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## Neighborhood Context and Parent Perspectives on Practical Considerations Related to Preschool Location

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### ABSTRACT

*Research Findings:* We examined the association between neighborhood median income, child race/ethnicity, and parental perspectives and practical considerations regarding preschool program location. We conducted a cross-sectional survey of parents in Boston, Massachusetts planning to enroll in preschool (N = 1171). Questions measured parental preferences regarding program location, number of care transitions, safety, and transportation. We used adjusted logistic regression models to calculate the association between these factors and race/ethnicity and zip code median household income. Compared to the second quartile, parents living in zip codes within the two highest quartiles of median neighborhood income were more likely to prefer preschool near home. Parents living in zip codes within the highest quartile were less likely to be willing to use school transportation. Compared to parents identifying their child's race as white, parents of Asian, Black, and Hispanic children were more likely to prefer preschool near work and parents of Black children were less likely to prefer preschool near home. *Practice or Policy:* Neighborhood median income had a graded association with preference for preschool near home. Transportation and location preferences varied by neighborhood context and socio-demographic factors. These findings can inform efforts to address disparities in preschool enrollment, preschool program design, and family engagement.

The neighborhoods where children live are associated with their educational, health, and economic opportunities over the life course (Raj Chetty et al., 2016; Leventhal & Brooks-Gunn, 2000). Young children living in more disadvantaged neighborhoods are more likely to experience toxic stress which has long-term consequences on their physical and mental development (Shonkoff et al., 2012). Neighborhood disadvantage also reinforces racial inequities as nonwhite Black and Hispanic children are more likely to live in areas with fewer opportunities (Acevedo-Garcia et al., 2014). Specifically, access to high-quality early education differs by residential neighborhood (Bassok & Galdo, 2016; Davis et al., 2019; Malik et al., 2018). Children who reside in disadvantaged neighborhoods, therefore, face a dual threat due to both growing up in areas with fewer resources to support their development and inequitable access to high-quality preschool programs.

Education, particularly high-quality early education, has been found to mitigate some of the negative consequences of neighborhood disadvantage (Barnett, 2011; Heckman et al., 2009; Muennig et al., 2011). To design preschool delivery systems that optimize child enrichment, we must engage diverse families, understand different parent perspectives, and consider how familial and contextual factors influence decision-making regarding preschool (Grogan, 2012; Phillips et al., 2017).

Existing research characterizes childcare decision-making processes among parents (Forry et al., 2014; Herbst et al., 2020; Kim & Fram, 2009; Rose & Elicker, 2010; Weber et al., 2018) and analyzes how parents of children currently enrolled in preschool made decisions (Ansari et al., 2018; Boston Research Center, 2018; Crosnoe et al., 2017). Less is known about how parents of children younger than preschool age make decisions regarding future preschool enrollment. Understanding the perspectives and practical considerations of parents of future preschool students may guide the development of programs that meet the needs of families and increase access to high-quality early education.

Prior analyses of parental decision-making regarding preschool have considered how parental income, race, education, and employment impact decisions (Barbarin et al., 2006; Boston Research Center, 2018; Coley et al., 2014; Herbst et al., 2020; Kim & Fram, 2009; Rose & Elicker, 2008). The role of preschool cost in decision-making has also been considered (Henly & Lyons, 2000). Prior work has found that neighborhood socioeconomic context is linked to academic achievement among children of preschool age (Kohen et al., 2002; McCulloch & Joshi, 2001). Less is known about the associations between neighborhood socioeconomic context and parental decision-making regarding preschool. Neighborhoods vary in available educational, health, and economic opportunities and non-white children are more likely to live in neighborhoods with fewer opportunities (Acevedo-Garcia et al., 2014). Neighborhood socioeconomic context, therefore, may impact parental decision-making regarding preschool through several mechanisms. First, inequities in the overall number of programs and availability of high-quality early education in different neighborhoods may influence choice of location. Second, perceptions of educational and economic opportunities within and outside of the neighborhood of residence may impact decisions regarding preschool program location. Third, neighborhood-based social networks have been shown to influence parental decision-making on school enrollment (Bader et al., 2019). Finally, middle class and more affluent parents have been shown to exercise school choice through residential choice, an option not accessible to lower income families (Barrow, 2002; DeLuca & Rosenblatt, 2010). Lower income families may have to uncouple residential and school choice, making school choices after securing housing (DeLuca & Jang-Trettien, 2020). Therefore, it is plausible that parental preference for neighborhood schools may be stronger in higher income neighborhoods when selection of neighborhood is associated with nearby schools. Most US residents live in neighborhoods segregated by race and income (Galster & Sharkey, 2017; Massey et al., 2009). Research suggests that public preschools are more segregated than K-12; one study found that over half of Hispanic and Black students attend preschools with at least 90% children of color (Frankenberg, 2019). Structural racism, operating through residential segregation and thereby impacting parental social networks and access to resources and information, is therefore another factor that may impact parental ability to access, learn about, and apply for preschool opportunities.

The aim of this study was to characterize the association between neighborhood socioeconomic context (median neighborhood income) and parents' practical considerations regarding preschool location. We also investigated the association between child race/ethnicity and parental preferences. We do not have a measure of structural racism, so child race/ethnicity is a proxy for parental experiences of discrimination in this analysis. We build upon prior work which proposes that parents make decisions about preschool within a much larger context that includes considerations about quality, logistics, cost, and location (Coley et al., 2014; Meyers & Jordan, 2006) and structural inequities disproportionately experienced by children and parents of color (Waanders et al., 2007). We hypothesized that the socioeconomic context of neighborhoods would be associated with parents' views on where they would prefer that preschool programs be located, whether they would use transportation to preschool, and number of transitions of care during the day. This study uniquely contributes to the literature in several ways. First, it provides insight into the considerations of parents with children younger than preschool age, whose views may differ from those with children currently enrolled in preschool. While the perspectives of parents who have not yet navigated the preschool system may be considered aspirational, they provide important insight into what an ideal system that meets the needs of families might look like. Second, our analysis examines the association between neighborhood socioeconomic context and parental views on preschool location and whether these

associations change when considering child race/ethnicity, as well as the independent association between child race/ethnicity and parental views. This is particularly relevant since neighborhoods with greater concentration of social disadvantage are less likely to have high-quality preschool programs; thus parents' priorities may differ as they consider factors such as quality and practical logistics. This analysis can inform policy regarding preschool program location and transportation.

