Stated purpose and goals

Over the past year I have become increasingly active with local organizations like Vision for Children at Risk who share my concern for all children and are actively working toward improving the future of children in St Louis. *Critically, the Ferguson Commission has highlighted early childhood as one of the key issues needing to be addressed*. The purpose of the proposed project is thus two-fold, including both scientific efforts and community outreach. We propose to conduct an original pilot study investigating whether young children's willingness to trust and learn from adults differs based on race. We will conduct our research at three mixed race/income preschools and share these findings as an educational resource on child development with families and schools as part of the process of building strong relationships with these communities. We have three specific goals: (1) complete a study that can be leveraged for future grant applications; (2) offer educational lectures on critical issues in child development to local underprivileged families *in their communities*; and (3) develop bi-directional and mutually beneficial research and educational partnerships with these communities.

Intellectual underpinnings

In light of the recent unrest in Ferguson and other American cities, it is vital to understand the roots of distrust and isolation between racial groups. Since the seminal work of Clark and Clark[1] that impacted the *Brown vs. Board of Education* legislation, developmental psychologists have contributed to our understanding of the causes of racial tensions that take root in early childhood. Decades of research since then demonstrate that even preschool age children are aware of the social status and inequalities in society that exist along racial lines[2-3]. Extensive research suggests there is a persistent Black-White achievement gap of .5 to 1.5 SD[4] from preschool to high school and this gap is mediated by both students' and teachers' negative perceptions of each other based on race and socioeconomic status[4-7]. Although this achievement gap starts prior to school entry[8-9], there is not yet a clear picture of how race might influence learning behaviors of young children below school age. Recent research suggests that young children trust and learn from those who are in-group members more than out-group members, i.e., children trust those who are from the same linguistic, ethnic, or assigned group membership over those who are not[10-12]. Further, children are less likely to delay gratification, a crucial skill linked to self-control abilities and later life success, if they view an adult as less trustworthy than if that adult is considered to be trustworthy[13]. However, no study to date has examined how Black-White racial differences influence young children's trust in others, or how children's selective trust based on race emerges and develops. These studies have typically operationalized trust as the person from whom children chose to learn a novel word or object function. Clearly, additional research is needed, as it is critical to test more than one type of learning behavior, such as memory and cognitive control, in children based on racial group membership to understand how learning may be impacted by race. Findings from this project could have implications for education institutions by informing the utility of policies such as increasing the racial diversity of teachers and promoting mixed race schools.

Relevance to sustainable urbanism

Our project is relevant to the development of sustainable urbanism in St Louis communities by touching the critical issue of equal access to quality early childhood education for all families *in their communities*. One step toward lessening the educational and economic disparities that currently exist across communities in the St Louis region is to begin with access to **high quality** childcare/preschool in the first five years of life[14]. Investing in children long before they enter primary school has lasting benefits not only for individuals but also for the urban communities in which they live. We have now established partnerships with three early childhood centers that provide high quality childcare and early education to underprivileged populations *in the neighborhoods where these children and their families live*. Our project contributes to sustainable urbanism by providing public lectures on child development to families in these urban communities and by involving them in our research. Our studies examining how race impacts children's learning has implications for public policy that can address the inequalities and tensions that exist in our community beginning early in life.

Methodology

We propose to conduct a pilot study investigating how children trust and learn from people who differ in racial backgrounds and how this might change with age.

Participants. We will test 96 3- to 6-year-old children (3-, 4-, 5-, & 6-year-olds) from racial minority and majority backgrounds. We will test ~15-20 children per month over a 6-month period. We chose this age range because past research suggests both Black and White 5- to 6-year-olds show robust explicit bias for White people[3,15-16], whereas children below age 4 show less bias[17]. Previous studies report Cohen's *d* effect sizes ranging from .97 to 2.07. Studies investigating 4- to 5-year-old children's trust according to linguistic groups report Cohen's *d* effect sizes ranging from .87 to 1.04[12]. In addition, one previous study found children were less willing to wait for delayed rewards from less trustworthy adults than a trustworthy adult, reporting a Cohen's *d* effect size of .78[13]. We thus expect a reasonably large effect size in our studies. Based on a power analysis, our sample size of 24 children in each cell will provide 97% to 99% power at an alpha of .05 for detecting such effects.

