



# **Summary Statement**

**OIF Applicant Name: Jennifer Porter** 

Mean Scientific Impact Score: **6.2** Mean Investigator Score: **4.8** 

Total Score (Mean Scientific Score weighted 2/3 + Mean Investigator Score weighted 1/3 x 10)= 56.9

Title: Effects of Racism on Neurocognitive Development of Black Children

### **Summary:**

The overall goal of this proposal is to disentangle the effects of racism from poverty on neurocognitive outcomes of Black children. Using data from multiple ECHO cohorts, the proposed work hypothesizes that parental racial discrimination has a negative effect on early childhood neurodevelopment, independent of socioeconomic status (SES). This work fundamentally challenges the historical conceptualization of race as the underlying reason for observed health disparities, and instead seeks to provide evidence of racism as the driver of health disparities. The proposal uses the following aims to address this: 1) assess parental racial discrimination and caregiver stress for parents of Black children and non-Hispanic white children, across SES levels and between and within racial groups, 2) develop a model to examine the association between parental racial discrimination and childhood neurocognitive outcomes, within and between racial and ethnic groups, and 3) examine additional explanatory variables in the model developed in aim 2.

Reviewers expressed enthusiasm for the applicant, given her experience in community-based participatory research in diverse populations, strong letters of support, and team science approach with a strong core team of clinically trained mentors. The panel shared concerns that this is her first project in the area of child development, and that she currently lacks sufficient sociological and statistical training to carry out the proposal successfully, although the weight assigned to this component varied from minor to moderate among reviewers. As a cycle 5 applicant, the reviewers agreed she would advance ECHO's diversity mission as a Black physician-scientist and with the proposal's explicit focus on examining racism, not race, as the driver of health disparities.

Reviewers expressed strong enthusiasm for the proposal's significance, noting it moves away from the problematic biological concept of race that continues to predominate the medical literature, and addresses health disparities in neurodevelopment, a key ECHO outcome. Additionally, reviewers found the proposed hypotheses that separate racism from poverty, the intergenerational model, and focus on caregivers innovative. Reviewers appreciated the strong theoretical grounding, and one reviewer specifically supported the use of the minorities' diminished returns theory.

Reviewers outlined several moderate impact score-driving weaknesses, dampening enthusiasm. A major weakness was the use of a retrospective, secondary data analysis design, instead of proposing a prospective study. The reliance on already collected data limits the ability to evaluate possible mediators and moderators, leading to the inability to explore important mechanisms underlying the relationship between parental racial discrimination and child outcomes, which could be intervention targets. One reviewer noted key explanatory variables may exist as essential ECHO outcomes but were not included in the proposal. This design also limits any new tools or methods that can be introduced to the ECHO program. Reviewers agreed the approach and analysis were underdeveloped, noting the challenge of data harmonization across cohorts and limitations of sample size. Overall, the enthusiasm for the topic was not able to overcome the retrospective study design and lack of analytic specificity, and the reviewers scored it in the moderate range.



**Score Summary Table** 

# **OIF Review Committee Reviewer Template<sup>i</sup>**

OIF Review Committee Members should use this template to review and score their assigned OIF applications. Please use one form per assigned application.

Applicant Information
Project Title: Effects of Racism on Neurocognitive Development of Black Children
Principle Investigator Name: Porter
Reviewer Information
Reviewer Name*:  *The Coordinating Center will de-identify reviews prior to sharing them with the OIF Review Group and/or OIF applicants.

Reviewers will provide separate scores for overall Scientific Impact and its components, and then for the Investigator. For selection of projects for funding, the NIH will weight these scores, assigning 2/3 to the overall scientific impact, and 1/3 to the Investigator. Please provide the numeric scores for the overall impact and each of the evaluation criteria in the table below. Please refer to the instructions below the table for a description of what should be included when considering each criterion.

