



# Associations Between HEXACO Personality Traits and Gambling Problems: A Systematic Review Study

Lage Amdal, Synnev Trømborg, Erik Kalvig Meling, Jørgen Strand Pettersen,  
Kristine Kløve, Farangis Sharifibastan\*



UNIVERSITY OF BERGEN  
*Faculty of Psychology*

**BERGEN ADDICTION  
RESEARCH GROUP**

# Introduction

- **Problem Gambling (PG)**, is a behavioral addiction characterized by persistent and maladaptive gambling behaviour despite negative consequences<sup>1</sup>.
- A total of 26% of the population worldwide (amounting to 1.6 billion people) are estimated to gamble regularly<sup>2</sup>.



- Previous reviews found that gambling problems are positively associated with neuroticism and negatively associated with other personality traits<sup>2-7</sup>.



<sup>1</sup> American Psychiatric Association *Diagnostic and Statistical Manual of Mental Disorders*, 5th edn. Washington, DC: Author; 2013.

<sup>2</sup> Strømme, R., Børstad, K. H., Rø, A. E., Erevik, E. K., Sagoe, D., Chegeni, R., ... & Pallesen, S. (2021). The relationship between gambling problems and the five-factor model of personality: A systematic review and meta-analysis. *Frontiers in Psychiatry*, 12, 740235.

<sup>3</sup> Bagby, R. M., Vachon, D. D., Bulmash, E. L., Toneatto, T., Quilty, L. C., & Costa, P. T. (2007). Pathological gambling and the five-factor model of personality. *Personality and Individual Differences*, 43(4), 873-880.

<sup>4</sup> Mackinnon, S. P., Lambe, L., & Stewart, S. H. (2016). Relations of Five-Factor Personality Domains to Gambling Motives in Emerging Adult Gamblers: A Longitudinal Study. *Journal of Gambling Issues*, (34).

<sup>5</sup> Dudfield, F. W., Malouf, J. M., & Meynadier, J. (2023). The association between the five-factor model of personality and problem gambling: A meta-analysis. *Journal of Gambling Studies*, 39(2), 669-687.

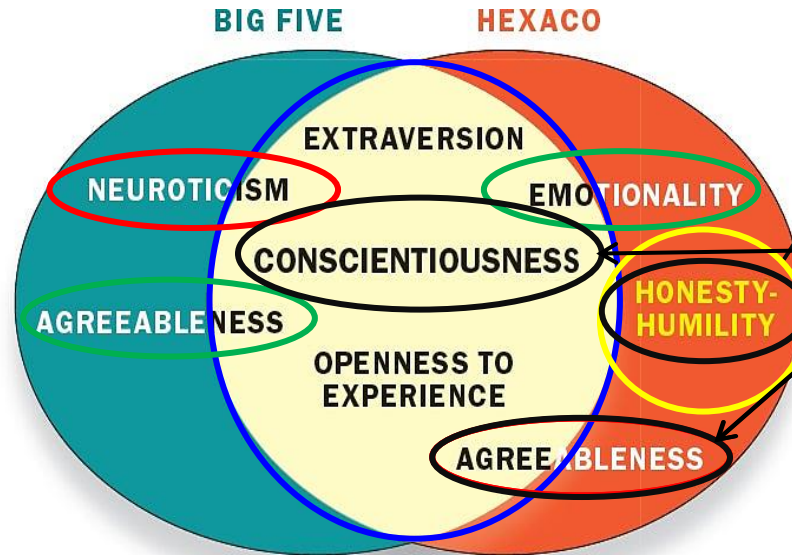
<sup>6</sup> McCrae, R. R., & Costa Jr, P. T. (1997). Personality trait structure as a human universal. *American Psychologist*, 52(5), 509.

<sup>7</sup> Brunborg, G. S., Hanss, D., Mentzoni, R. A., Molde, H., & Pallesen, S. (2016). Problem gambling and the five-factor model of personality: A large population-based study. *Addiction*, 111(8), 1428-1435.

<sup>8</sup> Ashton, M. C., & Lee, K. (2008). The HEXACO model of personality structure. *The SAGE Handbook of Personality Theory and Assessment*, 2, 239-260.



