Factor Loading and Item Analysis of Attitude toward Gambling Scale

Osamika Bamidele Emmanuel & Mayungbo Oluwasegun (PhD)
Department of Sociology and Psychology
Lead City University, Ibadan
Nigeria.
bamifedd@gmail.com

Abstract

The purpose of this study was to assess the factor structure and perform item analysis toward gambling scale for both adolescents and adults. The methods involve the process of conceptual framework, initial item generation through search and In-depth Interview. The participants were 936 adolescents and adults in Akure Metropolis, also included was the verification of content, concurrent, construct and face validity for internal constituency, item analysis and factor analysis of the selection and extraction of final items,

The results for the final scale included 20 items which were selected and categorized into three factors that accounted for 73.77% of the total variance. The factors were labelled as Gambling Positive Attitude-Passionate Experience Interface, Gambling Obsession and Gambling Intrinsic Satisfaction.

The scores for the subscales were significantly correlated with the subscales of Gambling Passion Scale, neuroticism and meaning in Life. Negatively correlated with self-control. Cronbach's alpha coefficient for the 20 items was .91. Scale scores identified participants as being having positive attitude toward gambling, being obsessed and intrinsically satisfy with gambling attitude.

The conclusion was that the findings indicate that the attitude toward gambling scale has good validity and reliability and can be used among adolescents and adults in Nigeria

Key words: *Gambling, attitude, scale, adolescents and Adults.*

Introduction

Over the last three decades researchers have given attention to the issue of gambling in a bid to understand what gambling is. The construct has been defined variously by researchers and scholars overtime, in a rather broad definition it refers to as harmless social activity, some participants become pathological gamblers, resulting to negative consequences associated with pathological gambling (Kassinove, 1998), also, as a means to induce dissociation to reduce or escape states of chronic depression (Jacobs 1986; Blaszczynski & McConaghy 1989), which involves risking something of value in the hopes of obtaining something of greater value and compulsive like behaviour (American Psychiatric Association, APA, 2013, Korn and Shaffer, 1999), likewise as a gateway addiction or perhaps an enhancer of existing addiction behavior (Hyder & Juul, 2008; Griffiths, 2002), similarly, as an excessive behaviour (Park, Hyun-Sook · Jung, &Sun-Young, 2012).

However, gambling occurs in a myriad of forms both legal and illegal it may be a private games of cards played for money or an organized gambling machine such as lottery raffle draw, betting on a race, football pools, casino and snookers (Oyebisi, Alao & Popoola 2012). Generally, gambling is classified into three types: Social, Commercial profession, and Problem/pathological

(Teitelbaun, Drew, Edward &Gold 2001). Abbott, Palmisano & Dickerson (1995) classify gamblers as either 'excessive' or 'normal', based on amount of time, expenditure and number of trips to gambling venues. In contrast, winters, Stinchfield & Fulkerson (1993) employed a complicated classification scheme based on symptom count and frequency of gambling. Others use symptoms count alone and at different categories some are social gambler/pathological gambler (Fisher 1993); social/problem/pathological (Gupta & Derevensky 1998b); non-pathological/in-transition/ pathological (Shaffer, Labrie, Scanlan, & Cummings, 1994); recreational/low problem/high problem (Vitaro, Arseneault & Tremblay, 1997) Hence, APA (2013) defines gambling disorder as a "Persistent and recurrent problematic gambling behaviour leading to clinically significant impairment or distress". However, attitude toward gambling are good predictors of problem gambling especially during adolescence and how likely they are to experience gambling-related problems (Delfabbro, Lambos, King, &Puglies, 2009). however, Vong, (2009) admitted that gambling can have a positive consequences for community such as providing job opportunity for the operators, a source of revenue for sporting clubs or humanitarian services; there are still public health risks even the statistically normative by adolescence (Linda, Pagani, Jeffrey, Derevensky, Christa & Japel, (2009). As such, effective balance of these side views of gambling are likely influences the individual's attitude towards gambling (Gainsbury, Wood,Rusell ,Hing & Blaszczynski, 2002).

Moreover, the higher availability of legalised gambling opportunities in most western countries has generally stimulated higher rates of gambling participation and problem gambling activity in these countries (Productivity Commission, 1999). Organised crime estimated to launder over US$140 billion annually through sport betting, 80% of global sport betting is illegal Football and cricket proved to be most targeted sports by criminals (International Centre for Sport Security, 2014), in fact, greater numbers of adolescents and young adults are engaging in at-risk, problematic, and pathological gambling (Daniel Rune, Mentzoni, Delfabbro, Helga, Myrseth &Stale, 2014) with a large number of adolescents involved in gambling activities (Scholes-Balog, Hemphill, Dowling & Toumbourou, 2014), and ranges between 60 and 99% of young people aged 12–20years gambled yearly (Splevins, Mireskandari, Clayton, & Blaszczynski, 2010).