## Neighborhood and Child Development

The impacts of socioeconomic status and neighborhood of residence on childhood development have been well-described (Leventhal & Brooks-Gunn, 2000). Children who grow up in poverty are more likely to experience material deprivation resulting in food and resource insecurity at home, stress from neighborhood violence and household crowding, and environmental toxins (American Academy of Pediatrics Council on Community Pediatrics, 2016). These factors affect brain development and their adverse impact is particularly pronounced during the early years (Johnson et al., 2016). Children living in more disadvantaged neighborhoods are less likely to have access to educational, health, and economic opportunities. For example, they are more likely to live in neighborhoods with low high school graduation rates, high housing vacancy rates, and high unemployment rates and less likely to live near high-quality early education centers, parks and open spaces, and health care facilities (Acevedo-Garcia et al., 2014). There are also racial/ethnic disparities in where children live: When compared to white children, Black and Hispanic children are more likely to live in low-opportunity neighborhoods (Acevedo-Garcia et al., 2014).

Living in a disadvantaged neighborhood also has long-term impacts on health, educational, and economic opportunities. Children living in disadvantaged neighborhoods are more likely to be diagnosed with obesity and experience asthma exacerbations (Beck et al., 2017; Shih et al., 2013). The neighborhoods where children live affect their opportunities for economic mobility as adults (Chetty & Hendren, 2018). There is evidence that this effect is independent of an individual family's socioeconomic status, as children growing up with families with similar household incomes are more likely to have greater opportunities as adults when growing up in more advantaged neighborhoods (Chetty et al., 2018) and neighborhood socioeconomic context has been associated with academic achievement independently of family income (Sastry & Pebley, 2010).

Neighborhood of residence is also associated with safety. Children living in neighborhoods with higher rates of poverty, who are also more likely to be nonwhite, experience higher rates of violence and crime in their communities (Parker et al., 2017). Neighborhood safety may, in turn, be associated with parents' practices regarding childrearing and childcare (Leventhal & Brooks-Gunn, 2000). There is evidence that parents who perceive their neighborhoods to be safer are more likely to enroll their children in childcare at a younger age (Fields et al., 2001).

One mechanism through which neighborhood of residency impacts child opportunity is through the availability of high-quality early education programs. There is uneven distribution of these programs and children living in low-income neighborhoods are less likely live close to high-quality programs. Head Start classrooms and childcare centers located in disadvantaged neighborhoods are more likely to be of lower quality (Hatfield et al., 2015; McCoy et al., 2015). For example, while the total number of childcare centers did not vary by neighborhood in New York City, poor neighborhoods had fewer privately-funded and more publicly-funded childcare centers (Small & Stark, 2005). Aside from proximity to high-quality preschool, living in a disadvantaged neighborhood has also been found to be associated with lower rates of application to preschool. This, in turn, affects later school opportunities as families who did not apply to preschool were more likely to have children enrolled in lower performing elementary schools (Shapiro et al., 2019).

Early education has been found to mitigate some of the consequences of neighborhood disadvantage. High-quality preschool programming has been shown to have a disproportionately positive impact on children from low-income backgrounds (Magnuson et al., 2004). While the magnitude of impact over time has not been characterized fully and there is evidence that the impact fades over time,

there is agreement that quality is an important determinant of preschool impact (Barnett, 2011). High-quality programs have been shown to have a high rate of economic return (Heckman et al., 2009) and positive impacts on adult health (Muennig et al., 2011). Based on the evidence of the positive impacts of high-quality preschool, early education has been proposed as an intervention to reduce poverty (Duncan et al., 2007).

### ***What Is Known about Parental Preschool Preferences***

Prior research has shown that the majority of parents prioritize quality when choosing childcare for their young children (Kim & Fram, 2009). Parents associate quality with accessibility, flexibility, developmentally-appropriate practices, and support of social-emotional learning (Cleveland et al., 2013; Emlen et al., 2000). Another dimension of quality seems to be the warmth and emotional safety of preschool environments (Barbarin et al., 2006; Rose & Elicker, 2008). Parents want to feel that their children will be under the care of warm caregivers in environments where they will be safe. While quality has been well-defined by early education experts (Lugo-Gil et al., 2011), there is less understanding of how parents define quality. Parents tend to rate the quality of preschool programs higher than expert observers and give near-universally high quality ratings even when the program is of low quality (Cryer & Burchinal, 1997). This discrepancy may be because parents consider practical features such as cost and convenience as components of quality (Bassok, Markowitz et al., 2018). Additionally, parents may not have adequate information to evaluate quality (Cryer et al., 2002) or their access to information regarding quality may vary based on social networks (Bader et al., 2019).

Practical considerations such program cost, hours, and location influence decision-making regarding childcare (Kim & Fram, 2009). The importance of these practical considerations in childcare decision-making varies across demographic groups: Parents with lower household incomes have been found to be more likely to prioritize practical factors such as location, cost, and convenience (Herbst et al., 2020; Kim & Fram, 2009; Mamedova et al., 2015; Peyton et al., 2001). Forry et al. (2014) found that 27% of low-income parents with children age 6 or younger rated convenience as the most important consideration in their decision-making regarding childcare. Parents conceptualize convenience both in terms of location and schedule. In terms of location, convenience is related to transportation, proximity to home, and proximity to work (Henly & Lyons, 2000; Rose & Elicker, 2008). With regard to schedule, convenience means hours that coincide with work schedules and flexibility (Henly & Lyons, 2000).

