School Psychology Review,
2015, Volume 44, No. 3, pp. 315–330

Featured Research Commentary

Educating Homeless and Highly Mobile Students: Implications of Research on Risk and Resilience

Ann S. Masten, Aria E. Fiat, and Madelyn H. Labella
University of Minnesota, Twin Cities

Ryan A. Strack
Minneapolis Public Schools

Abstract. Homelessness among children in poverty continues to confront schools, educators, and policymakers with major challenges. This commentary summarizes findings from 2 decades of research on academic risk and resilience in children experiencing homelessness. Recent research corroborates the early conclusion that although children experiencing homelessness share many risks with other disadvantaged children, they fall higher on a continuum of cumulative risk. Research also indicates resilience, with many homeless students succeeding in school. Implications for educational practice, training, research, and policy are discussed, particularly regarding school psychology. Evidence underscores the importance of identification, assessment, and administrative data; outreach and communication to ensure that mandated educational rights of homeless children are met; and coordinating education across schools and systems to provide continuity of services and learning. Early childhood education, screening, and access to quality programs are important for preventing achievement disparities that emerge early and persist among these students. Additional research is needed to inform, improve, and evaluate interventions to mitigate risk and promote school success of students facing homelessness.

Research described in this article was supported by grants to the University of Minnesota (Ann S. Masten, Principal Investigator or Project Director) from the Center for Urban and Regional Affairs, the Institute of Education Sciences (R305A110528), and the National Science Foundation, as well as by assistance from the Research, Evaluation, and Assessment Department of the Minneapolis Public Schools. Preparation of this article was also supported by a predoctoral fellowship awarded to Madelyn H. Labella from the National Science Foundation. The conclusions and opinions expressed in this article are solely those of the authors and do not represent the views of any funding agencies or collaborating organizations. The second, third, and fourth coauthors contributed equally to this article and are listed in alphabetical order. The authors are deeply grateful for the participation and support of all the families, principals, and teachers who made this research possible and for the contributions of the many colleagues who collaborated with them on this research over the years, including many talented graduate students cited throughout this report. The authors express special thanks to Alex Chan, Christopher Desjardins, Daniel Gumnit, David Heistad, Becky Hicks, Elizabeth Hinz, Margo Hurrle, Jeff Long, and Maureen Seiwert.

Correspondence regarding this article should be addressed to Ann S. Masten, Institute of Child Development, 51 East River Parkway, Minneapolis, MN 55455; e-mail: amasten@umn.edu

Schools in many districts across the United States have seen a dramatic increase in the numbers of students experiencing homelessness over the past 3 decades. Rates of homelessness among families with children and youth increased sharply in the 1980s and 1990s and then surged again with the onset of the Great Recession during the first decade of the 21st century. The federal response to the crisis of homelessness in children included enactment of the McKinney-Vento Homeless Assistance Act (reauthorized under the No Child Left Behind Act; see Samuels, Shinn, & Buckner, 2010, for this history). McKinney-Vento legislation, intended to address the educational challenges of homeless students, guaranteed homeless students the right to enroll in school immediately; to attend their school of origin if that is preferred and feasible; to receive transportation for school and educational services comparable to other students; and to not be stigmatized or segregated on the basis of their homeless status. The law established funding and procedures for the appointment of a local homeless education liaison for every public school district, as well as a state coordinator. The law also mandated that the numbers of children and youth enrolled in school would be collected by state and local agencies and compiled by the National Center for Homeless Education, which operates the U.S. Department of Education's (ED's) technical assistance and information center for its Education of Homeless Children and Youth Program.

Schools around the country, particularly in urban districts, continue to face many challenges in meeting the needs of students who experience homelessness. In 2010–2011, over 1 million students were identified as homeless under the ED criteria, a 13% increase over the previous year, and in 2012–2013, that number reached 1,240,925 (National Center for Homeless Education, 2014). ED defines homeless individuals as those "who lack a fixed, regular, and adequate nighttime residence," including children and youth living in shelters, motels, or vehicles or at campgrounds; on the street; or in abandoned buildings or other inadequate situations or who are doubled up because of loss of housing, economic hardship, or similar reasons; as well as those awaiting foster placement (see U.S. Code, Title 42, Chapter 119, Subchapter I, § 11302). The ED definition is similar to, but broader than, the definition used by Housing and Urban Development (HUD); unlike HUD, ED includes individuals who are doubled up.

The educational success of homeless children has been a central focus of the first author's research program for more than 20 years in collaboration with regional school districts and shelter providers (Masten et al., 2014). In this commentary, we provide an overview of this research on educational risks and resilience of homeless and highly mobile (HHM) students in the context of additional research on school adjustment in homeless children. In the first section we describe the high cumulative risk faced by homeless children and the persistent achievement disparities our research has revealed. In the second section we highlight findings on the promotive and protective factors associated with school readiness and success in school. In the final section we discuss the translational applications of our findings, with a particular focus on implications for school psychology practice and policy, as well as directions for future research.

HIGH ON A CONTINUUM OF RISK

Early research on children experiencing homelessness focused on the high prevalence of health, educational, and behavioral problems seen in this population (Masten, 1992; Rafferty & Shinn, 1991). Children who were homeless (with or without their families) shared many of the risk factors often observed in circumstances of extreme poverty, along with the additional challenges of residential instability, including school mobility. Associated risks included sociodemographic risk factors (e.g., single-parent households, low maternal education, unemployed parents) and adverse life experiences (e.g., child maltreatment, domestic violence, divorce, loss or separation from parents, incarcerated parent, foster care).

Early studies compared risk levels of children living with families in shelters with those of children from a similar socioeconomic background who were not currently homeless. Results showed considerable overlap in adversities but suggested that homeless families had experienced more cumulative risk, particularly in relation to recent stressful life events and financial problems. In our first study of families residing in an emergency shelter, we conducted a survey of parents and their 8- to 17-year-old children (Masten, Miliotis, Graham-Bermann, Ramirez, & Neemann, 1993). We compared data from questionnaires completed by 93 parents and 159 children in the shelter with data from 53 families with 62 children from a very low-income housed comparison group recruited to match the sheltered sample on sociodemographic background. The two groups differed significantly on family income, with homeless families reporting significantly lower incomes than their housed counterparts. An interesting finding was that 10% of the housed sample reported they had previously been homeless, suggesting these two samples likely shared risk for homelessness. Rates of lifetime adverse experiences looked very similar between the two groups, with the exception that the homeless sample of children had changed schools significantly more often. In contrast, large differences were found in the number of recent (past 12 months) stressful life events reported by parents and adolescents in the homeless sample compared with the housed sample, underscoring the surge in adverse life events associated with homelessness. Children in the homeless sample reported having fewer friends and spending less time with friends, and they also were more likely to expect they would live in a shelter as adults. Both samples, homeless and housed, had elevated scores on a measure of externalizing problems. In the combined samples, high cumulative chronic risk exposure, recent life events, and parent distress predicted more internalizing and externalizing problems. Housing status did not have unique effects once these other risk factors were accounted for, suggesting that homelessness functioned as a marker of high cumulative risk.

