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Barry Tolchard



Attitudes towards Gambling in Ghanaian Adolescents

Dr Barry Tolchard

University of New England & University of Essex

Franklin Glozah & David Pevalin

University of Essex

Gambling in Africa

- Gambling varies across the continent
 - South Africa, Nigeria and Kenya biggest markets
 - Ghana
 - 3 land based Casinos, 2 in Accra (La Palm Casino & The Millionaires Casino), 1 in Kumasi (Golden Tulip Kumasi City, Hotel & Casino); lotteries and horse racing; sports betting
 - Online gambling is legal



Map of Ghana.

The Gaming Commission of Ghana (GCG)

- Responsible: regulation, controlling, monitoring and supervision of games of chance; licencing; promotions
- Gaming Act 721 (2006)

Behav Brain Sci. 2010 Jun;33(2-3):61-83; discussion 83-135. doi: 10.1017/S0140525X0999152X. Epub 2010 Jun 15.
The weirdest people in the world? Henrich J, Heine SJ, Norenzayan A.

Behavioral scientists routinely publish broad claims about human psychology and behavior in the world's top journals based on samples drawn entirely from **Western, Educated, Industrialized, Rich, and Democratic (WEIRD)** societies.

Researchers - often implicitly - assume that either there is little variation across human populations, or that these "standard subjects" are as representative of the species as any other population. Are these assumptions justified? Here, our review of the comparative database from across the behavioral sciences suggests both that there is substantial variability in experimental results across populations and that WEIRD subjects are particularly unusual compared with the rest of the species - frequent outliers. The domains reviewed include visual perception, fairness, cooperation, spatial reasoning, categorization and inferential induction, moral reasoning, reasoning styles, self-concepts and related motivations, and the heritability of IQ.

The findings suggest that members of WEIRD societies, including young children, are among the least representative populations one could find for generalizing about humans. Many of these findings involve domains that are associated with fundamental aspects of psychology, motivation, and behavior - hence, there are no obvious a priori grounds for claiming that a particular behavioral phenomenon is universal based on sampling from a single subpopulation.

Overall, these empirical patterns suggests that we need to be less cavalier in addressing questions of human nature on the basis of data drawn from this particularly thin, and rather unusual, slice of humanity

The study

- A cross-sectional survey design of 770 second-year and third-year Senior High School (SHS) students between 14 and 21 years (504 boys, 266 girls) in Accra
- Representative sample
- Schools recruited via the permission of the head teacher and classes were randomly selected within each school
- A study description and consent form was provided to individual students within the schools that agreed to participate and the classes randomly selected
- Parents/guardians of students below 18 years of age were also required to provide consent before questionnaire completion which took place in the respective classrooms of the participants.
- Research ethics approval was obtained from the University of Essex, UK

Measures

- The Attitudes towards Gambling (Delfabbro & Thrupp, 2003)
 - Nine item measure of an adolescent's economic perception of gambling
 - 'Gambling is a risky activity', 'You can lose all your money gambling', 'Gambling is a waste of money', 'Gamblers usually lose in the long-run', 'To gamble is to throw away money', 'You can make a living from gambling', 'Gambling is a good way to get rich quickly', 'Gambling is a better way to make money than working', and 'Gambling can give high returns'
 - Agreement on a 5-point from 'strongly agree' to 'strongly disagree'.
 - The last four items are reversed so that higher scores represented a less positive attitude towards gambling
 - All items are added to give a total score
 - A lower score indicates a more positive attitude to gambling
 - The scale had good internal reliability, $\alpha = .78$ with this sample

Measures

- General Health Questionnaire - GHQ-12 (Goldberg, 1972)
 - General wellbeing
- School Success Profile - SSP (Bowen and Richman, 1995, 2008)
 - Self-report somatic symptomatology
- Perceived Social Support from Family (PSS-FA) and Friends (PSS-FR) scales (Procidano and Heller, 1983) and teachers scale - SSP (Bowen and Richman, 1995, 2008)
 - Perceived social support
- Adolescent Stress Questionnaire - ASQ (Byrne et al., 1995)
 - Perceived stress
- Personal Lifestyle Questionnaire - PLQ (Muhlenkamp and Brown, 1983; Mahon et al., 2003)
 - behavioural health or positive health practices

Results: Gambling participation



- Male vs. female adolescent  participation on all forms of gambling
- Younger students had  sports betting participation
- Attending a mixed gender school led to  participation in card games

