Describing Gambling Affinity: The Role of Personality Traits

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The purpose of this study was to determine the degree to which personality dimensions provide insights into who is likely to gamble a significant dollar amount at a casino. Using measures of the Big Five, it was determined that respondents classified as highly extraverted were the most likely to gamble a day's wages at a casino. Those classified into the moderate trait scores cluster also exhibited a gambling affinity. Other factors associated with gambling affinity included subjective financial knowledge, financial satisfaction, and risk tolerance. Results from this study show that personality traits are important descriptors of gambling affinity. However, people's willingness to gamble appears to associate with unique combinations of personality rather than a direct relationship with individual trait factors. Findings from this study provide direct insights into who is more likely to require financial advice regarding gambling expenditures at the household level.

INTRODUCTION

Gambling of one sort or another has existed in the United States since the country's founding (e.g., horse race betting has always been popular). In 1931 when Nevada legalized wagering on a wide assortment of games of chance, gambling took hold as a mainstream recreational activity. Nevada maintained a monopoly on large-scale gaming until 1977, when Atlantic City legalized casino-style gambling. The gaming landscape changed even more dramatically in 1979 when the Seminole tribe introduced gambling on reservations. Although challenged in court, tribal-based gaming was deemed legal and has since expanded nationwide. Several states began to legalize riverboat casinos in the nineteen-nineties to cash in on demand for gambling outlets and increase tax revenues (e.g., Iowa, Mississippi, Missouri). By the twenty-tens, nearly all states were generating some tax revenue directly from gambling or wagering sources. Most recently, the 2018 Supreme Court ruling that

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allowed states to effectively regulate and tax sports wagering repositioned sports wagering from an illicit activity, or one controlled by a few casinos or organized criminal syndicates, into a nationwide recreational activity. Evidence of the general acceptance of gambling as a mainstream activity was highlighted in a report by Norman (2018), who showed that 69% of Americans believed that gambling is morally acceptable.

While gambling can be a fun leisure activity and sometimes a profitable pursuit, some individuals lose control of their financial decision-making abilities when gambling. According to the National Institutes of Health (2011; 2020), millions of Americans are now addicted to gambling. Signs of addiction include: (a) always thinking about gambling, (b) lying about gaming activities, (c) spending time at work gambling, (d) not quitting when losses have mounted, and (e) gambling household money needed for other purposes (National Institutes of Health, 2020). The North American Foundation for Gambling Addiction Help estimated that nearly three percent of the adult U.S. population is addicted to gambling and spends more than $6 billion per year on gaming activities (NAFGAH, 2020). Generally, problem gamblers tend to be younger men. However, the prevalence of gambling addiction appears to be spreading broadly across the population, with more women exhibiting problematic gambling behavior (Michigan Department of Health and Human Services, 2020).

Given the growing acceptance of gambling in the United States and the increasing participation in gambling across socioeconomic groups, financial professionals (e.g., financial therapists, financial counselors, financial planners) either have or will encounter clients who want to incorporate a wagering budget into their household spending plan. This possibility extends beyond problem gamblers and those who exhibit signs of gambling addiction. From the perspective of providing financial advice, gambling activities can create a budgeting dilemma. Gambling can be viewed as a recreational activity and budgeted accordingly. Gambling can also present as problematic behavior or an addiction that draws household financial resources away from an established budget. In either situation, participation in gambling activities creates a substitution effect in how a gambler allocates household financial resources across their budget and balance sheet. If a household allocates a large percent of income or net worth to wagering activities, the household will likely need to give up funding other goals. This situation can cause conflicts among household members (Klontz et al., 2012). For example, tensions can mount if one of the members in a household prefers participating in gambling pursuits and other members disfavor spending resources on gambling activities. These situations often require counseling interventions on the part of financial therapists to improve intra-household financial communication.

To fully understand this dilemma, this paper focuses on gambling affinity, defined as the likelihood of spending a large dollar amount at a casino, by identifying the characteristics of those who have higher levels of gambling inclination. The role of personality traits is a particular emphasis of this study. While the household finance, financial services, and financial therapy literature has addressed gambling as a topic, few research studies have explicitly attempted to determine how personality traits relate to allocating household financial resources to gambling activities. While it is commonly known that financial behaviors are closely related to psychological factors, in addition to demographic and

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socioeconomic characteristics, less is known about the relationship between gambling and personality traits in the context of household financial expenditures. The primary outcome of this study is to offer financial professionals insight into who may need budgeting resources for gambling activities. This paper focuses on personality dimensions that provide insights into who is likely to gamble a significant dollar amount at a casino.

LITERATURE REVIEW

The five-factor model, commonly referred to as the Big Five, is the most widely used framework for describing individuals across personality dimensions (Costa & McCrae, 1992; Digman, 1990; Goldberg, 1992; John & Srivastava, 1999). In this study, the five dimensions of personality were defined as extraversion, agreeableness, conscientiousness, emotional stability, and openness to experiences (openness; Gosling et al., 2003). While the psychology literature suggests that each trait factor includes multiple facets, from a practical point of view, these five domains tend to be used broadly to describe and classify people according to temperament characteristics.

Extraversion describes the following characteristics: assertiveness, aggressiveness, gregariousness, and sensation seeking (DeYoung et al., 2007). Those with greater extraversion are more likely to take risk and gamble (Mayfield et al., 2008). The agreeableness trait is characterized by altruism, compliance, modesty, and trust (DeYoung et al., 2007). Those who are more agreeable tend to follow prevailing thoughts and trends. Conscientiousness refers to the following temperament characteristics: dutifulness, self-discipline, deliberation, and competence (Judge et al., 2013). Those who exhibit greater conscientiousness are organized and deliberative. Emotional stability refers to a tendency to exhibit high predictability. Emotional stability is the inverse of neuroticism, exemplified by anxiety, hostility, impulsiveness, and vulnerability (Judge et al., 2013). Last, openness to experiences is characterized by the following concepts: fantasizing, taking action based on feelings, and aesthetics (DeYoung et al., 2007).

