J Gambl Stud (2014) 30:335–347
DOI 10.1007/s10899-012-9354-5

ORIGINAL PAPER

Validating the Gambling Functional Assessment—Revised in a United Kingdom Sample

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Published online: 3 January 2013

Abstract The gambling functional assessment-revised (GFA-R) was designed to assess whether the respondent's gambling was maintained by positive reinforcement or escape. The present study attempted to validate the GFA-R's psychometric properties using United Kingdom (UK) university students and to compare the results to those from a sample of American university students. Two hundred seventy four UK students completed the GFA-R, and 153 also completed the South Oaks gambling screen (SOGS). Two hundred one United States (US) university students completed both measures. A confirmatory factor analysis indicated that the original model of the GFA-R provided an excellent fit for the UK data and internal consistency was high. These outcomes were similar, if not superior, to those from the US sample. SOGS scores strongly correlated with GFA-R escape subscale scores in both samples, replicating previous results. These findings indicate that the GFA-R is a valid measure for use in the UK, which is potentially useful to both practitioners and researchers. They also suggest that the strong relationship between endorsing gambling as an escape and measures of disordered gambling may be ubiquitous.

Keywords Gambling · Assessment · Escape · United Kingdom · University students

Introduction

Problem and pathological gambling afflict millions of individuals around the world (see Petry 2005, for a review). Petry (2005) suggested that 5 % or more of the population may qualify as problem gamblers, which is a subclinical form of pathological gambling, while

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1–2 % of the population may suffer from pathological gambling. It is important to note that such problems are not isolated to specific countries such as the United States (US). For instance, results from the 2010 British Gambling Prevalence Survey indicated that approximately 0.9 % of the United Kingdom (UK) population met problem gambling criteria, an increase of 0.3 % in the 3 years since the Gambling Act came into force in October 2007 (Wardle et al. 2012).

Because of the seriousness of the disorder, numerous efforts have been made to develop screening measures to help professionals identify individuals who might be suffering from pathological gambling. Perhaps the most commonly used of such measures is the South Oaks Gambling Screen (SOGS; Lesieur and Blume 1987). The SOGS is a 20-item self-report measure that asks respondents about their gambling history. Although the SOGS might be the most widely used measure of its type, it is certainly not without its critics (e.g., see Gambino 1997; Stinchfield 2002; Thompson et al. 2005). Perhaps as a result, the literature contains numerous examples of other measures designed to assess the presence of pathology and/or its severity (e.g., the Addiction Severity Index, McLellan et al. 1988; the Problem Gambling Severity Index, Ferris and Wynne 2001; Ferris et al. 1999).

Until recently, little attention had been paid in the gambling-assessment literature to the function of one's gambling. That is, although numerous attempts had been made to develop measures that could potentially identify whether or not the respondent's gambling behavior was problematic, those measures did not attempt to ascertain why the respondent was gambling. Such information would seem important for a number of reasons. For one, it is possible that individuals who gamble for some particular reason might be more at risk for displaying pathological gambling than individuals who gamble for other reasons. Next, if one is attempting to develop effective and efficient treatments for pathological gamblers, then it might be helpful to know why each individual client is gambling because it is possible that two different treatment-seeking individuals might be gambling for two different reasons. If so, then one particular treatment approach may not be equally effective for both individuals.

Dixon and Johnson (2007) forwarded the first functional assessment tool for gambling behavior. Their measure, the gambling functional assessment (GFA), was patterned off of a previous measure designed to identify the contingencies maintaining self-injurious behavior (Durand and Crimmins 1988). The GFA contains 20 self-report items that were originally designed to measure four different contingencies that might be maintaining the respondent's gambling behavior: sensory experiences, social attention, tangible outcomes, and escape. The rationale was that the contingency in which the respondent scored the highest was likely the primary contingency maintaining the respondent's gambling behavior.