The pattern of results from this study suggested an underlying continuum of risk, with children staying in shelters at greater risk than their housed low-income peers. Subsequent data and reviews have continued to support that conclusion (Bassuk, Richard, & Tsertsvadze, 2015; Brumley, Fantuzzo, Perlman, & Zager, 2015; Samuels et al., 2010).

Educational Risk

From the beginning, evidence on risks associated with homelessness in children raised concerns about education. Early evidence indicated that in addition to many risk factors for academic and behavioral problems shared by other impoverished children, homeless students had additional challenges related to repeated school changes, frequent absences, and other barriers to school access (Masten, 1992; McChesney, 1993; Molnar, 1988; Rafferty & Rollins, 1989). Children experiencing homelessness often had high rates of grade retention and school mobility and lower than average grades or test scores. For example, in our first study (Masten et al., 1993), we found that 38% of homeless children aged 8 to 17 years had repeated a grade, and they changed schools more frequently than currently housed low-income peers in the comparison group. Another of our early studies, which focused on achievement in homeless African American children (who represented the majority of children staying in shelters in the region), found that 80% of the children aged 6 to 11 years scored in the bottom quartile on a standardized test (Masten et al., 1997). In addition, scores based on the individual testing in this study were strongly related to school records of achievement and classroom teacher ratings of behavior.

Findings From Administrative Data on Achievement Disparities

The services mandated by the McKinney-Vento Homeless Assistance Act led to substantial improvements in access to education for children experiencing homelessness (Miller, 2011). The requirements for reporting on the numbers of homeless children attending

school also resulted in important new opportunities for analysis of administrative data.

The Minneapolis Public Schools (MPS) were among the many districts that responded to McKinney-Vento requirements by appointing a homeless liaison, establishing a reliable system for identifying HHM students, and boosting services for HHM students. As part of its routine responsibilities, the MPS Research, Evaluation, and Assessment Department (REA) also administered standardized testing in reading and mathematics. To track educational progress of individuals and the school population as a whole, REA adopted tests designed for growth analyses to document year-to-year growth. By the 2003–2004 school year, all testing and tracking procedures were in place to accumulate reliable data year over year.

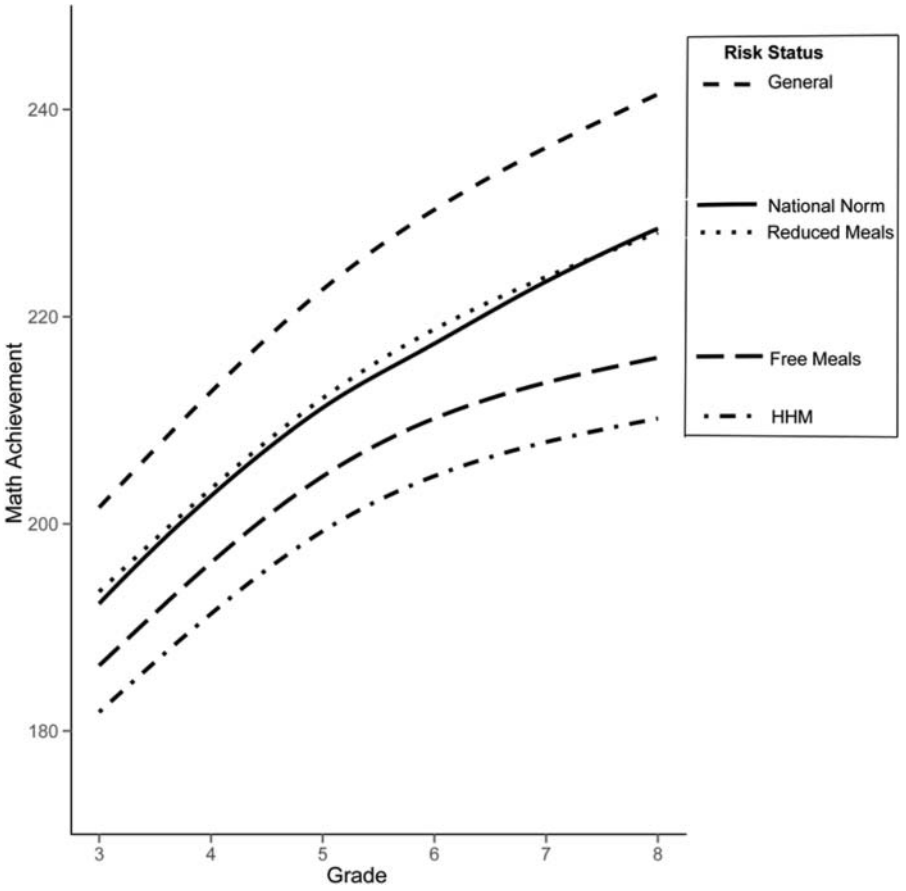
A collaborative team, including REA leadership and statisticians and the HHM liaison, as well as faculty and graduate students from the University of Minnesota, began to analyze these data in de-identified form to understand the big picture of risk and resilience and to inform practices and policies designed to meet the needs of HHM students. The findings not only showed striking risk gradients but also highlighted the variability in and resilience among children who were identified as HHM under federal guidelines.

Our first set of analyses of administrative data drew on testing results across three school years (2003–2004 to 2005–2006). It was fortuitous that the district switched from testing each spring (2004, 2005) to fall testing (2005), which made it possible to examine the infamous effect of summer vacation on learning. Alexander, Entwisle, and Olson (2001) previously found that the summer effect was more pronounced for low–socioeconomic status (SES) children, and we expected to see similar patterns in the administrative data. For this study, four cohorts of students were studied separately based on their grade at Time 1; scores were available for students beginning in second, third, fourth, and fifth grade over the three time points (Obradović et al., 2009). On the basis of administrative data on HHM status and National School Lunch Program (NSLP) eligibility each year, three mutually exclusive groups were formed to study cumulative risk: HHM (all children who were identified at any time in the study window under McKinney-Vento guidelines); low income (eligible for reduced-price or free meals but not identified as HHM at any time during the study window); and advantaged or low risk (never identified by the district as HHM or receiving NSLP benefits; i.e., all other students).

