



**Fig. 2** Biometric variance components (a) and variance proportions (b) as function of SES, based on estimates from best-approximating Model #15. At a given point on the abscissa in panel b, the ordinate positions of each curve sum to unity. SES is a composite of parental educational attainment, parental occupational status, and household income, transformed to cumulative proportions (mean = 0.58, SD = 0.24). Model #15 included  $A \times SES$  and  $E \times SES$  effects

Americans in which parental income was available, but the  $C \times SES$  effect only occurs alongside the  $A \times SES$  effect in the original 2003 study. We offer a speculative explanation for why this is so. Our sample, Harden et al.'s, Bates et al.'s, and Grant et al.'s (2010) are predominantly Caucasian, but Turkheimer et al.'s is mostly (54 %) African-American. Perhaps low SES is not enough to produce the extreme deprivation that, according to Scarr (1992), is necessary to amplify the differential effect of the rearing environment; perhaps low SES must be combined with

membership in a disadvantaged minority group whose place in and experience of American society is unique due to the historical legacy of slavery.

The fact that the  $A \times SES$  effect has failed replication in adults suggests that it could be age-dependent. But, Hanscombe et al.'s (2012) graphs and point estimates show no clear age-related trend; further, we tested this hypothesis directly, and it was not supported. The availability of IQ data at different ages, which allowed us to directly estimate the age-dependence of SES-moderation effects, is one of several advantages our study has over some existing ones. Another advantage is that we were able to empirically check for possible sources of spurious results, including assortative mating, and differential heritability/shared-environmentality by trait level. Still another advantage was the availability of adoptees, whose data are informative about shared-environmental variance, without bias due to assortative mating, passive  $r_{GE}$ , or violations of the “equal environments assumption” for twins. We were also able to calculate different SES main effects for adoptees and biological children. The one for adoptees shows that family SES has a moderate, *environmental* effect on children's cognitive functioning, equal to a 7-point IQ advantage for children from the highest-SES families versus the lowest-SES families. Finally, we consider our use of multimodel inference to be a major advantage of our study, because it enables us to produce point estimates and confidence intervals based on all fitted models informative about a parameter, each to the extent that AICc favors it over others. This avoids the bias resulting from conditioning one's parametric inference only upon a single model (Lukacs et al. 2009).

We wish to temper our endorsement of multimodel inference with a few caveats. First, we must emphasize that Model #15 ( $A \times SES$ ,  $E \times SES$ , no age-moderation) is not necessarily most likely to be the true model because it has the smallest AICc. Likewise, a model's Akaike weight is not the posterior probability that the model is the true model. AIC is not intended to discover the “true” model in the first place. Instead, as stated by Browne (2000, p. 129), AIC is “not appropriate for selecting the best-fitting model in some general sense independent of sampling error, but...for indicating models whose calibrations can be trusted given a specified sample size.”

Second, our conclusions depend upon the candidate set of models under consideration.<sup>4</sup> We wanted to obtain estimates of each SES-moderation effect from models in which other moderation effects were variously present or

<sup>4</sup> Readers certainly can think of models we could have fitted, but did not. Some readers may be interested in Table S3 (Online Resource), which, for the sake of completeness, reports point estimates and standard errors from a post hoc, “full” model in which all parameters under consideration were freely estimated.