HHS Public Access

Author manuscript

Couple Family Psychol. Author manuscript; available in PMC 2017 December 01.

Published in final edited form as:

Couple Family Psychol. 2016 December ; 5(4): 240–257. doi:10.1037/cfp0000069.

A Review of the Key Considerations in Mental Health Services Research: A Focus on Low-Income Children and Families

Deborah J. Jones,
University of North Carolina at Chapel Hill

Margaret Anton,
University of North Carolina at Chapel Hill

Chloe Zachary,
University of North Carolina at Chapel Hill

Sarah Pittman,
University of North Carolina at Chapel Hill

Patrick Turner,
University of North Carolina at Chapel Hill

Rex Forehand, and
University of Vermont

Olga Khavjou
RTI International

Abstract

Children have been particularly vulnerable to the economic challenges of the past decade, with half (45 to 51%) of children under the age of 18 living in a low-income home and nearly 22% of those living in poverty. Low-income children are overrepresented in a range of statistics on psychosocial maladjustment issues, but their families are less likely than other socioeconomic groups to participate in mental health services and intervention research. Thus, this review asserts that substantive advances in mental health services and intervention research with low income families must move beyond a between-group, deficit-focused perspective to a more nuanced contemplation of how to: 1) Operationalize the “income” in low-income families; 2) Disentangle the interrelationship of low income, race, and ethnicity; and 3) Optimize recruitment, engagement and retention efforts via sensitivity to the culture of low-income status. Examples of mental health services and intervention research with low-income families will be discussed, and a summary, conclusions, and directions for future research are discussed in the context of these recommendations.

Keywords

Low income; families; children; culture; services

Correspondence regarding this article should be directed to Deborah J. Jones, Ph.D., Professor, Department of Psychology and Neuroscience, UNC Chapel Hill, Chapel Hill, NC, 27599; djjones@email.unc.edu; 919-962-3995.

Economic shifts of the past decade, including the housing crisis and Great Recession of 2007 to 2009, have resulted in more Americans living in poverty. In 2015, 20% of Americans were classified as low-income based on size-adjusted household incomes, an increase of 4% over the past 40 years (Pew, 2015). Children have been particularly vulnerable during these economic changes, with half (45 to 51%) or approximately 32.4 million children under the age of 18 living in a low income home, now representing the majority of students in the nation's public schools, and nearly 22% (16.1 million) of those living in poverty (Addy, Anglehart, & Skinner, 2013; Jiang, Ekano, & Skinner, 2016; Southern Education Foundation, 2015). Low-income children are overrepresented in a range of statistics on psychosocial maladjustment, including internalizing and externalizing problems, as well as problems with school readiness and underperformance (see Brooks-Gunn & Duncan, 1997; McLeod & Shanahan, 1993; McLoyd, 1998 for reviews). For example, while about one quarter (26%) of children in general experience psychopathology, rates in low-income neighborhoods are as high as 40% (see Costello et al., 2005; Gopalan et al., 2010; Xue, Leventhal, Brooks-Gunn, & Earls, 2005).

In spite of such disparities, low income families are less likely to participate in mental health services and intervention research, which we define broadly here as research on mental health issues across the lifespan and disorders, including but not limited to assessment, diagnosis, epidemiology, prevention and intervention, and efficacy and effectiveness trials (NIMH, 2016). Moreover, simply making mental health services and interventions available does not necessarily increase or ensure participation (see Heinrichs, Bertram, Kuschell, & Hahlweg, 2005; Hogue, Johnson-Leckrone, & Liddle, 1999; Lee, Scott, & Floyd, 2001; Schnirer & Stack-Cutler, 2007, for reviews). For example, in their review of recruitment and engagement research with low income families, Schnirer and Stack-Cutler (2007) revealed that only a third (34.5%) of investigators reached their target sample within the allotted timeline most (76–100%) of the time. As a result, the authors reported that the vast majority of respondents made one or more adjustments to their recruitment plan and timeline, including increasing project resources (e.g., staff time on recruitment, recruitment sites), extending the recruitment period (e.g., 6 months to 2 years), broadening the inclusion criteria (e.g., reconsidering the definition of "low income"), and, most dramatically, choosing to terminate the research. Given the seemingly universal difficulties recruiting and engaging low income families, it is perhaps not surprising that exorbitantly time-intensive and costly randomized controlled trials often conclude with a caution that results have "limited generalizability" for a range of underrepresented groups, including low-income (see Hyde, Thompson, Creswell, & Falk, 2014; Rowley & Camacho, 2015, for reviews).

This default of exclusion, however, is at odds with federal initiatives and policies, which depend on obtaining efficacy and effectiveness data with low-income families. For example, the Patient Protection and Affordable Care Act (PPACA), which aims to transform health care by reducing costs, increasing access, and, in turn, improving health outcomes regardless of income, defines mental health care as an "essential benefit." Moreover, funding agencies such as the National Institute of Mental Health (2015) have identified research on health disparities based on demographics as "essential to the development of precision medicine and personalized interventions." Policy groups, such as the American Psychological

Association, in turn, have created offices to "develop and facilitate relationships and activities to advance psychology as a major force in research, policy and advocacy related to SES" or socioeconomic status, which is typically defined as a combination of income and education (APA, 2016). Thus, our intention is to complement such initiatives by conveying the importance of moving the literature on disparities beyond between group (i.e., examining psychosocial adjustment of low income versus middle and high income families), deficit-focused (i.e., demonstrating that low income children and families may be more likely to evidence psychosocial adjustment difficulties) perspectives. Instead, we propose that it is time for research that gives more nuanced consideration of the variability in ecological and contextual factors within and between low income families and how such variability may shape perceptions about, receptivity to, and, ultimately, involvement in mental health services research. This review asserts, therefore, that substantive advances in mental health services research with low income families must move to a more nuanced contemplation of how to: 1) Operationalize the "income" in low-income families; 2) Disentangle the interrelationship of income, race, and ethnicity within and between low income children and their families; and 3) Optimize recruitment, engagement and retention efforts via sensitivity to the culture of low income status. These recommendations will be discussed in turn in the following sections and examples of mental health services and intervention research with low-income families will be provided to illustrate these nuances.

Operationalizing "Income" in Low Income Families

Although seemingly straightforward, the definition of income in the recruitment of low income children and families can actually be quite nuanced. In fact, how "low income" is defined varies from study to study, including whether a more objective dollar amount (e.g., financial income) is used versus a more subjective marker of financial burden or distress. In terms of objective criteria, many researchers use standards based on federal poverty levels for a given region to define low-income. In the U.S., a commonly used federal metric is the poverty guideline, released annually by the U.S. Department of Health and Human Services (Health and Human Services Department, 2015). For a household of 4 adults and/or children, for example, the federal poverty guideline in the 48 contiguous states and District of Columbia in 2015 was $24,250. Yet, even when researchers use objective criteria to define income there remains variability. While some may use the federal poverty limit to define their sample, others may use percentage multiples of the limit (e.g., not more than 150 or 200% of the federal poverty limit) in order to capture a broader and more diverse sample of low-income families.

Importantly, the advantage to using such an approach is that these federal guidelines are released annually, are adjusted by family size, and are often used to determine eligibility for a variety of federal aid programs, including subsidized health care and housing. In turn, researchers using this approach must still be thoughtful about what they choose to "count" as income and why. The U.S. Census Bureau's official poverty definition, for example, uses income before taxes and does not include capital gains or noncash benefits, such as public housing, subsidized health insurance, or food stamps (Office of Management and Budget, 1978). Federal, state, and local agencies serving low income families, however, may vary to some extent in whether they use before-or after-tax income, net or gross income, as well as

what income is actually used to compute poverty. For example, the Affordable Care Act changed the method of defining income for Medicaid eligibility purposes to the Modified Adjusted Gross Income, which is based on federal income taxes, and thus does not include child support, Social Security, or pre-tax spending on childcare or retirement savings (The Henry J. Kaiser Foundation, 2011). However, Head Start includes all of the aforementioned as income when determining eligibility (Administration of Children and Families, 2009).