# Big Five Model and HEXACO Model



## *Honesty-Humility*

Negatively associated with risk-taking (i.e., risk-taking for wealth and status)<sup>1</sup>.

## *Honesty-Humility*

*Agreeableness*  
*Conscientiousness*

Significantly and negatively associated with the problem gambling severity<sup>2-6</sup>.

<sup>1</sup> Ashton, M. C., Lee, K., Pozzebon, J. A., Visser, B. A., & Worth, N. C. (2010). Status-driven risk taking and the major dimensions of personality. *Journal of Research in Personality*, 44(6), 734-737.

<sup>2</sup> McGrath, D. S., Neilson, T., Lee, K., Rash, C. L., & Rad, M. (2018). Associations between the HEXACO model of personality and gambling involvement, motivations to gamble, and gambling severity in young adult gamblers. *Journal of Behavioral Addictions*, 7(2), 392-400.

<sup>3</sup> Kim, H. S., Rash, C. L., & McGrath, D. S. (2018). The dishonest gambler: Low HEXACO honesty-humility and gambling severity in a community sample of gamblers. *Personality and Mental Health*, 12 (4), 355-364.

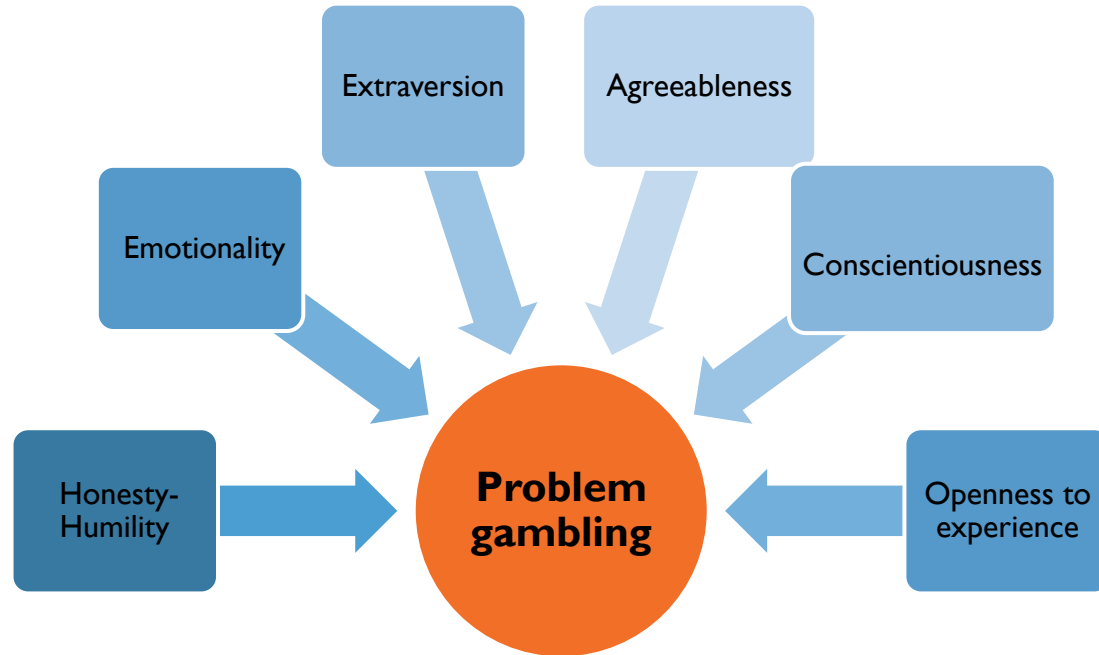
<sup>4</sup> Rash, C. L. (2018, September). An examination of the HEXACO model of personality in alcohol use disorder, cannabis use disorder, and gambling disorder. *Arts*.

<sup>5</sup> Leslie, R. D., & McGrath, D. S. (2024). A comparative profile of online, offline, and mixed-mode problematic gamblers' gambling involvement, motives, and HEXACO personality traits. *Journal of Gambling Studies*, 40(1), 237-253.

<sup>6</sup> Mishra, S., Beshai, S., Wuth, A., & Refaie, N. (2019). Risk and protective factors in problem gambling: An examination of psychological resilience. *International Gambling Studies*, 19(2), 241-264.