Table 1. Differences between male and female gamblers and type of gambling

	Male		Female		
	M	(SD)	M	(SD)	Inferential statistics
card games	1.56	(.96)	1.39	(.89)	$\chi^2(4, N = 763) = 15.67, p = .003, \Phi = .14$
sports betting	2.46	(1.45)	2.01	(1.26)	$\chi^2(4, N = 763) = 21.09, p < .001, \Phi = .17$
lotteries	1.23	(.68)	(1.11)	(.54)	$\chi^2(4, N = 763) = 15.02, p = .003, \Phi = .14$
poker machines	1.31	(.82)	(1.13)	(.54)	$\chi^2(4, N = 763) = 10.93, p = .025, \Phi = .14$

A Bonferroni correction *post hoc* analysis revealed in all cases male adolescents admitted to higher frequency gambling than female adolescents ($p < .05$).

Relationship between participation and perceived social difficulties

- **home** (arguments at home, disagreements between your parents, disagreements between you and your mother, disagreements between you and your father, lack of understanding by your parents, abiding by petty rules at home, living at home, not being taken seriously by your parents, little or no control over your life, lack of trust from adults, parents expecting too much from you, parents disturbing you about the way you look),
- **peer** (pressure to fit in with peers, being hassled for not fitting in, peers disturbing you about the way you look, being judged by your friends, disagreements between you and your peers),
- **personal** (satisfaction with how you look, changes in your physical appearance with growing up) and,
- **school** (lack of respect from teachers, not being listened to by teachers, getting along with your teachers, disagreements between you and your teachers, teachers disturbing you about the way you look, abiding by petty rules at school) factors.

A. How often have you experienced the following during the past one month?

	1	2	3	4	5
	<i>Never</i>	<i>Not often</i>	<i>Sometimes</i>	<i>often</i>	<i>Very often</i>
1. Arguments at home.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Disagreements between your parents.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Disagreements between you and your mother.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Disagreements between you and your father.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Lack of understanding by your parents.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C. The statements which follow refer to feelings and experiences which occur to most people at one time or another in their relationships with family, friends, and teachers. For each statement, there are five possible answers. Please mark the box by the answer you choose for each item.

	1	2	3	4	5
	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Somehow</i>	<i>Agree</i>	<i>Strongly Agree</i>
38. My friends give me the moral support I need.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39. My friends enjoy hearing about what I think.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40. I rely on my friends for emotional support.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41. My friends are sensitive to my personal needs.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42. My friends are good at helping me solve problems.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43. I have a deep sharing relationship with a number of friends.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

F. To what extent do you agree with the following statements?

	1	2	3	4	5
	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Not sure</i>	<i>Agree</i>	<i>Strongly Agree</i>
84. Gambling is a risky activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
85. You can lose all your money gambling.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
86. Gambling is a waste of money.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Relationship between participation and perceived social difficulties

Card Games

- Positive response*
 - ‘disagreements between you and your father’
- where, there were frequent arguments, more adolescents stated they sometimes gambled
- Negative response*
 - ‘lack of respect from teachers’
 - ‘not being listened to by teachers’,
 - ‘disagreements between you and your teachers’
 - ‘teachers disturbing you about the way you look’
- where the adolescent did not believe this statement had significantly higher card play
- Overall, adolescent card gamblers who were having few problems at home or school were higher frequency players

Post-hoc analysis; Bonferroni correction $p < .05$

Relationship between participation and perceived social difficulties

Sports betting

- 'living at home'
 - adolescent who lived at home only some of the time were significantly more likely to gamble on sports
- 'lack of trust from adults'
 - where the adolescent sometimes believed this statement they had significantly higher sports betting
- 'teachers disturbing you about the way you look'
 - where the adolescent did not believe this statement they had significantly higher sports betting
- 'abiding by petty rules at school'
 - where the adolescent sometimes believed this statement they had significantly higher sports betting
- Adolescent sports bettors experienced higher frequency participation where they had some difficulties at home and school

Post-hoc analysis; Bonferroni correction $p < .05$

Relationship between participation and perceived social difficulties

Lotteries

- ‘parents disturbing you about the way you look’
 - where the adolescent often believed this statement they had significantly higher lottery participation
- ‘teachers disturbing you about the way you look’
 - where the adolescent often believed this statement they had significantly higher lottery play
- Adolescents who participated in lotteries had higher frequency play when experiencing difficulties regarding parent/teacher views of their appearance

