

OSF Material 6: Results of Model Comparison Analyses for Separate Samples

In addition to the meta-analytical analyses reported in the manuscript, we conducted all model evaluations separately for the different samples. As can be seen in the following, the results were quite consistent across studies, and the overall conclusions are highly similar to the conclusions drawn from the meta-analytical results reported in the manuscript.

For each analysis, the 95% confidence set of models is provided in the following tables. The Akaike weight of the respective model is denoted by w , it can be interpreted as the model's likelihood of being the best model in the set. Regression coefficients b_1 to b_5 refer to the full polynomial model $Z = b_0 + b_1S + b_2R + b_3S^2 + b_4SR + b_5R^2$. The final conclusions were drawn after considering the area of data, interpreting of the full model if included in the confidence set, and identifying common effects of the models in the confidence set.

Results for the Content Domain Reasoning Ability

Outcome: Global self-evaluation

95% Confidence set of models	w	b_1	b_2	b_3	b_4	b_5	Final conclusion per sample
Sample A							
Beneficial PSV Only	0.952	0.386	0	0	0	0	Beneficial PSV Hypothesis
Full model ^{a)}	0.054	0.379	0.028	-0.002	-0.092	0.072	
Sample B							
Curvilinear PSV ^{b)}	0.568	0.201	0	-0.06	0	0	Beneficial PSV Hypothesis
Beneficial PSV Only	0.429	0.221	0	0	0	0	
Sample C							
							Evidence for:
Optimal Margin	0.537	0.108	-0.108	-0.151	0.302	-0.151	Optimal Margin Hypothesis
Self-Knowledge	0.356	0	0	-0.149	0.299	-0.149	Self-Knowledge Hypothesis
Full model ^{c)}	0.1	0.148	-0.023	-0.205	0.311	-0.043	Optimal amount of SE depending on levels of self-view and ability

Final overall conclusion across samples: Beneficial PSV Hypothesis
Tentative evidence for curvilinear SE effect
with uncertainty about optimal level of SE

Final conclusion from meta-analytical integration (main manuscript): Beneficial PSV Hypothesis

^{a)}The coefficients of the full model indicate a beneficial PSV effect which is slightly stronger on lower ability levels than on higher levels, and a weak additional U-shaped association of objective ability and the outcome.

^{b)}98% of the data values of S were situated in the “rising” area of the curvilinear PSV effect.

^{c)}The coefficients of the full model indicate a rotated SK model, such that for low levels of self-viewed and real ability, the outcome was highest for persons who slightly self-enhanced their ability, while for persons on high levels of self-viewed and real ability, the outcome was highest for persons who slightly self-effaced their ability.

Outcome: Well-being

95% Confidence set of models	w	b_1	b_2	b_3	b_4	b_5	Final conclusion per sample
Sample A							
Curvilinear PSV ^{a)}	0.77	0.255	0	-0.09	0	0	
Beneficial PSV Only	0.23	0.31	0	0	0	0	Beneficial PSV Hypothesis
Sample B							
Beneficial PSV Only	0.975	0.201	0	0	0	0	Beneficial PSV Hypothesis
Sample C							
Self-Knowledge	0.593	0	0	-0.164	0.328	-0.164	Evidence for both: Self-Knowledge Hypothesis
Full model ^{b)}	0.398	0.062	0.05	-0.203	0.416	0.016	Optimal amount of SE depending on levels of self-view and ability
Final overall conclusion across samples:							
							Beneficial PSV Hypothesis
							Tentative evidence for curvilinear SE effect with uncertainty about optimal level of SE
Final conclusion from meta-analytical integration (main manuscript):							
							Evidence for both:
							Beneficial PSV effect up to optimal PSV value
							Optimal PSV level varying for different real ability levels

^{a)}97% of the data values of S were situated in the “rising” area of the curvilinear PSV effect.

^{b)}The coefficients of the full model indicate a rotated SK model (similar to the effect for global self-evaluation in Sample C), and an additional common U-shaped effect of self-viewed and real ability, such that the outcome is generally higher on low and on high levels of self-viewed and real ability than on medium levels.