Furthermore, despite boys gambled more than girls, female adolescent gamblers are increasing (Bastiani, Curzio, Gori, Colasante, Siciliano & Panini, 2010), a high proportion of young people gamble excessively, developing a wide array of psychological, social, and economic problems (Ariyabuddhiphongs, 2013) and the problem gambling among adolescents is four or five times higher than among adults (Olason & Gretarsson, 2009).

Also, the prevalence of problem gambling ranges from 0.5% to 7.6% of the adult population (Steliana 2015). Proimos, DuRant, Pierce& Goodman, (1998) established that gambling has become so normative that it characterizes typical Western youth. The estimates are between 60% and 80% of the adult and adolescent population of the United States that has engaged in some form of gambling (Chamberlain, 2004).

More so, Kallick-Kaufmann (1979) data from a national survey in the United States suggested that most adults gamble at least to the extent of small, occasional wagers, and that childhood/youth exposure to gambling increased its likelihood among adults. In another study by Lynch, Maciejewki, Potenza, (2004) further submitted that in most cases, youthful recreational gambling predates pathological gambling in adulthood and as such, the most disconcerting is that young people seem more vulnerable than adults to gambling-related morbidity (Potenza, 2003) and suicidality (Nower, Gupta, Blaszczynski,& Derevensky. 2004)

Since the social norms have progressed from early 20th-century prohibition to outright encouragement, especially given today's user friendly, available, and seductive advertisement

campaigns (Potenza, Kosten, &Rounsaville, 2001), compulsive attitude to gamble has become progressive, with an increasing amount of gambler's time, money and energy (Rizeanu, 2014). Among Australians, Buchanan, (1994) suggest that folklore and data on amount spent on legal gambling subscribed to that of a normative occasional gambling behaviour.

Also, Oyebisi, Alao & Popoola (2012) submitted that there exist prevalence of gambling behaviour among south western Nigerian undergraduate which may be due to various gambling activities abound through media services such as television, newspaper with lottery occurring the most.

From the focus group discussion done by the author reveals that gambling opportunities such like Nigeria Premier Lotto also known as *Baba Ijebu*, pool betting, sport betting and casino centres popularly called *kalokalo* are readily available, often in venues which provide opportunities for pleasant socialising, eating, and drinking, in which its illegal in Nigeria under Chapter 22 of the Criminal Code that stated exceptions are only given to skill based card games, backgammon and national lottery (which was to be regulated by Nigeria's National Lottery Regulatory Commission in 2004). Upon that, Nigeria Law still leaves room for the state to run betting pools and racing totes as little penalties where attached to the consequences of law breakers and offenders.

Likewise, Ogbene cited in Vanguard Newspaper on 27th of June 2015 that "from every parts of Lagos and in some others parts of Nigeria, the number of gamblers has increased in recent times as more Nigerians have turned to gambling, especially *Baba Ijebu* and sports betting, as such these calls for attention". Additionally, Epe Director General of Nigeria's Lottery Commission stated on their 11am Radio Nigeria program on Saturday 11th of July 2015, that "Lottery is a game either by you or other (company) that added to the society" this brought about furious responses from the radio callers that "lottery is a gambling game with no structural background for its regulation in Nigeria". As such from these findings, it thus appears that within the Nigerian context, social acceptance of gambling appears high.

Furthermore, a number of theoretical approaches have been adopted over the years to explain attitude towards gambling, prominent among them is the Theory of Reasoned Action (TRA) postulated by Cummings and Corney (1987) with the argument that this model may have good explanatory power for gambling phenomena, as well as providing a methodological framework for measurement of social factors likely to affect gambling behaviour. The TRA postulates relationships between engaging in behaviour and attitudes toward it, knowledge/ beliefs about its likely outcomes, and intentions with the respect to carrying out the behaviour. In the TRA model, intention to perform behaviour is the immediate antecedent of that behaviour. Intention is predicted by two factors, the individual's attitude to the behaviour and his or her 'subjective norms'. Attitudes are determined by beliefs (or knowledge - both correct and incorrect, explicit and implied) about the behaviour, and the perceived costs and benefits of engaging in it (outcome evaluations), while subjective norms are a function of beliefs that significant others (for example, family and/or friends) think that the behaviour in question is appropriate, together with the individual's motivation to comply with these perceived norms. With respect to gambling, the model would predict that intention to gamble would be a function of an individual's attitudes to gambling, and his or her subjective norms with respect to it. In turn, intention would predict actual gambling frequency.