Alternatively, some researchers may choose to operationalize “low-income” as recipients of a specific type of financial assistance, such as health benefits, disability or employment benefits, income support, subsidized housing, and/or free school lunches. Using such an approach may overlap to some extent with a definition based on the federal poverty limit alone, given that many agencies determine eligibility for benefits on some derivation of the poverty guidelines; however, it may provide a greater level of certainty that participants are, in fact, “low-income,” given the standards of proof that are typically required to qualify for such programs. Furthermore, recruiting participants through an established government program or community-based agency may greatly facilitate the recruitment process, as it provides an available pool of eligible individuals who meet income inclusion criteria. For example, recruiting through programs such as Head Start or Women, Infants, and Children (WIC), provides an identifiable pool of low-income parents of young children. However, it is critical researchers are well-versed in the requirements to qualify for the various financial assistance programs to ensure vital members of their participant pool are not excluded from receiving benefits, such as non-citizens, or individuals lacking the social capital and capability to apply for and receive such aid.

Additionally, it important to consider whether mental health researchers are interested in families in poverty (i.e., federal poverty guideline) or a broader definition of “low income.” For example, families who reside just above the federal poverty guideline, often referred to as the “near poor,” earn between 100 and 250% of the federal poverty guideline, but often live hovering one or two paychecks away from poverty (Harris & Kearney, 2013). Residing slightly above the federal cutoff, these families do not consistently qualify for various aid programs, but an estimated third of these individuals rely on at least one government program for support, most often the Supplemental Nutrition Assistance Program (SNAP), which extends benefits to those residing at or below 130% of the poverty guideline (Harris & Kearney, 2013). Furthermore, it may be that many who fall in this area are uninsured, underinsured, or experience a lack of parity in mental health coverage. While these rates are rapidly changing due to the Affordable Care Act, in 2012, 21.5% of the uninsured were middle-class families earning $25,000 to $49,999 and 15.4% among those earning $50,000 to $74,999 (DeNavas-Walt, Proctor, & Smith, 2012). In turn, a commonly used metric for researching such families is an income-to-needs ratio or the ratio of household income to the federal poverty guideline based on family size. For example, a family with an income-to-needs ratio of 1.75 would have an income of 175% the federal poverty guideline for their given family size. Using this metric allows for flexible comparison of participants with varying family sizes as well as between countries with unique poverty guidelines.

For other types of research, subjective definitions of “low-income” may be more appropriate, particularly for research focused on the experience of financial hardship and its

repercussions. This research may include participants who report struggling to sufficiently meet their monthly needs, and financial hardship can be assessed through established measures such as the *Family Economic Strain Scale* (Hilton & Devall, 1997) or the *Economic Hardship Questionnaire* (Lempers, Clark-Lempers, & Simons, 1989). For example, Brody and colleagues (2006) posited that the negative emotions produced by economic stress impair healthy family functioning and, therefore, defined income by using the Money for Necessities subscale of the *Family Resource Scale* (Dunst & Leet, 1987) and hypothesized that families with greater economic stress would require higher doses of the intervention to benefit. This more flexible approach allows researchers to account for the variety of experiences that may impact an individual or family's financial situation, including extreme economic hardship due to the costs associated with supporting an ailing family member or sending earnings to family members in another country, but that typically would not be included using more stringent criteria such as the federal poverty guidelines. In turn, subjective definitions of income may result in greater socioeconomic diversity within a sample, diversity that is also reflected in considerations of race and ethnicity.

Disentangle Income, Race, and Ethnicity within and between Low Income Children and Families

Regardless of how income in general and "low income" in particular are defined, there is a long-standing association between income and race and ethnicity (Pew, 2015; NCLRJ, 2013); however, the association is perhaps more nuanced than is typically reflected in research. That is, 18.9 million Caucasians/Whites in the United States are poor, which is approximately 8 million more Caucasian poor than African American/Black poor, and 5 million more Caucasian than Hispanic/Latino poor (National Center for Child Poverty, 2015; U.S. Census, 2013). In the case of children, estimates suggest that at least a third of the 13 million children living in poverty in the United States are also Caucasian and, in turn, represent a sizeable proportion of families benefiting from federal programs, such as Medicaid and food stamps (National Center for Child Poverty, 2015; Pew, 2015). In part, the rise in the number of children residing in low income families in the U.S., including Caucasian children, has been attributed to the shrinking middle class, defined typically as families who make two thirds to double the national median annually (e.g., $42,000 to $126,000 for family of 3; Pew, 2015). For example, the median household income of families in the middle class fell 4% between 2000 and 2014, with their median wealth (assets minus debts) experiencing an even more dramatic decline (28%) during approximately the same period (Pew, 2015). Such trends have been attributed largely to two recessions (2001, 2007–2009), the slow pace of economic recovery, as well as the housing market crisis. The cumulative effect of this led to dramatic declines in employment (e.g., sales, mechanics, laborers and transportation) and industry (e.g., manufacturing, utilities, trading) for those who were once more firmly rooted in the middle-, albeit perhaps lower-middle, class (Pew, 2015).

In spite of the reality of the ethnic and racial diversity among poor families in the United States, however, psychosocial research with children, including services work, has tended for the most part to conduct research on middle and high income Caucasian families and/or

low income racial and ethnic minority families (Chang et al., 2014; Hill & Bush, 2001). There are likely at least three reasons for such trends in the literature. First, the relative focus on ethnic and racial minority poor in mental health services research may be reflective of policy changes in the United States. For example, discussions of welfare reform highlight the relative lack of attention to unique factors characteristic of the rural poor, who are more likely to be Caucasian than urban poor, including residential isolation, geographic distance to potential employment, and lack of transportation (see Amato & Zuo, 1992; O'Hare, 2009, for a reviews). In addition, the same barriers that make it difficult for rural, predominately Caucasian, poor to benefit from policies such as welfare, likely also decrease awareness of and/or opportunities to engage in mental health services research. Whereas urban poverty tends to be concentrated in areas in relatively close proximity to education, health care, and research settings where mental health services and intervention research is being conducted, rural poverty is far more geographically isolated, widespread, and heterogeneous, including hollows, farms, and reservations (Amato & Zuo, 1992; O'Hare, 2009). In turn, such diversity may make it more challenging for researchers to identify and characterize their samples and, as a result, their research questions and hypotheses as well. A third and final possibility that we will discuss here is that such trends may be because ethnic and racial minorities are *disproportionately* overrepresented in statistics on the low-income, relative to Caucasian families. That is, while only 9% of Caucasian families are low income, approximately one-quarter of African American (27%) and Hispanic (25%) families are poor (U.S. Census, 2003). These disparities become even more pronounced when considering only the most impoverished individuals and families. Of those individuals considered to be in deep poverty (i.e., having an income below half the federal poverty line), Latinos are twice as likely and African Americans are three times as likely to be in deep poverty than their Caucasian counterparts (Lei, 2013). Although African American and Latino families are the most dramatically overrepresented, other racial minority groups, including American Indian/ Alaska Native, Pacific Islander, and Native Hawaiian families, are also more likely to reside in poverty than Caucasian and Asian families (APA, 2015; Costello, Keller, & Angold, 2001). Despite some shifts, attributed largely to upward mobility of African American families, as well as among Hispanics born in the U.S. relative to their immigrant parents (Pew, 2015), discrepancies persist for many reasons, including discrimination, marginalization, higher rates of unemployment, and differences in educational attainment (APA, 2015; Corcoran & Nichols-Casebolt, 2004; National Center for Education Statistics, 2007).