Prior work investigating differences in childcare choices among diverse racial and ethnic groups has identified convenience, availability of nearby childcare, and trust of childcare providers as factors associated with parental decisions (Fram & Kim, 2008; Hofferth et al., 1996). With regard to socioeconomic disparities in preschool enrollment, Crosnoe et al. (2017) found that there was increased preschool enrollment among children from low-income families when their neighborhoods were perceived as having good preschool options and when they had fewer practical restrictions regarding time or convenience.

Among parents with children currently enrolled in preschool, location has been identified as a key consideration that impacts parents' assessment of the convenience of a particular preschool program (Barbarin et al., 2006). Program location has been found to be important to parents because of both logistics related to commuting and proximity to their children while they are working (Henly & Lyons, 2000). Travel time has been found to be associated with parents' choices regarding childcare (Hofferth et al., 1996). Recognizing the relevance of location to decision-making, Davis et al. (2019) propose a family-centered measure of access that considers the travel time and administrative boundaries that might impact the convenience and feasibility of a program location for a particular family.

While both quality and practical considerations factor into parents' decision-making regarding childcare, in reality, a complex contextual framework influences their choices. The accommodations framework (Meyers & Jordan, 2006) postulates that families balance economic, family, and social considerations in making childcare decisions. Their choices reflect the tension between their roles of providing for and caring for their children. Parents often have limited information and time to choose programs. They consider the costs and benefits of different arrangements amidst the backdrop of

social pressures and cultural norms. Ultimately, families' decisions reflect the careful consideration of complex tradeoffs. Coley et al. (2014) applied the accommodations framework to the selection of early childhood care arrangements and uncovered a complex context in which parents make decisions. With regard to preschool selection, they find that flexibility, accessibility, and educational experiences to prepare children for kindergarten influence parental decisions.

### **The Current Study**

The current study characterizes the association between child race/ethnicity, neighborhood socioeconomic context, and parents' practical considerations regarding preschool location. While prior work has analyzed the decisions of parents with children already enrolled in preschool, we investigate the perspectives of parents with children younger than preschool age. This study also expands upon prior work evaluating the association between parental race/ethnicity, income, education, and employment and preschool decision-making by considering the socioeconomic context of the neighborhood of residence (Carlin et al., 2019; Kim & Fram, 2009; Rose & Elicker, 2008, 2010). Specifically, we use survey data gathered from diverse neighborhoods as part of a citywide preschool expansion effort. The primary objective was to understand the associations between neighborhood median income and parents' preferences for preschool program location, use of transportation to preschool, and number of care transitions during the day. We hypothesized that parents residing in higher income neighborhoods would prefer schools of closer proximity to residence in comparison to parents residing in lower income neighborhoods. Next, we explored whether child race/ethnicity, which in this study is interpreted as a proxy for experiences of structural racism and discrimination, may also be associated with parent preferences.

Our study was conducted in Boston, a city with well-documented structural inequities by race/ethnicity and socioeconomic status across and within neighborhoods. In 2019, the largest racial/ethnic groups in Boston were White non-Hispanic (44.5%), Black non-Hispanic (25.2%), Hispanic (19.8%), and Asian non-Hispanic (9.7%) (United States Census Bureau). Compared to other US cities, Boston has higher percentages of Black and Hispanic children who live in neighborhoods with decreased educational, health, and economic opportunities (Acevedo-Garcia et al., 2014). In addition, there is unequal distribution of children throughout the city: In the neighborhoods of Mattapan, Roxbury, Hyde Park, West Roxbury, and East Boston, children are at least 20% of the population; in others, such as North End, Allston, and Fenway, children are 5% of the population or less (Boston Planning and Development Agency Research Division, 2020). Child poverty is similarly unequally distributed: While 28% of children citywide live in poverty, the concentration is higher in Roxbury, Dorchester and Mattapan where the child poverty rate is 42% (Kahn & Martin, 2011). Next, a recent analysis has established an association between structural racism, as measured by historical redlining policies and practices from the 1930s, and current rates of home ownership, poverty, poor educational attainment, segregation of Black communities, and firearm violence by Boston neighborhood (Poulson et al., 2021).

Boston also has a history of educational inequities and violence surrounding school desegregation. In response to school segregation perpetuated by residential segregation and district boundaries, a court-mandated busing program began in the 1970s and continued into the 1980s. This resulted in protests that incited further racial and class conflict and violence that was broadcast in the local and national news (Boston Research Center, 2018). Due to this history and recent memory, topics of busing and school location inform contemporary conversations about education reform in Boston (Delmont, 2016).

## **Methods**

### **Participants**

The Universal Pre-K (UPK) Parent Survey was part of a citywide initiative to understand parents' perspectives in order to inform the development of the city's universal pre-kindergarten expansion. A group of Boston community leaders, educators, education researchers,



consultants, and parents created a survey designed to capture parent perspectives on preschool. Questions were developed through an iterative process to refine wording and ensure inclusion of content relevant to the city's current universal pre-kindergarten expansion. Between September 2014 and June 2015, a cross-sectional, convenience sample of parents who resided in the city of Boston were invited via e-mail to complete the anonymous survey administered via the internet platform Survey Monkey®. The survey was distributed via electronic and paper flyers, disseminated on social media platforms, and was sent to several community-based organizations who received instructions to distribute widely to their members and affiliates. The survey was translated into Spanish, Mandarin Chinese, Cape Verdean Creole, Haitian Creole, Vietnamese, Portuguese, Somali, Arabic, and French. This project was found to be exempt by the Institutional Review Board of Boston University School of Medicine.