Design & Procedure. We will test whether children's willingness to trust and learn from an adult varies based on race across 3 tasks. All 3 tasks will be conducted within-subjects and across two different testing sessions. (1) The *Learning task*, will test whether children learn new words and object functions from a White adult than from a Black adult, and whether this differs depending on the child's own race. In the *word* trial[10], children will see two adults – one White and one Black – each label a novel object with a different word for a total of 4 trials. In the *function* trial[11], children will see two adults – one White and one Black – each demonstrate a different function with a novel object for a total of 4 trials. (2) The *Memory task*, will test whether children show different memory performance depending on the race of the adult. Children will listen to one neutral (e.g., science facts about dragon flies), one positive (e.g., a story in which a child goes to an amusement park), and one negative story (e.g., a story in which a child gets a time-out) each from a White adult and a Black adult. Children will then be asked to recall each story. (3) The *Delayed Gratification task,* will test how long a child delays gratification depending on the race of the adult. Children will be given the marshmallow task[18-19] twice, once by a White adult and once by a Black adult, and their total wait time will be measured.

Predicted Results. Based on previous results, we hypothesize that the older 5- to 6-year old children will choose to learn new words and functions more from White adults than Black adults, more than younger children, and that 3- and 4-year old children may show a preference for a matched-race adult. However, in the memory study, we predict that older children might accurately remember more information given by a *matched-race* (White adult for a White child, Black adult for a Black child), with the same effect for younger children. We predict that children will exhibit greater delayed gratification when a *matched-race* adult administers the task, with older 5- and 6-year-old children showing greater delayed gratification compared to the younger 3- and 4-year-old children.

Specific Outcomes and Deliverables.

By the end of the 1-year grant period, we will have accomplished several goals. First, we will have completed data collection and will submit an abstract of our findings to a national conference in child development, and we will also write a brief paper for publication in a scientific journal. Second, these findings will serve as pilot data in grant proposals to various organizations including NSF and the William T. Grant Foundation. Third, we will have given 4 to 6 public lectures through our partner institutions. Fourth, we will disseminate a newsletter for wider distribution across these communities.
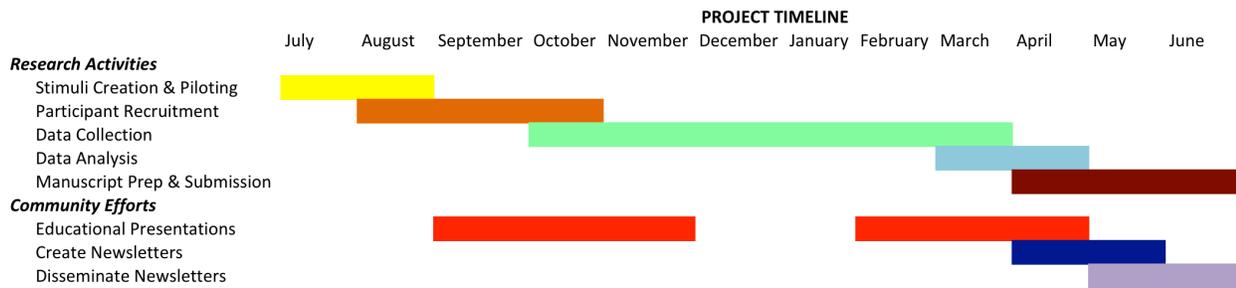
Project partners and their contribution

We currently have three established research partnerships with local childcare centers in low-income neighborhoods with predominately African American populations (see next page). They have agreed to work with us to achieve our research goals and integrate us into the community.

Challenges and limitations

There are limitations to our project due to the short grant period. First, it would be ideal to study how children's learning behaviors according to race change longitudinally to better identify the different environmental and cognitive factors that influence children's thinking. The proposed cross-sectional method, although limited, is useful for identifying developmental variables and informing future research design. Further, our goal to extend the reach of our research to other racially diverse communities in the region is merely a first step in our larger goal of establishing ongoing partnerships that foster sustainable urbanism. We hope this endeavor will ultimately serve as an example of how child research can be diverse and inclusive not only in St. Louis, but also in other cities.

Project Timeline

PROJECT TIMELINE

	July	August	September	October	November	December	January	February	March	April	May	June

Research Activities
- Stimuli Creation & Piloting
- Participant Recruitment
- Data Collection
- Data Analysis
- Manuscript Prep & Submission

Community Efforts
- Educational Presentations
- Create Newsletters
- Disseminate Newsletters

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Community partners: (1) Flance Early Learning Center + (2) Southside Early Childhood Center + (3) University City Children's Center

Historically, much of child development research, and in particular cognitive development research, has been conducted largely with white, middle-to-upper class children. This wasn't done intentionally, but was the result of which childcare centers were geographically accessible, had the time and space to accommodate researchers, and had parents amenable to signing their children up for studies. The same held true for testing in university-based laboratories: most of the children whose families were in a position to visit these labs lived nearby, had either one stay-at-home parent or a full-time nanny. An abundance of research in recent years demonstrating the impact of early experience in the first five years of life on all aspects of child development has made it clear that children from all backgrounds must be included in child research. Despite this, it continues to be a challenge for researchers to gain access to a diverse population of children, mostly for practical reasons.