Although the GFA was designed to measure gambling maintained by four separate contingencies, subsequent psychometric work on the measure indicated that the GFA was only measuring two (i.e., gambling for positive reinforcement and/or as an escape) and was not doing so cleanly (Miller et al. 2009). Thus, Weatherly et al. (2011) revised the GFA (GFA-R). The GFA-R is a 16-item self-report measure designed to delineate gambling maintained by positive reinforcement or escape. Eight items are associated with each contingency. Psychometric work has demonstrated that the construct validity, internal consistency, and temporal reliability of the GFA-R are all superior to those of the original GFA (Weatherly et al. 2011, 2012a, b).

The GFA-R is potentially useful because it identifies whether the respondent is gambling in order to get something or as a means of getting away from something. This information becomes even more useful when one realizes that endorsing gambling as an escape is strongly association with pathological gambling. For one, gambling as an escape is an official symptom of pathological gambling (American Psychiatric Association 2000). Next, research suggests that endorsing gambling as an escape is highly correlated with measures of potential pathological gambling (e.g., scores on the SOGS; Miller et al. 2010; Weatherly et al. 2012a, b). Other research indicates that respondents who endorse gambling as an escape display emotion-regulation deficits in regards to impulse control (Weatherly and Miller 2012), which is consistent with research demonstrating that pathological gamblers do not have access to effective emotion-regulation strategies (Williams et al. 2012). Emotional-regulation difficulties may in part help explain why pathological gambling is associated with gambling as an escape (e.g., Wood and Griffiths 2007). Finally, several controlled, laboratory-based studies have demonstrated that participants who endorse gambling as an escape display different gambling behavior than do participants who do not endorse gambling as an escape (Martner et al. 2012; Weatherly et al. 2010, 2012a).

Although the GFA-R was designed to measuring gambling as an escape, one cannot assume that measures designed and tested in one cultural setting will necessarily function as intended in a different cultural setting. That is, research has demonstrated that the GFA-R identifies gambling maintained by positive reinforcement and/or escape in a US sample (Weatherly et al. 2011), but such findings do not guarantee that the psychometric characteristics will be retained when the GFA-R is used in a sample from another culture. Likewise, although both empirical and theoretical research has demonstrated that endorsing gambling as an escape is strongly related to disordered gambling (Miller et al. 2010; Weatherly et al. 2012a, b) in participant samples in the US, one cannot assume that such a relationship will be universally found because people in different cultures may differ in the reasons for why they gamble.

With that said, if a particular measure retains sound psychometric characteristics when used in different cultures, then that measure has several things to recommend it. First, it would provide a single measure that was potentially useful to practitioners and researchers in multiple cultures. Second, such a measure could be used to identify differences at a cultural level as it relates to gambling. Third, if similar relationships are found between the contingencies maintaining gambling behavior and measures of disordered gambling across multiple cultures, then it could be argued that one of the important factors underlying gambling problems had been identified.

To that end, the present study recruited UK students attending two universities in Wales to complete the GFA-R. As a means of comparison, data were also collected from students attending a Midwestern university in the US. The major purpose of the study was to determine whether the psychometric structure identified by Weatherly et al. (2011) would describe the data from both the UK and US samples. In this respect, we were especially interested in two psychometric characteristics. The first was the factor loadings of the individual items in the GFA-R. We predicted that, as in Weatherly et al. (2011), the eight items intended to measure gambling for positive reinforcement would load strongly onto one factor and the eight items intended to measure gambling as an escape would load strongly onto a second factor. The second characteristic was the internal consistency. We predicted that the internal consistency measures would be good and comparable to those reported by Weatherly et al. (2011).

A secondary goal of the present study was to determine whether the strong relationship between endorsing gambling as an escape and measures of disordered gambling would be replicated in both the UK and US samples. To accomplish that goal, a subsample of the participants in the UK sample and all of the participants in the US sample also completed the SOGS (Lesieur and Blume 1987). The hypothesis was that scores on the GFA-R escape subscale would be strongly correlated with scores on the SOGS and would be correlated more strongly with SOGS scores than would be GFA-R positive reinforcement subscale scores.