Evaluation Criteria	Score (Scale is 1-9: 1 is highest; 9 is lowest)
Scientific Impact (summary score for significance, innovation, approach and environment)	7
Significance	3
Innovation	6
Approach	7
Environment	3
Investigator	4



# **Evaluation Criteria for Scientific Impact**

Scientific Impact: Summary score for significance, innovation, approach, and environment In consideration of the review criteria, provide your comments on the overall scientific impact focusing on the innovation of the proposed research, and the likelihood for the project to contribute to the ECHO Program overall. An application does not need to be strong in all categories to be judged likely to have major scientific impact. Please keep in mind that this is an "Opportunities and Infrastructure" program for young investigators, thus your review should not overemphasize approach. Be sure to differentiate major from minor weaknesses.

Total Scientific Impact (summarize the factors that informed your scientific impact score):

The topic of this proposal—the effect of maternal experiences with discrimination on neurocognitive outcomes in children—is an important example of how psychosocial factors should be included in the study of child development, in particular with regard to disparities based on race and ethnicity. Furthermore, the use of an intergenerational model, as well as including both individual and ecological measures of SES, is innovative, as is the central importance of dis-aggregating SES from race/ethnicity.

A model describing the relationship between maternal discrimination and child cognitive outcomes should include important mediating and moderating (explanatory) variables. Since this is a secondary data analysis, there are limitations in the variables that can be studied. Without including key mediating factors such as parenting practices, home environment, and the role of racial socialization approaches of the parent, for example, it would be hard to understand the processes & mechanisms behind the relationship between maternal discrimination and child outcomes. As it stand now, the proposal would only shed light on associations among variables with little knowledge gained about mechanisms. One wonders why a prospective approach utilizing new data and instruments wasn't considered. This is a major weakness of the proposal.

Consider the four evaluation criteria below in the determination of scientific and technical merit, and provide your comments for each.

1. Significance Significance to the ECHO mission and goals and potential impact on the field of child health. Results of the project will be able to be shared across ECHO and <u>demonstrate benefits to the ECHO-wide program</u>. Sharing of results will improve scientific knowledge, technical capability, and/or clinical practice. Proposed project is distinct and does not overlap with currently funded ECHO work. Proposed project addresses one of the OIF scientific focus areas: (1)Health disparities (2) Positive Health (3) Interactions between exposures (4) Assessment of multiple outcomes (5) Strategies assessing remote recruitment, consenting, data collection, biospecimen collection and/or (6) Machine learning strategies to analyze data

#### Strengths

- The relationship between psychosocial factors such as racism and discrimination on the health and development of children is understudied
  in the pediatric and psychology literature. Furthermore, an intergenerational approach to these relationships is innovative and could shed light
  on processes & mechanisms through which a stressor such as racism affects child health
- This proposal addresses the OIF foci of 1) health disparities, and 2) interactions between exposures (race, SES)

#### Weaknesses

While Bronfenbrenner's systems model is certainly appropriate for this work, more current models such as the Eco-Bio-Developmental
framework may provide a model that fits with this line of investigation. This is a minor weakness.



**2. Innovation** Supports innovative thinking through the introduction of new research, tools, methods or technologies in the ECHO program.

## Strengths

 As stated above, disentangeling race and SES has not been the typical approach in the past; this project and its investigators understand the importance of looking at variation in SES within the Black community

#### Weaknesses

- As a retrospective, secondary data analysis study, this project does not introduce new tools or technologies to the ECHO program, and is thus limited in the variables it can study
- **3. Approach** Overall strategy, methodology, and analyses are well-reasoned and appropriate to accomplish the specific aims of the project. Project scope of work is appropriate for the timeframe and level of funding. Project is feasible and timeline is realistic. Project supports collaboration between investigators across two or more ECHO components.

