

Operational Replications in Study 1

This section presents a summary of the results from the three cohorts in Study 1. The results were consistent across each of the three cohorts and, thus, constitutes a three-cohort series of operational replications (Lykken, 1968, 1991).

Table S1a

Correlations between Acceleration Indicators and Measures of Psychological Well-Being for Cohort 1

Measure	Age of High School Graduation	Acceleration Composite
Core Self-Evaluations	.03	-.08
Positive Affect	.03	-.05
Life Satisfaction	.05	-.07
Negative Affect (Reversed)	.02	-.02
Psychological Flourishing	.04	-.04
Principal Component	.05	-.07

Note. All correlations fall below Cohen's (1988) threshold for "small".

Table S1b

Correlations between Acceleration Indicators and Measures of Psychological Well-Being for Cohort 2

Measure	Age of High School Graduation	Acceleration Composite
Core Self-Evaluations	-.02	.06
Positive Affect	-.03	.06
Life Satisfaction	-.06	.10
Negative Affect (Reversed)	.00	.03
Psychological Flourishing	-.07	.06
Principal Component	-.04	.07

Note. Despite the number of correlations computed, only one correlation met Cohen's (1988) threshold for "small" ($\geq .1$ in magnitude); this correlation indicates that more acceleration is associated with better outcomes at age 50.

Table S1c

Correlations between Acceleration Indicators and Measures of Psychological Well-Being for Cohort 3

Measure	Age of High School Graduation	Acceleration Composite
Core Self-Evaluations	-.10	.05
Positive Affect	-.09	.06
Life Satisfaction	-.11	.09
Negative Affect (Reversed)	-.05	.05
Psychological Flourishing	-.05	.06
Principal Component	-.09	.08

Note. Despite the number of correlations computed, only two correlations met Cohen's (1988) threshold for "small" ($\geq .1$ in magnitude); both of these correlations indicate that more acceleration is associated with better outcomes at age 50.

Table S1d

Summary of Latent Models for the Individual Cohorts with Acceleration Composite

	Cohort 1	Cohort 2	Cohort 3
RMSEA	.06	.07	.08
SRMR	.03	.03	.06
SES-Acceleration Composite Correlation	.21	.18	.07
SES → Psychological Well-Being	.01	.08	.08
Acc. Composite → Psychologic Well-Being	-.07	.07	.07

Note. Acc. = Acceleration. All path coefficients are from the completely standardized solution. Multi-group structural equation modeling also compared a full model (three separate sub-models with separate estimates fit for the three cohorts) to a constrained model (with loadings and structural paths constrained to be equal across the three cohorts). AIC preferred the full model over the constrained model (83,073 vs. 83,104) whereas BIC favored the constrained model over the full model (83,591 vs. 83,525). The change in chi-square between the constrained and full model was statistically significant ($\Delta\chi^2(18) = 66.73, p < .001$) due to large sample size ($n = 1,636$). Cohen's w for assessing the magnitude of the difference in favor of the full-model showed it to be trivial: $w = .048$ where, using Cohen's conventional cutoffs, .1 is small, .3 is medium, and .5 is large. The equivocal model-comparison indices and the similar patterns of coefficients suggest that constrained model is as good as the full model.

Table S1e

Summary of Latent Models for the Individual Cohorts with Age of High School Graduation

	Cohort 1	Cohort 2	Cohort 3
RMSEA	.06	.07	.08
SRMR	.03	.03	.06
SES-Age of Graduation Correlation	-.08	-.25	.05
SES → Psychological Well-Being	.00	.08	.09
Age of Graduation → Psychological Well-Being	.05	-.03	-.11

Note. All path coefficients are from the completely standardized solution. Using multi-group structural equation modeling, we compared a full model (three separate sub-models with separate estimates fit for the three cohorts) to a constrained model (with loadings and structural paths constrained to be equal across the three cohorts). AIC marginally preferred the full model over the constrained model (77,938 vs. 77,968) whereas BIC favored the constrained model over the full model (78,389 vs. 78,456). The change in chi-square between the constrained and full model was statistically significant ($\Delta\chi^2(18) = 65.67, p < .001$) due to large sample size ($n = 1,636$). Cohen's w for assessing the magnitude of the difference in favor of the full-model showed it to be trivial: $w = .047$ where, using Cohen's conventional cutoffs, .1 is small, .3 is medium, and .5 is large. The equivocal model-comparison indices and the similar patterns of coefficients suggest that the cohorts can be justifiably combined for analysis.