The present study did not specifically target problem or pathological gamblers for several reasons. First, the main goal of the study was to replicate the psychometric findings of Weatherly et al. (2011, 2012a, b) and those studies employed a university sample. Second, age is one of the major risk factors for pathological gambling, with younger people being at higher risk for the disorder than older people (Petry 2005). Fisher (1999), for instance, reported that gambling is a problem among English and Welsh youth and recent data suggest that this remains the case (Forrest and McHale 2012). Third, research has also indicated that US university students tend to display heightened rates of gambling problems relative to the general population (e.g., Neighbors et al. 2002) and problem gambling has been shown to occur at a high rate in Scottish universities and colleges (Moodie 2008). Fourth, gambling has been a major public issue in the region where the present sample was tested. Jawad and Griffiths (2010), for instance, reported that citizens in the Swansea community held a negative overall opinion of casino gambling. Thus, one could reasonably expect that the present participants had been exposed to issues related to gambling even if they did not themselves gamble.

Method

Participants

The UK participants were 274 (220 female; 54 male) students attending either Swansea University or the University of Glamorgan. The mean age of these students was 22.1 years (*SD* = 5.7 years; range = 18–50 years). Some of the participants received extra course credit in their psychology course in return for their participation, while some volunteered their time for free.

The US participants were 201 (150 female; 51 male) students attending the University of North Dakota. The mean age of these students was 19.9 years (*SD* = 3.9 years; range = 17–50 years). Participants received (extra) course credit in their psychology course in return for their participation.

Materials and Procedure

The first item presented to each UK participant was an informed consent form that outlined the study and the participant's rights as a participant. Continuation in the study after being presented with this information constituted the participant's granting of informed consent.

The second item was a brief demographic survey that asked the participants about their sex and age. The third item completed by all UK participants was the GFA-R (Weatherly et al. 2011). The GFA-R consists of 16 questions that respondents answer on a scale ranging from 0 (Never) to 6 (Always). Responses for both 8-item subscales are summed (i.e., no items are reverse coded) to provide a score for that particular subscale. Internal consistency of the GFA-R has been shown to be high (Weatherly et al. 2012a, b) and the instrument has also been shown to have good temporal reliability ($r = 0.80$ at 4 weeks and $r = 0.81$ at 12 weeks; Weatherly et al. 2012a, b). The items of the GFA-R are shown in the Appendix.

A total of 153 of the UK participants also completed the SOGS (Lesieur and Blume 1987). The SOGS consists of 20 questions about the respondent's gambling history. Researchers have used scores of 3 or 4 on the SOGS as suggesting possible problem gambling (e.g., Weiss and Loubier 2010), while scores of 5 or more suggest the probable presence of pathology (Lesieur and Blume 1987). Lesieur and Blume (1987) reported that the SOGS has high internal consistency ($\alpha = 0.97$) and other researchers have subsequently reported that it has fair ($\alpha = 0.69$; Stinchfield 2002) to good ($\alpha = 0.81$; Stinchfield 2003) internal consistency. The SOGS has also been shown to have good temporal reliability ($r = 0.89$ at 4 weeks and $r = 0.67$ at 12 weeks; Weatherly et al. 2012a, b). Lastly, the SOGS has been shown to retain its psychometric characteristics when used outside of the culture in which it was originally developed (e.g., Kido and Shimazaki 2007).

The US participants experienced the exact same procedure, with two exceptions. First, all US participants completed the materials using an online data management system (Sona Systems, Ltd, Version 2.72; Tallinn, Estonia) that was accessible to them via their enrollment in a psychology class. This system ensured that each individual could complete the materials only one time regardless of the number of psychology courses in which they might be enrolled. Second, all of the US participants completed the SOGS.

Results

GFA-R Factor Structure

UK Sample

A total of 47 of the 274 UK participants (17.2 %) scored 0 on the GFA-R. Forty three (91.5 %) of these participants were female. Because the GFA-R was designed to measure the contingencies maintaining the respondent's gambling behavior, the data from these participants were excluded from the confirmatory factor analysis because either these individuals did not gamble or they did not gamble for reasons measured by the GFA-R. A similar exclusionary criterion was used in Weatherly et al. (2011).