## Strengths

A large sample

The use of individual and ecological (e.g., census track) measures of SES

#### Weaknesses

- As a secondary data analysis study, there are limitations to the constructs and variables used. The analytic hypothesis is that maternal expereinces of discrimination may contribute to worse child cognitive outcomes, with mediating & moderating variables such as maternal stress, household income, maternal education, and ecological measures of disadvantage. However, this model misses a crucial link: the effects of discrimination and race related stress on parenting practices and the home environment, as well as racial socialization practices. These factors likely mediate the relationship between maternal discrimination and child outcomes. Some of these variables are already measured as ECHO essential data elements, but are not included in this proposal; others would need to be added, which would require a prospective approach, adding new measures to the ECHO data pool. This could be considered a major weakness of the approach.
- **4. Environment** The environment in which the work will be done has the necessary resources (institutional support, equipment, etc.) to support the investigator in successfully completing the project.

#### Strengths

The institutional resources to conduct this secondary data analysis seem to be present, including mentors to assist the PI in data procurment and analysis

#### Weaknesses

•



with application instructions).

# **Evaluation Criteria for the Investigator**

Investigator: Using the Investigator Personal Statement & Research Oversight/Career Development Plan, please evaluate whether the Early Investigator has appropriate experience and training, has assembled a strong team with sufficient scientific expertise to successfully complete the project and consider how the OIF project will benefit their career trajectory and advance his/her experience. Note whether the Research Oversight and Career Development plan demonstrates that Senior investigators will provide appropriate guidance and oversight of the project science and the applicant's career development. Please carefully review applicant and key personnel biosketches as well as letters of support as the basis of your evaluation (see guidelines for letters of support provided

For cycle 5 applications: Please evaluate and comment on how the applicant will promote diversity and further the goals of the Cycle 5 funding opportunity.

## Strengths

• The PI is a junior investigator who is well situated to take the next step in her research career. The career development plan is well thought out, and certainly do-able. This project fits with the investigator's career plans, and would be the first step towards an independent investigator trajectory. Her work fits well with the Cycle 5 goal of promoting health equity.

#### Weaknesses

Please select one:

• This would be the first project for Dr. Porter in the area of child development. There are no prior preliminary projects in this field, which while only a minor concern given that this is an early investigator award, is still a bit atyical of the applicant pool.

## **Protection for Human Subjects**

Please select one:
☐ Acceptable Risks and/or Adequate Protections
☐ Unacceptable Risks and/or Inadequate Protections
☑ Not Applicable (no Human Subjects)
If unacceptable or inadequate, please explain:
Data Sharing Plan

☑ No Concerns (Data Sharing Plan Adheres to NIH and ECHO OIF Guidelines)



☐ Concerns Noted (Data Sharing Plan Does Not Adhere to NIH and OIF Guidelines)
Please Explain:
Resubmission: Review Comments
Please review applicant's previous application and comments prior to completing the fields below.
Please select one:
$\square$ Applicant updated project based on suggestions from prior Review Cycle
$\square$ Applicant has not made updates to project based on suggestions from prior Review Cycle
Reviewers may provide comments regarding changes to applications that were resubmissions.
Reviewers may provide comments regarding changes to application resubmission (Optional)
Additional Comments to Applicant
Reviewers may provide additional comments to the applicant below.
Additional Comments (Optional)



<sup>i</sup> Source: National Institutes of Health. (July 21, 2017). NIH RPG/RO1/RO3/R15/R21/R34 Reviewer Form. Retrieved from: <a href="https://grants.nih.gov/grants/policy/review\_templates.htm">https://grants.nih.gov/grants/policy/review\_templates.htm</a>



# **OIF Review Committee Reviewer Template<sup>i</sup>**

OIF Review Committee Members should use this template to review and score their assigned OIF applications. Please use one form per assigned application.

Applicant Information
Project Title:Effects of racism on neurocognitive development of Black children
Principle Investigator Name:Porter, Jennifer
Reviewer Information
Reviewer Name*:  *The Coordinating Center will de-identify reviews prior to sharing them with the OIF Review Group and/or OIF applicants.

# **Score Summary Table**

Reviewers will provide separate scores for overall Scientific Impact and its components, and then for the Investigator. For selection of projects for funding, the NIH will weight these scores, assigning 2/3 to the overall scientific impact, and 1/3 to the Investigator. Please provide the numeric scores for the overall impact and each of the evaluation criteria in the table below. Please refer to the instructions below the table for a description of what should be included when considering each criterion.