Consistent with general economic trends, as well as shifts within and between groups, researchers recruiting low-income families with children are by definition going to be working with diverse samples, characterized by racial and ethnic diversity between families, as well as within families as the number of multiracial babies in the United States has increased from 1% in 1970 to 10% in 2013 (Pew, 2015). Research on low-income families must, therefore, consider if and how racial and ethnic diversity may shape research questions and hypotheses, as well as strategies and procedures for recruitment and retention of families. The intersection of race and ethnicity and income, however, is complex and often confounded in research on mental health outcomes. Far too often, for example, researchers assert that race and ethnicity explain or moderate relationships in psychological research

without considering or controlling for the fact that income status may systematically differ between racial or ethnic groups and be driving observed differences (Betancourt & Lopez, 1993). Only 22% of studies on child health and healthcare, however, actually disentangle these associations by investigating the influence of race and ethnicity on outcomes after controlling or accounting for income status (Chang et al., 2014).

As a result, many have highlighted that income differences partially, albeit not fully, explain poorer mental health outcomes in research on racial/ethnic minorities relative to Caucasians (e.g., Link & Phelan, 1995; Chang et al., 2014; Costello et al., 2001). For example, Hill and colleagues (2003) investigated the association between parenting practices and child outcomes, including depression and conduct problems, in demographically comparable (e.g., low income, same neighborhood context) samples of European American and Mexican American families and found similar variability in the range of parenting practices and outcomes examined. Similarly, some researchers have found that after controlling for socioeconomic status (i.e., typically defined as some combination of income and education), racial and ethnic differences in child outcomes disappear (Uno, Florsheim, & Uchino, 1998). Studies, however, that do not account for income differences between racial and ethnic groups often find and attribute differences in parenting practices and outcomes to race and ethnicity (Hoff-Ginsberg & Tardiff, 1995; Roosa, Morgan-Lopez, Cree & Specter, 2002).

Of course, related to research questions and hypotheses about diversity are practical considerations regarding recruiting low income, ethnically and racially diverse samples, including the extent to which English is the primary language spoken in a home. As noted above, for example, one-quarter of Hispanic families in the United States are low-income, with even higher rates among immigrant families (National Center on Child Poverty; Pew, 2015; U.S. Census, 2013). Therefore, while low income immigrant Hispanic children in the United States are more likely to have opportunities to learn English within the context of the school and community, many Hispanic parents do not speak English, relying instead on their native language in the home and their children or other interpreters in the community (Orellana, 2003; Villanueva & Buriel, 2010). Research with low-income children and families, as a result, must thoughtfully consider the extent to which resources are available to recruit and support non-English speaking parents. In addition to language barriers, research with immigrant groups in particular must consider the realities of legal documentation (or lack of it) that weigh heavily on many of the families most in need of services. As characterized by Viladrich (2012), undocumented immigrants may simultaneously feel undeserving of health care “benefits,” while at the same time experience complicated thoughts and feelings when they do seek services due to the realities of racism and discrimination. There are, however, other, more seemingly benign, yet equally threatening, aspects of mental health services and intervention research for those who are undocumented, including the prospect of signing consent forms, the limits of confidentiality, which may pose risks beyond calls to social services and/or hospitalization, and the collection of social security numbers required for participant payment.

Optimize Recruitment, Engagement & Retention via Sensitivity to the Culture of Low-Income

When the term “culture” is used in services research, it typically refers to the culture of race or ethnicity; however, discussions of multiculturalism more broadly include a range of factors, including the culture of income or class (see APA, 2003; Constantine & Sue, 2005; Jones et al., 2013). In essence, social class as culture reflects how income shapes behaviors, routines, and rituals, which uniquely and collectively shape the identity of upper, as well as lower, class individuals (see Kraus, Piff, & Keitner, 2011, for a review). In terms of how the low-income culture shapes involvement in mental health services research, low-income families are less likely to enroll in research than their higher income counterparts (see Forehand & Kotchik, 1996; Jones et al., 2013; Schnirer & Stack- Cutler, 2007, for reviews). Thus, investigators may attribute the responsibility for disappointing participation rates to low income communities themselves; however, a more proactive approach is one of humility in which the onus falls on the research team to optimize recruitment, engagement, and retention strategies to uniquely suit the cultural context of low-income children and their families.

We draw our discussion of barriers and strategies for overcoming them from a variety of resources within and across disciplines (Brannon et al., 2013; Cui et al., 2015; Miranda et al., 1996, Ortiz & Del Vecchio, 2015). Taken together, our review suggests that understanding barriers to recruitment, engagement, and retention of low-income families may be characterized within an ecological systems framework (see Bronfenbrenner, 1979; Cumming, Davies, & Campbell, 2002, for reviews). That is, ecological systems theory suggests that behavior, defined broadly and including the behaviors of individuals and families, occurs in context. Some aspects of these contexts are structural, including income, but also other factors, such as constraints associated with geography, while others are psychosocial, including family stress and caregiver mental health (e.g., Jones et al., 2007; Jones, Forehand, Brody, & Armistead, 2003; Sterrett, Jones, Forehand, & Garai, 2010). In the case of structural factors likely associated with the participation and experience of low-income families in mental health services and intervention research, they are numerous and only those we consider primary will be highlighted here. Commonly discussed among structural barriers, include lack of and/or inconsistent transportation to and from appointments, time constraints common among low income families due to competing demands of multiple jobs, often including shift work, and lack of reliable and/or affordable child care. Solutions to such barriers have been proposed as well, including conducting mental health services research in a convenient community-based location, including the family’s home, subsidizing transportation (e.g., taxi service), and/or paying for or providing childcare for non-participating children. Interestingly, such practical solutions do not necessarily seem to address or overcome challenges to recruiting and retaining low-income families in mental health services research. For example, Fernandez and colleagues (2011) piloted a home-based trial of an intervention for low-income families of children with disruptive behaviors; however, more than half (56%) of families dropped-out of treatment.

High dropout rates in spite of practical solutions to structural factors, such as home-based treatment, suggest that psychological factors also likely hinder recruitment, engagement, and retention of low-income families in mental health services research. Family Stress Theory highlights the indirect impact of financial strain on children through parental stress and associated compromises in parenting (see Conger & Donnellan, 2007, for a review). Accordingly, low-income families are not only more vulnerable to disruptions in caregiver (e.g., parental stress, depression, emotion dysregulation) and family (e.g., parent-child and marital conflict) functioning implicated in the development and exacerbation of maladaptive child behavior (see Dekovic et al., 2011; Jones et al., 2013; Lundahl, Risser, & Lovejoy, 2006; Piquero, Farrington, Welsh, Tremblay, & Jennings, 2009, for reviews), but that these factors also interfere with treatment seeking and engagement (see Eyberg, Nelson, & Boggs, 2008; McMahon & Forehand, 2003; Reyno & McGrath, 2006; Thomas & Zimmer-Gembeck, 2007, for reviews).

