

Tolerance of Domain-Specific Risk Uncertainty in Male Offenders



Yiyun Shou
Australian National University

Mengcheng Wang
Guangzhou University

Introduction

The domain-specific risk attitudes framework is an important framework to understand human real life decision making under risk and has been increasingly popular over the past two decades [1,2]. Its essence is that people react and behave differently across different decision domains, primarily as a result of them varying perceived risks and benefits across situations.

The link between risk attitudes and criminal conduct has been well established. The literature research has focussed on sensation seeking and self-control (impulsivity) as the underlying mechanism. However, the previous research does not distinguish between different kinds of criminal conduct and does not account for the multifaceted and domain-specific nature of risk attitudes. In addition, one's risk-taking tendency can be driven by not only the perceived attractiveness of the benefits (possible gains) by also by one's tolerance to the perceived risks (possible losses), both of which can be domain-specific. The current research aims to address this gap.

Aims

- To apply a short domain-specific risk tolerance measure to criminal offenders and to examine their domain-specific risk tolerance patterns.
- To examine how offenders with different kinds offences differ in their domain-specific risk tolerance patterns.
- To examine the role of maladaptive personality traits in the change of domain-specific risk tolerance.

Method

Community sample: 757 (59.4% females; Mean age = 26.7, SD = 10.9) community participants completed a 52-item inventory of domain specific risk tolerance [3]. The inventory covers situations across six domains: ethical/legal, financial, medical/health, recreational-safety, and recreational.

Data Analysis: The item properties were assessed by the uni-dimensional Graded Response models (GRM) for each domain. Six items per domain were selected based on (1) item clustering and cross loading; (2) content breadth; (3) item response patterns and information.

Offender sample: The data included 2264 adult male inmates. The subjects were aged between 18 to 71 with a mean of 36.6 (SD = 10.7).

Methods: Subjects completed a 36-item version of the risk tolerance scale. A subset (N = 253) completed the risk tolerance scale again about two months after the initial test. They also completed the Comprehensive Psychopathy Personality Assessment (CAPP-LR)[4] that assesses psychopathic personality traits in six aspects: emotion, cognition, behaviour, dominance, attachment and self. All inventories were completed in paper-pencil format.

Results

	a. Community		b. Offender (N = 2264)		c. Offender (N = 253)		Mean Comparison
	M(SD)	α	M(SD)	α	M(SD)	α	
Ethical	2.26(0.96)	0.84	2.53(1.1)	0.88	2.49(0.92)	0.85	a < b ≈ c
Financial	2.32(0.90)	0.76	2.62(1.09)	0.85	2.54(0.95)	0.83	a < b ≈ c
Health	2.61(0.93)	0.77	2.62(1.09)	0.88	2.53(0.93)	0.88	a < b ≈ c
Recreation-Safety	3.20(1.25)	0.81	3.39(1.29)	0.90	3.55(1.19)	0.89	a < b ≈ c
Recreational	4.84(1.12)	0.85	3.77(1.24)	0.94	3.78(1.20)	0.93	a > b ≈ c
Social	3.72(1.05)	0.77	3.52(1.04)	0.88	3.36(0.97)	0.87	a > b > c

Table 1. Descriptive statistics and internal consistency reliability of the risk tolerance scales among the community, offender and follow-up offender samples. Mean comparison tests are done by t-tests. *** $p < .001$

Table 1 shows that the offender sample scored higher on risk tolerance in the ethical, financial, health and recreational-safety domains than the community sample. But they had lower scores on social and recreational domains than the community sample.

The internal structure validity of the risk tolerance scale is evident from good model fit indices, robust CFI = 0.941, TLI = 0.936, SRMR = 0.081. Figure 1 indicates that the various domains especially social and recreational domains had more balanced coverage of both sides of the latent trait continuum.