Evaluation Criteria	Score (Scale is 1-9: 1 is highest; 9 is lowest)
Scientific Impact (summary score for significance, innovation, approach and environment)	6
Significance	5
Innovation	8
Approach	7
Environment	3
Investigator	6



## **Evaluation Criteria for Scientific Impact**

Scientific Impact: Summary score for significance, innovation, approach, and environment In consideration of the review criteria, provide your comments on the overall scientific impact focusing on the innovation of the proposed research, and the likelihood for the project to contribute to the ECHO Program overall. An application does not need to be strong in all categories to be judged likely to have major scientific impact. Please keep in mind that this is an "Opportunities and Infrastructure" program for young investigators, thus your review should not overemphasize approach. Be sure to differentiate major from minor weaknesses.

Total Scientific Impact (summarize the factors that informed your scientific impact score):

This proposal proposes to examine the underlying causes for health disparities (e.g., neurodevelopment, as measured by child intelligence) in young Black children. The innovation for the project is found in the hypothesized mechanism for the disparity, parental discrimination, which is not well understood in the literature particularly for a range of SES backgrounds. This project will use existing ECHO data, and provides a series of hypotheses that build towards a larger framework of understanding the complex relationship.

My enthusiasm for the project wans when considering the lack of pilot data available to validate this proposed model. Even a small amount of information would rationalize the existence of the disparity by Black/White race across SES groups, the mechanism for the disparity, and provide effect size rationalization to assist with appropriate power for stratification. I would also appreciate rationalization for implications for the larger ECHO program. The entire project is secondary data analysis, but it's unclear how much analysis the PI will be doing versus an MS level biostatistician with only 10% FTE.

Consider the four evaluation criteria below in the determination of scientific and technical merit, and provide your comments for each.

1. Significance Significance to the ECHO mission and goals and potential impact on the field of child health. Results of the project will be able to be shared across ECHO and demonstrate benefits to the ECHO-wide program. Sharing of results will improve scientific knowledge, technical capability, and/or clinical practice. Proposed project is distinct and does not overlap with currently funded ECHO work. Proposed project addresses one of the OIF scientific focus areas: (1)Health disparities (2) Positive Health (3) Interactions between exposures (4) Assessment of multiple outcomes (5) Strategies assessing remote recruitment, consenting, data collection, biospecimen collection and/or (6) Machine learning strategies to analyze data

#### Strengths

- Reducing health disparities can only happen when we recognize the underlying causes of those health
  disparities; this project proposes to examine with primary predictor of parental discrimination of disparate
  child intelligence scores.
- If the link exists, support could be provided towards evidence improving scientific knowledge about parental discrimination across racial and SES groups.



• Proposed project addresses OIF scientific focus area of health disparities; aim 3 introduces interactions between other exposures (e.g., lead, nutrition, sleep)

#### Weaknesses

- There needs to be a stronger body of evidence supporting a link between parental discrimination with child intelligence or other child neurodevelopment outcomes. Even a small amount of pilot data here would help support the significance of this study
- Minor: in form assessment of multiple outcomes is checked, but only neurodevelopment is selected under ECHO outcomes

**2. Innovation** Supports innovative thinking through the introduction of new research, tools, methods or technologies in the ECHO program.

## **Strengths**

- Hypotheses are innovative
- Novel use of existing data

#### Weaknesses

- Lack of innovation in terms of tools, methods, and technologies
- **3. Approach** Overall strategy, methodology, and analyses are well-reasoned and appropriate to accomplish the specific aims of the project. Project scope of work is appropriate for the timeframe and level of funding. Project is feasible and timeline is realistic. Project supports collaboration between investigators across two or more ECHO components.