In addition to family stress and its impact, research suggests that social forces may also be at play in mental health services research with low-income children and families. For example, some research suggests it may be relatively more difficult to recruit underrepresented samples into applied (e.g., intervention) research, relative to basic research (e.g., observation), given that there is less skepticism and uncertainty regarding the potential for placebo, deception, and/or a substandard of care (see Yancey, Ortega, & Kumanyika, 2006, for a review). Mental health services research in particular may exacerbate barriers to recruitment, engagement, and retention of low-income families of children relative to health care research more generally. Perhaps, most notably, when it comes to thinking of the culture of class as it relates to mental health, some prior work suggests that low-income individuals may be less willing, less equipped, or even unable to share and express their problems or their thoughts and feelings about those problems, whether physical or psychological (Stewart, Nápoles-Springer, & Pérez-Stable, 1999). Of course, such generalizations confound the myriad of complicated and interacting explanations of why such patterns may be more likely in lower income families. On one hand, the proverbial phrase “pull yourself up by your bootstraps,” often heard within low-income communities, seems to suggest that the onus is on the individual or the individual’s community to identify and “fix” the problem without the need for or inclination to turn to outside help. That said, there is also a seemingly contradictory, albeit equally common, sense among some low-income and minority individuals that they may lack power or control over their health and well-being, a disposition sometimes attributed to religion and a reliance on faith and God, which may also deter them from seeking help from mental health professionals in particular, in contrast to other professionals, such as pastoral counselors or clergy (Stewart et al., 1999).

There is some data to suggest that in the context of these structural, psychological, and social factors, members of low-income communities are more likely to enroll in research studies if they are referred to them by a trusted resource, or the study is conducted through a known source or in the context of a familiar agencies (e.g., Women, Infants, and Children), neighborhoods (e.g., subsidized public housing, public schools), and local, state, and federal initiatives that families already use (e.g., Medicaid) (e.g., Rdesinski et al., 2008; Wallace, Berent, McCarthy, Senn, & Carey, 2014; Yancey et al., 2006). When surrounded by unfamiliar research staff, low-income families may be less likely to ask informed questions

that would facilitate decision-making regarding participation in services research or to understand and/or adhere to research protocols, preventing them from benefiting from state-of-the-field advances in psychosocial services research (Schillinger, Bindman, Wang, Stewart, & Piette, 2004; Stewart et al., 1999).

In contrast, there is likely some comfort among low-income families with such trusted others who are aware of and respect potential challenges to engagement that majority cultures may take for granted, including lower levels of education and literacy, more limited English proficiency, which in turn may lead to more difficulty understanding the technical and scientific language which characterizes recruitment, consent, and other research documents, as well as the implications of consent and the limits of confidentiality (Corbie-Smith, Thomas, Williams, & Moody-Ayers, 1999).

In response to these issues, mental health services researchers should select recruiters from well-respected members of the community (e.g., elders, pastors, parents, teachers), consider matching race and ethnicity of recruiters and therapists with clients, provide all research staff with training and supervision in multicultural competence and humility, and hire and support bilingual staff and therapists and/or translators, when and if possible and relevant. Of note, such recommendations are collectively embodied in community based participatory research (CBPR). Although definitions of CBPR vary widely, the central theme is an approach to services research that engages community members (i.e., those representing research participants) who then collaborate in partnership with researchers in all phases of the project (see Faridi, Grunbaum, Gray, Franks, & Simoes, 2007, for a review). That said, CBPR has not proven to be the panacea for which some had hoped, a state-of-the-field Faridi and colleagues (2007) have attributed to a lack of standardization within and across studies that makes it difficult to ascertain the merit of CBPRs relative to more traditional research paradigms. As these questions continue to be addressed, some have suggested even more basic attention to research protocols, including other modes of consent, such as instructional videos, rather than lengthy and dense consent forms. This could allow lower income families to more fully understand the parameters of what is being offered and, in turn, the pros and cons or risks and benefits of participating (Wallace et al., 2014). Finally, advertisements (e.g., brochures, flyers, letters, mass emails), as well as all other intervention program materials (e.g., manuals, handouts, presentations), should be designed and conducted with special attention to terminology (e.g., potentially limited education/reading level), images (e.g., racial and ethnic diversity within and between families), and language (e.g., English and Spanish versions) familiar to and characteristic of low income children and families.

Even when care is taken to consider and address all of the factors described above, it is important to realize that even seemingly benign aspects of the research encounter might still be shaped by the culture of class. For example, Kraus and colleagues (2011) posit that objective social class (e.g., income, education, occupation) signal or cue symbols of wealth (e.g., social behaviors such as manners, language use), which shape one’s own subjective social standing (e.g., low rank) and associated thoughts, feelings, and behaviors. Some work posits that because high-income individuals have abundant resources and, in turn, less dependency on others, as a group they may appear relatively more disengaged (e.g., less

responsive, fewer head nods or eye contact; doodling or checking cell phone) (e.g., Kraus & Keltner, 2009; also see Kraus et al., 2011). In contrast, given that lower income individuals are more reliant on others for resources, as a group they may appear relatively more socially engaged. Prior research has, in turn, shown that individuals can reliably use brief (e.g., 1-minute) interactions to judge the socioeconomic status of others based on nonverbal engagement or disengagement (Ambady & Rosenthal, 1992; Kraus & Keltner, 2009).

Interestingly, such cultural aspects of social class suggest that lower rank families may at least initially approach research encounters with relatively higher levels of social engagement (i.e., more responsive, more head nods and eye contact; less distractedness) and may, in turn, be looking for some level of reciprocity from research staff as an indicator of their worth or importance or connectedness to the provider. To some extent we know that this “match” occurs for some low incomes families, as those who have previously participated in research studies are more likely to participate in future research (Rdesinski et al., 2008). In addition, offering incentives, defined broadly here to include monetary compensation (e.g., $50/assessment), gift cards (e.g., accessible store or restaurant), meals (e.g., dinner for child and family), and educational materials (e.g., books) may increase the likelihood that low-income families report feeling more valued by researchers and, in turn, more likely to participate (e.g., Heinrich, 2006; Wallace et al., 2014; Yancey et al., 2006).

That said, when a mismatch occurs between a low-income participant’s high engagement and the research staff’s perceived low engagement, then lower class rank may be associated with more vigilance (Kraus, Piff, & Keltner, 2009; Piff, Kraus, Cote, Cheng, & Keltner, 2010; Kraus et al., 2011). For example, although Spoth and colleagues (1996) reported that time restraints and invasion of privacy were the primary reasons for non-participation among families in general, such concerns may be particularly problematic for the lowest income families who may be most skeptical of or hesitant to participant in psychological research or services. For example, low-income families report privacy concerns as a reason for non-participation, including an increased likelihood to decline video-recording, interviews about their families, and home-based services (Schnirer & Stack-Cutler, 2007), unless convincingly assured that their identity would be protected (Wallace et al., 2014).

Examples of Mental Health Services and Intervention Research with Low Income Families

In spite of the nuances and challenges of mental health services and intervention research with low-income children and their families, there is promise. For example, family stress theory highlights the indirect impact of financial strain on children through parental stress and associated compromises in parenting (see Conger & Donnellan, 2007, for a review). Accordingly, it is not surprising that low-income families are more vulnerable to the coercive cycle of parent–child interaction implicated in the development and exacerbation of early onset (3 to 8 years old) disruptive behavior disorders (i.e., oppositional defiant disorder and conduct disorder, which co-occur with attention deficit hyperactivity disorder), and, in turn, more likely to have a child with an early onset disruptive behavior disorder than

relatively higher income families (see Dekovic et al., 2011; Jones et al., 2013; Lundahl et al., 2006; Piquero et al., 2009, for reviews).

Data suggest that if we successfully engage low-income families in Behavioral Parent Training (BPT) services, they benefit as much, if not more, than relatively higher income families, particularly at post-treatment and when the problem behaviors are in the clinical range (see Dekovic et al., 2011; Leijten, Raaijmakers, de Castro, & Matthys, 2013; Reyno & McGrath, 2006, for reviews). Financial strain and associated difficulties (e.g., poor mental/physical health, un/underemployment, lack of health insurance/underinsured), however, decrease the probability that low-income families will engage at a level necessary for BPT to be efficacious (e.g., 12 to 28 session hours, midweek telephone check-ins, daily home practice; see Eyberg, Nelson, & Boggs, 2008; McMahon & Forehand, 2003; Reyno & McGrath, 2006; Thomas & Zimmer-Gembeck, 2007).