Post-hoc analysis; Bonferroni correction $p < .05$

Relationship between participation and perceived social difficulties

Slot machines

- ‘disagreements between you and your peers’
 - where the adolescent often believed this statement they had significantly higher slot machine play
- ‘teachers disturbing you about the way you look’
 - where the adolescent did not or sometimes believed this statement they had significantly higher slot machine play
- Adolescents playing poker machines had higher participation when they experience peer problems

*Gambling participation and perceived social
protective factors
Cards & Sports betting*

- Negative response*
 - ‘teachers give me lots of encouragement’
- Adolescent experience higher participation in sports betting
- No differences emerged with card play

*All significant at $< .05$; Bonferroni correction $p < .05$

Gambling participation and perceived social protective factors

Lotteries

- Negative response to item*
 - ‘I’ve recently gotten a good idea about how to do something from a friend’,
 - ‘family provide moral support’,
 - ‘families are interested in what they think’,
 - ‘my teachers care about me’
- These items could be considered as being given positive regard and as such where the adolescent does not receive this, they are more prone to gamble
- Positive response*
 - ‘relying on their family for emotional support’
 - ‘there is a member of my family I can go to when I feel down...’
 - ‘my family is sensitive to my needs’
 - ‘a deep sharing relationship with a number of members of my family’
 - ‘relationship between me and my family is better than my friends’ relationship with their family’
- Having strong family connections and believing their emotional needs are being met would indicate a lower need to participate in the lotteries

*All significant at $< .05$; Bonferroni correction $p < .05$

Gambling participation and perceived social protective factors
Slot machines

- Positive response*
 - ‘friends enjoy hearing about what I think’
- Adolescent experience higher participation
- Negative response*
 - ‘friends are good at helping me solve problems’
 - ‘deep sharing relationship with a number of friends’
 - ‘Family gives me the moral support I need’
 - ‘teachers care about me’
 - ‘Teachers listen to what I have to say’
 - ‘My teachers show me respect’
- Adolescent experience higher participation
- Having unsupportive interpersonal relationships appears to be linked to an increase in gambling in slot machine players

*All significant at $< .05$; Bonferroni correction $p < .05$

Attitudes towards Gambling

- Demographics

gender			
Male*	34.73	6.96	(F(1, 740) = 10.95, p <.01)
female	36.45	6.30	
residential status			
day students	34.86	6.92	(F(1, 740) = 9.87, p <.01)
boarding students*	36.63	6.21	

Tukey HSD post-hoc $p < .05$

- Gambling type

- Significant differences found between non-gamblers and high frequency gamblers on all gambling types with all high frequency gamblers considering gambling to be a positive activity

Relationship between ATG scale and perceived social difficulties

- ‘satisfaction with how you [the adolescent] looked’
 - In this case there was significant difference between those very often concerned about the way they looked experienced lower scores on the ATG scale (Bonferroni correction $p < .05$).
- Adolescent comfortable with the way they looked see gambling as less positive
- ‘abiding by petty rules at school’
 - where an adolescent believed very often that this was true experienced higher ATG scores
- This may indicate more obedient adolescents were less likely to participate in gambling activities

Relationship between ATG scale and perceived social protective factors

- No main effects found for positive relationships with friends
- Significant differences emerged in family relationships
 - ‘My family is sensitive to my personal needs
 - ‘I have a deep sharing relationship with a number of members of my family’
- With positive family relationships, adolescents saw gambling as more harmful
- Finally, strongly disagreeing with ‘My teachers show me respect’
 - perceived lower level of respect was associated with higher gambling risk

Cigarettes/alcohol

Table XX. Relationship between substance use and gambling frequency by type

	Cigarettes daily			Alcohol daily		
	M	(SD)	Inferential statistics	M	(SD)	Inferential statistics
Cards						
Never	1.58	(.06)		1.59	(.08)	
Very often	3.62	(.19)	$F(4, 1007) = 10.80, p < .001$	3.62	(.19)	$F(4, 995) = 5.37, p < .001$
Sports betting						
Never	1.61	(.06)				
Very often	1.75	(.06)	$F(4, 1005) = 3.21, p < .05$			<i>NS</i>
Lotteries						
Never	1.43	(.05)		1.57	(.07)	
Not often	1.81	(.07)	$F(4, 1005) = 9.95, p < .001$	2.20	(.10)	$F(4, 995) = 13.10, p < .001$
Slot machines						
Never	1.40	(.06)		1.47	(.08)	
Very Often	2.01	(.12)	$F(4, 1005) = 16.20, p < .001$	2.10	(.17)	$F(4, 995) = 5.72, p < .001$

