**Supplemental Materials**

**Creativity and Academic Achievement: A Meta-Analysis**

**by A. Gajda et al., 2016, *Journal of Educational Psychology***

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This supplementary material contains three additional analyses omitted from the main paper, but referenced here as supplementary Tables S1, S2, and S3.

**S1. Supplementary Analysis 1.: The Role of Place and Area of Achievement**

See the subsection Types of Measurement and Study Year in the Results section, which reads:

“In the second step, we removed nonsignificant predictors from the model (research objective, publication status, study year) and added variables specifying the location of study (with Europe as the reference value), and type of achievement measured (i.e., performance in the humanities, in sciences, and overall performance (with sport as the reference value). This model did not fit the data significantly better than the previous model (-2*LL* = -819.37, *df* = 13, Δ-2*LL* = 5.76, Δ*df* = 5, *p* = .33). Given that these additional moderators did not influence the obtained effects, our results indicate that the relationship between creativity and achievement was stable regardless of location where the study was conducted and regardless of domain of achievement examined. Moreover, given that these additional moderators were not significant, we do not provide detailed results of step two of the analysis (but interested readers can find those results in the supplementary material Table S1).”

Table S1

*Moderator Analysis: Region and Aspect of Achievement Measured as Moderators*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Estimate | *SE* | 95% *CI LB* | 95% *CI UB* | *p* |
| Fixed Effects |  |  |  |  |  |
| Intercept | .14 | .04 | .07 | .22 | < .001 |
|  Creativity Measurement (*0 = self-report, 1 = test*) | .09 | .03 | .04 | .15 | < .001 |
|  School Achievement Measurement (*0 = test, 1 = GPA*) | -.03 | .02 | -.07 | .00 | .079 |
| Region (Europe = reference) |  |  |  |  |
|  North America | .01 | .03 | -.05 | .07 | .824 |
|  South America | -.06 | .14 | -.33 | .21 | .678 |
|  Australia | .06 | .17 | -.27 | .39 | .722 |
|  Asia | .08 | .05 | -.02 | .17 | .113 |
|  Africa | -.13 | .12 | -.36 | .09 | .248 |
| Area of Achievement (sport = reference) |  |  |  |
|  Humanistic | .03 | .03 | -.02 | .08 | .269 |
|  Science | .01 | .03 | -.04 | .07 | .563 |
|  Overall  | -.18 | .13 | -.43 | .08 | .170 |
| Random Effects |  |  |  |  |  |
|  Within-Study variance | .01 | .00 | .01 | .01 | < .001 |
|  Between-Study variance | .02 | .00 | .01 | .02 | < .001 |

**S2. Supplementary Analysis 2: The Differences between Studies Published in Polish and Other Languages.**

See the footnote 8 in the original manuscript, which reads:

“An anonymous reviewer questioned our decision to include studies published in languages other than English (especially Polish, but also Lithuanian), as causing potential risk for the replication of our findings. We decided against exclusion of non-English studies for two reasons. First, it limits the statistical power of our meta-analysis to 88 studies. Second, our additional analyses (see supplementary material Table S2) showed that although studies published in Polish and Lithuanian yielded significantly lower effect size, *r* = .14, 95% *CI*: .10, .18, than studies published in English, *r* = .24, 95% *CI*: .21, .27, this effect was caused by the fact that non-verbal tests were more often used in Poland and Lithuania, not by the country itself; when controlled for the type of the test, the effect of country was no longer significant (*p* = .44) […]”.

Table S2.

*Moderator Analysis: The Role of Language of Studies Included into the Meta-Analysis, Controlled for Verbal versus Nonverbal Character of Creativity Tests Applied*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Estimate | *SE* | 95% *CI LB* | 95% *CI UB* | *p* |
| Fixed Effects |  |  |  |  |  |
|  Intercept | .12 | .02 | .07 | .16 | < .001 |
|  Language (*0 = English, 1 = Polish or Lithuanian*) | .03 | .04 | -.05 | .11 |  .44 |
|  Creativity tests (*0 = figural, 1 = verbal)* | .13 | .02 | .10 | .16 | <.001 |
| Random Effects |  |  |  |  |  |
|  Within-Study variance | .01 | .00 | .01 | .01 | < .001 |
|  Between-Study variance | .02 | .00 | .01 | .02 | < .001 |

**Supplementary Analysis 3 – The Role of Creative Ability Aspect**

See the subsection *Aspects of Creativity Tests* in the Results section, which reads:

“Therefore, in the next model, in addition to the method of measuring academic achievement, we included four more specific moderators in the group of creativity test predictors, namely: fluency, flexibility, originality of thinking, elaboration, and overall creative ability (e.g., the sum of TTCT or TCT-DP scores), and other measures (e.g., imagination as measured by Jankowska & Karwowski, 2015). We used a combination of overall indices of creative ability and other measures as the reference category for our analysis. This model did not fit the data better than the previously tested model (-2*LL* = -681.35, *df* = 8; Δ-2*LL* = 4.65, Δ*df* = 5; *p* = .46). Moreover, the various aspects of creative ability (fluency, flexibility, originality, elaboration) did not differ from the reference category in terms of the effect size generated (see supplementary material Table S3).”

Table S3

*Moderator Analysis: Creative Abilities Aspects as Moderators*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Estimate | *SE* | 95% *CI LB* | 95% *CI UB* | *p* |
| Fixed Effects |  |  |  |  |  |
|  Intercept | .25 | .02 | .21 | .30 | < .001 |
|  School Achievement Measurement (*0 = test, 1 = GPA*) | -.04 | .02 | -.08 | .00 | .05 |
| Creative abilities (composite = reference) |  |  |  |  |
|  Fluency | .00 | .02 | -.04 | .05 | .93 |
|  Flexibility | .01 | .02 | -.03 | .06 | .60 |
|  Originality | .00 | .02 | -.05 | .04 | .98 |
|  Elaboration | -.01 | .03 | -.07 | .05 | .79 |
| Random Efffects |  |  |  |  |  |
|  Within-Study variance | .01 | .00 | .01 | .01 | < .001 |
|  Between-Study variance | .02 | .00 | .01 | .03 | < .001 |