# Objective



To date, no systematic review has comprehensively examined the association between HEXACO personality traits and problem gambling. This study *aimed* to fill this gap in the literature by systematically evaluating the existing evidence on this relationship.



# Methodology: Data Sources and Search Strategy

- The present paper carried out a systematic review of available literature using *Preferred Reporting Items for Systematic Reviews (PRISMA) guidelines*.
- In February 2024, two researchers systematically and independently searched the following databases: *PsycINFO, PubMed, Wiley Online Library, ProQuest, EBSCO and Google Scholar* (First ten pages).
- Following search terms were used: (gamb\* OR "problem gambling" OR "pathological gambling") AND (HEXACO).



# Eligibility Criteria



## *Inclusion Criteria*

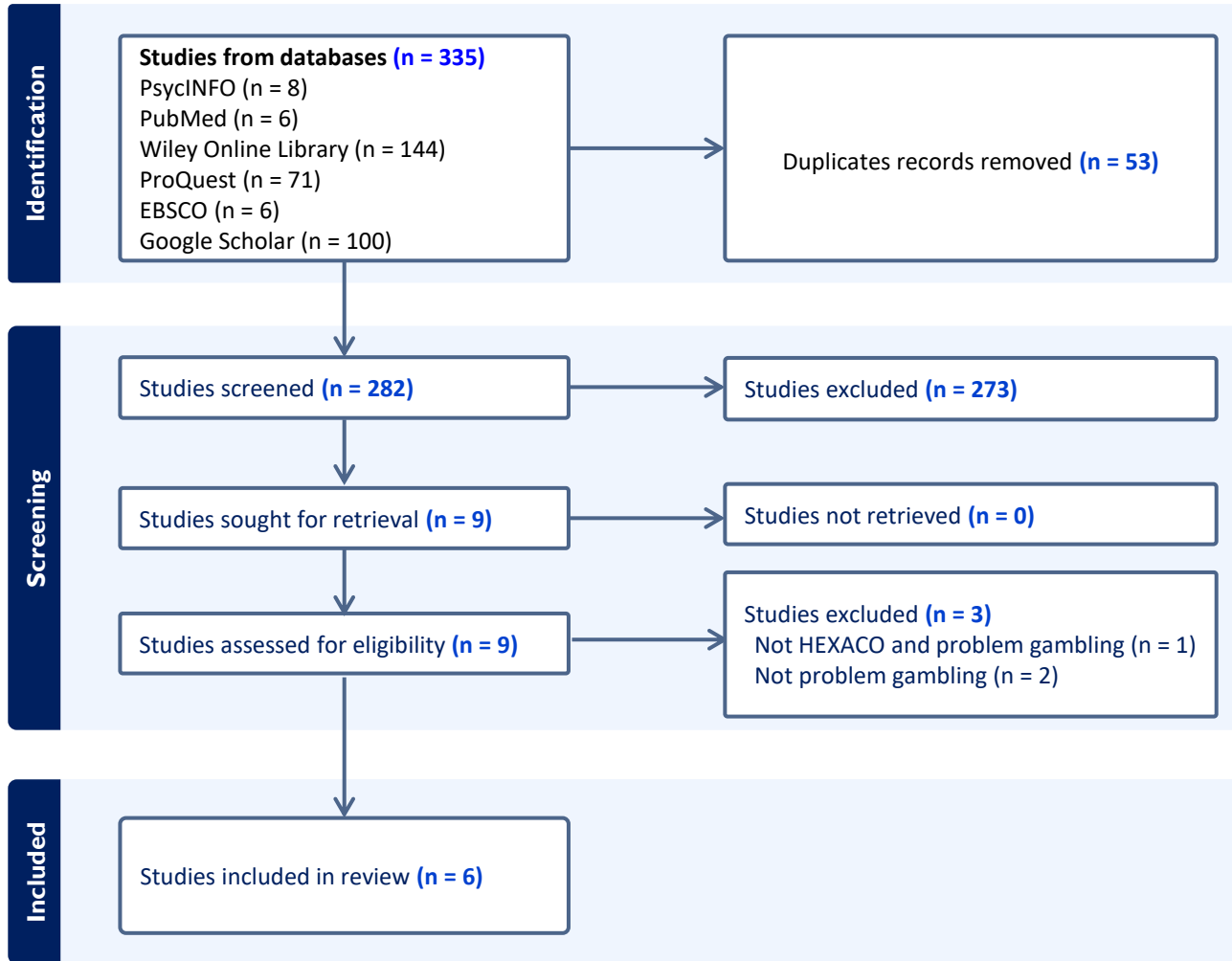
- 1) Publication date between 2013 and May 2024
- 2) Original papers, published as full papers in a peer reviewed journal/
- 3) Master's or doctoral dissertations, published as full dissertation
- 4) Written in English and Norwegian
- 5) Studies investigating the association between HEXACO personality traits and problem gambling objectively.