In total 1,647 parents responded to the survey. Parents were asked whether their youngest child was three-years-old or younger or four-years-old or older. Parents of children three-years-old or younger were asked whether or not they were considering enrolling in preschool. In order to satisfy our goal of characterizing the perspectives of parents with children younger than preschool age planning to enroll in preschool, the subgroup of survey respondents used in this analysis were parents of children  $\leq 3$  years old who reported that they anticipated future Pre-K enrollment ( $N = 1,171$ ). For the present analysis, we excluded parents with children four-years-old or older ( $N = 441$ ), and parents of children three-years-old or younger who reported not planning to enroll in preschool ( $N = 35$ ), leaving 1,171 parents for analysis.

## Materials

### *Socioeconomic demographic measures*

#### *Neighborhood*

Parents selected their neighborhood of residence from a list of nineteen Boston neighborhoods. These neighborhoods were grouped into quartiles by zip-code median household income (U.S. Census Bureau; American Community Survey (ACS) 2010–2014 Five-Year estimates). For neighborhoods that included more than one zip code area, we calculated the average of the zip-code median household incomes. The four neighborhood quartiles were: less than \$45,187 ( $N = 149$ ); \$45,188 – \$61,101 ( $N = 271$ ); \$61,102–86,417 ( $N = 454$ ); greater than \$86,418 ( $N = 259$ ). There were 38 parents who did not answer this question. We present a map of the city of Boston with neighborhoods shaded by quartile of median income in [Figure 1](#). This map highlights the geographic distribution of these neighborhoods. In general, neighborhoods in the fourth quartile are near the city center while those in the third quartile are furthest from the center and adjacent to surrounding suburbs. Neighborhoods in the first and second quartile are generally slightly further from the city center than those in the fourth quartile.

The first quartile of median neighborhood income consisted of the neighborhoods of Allston/Brighton, Fenway/Kenmore, Mission Hill, Roxbury, and Mattapan. The second quartile consisted of Hyde Park, Dorchester, East Boston, the South End, and Chinatown. The third quartile included of West Roxbury, Roslindale, and Jamaica Plain, all neighborhoods further from the center and adjacent to suburbs. The fourth quartile consisted of Charlestown, the North End, the West End/Beacon Hill, Downtown, Back Bay, and South Boston, all neighborhoods near the city center.

#### *Child's Race/Ethnicity*

Parents designated their child's race/ethnicity as Asian ( $N = 44$ ), Black ( $N = 94$ ), Hispanic ( $N = 74$ ), White ( $N = 720$ ) or Other ( $N = 186$ ). The "Other" category included parents who reported their child's race/ethnicity as "Other" or checked multiple race/ethnicities. There were 53 parents who did not answer this question.

### Map of Boston Neighborhoods According to Zip Code Median Household Income

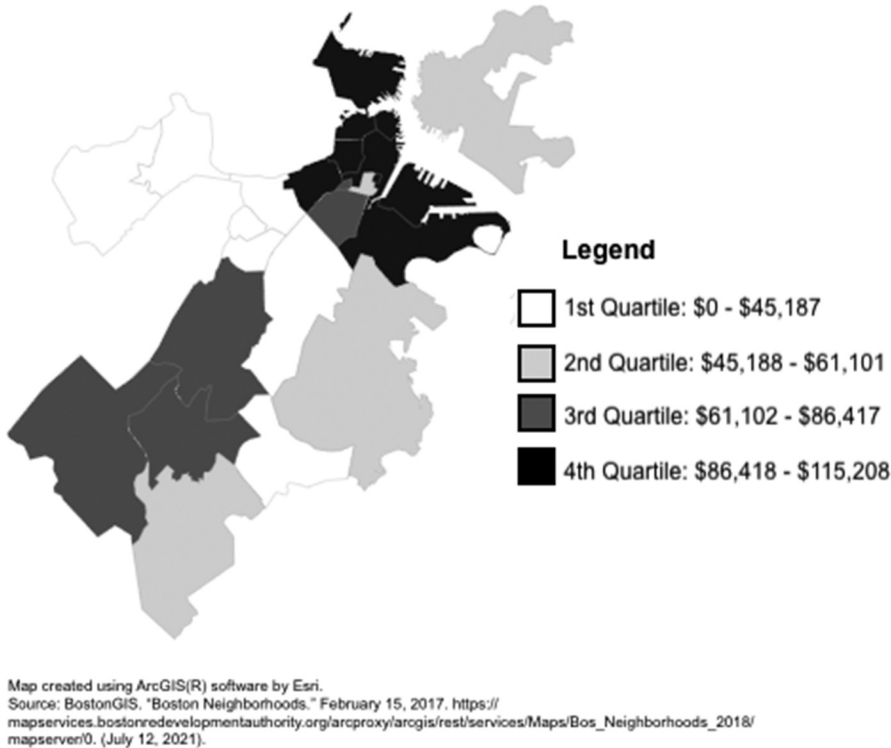


Figure 1. Map of Boston neighborhoods according to zip code median household income.

## Outcome Measures

Survey questions asked parents about various aspects of preschool programming, convenience factors, location, and logistics. First, since we hypothesized that concerns about preschool program safety may be related to neighborhood context and choice of preschool location, we explored parental rating of the importance of a safe and supportive environment. Next, we identified survey items regarding parents' preferences for preschool location. These were parents' preferences for: program location near work; program location near home; willingness to use a bus or van for transportation; and concern about number of transitions (being picked up or dropped off at different locations) during the day.

### *Parental Rating of Environmental Safety*

Parents were asked to rate the importance that "Staff provides a safe and supportive environment for my child" on a scale of 1 to 5 (1 = "Extremely important," 2 = "Very important," 3 = "Fairly important," 4 = "Not very important" and 5 = "Not important at all"). Descriptive analyses demonstrated that 92% of parents responded "extremely important" and thus indicators were dichotomized as "extremely important" versus all other responses.

### *Program Location Preferences and Transportation*

The questionnaire included two questions on preschool program location preference and one question on means of preschool transportation preference. Parents were asked to indicate whether "I would send my four-year-old child to a program that is not near my home" with options of "yes" or "no."



