Is Fame Fickle, Fleeting, Fluff?

The Reliability and Validity of Individual Differences in Eminence

Introduction

- Questions
- Origins
- Applications
- Objections
- Illustrations
- Conclusions

Introduction: Questions

- Do individual differences in eminent reputation have any psychological utility?
- Are they reliable?
- Are they valid?

Introduction: Questions

- Or, was Dante correct when he said “Worldly renown is naught but a breath of wind, which now comes this way and now comes that, and changes name because it changes quarter”?

Introduction: Origins

- First use as a psychological variable: Francis Galton's (1869) operational definition of genius in terms of reputation both contemporaneous and posthumous, viz.
- "the opinion of contemporaries, revised by posterity … the reputation of a leader of opinion, of an originator, of a man to whom the world deliberately acknowledges itself largely indebted."
- Used as an indicator of "genius," the latter including creativity, leadership, and even sports

Introduction: Applications

- Historiometric:
  - Cox (1926) etc.
- Psychometric:
  - IPAR (UC Berkeley) etc.

Introduction: Objections

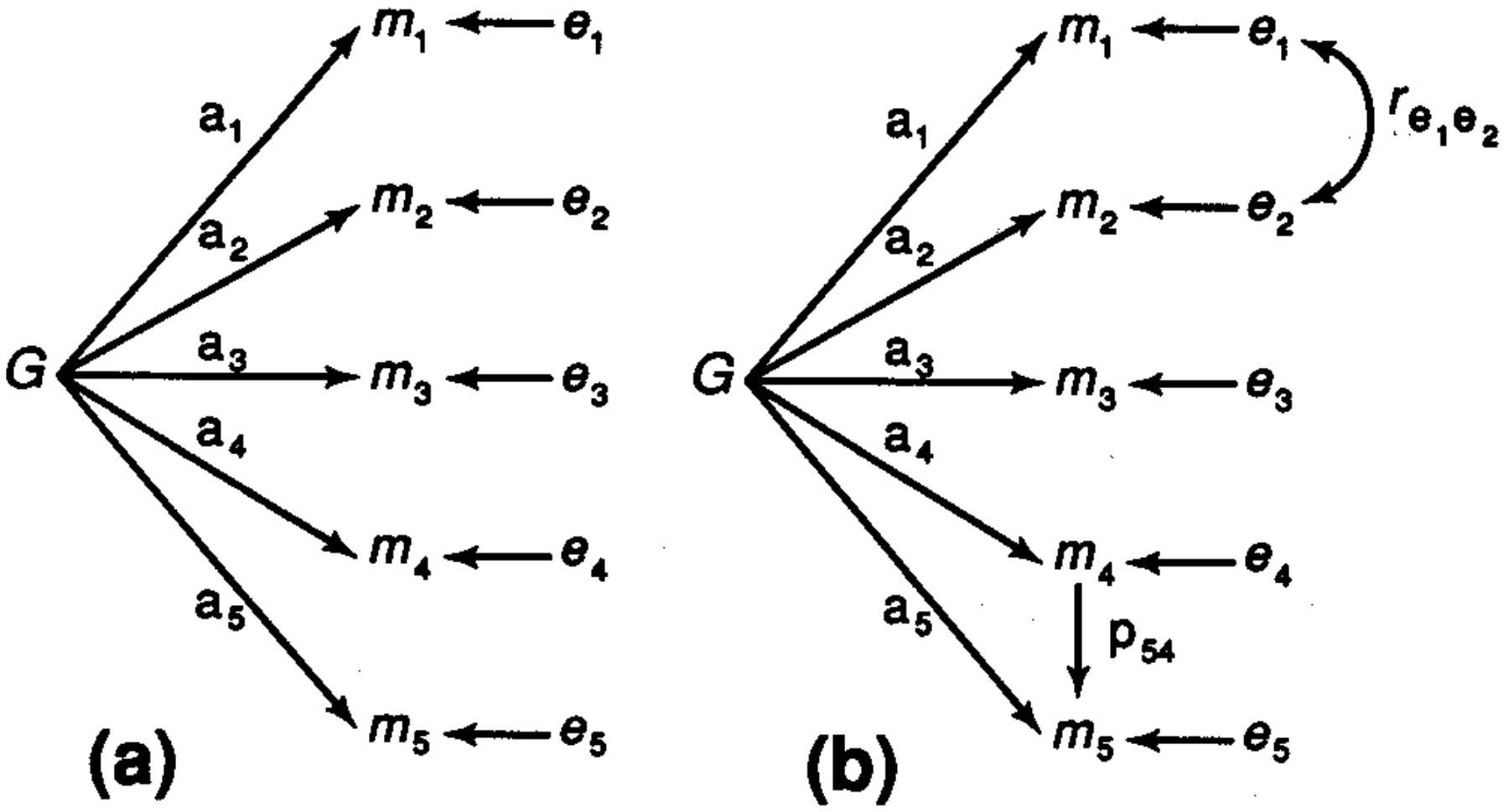
- Unreliable? Riddled with too much error to assess anything?
- Invalid? Does it measure anything psychologically meaningful?