## *Exclusion Criteria*

- 1) Based on case-studies, qualitative studies, and reviews
- 2) Not published in a peer-reviewed journal
- 3) Not published dissertations
- 4) Measuring personality traits similar to the HEXACO model, but not the actual traits.



# PRISMA Flow Diagram



# Results: Description of Included Studies

Table I: Characteristics of Included Studies

Study	Country	Publication type	Sample size	Gender	Mean age	HEXACO-PI-R instrument version	Measuring instrument problem gambling
1 Kim et al. <a href="#">(2018)</a>	The included studies were primarily collected from the USA and Canada	Journal	Total number of participants  2,162	Female (n= 1137, 52.6%)	Age range Young Adult & Adult  Overall Mean Age 33.83 years	HEXACO-60	PGSI
2 Leslie & McGrath <a href="#">(2024)</a>		Journal				HEXACO-24	PGSI
3 McGrath et al. <a href="#">(2018)</a>		Journal		HEXACO-100		PGSI	
4 Mishra et al. <a href="#">(2019)</a>		Journal		HEXACO-24		PGSI	
5 Madey <a href="#">(2019)</a>		Dissertation		HEXACO-60		PGSI	
6 Rash <a href="#">(2018)</a>		Dissertation		HEXACO-100		PGSI	
				Male (n= 1013, 46.9%)			
				Non-binary (n= 12, 0.6%)			



# Results

Table 2: Pearson Correlation Coefficients (r) Between HEXACO Personality Traits and Problem Gambling (PGSI - Total) in Included Studies

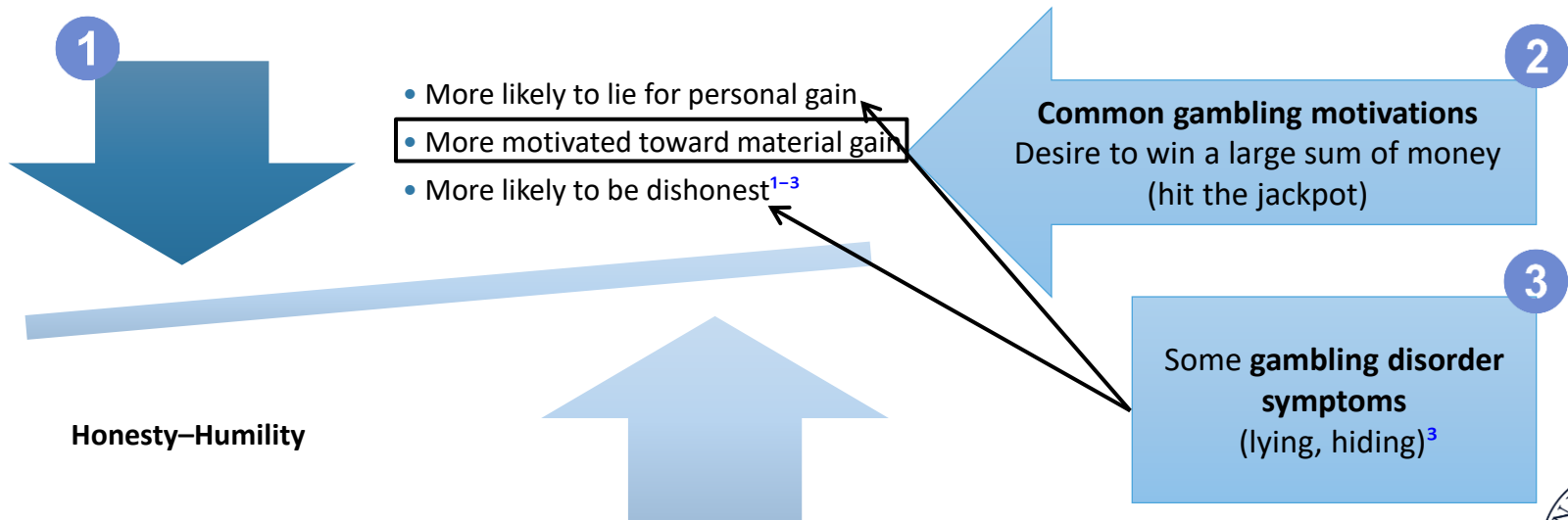
Study	Honesty-Humility - PGSI	Emotionality - PGSI	Extraversion - PGSI	Agreeableness - PGSI	Conscientiousness - PGSI	Openness to Experience - PGSI
Kim et al. <a href="#">(2018)</a>	<b>Consistent Significant Negative Correlation</b>	<b>Only one study (Madey, 2019) shows a significant negative correlation</b>	<b>Weak or No Correlation</b>	<b>(Kim et al., 2018; McGrath et al., 2018) show a significant negative correlation</b>	<b>Consistent Negative Correlation</b>	<b>Kim et al. (2018) show a significant negative correlation</b>
Leslie & McGrath <a href="#">(2024)</a>						
McGrath et al. <a href="#">(2018)</a>						
Mishra et al. <a href="#">(2019)</a>						
Madey <a href="#">(2019)</a>						
Rash <a href="#">(2018)</a>						