## Strengths

- Secondary data analysis only, no new methods or strategies proposed
- Analysis vague but generally acceptable (multiple linear regression, maybe some logistic from the mention of ORs?)
- Project scope of work easily accomplished in timeline.
- Includes biostatistician in budget



#### Weaknesses

- Power analysis does not justify effect sizes from previous work or literature. Again, pilot data would help here
- May be underpowered due to stratification plans
- Only a single collaboration proposed, with mentor Dr. Deoni
- Budget appropriately includes a biostatistician; however, it is only for 10% FTE. Given the entire project is secondary data analysis, the roles of the biostatistician and PI (20% time) should be strongly differentiated
- **4. Environment** The environment in which the work will be done has the necessary resources (institutional support, equipment, etc.) to support the investigator in successfully completing the project.

### Strengths

• Strong letters of support of U. of Louisville collaborators

#### Weaknesses

Unclear, given no equipment costs

## **Evaluation Criteria for the Investigator**

## Investigator: Using the Investigator Personal Statement & Research Oversight/Career Development Plan,

please evaluate whether the Early Investigator has appropriate experience and training, has assembled a strong team with sufficient scientific expertise to successfully complete the project and consider how the OIF project will benefit their career trajectory and advance his/her experience. Note whether the Research Oversight and Career Development plan demonstrates that Senior investigators will provide appropriate guidance and oversight of the project science and the applicant's career development. Please carefully review applicant and key personnel biosketches as well as letters of support as the basis of your evaluation (see guidelines for letters of support provided with application instructions).

For cycle 5 applications: Please evaluate and comment on how the applicant will promote diversity and further the goals of the Cycle 5 funding opportunity.

## Strengths

- Strong letters of support and mentorship
- Proposes additional training
- Will support goal of addressing health disparities, particularly as it related to racism impacting Black children

#### Weaknesses



- Training are two very disparate statistics/design classes: fundamentals of biostatistics (introductory) and causal diagrams (advanced). The project cannot be completed without already understanding the fundamentals of biostatistics
- It reads as though only the biostatistician will be trained to access and use ECHO cohort datasets, not the PI?

Protection for Human Subjects
Please select one:
☑ Acceptable Risks and/or Adequate Protections
☐ Unacceptable Risks and/or Inadequate Protections
□ Not Applicable (no Human Subjects)
If unacceptable or inadequate, please explain:
Data Sharing Plan
Please select one:
☑ No Concerns (Data Sharing Plan Adheres to NIH and ECHO OIF Guidelines)
☐ Concerns Noted (Data Sharing Plan Does Not Adhere to NIH and OIF Guidelines)
Please Explain:
Resubmission: Review Comments X Not Applicable (Not Re-submission)
Please review applicant's previous application and comments prior to completing the fields below.
Please select one:
$\square$ Applicant updated project based on suggestions from prior Review Cycle
☐ Applicant has not made updates to project based on suggestions from prior Review Cycle



Reviewers may provide comments regarding changes to applications that were resubmissions.

Reviewers may provide comments regarding changes to application resubmission (Optional)
Additional Comments to Applicant
Reviewers may provide additional comments to the applicant below.
Additional Comments (Optional)

<sup>&</sup>lt;sup>i</sup> Source: National Institutes of Health. (July 21, 2017). NIH RPG/RO1/RO3/R15/R21/R34 Reviewer Form. Retrieved from: <a href="https://grants.nih.gov/grants/policy/review\_templates.htm">https://grants.nih.gov/grants/policy/review\_templates.htm</a>



# **OIF Review Committee Reviewer Template**<sup>i</sup>

OIF Review Committee Members should use this template to review and score their assigned OIF applications. Please use one form per assigned application.

Applicant Information
Project Title: _Effects of Racism on Neurocognitive Development of Black Children
Principle Investigator Name: <u>Jennifer Porter</u>
Reviewer Information
Reviewer Name*:
*The Coordinating Center will de-identify reviews prior to sharing them with the OIF Review Group and/or OIF applicants.