Reliability

- Internal Consistency of Composite Measures
- Temporal Stability of Consecutive Measures

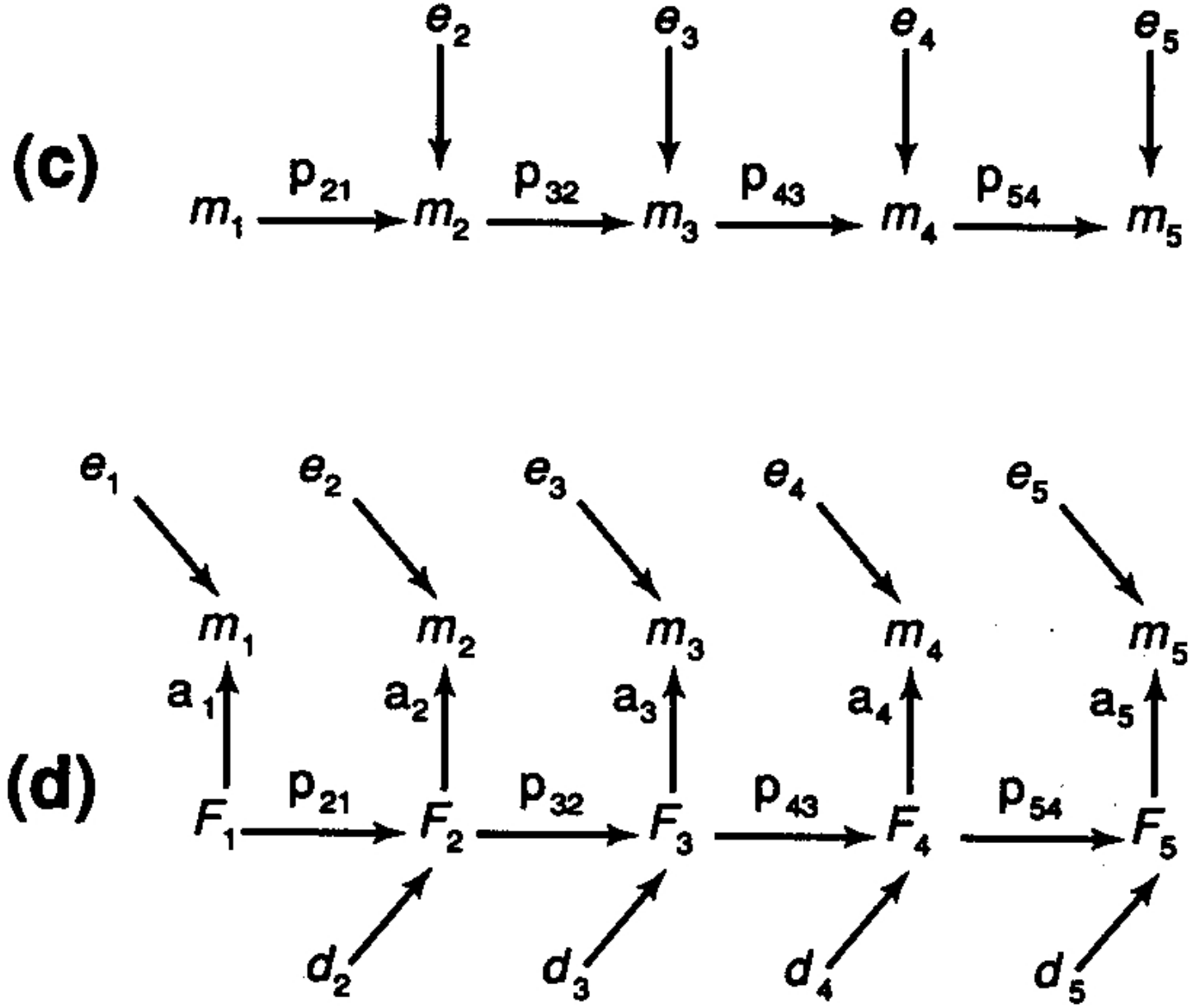
Reliability: Internal Consistency

- Correlations: Alternative measures exhibit positive and nontrivial intercorrelations
- Coefficients: Alpha reliabilities of composite measures are uniformly high
- Factors: Multiple indicators can be adequately fitted by a single-factor model (Galton's *G*) with only sporadic and minor method effects (e.g., "difficulty factors")


G
a1
a2
a3
a4
a5
m1
m2
m3
m4
m5
e1
e2
e3
e4
e5
(a)
re1e2
p54
(b)

Reliability: Temporal Stability

- “Test-Retest” Correlations
  - Moderate to large
- Latent-Variable Models
  - Single-factor (Galton’s *G)* rather than quasi-simplex (autoregressive)


(c)
e2
e3
e4
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p21
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p32
m3
p43
m4
p54
m5
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e1
e2
e3
e4
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m1
m2
m3
m4
m5
a1
a2
a3
a4
a5
F1
p21
F2
p32
F3
p43
F4
p54
F5
d2
d3
d4
d5

Validity

- Substantive Correlates
- Methodological Issues

Validity: Substantive Correlates

- Behavioral (e.g., productivity)
- Cognitive (e.g., latent inhibition)
- Dispositional (e.g., motivation)
- Developmental (e.g., expertise acquisition)
- Social (e.g., disciplinary networks)

Validity: Methodological Issues

- Eminence measures are contaminated with certain biases, especially those that can be described as
  - demographic (birth year, ethnicity, gender)
  - ideological (liberal versus conservative)
  - attributional (fundamental attribution error)
  - distributional (skewed with long upper tail)

Validity: Methodological Issues

- Yet these biases
  - are usually small, sometimes even trivial, relative to the entire variance, and
  - can be considerably reduced if not completely obliterated via
    - measurement strategies
    - data transformations
    - statistical controls

Illustrations

Illustrations

- Simonton, D. K. (1991e). Latent-variable models of posthumous reputation: A quest for Galton's *G*. *Journal of Personality and Social Psychology*, *60*, 607-619.
- Simonton, D. K. (1998a). Achieved eminence in minority and majority cultures: Convergence versus divergence in the assessments of 294 African Americans. *Journal of Personality and Social Psychology*, *74*, 804-817.
- Simonton, D. K. (1998c). Fickle fashion versus immortal fame: Transhistorical assessments of creative products in the opera house. *Journal of Personality and Social Psychology*, *75*, 198-210