Correspondingly, cognitive and psychobiological approaches by Clark (2010) postulated that, the cognitive approach of gambling is based on the erroneous beliefs (such as 'luck helps me win') and inaccurate perceptions (e.g. 'gambling makes things better for me'), those involved in the gambling holds the notions of chance and randomness which are rewarded, learned and become habitual (Ladoucer, Sylvain, Boutin, Lachance, Doucet, Leblond, & Jacques, 2001; Raylu & Oei, 2004a). Evidence for this approach has come predominantly from 'think aloud' techniques where

gamblers have verbalised their perceptions and beliefs during gambling activities (Gadboury & Ladouceur, 1989). The psychobiological approach focused on the brain and function of mental process. Also, Neurochemical studies have shown that there are links between neurotransmitters (e.g. dopamine) and psychophysiological arousal in problem gamblers when they are exposed to gambling cues and that these effects are mediated within the brain 'reward system' in neuropsychological and neuroimaging studies (Clark, 2010).

Also, Sharpe (2002) adopts a diathesis-stress perspective to explain gambling, as whereby particular life circumstances are instrumental in stimulating loss of control. The model is of the opinion that a genetic vulnerability to pathological gambling can be conferred through biological changes in neurotransmitters or through psychological traits such as impulsivity, and that this genetic vulnerability is likely to be compounded by early experiences that result in a psychological vulnerability in the form of positive gambling attitudes, impulsivity, and poor coping skills and that membership in gambling subcultures and a pattern of early wins combine to produce a perceptual filter through which wins and losses are interpreted in maladaptive ways, and that these factors contribute to the development of cognitive biases, and to the association between gambling and arousal. Although, there seems to be a consensus in what gambling behaviour is (Cummings & Corney, 1987; Gadboury & Ladouceur, 1989; Ladoucer et al., 2001; Sharpe, 2002; Raylu & Oei, 2004a; Clark, 2010; APA, 2013).

Furthermore, Thurstone (1931) defines attitude as positive or negative intensity grading towards a psychological object and Allport (1935) also defines attitude as "affective and mental readiness developed through experiences towards all related objects and cases which prompts individuals' behaviours or that has a dynamic power of influence on them. Hence, attitude is a psychological construct regarded as an important and critical predictor of human behavior with its cognitive, affective and behavioral dimensions (Anderson, 1988). However, it should be kept in mind that attitude is not the only factor that affects behavior. Behaviours are the results of the interaction among attitudes, environment, habits and expectations (Kağıtçıbaşı, 1999). Attitudes are obtained through experiences and they are not temporary; they are continued for a certain time. Even though attitude takes a long time, attitudes can be changed. Attitudes are formed as a result of organizing one's experiences and knowledge and when these experiences and information change, attitudes may also follow suit (Tavşancıl, 2002).

However, public perception on the operational definitions of attitude towards gambling are often equivocal (Daniel, , Rune, Mentzoni, Delfabbro, Helga, Myrseth &Stale, 2014), where some researchers submitted that attitudes towards gambling tends to be mixed (Moore &Ohtsuka, 1997; Wood&Griffiths, 1998), others opined that people's perspective toward gambling influences their attitude toward gambling behaviour (Chiu&Storm, 2010, Fishbein, 2000).

As such, Attitude towards gambling refers to learned prediction to respond consistently in a positive or negative way toward gambling (Eagly & Shelly, 1998), there is considerable evidence and findings that attitudes reflect more than evaluations of a particular object that vary from positive to negative (Fazio and Michael, 2003). As such comprising the attitudes, belief and thought, feelings and emotions, and the behavioural patterns that people generally associate with their tendency to gamble, these attitude are unique and to a large extent are important. Although, researches had shown that people's personality factors come in play (Taormina, 2009), including social influence (Larimer &Neighbors, 2003); and this has led to the development of a number of measures which in many cases are culture specific.

The whole issues bother on measurement, reliability, differences and domains of gambling behaviour. It is important to know people's attitude toward gambling because this characteristically

represent their willingness to act and the components that are imperative to individuals as well as groups of people.