As reported by Obradović et al. (2009), we used linear mixed models to study intraindividual growth in achievement over time with these data. School records also provided important data on common covariates of achievement such as gender, attendance, special education placement, English language learner (ELL) status, and racial or ethnic identity, which allowed us to account for and study their role. Overall, these covariates showed expected links to achievement (e.g., better attendance was associated with better achievement). Even with these covariates controlled, findings indicated substantial achievement gaps between advantaged and disadvantaged students, as well as a significant gap between the low-income and HHM groups, consistent with the expected continuum of risk. These differences were evident both in reading and in mathematics beginning in second grade, and the gaps did not close, instead sometimes widening over time. A classic summer effect was observed for all students, with a larger summer effect for low-SES students (including the HHM group). Consistent with study hypotheses, low-SES students showed almost no gains during the summer and often showed declines.

In our next analysis of achievement growth across different levels of risk, we were able to analyze data spanning five testing periods (fall 2005 to fall 2009), using all the test data available for students in third through eighth grades, when the same tests were administered in this district (Cutuli et al., 2013). We again used growth modeling to study intraindividual learning, but this time, we used an accelerated longitudinal design to combine all of the data into growth curves spanning

Figure 1. Achievement Trajectories Based on Growth Analyses



Note. Achievement trajectories are shown for mathematics scores on a standardized test for 26,474 students, with pooling of data from five consecutive assessments (fall 2005 to 2009). The average observed scores for the four groups, as well as the national average score, are shown. HHM = homeless and highly mobile. Reprinted with permission from Wiley-Blackwell from *Child Development* by Cutuli et al. (2013). Copyright 2012 by Cutuli et al. and Society for Research in Child Development.

third to eighth grades in reading and mathematics. We also divided the NSLP-eligible students into two groups, reflecting those who qualified for free lunch at any point during the study window and those who qualified for reduced-price meals but not free lunch. Thus, for this project, we compared four groups, again expecting a continuum of risk.

Results of the Cutuli et al. (2013) analyses showed dramatic achievement disparities. The results for mathematics are displayed in Figure 1. Beginning in third grade, the HHM group showed significantly lower achievement on average than all other groups, with achievement gaps persisting or widening over time. Scores were consistent with the hypothesized continuum of risk: The free-lunch group had lower achievement than the group receiving reduced-price lunch, which in turn scored lower than the general group. There was a notable difference between the two groups eligible for different levels of NSLP benefits. The group qualifying for reduced-price lunch (eligibility based on family income from 130% to 185% of the federal poverty line) but not free lunch (<130% of the poverty line) tracked the national norm reference point on

this test quite closely. In contrast, the free-lunch group had much lower scores and, similar to the HHM group, showed a growing achievement gap in math among the later grades.

Another notable finding from this analysis was the sheer number of students identified as HHM over the 6-year window for the administrative data used to designate group status. Close to 14% of the students in this study fell into the HHM group based on cumulative data. Moreover, risk associated with HHM status was chronic and persistent. Children in the HHM group, regardless of when the identification occurred, showed significantly lower achievement in math and reading beginning in the first year of testing in third grade and persisting in ensuing years.

We also found evidence of acute risk, suggesting academic problems may increase around the time of homeless episodes. Students generally achieved at lower levels in years immediately after identification as HHM compared with their achievement at other times. In addition, the growth rate for mathematics, but not for reading, slowed for individual children in the year after identification as HHM. Although both mathematics and reading were affected by chronic risks associated with HHM status, mathematics appeared to be particularly sensitive to the acute disruptions to learning that may accompany residential instability and stresses of homelessness.

Similar to findings from the previous study, achievement differences associated with risk level were marked and significant when gender, ELL status, special education, and ethnicity were controlled (Cutuli et al., 2013). The homeless group had lower attendance overall than all other groups.

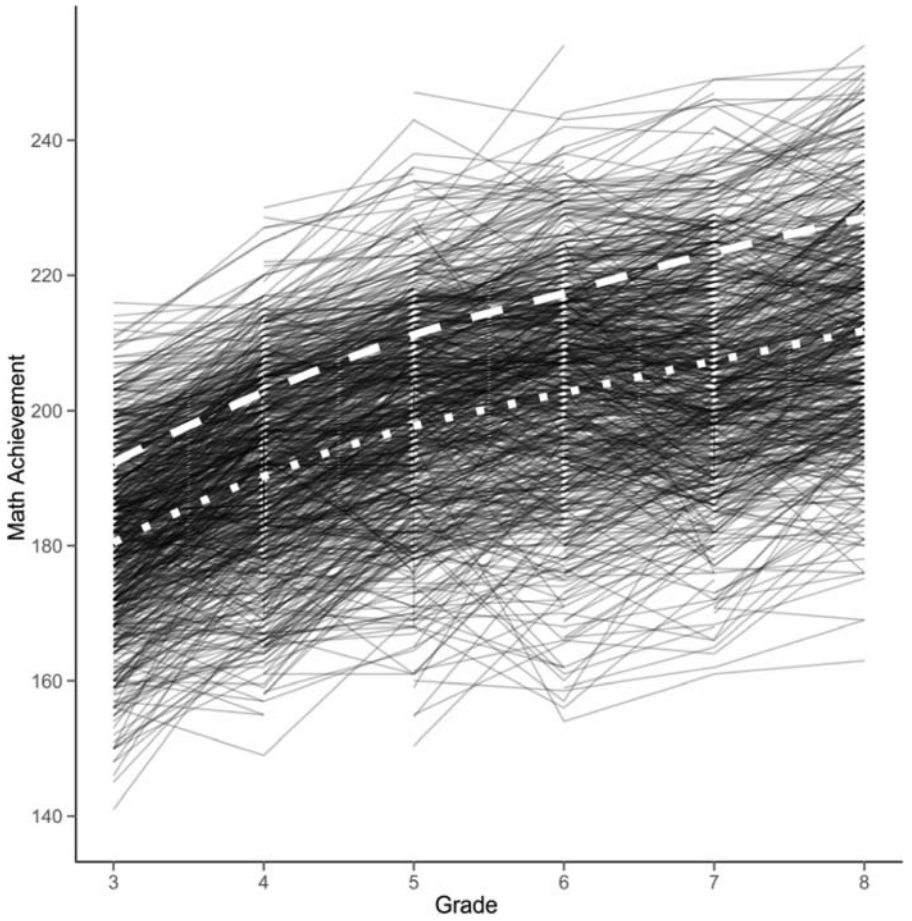
Recent research drawing on administrative data from another urban school district confirms the value of administrative data for studying educational risk. Brumley et al. (2015) used an integrated data system to analyze the risks for educational problems in a large cohort of first-grade children. Results corroborated earlier evidence of higher levels of specific risks and cumulative risk exposure in the group that had experienced homelessness (defined conservatively by a history of staying in a shelter) compared with housed low-income peers. Homelessness was associated with numerous well-established risk factors for child development, including birth problems, low maternal education, a teenage mother, maltreatment, and history of lead exposure. Once all of the risks investigated in this study were considered, homelessness showed a unique association with social engagement problems at school, but not reading or academic engagement problems. For the latter two outcomes, higher cumulative risk in the homeless subsample accounted for their educational risk.