The data from the remaining 227 participants were subjected to a confirmatory factor analysis using Mplus 6.0 structural equation modeling software (Muthén and Muthén 2010). In this analysis, MLMV estimation was used because the response distributions for several of the GFA-R items were skewed. MLMV estimation uses "maximum likelihood parameter estimates with standard errors and a mean- and variance-adjusted Chi square statistic that are robust to non-normality" (Muthén and Muthén 2010, p. 533).

Model fit was assessed using multiple indices. These included a Chi square test of model fit (recommended $\chi^2 \leq 0.01$: Hu and Bentler 1999; Yu 2002), the root mean square error of approximation (recommended RSMEA ≤ 0.05: Rigdon 1996; Hu and Bentler 1999; Yu 2002), the Comparative Fit Index (recommended CFI ≥ 0.95 for good fit and CFI ≥ 0.90 for adequate fit: Rigdon 1996; Hu and Bentler 1999; Yu 2002), and the standardized root mean square residual (recommended SRMR ≤ 0.07: Hu and Bentler 1999). For models based on small samples (approximately 75 to 200 cases), Chi square can be interpreted a reasonable measure of model fit. When using Chi square as a measure of model fit, the null hypothesis is that the model provides an adequate fit and thus a failure to reject the null indicates an adequate fit. The present analysis was based on a sample of 227 participants (after participants with scale scores of zero were excluded), so the Chi square test was interpreted with caution.

Table 1 Unstandardized loadings (standard errors) and standardized loadings for 2-factor confirmatory model conducted on the UK sample

Item	Unstandardized (S.E.)		Standardized	
	Factor 1	Factor 2	Factor 1	Factor 2
1	1.00 (–)		0.56 (0.05)	
4	1.10 (0.15)		0.62 (0.05)	
6	1.50 (0.16)		0.80 (0.03)	
7	1.59 (0.17)		0.84 (0.02)	
8	1.22 (0.13)		0.62 (0.05)	
13	1.34 (0.16)		0.66 (0.04)	
14	1.56 (0.17)		0.77 (0.04)	
16	1.05 (0.14)		0.51 (0.06)	
2		1.00 (–)		0.73 (0.05)
3		1.45 (0.11)		0.83 (0.04)
5		1.63 (0.20)		0.83 (0.03)
9		1.78 (0.25)		0.74 (0.04)
10		1.35 (0.19)		0.72 (0.04)
11		1.85 (0.25)		0.77 (0.04)
12		1.29 (0.22)		0.52 (0.05)
15		1.47 (0.22)		0.69 (0.06)

Dashes (–) indicate that the standard error was not estimated

Items 1, 4, 6, 7, 8, 13, 14, and 16 of the GFA-R were specified to load onto Factor 1 (positive reinforcement subscale) and items 2, 3, 5, 9, 10, 11, 12, and 15 to load onto Factor 2 (escape subscale). Modification indices that would result in a Chi square change equal to or greater than four were requested of the Mplus software and some pairs of residuals were allowed to correlate based on these modification indices and the interpretability of the suggested modifications. The factor loadings are presented in Table 1; all items in the final model loaded significantly onto their respective factors ($p < 0.001$), and the two factors were moderately correlated, $r = 0.50$ ($SE = 0.05$), $p < 0.001$. An examination of the fit indices indicated good model fit: χ^2 (120) $= 161.62$, $p < 0.01$; CFI $= 0.92$; RMSEA $= 0.05$; and SMSR $= 0.06$. The resulting model is illustrated in Fig. 1.

US Sample

A total of 38 of the 201 US participants (18.9 %) scored 0 on the GFA-R. Thirty seven (97.4 %) of these participants were female. As with the UK sample, the data from these participants were excluded from the confirmatory factor analysis because either these individuals did not gamble or they did not gamble for reasons measured by the GFA-R.