Description of Scales

This section shows the descriptive statistics of each indicator of psychological well-being and the acceleration composite.

Table S2a

Central Tendency and Variability Statistics of Indicators of Psychological Well-Being and the Indicators of Acceleration for Talent Search Participants

	Core Self-Evaluations	Positive Affect	Life Satisfaction	Negative Affect (Reversed)	Psychological Flourishing	Acceleration Composite	Age of HS Graduation
Maximum	60	25	35	70	56	33	20.4
Median	45	20	27	48	47	2	17.8
Mean	45	19.2	25.7	46.7	46.5	3.6	17.7
Minimum	13	5	5	11	8	0	11.9
<i>SD</i>	7	3.2	6.4	11	6.2	4.4	0.7

Note. *SD* = Standard deviation, HS = High School.

Table S2b

Central Tendency and Variability Statistics of Indicators of Psychological Well-Being and the Acceleration Composite for Elite STEM Graduate Students

	Core Self-Evaluations	Positive Affect	Life Satisfaction	Negative Affect (Reversed)	Psychological Flourishing	Acceleration Composite	Age of HS Graduation
Maximum	60	25	35	68	56	16	19.4
Median	45	20	28	46	47	3	17.9
Mean	44.6	19.1	26.6	45.1	46.2	3.4	17.9
Minimum	23	8	6	13	21	0	15.1
<i>SD</i>	6.8	3.3	5.7	10.5	5.3	3	0.5

Note. *SD* = Standard deviation, HS = High School.

Comparisons of Responders and Non-Responders

This section compares those who were included in this study (responders) and those who were not (non-responders), within cohort. Response patterns are compared with respect to ability, socioeconomic background, and gender. No meaningful differences were found between responders and non-responders.

Table S3a

Ability and Background Comparisons of Responders and Non-Responders: Cohort 1

Outcome	Group						95% CI for		
	Non-Responder			Responder			Mean	<i>t</i>	<i>df</i>
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	Difference		
SAT-M	526.0	78.9	340	527.5	72.6	993	-11.08, 8.02	-0.32	548.3
SAT-V	441.9	85.7	108	445.6	84.6	321	-22.54, 14.97	-0.40	182.1
Dad Prestige	-0.03	1.00	165	0.01	1.00	627	-0.21, 0.14	-0.40	256.5
Mom Prestige	-0.12	1.08	121	0.03	0.98	458	-0.36, 0.06	-1.38	176.0
Dad Educ.	3.8	1.5	325	4.0	1.4	934	-0.35, 0.23	-1.71	553.1
Mom Educ.	3.1	1.1	325	3.2	1.1	934	-0.28, -0.01	-2.07*	593.6

Note. * $p < .05$. Educ = Education level. Prestige = occupational prestige, scaled in z-score units. Parents' educational level was coded as 1: less than high school, 2: high school, 3: some college or associate's, 4: college, 5: master's, 6: doctorate. There was an association between gender and response status (with females participating more): $\chi^2(1) = 13.30, p < .001$. Ns for SAT-V in Cohort 1 are relatively small because some of the waves in Cohort 1 were only selected on the SAT-M.

Table S3b

Ability and Background Comparisons of Responders and Non-Responders: Cohort 2

Outcome	Group						95% CI for		
	Non-Responder			Responder			Mean	<i>t</i>	<i>df</i>
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	Difference		
SAT-M	559.7	66.4	182	550.5	66.8	394	-2.51, 20.95	1.55	354.0
SAT-V	468.8	79.9	182	457.2	70.8	394	-0.93, 26.28	1.83	316.8
Dad Prestige	0.00	1.01	178	0.00	1.00	387	-0.18, 0.18	-0.05	338.7
Mom Prestige	0.00	0.89	80	0.00	1.05	180	-0.25, 0.25	0.02	177.3
Dad Educ.	4.4	1.0	181	4.4	1.0	389	-0.22, 0.12	-0.57	350.3
Mom Educ.	3.8	1.0	183	3.8	1.1	389	-0.19, 0.18	-0.05	373.5

Note. Educ = Education level. Prestige = occupational prestige, scaled in z-score units. Parents' educational level was coded as 1: less than high school, 2: high school, 3: some college or associate's, 4: college, 5: master's, 6: doctorate. There was no association between gender and response status: $\chi^2(1) = 0.30, p = .582$.