A growing body of literature (primarily published in psychology journals) has incorporated personality traits into models designed to describe and predict risk taking at the individual and household level. In general, the consensus is that those who score highly in extraversion are more likely to take risk and act impulsively (Lauriola et al., 2014; Mayfield et al., 2008). Nicholson et al. (2005) noted that high extraversion and openness to experiences are related to risk taking, whereas low scores on agreeableness, conscientiousness, and emotional stability tend to be associated with risk taking.

Researchers have also shown that personality trait dimensions are associated with generalized financial risk tolerance and financial risk taking. Those willing to take more risk tend to be more deliberative versus driven by feelings (Filbeck et al., 2005). Pak and Mahmood (2015) noted in their eastern European survey that financial risk tolerance is negatively associated with agreeableness and positively related with openness. Pinjisakikool (2017) reported that greater extraversion is, as a rule, positively associated with financial risk tolerance among western Europeans and that greater agreeableness, conscientiousness,

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and emotional stability are negatively associated with financial risk tolerance. In a study of U.S. investors, Lauriola and Levin (2001) reported that higher openness to experiences is positively associated with greater risk taking. In contrast, those who exhibit higher neuroticism (i.e., lower emotional stability) engage in less risk taking.

As an extension of generalized risk taking, gambling represents a special expression of a risk-taking behavior (Mishra et al., 2010). In this regard, personality traits have been linked with gambling behavior, although reported relationships tend to be inconsistent and sometimes unstable across studies. Thorson et al. (1994) reported, for instance, that personality profiles do not generally yield significant differences between gamblers and those who do not gamble. Some researchers have reported that pathological gamblers score low in emotional stability (i.e., high in neuroticism) and low in agreeableness and conscientiousness (e.g., Frank, 2019). Others have noted that a tendency to gamble is more typically associated with a generalized personality profile rather than being limited to one personality trait dimension. Bagby et al. (2007) argued that gamblers exhibit facets of impulsivity and emotional vulnerability. Miller et al. (2013) conducted an extensive study of the relationships among personality traits and pathological gambling; Miller et al. found that gambling was negatively associated with greater emotional stability, extraversion, openness, and agreeableness. When tested in a multivariate manner, Miller et al. only found greater neuroticism and openness to be uniquely associated with pathological gambling. Miller et al. also noted that while personality traits are important in describing gambling behavior, certain demographic characteristics likely dampen some effects. In particular, sex, age, and race/ethnicity represent personal characteristics that describe gambling affinity (e.g., women and African Americans are more likely to be pathological gamblers).

Given the associations between personality, risk-taking, and gambling behavior, it is reasonable to expect that certain personal demographic characteristics should also be associated with these constructs. For example, income is positively correlated with openness, conscientiousness, emotional stability, and extraversion (Borghans et al., 2008). Those who exhibit neuroticism report lower incomes (Judge et al., 1999). Increased income is also associated with increasing levels of financial risk tolerance. Similar relational patterns are also expected for sex, age, marital status, employment status, racial/ethnic background, and education.

The following discussion presents the methodology used to address this paper's purpose, followed by a presentation of findings from the analyses. The paper concludes with a discussion of results and a summary of conclusions.

METHODS

Sample

A sample of slightly more than 500 adults who were 18 years of age or older participated in this study. Data were collected using an online survey developed using Qualtrics and distributed by Dynata. The data-gathering process occurred during the fourth

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quarter of 2019. The sample was chosen to represent individuals likely to have been, at the time of the survey, in a position to take a financial risk in the future. Although the sample profile was similar to the U.S. population, the sample was not intended to be nationally representative. The lead researcher's university institutional review board approved the research project prior to survey distribution. Table 1 presents descriptive data for the sample and the variables used in this study.

Measures

The outcome variable of interest in this study was gambling affinity. Respondents in the study answered the following question, which was adopted from Blais and Weber (2006): "How likely is it that you would bet a day's income at a casino?" Respondents chose an answer ranging from 1 = *very unlikely* to 10 = *very likely*. This question was adopted for this study because the item standardizes the wager amount across income classifications, which reduces interpretation difficulties when dollar amounts are either too high or too low compared to a particular respondent's income situation.

A set of attitudinal questions measured each respondent's subjective financial knowledge, satisfaction, and risk tolerance. Subjective financial knowledge was assessed by asking, "How knowledgeable are you about personal finance topics?" Five response categories were provided: (a) extremely knowledgeable (coded 5), (b) very knowledgeable (coded 4), (c) moderately knowledgeable (coded 3), (d) slightly knowledgeable (coded 2), and (e) not knowledgeable at all (coded 1). Subjective financial knowledge was adopted for this study based on previous reports showing that subjective financial knowledge is a particularly useful indicator of current and future financial behavior (Robb & Woodyard, 2011). Respondents also indicated how satisfied they were with their present overall financial situation using a 10-point satisfaction scale, where 1 = *extremely dissatisfied* and 10 = *extremely satisfied*. The respondents' financial risk tolerance was assessed using a propensity scale developed by Grable and Lytton (1999). Scale scores were estimated by summing answers to 13 items. In this study, scale scores ranged from 13 to 41, with higher scores indicating a greater willingness to take financial risk.

Facets of respondent personality were assessed using the Ten-Item Personality Inventory (TIPI; Gosling et al., 2003). The TIPI provides a brief estimate of the 'Big Five" personality dimensions. While there are numerous measures of personality and the Big-Five, the TIPI was chosen for this study because it is widely used in clinical practice (see Geher, 2018) and by researchers (Ahmed & Jenkins, 2013; Nunes et al., 2018; Romero et al., 2012). Also, the TIPI provides insights into a respondent's personality dimensions without the need for lengthy and time-consuming response choices. In this study, respondents were presented with the following statement and asked to respond to the associated question: "Here are a number of personality traits that may or may not apply to you. Please indicate the extent to which you agree or disagree with that statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other." The following 10 pair choices were provided: (a) extraverted/enthusiastic, (b) critical/quarrelsome, (c) dependable/self-disciplined, (d) anxious/easily upset, (e) open to

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new experiences/complex, (f) reserved/quiet, (g) sympathetic/warm, (h) disorganized/careless, (i) calm/emotionally stable, and (j) conventional/uncreative. Answers were then used to score each respondent for extraversion, agreeableness, conscientiousness, emotional stability, and openness to experiences.

