggests that retired older adults may experience more adverse outcomes caused by problem gambling, but there is little empirical evidence to support this claim.

Objective and Research Questions

Drawing on longitudinal data, the purpose of this study was to examine the potentially complex effects of gambling on retirement timing (e.g., hastened or delayed) and also the possibility that for those who were retired, problem gambling may require a return to paid work. This purpose was met by addressing the following three research questions:

1. For non-retired adults aged 50 and over at baseline, does problem gambling impact the ability to retire two years (Time 3) and four years (Time 5) later?

2. Among the same sample, does socializing as the main motivation to gamble result in retirement by two years (Time 3) and four years (Time 5) later?

3. For retired adults aged 55 and over at baseline, does problem gambling pull people out of retirement two years (Time 3) and four years (Time 5) later?

The present study helped to address the call for prospective research on the consequences of gambling (Desai, Desai, & Potenza, 2007) and will be of value to problem gambling treatment and prevention service providers, financial advisors, and retirement planning professionals. We drew on the *Conceptual Framework of Gambling Harms* (Browne et al., 2016; Langham et al., 2016) to inform the potential consequences of problem gambling on retirement timing. This framework includes seven different classifications of harms: (1) financial harms, (2) relational harms, (3) emotional or psychological harms, (4) detriments to health, (5) impact on work, study, or economic activity, (6) cultural harms, and (7) criminal acts. The first five types of harms were explored in the present research as they relate directly to retirement transitions and timing.

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METHOD

Dataset

We drew on data from the Quinte Longitudinal Study of Gambling and Problem Gambling (QLS), a prospective study of gambling and problem gambling conducted in the Quinte region of Ontario, Canada (Williams et al., 2014). A sample of 4,121 adults aged 17 and older were followed once a year for five years (2006 to 2011). The sample was roughly representative of the demographic profile of the rest of Canada, and the Quinte region has similar gambling opportunities compared to other places around the country. The purpose of the original research was to determine (a) normal patterns of continuity and change in gambling and problem gambling over time, (b) the individual, social, and structural variables that mediate the development of recreational gambling and problem gambling, (c) an etiological model of problem gambling, and (d) the implications of the results for preventing problem gambling. A high retention rate of 93.9% was achieved (Williams et al., 2015). The dataset contained very little missing data. However, when missing data occurred, missing value imputation was used.

Analyses focused on two samples from the QLS dataset: (a) the *baseline pre-retirement sample* aged 50 and over (n = 745), and (b) the *baseline retired sample* aged 55 and over (n = 680). Average retirement age in Canada is 62, making it possible that those age 55 and over and not retired at baseline may retire over the five years of the study. Employment status of both samples were evaluated at three years and five years to determine if people either returned to paid work or transitioned to retirement and the potential impact of gambling on those transitions.

Measures

Sociodemographic covariates. Selection of sociodemographic covariates was based on the *Conceptual Framework of Gambling Harms* (Browne et al., 2016; Langham et al., 2016) and the notion that gambling and retirement experiences may differ by gender (Holdsworth et al., 2012; Matheson et al., 2018). The covariates, therefore, included gender (male and female), age (continuous count), highest level of education attained, marital status (married or cohabiting, single), household income (ranging from less than $20,000 to more than $150,000 with $10,000 increments), and parental status (children or no children). Key employment status variables used were 'retired' or 'employed'. Retirement status was based on Statistics Canada's standard definition of retirement and therefore was conceptualized as no participation in the workforce (Bowlby, 2007) and therefore employed was conceptualized as part-time or full-time workforce participation.

Health. *Past year health* was measured on a six-point scale ranging from 'very poor' to 'excellent'.

Gambling to socialize. *Main reason for gambling is to socialize* was measured dichotomously (i.e., 'yes' or 'no').

Gambling level. The Problem Gambling Severity Index (PGSI; Ferris & Wynne, 2001; McCready & Adlaf, 2006) was used to assess problem gambling severity. This nine-item measure is a sub-scale from the Canadian Problem Gambling Index (CPGI). The PGSI consists of nine questions about gambling and scores each response from *never* (score of 0) to *almost always* (score of 3). Higher scores represent more severe problem gambling with categories consisting of non-problem gambler (score of 0), low-risk gambler (score of 1-2), moderate-risk gambler (score of 3-7), and high-risk gambler (score of 8-27).

Data Analysis

Data analyses were conducted using SPSS Statistics Version 25. Descriptive analyses were conducted first, followed by logistic regression. For the non-retired sample, logistic regression was used to examine the effect of gambling (e.g., PGSI score) on likelihood of retiring two years (Time 3) and four years (Time 5) later. For retired adults, logistic regression was used to examine the effect of gambling on likelihood of engaging in paid work or coming out of retirement two years (Time 3) and four years (Time 5) later. For all analyses, change in predictors and was modelled by controlling for baseline values and entering Time 3 and Time 5 variables in the model where applicable (Cronbach & Furby, 1970). The same model was run for each subset of the data and including age, gender, marital status, education, household income, parental status, past year health, problem gambling severity (PGSI score) and the *main motivation to gamble is to socialize*.