While some studies have focused on specific domains of gambling like passion (Vallerand, Blanchard, Mageau, Koestner, Ratelle, Leonard, Gagne, & Marsolais, 2003), urge on a single factor (Raylu & Oei, 2004b), degree of gambling in adolescents (Park, Hyun, Jung, &Young, 2012) and general positive attitude of gambling (Orford, Griffiths, Wardle, Sproston,& Erens, 2009), others measure the gambling craving scale (GACS) that focused on anticipation, desire and relief (Young & Wohl, 2009), self-reported urges and craving specifically to gambling disorders, although with limited external validity (Ashrafioun &Rosenberg, 2011) and South Oaks Gambling Screen -Revised for Adolescents (SOGS-RA) that focused on pathological gambling symptoms based on the criteria of DSM III (Winters, Stinchfield & Fulkerson, 1993).

Hence, considering the validity and reliability of any given measure care must be taken of cultural differences and relativity, in order words, a measure that is considered valid in a particular culture may not be relevant in other culture and as such a culturally relevant in measure would be needed. In addition, population of interest may also influence the dynamics of a particular measure. Similarly, there must be evidence for equivalence among male/female (Derevensky & Gupta, 2004) and younger/older respondents with screens based on the new DSM-5.

Additionally, the components of attitude toward gambling should rely on both explicit measures which tends to count on the self-reports or easily observed behaviours (Olson and Zanna, 1993) and implicit measures are not consciously directed and are assumed to be automatic and help to account for situations and look at attitudes that a person may not be aware of or want to show (Whitley, 2010). Furthermore, scales on attitude toward gambling has not being developed in Nigerian culture but only the prevalence of gambling behaviour as seen in Oyebisi et al (2012).These considerations are the main justifications for the present study.

This study is therefore attempt to assess the factor structure and perform item analysis of attitude toward gambling scale among Adolescence and adult who according to Mary, Wilber, & Marc, (2006) adolescence appears to be particularly important developmental period for considering gambling behaviours given the prevalence of risk-taking behaviours in population and this is important to understand the degree to which youth gamble.

METHODS

Participants and Data Collection

Access to the participants was through football view centres, golden lotto shops and game centres situated around Akure Metropolis, Ondo State; Nigeria. the justification behind the settings of the study was due to the fact that this study made use cross sectional research design and as such prospective participant can only be found in these centres in large proportion and also, the subject matter was associated with these participants'. The data collection was conducted between June and August, 2015 and the samples size needed to be considered at least 2 to 10 times the number of questions (Lee& Kim, 2002), therefore, 936 participants participated in this study. The age range of participants was 13 to 40 years with a mean of 2.15 ± 0.77, with regard to gender, 792 (84.6%) were males while 144 (15.4%) were females. Two hundred and sixteen were married (23.1%) and seven hundred and twenty were single (76%). 576 (61.5%) were student and 360 (38.5%) were working at the time of the study. 648 (69.2%) were Christian, 216 (23.1%) were Islam and 72 (7.7%) belongs to Traditional religion affiliation. 409 (43.7%) belongs to Yoruba ethnic group, 238 (25.4%) belongs to Igbo, and 218 (23.3%) belongs to other ethnic group. 14 (1.5%) have basic primary education, 288 (30.8%) graduated from high school, 360 (38.5%) have diploma, and 274 (29.3%) have higher diploma and degree. Two hundred and sixteen (23.1%) earns income daily,

432 (46.2%) earns income weekly and 288 (30.8%) earns income monthly. The level of income of 72 (7.7%) is less than ₦1,000, 432 (46.2%) was between ₦ 1,000 - ₦5,000, 288 (30.8%) is between ₦5,000 - ₦10,000 and 144 (15.4%) was between ₦10,000-₦20,000. The best gambling game of 430 (45.9%) was sport betting, 208 (22.2%) was lottery, 141(15.1%) was golden lotto (*Baba Ijebu*), 130 (13.9%) was PS 2, 17 (1.8%) was Cards and 10 (1.1%) was casino. The majority of the participants are from monogamous family background (61%).