Outcome: Self-rated agentic outcomes

95% Confidence set of models	w	b_1	b_2	b_3	b_4	b_5	Final conclusion per sample
Sample A	Full model not significant						
Sample B							
Beneficial PSV Only	0.924	0.284	0	0	0	0	Beneficial PSV Hypothesis
Full model ^{a)}	0.076	0.257	0.05	-0.062	0.072	-0.027	
Sample C							
Interaction ^{b)}	0.75	0.367	0.004	0	0.249	0	Beneficial PSV Hypothesis
Beneficial PSV Only	0.182	0.367	0	0	0	0	Weak evidence for
Optimal Margin ^{c)}	0.063	0.188	-0.188	-0.08	0.16	-0.08	additional beneficial SE effect

Final overall conclusion across samples: Beneficial PSV Hypothesis

Final conclusion from meta-analytical integration (main manuscript): Beneficial PSV Hypothesis

^{a)}The coefficients of the full model indicate a (diminishing) beneficial PSV effect and a weak additional diminishing ability effect

^{b)}Interpretation of the interaction effect:

Effect of self-viewed ability S for real ability R fixed at one standard deviation *below* average ($R = -1$): $b_1 - b_4 = 0.118$

Effect of self-viewed ability S for real ability R fixed at the average ($R = 0$): $b_1 = 0.367$

Effect of self-viewed ability S for real ability R fixed at one standard deviation *below* average ($R = 1$): $b_1 + b_4 = 0.616$

That is, the interaction model indicates a beneficial PSV effect which is stronger on higher ability levels than on lower levels.

^{c)}80% of the data points were situated in the “rising” side of the surface, indicating a beneficial SE effect which is stronger on lower SE levels than on higher levels and which might reverse on very high levels of SE, but the reversing effect should be interpreted with care. Because this model only had a likelihood of 6% for being the best model in one of the samples, while all other models in this and the other sample speak for a beneficial PSV effect, evidence clearly favored the Beneficial PSV Hypothesis across all samples.

Outcome: Self-rated communal outcomes

This outcome category was not assessed in Sample A, and the full polynomial model was not significant in Samples B and C, respectively.

Outcome: Peer-rated agentic outcomes

95% Confidence set of models	w	b_1	b_2	b_3	b_4	b_5	Final conclusion per sample
Sample A							
Beneficial PSV and Ability	0.974	0.22	0.246	0	0	0	Beneficial PSV effect and beneficial ability effect
Sample B							
Beneficial PSV and Ability	0.423	0.112	0.153	0	0	0	Beneficial PSV effect and beneficial ability effect
Full model ^{a)}	0.233	0.093	0.151	-0.034	-0.086	-0.016	
Beneficial Ability Only	0.215	0	0.18	0	0	0	
Curvilinear PSV ^{b)}	0.071	0.129	0	-0.063	0	0	
Beneficial PSV Only	0.051	0.149	0	0	0	0	
Sample C							
full model not significant							
Final overall conclusion across samples:							Beneficial PSV effect and beneficial ability effect
Final conclusion from meta-analytical integration (main manuscript):							Beneficial PSV effect and beneficial ability effect

^{a)}The coefficients of the full model indicate a beneficial effect of PSV and real ability, which is curvilinear (weaker effect for higher levels of self-viewed and real ability than for lower levels).

^{b)}85% of the data values of S were situated in the “rising” area of the curvilinear PSV effect.

Outcome: Peer-rated communal outcomes

Within the analyses for the separate samples, the full polynomial model was not significant for neither of the samples. In the meta-analytical integration, due to the larger sample size, the full polynomial model was significant with $R^2_{\text{adj}} = .01$ ($p = .044$; see Table 3 in the main manuscript). The meta-analytical results provided evidence for both the Detrimental SE Hypothesis and for the Beneficial Ability Only Hypothesis.

Results for the Content Domain Vocabulary Knowledge

Outcome: Global self-evaluation

95% Confidence set of models	w	b_1	b_2	b_3	b_4	b_5	Final conclusion per sample
Sample B							Evidence for both:
Optimal Margin ^{a)}	0.787	0.228	-0.228	-0.052	0.103	-0.052	Beneficial SE Hypothesis
Interaction ^{b)}	0.148	0.25	-0.181	0	0.104	0	Beneficial PSV Hypothesis
Beneficial SE	0.063	0.239	-0.188	0	0	0	
Sample C							Full model not significant
Sample D							Evidence for both:
Curvilinear PSV ^{c)}	0.655	0.359	0	-0.03	0	0	Beneficial PSV Hypothesis
Full model ^{d)}	0.119	0.366	-0.025	-0.031	0.019	0.001	Beneficial SE Hypothesis
Beneficial SE	0.116	0.389	-0.031	0	0	0	
Beneficial PSV Only	0.11	0.382	0	0	0	0	
Sample E							Full model not significant
Final overall conclusion across samples:							Evidence for both: Beneficial SE Hypothesis Beneficial PSV Hypothesis
Final conclusion from meta-analytical integration (main manuscript):							Evidence for both: Beneficial SE Hypothesis Beneficial PSV Hypothesis

^{a)}97% of the data points were situated in the “rising” side of the surface, indicating a beneficial SE effect which is stronger on lower SE levels than on higher levels.