Table 1

Goodness-of-Fit Statistics for Two Galtonian Models Tested on Eight Data Sets

Data	NFI	NNFI	PFI	CFI	χ^2	*df*	*p*
Presidents							
Model a	1.000	1.000	.750	1.000	37.459	27	.087
Model b	1.000	1.000	.722	1.000	35.624	26	.099
Philosophers							
Model a	.984	.980	.765	.984	1,043.602	35	.001
Model b	.992	.990	.750	.992	528.308	34	.001
Artists							
Model a	.994	.993	.861	.994	1,552.065	104	.001
Model b	.995	.994	.856	.995	1,327.098	102	.001
Composers							
Model a	.988	.981	.593	.989	172.848	9	.001
Model b	.996	.994	.531	.997	53.250	8	.001
Composers							
Music histories							
Model a	1.000	.999	.600	1.000	32.605	9	.001
Model b	1.000	.999	.533	1.000	32.502	8	.001
Music encyclopedias							
Model a	.897	.840	.538	.904	108.433	9	.001
Model b	.917	.857	.489	.924	86.898	8	.001
General encyclopedias							
Model a	1.000	1.000	.600	1.000	16.893	9	.050
Model b	1.000	1.000	.467	1.000	9.725	7	.205

Note. Presented are the Bentler-Bonett (1980) normed (NFI) and nonnormed (NNFI) fit indexes, the parsimonious fit index (PFI), the comparative fit index (CFI), and the chi-square test. For presidents, N = 28; for philosophers, N = 2,012; for artists, N = 772; for composers, Ns = 696 and 92.

Correlation Matrix and Standardized Structural Coefficients: 772 Artists

m_i	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1.00															
2	.83	1.00														
3	.50	.64	1.00													
4	.44	.59	.84	1.00												
5	.44	.63	.78	.72	1.00											
6	.49	.57	.78	.71	.73	1.00										
7	.33	.42	.60	.52	.49	.56	1.00									
8	.27	.35	.51	.50	.45	.53	.59	1.00								
9	.51	.64	.74	.67	.73	.63	.47	.45	1.00							
10	.46	.58	.60	.60	.54	.59	.43	.40	.78	1.00						
11	.48	.57	.79	.68	.70	.76	.50	.43	.75	.65	1.00					
12	.46	.56	.74	.70	.64	.76	.50	.47	.64	.61	.87	1.00				
13	.46	.58	.76	.68	.72	.72	.46	.43	.72	.60	.83	.72	1.00			
14	.54	.68	.74	.71	.73	.69	.48	.44	.67	.58	.75	.70	.89	1.00		
15	.42	.59	.78	.72	.76	.68	.50	.48	.79	.67	.72	.66	.72	.71	1.00	
16	.51	.59	.73	.67	.60	.69	.55	.49	.68	.61	.67	.61	.73	.70	.74	1.00

$\underline{m}_1 = .627\ \underline{G} + .779\ \underline{e}_1$

$\underline{m}_2 = .777\ \underline{G} + .629\ \underline{e}_2$

$\underline{m}_3 = .942\ \underline{G} + .337\ \underline{e}_3$

$\underline{m}_4 = .889\ \underline{G} + .458\ \underline{e}_4$

$\underline{m}_5 = .903\ \underline{G} + .430\ \underline{e}_5$

$\underline{m}_6 = .889\ \underline{G} + .457\ \underline{e}_6$

$\underline{m}_7 = .625\ \underline{G} + .781\ \underline{e}_7$

$\underline{m}_8 = .564\ \underline{G} + .825\ \underline{e}_8$

$\underline{m}_9 = .929\ \underline{G} + .369\ \underline{e}_9$

$\underline{m}_{10} = .834\ \underline{G} + .551\ \underline{e}_{10}$

$\underline{m}_{11} = .960\ \underline{G} + .280\ \underline{e}_{11}$

$\underline{m}_{12} = .924\ \underline{G} + .383\ \underline{e}_{12}$

$\underline{m}_{13} = .962\ \underline{G} + .271\ \underline{e}_{13}$

$\underline{m}_{14} = .949\ \underline{G} + .316\ \underline{e}_{14}$

$\underline{m}_{15} = .892\ \underline{G} + .452\ \underline{e}_{15}$

$\underline{m}_{16} = .860\ \underline{G} + .510\ \underline{e}_{16}$

Bentler-Bonett Normed Fit Index	0.995
Bentler-Bonett Nonnormed Fit Index	0.994
Parsimonious Fit Index	0.846
Chi-Square ($\underline{df}$ = 34)	1326.922
Probability Value for Chi-Square	.001
Correlation between $\underline{e}_1$ and $\underline{e}_2$	.693
Correlation between $\underline{e}_7$ and $\underline{e}_8$	.348