Generation of Items

An extensive literature review was conducted both in the online databases (MEDLINE, PubMed, et al.) and library consultation to identify a conceptual construct, identify an operational definition, and develop an initial instrument. In-depth interviews of adolescent, young and old adult highlighted various attitude towards gambling, this stage of item generation led to an item pool of 20 statements. Since this was necessary so as to modify and perfect the wordings of items for the scale (Sunmola, 2001). Such items like "for the purpose of purchasing a desired thing", "always want to get money back", "continual lying spend a lot of money on gambling without bills payment", "to show how intelligence they are", "usually thinking about gambling, neglect of other important things, family, friends and agitation and gambling seen as a legitimate way of making money" and so on were generated. In addition, the operational characteristics of an attitude toward gambling scale included happy, excitement, curiosity, energetic and passion; these statements were re-worded in such a way that they could be responded to using the Likert-response format, that is, "strongly agree" to "strongly disagree"(Dickson, 1989; Griffiths, 2002; Oyebisi, et al, 2012).

MEASUREMENTS

Attitude toward Gambling Scale (ATGS)

Attitude toward Gambling Scale (ATGS) is a questionnaire measuring self-reported attitude towards gambling at the time of completing the questionnaire. The author defines ATG as learned prediction to respond consistently in terms of cognitive, affective and behavioural tendency toward gambling. The scale consist of 20-items rated on a Likert (1-5) scale with 4-items (1,7,8,20) reversed and one (1) item open ended question indicating best type of gambling game . The total scores ranging from 20 to 100. A final score is generated as the total of the response to each of the item and higher scores indicates positive, higher tendency to gamble. Reliability is supported internal consistency of Cronbach's α=.91.

Self-control Scale

Self-control was measured using a Gottfredson and Hirschi's (1990) self-control scale, which was reconstructed by Nam and Ok (2001). This comprises 20 items of which the subjects record the degree of self-control experienced during the past week on a 4-point scale ranging from strongly disagree to strongly agree. Higher scores indicate greater levels of self-control. Reliability is supported by moderate internal consistency at the time of development as reported by the developer was Cronbach's α=.75. But in the present study, internal consistency was obtained, Cronbach's α=.80.

Gambling Passion Scale

The Gambling Passion Scale (GPS) was developed by Rousseau, Vallerand, Ratelle, Mageau, and Provencher (2002) and revalidated by Castelda, Mattson, Mackillop, Anderson and Donovick (2007). The instrument is a 10-item self-report measure of gambling passion. The GPS consists of two subscales (Obsessive Passion OP and Harmonious Passion HP) each consisting of five Likert-

type items that are endorsed. The scale ranging from one to seven 'Not agrees at all' (1) to 'Very strongly agree'. GPS directions instructed participants to think about their favourite gambling game and to indicate their degree of agreement for each item. In this study the internal consistency of the OP and HP subscales, as indexed by Cronbach's were .90 and .87 respectively and the overall Cronbach alpha of the scale was 0.94.

Neuroticism Subscale of Big Five Personality Factor

The Big Five Personality Factors was developed by Goldberg, (1993) and later restructured by John & Srivastava, (1999). The instrument contains 44-item self-report measure of personality factors with five subscales (Openness, **C**onscientiousness, Extraversion, Agreeableness and Neuroticism). The scale had been reported highly reliable and valid (Zuckerman M.,and Kuklman, 2000, McGhee, Ehrler, Buckhalt &Phillips, 2012). The Neuroticism subscale contains 8- item in Likert-type format. The scale response ranges from one to five strongly disagree (1) to strongly agree (5). In this study the internal consistency of the scale was .68.

Meaning in Life Scale

The Meaning in Life Questionnaire was developed by Steger, (2010). The scale was designed to measure both presence (feelings of how lives are of meaning) and search (how engaged and motivated in efforts to find meaning) of meaning in life. The scale consists of 10 items, with two subscales and five items each, the item carry 7-point likert type response format. The response ranged from absolutely untrue to absolutely true and were coded as 1 2 3 4 5 6 and 7 respectively. It had .78 and .64 Cronbach alpha for search and Presence subscale respectively and overall reliability of .83(Osamika, 2016), while in this study the overall reliability was .92. The scoring manual of the two domains, Presence subscale score is item 1, 4, 5, 6 and 9-reverse-coded with (MIL-P α=.94) and the Scores range between 5 and 35. Search subscale score was item 2, 3, 7, 8, and 10 were added together (direct scoring) and the scores ranged between 5 and 35 with (MIL-S, α=.74).