Several control variables were included in the study. Sex was coded 1 = *male* and 0 = *female*. Age was measured in years. Marital status was assessed using four marital categories: (a) never married, (b) single but living with a significant other, (c) separated/divorced/widowed, and (d) married. Household size was measured by asking each respondent how many people lived in the respondent's household at the time of the survey. Employment status was coded as 1 = *full-time*; 2 = *part-time*; 3 = *retired*; or 4 = *other*, which included those who were not employed. A respondent's racial/ethnic background was assessed by asking each respondent to indicate their affiliation using the following six categories: (a) Caucasian/White, (b) African-American/Black, (c) Hispanic/Latino/Latinx, (d) Native American, (e) Asian or Pacific Islander, and (f) other (e.g., mixed race). Because of data limitations, the Native American and other classifications were combined into one category. Homeownership was coded dichotomously with those owning a home, with or without a mortgage, coded 1, otherwise 0. Household income was assessed by categorizing respondents into one of the following six income categories: (a) less than $20,000, (b) $20,001 to $40,000, (c) $40,001 to $60,000, (d) $60,001 to $80,000, (e) $80,001 to $100,000, and (f) $100,001 or more. Formal attained education was measured categorically as follows: (a) some high school or less, (b) high school graduate, (c) some college/trade/vocational training, (d) Associate's degree, (e) Bachelor's degree, and (f) graduate or professional degree. Those with some high school education or less and high school graduates were combined in the final analysis.

Analysis

Several statistical tests were used to provide insights into the type of person likely to require assistance in budgeting resources for gambling activities. Mean, standard deviation, and median data for the variables were evaluated, followed by a correlation test. Spearman rank and point-biserial correlations were estimated to determine the extent to which gambling affinity was associated with the TIPI personality dimensions and the control variables. Next, a regression analysis was undertaken to determine the associations between personality dimensions and gambling affinity, controlling for characteristics associated with the likelihood of gambling.[1] A cluster analysis followed to develop groupings of respondents by personality dimensions. These personality clusters were then used in regression models

[1] Although the dependent variable was measured on an ordinal scale, an OLS regression method was used to examine the association between gambling affinity and personality. The choice to use an OLS regression followed several tests of the data. First, the distribution of the outcome variable was examined. Gambling affinity was found to be normally distributed. Second, the residuals were examined. No significant correlations were noted. Third, tests for multicollinearity and homoscedasticity were conducted. No modelling violations were observed. Finally, an ordered logistic regression was estimated and compared to a matching OLS regression. The results were essentially the same; however, the ordinal model failed tests of parallel lines. As such, the OLS results are reported in this study. As a robustness check, the outcome variable was log transformed. The results mirrored the reported OLS findings.

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to ascertain how personality clusters describe gambling affinity. When viewed holistically, results from the tests provide unique insights into the degree to which personality clusters can be used to better understand someone's willingness to gamble a significant dollar amount of household resources.

RESULTS

Table 1 provides a descriptive overview of the sample and the variables used in this study. The sample is primarily comprised of high-income households headed by White, middle-aged and married individuals. Respondents were generally unlikely to bet a day's income at a casino. However, although not shown in Table 1, slightly more than 15% of respondents indicated a high likelihood of doing so. Respondents reported having at least a moderate level of financial knowledge. Scores on the financial risk-tolerance scale indicated that respondents were neither risk-avoiding nor risk-seeking. In general, respondents were relatively financially satisfied.

Table 1.

Variable Descriptive Statistics

Variable	Percentage	*M* (*SD*)	Median
Gambling Affinity		3.48 (3.14)	1.00
Subjective Financial Knowledge			3.00
Not Knowledgeable at All	7.7		
Slightly Knowledgeable	15.0		
Moderately Knowledgeable	37.0		
Very Knowledgeable	25.0		
Extremely Knowledgeable	15.3		
Financial Satisfaction		6.20 (2.76)	7.00
Risk Tolerance		24.85 (5.53)	25.00
Extraversion		3.88 (1.33)	4.0
Agreeableness		4.70 (1.17)	4.5
Conscientiousness		5.30 (1.22)	5.5
Emotional Stability		4.45 (1.22)	4.0
Openness to experiences		4.51 (1.09)	4.5

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Table 1 Continued

Variable Descriptive Statistics

Variable	Percentage	*M* (*SD*)	Median
Sex			
Male (coded 1)	48.8		
Female (coded 0)	51.2		
Age (years)		45.08 (16.53)	
Marital Status			
Never Married	27.3		
Not Married/Living w/Sig. Other	10.7		
Married	49.3		
Separated	1.7		
Divorced	8.2		
Widowed	2.8		
Employment Status			
Part-Time	17.7		
Full-Time	41.5		
Retired	18.2		
Not Employed	17.1		
Other	5.5		
Racial/Ethnic Background			
Caucasian/White	62.0		
African-American/Black	13.5		
Hispanic/Latino/Latinx	10.7		
Native American	2.6		
Asian or Pacific Islander	6.3		
Other	4.9		
Housing Situation			
Own without a Mortgage	29.5		
Own with a Mortgage	31.0		
Rent	29.9		
Live with Relative	9.0		
Other	0.6		
Household Income			4.00
Less than $20,000	14.7		
$20,001 to $40,000	16.5		
$40,001 to $60,000	18.0		
$60,001 to $80,000	13.3		
$80,001 to $100,000	13.7		
$100,000 or more	23.7		
Household Size		2.57 (1.34)	2.00
Education			4.00
Some High School or Less	4.0		
High School Graduate	18.6		
Some College/Trade/Vocation Training	22.8		
Associate's Degree	10.1		
Bachelor's Degree	27.7		
Graduate or Professional Degree	16.8		

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Significant differences in mean personality scores were noted. Using *t-tests*, it was determined that differences existed across the variables with one exception: the mean difference between emotional stability and openness to experiences was not significant. Overall, respondents exhibited relatively higher conscientiousness scores and lower extraversion and emotional stability scores.