The data from the remaining 163 US participants were subjected to a confirmatory factor analysis identical to that used for the UK sample. The same pairs of residuals were allowed to correlate as those in the previous model, so that both models were identical. The factor loadings are presented in Table 2; all items in the final model loaded significantly onto their respective factors ($p < 0.001$), and the two factors were moderately correlated, $r = 0.30$ ($SE = 0.06$), $p < 0.001$. The fit indices were as follows: χ^2 (100) $= 134.78$, $p = 0.01$; CFI $= 0.92$; RMSEA $= 0.05$; and SMSR $= 0.07$. Although the Chi square test

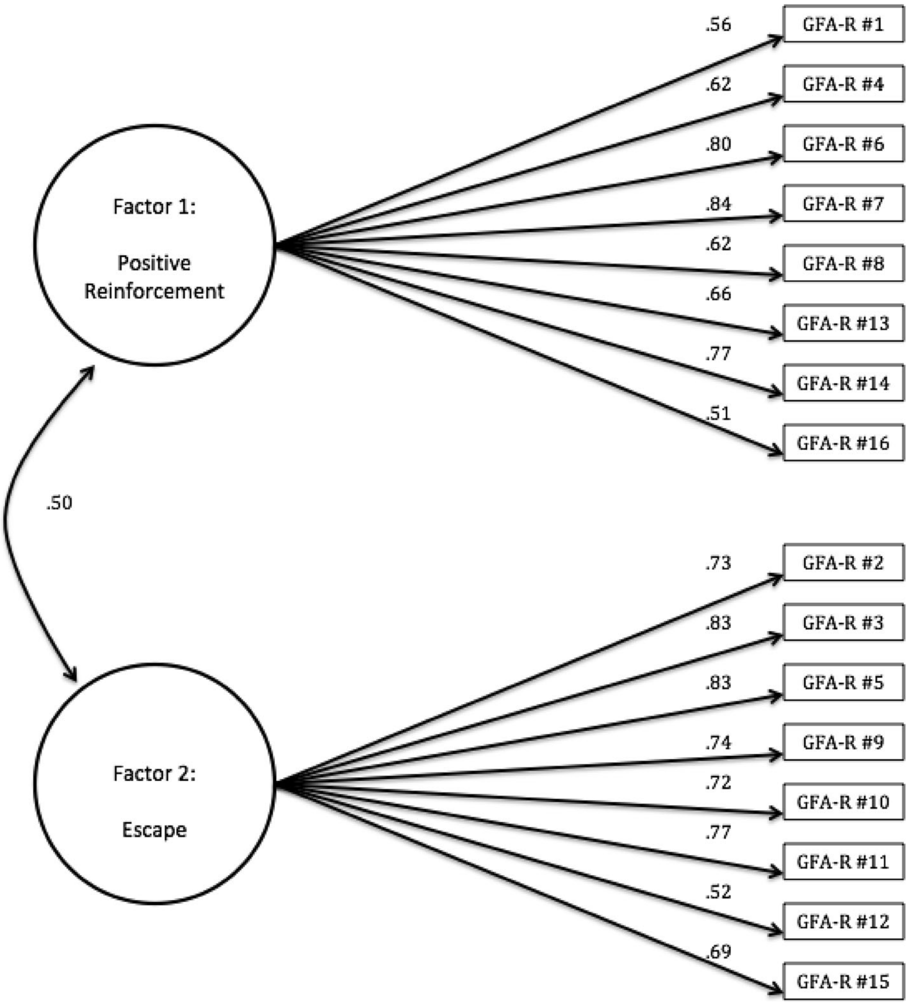

Fig. 1 Factor loadings for the 16 items on the GFA-R tested in the confirmatory factor analysis conducted on the UK sample

of model fit was significant, the other fit indices indicated an acceptable model fit. The resulting model is illustrated in Fig. 2.

Internal Consistency

UK Sample

When the data from all 274 UK participants were analyzed, the internal consistency (i.e., Cronbach's alpha) for the GFA-R across all 16 items was 0.92. Cronbach's alpha for the GFA-R positive reinforcement subscale was also 0.92. For the escape subscale, alpha was 0.90. When the data from the 47 participants in the present sample who scored 0 on the GFA-R were excluded, internal consistency remained very high. Cronbach's alphas for the

Table 2 Unstandardized loadings (standard errors) and standardized loadings for 2-factor confirmatory model conducted on the US Sample