Parents were asked to indicate whether “I would send my four-year-old child to a program that is not near my work” with options of “yes” or “no.” These questions were independent of each other and parents could answer yes to both and/or neither. Both of these questions were reverse coded. Parents were also asked to indicate whether “I would put my child on a school bus or van to get to a program” with options of “yes” or “no.”

### ***Parental Concern regarding Number of Transitions***

Parents were asked to respond to the statement “I am concerned about the number of transitions my child has to go through, being picked up and dropped off at different places each day” on a scale of 1 to 5 (1 = “Extremely important,” 2 = “Very important,” 3 = “Fairly important,” 4 = “Not very important” and 5 = “Not important at all”). Descriptive analyses revealed that 43% of parents responded “extremely important” and thus responses were dichotomized as “extremely important” versus all other responses.

### ***Procedure***

#### ***Data Analysis***

All statistical analyses were carried out using SAS 9.0 (SAS Institute INC., Cary, NC). We used a logistic regression model to estimate odds ratios (ORs) and 95% confidence intervals (CIs) for the association of quartile of median neighborhood income with parental preferences for program environment, location proximity to work, location proximity to home, transportation, and number of transitions. All indicators were categorized as binary variables as detailed previously. The reference group was the second quartile of median neighborhood income (\$45,188 – \$61,101), chosen because it included the median household income for the city of Boston. This analysis was repeated with child race/ethnicity (White, Black, Asian, Hispanic and Other) as the predictor with White as the reference group. Finally, multivariate models included both median neighborhood income (quartiles) and child race/ethnicity (White, Black, Asian, Hispanic and Other).

### ***Results***

#### ***Demographics of Survey Respondents***

1171 parents who completed the survey indicated that they anticipated future preschool enrollment for their youngest child. Demographic characteristics of this subgroup are summarized in [Table 1](#). The majority of parents reported their child’s race as non-Hispanic White (61.5%). Among the 298 parents who indicated that they speak a language other than English, the majority (N = 124, 41.61%) were Spanish speakers.

#### ***Parents’ Perceptions of Safety***

The associations between 1) neighborhood median income and 2) child’s race/ethnicity and parents’ views on the safety measures included in this analysis are summarized in [Table 2](#). Our analysis revealed that, with the exception of parents identifying their child’s race as “Other,” race/ethnicity and median neighborhood income were not significant predictors of parents responding that a safe and supportive preschool environment was “extremely important.”

#### ***Location***

Among parents planning to enroll their child in preschool, 81.6% responded that they would prefer a program near home and 60.8% said that they would want a location near work. Families living in neighborhoods within the two highest quartiles of median neighborhood income were

**Table 1.** Background characteristics of parents anticipating future preschool enrollment (N = 1171).

	Number	Percentage
<b>Child's Race/Ethnicity</b>		
Asian	44	3.8%
Black	94	8.0%
Hispanic	74	6.3%
White	720	61.5%
Other <sup>a</sup>	186	15.9%
No Response	53	4.5%
<b>Median Neighborhood Income</b>		
1 <sup>st</sup> Quartile (less than \$45,187)	149	12.7%
2 <sup>nd</sup> Quartile (\$45,188 – \$61,101)	271	23.1%
3 <sup>rd</sup> Quartile (\$61,102 – \$86,417)	454	38.8%
4 <sup>th</sup> Quartile (greater than \$86,418)	259	22.1%
No Response	38	3.2%

<sup>a</sup>Includes parents who responded “other” or endorsed multiple races/ethnicities

more likely to prefer a program near home [aOR = 2.04 (95%CI:1.38–3.01) and 2.27 (95%CI: 1.42–3.65) for quartiles 3 and 4, respectively]. Compared to parents living in neighborhoods within the second quartile of median neighborhood income, parents living in neighborhoods within the highest quartile of income were more likely to desire a program near work [aOR = 1.76 (95% CI: 1.20–2.56)].

Controlling for neighborhood median income, when compared with parents identifying their child's race as white, parents identifying their child's race/ethnicity as nonwhite were less likely to prefer a program near home, and more likely to prefer a program near their work. For instance, parents of Black children were less likely to prefer a program near home [aOR = 0.48 (95% CI: 0.29–0.79)]. Parents of Asian and Hispanic children were almost 3 times more likely to prefer a program near work: [aOR = 2.92 (95% CI: 1.38–6.21) and aOR = 2.74 (95% CI: 1.55–4.84) for parents of Asian and Hispanic children, respectively].

### **Willingness to Use School Bus or Van**

A minority of parents said that they were willing to use a bus or van for transportation to preschool (14%). Parents from the highest quartile of median neighborhood income were less likely to be willing to use bus or van transportation [aOR = 0.48 (95%CI: 0.28–0.84)]. Compared to parents of White children, parents of Asian, Black and Hispanic children were more likely to be willing to use bus or van transportation [aOR = 2.57 (95%CI 1.23–5.36); 3.37 (95%CI: 2.00–5.69); 2.46 (95%CI: 1.37–4.43) for parents of Asian, Black, and Hispanic children, respectively].

### **Concern about Number of Transitions**

Over 42% of parents reported that the number of transitions during the day was an extremely important consideration. We found no significant differences by quartile of neighborhood median income. Compared to parents of White children, parents of Black children were more likely to report that the number of daily transitions was extremely important [aOR = 1.77 (95% CI: 1.05–2.96)].

As a sensitivity analysis, we additionally adjusted for household income with missing as an income category. We found minimal impact on the effect estimates without change in direction of association or significance observed (see Appendix).