Table 1

Exploratory and Confirmatory Factor Analyses of Black and White Eminence Assessments

Measure	Exploratory		Confirmatory	
	1	2	1	2
African-American Almanac	.69	.23	.87	.00
Encyclopedia of African-American Culture & History	.93	.00	.90	.00
Chronology of African-American History	.29	.48	.74	.00
Timelines of African-American History	.57	.26	.80	.00
African Americans: Voices of Triumph	.61	−.13	.50	.00
African Americans: A Portrait	.63	−.05	.56	.00
Pictorial History of African Americans	.97	−.29	.70	.00
Encyclopaedia Britannica	−.03	.82	.00	.81
Encyclopedia Americana	.10	.80	.00	.88
Academic American Encyclopedia	.10	.75	.00	.84
Collier's Encyclopedia	.33	.60	.00	.61
Encyclopedia of American Facts and Dates	−.20	.78	.00	.60
Timetables of American History	−.33	.99	.00	.69
Encyclopedia of American History	.08	.69	.00	.74
Reader's Companion to American History	.95	−.14	.00	.65
Cambridge Dictionary of American Biography	−.05	.79	.00	.74
USA: A Chronicle in Pictures	−.11	.86	.00	.78
Factor correlation	.75		.82	

Note. The exploratory analysis used principal axes with iteration of the communality estimates, followed by rotation of two factors via the Oblimin criterion ($\gamma = 0.5$). The confirmatory analysis used maximum-likelihood estimation (under the robust statistics option).

Table 2

Regression Analysis: Predictors of Eminence Assessments of 245 African Americans

Predictor	Black			White		
	b	SE_b	β	*b*	SE_b	β
Figures of the past	0.931	0.426	.14*	1.684	0.411	.26***
Civil rights activists	1.171	0.293	.25***	0.571	0.283	.12*
Black nationalists	0.925	0.361	.17*	0.584	0.349	.10
Organization leaders	0.379	0.279	.09	0.133	0.269	.03
Lawyers	−0.188	0.416	−.03	−0.870	0.402	−.12*
Government officials	−0.174	0.247	−.05	−0.170	0.239	−.05
Educators	−0.442	0.349	−.08	−0.727	0.337	−.13
Religious leaders	−0.203	0.391	−.03	−0.523	0.378	−.08
Creative writers	0.444	0.235	.13	0.569	0.227	.17*
Mass-media figures	0.256	0.385	.04	−0.328	0.372	−.05
Classical musicians	−0.499	0.285	−.11	−0.235	0.276	−.05
Blues and jazz musicians	−0.369	0.215	−.14	0.808	0.208	.30***
Gospel and soul musicians	0.519	0.341	.09	0.596	0.329	.11
Artists	−0.000	0.326	−.00	−0.628	0.315	−.12*
Scientists	−0.590	0.309	−.13	−0.424	0.295	−.10
Athletes	−0.198	0.269	−.05	0.930	0.260	.24***
Miscellaneous leaders	−0.474	0.384	−.07	−0.853	0.371	−.13*
Gender	−0.051	0.148	−.02	−0.187	0.143	−.07
Birth year	0.002	0.002	.09	0.039	0.019	.17*
Living contemporary	−0.392	0.144	−.19**	−0.364	0.139	−.17*
Famous firsts	0.220	0.053	.28***	0.193	0.051	.25***
Spingarn Award	0.434	0.157	.17**	0.460	0.152	.18**

Note. The foregoing predictors account for 36% of the variance ($R^2 = .36$) in the Black measures and 40% of the variance ($R^2 = .40$) in the White measures. The intercept for both equations defines the predicted eminence of performance artists, the comparison group for both regression equations. This intercept is −0.282 for the Black equation, and −0.422 for the White equation.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 1

Correspondence Between Contemporary and Current Impact Measures

	Zero-order correlations (r)		Regression coefficient (β)	
Measure	Productions	Languages	Productions	Languages
Recordings	.48	.37	.59	.48
Videos	.46	.35	.52	.42
Performances	.56	.46	.57	.47
Dictionaries	.42	.31	.51	.40
Histories	.37	.24	.53	.38
Rankings	.31	.21	.43	.33
Global success	.46	.35	.56	.44

Note. All zero-order correlations and standardized partial regression coefficients are statistically significant at the $p < .001$ level or better. The regression coefficients have the effects of performance date and libretto language partialed out. $N = 496$.