# **Score Summary Table**

Reviewers will provide separate scores for overall Scientific Impact and its components, and then for the Investigator. For selection of projects for funding, the NIH will weight these scores, assigning 2/3 to the overall scientific impact, and 1/3 to the Investigator. Please provide the numeric scores for the overall impact and each of the evaluation criteria in the table below. Please refer to the instructions below the table for a description of what should be included when considering each criterion.

Evaluation Criteria	Score (Scale is 1-9: 1 is highest; 9 is lowest)
Scientific Impact (summary score for significance, innovation, approach and environment)	5
Significance	3
Innovation	4
Approach	5
Environment	1
Investigator	3



# **Evaluation Criteria for Scientific Impact**

Scientific Impact: Summary score for significance, innovation, approach, and environment In consideration of the review criteria, provide your comments on the overall scientific impact focusing on the innovation of the proposed research, and the likelihood for the project to contribute to the ECHO Program overall. An application does not need to be strong in all categories to be judged likely to have major scientific impact. Please keep in mind that this is an "Opportunities and Infrastructure" program for young investigators, thus your review should not overemphasize approach. Be sure to differentiate major from minor weaknesses.

This application proposes to examine the role of caregiver discrimination in child neurocognitive development. Aims are to characterize caregiver discrimination and stress across the SES spectrum (Aim 1), examine the associations of caregiver discrimination with child neurodevelopmental outcomes at ages 3-6 years (Aim 2), and consider additional explanatory factors (Aim 3 both within Black families and in comparison with non-Hispanic White families. The application is conceptually organized by the ecological systems model and draws on relevant theory (e.g., minorities' diminished returns theory). Although stress exposures and parenting have been studied in relation to child neurocognitive outcomes, the role of caregiver discrimination has received less attention; thus, findings hold promise for shedding light on discrimination as a key driver of disparities in children's developmental outcomes. Drawing on large-scale, diverse ECHO cohorts to address the aims is unique for this literature and also represents an important strength of the Approach. Clear inclusion criteria are provided, and strong essential ECHO measures have been identified. With a couple of caveats (see below), a basic and appropriate analysis plan is provided with some statistical power estimates. The environment is excellent. Despite the many strengths, there are a few weaknesses that diminish the potential impact somewhat. The significance of Aim 3 is difficult to determine, since the aim is underdeveloped. A major weakness to the Approach is that the analysis plan and statistical power estimates do not appear to account for the nested structure of the data, since both individual- and neighborhood-level assessments will be used. A minor weakness (and missed opportunity) is that disrupted parenting is offered as a plausible, modifiable mechanism linking caregiver discrimination with child neurocognitive outcomes, but is not incorporated into the aims or the analyses. Still, overall, the application is responsive to the intent of the award mechanism by addressing key disparities in child neurocognitive outcomes with a critical (and understudied) emphasis on caregiver discrimination.

Consider the four evaluation criteria below in the determination of scientific and technical merit, and provide your comments for each.

1. Significance Significance to the ECHO mission and goals and potential impact on the field of child health. Results of the project will be able to be shared across ECHO and <u>demonstrate benefits to the ECHO-wide program</u>. Sharing of results will improve scientific knowledge, technical capability, and/or clinical practice. Proposed project is distinct and does not overlap with currently funded ECHO work. Proposed project addresses one of the OIF scientific focus areas: (1)Health disparities (2) Positive Health (3) Interactions between exposures (4) Assessment of multiple outcomes (5) Strategies assessing remote recruitment, consenting, data collection, biospecimen collection and/or (6) Machine learning strategies to analyze data



# Strengths

- The proposed study holds potential for filling important gaps in knowledge by examining caregiver discrimination in relation to diminished child neurocognitive development, while accounting for SES and other stressors, within Black families and in comparison to non-Hispanic White families.
- Many relevant prior studies have restricted their focus to lower SES families. The proposed study improves upon the rigor of prior research by examining both Black and White families across the spectrum of SES to help disentangle the effects of race and poverty on child neurocognitive development.
- The aims are conceptually organized by the ecological systems model and are guided by relevant theory, such as the minorities' diminished returns theory.
- Caregiver discrimination remains understudied, and its role in the development of racial/ethnic group
  disparities in child neurocognitive development is poorly understood. The proposed advancements align well
  with the intent of the OIF Cycle 5 award mechanism.