RESULTS

Results are first presented for people who were aged 50 and over and employed at baseline. Second, results are presented for people who were aged 55 and over and retired at baseline.

People Aged 50 and Over and Employed at Baseline

Table 1. presents the sample characteristics. The average age of this sample was 56.2 years old and included 51.1% females. Most (75.2%) participants were married or cohabitating,

90.5% had children, had a median education of some technical school, college or university, with a median household income of $60,000 - $69,999. Most had rated their past year health as at least *good* or *better*, and approximately one-tenth (9.8%) of the sample gambled mainly to socialize. Most (70.5%) participants experienced no problems with gambling (Table 2).

Logistic regression was performed to ascertain the effects of baseline (Time 1) age, gender, marital status education, income, parental status, past year health, and gambling severity on the likelihood that participants were retired two years (Time 3) and four years later (Time 5).

Table 1. Sample Characteristics of People Who Were Employed at Baseline and 50+

Variable	Frequency/Median
Age	56.22 (SD = 5.13)
Gender	
Female	51.1% (n = 381)
Male	48.9% (n = 364)
Marital status	
Single	24.8% (n = 185)
Married/cohabitating	75.2% (n = 560)
Education	Some technical school, college or university
Income	$60,000 - $69,999
Parental status	
No children	9.5% (n = 71)
Has children	90.5% (n = 674)
Past year health	
Very poor	0.3% (n = 2)
Poor	0.5% (n = 4)
Fair	5.1% (n = 38)
Good	26.0% (n = 194)
Very good	42.3% (n = 315)
Excellent	25.8% (n = 192)
Main reason for gambling is to socialize	
Yes	9.8% (n = 73)
No	82.6% (n = 615)

Table 2. Gambling Severity for People Who Were Employed at Baseline and 50+

CPGI Category	Percent (Frequency)
Non-gambler	7.5% (*n* = 56)
Non-problem gambler	63.0% (*n* = 469)
Low-risk gambler	20.1% (*n* = 150)
Moderate gambler	7.5% (*n* = 56)
Severe problem gambler	1.9% (*n* = 14)

Baseline (Time 1) Problem Gambling and Motivation to Gamble for Socialization Predicting Retirement Two Years (Time 3) Later

The logistic regression model 2 (Table 3) was statistically significant, $\chi^2(9) = 62.89$, *p* < .001 and explained 20.9% (Nagelkerke *R) of the variance in retirement and correctly classified 87.1% of cases.* Increased age, *higher education, increased scores on the PGSI,* and gambling to socialize were significantly associated with an increased likelihood of retiring by Time 3. Gender, marital status, income, parental status, and past year health were non-significant. The odds of retiring were 1.20 times higher for each year increase in age, 1.24 times higher per higher level of education, 1.15 times higher for each point increase on the CPGI, and 2.56 times higher if the main motivation for gambling was to socialize.

Table 3. Baseline (Time 1) Problem Gambling and Motivation to Gamble for Socialization Predicting Retirement Two Years (Time 3) Later

Variable	B	SE	OR
Constant	-13.43***	2.05	.
Age	0.18***	0.03	1.20
Gender[a]	-0.18	0.30	0.83
Marital status[b]	0.14	0.37	1.15
Education	0.22*	0.10	1.24
Income	-0.02	0.05	0.98
Parental status[c]	-0.04	0.49	0.96
Past year health	-0.12	0.16	0.99
Problem gambling severity	0.14*	0.06	1.15
Gambling to socialize	0.94*	0.39	2.56

*p < .05, **p < 0.01, ***p < .001

Note: [a]gender (0 = male; 1 = female), [b]marital status (0 = single, 1 = married or cohabitating), [c]parental status (0 = is not a parent; 1 = is a parent)

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Baseline (Time 1) Problem Gambling and Motivation to Gamble for Socialization Predicting Retirement Four Years (Time 5) Later

The logistic regression model 2 (Table 4) was statistically significant, $\chi^2(9) = 66.96$, $p < .001$ and explained 19.2% (Nagelkerke R) of the variance in retirement and correctly classified 80.4% of cases. Increased age and higher scores on the PGSI increased likelihood of retiring four years later (Time 5). Gender, marital status, education, income, parental status, past year health, and gambling to socialize were non-significant. The odds of retiring were 1.18 times higher for each year increase in age, and 1.11 times higher for each point increase on the CPGI.

Table 5. Sample Characteristics of People Who Were Retired at Baseline and 55+

Variable	Mean/Median
Age	66.2 (SD = 6.4)
Gender	
Male	53.8% (n = 366)
Female	46.2% (n = 314)
Marital status	
Single	29.3% (n =199)
Married/cohabitating	70.7% (n = 481)
Education	Some technical school, college or university
Income	$50,000 - $59,999
Parental status	
No children	7.4% (n =50)
Has children	92.6% (n =630)
Past year health	
Poor	0.9% (n = 6)
Fair	9.4% (n =64)
Good	29.4% (n =200)
Very good	40.6% (n =276)
Excellent	19.7% (n = 134)