**Table 2.** Association of median neighborhood income and child race/ethnicity with parental preschool preferences.

	Median Neighborhood Income					Child Race/Ethnicity				
	Quartile 1 (less than \$45,187) (N = 1019)	Quartile 2 (\$45,188 – \$61,101) (N = 1019)	Quartile 3 (\$61,102 – \$86,417) (N = 1019)	Quartile 4 (greater than \$86,418) (N = 1019)	White	Asian	Black	Hispanic	Other	
<b>Safe and Supportive Environment (N = 1114)</b>										
Unadjusted OR <sup>A</sup>	1.19 (0.55,2.57)	REF	1.09 (0.63,1.90)	1.04 (0.56,1.95)	REF	0.67 (0.27,1.64)	2.78 (0.85,9.06)	1.3 (0.50,3.35)	2.14* (1.01,4.55)	
Adjusted OR <sup>B</sup>	1.15 (0.52,2.51)	REF	1.26 (0.71,2.23)	1.28 (0.67,2.44)	REF	0.69 (0.28,1.72)	3.13(0.93,10.55)	1.38 (0.53,3.61)	2.19* (1.02,4.70)	
<b>Program Location Near Home (N = 1114)</b>										
Unadjusted OR <sup>A</sup>	1.25 (0.79,1.99)	REF	2.37** (1.63,3.44)	2.76** (1.75,4.35)	REF	0.45* (0.22,0.89)	0.34** (0.21,0.55)	0.52* (0.29,0.92)	0.49** (0.33,0.73)	
Adjusted OR <sup>B</sup>	1.35 (0.84,2.15)	REF	2.04 ** (1.38,3.01)	2.27** (1.42,3.65)	REF	0.50 (0.25,1.02)	0.48** (0.29,0.79)	0.64 (0.36,1.15)	0.54** (0.36,0.81)	
<b>Program Location Near Work (N = 1114)</b>										
Unadjusted OR <sup>A</sup>	1.13 (0.75,1.7)	REF	0.86 (0.63,1.17)	1.54* (1.07,2.21)	REF	2.91** (1.38,6.14)	1.2 (0.78,1.87)	2.51** (1.43,4.39)	0.98 (0.7,1.35)	
Adjusted OR <sup>B</sup>	1.14 (0.75,1.73)	REF	0.96 (0.70,1.33)	1.76** (1.20,2.56)	REF	2.92** (1.38,6.21)	1.31 (0.82,2.09)	2.74** (1.55,4.84)	1.03 (0.74,1.45)	
<b>Willingness to Use Bus or Van (N = 1114)</b>										
Unadjusted OR <sup>A</sup>	1.17 (0.73,1.9)	REF	0.55** (0.37,0.83)	0.35** (0.20,0.59)	REF	2.83** (1.37,5.82)	4.37** (2.68,7.13)	2.93** (1.65,5.19)	1.74* (1.11,2.74)	
Adjusted OR <sup>B</sup>	1.16 (0.71,1.91)	REF	0.75 (0.49,1.15)	0.48** (0.28,0.84)	REF	2.57* (1.23,5.36)	3.37** (2.00,5.69)	2.46* (1.37,4.43)	1.53 (0.96,2.43)	
<b>Number of Transitions (N = 969)</b>										
Unadjusted OR <sup>A</sup>	0.76 (0.49,1.2)	REF	0.66* (0.48,0.92)	1.20 (0.83,1.73)	REF	0.84 (0.42,1.7)	1.71* (1.05,2.78)	1.54 (0.91,2.61)	1.37 (0.97,1.94)	
Adjusted OR <sup>B</sup>	0.74 (0.47,1.16)	REF	0.73 (0.52,1.03)	1.40 (0.95,2.06)	REF	0.84 (0.42,1.71)	1.77* (1.05,2.96)	1.63 (0.96,2.79)	1.50* (1.05,2.14)	

Note: N = number of parents who responded to question.

95% CI shown in parentheses

<sup>A</sup>Unadjusted Odds Ratio

<sup>B</sup>Adjusted Odds Ratio from multivariate models that included both child race/ethnicity and median neighborhood income

\* 0.01 < p < 0.05 two-tailed. \*\* p < 0.01 two-tailed

## Discussion

In this cross-sectional study of parents planning to enroll a child in preschool, we found a graded association between increasing quartile of median neighborhood income and preference for preschool near home. Parents in the highest income neighborhoods were less likely to be willing to use a bus or van for preschool transportation. Program location near work was significantly more important for parents living in the highest income neighborhoods. Parents who identified their child's race as Black were less likely to prefer preschool location near home and were more likely to rate concern regarding the number of transitions as extremely important.

Consistent with prior literature (Brown et al., 2013; Henly & Lyons, 2000; Rose & Elicker, 2008), we found that parents near universally strongly endorsed the importance of a safe and supportive preschool environment. This did not vary according to child race/ethnicity or median neighborhood income. Further qualitative research is needed to understand how parents conceptualize safety in the preschool environment and how perceptions of neighborhood safety may influence parent views.

Differences in parental preference for preschool location near home suggest that there may be different opportunities available to children living in different neighborhoods and from different racial/ethnic backgrounds. Our finding that parents from the highest income neighborhoods are more likely to prefer preschool near home is consistent with prior literature showing that high-quality programs are more likely to be located in higher income neighborhoods (Hatfield et al., 2015) and documented associations between higher perceived neighborhood safety and higher rates of enrollment in preschool (Fields et al., 2001). Both greater availability of high-quality preschool programs and perceptions of neighborhood safety may contribute to this finding. This also aligns with previous research that indicates that families who are more affluent and White tend to exercise school choice through neighborhood choice, while families with lower incomes and families of color tend to have fewer options for shelter and have to select schools after establishing residence (Barrow, 2002; DeLuca & Rosenblatt, 2010). Parents who identified their child's race as nonwhite were less likely to prefer a preschool location near home. This association was present in models adjusting for quartile of median neighborhood income, which suggests that factors beyond residential segregation contribute to this finding. It is plausible that child race/ethnicity is a proxy for racism-related educational exposures (discrimination, structural racism) that may contribute to skepticism among Black families regarding the likelihood of high-quality preschool programs being located within their neighborhoods. Given documented inequities in access to high-quality educational opportunities according to neighborhood (Acevedo-Garcia et al., 2014), parents may perceive that better schools are available outside of the neighborhoods where they live. Future qualitative work should further investigate the reasons for this finding.