^{b)}Interpretation of the interaction effect:

Effect of self-viewed ability S for real ability R fixed at one standard deviation *below* average ($R = -1$): $b_1 - b_4 = 0.146$

Effect of self-viewed ability S for real ability R fixed at the average ($R = 0$): $b_1 = 0.25$

Effect of self-viewed ability S for real ability R fixed at one standard deviation *below* average ($R = 1$): $b_1 + b_4 = 0.354$

That is, the interaction model indicates a beneficial PSV effect which is stronger on higher ability levels than on lower levels.

◊ 100% of the data values of S were situated in the “rising” area of the curvilinear PSV effect.

◊ The coefficients of the full model indicate a strong beneficial PSV effect combined with a weak beneficial SE effect, and the effects were slightly stronger on lower predictor levels than on higher levels.

Outcome: Well-being

95% Confidence set of models	w	b_1	b_2	b_3	b_4	b_5	Final conclusion per sample
Sample B							Evidence for both:
Beneficial SE	0.5	0.226	-0.108	0	0	0	Beneficial SE Hypothesis
Beneficial PSV Only	0.279	0.205	0	0	0	0	Beneficial PSV Hypothesis
Optimal Margin ^{a)}	0.149	0.168	-0.168	0	0	0	
Full model ^{b)}	0.07	0.22	-0.068	-0.016	0.011	0.058	
Sample C							Full model not significant
Sample D							
Curvilinear PSV ^{c)}	0.828	0.214	0	-0.053	0	0	Beneficial PSV Hypothesis
Full model ^{d)}	0.171	0.218	-0.02	-0.05	-0.012	-0.018	
Sample E							Full model not significant
Final overall conclusion across samples:							Evidence for both: Beneficial PSV Hypothesis Beneficial SE Hypothesis
Final conclusion from meta-analytical integration (main manuscript):							Evidence for both: Beneficial PSV Hypothesis Beneficial SE Hypothesis

^{a)}100% of the data points were situated in the “rising” side of the surface, indicating a beneficial SE effect which is stronger on lower SE levels than on higher levels.

^{b)}The coefficients of the full model indicate a beneficial SE effect which is slightly stronger on higher levels of SE than on lower levels.

^{c)}100% of the data values of S were situated in the “rising” area of the curvilinear PSV effect.

^{d)}The coefficients of the full model indicate a diminishing beneficial PSV effect (i.e., stronger effect on lower PSV levels than on higher levels) which diminishes slightly faster on higher ability levels than on lower levels.

Outcome: Self-rated agentic outcomes

95% Confidence set of models	w	b_1	b_2	b_3	b_4	b_5	Final conclusion per sample
Sample B							
Beneficial SE	0.626	0.334	-0.178	0	0	0	Beneficial SE Hypothesis
Optimal Margin ^{a)}	0.358	0.269	-0.269	-0.04	0.08	-0.04	
Sample C							
Full model ^{b)}	0.426	0.279	-0.199	0.175	-0.062	-0.116	
Beneficial SE	0.265	0.315	-0.201	0	0	0	Evidence for both:
Optimal Margin ^{c)}	0.181	0.258	-0.258	0	0	0	Beneficial SE Hypothesis
Beneficial PSV Only	0.107	0.289	0	0	0	0	Beneficial PSV Hypothesis
Sample D							
Beneficial SE	0.846	0.407	-0.137	0	0	0	Beneficial SE Hypothesis
Full model ^{d)}	0.154	0.417	-0.134	0.013	-0.012	0.016	
Sample E							
Beneficial SE	0.473	0.248	-0.178	0	0	0	Evidence for both:
Optimal Margin ^{e)}	0.404	0.207	-0.207	-0.015	0.03	-0.015	Beneficial SE Hypothesis
Beneficial PSV Only	0.111	0.195	0	0	0	0	Beneficial PSV Hypothesis
Final overall conclusion across samples:							Evidence for both: Beneficial SE Hypothesis Beneficial PSV Hypothesis
Final conclusion from meta-analytical integration (main manuscript):							Beneficial SE Hypothesis

^{a)}99% of the data points were situated in the “rising” side of the surface, indicating a beneficial SE effect which is stronger on lower SE levels than on higher levels.