Table 6. Gambling Severity for People Who Were Retired at Baseline and 55+

CPGI Category	Percent (Frequency)
Non-gambler	8.7% (*n* = 59)
Non-problem gambler	63.8% (*n* = 434)
Low-risk gambler	19.7% (*n* = 134)
Moderate gambler	6.6% (*n* = 45)
Severe problem gambler	1.0% (*n* = 7)

Two logistic regressions were performed to determine the impact of baseline (Time 1) age, gender, marital status education, income, parental status, past year health, and problem gambling on the likelihood of pulling people out of retirement two years later (Time 3) (x^2(9) = 20.86, *p* = .01) and four years later (Time 5) (x^2(9) = 23.91, *p* = .004). More specifically, in both models, problem gambling was not associated with retirees returning to work two years (Time 3) (*B* = -.14, *SE* = .07, *p* = n.s.) or four years (Time 5) (*B* = -.12, *SE* = .07, *p* = n.s.) later.

Table 7. Baseline (Time 1) Problem Gambling and Motivation to Gamble for Socialization Predicting Retirement Four Years (Time 5) Later

Variable	*B*	*SE*	*OR*
Constant	-11.73***	1.78	.
Age	0.18***	0.02	1.19
Gender[a]	-0.09	0.25	0.92
Marital status[b]	-0.23	0.31	0.79
Education	0.04	0.08	1.04
Income	0.07	0.04	1.07
Parental status[c]	0.79	0.49	2.21
Past year health	-0.22	0.13	0.80
Problem gambling severity	0.11*	0.05	1.11
Gambling to socialize	0.61	0.35	1.84

*p < .05, **p < 0.01, ***p < .001

Note: [a]gender (0 = male; 1 = female), [b]marital status (0 = single, 1= married or cohabitating), [c]parental status (0 = is not a parent; 1 = is a parent)

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DISCUSSION

Much of the literature on older adults' gambling has focused on benefits and consequences, with less focus on how gambling may impact the ability to retire and stay retired. The present research aimed to explore the potentially complex effects of gambling on retirement timing (e.g., hastened or delayed) and also the possibility that for those who were retired, problem gambling may require a return to paid work. Our results revealed that problem gambling had a different impact on people who were in the workforce and people who were retired.

For people aged 50 and over who were employed at baseline, increased age, *higher education*, problem gambling and gambling to socialize were significantly associated with transitioning to retirement two years later (Time 3). This result may be partially explained by a gradual transition to retirement where people have reduced hours or a career change before retirement (Beehr & Bennett, 2015). There is a potential that a gradual transition to retirement provides people with increased time for engaging in leisure activities (McNeilly & Burke, 2002).

Previous research has shown that social factors are important for transitions to retirement (Mock & Schryer, 2017), and it could be that gambling as a motivation to socialize encourages people to retire as they desire spending time with people who also enjoy gambling. Interestingly, although problem gambling was associated with retirement four years (Time 5) after baseline, gambling to socialize no longer increased the likelihood of retirement. Perhaps people's motivations to gamble change over time as problem gambling increases in duration. Problem gambling may initially develop when gambling is a leisure activity shared with others, and then continue after socialization is no longer the reason to gamble.

For people aged 55 and over who were retired at baseline, problem gambling was not associated with a return to the workforce two and four years later. This result may be partially explained by previous research highlighting that retired or semi-retired people tend to have more disposable income (McNeilly & Burke, 2001, 2002), and may have access to large lump-sum pensions (Weibe et al., 2004). There is potential that assessing the impact of problem gambling on the ability to remain retired two and four years after baseline is an inadequate amount of time to see the impact of problem gambling on staying retired.

Limitations

There are limitations to consider when interpreting the results of this study. First, data analyses were limited to the variables available in the dataset. There is potential that other factors may contribute to the influence of gambling on retirement transitions. Secondly, it

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remains unknown why people in the study retired. Knowing the reason for retirement (e.g., age and adequate income, or poor health) may impact finances during retirement, and how people choose to spend their free time (e.g., gambling). Last, although a strength of this research is that the data are longitudinal, data collection once a year for five years may be an inadequate amount of time to ascertain the impact of problem gambling on the ability to retire or stay retired.

Future Research

Future research following people who are nearly retired or currently retired for longer than five years may provide more information about the trajectories associated with gambling and retirement. Retirees may be able to financially support problematic gambling for this short period of time whereas longer-term implications may be more severe. Also, determining how people support their gambling may provide evidence on how finances are managed. For example, people who have paid off their mortgage and make income from investment properties may be able to financially support themselves despite continuous depletion of savings and retirement pensions.

Conclusion

The findings highlight that for adults in later midlife or later life, gambling is not necessarily a problem for the retirement transition. Also, social motivations to gamble enhance likelihood of retirement two years but not four years later. This points to the value of socializing for the transition to retirement, but also the inverse, namely that less social forms of gambling may be linked to a diminished ability to retire. Most studies on older adults and gambling focus on treatment, with few studies aimed at prevention initiatives (Matheson, Sztainert, Lakman, Steele, Ziegler, & Ferentzy, 2018). The results of the present study highlight that an important area for prevention of problem gambling in older adults is educating soon-to-be retired people and recently retired people on managing their newly found free time, and income.

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