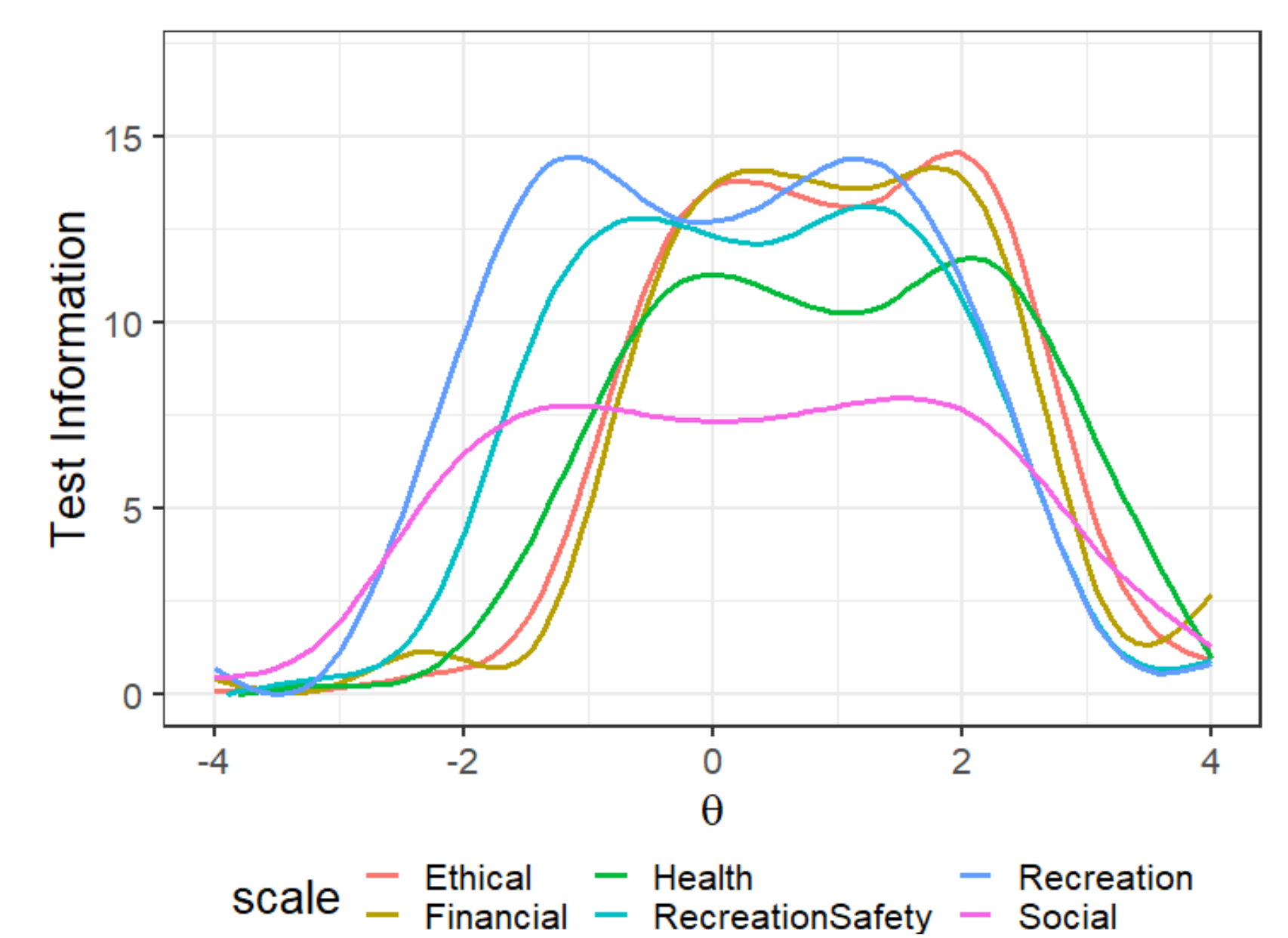


Figure 1 GRM Test information curves for the six domain scales in the offender sample

