

More Confusion about Deliberate Practice?

Not Really

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Abstract

In recent years, Macnamara, and associates Hambrick and Oswald, conducted and published studies which purportedly showed deliberate practice (hereafter, DP) exerts less powerful main effects than believed and popularized in the press, public discourse and professional circles. Their central purpose seemed to be one of correcting a misperception, as they surmised – the role practice plays in improving performance had been exaggerated. In a reanalysis, we distinguished between (DP) and mere time spent. Two results emerged: (1) the correlation between DP and performance reported by Macnamara et al. (2014), when compared to correlations between other predictor and criterion variables (e.g., obesity, drinking, smoking, etc.), turns out to be substantial; and (2) using the effects and standard errors (adjusted) employed by Macnamara and colleagues (2014), the aggregate correlation between DP and performance was twice that of time and performance. As it is, between their analysis and our own, the main findings obtained were quite similar, hardly cause for objection or continuing debate. In sum, little reason exists to doubt the robust contribution DP makes to the development of expertise.

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That individuals work to improve their performance is desirable. Teachers, coaches, and parents often advise, “Practice and you will get better.” This point of view is close to the idea of DP, a term introduced by K. Anders Ericsson and colleagues more than two decades ago (Ericsson, Krampe, & Tesch-Römer, 1993). Others have argued natural talent is more important to the development of expertise and expert performance; i.e., those born with the “right stuff,” the right “hard wiring,” ultimately perform best, regardless of how much time is spent practicing (c.f., Ullén, Hambrick, & Mosing, 2016).

In 2014, Macnamara, Hambrick, and Oswald published a meta-analysis of studies that examined the association between practice and performance and found a correlation of .35. Based on their finding, the authors concluded, “. . . deliberate practice is . . . not as important as has been argued” (p. 1). Concerned the investigators had included studies that were not actual examples of DP, we conducted a reanalysis of their original data set. Importantly, studies deemed by blind raters to be instances of mere time spent in an activity were excluded (Miller et al., 2018). Our results returned a correlation of .40, a figure not substantially different from the one reported by Macnamara et al. (2014), but nearly twice as large as the correlation we found between time spent and performance (viz., .40 versus .21, $p < .001$).¹ At the time of publication,

¹ While our analysis was under review in another journal, a corrigendum was published by Macnamara, Hambrick, & Oswald (2018) raising their original correlation from .35 to .38.

the data we used in our re-analysis was provided to the journal editors for anyone wishing to examine or check our procedures.

Still, something about our analysis incurred the disapproval of Hambrick and Macnamara (2019).² Is there “more confusion” about DP? Looking more closely at the two meta-analyses, the central question of both was the role deliberate practice plays in the acquisition of expertise. One might think there would be a “meeting of the minds” when the estimates of the two studies returned such similar results (.35/.38 and .40, respectively). And yet, it is as though, we say “tomatoe,” and they say “tomahto.” Though quick to expose what they perceive as errors and “disturbing” underhanded actions on our part, a glaring omission remains in their commentary. They failed to address what we considered a mischaracterization regarding the size of the correlation between DP and performance. Contrary to their original assertion, a reasonable person would conclude it is both important *and* substantial, and much greater than time engaged in a particular activity³.

² In truth, the commentary by Hambrick and Macnamara did not come as a surprise to us as the first author had served as a peer reviewer (signed by him) in every one of our submissions, recommending against publication in *High Ability Studies* and the journal to which our study was first submitted.

³ Hambrick and Macnamara are correct in pointing out that a change was made in our article after it had been accepted for publication. While reviewing the galley proof, we asked and were granted permission by the editors to include a figure. Its purpose was to provide a visual reference for understanding our proposed criteria for evaluating studies of deliberate practice (see Figure 1, p 8 Miller et al. 2018]. Unfortunately, during the insertion of the figure, five words were inadvertently omitted from the description of the criteria, resulting in a grammatically incorrect and incomplete sentence. The last sentence in the article should read, “To that end, *we propose that in future studies*, any activity deemed DP meet the following four criteria: (1) individualized learning objectives; (2) ongoing feedback regarding performance and learning; (3) involvement of a coach; and (4) successive refinement through repetition most often conducted alone.” Given Hambrick’s close involvement throughout the review process, we would have appreciated being notified so the obvious error could have been corrected and any misunderstandings and untoward characterizations avoided.

When it comes to DP, there really is no confusion. To paraphrase Gershwin, it's now time to call the whole thing off.

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