

Intro & Background

- The **General Risk Question (GRQ)** is a popular single-item measure of stated risk preferences¹.
- Single-items are easy to administer and practically useful for longitudinal studies and experimental research. But they suffer in psychometric quality².
- In this study, we examine the psychometric qualities of the GRQ compared to multi-item measures of stated risk preferences.
- We also examine domain-general vs. domain-specific measures of risk preferences.

Methods

Sample & Procedure: 434 working adults from *Prolific* completed two surveys separated by 4 weeks (85% response rate). GRQ was measured at T1 and T2. Outcomes were measured at T2. Other risk measures were split such one of each type was administered at each time point.

Risk Preference Measures

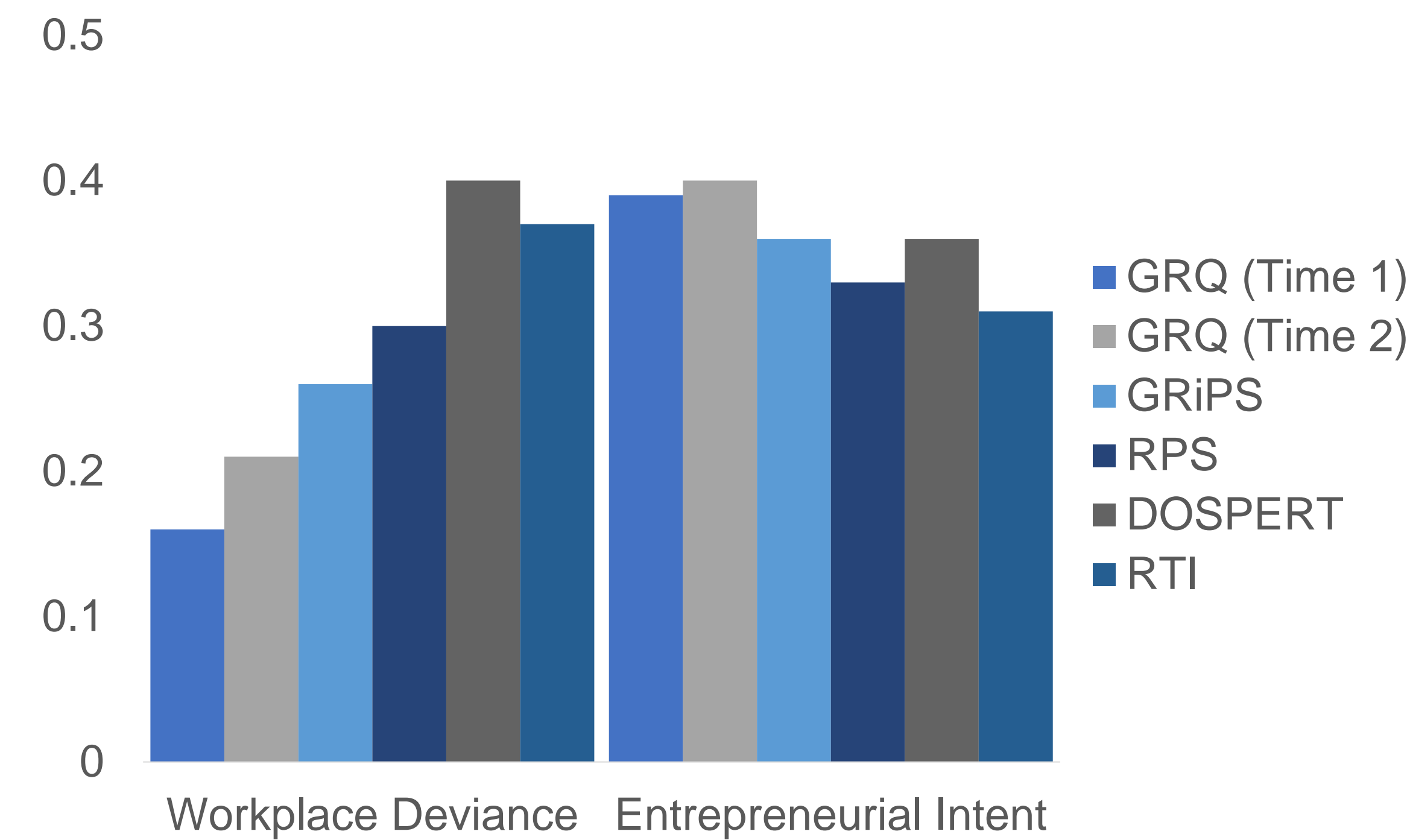
Measures	Type
General Risk Question (GRQ) ¹	Single Item Measure
General Risk Propensity Scale (GRiPS) ³	Multi-Item General
Risk Propensity Scale (RPS) ⁴	Multi-Item General
Domain-General Risk-Taking Scale (DOSPERT) ⁵	Multi-Item Domain-Specific
Risk Taking Inventory (RTI) ⁶	Multi-Item Domain-Specific