Parents living in the highest income neighborhoods and identifying their children as Asian or Hispanic were more likely to preference preschool near work. Future research is needed to better understand this finding, including measures of work environment, schedules, safety and other factors as well as differences in availability, type, and quality of early education programs near parents' places of work. It is possible also that the work schedules of these parents may align better with preschool schedules (Chaudry et al., 2011). For example, parents living in higher income neighborhoods may be more likely to work during the daytime and be able to drop-off and pick-up their children on the way to and from work.

There was no difference in concern about the number of transitions among families from different neighborhood economic contexts. However, our analysis did show that parents of Black children were more likely to answer that the number of care transitions was extremely important. This may reflect racial/ethnic differences in patterns of preschool enrollment as prior literature has found that Black parents are more likely to enroll in center-based preschool (Hofferth et al., 1996). This finding merits further investigation as there may be other differences in the need to use before or after care, which influence these findings.

## Limitations

There are several limitations to our study which should be considered when interpreting these findings. This was a nonrandom convenience sample and the demographics of the respondents do not reflect the composition of parents of young children in the city of Boston. Parents of white children were over-represented in our survey sample compared to city demographics (Boston Indicators, 2019). Therefore, these findings may not be generalizable and future studies should engage in a more thorough investigation of the perspectives of nonwhite families. Due to 70% of our sample with no response to the household income question, our primary analysis does not include family income, which is associated with, but independent of, neighborhood of residence. We conducted a sub-analysis controlling for household income and included missing as an income category within our model. We found that median neighborhood income was still significant, the direction of the effect did not change, and there was minimal impact on the effect estimate (Appendix). Including this variable in the main analysis, however, may provide important insight into the intersections between individual family income and both race/ethnicity and neighborhood economic context. Our neighborhood income data is based in census tract income data which may be heterogeneous. For example, there may be concentrated areas of high or low income within census tracts which is not reflected in the median income of overall census tracts. We do not have objective measures of preschool quality or distribution by neighborhood, socioeconomic or racial/ethnic context; therefore, our ability to investigate structural racism is limited.

Our survey design also presents limitations. Parents were not asked their employment status so it is difficult to interpret preference for preschool location near work. Location questions did not specify the meaning of “near,” so parents’ answers to these questions were subjective and could differ across neighborhood context based on the proximity of a neighborhood to city services and the accessibility of public transportation. Parents were asked to rate the importance of individual aspects of preschool so there were high rates of parents who rated individual components as extremely important. They were not asked to rank the relative importance of various qualities of preschool. This means that these results may not accurately reflect the factors that parents weigh or trade-offs that they must consider when making decisions about preschool (Hofferth et al., 1996).

Finally, due to the numbers of respondents within each child race/ethnicity and quartile of median neighborhood income, we have insufficient power to analyze the interaction between race and median neighborhood income within income quartiles. Despite the well-known and high degree of correlation among race/ethnicity, income, and residential neighborhood in the city of Boston, due to current and historical segregation, many associations were still present in models that controlled for each. Furthermore, in stratified analyzes (available upon request), there is no change in the direction of the odds ratios or loss of significance, which suggests that both neighborhood context and family sociodemographic factors are associated with parental preschool preferences regarding location. This study provides a foundation for future studies that can capture more contextualized variables and include a design powered for mediation analysis to explore pathways between multiple neighborhood and family attributes and preschool enrollment.

## Implications

This study is among the first to analyze the association between neighborhood median income and parental preferences regarding preschool location. Our findings suggest that parents are equally concerned about safe and supportive preschool environments, yet logistical considerations such as program location and transportation differ by neighborhood economic context and family characteristics.

The finding that parents from the highest income neighborhoods were more likely to prefer a program location near home and less likely to be willing to use a bus or van for transportation may be due to a combination of convenience, perceptions of neighborhood safety, and presumed

access to high-quality preschool. This finding should prompt further policy discussions to ensure that families from all neighborhoods and racial/ethnic backgrounds have equitable access to high-quality preschool. Future studies should more comprehensively investigate intersections between neighborhood socio-demographics, parental and family factors and caregivers' perceptions of ECE program safety, quality indicators, and preferred program location. Future studies can better measure and analyze the roles of structural racism and neighborhood in parental preschool preferences. Early education stakeholders including parents, teachers, community advocates, and pediatricians have close relationships with families, a thorough understanding of child development, and are uniquely positioned to discuss preschool programming with families and advocate for city and district-wide policies to improve preschool delivery.

These findings can inform city planning and educational policies so that the design of preschool systems incorporates parent concern about safe and supportive environments, ensures an equitable distribution of high-quality programs and transportation options, and considers logistical factors, such as length of program day and availability of before- and after-school options, that may impact the number of care transitions. Early education stakeholders can advocate for redesign of delivery systems so that high-quality programs are available in neighborhoods where families from diverse racial/ethnic backgrounds live. Utilizing a race equity methodology, such as Critical Race Theory (Ford & Airhihenbuwa, 2010) to center the perspectives and lived experiences of socially marginalized parents has the potential to address racial inequities and improve family engagement and educational opportunities for children.

Families who live in low-income neighborhoods and are from racial/ethnic groups that historically have experienced educational inequality often experience a triple threat to an optimal preschool experience: They are faced with more difficulty accessing high-quality preschool, further travel distances, and more transitions of caregivers and location during the day (McCoy et al., 2015; Parker et al., 2017). Future research should measure and investigate the impact of structural and institutional racism on parental experiences accessing information about preschool and preschool enrollment. Additional studies should focus on understanding and meeting the needs of typically marginalized populations, including families of color and those from disadvantaged backgrounds, assessing the role of family income and parental employment status in preschool decision-making, and characterizing the trade-offs that parents consider. This will help ensure that all children have access to high-quality programming that meets the needs of diverse families.