Therefore, researchers have taken a health maintenance approach that aims to prevent the development of early onset behavior problems in at-risk, low-income children. For example, the Family Check-Up (FCU; Dishion & Stormshak, 2007), which is typically conducted through community service settings (e.g., schools, pediatricians, community agencies), was developed to provide brief, periodic support to families, in order to prevent the deterioration of family functioning and child behavior. The FCU model consists of two phases. The first phase includes three brief sessions to guide the selection of specific family management practices: 1) an initial interview; 2) a family assessment; and 3) assessment feedback. The second phase consists of 12 structured modules based on established parent management techniques that target parent-child relationship quality, positive parenting, and appropriate limit setting. From these options, the therapist selects targeted, brief interventions as indicated by the assessment, and most families receive three sessions of parent training. Results from research on the FCU with low-income families suggest that this model can prevent the early emergence of conduct problems between the ages of 2 to 5 years old and improve parenting practices overtime (Dishion et al., 2014).

Other research on early-onset behavior problems is investigating innovative service delivery techniques to engage low-income families in BPT treatment (see Jones et al., 2013, for a review). For example, Jones and colleagues (2014) used smartphone technology (e.g., skills video series, daily surveys, video check-ins, home video observation, appointment reminders) with the aim of increasing low income (defined as income not exceeding 150% of the federal poverty guidelines) families' connection to BPT, support from the therapist and, in turn, autonomy with using the skills outside of session with the aim of increasing caregiver intrinsic motivation to complete treatment. Findings suggested support for study hypotheses, as low income families randomized to the technology-enhanced BPT program were more likely to come to weekly sessions, complete their homework, and participate in the mid-week check-in call than low income families in the standard BPT program. In turn, children in the technology-enhanced BPT group evidence better outcomes than those in the standard program and such improvements occurred with less therapist time (i.e., technology-enhanced families required fewer sessions to master BPT skills) and with no compromises to caregiver satisfaction with treatment.

If left untreated, however, low-income children continue to evidence relatively higher levels of behavior problems into and through adolescence than their higher income peers as well. To target adolescent youth in particular, Multisytemic Therapy (MST) was developed to serve as intensive family- and home-based intervention for adolescents with serious behavioral issues. In one study of MST for example, socioeconomic status was examined as a moderator of the effect of treatment on caregiver monitoring of adolescents (12 to 18 years old) with a history of delinquent behavior (i.e., one or more criminal offense, diagnosis of conduct disorder, and/or significant behavior problems at home or school such as truancy, expulsion, aggression) (Robinson et al., 2015). Findings revealed that caregiver socioeconomic status did not predict changes in caregiver monitoring across treatment and did not moderate the effect of treatment on adolescent externalizing problems. Taken together, these results demonstrate a need for further understanding the potential role of the youth's larger social context in predicting MST outcomes. Such findings are quite consistent with our discussion of BPT above; that is, if we can engage low-income families in treatments that we know work, they can and will benefit.

Summary, Conclusions, and Future Directions

In summary, economic declines over the last decade in the U.S have led to a dramatic rise in the number of low income children, who are more likely than children from other income groups to experience psychosocial and academic problems. In spite of calls for more research on such disparities, challenges to the inclusion of low-income families are sometimes so substantial that researchers terminate the studies all together. Thus, the success of mental health services research on low-income children and families likely requires a far more nuanced consideration of income, race and ethnicity, and culture more broadly to maximize health care benefits for this at-risk and underserved group.

With regard to operationalizing income, this review aimed to highlight the potential for broad heterogeneity in a construct, "low income," more typically treated as quite homogeneous within empirical research. That said, we hope that our review of the literature on the variety of strategies for defining income adequately conveyed our belief that there is no "right" or "wrong" approach. Instead, the operationalization of low income likely most importantly depends on the research questions and hypotheses. For example, McLaughlin and colleagues (2012) examined associations between family-level indicators, including objective (parental income and education) and subjective (relative deprivation, subjective social standing), and community-level income variation with adolescent mental disorders in the past year. Findings revealed that links with adolescent mental illness were most robust for subjective social status, which the authors interpreted as potentially promising given that perceived social status, relative to more objective measures, is amenable to psychosocial intervention. Building upon such work, future research should examine the extent to which variability in the measurement of income not only influences mental health outcomes, but also the recruitment, retention, and engagement of low-income children and families in mental health services research.

In addition to our consideration of "income" in the study of mental health services research, we also explored race and ethnicity. Given the intricate interrelationship of race, ethnicity,

and income in low income children and families, it is our recommendation that mental health servicers researchers consider the potential differential and/or interactive influence of income and race and ethnicity prior to recruitment and determine whether associated hypotheses should be posed a priori (APA, 2015). As an example of such work, Iruka and colleagues (2014) investigated the moderating effect of race and ethnicity on the link between income and children's preacademic skills. Given that parenting is influenced by cultural norms, they hypothesized that the way parents from different groups interact with and prepare their children for school may differ by race and ethnicity, over and above links between income and academic preparedness. In order to disentangle these factors, the authors included a nationally representative sample that included variability in income between and within racial and ethnic groups. As a result, they found the mediators between income and preacademic skills varied by ethnicity, such that language stimulation and outside activities mediated the relationship for Caucasians, learning materials mediated the relationship for African Americans, learning materials and language stimulation mediated the relationship for Latinos, and learning materials and outside activities mediated the relationship for Asians.

Alternatively, some researchers expect differences to exist based on income, but may have no hypotheses about racial and ethnic group differences. For example, Farrington and Loeber (2011) posited that race and ethnicity should not predict youth homicide offenses, but rather factors associated with income, including neighborhood context, should predict homicide offenders. The authors predicted that the racial discrepancy in rates of offending could be accounted for by factors associated with low-income status, such as exposure to violence, increased stress, and neighborhood context, which increase rates of aggression and delinquency. This is a good example of the general consensus in the field that it is no longer adequate to hypothesize that differences between two or more demographic groups exist, but rather researchers should consider the possible mechanisms by which race/ethnicity and/or income may result in disparate outcomes and function through different mechanisms (Garcia-Coll et al., 1996; McLaughlin, Costello, Leblanc, Sampson, & Kessler, 2012). For example, some research suggests that racial and ethnic minority status may be related to increased experiences of acculturative stress and discrimination and that that the stress associated with these experiences may lead to difference between racial and ethnic groups (e.g., Mays, Cochran, & Barnes, 2007; Quintana et al., 2006; Wong, Eccles, & Sameroff, 2003). On the other hand, negative life events (e.g., exposure to violence, stress associated with poverty) and lack of access to social and material resources (e.g., less parental involvement, less stimulating home environments) often associated with low-income status are hypothesized to lead to maladaptive child outcomes (see Bradley & Corwyn, 2002 for a review). Researchers should, therefore, include measures of potential mechanisms in research designs and test specific hypotheses related to race/ethnicity and income.

Intersecting with income, race, and ethnicity, we suggest that mental health services research should also consider the culture of class. The shared aspects of the cultural context of low income families in general suggests a belief that they will not be able to afford and/or will be denied access to advancements in mental health care that evolve from services research which, in turn, makes the present or future value of such work for themselves or their community negligible (Corbie-Smith et al., 1999). Of course, such caution is historically

rooted and potentially adaptive for families who report fear of feeling like a “guinea pig,” most likely stemming from a past of racism and exploitation, including incidences such as the Tuskegee Syphilis Study (Corbie-Smith et al., 1999; Schnirer & Stack-Cutler, 2007; Yancey et al., 2006). In turn, although the consent process in mental health services research is explicitly intended to protect the rights of the participant, low income families are more likely to mistrust such documents, suspecting that they exist to legally protect the researchers rather than the participants (Corbie-Smith et al., 1999). Low-income parents, for example, who may be more likely to rely on spanking and other forms of physical punishment for a variety of reasons, including that these parenting strategies may be transmitted from one generation to the next, report that they would be less likely to seek help with parenting than the general population, citing fears of being “misunderstood,” “being judged unfavorably,” or appearing to be bad parents to providers, family members and peers (Chung et al., 2009; Coley, Kull & Carrano, 2014; Keller & McDade, 2000; Scaramella, Neppl, Ontai, & Conger, 2008). Low-income parents, as a consequence, may avoid mental health services research that could provide valuable opportunities to address potentially uninformed or unrealistic expectations for child behavior and more adaptive alternatives to physical punishment (Tempel, 2009).