#### Weaknesses

- Aim 3 is underdeveloped, describing an array of additional multi-faceted factors, including some that are even unspecified. It is unclear how these factors will be incorporated into the primary aims/hypotheses to further advance knowledge.
- Disrupted parenting is highlighted as a plausible, modifiable mechanism linking caregiver discrimination and other stressors to child neurocognitive outcomes, but this is not incorporated into the aims.
- **2. Innovation** Supports innovative thinking through the introduction of new research, tools, methods or technologies in the ECHO program.

#### Strengths

- Studies have addressed the adverse consequences of caregiver discrimination and SES for various outcomes, but this application proposes to fill important gaps by addressing early childhood cognitive development and including both Black and White children across the SES spectrum.
- Most relevant prior research has been based on smaller samples in particular regions. A major innovation of the proposed research is that it will draw on large-scale ECHO cohorts.

#### Weaknesses

- Evidence already exists to support the broad conclusion that differences in Black and White children's neurocognitive (and other) outcomes are driven by social determinants of health, albeit without a specific focus on caregiver discrimination and implications for parenting.
- **3. Approach** Overall strategy, methodology, and analyses are well-reasoned and appropriate to accomplish the specific aims of the project. Project scope of work is appropriate for the timeframe and level of funding. Project is



feasible and timeline is realistic. Project supports collaboration between investigators across two or more ECHO components.

## Strengths

- Secondary analyses of harmonized data across ECHO cohorts will be conducted.
- Clear inclusion criteria are provided and primary measures are identified.
- Well-established, standardized measures are emphasized, and SES will be richly operationalized using both family- and neighborhood-level data.
- A basic analysis plan that maps well onto the primary aims is provided (see caveats below). The ECHO portal will be used.
- Statistical power estimates are provided, although without much specificity since the analysis sample sizes and anticipated effect sizes are somewhat unknown.
- A feasible timeline is provided.

#### Weaknesses

- The proposed analyses (and associated statistical power estimates) do not appear to address the nested data structure given the use of both individual- and neighborhood-level assessments.
- The analysis plan for Aim 3 is underdeveloped due, in part, to the lack of specificity regarding the various additional factors. On a related point, it is unclear how the refined multiple linear regression model will be built (e.g., decision rules), given the large number of potential factors for inclusion.
- **4. Environment** The environment in which the work will be done has the necessary resources (institutional support, equipment, etc.) to support the investigator in successfully completing the project.

## **Strengths**

• The University of Louisville provides sufficient resources, including secure computing equipment and infrastructure, to support the successful completion of the proposed secondary analysis project.

## Weaknesses

None noteworthy.

# **Evaluation Criteria for the Investigator**

Investigator: Using the Investigator Personal Statement & Research Oversight/Career Development Plan, please evaluate whether the Early Investigator has appropriate experience and training, has assembled a strong team with sufficient scientific expertise to successfully complete the project and consider how the OIF project will benefit their career trajectory and advance his/her experience. Note whether the Research Oversight and Career Development plan demonstrates that Senior investigators will provide appropriate guidance and oversight of the project science and the applicant's career development. Please carefully review applicant and key personnel



biosketches as well as letters of support as the basis of your evaluation (see guidelines for letters of support provided with application instructions).

For cycle 5 applications: Please evaluate and comment on how the applicant will promote diversity and further the goals of the Cycle 5 funding opportunity.