Spearman rank and point-biserial correlations were estimated for each of the variable relationships across the variables of interest. Risk tolerance and extraversion were positively associated with gambling affinity. Agreeableness and conscientiousness were negatively associated with the likelihood of gambling, whereas no statistical relationship between gambling affinity and emotional stability and openness to experiences was noted. Gambling affinity was also associated with subjective financial knowledge (+), financial satisfaction (+), sex (+), age (-), being employed on a full-time basis (+), being retired (-), and being White (-) or Asian (+).

Table 2 reports findings from the first regression model estimated to describe a respondent's gambling affinity. The model included all of the independent and control variables. Financial satisfaction, subjective financial knowledge, risk tolerance, income between $80,001 and $100,000 compared to $100,001 and over, and being Asian (compared to White) were positively associated with gambling affinity. Being employed in a non-full or part-time job and having some college education or a graduate degree, compared to only a high school (or less) degree, were negatively associated with the likelihood of gambling. Only one of the personality traits was associated with gambling affinity: Conscientiousness was negatively related to the likelihood of gambling a day's wages at a casino. The finding showing a general lack of association between personality measures and gambling affinity was similar to what has been reported in the literature (e.g., Nicholson et al., 2005; Pinjisakikool, 2017).

The finding that only one of the personality trait dimensions was associated with gambling affinity was not surprising. It is possible that a suppressor effect was present in the data. Specifically, given that personality traits are correlated, and considering everyone exhibits degrees of each trait, it is reasonable to assume that each trait dimension represents a larger underlying factor or set of factors. When conceptualized this way, most trait factors can appear statistically insignificant, when in reality, the significance is suppressed by the correlation of error terms across the trait factors (Horst et al., 1941).[2] A cluster analysis was conducted to address this possibility. [3] Respondents were clustered based on their

[2] The literature suggests that there is typically an overlap among these trait variables, even in cases where the effect size of the associations among the variables may not be large. Given that it was possible for a respondent to score highly (lowly) across the five personality dimensions, or for a respondent to exhibit a high score on one or some dimensions and a low score on other dimensions, respondents were clustered based on their personality trait scores.

[3] The clustering of personality factors is common in psychology and psychiatry. However, traditional clustering techniques are most often used to identify and describe personality disorders (e.g., paranoid, antisocial, narcissistic, dependent, etc.). The clustering technique used in this study was designed to group participants by commonalities across personality dimensions rather than to identify disorders or other problematic characteristics.

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personality trait scores. As shown in Table 3 and Figure 1, respondents were clustered into one of the following four groups: (a) moderate trait scores, in which no trait dimension was dominant; (b) elevated trait scores, where a respondent scored highly across trait dimensions; (c) agreeably conscientious, in which a respondent scored highly on the agreeableness and conscientious trait domains; and (d) highly extraverted, where a respondent's dominant trait dimension was extraversion. The scores associated with each cluster represent the mean trait score for those in a particular cluster. Higher scores indicate the presence of a dominant trait.

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Table 2.

Personality Dimensions as Descriptors of Gambling Affinity

Variable	*B*	*SE*	*β*	*p*
Constant	1.081	1.235		0.382
Age	-0.019	0.011	-0.101	0.085
Sex (Male = 1, Female = 0)	0.408	0.274	0.066	0.136
Never Married	-0.050	0.333	-0.021	0.653
Live w/Significant Other	-0.446	0.442	-0.044	0.314
Sep/Div/Wid	0.652	0.402	0.071	0.105
Employed Part-Time	0.207	0.341	0.026	0.544
Other Employment	-0.874	0.353	-0.116	0.014
Retired	-0.807	0.416	-0.101	0.053
Black	0.320	0.389	0.034	0.412
Hispanic	0.393	0.410	0.039	0.339
Asian	1.056	0.512	0.080	0.040
Other Race	-0.449	0.456	-0.041	0.326
Some College	-0.780	0.348	-0.109	0.025
Associate's Degree	-0.672	0.456	-0.065	0.141
Bachelor's Degree	-0.522	0.367	-0.075	0.156
Graduate Degree	-0.948	0.427	-0.115	0.027
Own Home	-0.254	0.293	-0.041	0.386
Income less than $20,000	0.744	0.481	0.084	0.123
Income $20,001 to $40,000	0.299	0.438	0.035	0.495
Income $40,001 to $60,000	0.238	0.409	0.030	0.562
Income $60,001 to $80,000	0.322	0.410	0.036	0.432
Income $80,001 to $100,000	0.853	0.406	0.096	0.036
Financial Satisfaction	0.176	0.053	0.158	0.001
Subjective Financial Knowledge	0.713	0.130	0.255	0.000
Risk Tolerance	0.123	0.026	0.220	0.000
Extraversion	0.062	0.049	0.053	0.205
Agreeableness	-0.030	0.064	-0.023	0.638
Conscientiousness	-0.213	0.061	-0.170	0.000
Emotional Stability	-0.080	0.062	-0.064	0.194
Openness to Experiences	-0.025	0.057	-0.018	0.662
F		9.97***		
R^2 *(Adj* R^2*)*		.41 (.37)		

Notes: ***$p < .001$. Reference categories female; married; full-time employment; White race; high school or lower level of education, household income over $100,001.

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Table 3.

Mean Score of Personality Trait Clusters

Cluster	Extraversion	Agreeableness	Conscientious	Emotional	Openness
Moderate Trait Scores (N = 187)	3.46 [b]	4.20 [b]	4.40 [a]	3.79 [a]	4.31 [b]
Elevated Trait Scores (N = 126)	4.77 [c]	5.49 [c]	6.29 [b]	5.53 [c]	5.46 [c]
Agreeably Conscientious (N = 114)	2.55 [a]	5.51 [c]	6.25 [b]	4.96 [b]	3.87 [a]
Highly extraverted (N = 90)	5.16 [d]	3.58 [a]	4.56 [a]	3.64 [a]	4.39 [b]
F	192.38***	137.36***	211.69***	121.37***	65.59***

Notes: ***$p < .001$. (Letters indicate Duncan Post-Hoc test results. The same letter in a column indicates that there was no difference in mean scores for those clusters. Different letters indicate statistically significant differences in mean scores; a<b< c< d.)

