Reviewer's report

Title: Childhood school segregation and adult sense of control in the African American Health cohort

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Reviewer: Ross e O'Hara

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The current study examined whether racial desegregation in schools in the 1960s and 1970s adversely influenced African Americans' sense of control as adults. The data were collected retrospectively from a low-income sample in St. Louis, Missouri, which included participants who had attended school all over the United States. Results showed that attending a desegregated school for at least half of the 1st-through-12th grade years predicted a lower sense of control, but only among men. This finding held even when taking into account demographics, region of schooling, employment, income, self-reported health, racial consciousness, and resilience. The authors argued that men who attended desegregated schools faced more racial discrimination, lacked African American educational role models, and had difficulty with the crystallization of racial solidarity, all leading to a reduced sense of control. The authors also conjectured that this lower sense of control could partially explain worse health among adult African Americans.

This manuscript analyzed a fascinating and important question. Not only is it pertinent to understanding the lasting legacy of the school desegregation movement from a historical perspective, but these findings are relevant to racially and ethnically mixed schooling today. I found the manuscript to be well-written and to provide an appropriate amount of historical context by which to understand the hypotheses. However, I have various criticisms of the study conceptualization, methodology, and conclusions that detract from my overall endorsement of the manuscript.

Major Compulsory Revisions

1. I had multiple issues with how certain information was discussed in the manuscript. The authors should be careful with their language when discussing hypotheses and analyses versus conjecture. This manuscript primarily tested a single association—whether retrospective, self-reported desegregated schooling was related to lower levels of sense of control as an adult. In other words, no mediating causes of sense of control, nor distal outcomes related to sense of control, were analyzed. However, the authors at times appeared to argue that they showed that this effect was caused by a lack of African American role models, more racial discrimination, etc. (e.g., abstract; p. 19), and that this effect was related to worse health (e.g., p. 7). All of the authors' ideas are plausible and congruent with previous research, but care should be taken not to mislead the
reader about the conclusions that can be drawn from these data.

2. The discussion should address hypotheses that were not supported and what those null findings indicate, especially with regard to gender differences. The authors hypothesized that desegregated schooling would have a stronger effect on sense of control for men than for women, but not no effect whatsoever for women. Currently, the authors focused on what could have happened among young men in desegregated schools, without any explanation of why this might not have been the case for young women. Also, the authors reported findings that relate only to African American women (pp. 19-20); although they provided a suitable explanation for why this study did not agree with their own, the manuscript should further address this gender moderation and its potential implications.

3. The authors (understandably) failed to address the elephant in the room - is segregated schooling better? Their results, as well as ideas about the underlying mechanism, suggest that schools should be racially segregated. Furthermore, the authors stated that de facto segregation still exists in most schools in Missouri (pp. 8-9), making these questions contemporarily important. I doubt, however, that the authors endorse segregation. One possible way the authors could address this issue is to review any existing literature about benefits of desegregated schooling. That way, if desegregation reduces sense of control, it becomes an important yet unfortunate side effect, and not an indicator of a systemic problem. Another approach would be to address how desegregated schools might improve their ability to help crystallize racial solidarity, reduce discrimination, etc. The first and most obvious answer is that we need more African American leaders in the schools, so perhaps a discussion of how we accomplish that goal would be pertinent. In general, I also recommend the authors expand upon the relevance of these analyses to education today in their discussion.

4. The hypothesis regarding moderation by region was confusing. I understand that the sample is not nationally representative, making it difficult to test regional differences, but I question how meaningful it is to compare Missouri to the South. How different are these areas, especially considering the South included bordering states, like Kentucky and Arkansas? Are there public data available that could help create more meaningful regions to compare, based on educational practice versus geography? Also, the authors appeared to contradict themselves, stating that "segregated schooling in the South (...more likely reflected de jure segregation)" (p. 12), but also mention that "de jure school segregation (...was particularly well established in Missouri)" (p. 8). This hypothesis requires further justification to be included in the models.

5. The authors included covariates in models 4 through 7 that seem inappropriate for testing the true relation between desegregation and sense of control. Marital status, educational attainment, employment status, income, and self-rated health could have had no influence on segregation--only sense of control--therefore failing to justify their inclusion as potential third variables. Furthermore, the authors stated that "the dominant view is that personal control becomes relatively
stable by early adulthood" (p. 5), further calling into question the relevance of some of these covariates. These variables should either be removed from the analyses in order to provide a truer estimate of the effect of desegregation on sense of control, or their inclusion should be better defended than "consensus exists among researchers" (p. 12).

6. Along these same lines, many of the covariates could operate as outcomes of this study (with sense of control serving as a mediator), especially self-reported health. The authors argued from the first sentence that a sense of control is important for health, but fail to report whether sense of control was related to health among this sample. A failure to find a relation between desegregation and a single, self-report global health item would not necessarily be indicative of a failed hypothesis, but the omission of this test was glaring. Especially considering the submission of this manuscript to a public health journal, this hypothesis should be explicitly tested. Furthermore, other items may be relevant to examine as outcomes, such as resilience or racial consciousness.

Discretionary Revisions

7. These analyses would be strengthened by the inclusion of any possible true third variables--that is, a variable that could predict both number of years of desegregated education and sense of control. The authors treated desegregated schooling almost like a RCT, with participants randomly assigned to varying desegregation programs. In a historical context, how was desegregated schooling applied to African American communities? Are there any factors that would influence whether children entered desegregated schools versus remained in segregated schools, such as proximity to White populations, socioeconomic status, parental attitudes, etc.? Could there be confounding variables that vary along with level of desegregation that would affect sense of control?

8. If it is important to the argument, I would further explain the relevance of the St. Louis Voluntary School Desegregation Plan (p. 8). Not only will many readers be unaware of this program, but the fact that it occurred in 1983 makes it seem irrelevant to these hypotheses.

9. What is the Mini-Mental Status Exam, and what does a score >= 16 indicate (p. 9)? How was this criterion chosen?

10. I found it confusing to read the measurement section, as measures, analyses, and hypotheses were all blended together. At the very least, I would present all hypotheses in the introduction, or their own section, so readers can easily reference the specific questions being asked.

11. The explanation for the gender moderation hypothesis needs further explanation. What is high effort coping and John Henryism? And, again, why wouldn't some of these effects (e.g., "presence of successful same-race role models") have applied to women?

12. The descriptive data section could be condensed to mention only the most relevant statistics, as well as those not displayed in Table 1. Also, statistics for
sense of control should be included in Table 1.

13. The regression section might be easier to understand if direct reference were made to the study hypotheses when describing the results.

14. The authors addressed that the sense of control scale displays good psychometrics, and that including both claiming and denying statements balances the scale. I was curious, however, if something could be learned if the scale were divided into positive and negative statements. That is, is there a difference between claiming the good things and denying the bad things in life (versus claiming the bad things and denying the good things) that would have an appreciable impact? The idea comes to mind because I imagine that African Americans in desegregated schools may have been blamed for their failures (e.g., "you did not study enough") but told that their successes were out of their control (e.g., "you got lucky"). In this sense, there theoretically could be four subtypes of sense of control (low versus high on claiming/denying & positive versus negative outcomes), if psychometrics supported such a structure. Or do people generally just claim good and bad, or deny good and bad, without that valence distinction?

Overall, I thought these were very interesting and important questions and a fine manuscript. I hope the authors will take into consideration these points and improve their analyses and presentation.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.