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## Appendix. Supplemental Logistic Regression Analyses Including Household Income

Sociodemographics	Program staff provide a safe and supportive environment Outcome: Extremely important		Program location: Near home		Program location: Near work		Program location: School bus and van		The number of transitions your child went through Outcome: Extremely important	
	N=1019		N=1114		N=1114		N=1114		N=969	
	Unadj. OR <sup>a</sup>	Adj. OR <sup>b</sup>	Unadj. OR	Adj. OR	Unadj. OR	Adj. OR	Unadj. OR	Adj. OR	Unadj. OR	Adj. OR
<b>Income</b>										
Less than \$49,999	0.72 (0.23,2.25)	0.58 (0.18,1.90)	0.72 (0.34,1.54)	0.92 (0.42,2.02)	1.23 (0.65,2.33)	0.94 (0.49,1.82)	4.73** (2.06,10.86)	4.04** (1.7,9.56)	0.96 (0.49,1.87)	0.70 (0.35,1.40)
\$100,000 - 149,999	1.07 (0.31,3.67)	1.16 (0.34,4.01)	1.04 (0.47,2.28)	0.84 (0.38,1.90)	0.52* (0.28,0.95)	0.56 (0.3,1.04)	0.99 (0.36,2.69)	1.24 (0.45,3.43)	0.61 (0.31,1.19)	0.66 (0.33,1.29)
\$150,000 or more	0.65 (0.22,1.91)	0.69 (0.23,2.07)	1.21 (0.55,2.70)	0.88 (0.39,2.00)	1.08 (0.59,2.00)	1.05 (0.56,1.98)	1.32 (0.52,3.36)	2.01 (0.77,5.25)	1.05 (0.56,1.98)	1.02 (0.53,1.95)
No answer	0.87 (0.36,2.09)	0.92 (0.38,2.22)	0.90 (0.51,1.58)	0.76 (0.42,1.37)	0.82 (0.52,1.28)	0.76 (0.48,1.20)	1.57 (0.77,3.22)	1.94 (0.94,4.04)	0.75 (0.47,1.21)	0.70 (0.43,1.13)
\$49,999-99,999	ref									
<b>Race</b>										
Asian	0.67 (0.27,1.64)	0.72 (0.29,1.78)	0.45* (0.22,0.89)	0.51 (0.25,1.03)	2.91** (1.38,6.14)	2.87** (1.35,6.12)	2.83** (1.37,5.82)	2.43* (1.16,5.11)	0.84 (0.42,1.70)	0.85 (0.42,1.73)
Black	2.78 (0.85,9.06)	3.45 (1.11,9.95)	0.34** (0.21,0.55)	0.46** (0.28,0.78)	1.20 (0.78,1.87)	1.26 (0.78,2.02)	4.37** (2.68,7.13)	3.04** (1.77,5.22)	1.71* (1.05,2.78)	1.77* (1.05,3.00)
Hispanic	1.30 (0.50,3.35)	1.51 (0.56,4.04)	0.52* (0.29,0.92)	0.63 (0.35,1.14)	2.51** (1.43,4.39)	2.67** (1.5,4.75)	2.93** (1.65,5.19)	2.04* (1.11,3.76)	1.54 (0.91,2.61)	1.68 (0.97,2.89)
Other	2.14* (1.01,4.55)	2.27* (1.05,4.89)	0.49** (0.33,0.73)	0.54** (0.36,0.80)	0.98 (0.70,1.35)	1.02 (0.73,1.43)	1.74* (1.11,2.74)	1.44 (0.90,2.30)	1.37 (0.97,1.94)	1.50* (1.05,2.16)
White	ref									
<b>Quartile of Median Neighborhood Income</b>										
Q1 (<\$45,187)	1.19 (0.55,2.57)	1.15 (0.53,2.53)	1.25 (0.79,1.99)	1.34 (0.84,2.14)	1.13 (0.75,1.70)	1.13 (0.74,1.71)	1.17 (0.73,1.90)	1.17 (0.71,1.93)	0.76 (0.49,1.20)	0.73 (0.46,1.15)
Q3 (\$61,102-86,417)	1.09 (0.63,1.90)	1.24 (0.69,2.20)	2.37** (1.63,3.44)	2.06** (1.39,3.05)	0.86 (0.63,1.17)	0.98 (0.71,1.35)	0.55** (0.37,0.83)	0.80 (0.51,1.24)	0.66* (0.48,0.92)	0.72 (0.51,1.02)
Q4 (>\$86,418)	1.04 (0.56,1.95)	1.33 (0.69,2.55)	2.76** (1.75,4.35)	2.31** (1.43,3.72)	1.54* (1.07,2.21)	1.73** (1.18,2.53)	0.35** (0.20,0.59)	0.45** (0.26,0.79)	1.20 (0.83,1.73)	1.40 (0.95,2.08)
Q2 (\$45,188-61,101)	ref									

<sup>a</sup> Unadjusted Odds Ratio; <sup>b</sup> Adjusted Odds Ratio from logistic regressions that adjusted for income, race, and neighborhood parents lived in (place); \* 0.01<p<0.05 two-tailed; \*\* p<0.01 two-tailed

A family income question was added approximately one month after the survey sent out. Response categories were: “Less than \$10,000,” “\$10,000 - 14,999,” “\$15,000 -24,999,” “\$25,000 - 34,999,” “\$35,000 - 49,999,” “\$50,000 - 74,999,” “\$75,000 - 99,999,” “\$100,000 - 149,999,” “\$150,000 - 199,999” and “\$200,000 or more.” Due to concerns about small sample size in each category, we regrouped income into 5 categories: Less than \$49,999 (N=81, 6.9%), \$50,000 - \$99,999 (N=92, 7.9%), \$100,000 - 149,999 (N=83, 7.09%) and \$150,000 or more (N=88, 7.5%). Those who have no information for income (either did not receive the question or chose not to answer) comprised 70.6% (N=827) of the sample and are included in the analyses as a “No answer” category.