Considerations of income, race and ethnicity, and culture more broadly, in turn, inform decisions about recruitment, engagement, and retention strategies. For example, we highlighted the relevance of incentivizing low income families for research; however, there is also nuance to consider within this recommendation: To what extent may incentives also be considered coercive in the recruitment of low income children and families in particular? In other words, how likely is it that a low-income family who otherwise does not want their child to participate feel as if they “should” due to the financial incentive? Is there a threshold at which a financial incentive is by definition “coercive” for low-income families and, if yes, how is such a threshold defined and enforced? Such questions may also be informed, however, by consideration of low-income parents’ motivation for participation in mental health services research or their expectations of participating. Gross and colleagues (2001), for example, have examined both of these qualities in a parenting prevention program for low-income families. Chief among motivations for participating were to learn more about children, share experiences with others, and gain assistance with difficult child behaviors. Consideration of motivations and expectations may thus decrease the likelihood that monetary incentives are coercive and, in turn, enhance the ethical recruitment and retention of low-income families.

Importantly, we are not aware of a study examining mental health services research with low income children and families that incorporates and examines the interrelationship of each of the key considerations raised in this review. It is worth noting, however, that Spoth and Redmond (1995) provide a template for such work by proposing and testing a model that examined variables such as household income, severity of child problem behavior, perceived program benefits, and number of children as predictors of inclination to enroll in a parenting skills program. Household income was indirectly related to enrollment through variables such as perceived severity of child problems and practical barriers to participating. One hypothesis for such findings, related to the point above, is that motivation may be higher among families experiencing clinically significant issues with their children. That said, this

work, while not focused on low-income families specifically, could serve as a model for future work examining how to integrate and examine the myriad of variables presumed to shape the success of research efforts targeting low-income children and families in particular.

In conclusion, as research, practice, and policy evolve, we make one final recommendation that mental health services research with low-income children and families begin to more consistently measure and report cost data. As part of their research with low income families, for example, Schnirer and Stack-Cutler (2007) asked 65 researchers in Canada (52.3%), the United States (46.2%), and outside of North America (1.5%) to identify the range of recruitment strategies they use, as well as the effectiveness of each. On average, the most common strategies were word of mouth, government or agency referrals, community flyers and events, and information sharing at interagency meetings, while the strategies investigators perceived to be most effective were word of mouth, elders and community leaders, door-to-door, phone calls, and community events. Although such work is an important step, the study relied on perceived effectiveness, rather than actual participant yield. Additionally, the study provided details on overall staff costs (M = \$34,227; SD = \$100,205), as well as the cost of staff time on recruitment in particular (M = \$13,958; SD = \$42,021); however, the cost of specific recruitment strategies is necessary to better understand cost-effectiveness.

Toward this goal, Mendez-Luck and colleagues (2011), for example, conducted a retrospective analysis of recruitment strategies and costs for two studies that assessed care giving constructs among women (N = 154) of Mexican descent in Los Angeles, California. Various recruitment strategies were used (e.g., flyers, word of mouth, health fairs, agency partnerships); however, the costs, including both financial (expenses devoted to recruitment) and non-financial (e.g., time) were reported for the overall recruitment effort for the first (\$1,081/study participant) and the second (\$298/study participant), rather than by strategy. They hypothesized that the higher per participant cost in study one was a function of more reliance on targeted one-on-one recruitment strategies (e.g., face to face contact with potential participants on street corners, bus stops) relative to study two, which relied more heavily recruitment of multiple families from single events (e.g., community-sponsored recruitment event); however, they acknowledged that such an assertion is in and of itself an empirical question. As a result, future work must continue to be thoughtful about collecting cost data, as well as analyzing cost-effectiveness, in the service of optimizing mental health services and intervention research with low-income families.

Acknowledgments

Support for this project was provided by a grant from the National Institute of Mental Health (R01MH100377).

References

Addy, Anglehart, Skinner. Basic facts about low income children. Children under 18 years – 2011. Fact Sheet. National Center for Children in Poverty; 2013. Retrieved from http://www.nccp.org/publications/pdf/text_1074.pdf

Amato PR, Zuo J. Rural poverty, urban poverty, and psychological well-being. The Sociological Quarterly. 1992; 33(2):229–240.

Ambady N, Rosenthal R. Thin slices of expressive behavior as predictors of interpersonal consequences: A meta-analysis. Psychological Bulletin. 1992; 111(2):256–274.

American Psychological Association. Guidelines on multicultural education, training, research, practice, and organizational change for psychologists. American Psychologist. 2003; 58(5):377–402. [PubMed: 12971086]

American Psychological Association. Ethnic and Racial Minorities and Socioeconomic Status. 2015. Retrieved from http://www.apa.org/pi/ses/resources/publications/factsheet-erm.pdf

American Psychological Association. About the Office on Socioeconomic Status. 2016. Retrieved from http://www.apa.org/pi/ses/about/index.aspx

Betancourt H, Lopez SR. The study of culture, ethnicity, and race in American psychology. American Psychologist. 1993; 48(6):629.

Bradley RH, Corwyn RF. Socioeconomic status and child development. Annual Review of Psychology. 2002; 53(1):371–399.

Brannon EE, Kuhl ES, Boles RE, Aylward BS, Ratcliff MB, Valenzuela JM, Powers SW. Strategies for recruitment and retention of families from low-income, ethnic minority backgrounds in a longitudinal study of caregiver feeding and child weight. Children's Health Care. 2013; 42:198–213.

Brody GH, Murry VM, Chen Y, Kogan SM, Brown AC. Effects of family risk factors on dosage and efficacy of a family-centered preventive intervention for rural African Americans. Prevention Science. 2006; 7(3):281–291. [PubMed: 16718542]

Bronfenbrenner, U. The Ecology of Human Development: Experiments by Nature and Design. Cambridge, MA: Harvard University Press; 1979.

Brooks-Gunn J, Duncan GJ. The effects of poverty on children. Future of Children. 1997; 7(2):55–71. [PubMed: 9299837]

Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2016–17 Edition. Mental Health Counselors and Marriage and Family Therapists. Retrieved from http://www.bls.gov/ooh/community-and-social-service/mental-health-counselors-and-marriage-and-family-therapists.htm

Chang TE, Weiss AP, Marques L, Baer L, Vogeli C, Trinh NHT, Yeung AS. Race/Ethnicity and Other Social Determinants of Psychological Well-being and Functioning in Mental Health Clinics. Journal of Health Care for the Poor and Underserved. 2014; 25(3):1418–1431. [PubMed: 25130249]

Chung EK, Mathew L, Rothkopf AC, Elo IT, Coyne JC, Culhane JF. Parenting attitudes and infant spanking: The influence of childhood experiences. Pediatrics. 2009; 124(2):e278–e286. [PubMed: 19620204]

Coley RL, Kull MA, Carrano J. Parental endorsement of spanking and children's internalizing and externalizing problems in African American and Hispanic families. Journal of Family Psychology. 2014; 28(1):22–31. [PubMed: 24364363]

Conger RD, Donnellan MB. An interactionist perspective on the socioeconomic context of human development. Annual Review of Psychology. 2007; 58:175–199.