Findings From Administrative Data on Resilience

In addition to illustrating academic risks, our research documented substantial evidence of resilience. We observed marked variability within the HHM groups in the Obradović et al. (2009) study, with many children showing good achievement over time. Approximately 60% of the HHM students had scores within a standard deviation or better on the achievement test trajectories, and 20% scored above the national average. The control variables showed some relation to the achievement of HHM students but did not account for the variability.

We also observed striking differences in achievement within the HHM group in the Cutuli et al. (2013) study, as shown in Figure 2. Close to half of the students in this large group of HHM students (45%) scored in the average range or better in mathematics and reading over time, even though the overall average was low for the HHM students as a whole. This finding again invited the questions, What makes a difference? How do we account for this variability? The control variables, common covariates of achievement, explained some risk-group differences, but most of the variance was left unexplained. These questions led us to consider additional administrative data that gradually became available, such as earlier achievement, but also studies with direct assessment of potential protective

Figure 2. Variability Among Homeless Students for Mathematics Achievement



Note. Individual achievement trajectories of homeless and highly mobile students are depicted by black lines. The dashed white line represents the mean national achievement level, and the dotted white line is 1 *SD* below the national normative mean. Reprinted with permission from Wiley-Blackwell from *Child Development* by Cutuli et al. (2013). Copyright 2012 by Cutuli et al. and Society for Research in Child Development.

factors that schools do not typically assess. These ongoing questions inspired a search for protective factors, both with district-level data and through direct assessment of families staying in emergency shelters.

RESILIENCE IN HHM STUDENTS: SEARCHING FOR MALLEABLE PROTECTIVE FACTORS

It was clear in our earliest studies of children in HHM situations that some children were manifesting academic resilience—that is, doing well in the school context despite their experiences of adversity and disadvantage. The correlates of better achievement and school adjustment often reflected typical promotive and protective factors observed in the broader literature on resilience (Masten, 2014; Masten et al., 2014). These factors included attributes of the child (e.g., good cognitive skills) and attributes of the family (e.g., close parent–child relationships or parent involvement in education; Masten et al., 1997; Miliotis, Sesma, & Masten, 1999).

In the course of our large studies of administrative data, we tested the role of early reading skills as a predictor and moderator of risk (Herbers et al., 2012). Scores on reading tests in first grade predicted third-grade reading and mathematics scores, as well as the rate of learning over time (third to eighth grade) in both areas of academic achievement. The significance of reading was even greater for the highest risk students (the free-lunch and HHM groups described earlier), with reading showing a significant moderating effect on the predictive significance of risk group. The interaction effects suggest that early reading skills may be a protective factor for later learning among the most disadvantaged students, as well as a harbinger of future achievement.

Beginning in 2006, we initiated a series of studies focused on direct assessments of children and parents in shelters that were focused on identifying malleable promotive or protective factors for school success. Parenting and children's executive function (EF; described in detail later) held particular interest for us because of their salience in the developmental literature on resilience among disadvantaged children.

We have used multiple methods to assess parenting quality, including the Five Minute Speech Sample (e.g., Narayan, Herbers, Plowman, Gewirtz, & Masten, 2012) and direct observations of parent–child dyads in structured sessions that are later coded using standardized coding systems (e.g., Herbers, Cutuli, Supkoff, Narayan, & Masten, 2014). We have used multiple strategies for coding parenting skills and the quality of parent–child interaction, ranging from microsocial coding using State Space Grid techniques (e.g., Herbers et al., 2014) to more global coding with validated rating scales, including the Family Interaction Task codes originally developed by Forgatch and DeGarmo (1999). Results of our recent studies of parenting quality suggest that effective parenting is related to better EF skills in children (Herbers et al., 2014) and moderates the risk of academic problems in young HHM students (Herbers et al., 2011). Our results are consistent with the hypothesis that one way effective parenting "goes to school" is mediated by the EF skills of their children. Similarly, another research group recently found that inhibitory control skills mediated effects of risk on achievement problems in highly mobile preschool-aged children (Schmitt, Finders, & McClelland, 2015).

Executive functions refer to the neurocognitive processes involved in goal-directed, voluntary control of attention; working memory; and self-control of emotions and behavior that develop rapidly in preschoolers and continue to develop into early adulthood (Zelazo & Carlson, 2012). EF development is influenced by brain maturation and socialization, and these skills can be disrupted or damaged by adverse experiences that result in high levels of biological stress (Blair & Raver, 2012; Hackman, Gallop, Evans, & Farah, 2015). Teachers value EF because children's self-control is fundamental for learning in a classroom context, and numerous studies have shown the importance of these skills for school readiness and success (Blair & Raver, 2015). Our work was among the earliest to document the significance of directly assessed EF skills for school success in HHM children (Masten et al., 2012; Obradović, 2010). We were keenly interested in EF skills as a resilience factor because there was considerable evidence that these skills were malleable, in both preschool children and older students (Diamond & Lee, 2011; Raver et al., 2011; Riggs, Jahromi, Razza, Dillworth-Bart, & Mueller, 2006; Zelazo & Carlson, 2012).

We have investigated multiple components of EF since 2006 using a variety of measures administered to children while they were staying in emergency shelters. We have tested a variety of EF tasks and adapted some of the most promising tasks for greater suitability in testing EF skills in diverse young children. Results have corroborated the validity of these skills as correlates and predictors of school success, including academic achievement, social competence with peers, relationships with teachers, and classroom conduct (Herbers et al., 2014; Lafavor, 2012; Masten et al., 2012; Obradović, 2010). EF skills are distinct from, although closely related to, general cognitive abilities (as mea-

sured by IQ tests) and show unique predictive significance for homeless children's school success with measures of intellectual functioning controlled (Masten et al., 2012).

In a recent study, still under way, we evaluated the potential of innovative EF measures, particularly computerized assessments of EF skills, for screening school readiness in preschoolers (Wenzel et al., 2013). In collaboration with the early childhood screening team in the MPS, we recruited families participating in the district's regular prekindergarten screening for an optional child EF assessment, completed at the same time as the screening itself. Over 90% of families participating in the regular screening consented to participate in our study, producing a sample of 3- to 5-year-old children. Concurrent validity was excellent, with an EF composite score correlating highly ($r = 0.76$ for 471 English-speaking children) with scores on the Minneapolis Preschool Screening Instrument–Revised (MPS, 2007), a measure of cognitive school readiness used by multiple districts in this metropolitan area. We are now observing our participants administratively to track how they do in school based on grades, district standardized testing, and state benchmark tests, as well as attendance and other indicators of positive school engagement. Early data are very promising that EF tests will have value added for preschool screening.