Note: Bonferroni correction $p < .05$

Substance use/ATG

- Cigarettes ($F(4, 975) = 4.38, p < .01$; Bonferroni correction $< .05$)
- Alcohol ($F(4, 992) = 6.23, p < .001$; Bonferroni correction $< .05$)
 - ‘never smoked’ (ATG: $M = 31.87, SE = 1.22$) and ‘sometimes smoked’ (ATG: $M = 24.94, SE = 1.93$).
- Alcohol ($F(4, 975) = 6.23, p < .001$; Bonferroni correction $< .05$)
 - ‘never drinks alcohol daily’ (ATG: $M = 33.52, SE = 1.34$) and ‘infrequent drinkers’ (ATG: not often ($M = 31.41, SE = 1.40$) sometimes ($M = 29.40, SE = 1.37$)).

Other behavioral issues

Nutrition

- lottery players
 - ‘never’ bought tickets (M = 4.00, SE = .16)
 - ‘not often’ bought tickets (M = 3.37, SE = .23).
 - Adolescents who did not buy lottery tickets had a **better healthy intake** (F(4, 1008) = 3.99, $p < .01$; Boneferroni correction $< .05$).
- Card players
 - never’ played cards (M = 2.13, SE = .1923)
 - ‘sometimes played’ (M = 2.65, SE = .20).
 - Adolescents **using less salt** did no play cards(F(4, 1002) = 4.22, $p < .01$; Boneferroni correction $< .05$).
 - ‘very often’ (M = 3.05, SE = .29)
 - ‘never’ (M = 1.97, SE = .17).
 - Adolescents who **‘eat junk food daily’** (F(4, 990) = 7.19, $p < .001$; Boneferroni correction $< .05$)
- ATG
 - **eats regularly** (F(4, 992) = 2.77, $p < .05$; Boneferroni correction $< .05$). This related to those who had very disrupted eating patterns had a stronger positive attitude to gambling being a good thing
 - A significant difference was observed in response to eating ‘junk’ food daily (F(4, 968) = 4.39, $p < .01$; Boneferroni correction $< .05$)
 - ‘never eat junk food daily’ (ATG: M = 36.36, SE = .44)
 - ‘always eat junk food daily’ (ATG: M = 33.18, SE = .97)

Nutrition—‘eat at regular times during the day’

Sports bettors who ‘often gambled’ were significantly less likely to have regular meal times than those who ‘did not’ bet on sports at all

Lottery gamblers who ‘sometimes’ bought lottery tickets compared to those who ‘did not’ buy lottery tickets at all

	M	(SD)	Inferential statistics
Sports Betting			
Never	3.11	(.18)	
Often	2.17	(.09)	F(4, 1005) = 4.02, $p < .01$
Lotteries			
Never	3.57	(.15)	
Sometimes	2.92	(.22)	F(4, 1005) = 2.36, $p < .05$

Exercise—play sports...at least three times weekly and ‘gets daily exercise’

- Increased frequency of sports betting also indicated higher levels of sports playing ($F(4, 1005) = 21.47, p < .001$; Bonferroni correction $< .05$)
- Took regular exercise ($F(4, 1005) = 7.59, p < .001$; Bonferroni correction $< .05$)
- A multiple regression analysis where both exercise variables were computed with sports betting revealed a strong linear relationship ($F(2, 1023) = 56.77, p < .001$).