Item	Unstandardized (S.E.)		Standardized	
	Factor 1	Factor 2	Factor 1	Factor 2
1	1.00 (–)		0.48 (0.06)	
4	1.93 (0.28)		0.78 (0.04)	
6	2.11 (0.31)		0.78 (0.04)	
7	1.52 (0.26)		0.66 (0.05)	
8	1.22 (0.21)		0.45 (0.06)	
13	2.09 (0.30)		0.71 (0.04)	
14	2.01 (0.29)		0.71 (0.04)	
16	1.54 (0.24)		0.58 (0.05)	
2		1.00 (–)		0.79 (0.06)
3		1.29 (0.15)		0.86 (0.04)
5		0.98 (0.16)		0.67 (0.08)
9		1.12 (0.19)		0.55 (0.07)
10		1.09 (0.16)		0.85 (0.04)
11		1.43 (0.21)		0.71 (0.05)
12		1.08 (0.15)		0.77 (0.06)
15		1.13 (0.18)		0.75 (0.07)

Dashes (–) indicate that the standard error was not estimated

overall GFA-R, positive reinforcement subscale, and escape subscale scores were 0.89, 0.87, and 0.89, respectively.

US Sample

When the data from all 201 US participants were analyzed, the internal consistency for the GFA-R across all 16 items was 0.90. Cronbach's alpha for the GFA-R positive reinforcement subscale was 0.91 and for the escape subscale alpha was 0.90. When the data from the 38 participants in the present sample who scored 0 on the GFA-R were excluded, internal consistency again remained high. Cronbach's alphas for the overall GFA-R, positive reinforcement subscale, and escape subscale scores were 0.86, 0.85, and 0.90, respectively.

Subscale Scores and Their Correlation with the SOGS

UK Sample

When calculating the scores on the GFA-R using the data from all 274 UK participants, the mean scores were 17.5 ($SD = 12.6$; range = 0–43) for the positive reinforcement subscale and 3.6 ($SD = 5.8$; range = 0–32) for the escape subscale. When data from the 47 participants who scored 0 on the GFA-R were excluded, the mean scores were 21.1 ($SD = 10.7$; range = 0–43) for the positive reinforcement subscale and 4.4 ($SD = 6.1$; range = 0–32) for the escape subscale.