In our most recent work, we also have begun to study the role of biological processes in risk and resilience of HHM students (Masten et al., 2014). Specifically, we are investigating how EF skills are related to measureable biological markers of stress, such as salivary cortisol levels, gene expression in saliva, and hair cortisol levels. Early results indicated that salivary cortisol levels were related to EF performance during in-shelter testing sessions (Cutuli, 2011). Further research is under way to investigate how positive and negative life experiences affect the activity of stress-relevant genes, as well as the accumulation of the stress hormone cortisol in hair. The goal of extending our measures to a biological level is to better understand the processes underlying risk and resilience related to stress, parenting, and EF.

MOVING TOWARD INTERVENTION: IMPROVING EF SKILLS TO PROMOTE SCHOOL READINESS

Evidence from our research implicated EF skills as having potential influence on school success in HHM students, a promising finding that was corroborated by the work of other investigators (e.g., Schmitt et al., 2015). As a result, we began developing and testing interventions to promote resilience by building EF skills during the preschool years, taking advantage of the natural window of opportunity when EF skills develop rapidly and brain plasticity is high (Zelazo & Carlson, 2012). Targeting foundational skills in homeless preschoolers has the potential to promote school readiness and initiate a positive cascade of academic competence, mitigating achievement gaps in the long term (Heckman, 2006; Masten, 2011). Previous research had shown the benefits of targeted EF interventions, including individual training programs (Espinet, Anderson, & Zelazo, 2012; Rueda, Rothbart, McCandliss, Saccomanno, & Posner, 2005) and adapted classroom curricula (Diamond, Barnett, Thomas, & Munro, 2007; Raver et al., 2011; Riggs et al., 2006). However, there were no existing programs known to be effective for HHM children at very high risk of academic difficulties. We endeavored to fill this gap by developing a brief but intensive EF intervention suitable for use with highly mobile families.

In 2010, with support from a local funder and in collaboration with community partners, we developed and piloted a 3-week program designed to boost EF skills in homeless children attending the shelter preschool just before entering kindergarten (Casey et al., 2014). Encouraged by the success of this pilot, we developed a multicomponent EF intervention designed for use with HHM families, with curricular components appropriate for any preschool classroom. Because reflection and cognitive reprocessing play a central role in EF skills (Espinet, Anderson, & Zelazo, 2012), our theory of change focused on boosting the amount and quality of reflection training and practice the child received at the individual,

family, and classroom levels. Our 3-week-long intervention included teacher training in a flexible classroom curriculum of EF-focused activities; parent psychoeducation about children's developing self-regulatory abilities; and one-on-one scaffolded training, intended for children who lack the individual EF skills to benefit meaningfully from group interventions (Casey et al., 2014; Masten et al., 2014). Early results have been promising, with teachers and parents enthusiastic about the materials and activities, as well as measurable changes observed in child performance and behavior. However, further enhancements, iterative improvements, and rigorous testing of the intervention still lie ahead.

IMPLICATIONS FOR SCHOOL PSYCHOLOGY PRACTICE, TRAINING, RESEARCH, AND POLICY

Our research is consistent with a larger body of evidence documenting marked risk and resilience with respect to educational success in HHM preschoolers and older students. In conclusion, we highlight implications of the evidence for school psychology practice, training, research, and policy.

Implications for Practice: Assessment and Placement

The variability in school readiness and achievement among HHM-identified students underscores the importance of outreach to ensure that these students participate in routine assessments, prekindergarten screening, and other opportunities for early identification of learning problems and needs. All too often, we have encountered children staying in shelters who fell through the cracks of screening, referral, and learning enrichment or special education programs that might have boosted their school readiness and success. Instead, these children often fall far behind their peers before they connect with appropriate supports and services. Mobility itself is a critical barrier to adequate screening and follow-through. Given the high return on investment during early childhood, it is particularly important to screen children in shelters for school readiness, with proactive identification of any special education needs.

Mobility also creates issues in placement of HHM students, sometimes leading to high concentrations of HHM students in schools and classrooms with high turnover rates. This is a structural problem that perpetuates a suboptimal learning environment in these classrooms, both for HHM students and for other students. Fantuzzo, LeBoeuf, & Rouse (2014) have shown that a high concentration of HHM students in a school is associated with lower reading achievement and attendance rates for children at that school. The high cumulative risk observed for many HHM students also poses challenges for teachers faced with many children struggling to overcome the effects of stress and other serious barriers to learning.

Implications for Practice: The Value of Data

Some of the most compelling evidence on the risks and resilience of HHM children in recent years has resulted from analyses of high-quality administrative or integrated data, often provided by research, evaluation, and testing departments in school districts. For example, the findings from our growth analyses of longitudinal administrative data on achievement in the MPS have been widely cited and also presented to local, state, national, and international policy audiences. Results of Cutuli et al. (2013) have been presented to the local school board, as well as the Minnesota legislature, and were cited in a recent report of the U.S. Government Accountability Office (2014) entitled *Education of Homeless Students: Improved Program Oversight Needed*. Our analyses were possible because of the quality of data available in the MPS and the collaboration of district and university colleagues working together. Such data are compelling to policymakers who can make more resources available to school systems and shelter providers. Data also can inform districts about progress in meeting the needs of HHM students, ranging

from transportation to summer school programs, and provide evidence on the success of district efforts to address achievement disparities.

Implications for Training and Professional Development

Homelessness among students is disturbingly common in many districts and classrooms, and therefore, it is vitally important that school personnel have adequate training on the issues and rights of HHM students, as well as the significance of school personnel's role in promoting resilience among these students. In many ways, the teachers, school psychologists, and other personnel encountered by HHM students and their parents represent the best opportunities for these highly disadvantaged families to connect with the educational resources and protective influences crucial to the success of these children. Although professional development needs to be tailored to the specific roles of the various staff, all school personnel need to understand the threatening situations often faced by these children, as well as their federally mandated rights and their potential for success. Avoiding stigma is paramount, so professional development should emphasize that many children who experience homelessness succeed, particularly in a context of well-timed and targeted protections.

Implications for Early Childhood Education

Findings indicating that the achievement gaps for HHM students emerge early and persist also underscore the importance of early and stable preschool programming for children already exposed to homelessness or at very high risk of homelessness. Multiple investigators have called for early interventions for children at risk because of homelessness (e.g., Brumley et al., 2015; Masten et al., 2014). Access to high-quality programs may be particularly important for these children given the evidence that quality matters for early childhood interventions for high-risk children (Heckman, 2006; Reynolds, Temple, White, Ou, & Robertson, 2011). Early childhood programs that emphasize EF skill development may promote long-term learning by building self-regulatory skills necessary for school success (Diamond et al., 2007; Raver et al., 2011).