Constantine, MG., Sue, DW., editors. Strategies for Building Multicultural Competence in Mental Health and Educational Settings. Hoboken, NY: John Wiley and Sons, Inc; 2005.

Corbie-Smith G, Thomas SB, Williams MV, Moody-Ayers S. Attitudes and beliefs of African Americans toward participation in medical research. Journal of General Internal Medicine. 1999; 14(9):537–546. [PubMed: 10491242]

Corcoran J, Nichols-Casebolt A. Risk and resilience ecological framework for assessment and goal formulation. Child and Adolescent Social Work Journal. 2004; 21(3):211–235.

Costello EJ, Keeler GP, Angold A. Poverty, Race/Ethnicity, and Psychiatric Disorder: A Study of Rural Children. American Journal of Public Health. 2001; 91(9):1494–1498. [PubMed: 11527787]

Costello EJ, Egger H, Angold A. 10-year research update review: The epidemiology of child and adolescent psychiatric disorders: I. methods and public health burden. Journal of the American Academy of Child & Adolescent Psychiatry. 2005; 44(10):972–986. [PubMed: 16175102]

Cui Z, Seburg EM, Sherwood NE, Faith MS, Ward DS. Recruitment and retention in obesity prevention and treatment trials targeting minority or low-income children: A review of the clinical trials registration database. Trials. 2015; 16(1):564–579. [PubMed: 26651822]

Cummings, EM., Davies, PT., Campbell, SB. Developmental psychopathology and family process: Theory, research, and clinical implications. Guilford Press; 2002.

Dekovic M, Slagt MI, Asscher JJ, Boendermaker L, Eichelsheim VI, Prinzie P. Effects of early prevention programs on adult criminal offending: A meta-analysis. Clinical Psychology Review. 2011; 31(4):532–544. [PubMed: 21239100]

DeNavas-Walt, C., Proctor, B., Smith, J. Income, Poverty, and Health Insurance Coverage in the United States: 2011 (Current Population Reports No. P60-243). U.S. Census Bureau; 2012. Retrieved from https://www.census.gov/prod/2012pubs/p60-243.pdf

Dishion TJ, Brennan LM, Shaw DS, McEachern AD, Wilson MN, Jo B. Prevention of problem behavior through annual family check-ups in early childhood: Intervention effects from home to early elementary school. Journal of Abnormal Child Psychology. 2014; 42(3):343–354. [PubMed: 24022677]

Dishion, TJ., Stormshak, EA. Intervening in children's lives: An ecological, family-centered approach to mental health care. American Psychological Association; 2007.

Dunst CJ, Leet HE. Measuring the adequacy of resources in households with young children. Child: Care, Health and Development. 1987; 13(2):111–125.

Eyberg SM, Nelson MM, Boggs SR. Evidence-based treatments for child and adolescent disruptive behavior disorders. Journal of Clinical Child and Adolescent Psychology. 2008; 37(1):213–235.

Faridi Z, Grunbaum JA, Gray BS, Franks A, Simoes E. Community-based participatory research: necessary next steps. Preventing Chronic Disase: Public Health Practice, Research, & Policy. 2007; 4:1–5.

Farrington, DP., Loeber, R. Young Homicide Offenders and Victims. Springer US; 2011. Early Risk Factors for Homicide Victims and Shooting Victims; p. 95-113.

Fernandez MA, Butler AM, Eyberg SM. Treatment outcome for low socioeconomic status African American families in Parent-Child Interaction Therapy: A pilot study. Child & Family Behavior Therapy. 2011; 33(1):32–48.

Forehand R, Jones DJ, Parent J. Behavioral Parenting Interventions for Child Disruptive Behaviors and Anxiety: What's different and what's the same? Clinical Psychology Review. 2013; 33(1):133–145. [PubMed: 23178234]

Forehand R, Kotchick BA. Cultural diversity: A wake-up call for parent training. Behavior Therapy. 1996; 27(2):187–206.

Gopalan G, Goldstein L, Klingenstein K, Sicher C, Blake C, McKay MM. Engaging Families into Child Mental Health Treatment: Updates and Special Considerations. Journal of the Canadian Academy of Child and Adolescent Psychiatry. 2010; 19(3):182–196. [PubMed: 20842273]

Gross D, Julion W, Fogg L. What motivates participation and dropout among low income urban families of color in a prevention intervention? Family Relations: An Interdisciplinary Journal of Applied Family Studies. 2001; 50(3):246–254.

Harris, BH., Kearney, MS. A Dozen Facts about America's Struggling Lower-Middle-Class. 2013. Retrieved from http://www.brookings.edu/research/reports/2013/12/12-facts-lower-middle-class

Health and Human Services Department. Annual Update of the HHS Poverty Guidelines (No. 2015–01120). 2015. Retrieved from https://www.federalregister.gov/articles/2015/01/22/2015-01120/annual-update-of-the-hhs-poverty-guidelines

Heinrichs N, Bertram H, Kuschel A, Hahlweg K. Parent recruitment and retention in a universal prevention program for child behavior and emotional problems: Barriers to research and program participation. Prevention Science. 2005; 6(4):275–286. [PubMed: 16075192]

Hill NE, Bush KR. Relationships between parenting environment and children's mental health among African American and European American mothers and children. Journal of Marriage and Family. 2001; 63(4):954–966.

Hilton JM, Devall EL. The Family Economic Strain Scale: Development and Evaluation of the Instrument with Single- and Two-Parent Families. Journal of Family and Economic Issues. 1997; 18(3):247–271.

Hyde LW, Tompson S, Creswell JD, Falk EB. Cultural neuroscience: new directions as the field matures. Culture and Brain. 2015; 3(2):75–92.

Iruka IU, Dotterer AM, Pungello EP. Ethnic variations of pathways linking socioeconomic status, parenting, and preacademic skills in a nationally representative sample. Early Education and Development. 2014; 25(7):973–994.

Jiang, Y., Ekono, M., Skinner, C. Basic Facts about Low-Income Children: Children under 18 Years, 2014. New York: National Center for Children in Poverty, Mailman School of Public Health, Columbia university; 2016.

Jones DJ, Forehand R, Cuellar J, Kincaid C, Parent J, Fenton N, Goodrum N. Harnessing innovative technologies to advance children's mental health: Behavioral parent training as an example. Clinical Psychology Review. 2013; 32(2):241–252.

Jones DJ, Forehand R, Brody G, Armistead L. Parental monitoring in African American single mother-headed families: An ecological approach to the identification of predictors. Behavior Modification. 2003; 27(4):435–457. [PubMed: 12971121]

Jones DJ, Forehand R, Cuellar J, Parent J, Honeycutt A, Khavjou O, Gonzalez M, Anton M, Newey G. Technology-Enhanced Program for Child Disruptive Behavior Disorders: Development and Pilot Randomized Control Trial. Journal of Clinical Child and Adolescent Psychology. 2014; 43(1):88–101. [PubMed: 23924046]

Jones DJ, Foster SE, Olson A, Forehand R, Gaffney CA, Zens MS, Bau JJ. Longitudinal retention of families in the assessment of a prevention program targeting adolescent alcohol and tobacco use: The utility of an ecological systems framework. Behavior Modification. 2007; 31(5):638–659. [PubMed: 17699122]

Kaiser Commission on Medicaid and the Uninsured. Explaining Health Reform: The New Rules for Determining Income Under Medicaid in 2014 (Policy Brief). Kaiser Family Foundation. 2011. Retrieved from https://kaiserfamilyfoundation.files.wordpress.com/2013/01/8194.pdf

Keller J, McDade K. Attitudes of low-income parents toward seeking help with parenting: Implications for practice. Child Welfare. 2000; 79(3):285–312. [PubMed: 10813085]

Kraus MW, Keltner D. Signs of socioeconomic status a thin-slicing approach. Psychological Science. 2009; 20(1):99–106. [PubMed: 19076316]

Kraus MW, Piff PK, Keltner D. Social class, sense of control, and social explanation. Journal of Personality and Social Psychology. 2009; 97(6):992. [PubMed: 19968415]

Kraus MW, Piff PK, Keltner D. Social class as culture the convergence of resources and rank in the social realm. Current Directions in Psychological Science. 2011; 20(4):246–250.