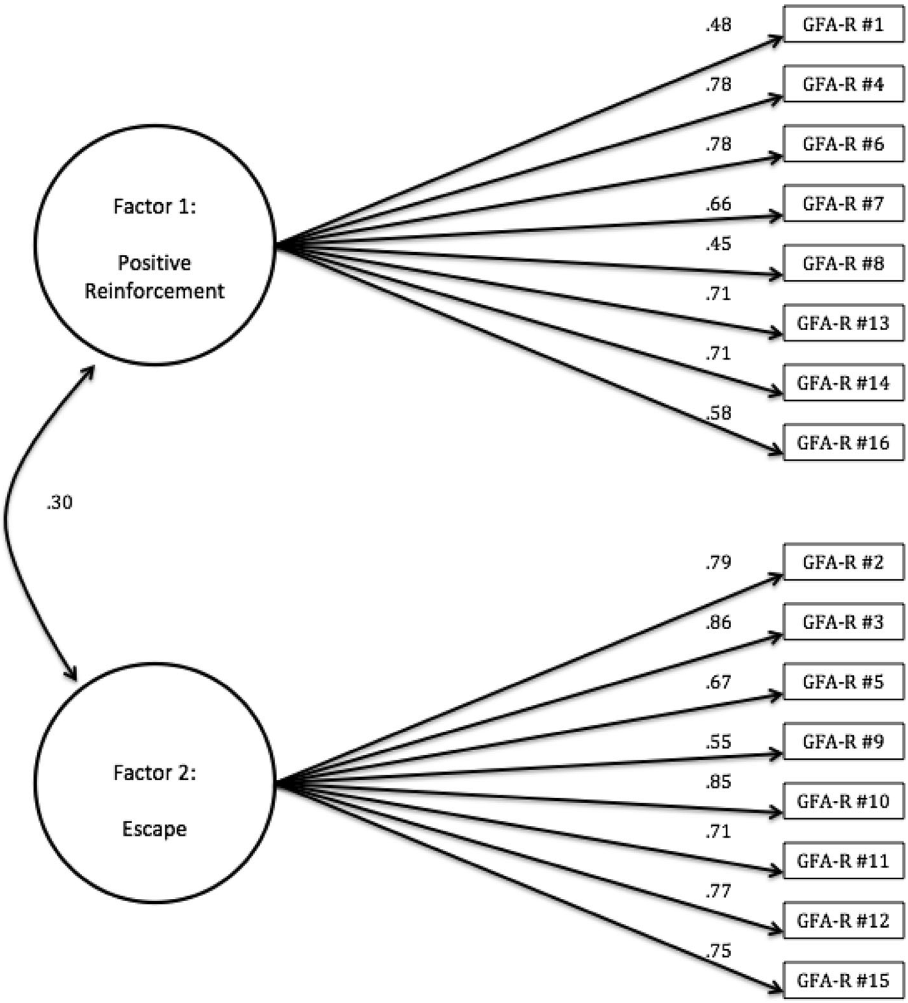

Fig. 2 Factor loadings for the 16 items on the GFA-R tested in the confirmatory factor analysis conducted on the US sample

For the 153 participants who completed the SOGS, the mean SOGS score was 0.8 ($SD = 1.4$; range = 0–9), with 11 participants (7.2 %) scoring either 3 or 4 and four participants (2.6 %) scoring 5 or more. These participants' SOGS scores correlated with the GFA-R positive reinforcement subscale scores at $r(153) = 0.48$, $p < 0.001$.[1] SOGS scores correlated with the GFA-R escape subscale scores at $r(153) = 0.62$, $p < 0.001$.

US Sample

When calculating the scores on the GFA-R using the data from all 201 US participants, the mean scores were 17.5 ($SD = 12.7$; range = 0–41) for the positive reinforcement subscale

[1] Probabilities represent results from two-tailed tests.

and 2.8 ($SD = 5.6$; range = 0–31) for the escape subscale. When data from the 38 participants who scored 0 on the GFA-R were excluded, the mean scores were 21.5 ($SD = 10.6$; range = 0–41) for the positive reinforcement subscale and 3.4 ($SD = 6.1$; range = 0–31) for the escape subscale.

For the omnibus sample, the mean SOGS score was 1.2 ($SD = 1.8$; range = 0–9), with 16 participants (8.0 %) scoring either 3 or 4 and 13 participants (6.5 %) scoring 5 or more. Participants' SOGS scores correlated with the GFA-R positive reinforcement subscale scores at $r(201) = 0.44$, $p < 0.001$, and with the GFA-R escape subscale scores at $r(201) = 0.60$, $p < 0.001$.

Discussion

The present study was an attempt to determine whether the psychometric properties of the original GFA-R would be replicated in a sample of UK (Welsh) university participants and how the results would compare to a new sample of US university participants. The results strongly support the conclusion that the model proposed by Weatherly et al. (2011) provided a good fit to the data from the UK sample. Moreover, the exact same model that fit the UK data also provided a good fit of the data from the US sample without a single modification (i.e., no differences in which residuals were allowed to correlate). Furthermore, the fit indices and internal inconsistency measures in the current study were equivalent to those reported by Weatherly et al. 2012a, b. Thus, the results would suggest that the GFA-R is a legitimate measure for use in the UK.

A secondary goal of the present study was to determine whether the strong relationship between endorsing gambling as an escape and measures of disordered gambling (i.e., scores on the SOGS) would be replicated in a UK sample. That result was indeed observed, with scores on the escape subscale of the GFA-R correlating with SOGS scores at 0.62. A similar correlation was observed with the US sample (i.e., 0.60). Thus, the results from both samples suggest that over one third of the variance in SOGS scores could be accounted for by participants' endorsement of gambling as an escape. To put this into a different perspective, scores on the escape subscale of the GFA-R correlated much more strongly with scores on the SOGS than they did with scores on the positive reinforcement subscale of the GFA-R for both samples of participants.