\*\* . Correlation is significant at the 0.01 level (2-tailed)

\* . Correlation is significant at the 0.05 level (2-tailed)

# Discussion

*Honesty/humility* emerged as a consistent predictor of gambling problem across all studies (Kim et al., 2018; Leslie & McGrath, 2023; Madey, 2019; McGrath, 2018; Mishra et al., 2018; Rash, 2018).



<sup>1</sup> Lee, K., Ashton, M. C., Wiltshire, J., Bourdage, J. S., Visser, B. A., & Gallucci, A. (2013). Sex, power, and money: prediction from the dark triad and honesty-humility. *European Journal of Personality*, 27(2), 169-184.

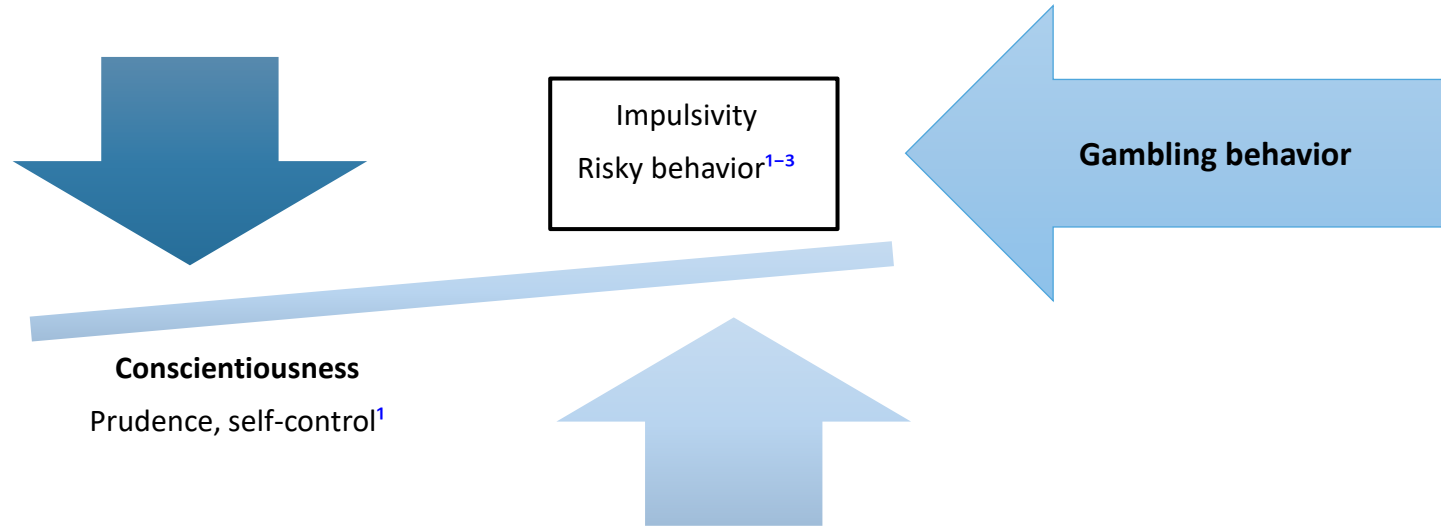
<sup>2</sup> Dechant, K., & Ellery, M. (2011). The effect of including a monetary motive item on the gambling motives questionnaire in a sample of moderate gamblers. *Journal of Gambling Studies*, 27, 331-344.

