Testosterone and context-specific risk: Digit ratios as predictors of recreational, financial, and social risk-taking Eric Stenstrom¹, Gad Saad², Marcelo Nepomuceno¹, Zack Mendenhall³



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1) Research Question

• Does prenatal hormone exposure influence risk-taking across contexts?

2) Theoretical Foundation

 Consumers frequently make choices between options that entail varying degrees of risk.

• Circulating testosterone has been associated to financially risky behavior [1], [2].

• Prenatal androgens:

 have significant effects on brain organization and future behavior [3],[4].

• stunts the growth of the second digit relative to the other fingers [5], [6].

• As a result, the second (index) to fourth (ring) digit length ratio (2D:4D) has been used as a proxy of exposure to prenatal testosterone [7].

• 2D:4D linked to financial risk-taking [8]-[10], yet there is a paucity of research exploring the link between digit ratio and risk-taking in other contexts.

• We investigate the impact of prenatal testosterone on risk preferences across a variety of contexts. Specifically, we examine the association between digit ratio and risk-taking behavior across financial, recreational, social, health and ethical domains.



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3) Predictions

 We propose that lower, more masculine digi are predictive of riskier behaviors across all f contexts among men and women.

4) Methodology

• Participants:

- N = 413
- ethnically heterogeneous: 58% Cauca 22% Asian, 10% Middle-Eastern, 2% E 2% Hispanic, and 6% other, mixed, or unspecified.
- completed a survey.
- had the lengths of all right-hand digits measured by a trained experimenter.
- Independent variables:
 - 2D:4D
 - rel2 (the length of the second finger)
 - to the sum of the lengths of all four fing has recently been shown to be manual s accurate than 2D:4D in discrimina between males and females [11].
- Dependent variables:

 Domain-specific risk-taking behavior scale [12].

 Each domain contained 10 five-point type items (1 to 5) assessing one's like of engaging in a given risky activity (al above .67):

Recreational

 "periodically engaging in a dar sports (e.g., mountain climbing diving)"

- Financial
- "investing 10% of your annual in a very speculative stock")
- Social

 "speaking your mind about an unpopular issue at a social occa • Ethical

- "shoplifting a small item (e.g., lipstick or pen)"
- Health "eating 'expired' food products still 'look okay' "

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				Table 1						
			tc	Sex diff	ferences	s in digit	ratios and	d risk-t	aking be	haviors.
atios	5) RESUI	LS		<u>Men (r</u>	n = 219)	Women (n =	= 194)	-	
e					Μ	SD	M SD	-	t Coł	ien's d
				Digit rat	ios					
				2D:4D	0.965	0.035	0.976 0.03	4	3.07* 0.3	0
				rel2	0.250	0.006	0.252 0.00	5	3.08* 0.3	1
				Risk-tak	ing	0.000		6		
				Recreationa	I 2.9/1	0.836	2./10 0.81	8	3.19** 0.2	4 ว
				Social	2.377	0.591	2.132 0.55	с Т	4.55 ^{***} 0.4 3 08** 0 3	5 N
				Ethical	2.243	0.836	1.821 0.81	8	3.19** 0.6	2
				Health	2.485	0.616	2.143 0.57	2	5.83** 0.5	8
				Overall	2.663	0.448	2.375 0.39	7	6.86** 0.6	8
				* p = 0.001.	ono-tailed)					
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		taking be	haviors	5.						
			<u>Caucasiar</u>	<u>n men</u>	<u>Caucasia</u>	an women	Men		<u>Women</u>	
			(n = 130)		(n = 109)	€)	(n = 219)		(n = 19	94)
		Risk domain	2D:4D	rel2	2D:4D	rel2	2D:4D	rel2	2D:4D	rel2
		Recreational	-0.162*	-0.203**	-0.035	0.073	-0.092	-0.070	0.056	0.125
		Financial	-0.081	-0.142*	0.035	-0.038	-0.132*	-0.089	0.032	0.002
		Social	-0.167*	-0.213**	-0.013	-0.049	-0.065	-0.084	-0.037	-0.081
ative		Ethical	-0.061	-0.083	-0.061	-0.059	-0.075	-0.083	0.029	0.022
rs)		Hoalth	-0.015	-0.049	0.057	0.039	-0.035	-0.052	0.047	0.031
									••••	0.001
re		Overall	-0.150*	-0.210**	0.010	0.000	-0.119*	-0.113*	0.046	0.046
re í 1g		Overall* $p \le 0.05.$	-0.150*	-0.210**	0.010	0.000	-0.119*	-0.113*	0.046	0.046
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