Figure 1 illustrates how the trait clusters mapped together. The four clustered personality groups were distinctly different across the five personality dimensions. The moderate-trait-scores cluster exhibited middle to lower scores across all five dimensions. In contrast, the elevated-trait-scores group exhibited higher scores across the five dimensions (except for extraversion). The group with greater agreeableness and conscientiousness showed relatively higher scores on agreeableness and conscientiousness, whereas the highly-extraverted group's distinct characteristic was a particularly high score on extraversion.

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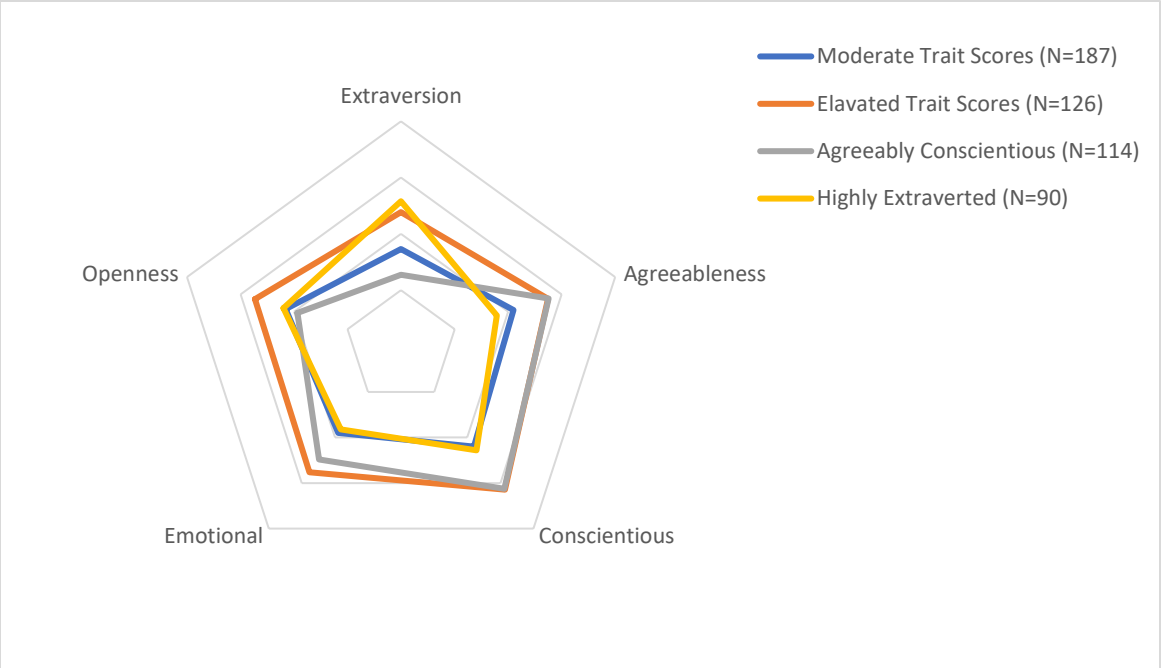
Figure 1.

Map of Trait Clusters



Each cluster demonstrated different characteristics on the sample demographic factors (statistical significance was assessed using chi-square and ANOVA tests). Data in Table 4 provide insights into the demographic profile of respondents in each cluster. Those in the moderate trait scores and highly-extraverted clusters were relatively younger than those in the elevated-trait-scores and agreeably-conscientious clusters. The moderate-trait-scores cluster included a larger portion of never-married respondents, while the agreeably-conscientious cluster included a larger percentage of married and separated/divorced/widowed respondents. The moderate-trait scores cluster included relatively more part-time employed respondents compared to the other clusters, while the agreeably-conscientious cluster included a larger portion of retirees. In terms of racial and ethnic background, the moderate-trait-scores cluster included a relatively larger proportion of Asians; the highly-extraverted cluster included more respondents who self-identified as Hispanic or Latinx. The moderate-trait-scores cluster included relatively more respondents with a high school education. The highly-extraverted cluster included more highly-educated respondents. On average, those in the moderate-trait-scores cluster had the lowest household income, whereas those in the agreeably-conscientious cluster reported the highest household income.

To summarize, as a group, the moderate-trait-scores cluster included young, relatively less educated, low-income, and minority singles. The elevated-trait-scores cluster included middle-aged, married, full-time employed, and White respondents. The agreeably-conscientious cluster included older, married, highly educated, and high-income earning White workers and retirees. The highly-extraverted cluster included younger, highly educated, and full-time employed non-Whites.

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Table 4.

Demographic Profile of Those in Each Cluster

Variable	Moderate Trait Scores		Elevated Trait Scores		Agreeably Conscientious		Highly Extraverted		χ^2/F
	n	%	*n*	%	*n*	%	*n*	%	
Sex									
Male	83	45.40	61	50.00	51	45.50	52	57.80	4.319
Female	100	54.60	61	50.00	61	54.50	38	42.20	
Marital Status									
Never Married	67	35.80	24	19.00	18	15.80	30	33.30	32.90***
Live w Sig Other	28	15.00	12	9.50	8	7.00	8	8.90	
Married	77	41.20	70	55.60	67	58.80	41	45.60	
Sep/Div/Wid	15	8.00	20	15.90	21	18.40	11	12.20	
Employment									
Part-time	45	24.10	11	8.80	18	15.90	16	18.00	48.82**
Full-time	78	41.70	59	47.20	35	31.00	47	52.80	
Retired	18	9.60	29	23.20	38	33.60	6	6.70	
Other	46	24.60	26	20.80	22	19.50	20	22.50	
Race									
White	100	53.50	87	69.60	83	72.80	50	56.80	21.25*
Black	29	15.50	12	9.60	14	12.30	13	14.80	
Hispanic	22	11.80	12	9.60	7	6.10	13	14.80	
Asian	16	8.60	8	6.40	5	4.40	3	3.40	
Other	20	10.70	6	4.80	5	4.40	9	10.20	
Education									
HS or less	56	30.40	19	15.40	25	21.90	12	13.60	25.05*
Some College	39	21.20	34	27.60	26	22.80	19	21.60	
Associate's	13	7.10	20	16.30	10	8.80	9	10.20	
Bachelor's	52	28.30	28	22.80	29	25.40	30	34.10	