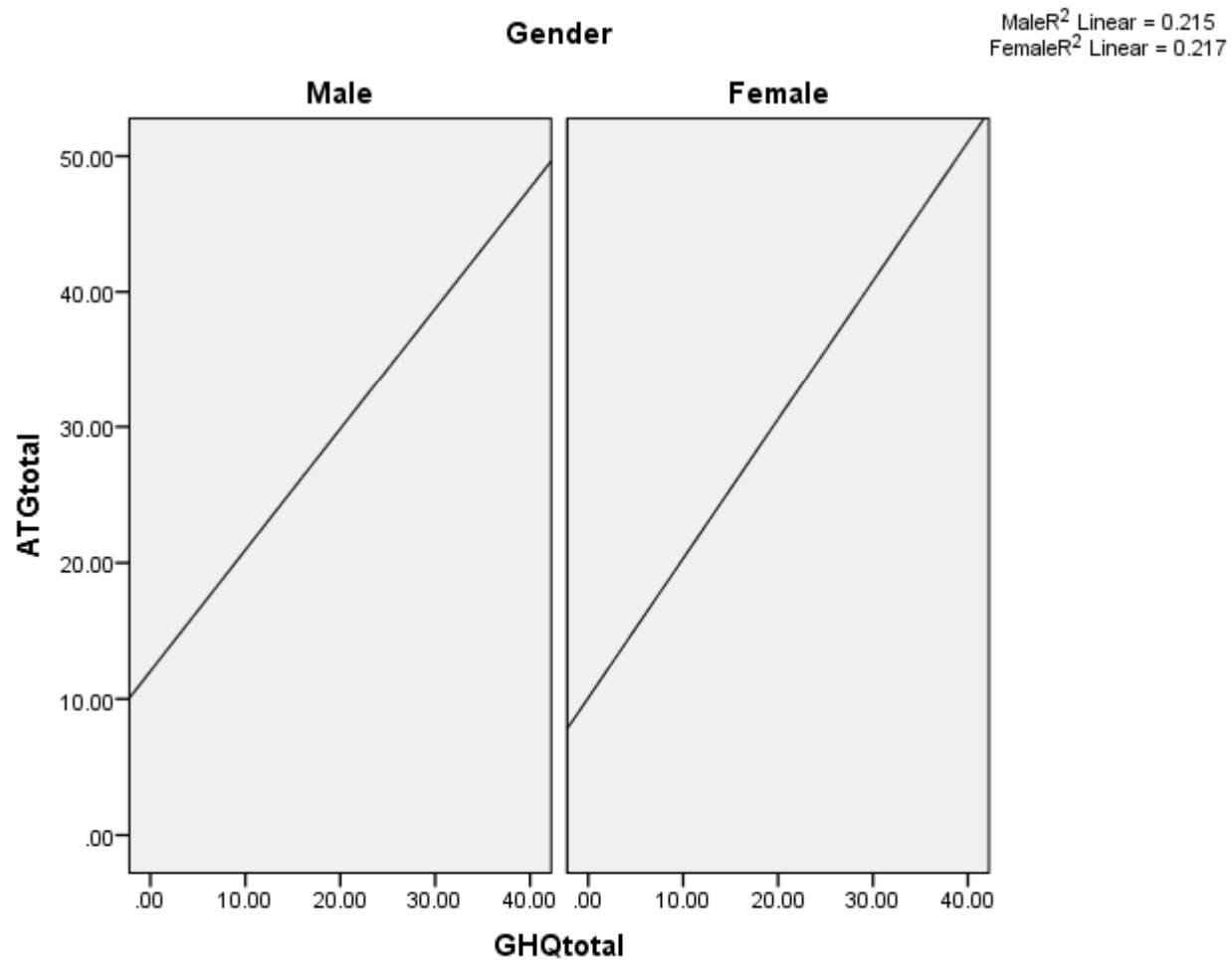
Psychological distress and attitudes to gambling in Ghanaian adolescents

- As with overall attitudes to gambling; positive belief in gambling was related to gender and residential status and overall lower wellbeing

	df	F	<i>p.</i>
Gender * GHQ12	1	8.10	< .01
Class * GHQ12	1	3.66	NS*
Father Education * GHQ12	5	1.77	NS
Mother Education * GHQ12	5	.102	NS
Residential Status * GHQ12	1	14.65	< .001

Note: p = .056 (trend)

GHQ-12/ATG



Conclusion

- Males were more likely to view gambling as a positive activity and were higher frequency players on all forms of gambling
- Non boarding students also had a more positive attitude to gambling and experienced lower wellbeing

Conclusion

- Card players
 - Better adjusted than other gamblers
 - May be a family social event
- Sports bettors
 - Adolescents who experience some disharmony at home and school have higher frequency play
 - generally high risk/impulsive group
- Lotteries
 - Parent/teacher negative views of the adolescents appearance led to higher lottery participation
 - Large payout may be a way to change appearance
- Slot machines
 - Negative peer issues reflected higher participation
 - Used as a means of escape

Conclusion

- Social difficulties
 - Self confidence and obedient adolescents perceived gambling as a negative activity
- Social protective factors
 - Emotionally stable family relationships and positive relationships with teachers indicated less positive attitudes to gambling

Risk behavior

- General risky behavior associated with both higher frequency gambling and lower ATG scores