Outcome Measures

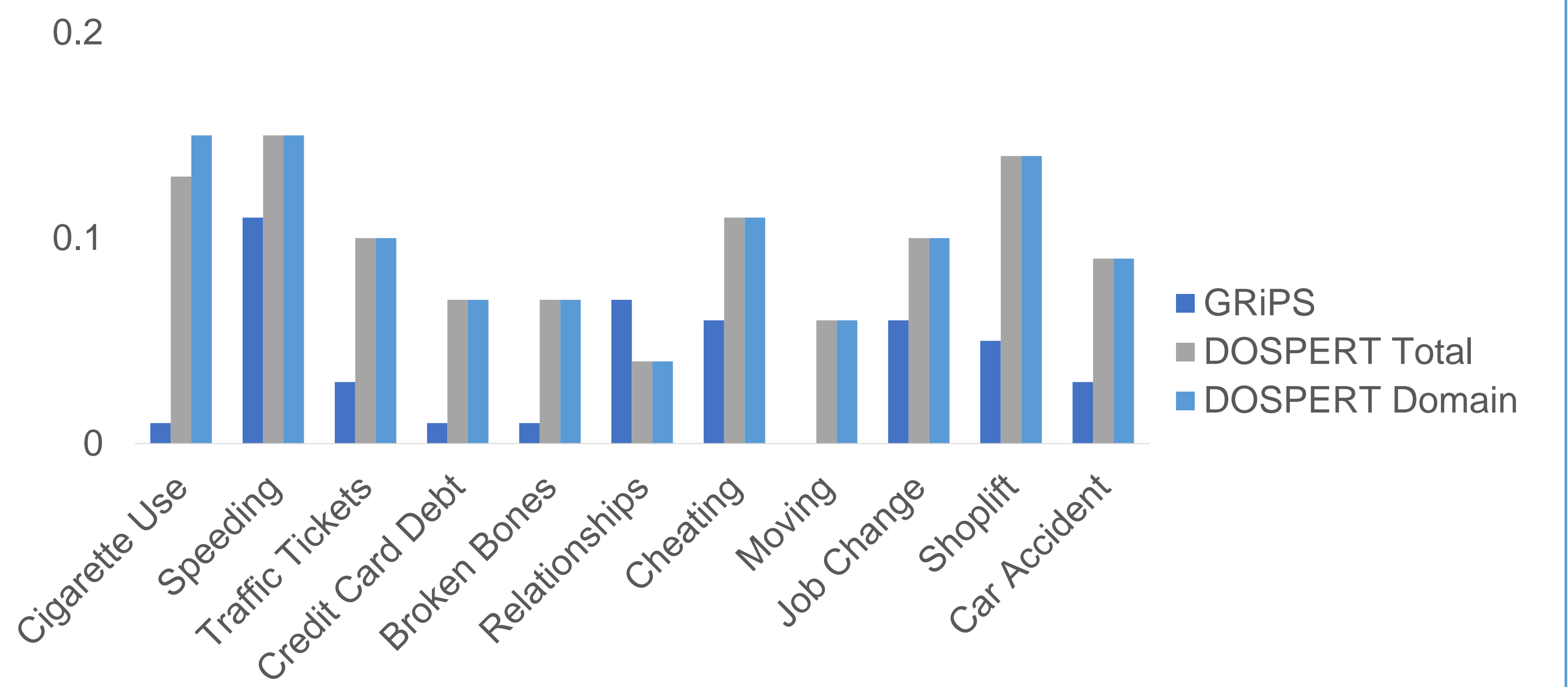
Measures	Type
Workplace Deviance	Broad Antisocial Outcome
Entrepreneurial Intent	Broad Prosocial Outcome
Cigarette use; speeding; traffic tickets; credit card debt; broken bones; number of relationships; cheating on partner; moving; job change; shoplifting; car accidents	Narrow Outcomes

How predictive is the GRQ?

Predictive validity of risk preference measures for broad outcomes



Difference in predictive validity of between multi-item risk measures and GRQ for narrow outcomes



A single-item measure of risk preference is **reliable**, but **less predictive** than multi-item measures.

How reliable is the GRQ?

The reliability of single item measures can be estimated in several ways. First, reliability can be estimated using test-retest reliability. Second, reliability can be estimated based on the communality of the items relative to a corresponding multi-item measure of the same construct (e.g., GRiPS or RPS)⁷. Here, we report three different estimates of the single item reliability of the GRQ.

GRQ Reliability	Single-Item Reliability
Test-Retest Reliability (4 week)	0.70
Communality (GRiPS)	0.70
Communality (RPS)	0.72

Multi-Item Reliability	Cronbach's alpha
GRiPS	0.93
RPS	0.83
DOSPERT Summated	0.88
RTI Summated	0.76

Personality correlates of GRQ

Relative Weight Analysis

Big Five	Neurotic.	Extrav. (+)	Openness (+)	Agreeable (-)	Consci. (-)	Multiple R ²
GRQ (Time 1)	2%	18%	5%	2%	1%	27%
DOSPERT	0%	10%	11%	11%	4%	36%
GRiPS	1%	17%	6%	6%	3%	34%
GRQ (Time 2)	1%	9%	3%	2%	1%	17%
RTI	1%	4%	6%	5%	4%	18%
RPS	1%	7%	7%	4%	5%	25%

Dark Triad	Narcissism (+)	Psychopathy (+)	Machiavellianism	Multiple R ²	
GRQ (Time 1)		13%	12%	1%	26%
DOSPERT		11%	28%	2%	41%
GRiPS		16%	22%	2%	40%
GRQ (Time 2)		9%	13%	1%	23%
RTI		8%	18%	1%	27%
RPS		7%	18%	1%	26%

- The GRQ is most strongly correlated with Extraversion and Openness to Experience dimensions of the Big Five.
- Comparatively, multi-item measures are more strongly correlated with Agreeableness, Conscientiousness, and Psychopathy.
- Differences in the content coverage may in part explain the higher predictive validity of multi-item measures for deviant and maladaptive risky behaviors such as deviance, cheating, and shoplifting.

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5. Nicholson, N., Soane, E., Fenton-O'Creevy, M., & Willman, P. (2005). Personality and domain-specific risk taking. *Journal of Risk Research*, 8(2), 157–176. <https://doi.org/10.1080/1366887032000123856>

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