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Graduate	24	13.00	22	17.90	24	21.10	18	20.50	
Age (years)									
0 to 29	71	38.00	13	10.30	13	11.40	28	31.10	94.09***
30 to 39	42	22.50	23	18.30	12	10.50	28	31.10	
40 to 49	34	18.20	20	15.90	24	21.10	14	15.60	
50 to 59	20	10.70	33	26.20	21	18.40	11	12.20	
Over 60	20	10.70	37	29.40	44	38.60	9	10.00	
Age (*M*)	39.31		50.75		52.83		39.18		30.01***
Income									
Income less than $20,000	40	21.7	12	9.7	11	9.6	12	13. 6	24.42
Income $20,001 to $40,000	37	20.1	21	16.9	16	14.0	10	11.4	
Income $40,001 to $60,000	31	16.8	24	19.4	19	16.7	18	20.5	
Income $60,001 to $80,000	23	12.5	13	10.5	17	14.9	15	17.0	
Income $80,001 to $100,000	19	10.3	18	14.5	20	17.5	13	14.8	
$100,001 and above	34	18.0	36	29.0	31	27.2	20.	22.7	

Notes: *$p < .05$. **$p < .01$. ***$p < .001$.

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Table 5 shows how the clusters differed on mean gambling affinity, subjective financial knowledge, financial satisfaction, and financial-risk-tolerance scores. Respondents in the moderate-trait scores and highly-extraverted clusters were more likely to exhibit an affinity for gambling. Although quite similar in terms of subjective financial knowledge, those in the elevated-trait-scores and highly-extraverted cluster categories reported knowing more about financial topics. The lowest level of financial satisfaction was associated with the moderate-trait scores category. Not surprisingly, the highest level of financial risk tolerance was exhibited by those classified as highly extraverted. Those in the agreeably-conscientious cluster presented the lowest financial risk-tolerance scores.

Table 5.

Financial Attitude and Behavior Scores across Clusters

Cluster	Gambling Affinity	Knowledge	Satisfaction	Risk Tolerance
Moderate Trait Scores (N = 187)	4.09 ^{b}	3.01 ^{a}	5.78 ^{a}	25.24 ^{bc}
Elevated Trait Scores (N = 126)	2.77 ^{a}	3.54 ^{b}	6.29 ^{ab}	24.89 ^{b}
Agreeably Conscientious (N = 114)	2.21 ^{a}	3.09 ^{a}	6.39 ^{ab}	23.15 ^{a}
Highly Extraverted (N = 90)	4.90 ^{c}	3.51 ^{b}	6.78 ^{b}	26.41 ^{c}
F	18.398***	8.228***	3.008*	6.107***

Notes: *p < .05. **p < .01. ***p < .001. (Letters indicate Duncan Post-Hoc test results. The same letter in a column indicates that there was no difference in mean scores for those clusters. Different letters indicate statistically significant differences in mean scores. a<b<c<d).

Table 6 replicates the first regression model with the cluster categories replacing the individual personality dimension variables (the elevated-trait scores cluster was used as the reference group). The results were similar to the first regression model. The subjective financial knowledge, financial satisfaction, Asian, household income between $80,001 to $100,000 compared to $100,001 and over, and financial-risk-tolerance variables were positively associated with gambling affinity. Being retired, reporting other employment, and holding some college education or a graduate degree were negatively associated with gambling affinity. Among the personality trait groups, gambling affinity was higher for the moderate-trait-scores and highly-extraverted clusters compared to the elevated-trait scores cluster. There was no difference between the agreeably-conscientious and elevated-trait scores clusters. These results confirmed observed results from the descriptive statistics analysis presented in Table 5, which showed that those in the highly-extraverted cluster had the highest affinity to gamble, followed by those in the moderate-trait-scores cluster.

Table 7 presents four models and provides information about the factors describing gambling affinity by personality cluster. The first model was delimited to include only those in the moderate-trait-scores cluster. In this model, financial satisfaction, subjective financial

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knowledge, and risk tolerance were positively associated with the likelihood of gambling. The second model was delimited based on the elevated-trait-scores classification. The model was not significant at the $p < .05$ level. Even so, for comparison purposes, subjective financial knowledge and financial risk tolerance were observed to be associated with gambling affinity. The third model was delimited to include only those classified as *agreeably conscientious*. The likelihood of gambling was positively associated with financial risk tolerance. Among those in this cluster, gambling affinity was negatively related to holding some college or a graduate degree compared to those with a high school or less education. The final model was delimited to include only those classified as *highly extraverted*. Those with a gambling affinity in this cluster reported higher financial satisfaction, more financial risk tolerance, and household income between $40,001 and $100,000 compared to those who reported household income above $100,001. They also were more likely to be male, separated, divorced, or widowed (compared to married), and Asian (compared to White).

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Table 6.

Personality Clusters as Descriptors of Gambling Affinity

Variable	B	SE	Beta	p
Constant	-2.450	1.024		0.017
Age	-0.020	0.011	-0.107	0.070
Sex (Male = 1, Female = 0)	0.365	0.273	0.059	0.182
Never Married	-0.251	0.336	-0.036	0.456
Live w/Significant Other	-0.540	0.444	-0.053	0.224
Sep/Div/Wid	0.640	0.400	0.069	0.111
Employed Part-Time	0.206	0.344	0.025	0.550
Other Employment	-0.877	0.354	-0.117	0.014
Retired	-0.840	0.417	-0.105	0.044
Black	0.300	0.391	0.032	0.444
Hispanic	0.508	0.407	0.050	0.213
Asian	1.043	0.519	0.079	0.045
Other Race	-0.488	0.461	-0.043	0.290
Some College	-0.742	0.351	-0.104	0.035
Associate's Degree	-0.670	0.460	-0.065	0.146
Bachelor's Degree	-0.433	0.367	-0.062	0.238
Graduate Degree	-0.973	0.431	-0.118	0.025
Own Home	-0.247	0.295	-0.039	0.403
Income less than $20,000	0.803	0.483	0.091	0.097
Income $20,001 to $40,000	0.331	0.438	0.039	0.450
Income $40,001 to $60,000	0.179	0.412	0.022	0.664
Income $60,001 to $80,000	0.357	0.412	0.040	0.388
Income $80,001 to $100,000	0.831	0.409	0.093	0.043
Financial Satisfaction	0.167	0.054	0.147	0.002
Subjective Financial Knowledge	0.653	0.130	0.234	0.000
Risk Tolerance	0.136	0.025	0.244	0.000
Moderate Trait Scores	0.932	0.333	0.144	0.005
Agreeably Conscientious	-0.190	0.349	-0.026	0.586
Highly Extraverted	1.285	0.383	0.159	0.001
F	10.17 ***			
R^2 *(Adj* R^2*)*	.40(.36)			

Notes: ***$p < .001$. Reference categories: female; married; full-time employment; White race; high school or lower level of education; Elevated Trait Scores cluster; household income over $100,001.