Table S3c

Ability and Background Comparisons of Responders and Non-Responders: Cohort 3

Outcome	Group						95% CI for		
	Non-Responder			Responder			Mean Difference	<i>t</i>	<i>df</i>
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>			
SAT-M	695.0	77.0	176	683.4	88.6	180	-5.68, 28.90	1.32	349.3
SAT-V	542.6	104.5	175	554.3	103.6	180	-33.37, 10.07	-1.05	352.5
Dad Prestige	-0.03	0.98	166	0.03	1.02	174	-0.27, 0.16	-0.54	338.0
Mom Prestige	-0.07	1.10	172	0.07	0.89	174	-0.35, 0.07	-1.30	327.5
Dad Educ.	5.5	1.5	176	5.7	1.4	180	-0.55, 0.07	-1.52	352.8
Mom Educ.	4.1	1.1	176	4.3	1.0	180	-0.34, 0.10	-1.05	345.9

Note. Educ = Education level. Prestige = occupational prestige, scaled in z-score units. Parents' educational level was coded as 1: less than high school, 2: high school, 3: some college or associate's, 4: college, 5: master's, 6: doctorate. There was no association between gender and response status: $\chi^2(1) = 3.31, p = .069$.

Table S3d

Ability and Background Comparisons of Responders and Non-Responders: Elite STEM Graduate

Students

Outcome	Group						95% CI for		
	Non-Responder			Responder			Mean Difference	<i>t</i>	<i>df</i>
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>			
GRE-Q	728.5	67.5	165	747.7	52.5	416	-30.7, -7.69	-3.28**	246.6
GRE-V	605.5	98.8	165	626.1	89.9	416	-38.1, -3.17	-2.32*	277.6
Dad Prestige	-0.07	0.98	158	0.03	1.01	396	-0.29, 0.07	-1.12	298.0
Mom Prestige	0.09	0.93	139	-0.04	1.03	322	-0.06, 0.32	1.34	288.9
Dad Educ.	4.6	1.7	191	4.6	1.6	469	-0.30, 0.27	-0.09	328.4
Mom Educ.	4.0	1.7	198	4.0	1.8	468	-0.28, 0.28	0.01	391.4
Books Home	4.6	1.1	202	4.7	1.1	475	-0.24, 0.13	-0.61	358.6

Note. * $p < .05$. ** $p < .01$. Educ = Education level. Prestige = occupational prestige, scaled in z-score units. Parents' educational level was coded as 1: less than high school, 2: high school, 3: some college or associate's, 4: college, 5: master's, 6: doctorate. Number of books in the home was coded as 1: none or very few (0-10), 2: a few (11-25), 3: one bookcase full (26- 100), 4: two bookcases full (101-250), 5: three or four bookcases full (251-500), 6: library (501+). There was no association between gender and response status: $\chi^2(1) = 0, p = 1$.

Table S3e

Comparing the Ethnicities of Responders and Non-Responders in Study 1 (Cohorts 1, 2, & 3) and Study 2 (Elite STEM Graduate Students)

Cohort	White	Asian-American	Black or African-American	Hispanic	Other
Cohort 1					
Responders	94.8%	1.8%	0.9%	0.5%	1.9%
Non-Responder	97.7%	2.3%	0.0%	0.0%	0.0%
Cohort 2					
Responders	89.6%	6.8%	0.5%	0.8%	2.3%
Non-Responder	89.1%	7.6%	2.2%	1.1%	0.0%
Cohort 3					
Responders	75.5%	18.6%	0.9%	0.5%	4.5%
Non-Responder	79.0%	19.3%	0.6%	0.0%	1.1%
Elite STEM Graduate Students					
Responders	84.0%	9.0%	1.0%	2.0%	4.0%
Non-Responder	76.9%	11.1%	4.5%	3.5%	4.0%

Table S4

Percentages of Talent Search Cohorts Identified by Meeting the Selection Criteria on SAT-M,

SAT-V, and Both

	SAT-M	SAT-V	Both SAT-M & SAT-V
Cohort 1	73.2%	0.4%	26.4%
Cohort 2	25.2%	12.1%	62.7%
Cohort 3	68.9%	20.5%	10.5%

Note. Selection criteria for each cohort were as follows: Cohort 1 = SAT-M \geq 390 or SAT-V \geq 370, Cohort 2 = SAT-M \geq 500 or SAT-V \geq 430, and Cohort 3 = SAT-M \geq 700 or SAT-V \geq 630.