My students and I have made great strides in developing relationships with three high quality early childhood centers in different quadrants of the city, and all serving racially diverse populations from underprivileged backgrounds. We reached out to the directors of these three institutions to discuss our research for this project and the possibility of conducting studies with the children in their schools. The welcome we received demonstrated how eager the directors of these centers are to connect their schools, children, and families with the academic community of Washington University. These centers are eager to contribute to our research – in fact, each of them have already participated in at least one of our studies, and have committed to work with us on another grant-funded project that examines the influence of positive and negative early life events on the development of optimism in children. They are excited to collaborate on the proposed research and educational opportunities.

The Flance Early Learning Center is a newer early childhood center located near downtown that offers a rich learning environment combined with a broad range of services and resources critical to promoting healthy child development. Children at Flance come from racially and economically diverse backgrounds; a large percentage of the children are black. We have been working closely with Mark Cross, the director, as well as the advisory board. They are on board to support our research and strengthen our partnership in ways that are mutually beneficial to everyone involved.

Southside Early Childhood Center is a more established early childhood center located in South city on Jefferson Avenue. Southside's mission is to nurture, educate, and inspire children and families in a diverse and inclusive environment, promoting healthy child development and a strong foundation for success. Their vision is for children to develop a life-long love of learning, flourish in a supportive family environment, and contribute positively to their communities. We have been working closely with Katie Rahn, the Executive Director of Southside. They too are committed to working with us.

University City Children's Center is a highly diverse early learning center located in University City not far from the Washington University campus. The UCCC believes that what happens early in life lasts a lifetime and that the power to change society lies in transforming the way young people are taught. They nurture the growth and development of their children through inclusive, innovative, high quality care and education. We have been working for several years with Steve Zwolak, the executive director of UCCC, and the CEO of Lume Institute, who is committed to supporting our research.

These three early childhood centers are exemplary (they are comparable to those in wealthier urban neighborhoods), and importantly, *they are located in the communities where the children who attend them live*. They are eager to work with us and fully support the proposed project.

Every child has to potential to succeed in school, to build strong friendships, and to grow up healthy and strong. Every child deserves the best early childhood education and care available. Through our partnerships, and our mutual commitment to children, we are united in this goal.

Ferguson Academic Seed Fund
Grant Application Project Member & Invited Scholar Bio Sketch Form

Please complete an electronic copy of this for each member of your project team and for each invited scholar. You will be required to upload completed bio sketch forms on the grant application page. You may collate forms into a single document for ease of submission.

Invited Scholar: _____   Team Member: _X___   Both: _____

Team Member count: __1_____ of ___2__

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AFFILIATE INSTITUTION (s): Washington University in St. Louis

SHORT BIOGRAPHICAL SKETCH (200 WORDS OR LESS):

I am an Associate Professor in the Psychological & Brain Sciences Department, and PI of the Cognition & Development Lab. I received my PhD in Psychology from the University of Arizona, and completed post-doctoral research training at MIT and Harvard University in Developmental Science. Prior to my position at Washington University, I was an Assistant Professor at the University of California, Berkeley for six years. I have been conducting research studies with young children for 20 years.

My research focuses on social cognitive development, which concerns the cognitive processes that underlie children's reasoning about the social world. My lab investigates the emergence of the fundamental human need to belong, children's sensitivity to the social dynamics of inclusion and exclusion, children's reasoning about people from different social groups (e.g., race), and the effect of early life events on the development of optimism in children. My research is currently funded by the McDonnell Center for Systems Neuroscience and the John Templeton Foundation. Since my arrival in 2008, I have established strong ties with local families and preschools. I am excited to expand further into the greater St Louis community to foster more inclusive research that crosses racial and socioeconomic boundaries.

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Invited Scholar: ☐   Team Member: ☑   Both: ☐

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SHORT BIOGRAPHICAL SKETCH (200 WORDS OR LESS):
I am a fourth year graduate student in the Department of Psychological & Brain Sciences, working in the area of developmental psychology. As a result of my training, I have extensive experience conducting research with children and building research partnerships with educational institutions. Prior to coming to Washington University I conducted developmental research at two other leading institutions – the University of Chicago and New York University. My advisor Dr. Markson and I are interested in investigating how children can be more open and trusting across racial lines. This seed fund will enable us to actively start this line of research that will inform best practices for sustainable urbanism. I have helped establish and maintain research partnerships with seven different preschools in St Louis since my arrival in 2012. More recently, I have begun expanding our research partnerships to include underprivileged communities. I have experience working with community institutions in low SES neighborhoods through my social work studies at Columbia University and am excited for the opportunity to apply these skills to create sustainable partnerships between these communities and Washington University. I believe my research expertise and social work background make me a valuable team member for this project.