Procedure

Each of the participants gave written informed consent to participate in the survey following a detailed explanation of what the study was all about with the opportunity to seek clarification where necessary and information that they reserved the right to withdraw at any point it hey felt inclined to discontinue. Thereafter, the prepared questionnaire comprised of the five measures was administered on them. The reliability of both ATGS and self-control scale, meaning in life, neuroticism subscale of big five personality and gambling passion scale, measures were estimated with the Cronbach alpha. Also, adjusted item-scale correlation after removing each item was estimated for the ATGS (see table 1). Additionally, to assess the factor analysis with Principal Component Analysis (PCA) using varimax with Kaiser normalization rotation method was employed, meanwhile, to established external validity for the purpose of generalizability the ATGS was correlated with Self Control Scale (SCS) measures, Gambling Passion Scale (GPS), Meaning in Life Scale (MIL) and Neuroticism Subscale of Big five Personality Factors. Also, item analysis was done to estimate the reliability of the factors that were extracted (see table 3)

STISTICAL ANALYSIS

Table 1

Adjusted Item-Scale Correlation and Cronbach's Alpha After Reversed Items, (1,7,8,20) and Removing Each Item in ATGS

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
B1	65.3077	153.454	.421	.912
B2	63.9231	151.310	.292	.915
B3	64.3077	148.526	.405	.913
B4	63.6154	150.705	.328	.914
B5	63.6154	147.317	.736	.907
B6	64.4615	135.778	.668	.906
B7	63.7692	145.718	.478	.911
B8	63.6154	147.317	.736	.907
B9	63.9231	147.459	.442	.912
B10	63.9231	142.839	.627	.907
B11	63.5385	145.635	.755	.906
B12	63.9231	147.305	.598	.908
B13	63.7692	145.872	.678	.907
B14	63.6154	144.699	.689	.906
B15	64.5385	139.782	.692	.905
B16	64.5385	138.396	.630	.907
B17	63.7692	145.410	.628	.907
B18	64.1538	133.966	.736	.904
B19	63.5385	149.023	.668	.908
B20	64.4615	145.327	.463	.912

Result in the table indicates the Cronbach's alpha for the whole scale (.913) is greater than the correlated item-total correlation after removing each item. Meanwhile, the correlated item-total correlation ranged from .29 to .75 for all the items.

Table 2 Factor Structure, Eigenvalues, Percentage of Explained Variance for Each Factor and Estimates of Factors Loading for the ATG Scale

Factors	**1**	**2**	**3**
Eigenvalues and percentage of explained Variances before rotation			
Eigenvalues	8.5	3.66	2.51
% of Variance	42.91	18.29	12.55
Cumulative % of Variance	2.51	12.55	73.77
Eigen Values and percentage of explained variances after rotation			
Eigenvalues	7.16	5.06	2.52
% of Variance	35.81	25.34	12.61
Cumulative % of Variance	35.81	61.15	73.77

Table 3 Factor loading for final Items.

	Component		
	1	2	3
Gambling Positive Attitude-Passionate Experiences Interface			
B8. I feel stressed when I play gambling game*	**.898**	.172	.037
B5. To show how intelligent I am	**.898**	.172	.037
B14.I make more financial gains	**.891**	.082	.000
B11. New discoveries about gambling games interested me the more	**.841**	.289	.212
B13. I feel capable of playing gambling games	**.799**	.191	-.185
B17.I make others know how vast I can manipulate things	**.783**	.215	.075
B12. I ease tension in the process of playing the game	**.741**	.115	-.151
B7. I can always decide to play gambling games *	**.718**	-.024	.190
B19. I am always interested in seeing the end of the game	**.713**	.260	.365
B20. Gambling game is not different from other activities I do*	**.651**	-.014	-.466
Gambling Obsession			
B10. I always gamble to get my money back	.110	**.921**	.163
B18. I pay absolute attention to gambling at the expense of other things	.256	**.912**	-.024
B16. I usually think of gambling	.144	**.890**	-.194
B6. I have little time to do other things or activities except for gambling	.224	**.886**	-.125
B15. I spend a lot of money on gambling without paying my bills	.215	**.853**	-.157
B9. For the great excitement I derived in the game	.054	**.795**	.274
Gambling Intrinsic Satisfaction			
B4.I am always happy when I succeed in gambling game	.375	.094	**.836**
B2. I let my friends know about gambling	.324	.065	**.692**
B1. I am always sad after learning gambling game*	.393	.329	**-.581**
B3. For the purpose of purchasing a desired thing	.453	.128	**-.575**

Extraction Method: Principal Component Analysis. "The asterisk (*) items were reversed"
Rotation Method: Varimax with Kaiser Normalization.