Given that the psychometric properties of the GFA-R appear to have been validated in the present samples, several aspects of the results are noteworthy. For one, participants in both samples displayed higher scores on the positive reinforcement than the escape subscale. This result is consistent with past research using US samples (Weatherly et al. 2011, 2012a, b) and supports the notion that gambling to get something is more common than gambling to escape something. This difference is likely related to why gambling problem severity is strongly related to gambling as an escape. Whereas a large proportion of people gamble without developing into problem or pathological gamblers, a large proportion of people do not endorse gambling as an escape.

Another aspect of the present data that is intriguing is that less than 20 % of the respondents in either of the present samples scored 0 on the GFA-R, whereas 31 % of respondents in Weatherly et al. (2011) did so. One could potentially argue that such an outcome occurred because there were more disordered gamblers in the present study than in Weatherly et al. However, the present data from the SOGS does not suggest that disordered gamblers were overrepresented. This finding may be worthy of additional research. It may suggest that gambling behavior is becoming increasingly common.

Whatever the reason, the present results suggest that the contingencies controlling gambling behavior, and prevalence of gambling problems (at least as measured by the SOGS), are similar in university students in the UK and the US. That is, the GFA-R subscale scores and SOGS scores were remarkably similar between the samples.

One potential limitation of the present study is the samples that were employed. That is, although we had specific reasons for using university samples of participants, such samples do not qualify as a clinical sample. Thus, although one can conclude that the factor structure of the GFA-R describes the present data quite well, one cannot conclude that the same factor structure would fit the data from a sample made up solely of problem and/or pathological gamblers. Given that the published research on the GFA-R appears to support its construct validity, internal consistency, and temporal reliability, testing it in a clinical sample would appear to be the next logical step.

It should also be noted that females comprised the majority of both samples tested in the present study. This fact is potentially important because sex is one of the risk factors for developing pathological gambling (see Petry 2005), with males displaying pathological gambling at a significantly higher prevalence than females. Thus, there is no guarantee that similar results would have been observed had the study recruited more male participants or focused solely on the gambling behavior of males. Again, this issue can be addressed by future research.

Lastly, by replicating the finding of a strong relationship between endorsing gambling as an escape and disordered gambling in a UK sample, one becomes increasingly confident that this behavioral contingency plays an important role in the development and maintenance of pathological gambling. Thus, further exploring, and potentially explaining, the relationship between the contingency of escape and pathological gambling is worthy of future research. Fortunately, the present results suggest that for researchers in the US and UK, the GFA-R may be a useful tool in that pursuit.

Appendix

GFA-R

Please answer each question with the appropriate number from the following scale:

0	1	2	3	4	5	6
Never	Almost never	Seldom	Sometimes	Usually almost	Always	Always
—1.	After I gamble, I like to go out and celebrate my winnings with others.					
—2.	I gamble after fighting with my friends, spouse, or significant other.					
—3.	I gamble when I feel stressed or anxious.					
—4.	I like the sounds, the lights, and the excitement that often go along with gambling.					
—5.	If I have a hard day at work or school, I am likely to gamble.					
—6.	I gamble when my friends are gambling with me.					
—7.	I find myself feeling a rush, and getting excited, when I gamble.					
—8.	When I gamble, I choose which games to play based upon my best chance of winning.					
—9.	I gamble to get a break from work or other difficult tasks.					
—10.	I gamble when I am feeling depressed or sad.					
—11.	I find that gambling is a good way to keep my mind off of problems I have in other parts of my life.					

Appendix continued

—12. I gamble when I am in debt or need money.

—13. I really enjoy the complementary perks that come along with gambling, like free points, drinks, comp coupons, etc.

—14. I enjoy the social aspects of gambling such as being with my friends or being around other people who are having a good time and cheering me on.

—15. I gamble when I have a work project or class assignment that is due in the near future.

—16. I gamble primarily for the money that I can win.

Items 1, 4, 6, 7, 8, 13, 14, and 16 are should be summed to give a score for gambling maintained by positive reinforcement. Items 2, 3, 5, 9, 10, 11, 12, and 15 should be summed to give a score for gambling maintained by negative reinforcement.

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