- ^{b)}The coefficients of the full model indicate a combination of a beneficial PSV effect and a beneficial SE effect, both effects being stronger on higher predictor levels than on lower levels.
- ^{c), e)}100% of the data points were situated in the “rising” side of the surface, indicating a beneficial SE effect which is stronger on lower SE levels than on higher levels.
- ^{d)}The coefficients of the full model indicate a beneficial SE effect which is slightly stronger on higher SE levels than on lower levels.

Outcome: Self-rated communal outcomes

95% Confidence set of models	w	b_1	b_2	b_3	b_4	b_5	Final conclusion per sample
Sample B							
Beneficial SE	0.509	0.152	-0.196	0	0	0	Beneficial SE Hypothesis
Optimal Margin ^{a)}	0.438	0.175	-0.175	-0.005	0.01	-0.005	
Curvilinear Ability ^{b)}	0.02	0	-0.165	0	0	0	
Sample C							
Full model not significant							
Sample D							
Beneficial SE	0.528	0.079	-0.12	0	0	0	Beneficial SE Hypothesis
Full model ^{c)}	0.288	0.102	-0.125	0.029	0.011	-0.005	
Optimal Margin ^{d)}	0.181	0.099	-0.099	0	0	0	
Sample E							
Full model not significant							

Final overall conclusion across samples: Beneficial SE Hypothesis

Final conclusion from meta-analytical integration (main manuscript): Beneficial SE Hypothesis

^{a)}100% of the data points were situated in the “rising” side of the surface, indicating a beneficial SE effect which is stronger on lower SE levels than on higher levels.

^{b)}100% of the data values of R were situated in the “falling” area of the curvilinear ability effect, indicating a negative effect of objectively assessed vocabulary knowledge. Note that a negative ability effect under control for S is also included in the Beneficial SE model, thus model selection uncertainty referred to whether or not there is a positive self-view effect in addition to a negative ability effect. Because the curvilinear ability model only had a likelihood of 2% for being the best model in one of the samples, evidence clearly favored the Beneficial SE Hypothesis above the model suggesting only a detrimental ability effect.

^{c)}The coefficients of the full model indicate a beneficial SE effect with a slightly U-shaped nature of the involved self-view effect.

^{d)}The coefficients of the optimal margin model indicate a beneficial SE effect.

Outcome: Peer-rated agentic outcomes

95% Confidence set of models	w	b_1	b_2	b_3	b_4	b_5	Final conclusion per sample
Sample B							Evidence for both:
Beneficial PSV and Ability	0.743	0.21	0.124	0	0	0	Beneficial PSV and beneficial ability effect
Beneficial PSV Only	0.253	0.234	0	0	0	0	Beneficial PSV Hypothesis
Sample C							Full model not significant
Sample D							Evidence for both:
Beneficial SE	0.483	0.223	-0.1	0	0	0	Beneficial SE Hypothesis
Beneficial PSV Only	0.269	0.205	0	0	0	0	Beneficial PSV Hypothesis
Full model ^{a)}	0.141	0.216	-0.084	-0.019	-0.046	0.077	
Optimal Margin ^{b)}	0.107	0.164	-0.164	0	0	0	
Sample E							Full model not significant
Final overall conclusion across samples:							Beneficial PSV Hypothesis
							Uncertainty with regard to whether there is an additional linear ability effect, and whether it is positive (Sample B) or negative (Sample D)
Final conclusion from meta-analytical integration (main manuscript):							Beneficial PSV Hypothesis

^{a)}The coefficients of the full model indicate a strong beneficial PSV effect together with a U-shaped association of ability and the outcome, where the U-shaped nature is more pronounced at lower self-view levels than on higher levels.

^{b)}The coefficients of the optimal margin model indicate a beneficial SE effect.

Outcome: Peer-rated communal outcomes

95% Confidence set of models	w	b_1	b_2	b_3	b_4	b_5	Final conclusion per sample
Sample B	Full model not significant						
Sample C							
Curvilinear PSV ^{a)}	0.878	-0.012	0	-0.305	0	0	Beneficial PSV effect that reverses to
Full model ^{b)}	0.111	-0.007	-0.066	-0.285	-0.158	0.031	detrimental PSV effect on medium level of PSV
Sample D	Full model not significant						
Sample E	Full model not significant						
Final overall conclusion across samples:							Tentative evidence for beneficial PSV effect that reverses to detrimental PSV effect on medium level of PSV
Final conclusion from meta-analytical integration (main manuscript):							No association found: The full model was not significant ($R^2_{adj} = .004, p = .180$)

^{a)}The optimal PSV level was at $S = -0.02$

^{b)}The coefficients of the full model indicate a curvilinear PSV effect for which the optimal PSV level is slightly higher on low ability levels than on high levels.