Implications for Future Research

Since the 1980s, research has advanced on the academic risk and resilience of HHM children, yet much remains to be done (Cutuli & Herbers, 2014; Masten et al., 2014; Miller, 2011). Further research is needed to differentiate the effects of residential mobility, school mobility, and high cumulative risk (Miller, 2011; Schmitt et al., 2015). In addition, there is much more research focused on the educational risks associated with homelessness than there is on the educational successes of HHM students and the processes that may facilitate their resilience. Understanding the processes that promote success are important for supporting resilience in these and other high-risk children (Cutuli & Herbers, 2014; Masten, 2014).

The field needs innovative and tailored interventions but also research on how well they work. To date, relatively little research exists on the effectiveness of any interventions designed to promote school success or learning in HHM students (Casey et al., 2014). Given the prominence of homelessness as an indicator of academic risk and the striking achievement gaps revealed in recent studies for many HHM students, evidence-based interventions are crucial for addressing the needs of many individual children experiencing homelessness and for addressing the intransigent achievement gaps observed in many school districts. Research on predictors of resilience among HHM students, although limited, suggests several promising directions for intervention development and targeting. These include access to summer programs, computer training, and high-quality early childhood programs for children and youth experiencing homelessness, as well as interventions to support effective parenting and children's EF skills (Buckner, Mezzacappa, & Beardslee,

2003, 2009; Casey et al., 2014; Cutuli & Herbers, 2014; Herbers et al., 2011, 2014).

Implications for Policy

The evidence on risks and protective factors suggests multiple strategies for school programming to promote academic success in HHM students. First, it is important for schools to accurately identify HHM students. This can be done in part through partnerships with local housing agencies and emergency shelters; however, these methods may not identify children who are in inadequate living situations (e.g., living in cars or at campsites) or doubled up with other families. Research suggests that parents and youth may be reluctant to disclose their HHM status because of concerns about privacy and stigma (Ausikaitis et al., 2014; Comey, Litschwartz, & Pettit, 2012). Community outreach during school enrollment may help to educate families about the school's nonjudgmental response to homelessness and resources to provide services. In addition, staff should be trained to consider potential signs of homelessness (e.g., hunger, absenteeism).

Next, schools must ensure that children identified as meeting ED criteria for homelessness receive the services to which they are entitled. This is the specific charge of the homeless education liaison, who serves as an important connection for homeless students and families. The homeless education liaison can provide support and guidance about services and academic enrichment programs available to homeless children, as well as immediate school placement if these children are coming to a new community. To avoid disruption in schooling, it is imperative that schools provide all of the needed evaluations and referrals as quickly as feasible.

Given the stability of low achievement trajectories among HHM students who have fallen behind, these students may require intensive academic support and summer programming to have a chance to catch up. Programs to encourage attendance also are important given the frequency of absenteeism observed among many (although not all) homeless students. Any disciplinary actions that remove children from school also would likely exacerbate this problem, and it is important to consider the possibility of homelessness when children are frequently tardy or absent (Ausikaitis et al., 2014; Comey et al., 2012). Homeless children also may need access to school supplies and digital tools for school, including computers, as well as quiet places to do homework. Families may need guidance about how to access such resources.

The Importance of School Psychologists

School psychologists have a special role to play in facilitating school success among HHM students because of school psychologists' multifaceted roles in assessing the needs of students and promoting students' success, both individually and at the level of ecological systems in the school context (Burns, 2013). It is important for school psychologists to understand the characteristics and implications of homelessness and mobility in order to establish appropriate interventions and accommodations for students experiencing homelessness. It is essential for schools to accurately identify and document the status of HHM students so that federally mandated rights are met and services provided (e.g., free meals, transportation). Connecting with the homeless education liaison will be important to ensure that these mandated services are provided. In addition, some (although not all) HHM students may have vulnerabilities related to high cumulative risk that need to be considered to best serve these students. For example, homeless children exposed to domestic or community violence may benefit from individual or group counseling for students exposed to such violence. School psychologists can help HHM students secure access to social skills training and mental health services as needed (Moore, 2013; Tobin & Murphy, 2013).

School psychologists can also help establish academic stability in the midst of residential mobility, educating HHM families about their children's right to stay at their school of origin if that is desired and feasible. When school changes do occur, school psy-

chologists can work to preserve educational continuity, ensuring that a new school acquires school records and reviews previous academic interventions to support learning. School psychologists also can facilitate academic planning for HHM students during the school year, helping to coordinate support across teachers and service providers.

School psychologists also have an important role to play in assessment, both at the individual level and at the school level. Testing procedures need to accommodate the situation of homeless students who may miss testing dates. Outreach may be important to ensure that HHM children are included in screening and other testing sessions that may open opportunities for enrichment and special educational programming. It is also important to consider the appropriateness of measures used for evaluation, as well as the timing of evaluation. Very few measures have been well validated for use with extremely impoverished children who also may be under considerable stress from co-occurring traumatic events that precipitate a homeless episode. School psychologists play a vital role in selecting suitable measures and interpreting results, being mindful of the shortcomings in validity of many tests for HHM students.

Last but certainly not least, school psychologists can play a facilitating role in educating parents and supporting the school engagement of families dealing with homelessness. HHM parents may not be aware of the potential detriments of school mobility or the rights mandated by HHM status for their children, including transportation to their children's school of origin. Parents in this situation may need extra support to feel welcomed and empowered as partners in their children's education.

CONCLUSION

Over the past 3 decades, we have made great strides in understanding the needs and strengths of homeless students. Although far from done, this work has practical implications for identifying and supporting academic success among these students. School personnel in general and school psychologists in particular have central roles to play in promoting resilience in children challenged by homelessness and all of its attendant risks to educational success.