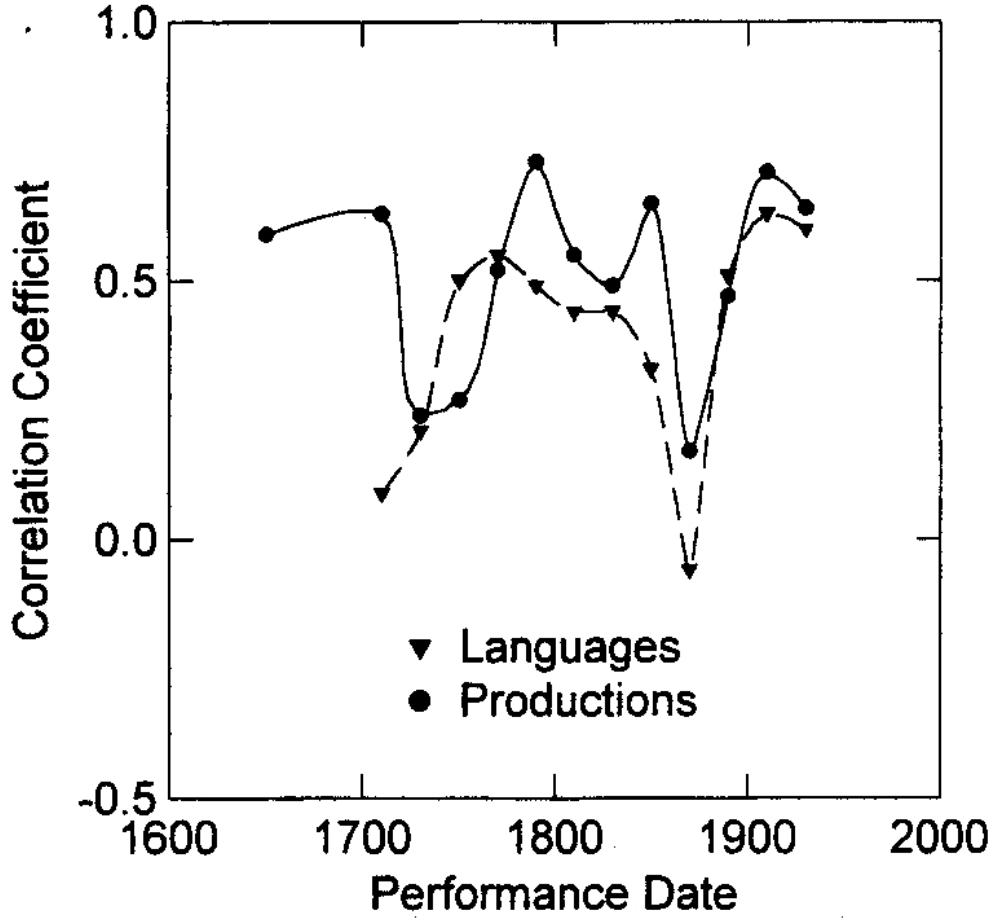

Figure 2. Generational fluctuations in the magnitude of the correlation between the current evaluation (according to the global-success measure) and the contemporary reception according to two separate measures (productions and languages). The data points are fitted with a spline curve.

Conclusions:
Eminence assessments

- are reliable both across measures and across time
- are valid in the sense that they capture individual differences in behavioral, cognitive, personality, and developmental variables
- yet they usually require the introduction of corrections to remove or control for various biases and contaminants

Or as Thomas Carlyle once said, “Fame, we may understand, is no sure test of merit, but only a probability of such.”

but with the addition that this probability is reasonably high, as high was holds for most other individual-difference instruments