Brief comparison

Australia/Ghana

Dependent: ATG

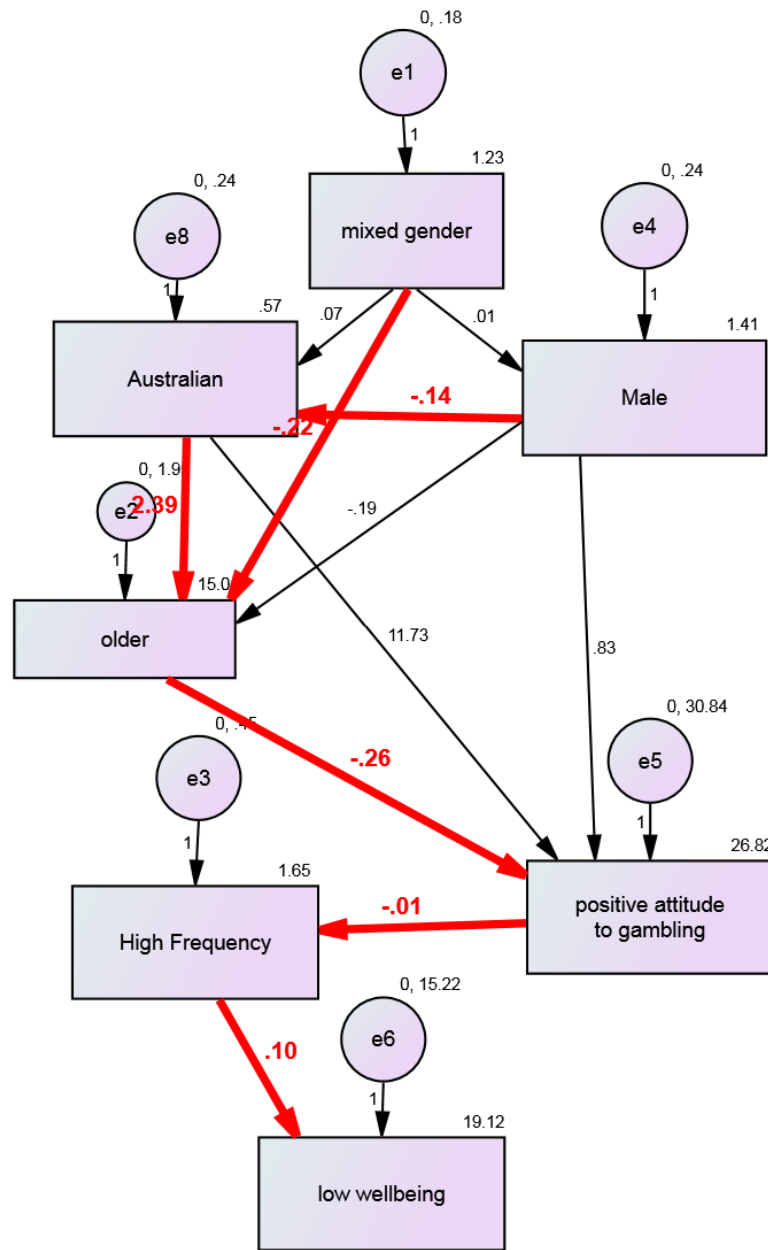
	df	F	Sig.
GHQ-12	1	14.598	.000
Country	1	819.085	.000
gender	1	15.709	.000
Country * gender	1	12.398	.000

	ATG total	GHQ total
	M(SD)	M(SD)
Australia		
Male	24.24(4.55)	17.30(2.04)
Female	24.43(4.03)	16.91(2.05)
Ghana		
Male	34.73(6.96)	22.32(3.95)
Female	36.45(6.30)	20.78(4.00)

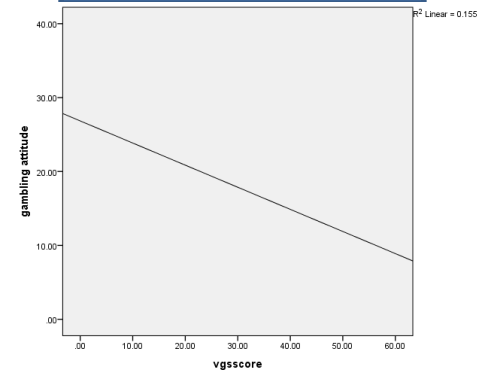
Cards/sports/slots: Ghana adolescents 🖐 GHQ-12/ATG scores at higher frequency of play ($p < .001$)

Lottery: Australian adolescents 🖐 GHQ-12/ATG scores at higher frequency of play ($p < .001$)

Frequency: Ghana adolescents 🖐 Frequency 🖐 gambling risk/wellbeing



Gambling severity VGS





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