Internal Consistency	
Gambling Positive Attitude-Passionate Experience Interface	**α = .93**
Gambling Obsession	**α = .94**
Gambling Intrinsic Satisfaction	**α = .85**

Table 4 Correlation between the Subscales of ATGS and other scales

	GPSOP	GPSHP	N	SC	P_MIL	S_MIL	GPA_PEI_Domain	GO_Domain	GIS_Domain
Gambling Passion Scale (Obsessive Passion)	1								
Gambling Passion Scale(Harmonious Passion HP)	.893**	1							
Neuroticism(N)	.136**	.026	1						
Self-Control (SC)	-0.56	-.760	-0.256	1					
Presence _MIL(P_MIL)	.654**	.565**	.502**	.037**	1				
Search _MIL(S_MIL)	.771**	.677**	.384**	-0.088**	.829**	1			
GPA_PEI_ Domain	.484**	.328**	.137**	-0.677**	.600	.529**	1		
GO_ Domain	.716**	.711**	.003	-.328**	.521	.819*	.332**	1	

GIS_Domain	.629**	.551**	-.075*	-0.023*	.438**	.350*	.631**	.347**	1

Concurrent validity

The measures relating to the subscales of ATGS were assessed for any association with the subscales of gambling passion scale, meaning in life, neuroticism and self-control. It was shown that higher levels of GPA_PEI (0.484, p<.01), GO (0.716, p<.01), and GIS (0 .629, p<.01) ATGS Subscale scores were significantly associated with Gambling Passion Scale (Obsessive Passion subscale). Similar magnitude and direction was the relationship between GPA_PEI (0.328, p<.01), GO (0.711, p<.01), and GIS (0 .551, p<.01) Gambling Passion Scale (Harmonious Passion subscale). Although Neuroticism significantly relates with GPA_PEI of ATGS subscale (.137, p<.01) but there was no significant correlation between GO (0.003, p>.01) and neuroticism, and neuroticism negatively associated with GIS (-0 .075, p<.05).

Meanwhile, Self-control shown negative association with GPA_PEI (-0.677, p<.01), GO (-0.328, p<.01), and GIS (-0 .023, p<.01) of ATGS Subscales.

Consequently, GPA_PEI (0.600, p>.01) and GO (0.521, p>.01), insignificantly correlate with Presence subscale of Meaning in Life while GIS (0 .438, p<.01) positively and significantly relate with presence subscale of MIL. Additionally, Search subscale of MIL significantly associate with GPA_PEI (0529, p<.01), GO (0.819, p<.01), and insignificantly related with GIS (0 .350, p>.01.

Construct validity

Construct validity was supported in the factor analysis. The Kaiser- Meyer-Olkin measure of sampling adequacy was .92. Bartlett's test of sphericity was statistically significant (p<.01), showing that there were some relationships among the variables. The factors were subjected to varimax rotation to maximize the dispersion of the loadings within factors so that loading a smaller number of variables more highly into each factor results in a more interpretable cluster of factors (Field, 2000). Factor analysis showed that a three-factor was the most appropriate approach. All 20 items had factor loading greater than 0.5. The basic assumptions were satisfied with the value of factor loading (Lee & Kim, 2002). And these three-factors explained 73.77% of the variance. Factor 1 (Gambling Positive Attitude-Passionate Experience Interface) accounted for 35.81% of the variance (eigen value=7.16), factor 2 (Gambling Obsession) accounted for 61.15% of the accumulative variance (eigen value=5.06) and factor 3 (Gambling Intrinsic Satisfaction) accounted for 73.77% of the accumulative variance (eigen value=2.52). Factor 1 had ten items, factor 2 had six items, factor 3 had four items. Factor loadings are shown in Table 3. Factor analysis for final items.

Convergent validity

The correlation between Attitude toward Gambling Scale and the subscales of Gambling Passion Scale, Neuroticism, Self-Control and Meaning in Life subscales are shown in Table 4. Results showed evidence of convergent validity with Attitude toward Gambling Scale of adolescent and adult scores correlating significantly with related variables. Significant positive correlations were established with the subscales of Gambling Passion Scale, Neuroticism and Search subscale of

Meaning in Life. Significant negative correlations were established between GIS subscale and Neuroticism. Also Negative correlation between the Three ATGS Subscale and Self-control. All correlations were significant at .01 level (two-tailed).