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Table 7.

OLS Models Describing Gambling Affinity based on Cluster Categories

Variable	Moderate Trait Scores			Elevated Trait Scores			Agreeably Conscientious			Highly Extraverted		
	b	*SE*	*β*	*b*	*SE*	*β*	*b*	*SE*	*β*	*b*	*SE*	*β*
Constant	-3.074	1.560		-2.896	2.608		.658	1.811		-2.117	2.576	
Age	-.019	.018	-.090	.013	.026	.065	.007	.025	.049	-.060	.030	-.262
Sex (Male = 1, Female = 0)	-.336	.455	-.054	.642	.652	.114	.087	.544	.020	**1.871***	.751	.265
Never Married	-.492	.553	-.076	-1.333	.823	-.186	.542	.696	.091	.074	.882	.010
Live w/Significant Other	-1.018	.736	-.112	-.563	1.070	-.061	.257	1.009	.028	-.842	1.187	-.068
Sep/Div/Wid	.486	.810	.043	-.050	.925	-.006	-.178	.626	-.031	**2.204***	1.091	.210
Employed Part-Time	.032	.557	.004	.196	.996	.020	.562	.711	.092	-.108	.776	-.012
Other Employment	-.722	.620	-.101	-1.347	.829	-.187	.664	.680	.121	-1.630	.930	-.188
Retired	-1.195	.960	-.110	-1.326	.815	-.202	.215	.744	.047	-.500	1.497	-.038
Black	.603	.655	.066	.073	1.116	.007	-.573	.789	-.082	.445	.884	.047
Hispanic	-.129	.680	-.013	.460	.960	.048	.387	1.030	.039	-.222	.863	-.024
Asian	.444	.717	.041	1.376	1.169	.116	.896	1.180	.080	**4.958***	2.424	.158
Other Race	-.576	.679	-.061	.594	1.359	.047	-.249	1.198	-.022	-.247	1.047	-.021
Some College	-.187	.586	-.025	-.400	.841	-.064	**-1.635***	.797	-.324	.228	.922	.028
Associate's Degree	.090	.888	.007	-.440	.950	-.058	-1.896	.975	-.248	-2.064	1.216	-.168
Bachelor's Degree	-.098	.625	-.014	-.839	.892	-.121	-.492	.790	-.100	-.316	.979	-.042
Graduate Degree	-.021	.855	-.002	-.104	.991	-.014	**-2.134***	.892	-.404	-.924	1.048	-.106
Own Home	.028	.485	.005	-1.191	.743	-.206	.039	.722	.008	-1.072	.802	-.152
Income less than $20,000	1.565	.866	.206	.537	1.319	.056	-1.546	.923	-.202	2.210	1.056	.219
Income $20,001 to $40,000	.498	.798	.064	1.357	1.116	.178	-1.194	.841	-.177	1.556	1.198	.134
Income $40,001 to $60,000	.200	.795	.024	.282	.961	.040	-1.851	.810	-.310	**2.697****	.939	.310
Income $60,001 to $80,000	.497	.740	.056	-.453	1.081	-.047	-1.410	.775	-.224	**2.803****	.910	.306
Income $80,001 to $100,000	.626	.788	.061	.657	.906	.083	-.304	.666	-.056	**4.104*****	1.078	.391
Financial Satisfaction	**.299****	.100	.246	-.010	.117	-.010	-.121	.114	-.143	**.527****	.145	.434
Subj. Financial Knowledge	**.852*****	.199	.340	**.792***	.384	.257	.065	.293	.028	.031	.346	.010
Risk Tolerance	**.136*****	.040	.260	**.138***	.058	.260	**.133***	.052	.279	**.138***	.062	.219
F	5.13***			1.59			1.66*			5.24***		
R^2 *(Adj* R^2)	.49 (.30)			.30 (.11)			.36 (.14)			.71 (.57)		

Notes: *$p < .05$. **$p < .01$. ***$p < .001$. Reference categories: female; married; full-time employment; White race; high school or lower level of education, household income over $100,001.

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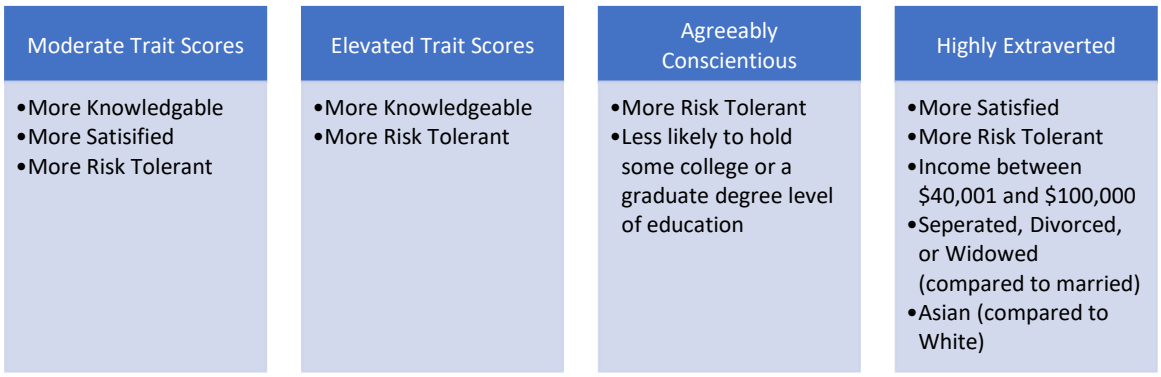
DISCUSSION

As gambling becomes mainstream and a culturally accepted form of leisure in the U.S., the ability to identify individuals and households that allocate a meaningful percent of household resources to wagering pursuits is becoming more important. While personality does appear to be an important factor that describes someone with a gambling affinity, the relationship is nuanced. Findings from this study suggest that the effect of personality can best be understood by combining elements from the five core dimensions of personality. This study's results provide insights into who is likely to have a gambling affinity. Figure 2 summarizes the findings from the personality trait clustered models.