REFERENCES

Alexander, K. L., Entwisle, D. R., & Olson, L. S. (2001). Schools, achievement, and inequality: A seasonal perspective. *Educational Evaluation and Policy Analysis, 23*, 171–191. doi:10.3102/01623737023002171

Ausikaitis, A. E., Wynne, M. E., Persaud, S., Pitt., R., Hosek, A., Reker, K., . . . Flores, S. (2014). Staying in school: The efficacy of McKinney-Vento Act for homeless youth. *Youth & Society.* Advance online publication. doi:10.1177/0044118X14564138

Bassuk, E. L., Richard, M. K., & Tsertsvadze, A. (2015). The prevalence of mental illness in homeless children: A systematic review and meta-analysis. *Journal of the American Academy of Child and Adolescent Psychiatry, 54, 86(2)*, 86–96. doi:10.1016/j.jaac.2014.11.008

Blair, C., & Raver, C. C. (2012). Child development in the context of adversity: Experiential canalization of brain and behavior. *American Psychologist, 67*, 309–318. doi:10.1037/a0027493

Blair, C., & Raver, C. C. (2015). School readiness and self-regulation: A developmental psychobiological approach. *Annual Review of Psychology, 66*, 711–731. doi:10.1146/annurev-psych-010814-015221

Brumley, B., Fantuzzo, J., Perlman, S., & Zager, M. L. (2015). The unique relations between early homelessness and educational well-being: An empirical test of the continuum of risk hypothesis. *Children and Youth Services Review, 48*, 31–37. doi:10.1016/j.childyouth.2014.11.012

Buckner, J. C., Mezzacappa, E., & Beardslee, W. R. (2003). Characteristics of resilient youths living in poverty: The role of self-regulatory processes. *Development and Psychopathology, 15*, 139–162. doi:10.1017.S0954579403000087

Buckner, J. C., Mezzacappa, E., & Beardslee, W. R. (2009). Self-regulation and its relations to adaptive functioning in low-income youths. *American Journal of Orthopsychiatry, 79*, 19–30. doi:10.1037/a0014796

Burns, M. K. (2013). Contextualizing school psychology practice: Introducing featured research commentaries. *School Psychology Review, 42*, 334–342.

Casey, E. C., Finsaas, M., Carlson, S. M., Zelazo, P. D., Murphy, B., Durkin, F., . . . Masten, A. S. (2014). Promoting resilience through executive function training for homeless and highly mobile preschoolers. In S. Prince-Embury & D. H. Saklofske (Eds.), *Resilience interventions for youth in diverse populations* (pp. 133–158). New York, NY: Springer.

Comey, J., Litschwartz, L., & Pettit, K. L. S. (2012). Housing and schools: Working together to reduce the negative effects of student mobility (Urban Institute Brief 26). Washington, DC: Urban Institute.

Cutuli, J. J. (2011). *Context, cortisol, and executive functions among children experiencing homelessness* (PhD dissertation). University of Minnesota, Minneapolis, MN.

Cutuli, J. J., Desjardins, C. D., Herbers, J. E., Long, J. D., Heistad, D., Chan, C.-K., . . . Masten, A. S. (2013). Academic achievement trajectories of homeless and highly mobile students: Resilience in the context of chronic and acute risk. *Child Development, 84*, 841–857. doi:10.1111/cdev.12013

Cutuli, J. J., & Herbers, J. E. (2014). Promoting resilience for children who experience family homelessness: Opportunities to encourage developmental competence. *Cityscape, 16*, 113–139.

Diamond, A., Barnett, W. S., Thomas, J., & Munro, S. (2007). Preschool program improves cognitive control. *Science, 318*, 1387–1388. doi:10.1126/science.1151148

Diamond, A., & Lee, K. (2011). Interventions shown to aid executive function development in children 4 to 12 years old. *Science, 333*, 959–964. doi:10.1126/science.1204529

Espinet, S. D., Anderson, J. E., & Zelazo, P. D. (2012). N2 amplitude as a neural marker of executive function in young children: An ERP study of children who switch versus perseverate on the dimensional change card sort. *Developmental Cognitive Neuroscience, 2*, S49–S58. doi:10.1016/j.dcn.2011.12.002

Fantuzzo, J. W., LeBoeuf, W. A., & Rouse, H. L. (2014). An investigation of the relations between school concentrations of student risk factors and student educational well-being. *Educational Researcher, 43*, 25–36. doi:10.3102/0013189X13512673

Forgatch, M. S., & DeGarmo, D. S. (1999). Parenting through change: An effective prevention program for single mothers. *Journal of Consulting and Clinical Psychology, 67*, 711–724. doi:10.1037/0022-006X.67.5.711

Hackman, D. A., Gallop, R., Evans, G. W., & Farah, M. J. (2015). Socioeconomic status and executive function: Developmental trajectories and mediation. *Developmental Science.* doi:10.1111/desc.12246

Heckman, J. J. (2006). Skill formation and the economics of investing in disadvantaged children. *Science, 312*, 1900–1902. doi:10.1126/science.1128898

Herbers, J. E., Cutuli, J. J., Lafavor, T. L., Vrieze, D., Leibel, C., Obradović, J., & Masten, A. S. (2011). Direct and indirect effects of parenting on the academic functioning of young homeless children. *Early Education & Development, 22*, 77–104. doi:10.1080/10409280903507261

Herbers, J. E., Cutuli, J. J., Supkoff, L. M., Heistad, D., Chan, C.-K., Hinz, E., & Masten, A. S. (2012). Early reading skills and academic achievement trajectories of students facing poverty, homelessness, and high residential mobility. *Educational Researcher, 41*, 366–374. doi:10.3102/0013189X12445320

Herbers, J. E., Cutuli, J. J., Supkoff, L. M., Narayan, A. J., & Masten, A. S. (2014). Parenting and co-regulation: Adaptive systems for competence in children experiencing homelessness. *American Journal of Orthopsychiatry, 84*, 420–430. doi:10.1037/h0099843

Lafavor, T. L. (2012). *The impact of executive function and emotional control and understanding on the behavioral functioning and academic achievement of children living in emergency homeless shelters* (PhD dissertation). University of Minnesota, Minneapolis, MN.

Masten, A. S. (1992). Homeless children in the United States: Mark of nation at risk. *Current Directions in Psychological Science, 1*, 41–44. doi:10.1111/1467-8721.ep11509730

Masten, A. S. (2011). Resilience in children threatened by extreme adversity: Frameworks for research, practice, and translational synergy. *Development and Psychopathology, 23*, 141–154. doi:10.1017/S0954579411000198

Masten, A. S. (2014). *Ordinary magic: Resilience in development.* New York, NY: Guilford Press.

Masten, A. S., Cutuli, J. J., Herbers, J. E., Hinz, E., Obradović, J., & Wenzel, A. J. (2014). Academic risk and resilience in the context of homelessness. *Child Development Perspectives, 8*, 201–206. doi:10.1111/cdep.12088

Masten, A. S., Herbers, J. E., Desjardins, C. D., Cutuli, J. J., McCormick, C. M., Sapienza, J. K., . . . Zelazo, P. D. (2012). Executive function skills and school success in young children experiencing homelessness. *Educational Researcher, 41*, 375–384. doi:10.3102/0013189X12459883

Masten, A. S., Miliotis, D., Graham-Bermann, S., Ramirez, M., & Neemann, J. (1993). Children in homeless families: Risks to mental health and development. *Journal of Consulting and Clinical Psychology, 61*, 335–343. doi:10.1037/0022-006X.61.2.335

Masten, A. S., Sesma, A., Si-Asar, R., Lawrence, C., Miliotis, D., & Dionne, J. A. (1997). Educational risks for children experiencing homelessness. *Journal of School Psychology, 35*, 27–46. doi:10.1016/S0022-4405(96)00032–5

McChesney, K. Y. (1993). Homeless families since 1980, Implications for education. *Education and Urban Society, 25*, 361–380.