#### Strengths

- Dr. Porter is a Black physician-scientist who practices pediatrics in an urban clinic setting that serves vulnerable children. Her research interests are grounded in and inform her work with patients, and she has played a lead role in several program initiatives related to early child development and health literacy.
- As an early investigator, Dr. Porter has participated in highly relevant community-based participatory research projects with diverse racial/ethnic group and low-income participants.
- These research projects have involved mentorship from senior investigators, including Dr. Davis, and have drawn on a team science approach.
- Dr. Porter's career development plan is detailed and feasible. It involves a combination of informal
  mentorship and formal online coursework, and addresses key considerations such as relevant content
  expertise (e.g., effects of racism), training in statistical analysis techniques, and skill development for
  independent research (e.g., grant writing, project management, etc.).
- Dr. Porter has assembled a strong core team. Dr. Davis, primary mentor, is an experienced researcher with
  relevant expertise in early child development and health promotion using a variety of research methods in
  diverse samples. Dr. Jones also is an experienced researcher focusing on issues related to diversity and health
  disparities. Co-I Feygin will provide statistical analysis support.
- The remaining team of mentors and collaborators also is strong, and all team members have evidence of successful mentoring experience. Dr. Stevenson is site PI for the ECHO-wide cohort MARC-43, thereby bringing valuable knowledge and experience related to the ECHO wide protocol and data structure.
- Letters of support are detailed and indicate considerable enthusiasm for Dr. Porter. There is a commitment to providing the necessary release of time for the proposed research activities.
- Dr. Porter displays a strong commitment to diversity in both her practice and research. She has proposed an important set of research questions surrounding the consequences of racism, and both the mentoring team and context will help ensure that study findings will be used to further diversity, equity, and inclusion goals for the benefit of vulnerable, underserved families and children.

#### Weaknesses

- Even as an early investigator, Dr. Porter has somewhat limited experience writing for research publication, but this is a minor concern in light of her early investigator status, solid career development plan, and team of productive mentors.
- Biostatistics support is somewhat limited for this secondary analysis proposal.

## **Protection for Human Subjects**

Please select one:



☑ Acceptable Risks and/or Adequate Protections
☐ Unacceptable Risks and/or Inadequate Protections
□ Not Applicable (no Human Subjects)
If unacceptable or inadequate, please explain:
Data Sharing Plan
Please select one:
☑ No Concerns (Data Sharing Plan Adheres to NIH and ECHO OIF Guidelines)
☐ Concerns Noted (Data Sharing Plan Does Not Adhere to NIH and OIF Guidelines)
Please Explain:
Resubmission: Review Comments X Not Applicable (Not Re-submission)
Please review applicant's previous application and comments prior to completing the fields below.
Please review applicant's previous application and comments prior to completing the fields below.  Please select one:
Please select one:      Applicant updated project based on suggestions from prior Review Cycle
Please select one:     Applicant updated project based on suggestions from prior Review Cycle   Applicant has not made updates to project based on suggestions from prior Review Cycle
Please select one:      Applicant updated project based on suggestions from prior Review Cycle
Please select one:     Applicant updated project based on suggestions from prior Review Cycle   Applicant has not made updates to project based on suggestions from prior Review Cycle
Please select one:  Applicant updated project based on suggestions from prior Review Cycle  Applicant has not made updates to project based on suggestions from prior Review Cycle  Reviewers may provide comments regarding changes to applications that were resubmissions.
Please select one:     Applicant updated project based on suggestions from prior Review Cycle   Applicant has not made updates to project based on suggestions from prior Review Cycle
Please select one:  Applicant updated project based on suggestions from prior Review Cycle  Applicant has not made updates to project based on suggestions from prior Review Cycle  Reviewers may provide comments regarding changes to applications that were resubmissions.
Please select one:  Applicant updated project based on suggestions from prior Review Cycle  Applicant has not made updates to project based on suggestions from prior Review Cycle  Reviewers may provide comments regarding changes to applications that were resubmissions.



# **Additional Comments to Applicant**

Reviewers may provide additional comments to the applicant below
--

Additional Comments (Optional)		

<sup>&</sup>lt;sup>i</sup> Source: National Institutes of Health. (July 21, 2017). NIH RPG/RO1/RO3/R15/R21/R34 Reviewer Form. Retrieved from: <a href="https://grants.nih.gov/grants/policy/review\_templates.htm">https://grants.nih.gov/grants/policy/review\_templates.htm</a>