Figure 2.

Gambling Affinity Profile by Personality Trait Cluster



Gambling affinity by personality cluster can be viewed this way: (a) those with moderate personality trait scores and more subjective financial knowledge, greater financial satisfaction, and high financial risk tolerance are more likely to gamble a significant amount of money at a casino; (b) someone with an elevated personality trait score who also exhibits high subjective financial knowledge and financial risk tolerance is also more likely to have a gambling affinity; (c) those who are *agreeably conscientious* with high financial risk tolerance and less formal education are likewise more prone to gamble; and (d) among those who cluster into the highly-extraverted category, the primary cues of gambling affinity include an elevated level of financial risk tolerance, being financially satisfied, having a moderate household income, being separated, divorced, or widowed, and being Asian.

An important finding from this study is that personality trait dimensions, when classified according to the Big Five model, were not individually strong descriptors of someone's willingness to gamble. The only significant personality trait associated with gambling affinity was conscientiousness, and in this case, the relationship was negative. It was determined that a suppression effect might have been present in the data. A cluster analysis was undertaken to account for this possibility. Four personality trait clusters were developed from the data. Respondents were clustered and labeled as either (a) moderate-trait scores, (b) elevated-trait scores, (c) agreeably conscientious, or (d) highly extraverted.

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These personality trait clusters were then used to describe gambling affinity. Among the four clustered groups, those in the highly-extraverted cluster showed the highest level of gambling affinity, followed by those classified into the moderate-trait-scores cluster. The agreeably-conscientious and elevated-trait-scores clusters exhibited lower levels of gambling affinity. The highly-extraverted cluster included younger, highly educated, full-time employed non-Whites, whereas the moderate-trait-scores cluster included young, relatively less educated, low income, non-White singles. The regression model used to estimate the effect of personality clusters in describing gambling affinity (Table 6) showed that respondents classified into the moderate-trait-scores and highly-extraverted clusters were more likely to report those in the elevated-trait-scores cluster a willingness to gamble.

To further evaluate the factors related to gambling affinity, separate regression analyses were conducted by delimiting the sample to each cluster. Among those in the moderate-trait-scores cluster, gambling affinity was associated with higher subjective financial knowledge, financial satisfaction, and financial risk tolerance. Someone in the elevated-trait-scores cluster was more likely to exhibit a gambling affinity when the person reported more subjective financial knowledge and high financial risk tolerance. However, it is important to note that the overall model was not statistically significant. Those clustered into the agreeably-conscientious group were more likely to gamble if they had high financial risk tolerance. They were less likely to gamble if they had some college or a graduate education. Those in the highly-extraverted cluster who reported high financial satisfaction, high financial risk tolerance, and moderate household income were more likely to be willing to gamble. Additionally, highly-extraverted Asian males and those separated, divorced, or widowed were more likely to gamble.

The results from this study add to the literature in several ways. First, study results show that personality traits are important descriptors of gambling affinity; however, rather than a direct relationship with individual trait factors, the willingness to gamble appears to be based on unique combinations of personality. Second, results indicate that traditional personality hypotheses regarding who is or is not willing to gamble may not always be what is observed in practice. Third, in addition to a personality profile, important descriptors of gambling affinity include factors such as subjective financial knowledge, financial satisfaction, and financial risk tolerance. Traditional measures of household demographics did not appear to be particularly strong descriptors of gambling affinity in this study.

While it is sometimes assumed that those who gamble are not particularly financially savvy or financially satisfied, the results from this study indicate otherwise. Findings showed that respondents with high subjective financial knowledge and financial satisfaction were more likely to exhibit a gambling affinity, controlling for other demographic and personality characteristics. Several possible explanations come to mind concerning this finding. It is conceivable, for example, that financially-satisfied individuals are more likely to consider gambling a leisure activity that can be paid for from current household financial resources. It is also possible that what people believe is high ‘financial knowledge’ is, in fact, over-confidence. Additional research is needed to test both possibilities.

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This study was not designed to address when a financial therapist, financial counselor, or financial planner should assess their clients' gambling affinity. However, the results from the study suggest that adding a simple gambling affinity question, like the one used in this study, to the client data-gathering process may provide useful insights into the type of client that may need a budgeting intervention. Similar to traditional therapeutic and medical procedures that focus on preventative care, financial therapists (and other financial service providers) should see the growth and general acceptance of gambling as a potential presenting problem among some clients. The personality cluster profiles presented in this paper can be used to proactively identify clients that may, either at present or in the future, need help to manage their gambling behavior.

Limitations and Future Research

Even though the results from this study are noteworthy, future studies are needed to confirm the notion that personality clusters, rather than individual personality domains, are an appropriate tool for identifying those with a gambling affinity. Additional studies using different sample frames are needed to replicate study results. A generalizable U.S. study would be particularly useful in this regard. Information from such a study could provide insights into the relationship between gender and personality clusters and provide evidence for the degree to which gender and gambling affinity is a personality or biological trait. Additionally, alternate measures of gambling affinity and personality should be included in future studies. Nonetheless, financial professionals can use the findings from this study to identify who is more or less likely to engage in gambling activities and need assistance in developing a gambling budget for inclusion in a household's spending plan.

CONCLUSION

The purpose of this paper was to offer those who provide financial advice to consumers insights into who is likely to gamble a significant dollar amount at a casino, and as a result, require additional advice and counseling about incorporating a gambling budget into their household spending plan. The results indicate that it may be possible to determine the personality, attitudinal, and demographic profile of those who exhibit an affinity for gambling.

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