<sup>3</sup> Kim, H. S., Rash, C. L., & McGrath, D. S. (2018). The dishonest gambler: Low HEXACO honesty-humility and gambling severity in a community sample of gamblers. *Personality and Mental Health*, 12(4), 355-364.



# Discussion

*Conscientiousness* also emerged as a consistent predictor of gambling problem across all studies (Kim et al., 2018; Leslie & McGrath, 2023; Madey, 2019; McGrath, 2018; Mishra et al., 2018; Rash, 2018).



<sup>1</sup> McGrath, D. S., Neilson, T., Lee, K., Rash, C. L., & Rad, M. (2018). Associations between the HEXACO model of personality and gambling involvement, motivations to gamble, and gambling severity in young adult gamblers. *Journal of Behavioral Addictions*, 7(2), 392-400.

<sup>2</sup> Secades-Villa, R., Martínez-Loredo, V., Grande-Gosende, A., & Fernández-Hermida, J. R. (2016). The relationship between impulsivity and problem gambling in adolescence. *Frontiers in Psychology*, 7, 1931.

<sup>3</sup> Ioannidis, K., Hook, R., Wickham, K., Grant, J. E., & Chamberlain, S. R. (2019). Impulsivity in gambling disorder and problem gambling: A meta-analysis. *Neuropsychopharmacology*, 44(8), 1354-1361.



# Discussion

- Regarding *emotionality, extraversion, agreeableness, and openness*, inconsistent findings were observed in their association with problem gambling. A potential reason for these discrepancies could be the differences in sample types.
- While Kim et al. (2018) and Leslie & McGrath (2024), recruited community-recruited gamblers, McGrath et al. (2019) and Madey (2019) focused on undergraduate students. It has been argued that results from undergraduate samples may not generalize to the broader population due to their unique characteristics<sup>1-3</sup>.
- Gainsbury et al. found that gamblers recruited from university settings represent a unique sample, which may in part help explain the divergent results<sup>4</sup>.

---

<sup>1</sup> Kim, H. S., Rash, C. L., & McGrath, D. S. (2018). The dishonest gambler: Low HEXACO honesty–humility and gambling severity in a community sample of gamblers. *Personality and Mental Health*, 12(4), 355-364.

<sup>2</sup> Hanel, P. H., & Vione, K. C. (2016). Do student samples provide an accurate estimate of the general public?. *Plos One*, 11(12), e0168354.

<sup>3</sup> Wild, H., Kyröläinen, A. J., & Kuperman, V. (2022). How representative are student convenience samples? A study of literacy and numeracy skills in 32 countries. *Plos One*, 17(7), e0271191.

<sup>4</sup> Gainsbury, S. M., Russell, A., & Blaszczynski, A. (2014). Are psychology university student gamblers representative of non-university students and general gamblers? A comparative analysis. *Journal of Gambling Studies*, 30, 11-25.



# Limitations



## Novelty of the HEXACO Model

Limited number of studies specifically examining its relationship with various psychological constructs, including problem gambling.



## Language

The focus on English and Norwegian studies might overlook valuable research conducted in other languages.



## Study Design

Most studies relied on cross-sectional data, making it difficult to establish causal links between specific personality traits and problem gambling.



## Generalizability

Most studies were from the USA and Canada, and focused on young adults, limiting the generalizability of the findings.

Conduct longitudinal studies across diverse age groups, cultures, and populations, including individuals with gambling problems.



**Thank You  
For Your Attention!**



**Questions?  
Farangis.Sharifibastan@uib.no**