Content validity

Content validity was undertaken to ascertain whether the content of the questionnaire was appropriate and relevant to the study purpose. To estimate the content validity of the ATGS, the researchers clearly defined the conceptual framework of attitude toward gambling by undertaking a thorough literature review and seeking expert opinion. Once the conceptual framework was established, ten purposely chosen experts in the areas of clinical psychology, nursing and social work, counselling and psychiatry were asked to review the draft 20-item ATGS to ensure it was consistent with the conceptual framework. Each reviewer independently rated the relevance of each item on the ATGS to the conceptual framework using a 5-point Likert scale (1=Strongly Disagree, 2=Disagree, 3=Undecided, 4=Agree and 5=Strongly Agree). The Content Validity Index (CVI) was used to estimate the validity of the items (Lynn 1996). Each item was tested for content validity index above 0.80 for all the questions. A pilot study was conducted to establish whether adolescents could understand and respond appropriately to the questions and to test the logistics of administering the questionnaire.

Face validity

Face validity indicates the questionnaire appears to be appropriate to the study purpose and content area. To determine the face validity of the ATGS, an evaluation form was developed to help respondents assess each question in terms of:

1) The clarity of the wording,
2) The likelihood the target audience would be able to answer the questions,
3) The layout and style.

Fifty of both adolescence and young adults were randomly selected from the Lotto Shops, Football Viewing Centres, Game Centres across the town and completed the face validity form on a Likert scale of 1-5, strongly disagree= 1, disagree= 2, undecided=3, agree= 4, and strongly agree= 5. All respondents rated each parameter at four or five on a Likert scale of 1-5. Ninety five percent indicated they understood the questions and found them easy to answer, and 90% indicated the appearance and layout would be acceptable to the intended target audience.

Internal reliability

Cronbach's alpha (α) coefficient for ATGS completed by participants was 0.91 indicating a high level of internal consistency based on the recommendation that measurements on individuals should achieve a minimum reliability of 0.90 and a desirable standard of 0.95 (Terwee. Bot, der Boer, van der Windt, Knol, Dekker, & de Vet, 2007). Item-Scale correlations for the 20 ATGS questions were 0.91, 0.91, 0.91, 0.91, 0.90,0.90,0.91,0.90,0.90, 0.90,0.90, 0.90,0.90, 0.90,0.90, 0.90,0.90, 0.90,0.90 and 0.91, respectively, indicating that each item was measuring a specific construct related to the total score of remaining items.

SUMMARY AND CONCLUSION

Gambling Attitude is the components of gambling among adolescent and Adults investigated in the study. It was measured using the Attitude Toward Gambling scale; and has a total of 20 items. ATGS measured participants' Attitude towards gambling measures related activities in three dimensions, namely gambling intrinsic satisfaction, gambling obsession and gambling positive

attitude-passionate experiences interface with 4, 6, 10 items designed for each section respectively and a total of 20 items overall. Finally, considering the social characteristics of the target population of the study, careful consideration was given to the designing of the questionnaire in order to generate useful and relevant information. The questions were closed-ended questions, which offered respondents multiple choice options that described their opinions to a statement or item. And the questions were numbered and ordered in a way that is logical and comprehensible to the respondents, while some items are directly scored others (asterisk items) are reversely scored. See appendix for details of the questionnaires.

CONCLUSION

In developing and validating the research scales extensive guidelines and steps regarding scale development were strictly adhered to in all the development process. The study was however limited by studied location. Although the author has since used the scales in another location. It is hoped that several research directions could be pursued using the developed scales. Future studies should employ the scales in examining other research questions, hoping that they yield useful insights. The author also welcomes constructive comments from the academic audience.

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APPENDIX

Attitude Toward Gambling Scale (ATGS)

Please tick the option to the best of your knowledge as its applicable to you

Specify your best gambling game (sport betting, lottery, (baba ije bu), PS 2, Cards, others specify_____).

		SA	A	N	D	SD
1	I am always happy after learning the game.					
2	I let my friends know about gambling.					
3	For the purpose of purchasing a desired thing.					
4	I am always happy when I succeed in the game.					
5	To show how intelligent I am.					
6	I have little time to play other things or to do activities except for gambling .					
7	Because I can always decide to play or not to play the game.					
8	I feel stress free when I play the game.					
9	For the great excitement I derived in the game.					
10	I always gamble to get my money back.					
11	New discoveries about gambling games makes me more interested in it.					
12	I ease tension in the process of playing the game.					
13	Because I feel capable of playing the game.					
14	To make more financial gain.					
15	I spend a lot of money on gambling without paying my bills.					
16	I usually think of gambling.					
17	To make others know how vast I can manipulate things.					
18	I pay absolute attention to gambling at the expense of other things.					
19	I am always interested in seeing the end of the game.					
20	Gambling game is not different from the other activities I do.					