McKinney-Vento Homeless Assistance Act of 1987, Pub. L. No. 100-77, 101 Stat. 482, 42 U.S.C. § 11301 *et seq.* (1987).

Miliotis, D., Sesma, A., & Masten, A. S. (1999). Parenting as a protective process for school success in children from homeless families. *Early Education and Development, 10*, 111–133. doi:10.1207/s15566935eed1002 2

Miller, P. M. (2011). A critical analysis of the research on student homelessness. *Review of Educational Research, 81*, 308–337. doi:10.3102/0034654311415120

Minneapolis Public Schools. (2007). *Technical manual for the Minneapolis Preschool Screening Instrument–Revised.* Minneapolis, MN: Author.

Molnar, J. (1988). *Home is where the heart is: The crisis of homeless children and families in New York City*. New York, NY: Edna McConnell Clark Foundation.

Moore, J. (2013). Resilience and at-risk children and youth. *National Center for Homeless Education.*

Narayan, A. J., Herbers, J. E., Plowman, E. J., Gewirtz, A. H., & Masten, A. S. (2012). Expressed emotion in homeless families: A methodological study of the five-minute speech sample. *Journal of Family Psychology, 26*, 648–653. doi:10.1037/a0028968

National Center for Homeless Education. (2014). *Education for Homeless Children and Youth (EHCY) Federal Program Profile.* Greensboro, NC: Author.

Obradović, J. (2010). Effortful control and adaptive functioning of homeless children: Variable-focused and person-focused analyses. *Journal of Applied Developmental Psychology, 31*, 109–117. doi:10.1016/j.appdev.2009.09.004

Obradović, J., Long, J. D., Cutuli, J. J., Chan, C.-K., Hinz, E., Heistad, D., & Masten, A. S. (2009). Academic achievement of homeless and highly mobile children in

an urban school district: Longitudinal evidence of risk, growth, and resilience. *Development and Psychopathology, 21*, 493–518. doi:10.1017/S0954579409000273

Rafferty, Y., & Rollins, N. (1989). *Learning in Limbo: The Educational Deprivation of Homeless Children.* New York, NY: Advocates for Children.

Rafferty, Y., & Shinn, M. (1991). The impact of homelessness on children. *American Psychologist, 46*, 1170–1179. doi:10.1037/0003-066X.46.11.1170

Raver, C. C., Jones, S. M., Li-Grining, C., Zhai, F., Bub, K., & Pressler, E. (2011). CSRP's impact on low-income preschoolers' preacademic skills: Self-regulation as a mediating mechanism. *Child Development, 82*, 362–378. doi:10.1111/j.1467-8624.2010.01561.x

Reynolds, A. J., Temple, J. A., White, B. A., Ou, S.-R., & Robertson, D. L. (2011). Age 26 cost–benefit analysis of the child–parent center early education program. *Child Development, 82*, 379–404. doi:10.1111/j.1467-8624.2010.01563.x

Riggs, N. R., Jahromi, L. B., Razza, R. P., Dillworth-Bart, J. E., & Mueller, U. (2006). Executive function and the promotion of social–emotional competence. *Journal of Applied Developmental Psychology, 27*, 300–309. doi:10.1016/j.appdev.2006.04.002

Rueda, M. R., Rothbart, M. K., McCandliss, B. D., Saccomanno, L., & Posner, M. I. (2005). Training, maturation, and genetic influences on the development of executive attention. *Proceedings of the National Academy of Sciences of the United States of America, 102*, 14931–14936. doi:10.1073pnas.0506897102

Samuels, J., Shinn, M., & Buckner, J. C. (2010). *Homeless children: Update on research, policy, programs, and opportunities*. Washington, DC: Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services.

Schmitt, S. A., Finders, J. K., & McClelland, M. M. (2015). Residential mobility, inhibitory control, and academic achievement in preschool. *Early Education and Development, 26*, 189–208. doi:10.1080/10409289.2015.975033

Tobin, K., & Murphy, J. (2013). Addressing the challenges of child and family homelessness. *Journal of Applied Research on Children: Informing Policy for Children at Risk, 4*(1), 1–29. doi:10.1542/peds.2011-2663

U.S. Government Accountability Office. (2014). *Education of homeless students: Improved program oversight needed* (GAO-14-465). Washington DC: Author.

Wenzel, A. J., Berghuis, K. J., Hillyer, C., Seiwert, M. J., Anderson, J. E., Zelazo, P. D., . . . Masten, A. S. (2013, March). *Validity of executive function assessment for early childhood screening in an urban school district.* Poster presentation at the Society for Research in Child Development Biennial Meeting, Seattle, WA.

Zelazo, P. D., & Carlson, S. M. (2012). Hot and cool executive function in childhood and adolescence: Development and plasticity. *Child Development Perspectives, 6*, 354–360. doi:10.1111/j.1750-8606.2012.00246.x

Date Received: April 30, 2015
Date Accepted: May 18, 2015
Action Editor: Matthew Burns ■

Ann S. Masten, PhD, LP, is Regents Professor of Child Development in the Institute of Child Development at the University of Minnesota. For over 25 years, Professor Masten has conducted research on families experiencing homelessness, in collaboration with educators, shelter providers, and numerous students. She has published more than 170 articles, chapters, and books on competence, risk, and resilience in human development, including the 2014 book *Ordinary Magic: Resilience in Development*. She is past president of the Society for Research in Child Development and was the recipient of the Urie Bronfenbrenner Award for Lifetime Contributions to Developmental Psychology in the Service of Science and Society from the American Psychological Association in 2014.

Aria E. Fiat, BS, is a graduate student in the School Psychology Program at the University of Minnesota and a Fulbright Scholar. She is the cofounder of Supplies for Dreams, a 501(c)3 nonprofit organization dedicated to improving educational opportunities for low-income students in Chicago.

Madelyn H. Labella, MA, is a graduate student in the Developmental Psychopathology and Clinical Science program of the Institute of Child Development at the University of Minnesota. As a graduate research fellow of the National Science Foundation, she researches risk and resilience processes in families exposed to chronic stress, with a particular interest in how parenting can mediate and moderate effects of risk on children's social–emotional development.

Ryan A. Strack, MSW, is District Liaison for Homeless and Highly Mobile Students for the Minneapolis Public Schools. He provides consultation for local homeless education liaisons on McKinney-Vento Act implementation, including the formation of a statewide networking and resource group.