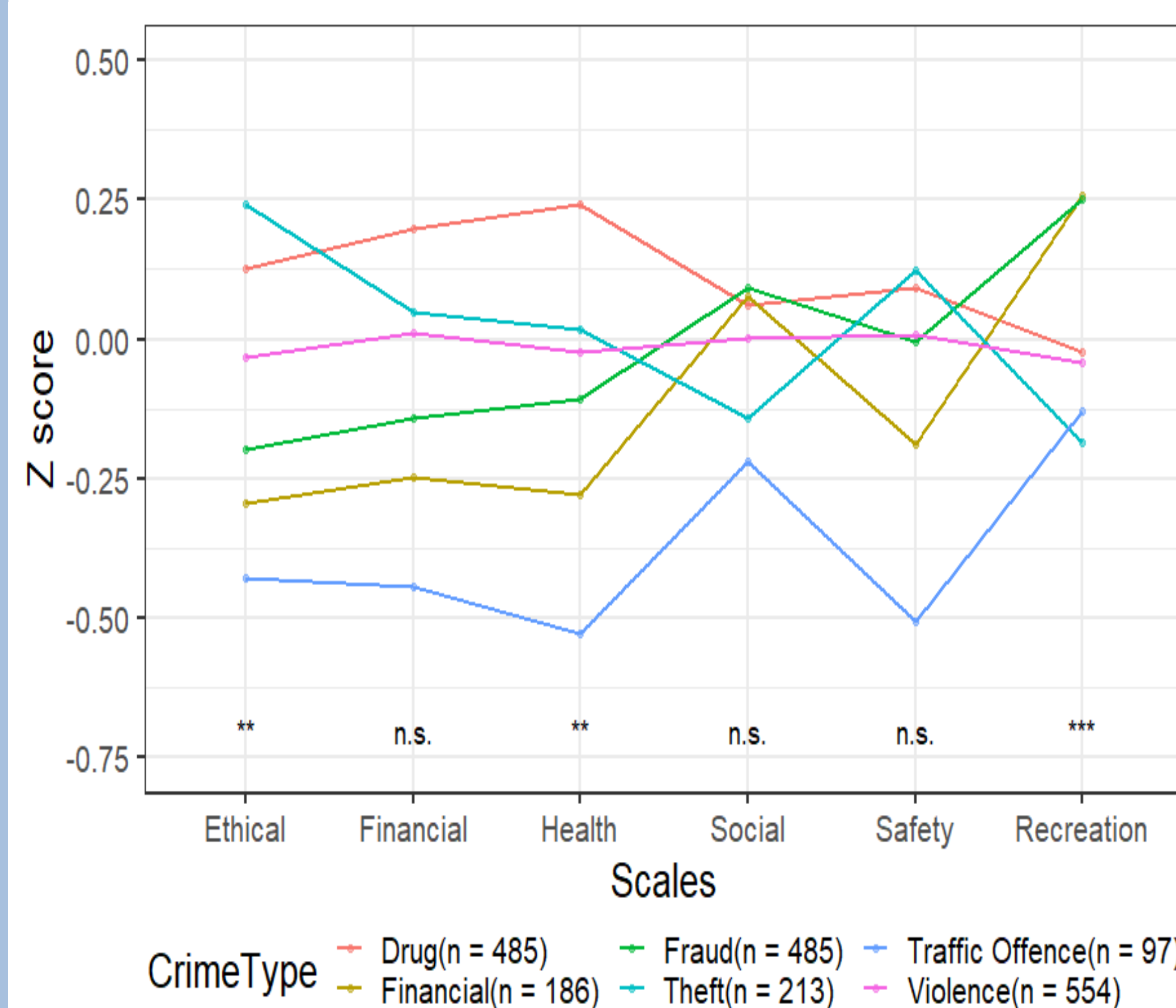


Figure 2 Mean scores of risk tolerance subscales across groups of subjects with different types of offences. ** $p < .01$, *** $p < .001$

Note. Significant testing was carried out by a multinomial regression predicting conviction types from the six domain scales.

Figure 2 shows that offenders with different types of offences had different patterns of domain-specific risk tolerance. Offenders with different types of offences had significant differences in their ethical, health and recreational domain risk tolerance.

Finally, autoregressive linear regressions for the subset of the subjects in the follow-up study revealed that the psychopathic personality as measured by CAPP, especially the cognitive aspect, significantly and positively predicted the risk tolerance at time 2 after time 1 risk tolerance has been controlled for. Emotional deficits significantly predicted an increase in risk tolerance in the ethical, financial, health, and social domains.

Discussion

Domain-specific risk tolerance had a significant contribution in distinguishing offenders with different kinds of criminal offences. The framework could be a potential useful tool to understand different kinds of criminal conduct and the nature of the link between risk attitudes and criminal behaviors.

More empirical validation and the inclusion of multiple formats of measurements (e.g., case record and other mental health variables) are needed to examine the replicability of the current find-

References

- [1] Weber, E. U., & Johnson, E. J. (2009). Economic, and Neuroeconomic Explanations of Risk Preference Risk Preference: The Historical Context. *Brain*, 127-144.
- [2] Shou, Y., & Olney, J. (2020). Assessing a domain-specific risk-taking construct: A meta-analysis of reliability of the DOSPERT scale. *Judgment and Decision Making*.
- [3] Shou, Y., & Olney, J. (2020). Measure of Multi-Domain Risk Tolerance. The Australian National University
- [4] Kavish, N., Schiafo, M., Sellbom, M., & Anderson, J. L. (2020). Construct validity of the Comprehensive Assessment of Psychopathic Personality (CAPP) Lexical Rating Scale. *Personality Disorders: Theory, Research, and Treatment*.