Lei, S. The Unwaged War of Deep Poverty. Urban Institute; 2013. Retrieved from http://www.urban.org/features/unwaged-war-deep-poverty

Leijten P, Raaijmakers MA, de Castro BO, Matthys W. Does socioeconomic status matter? A meta-analysis on parent training effectiveness for disruptive child behavior. Journal of Clinical Child & Adolescent Psychology. 2013; 42(3):384–392. [PubMed: 23461526]

Lempers JD, Clark-Lempers D, Simons RL. Economic hardship, parenting, and distress in adolescence. Child Development. 1989; 60(1):25–39. http://doi.org/10.2307/1131068. [PubMed: 2702872]

Link BG, Phelan J. Social conditions as fundamental causes of disease. Journal of Health and Social Behavior. 1995; 35:80–94.

Lundahl B, Risser HJ, Lovejoy C. A meta-analysis of parent training: Moderators and follow-up effects. Clinical Psychology Review. 2006; 26:86–104. [PubMed: 16280191]

Mays VM, Cochran SD, Barnes NW. Race, race-based discrimination, and health outcomes among African Americans. Annual Review of Psychology. 2007; 58:201–225.

McLaughlin KA, Costello EJ, Leblanc W, Sampson NA, Kessler RC. Socioeconomic status and adolescent mental disorders. American Journal of Public Health. 2012; 102(9):1742–1750. [PubMed: 22873479]

McLeod JD, Shanahan MJ. Poverty, parenting, and children's mental health. American Sociological Review. 1993; 58(35):351–366.

McLoyd VC. Socioeconomic disadvantage and child development. American Psychologist. 1998; 53(2):185–204. [PubMed: 9491747]

McMahon, RJ., Forehand, RL. Helping the noncompliant child: Family-based treatment for oppositional behavior. New York, NY: Guilford Press; 2003.

Mendez-Luck CA, Trejo L, Miranda J, Jimenez E, Quiter ES, Mangione CM. Recruitment strategies and costs associated with community-based research in a Mexican-origin population. The Gerontologist. 2011; 51(suppl 1):S94–S105. [PubMed: 21565824]

Miranda J, Azocar F, Organista KC, Muñoz RF, Lieberman A. Recruiting and retaining low-income Latinos in psychotherapy research. Journal of Consulting and Clinical Psychology. 1996; 64(5): 868–874. [PubMed: 8916613]

National Center for Law and Economic Justice. Poverty in the United States: A Snapshot. 2013. Retrieved from http://www.nclej.org/poverty-in-the-us.php

National Institute of Mental Health. Transforming and understanding the treatment of mental illnesses: Division of Services and Intervention Research (DSIR). 2016. Retrieved from http://www.nimh.nih.gov/about/organization/dsir/index.shtml

Ortiz C, DelVecchio T. Cultural diversity: Do we need a new wake-up call for parent training? Behavior Therapy. 2013; 44(3):443–458. [PubMed: 23768671]

Pew Research Center. The American Middle Class is Losing Ground. 2015. Retrieved from http://www.pewsocialtrends.org/2015/12/09/the-american-middle-class-is-losing-ground/

Piff PK, Kraus MW, Côté S, Cheng BH, Keltner D. Having less, giving more: the influence of social class on prosocial behavior. Journal of Personality and Social Psychology. 2010; 99(5):771. [PubMed: 20649364]

Piquero AR, Farrington DP, Welsh BC, Tremblay R, Jennings WG. Effects of early family/parent training programs on antisocial behavior and delinquency. Journal of Experimental Criminology. 2009; 5(2):83–120.

Quintana SM, Aboud FE, Chao RK, Contreras-Grau J, Cross WE, Hudley C, Vietze DL. Race, ethnicity, and culture in child development: Contemporary research and future directions. Child Development. 2006; 77(5):1129–1141. [PubMed: 16999787]

Rdesinski RE, Melnick AL, Creach ED, Cozzens J, Carney PA. The costs of recruitment and retention of women from community-based programs into a randomized controlled contraceptive study. Journal of Health Care for the Poor & Underserved. 2008; 19(2):639–651. [PubMed: 18469433]

Reyno SM, McGrath PJ. Predictors of parent training efficacy for child externalizing behavior problems - a meta-analytic review. Journal of Clinical Child Psychology and Psychiatry. 2006; 47(1):99–111.

Robinson BA, Winiarski DA, Brennan PA, Foster SL, Cunningham PB, Whitmore EA. Social context, parental monitoring, and multisystemic therapy outcomes. Psychotherapy. 2015; 52(1):103–110. [PubMed: 25365153]

Rowley SJ, Camacho TC. Increasing diversity in cognitive developmental research: Issues and solutions. Journal of Cognition and Development. 2015; 16(5):683–692.

Scaramella LV, Neppl TN, Ontai LL, Conger RD. Consequences of socioeconomic disadvantage across three generations: parenting behavior and child externalizing problems. Journal of Family Psychology. 2008; 22:725–733. [PubMed: 18855508]

Schillinger D, Bindman A, Wang F, Stewart A, Piette J. Functional health literacy and the quality of physician-patient communication among diabetes patients. Patient Education and Counseling. 2004; 52(3):315–323. [PubMed: 14998602]

Schnirer, L., Stack-Cutler, H. Recruitment and engagement of low income populations: Researcher and provider perspectives. 2007. Retrieved online: http://www.cup.ualberta.ca/wp-content/uploads/2011/07/Recruitment-and-Engagement-of-Low-Income-Populations1.pdf

Shaw DS. Future directions for research on the development and prevention of early conduct problems. Journal of Clinical Child and Adolescent Psychology. 2013; 42(3):418–428. [PubMed: 23534691]

Southern Education Foundation. Low Income Children Now a Majority in the Nation's Public Schools. 2015. Retrieved from www.southerneducation.org

Spoth R, Redmond C. Parent motivation to enroll in parenting skills program: A model of family context and health belief predictors. Journal of Family Psychology. 1995; 9(3):294–310.

Spoth R, Redmond C, Hockaday C, Shin CY. Barriers to participation in family skills preventive interventions and their evaluations. Family Relations. 1996; 45(3):247–254.

Sterrett E, Jones DJ, Forehand R, Garai E. Predictors of coparenting relationship quality in African American single mother families: An ecological model. Journal of Black Psychology. 2010; 36(3): 277–302.

Stewart AL, Nápoles-Springer A, Pérez-Stable EJ. Interpersonal processes of care in diverse populations. Milbank Quarterly. 1999; 77(3):305–339. [PubMed: 10526547]

Tempel LR. Loosening the soil of their thinking: A theoretical integration for contracting with low-income single mothers to stop physical aggression toward their children. Child and Adolescent Social Work Journal. 2009; 26(1):39–48.

Thomas R, Zimmer-Gembeck MJ. Behavioral outcomes of Parent-Child Interaction Therapy and Triple P-Positive Parenting Program: a review and meta-analysis. Journal of Abnormal Child Psychology. 2007; 35(3):475–495. [PubMed: 17333363]

Uno D, Florsheim P, Uchino BN. Psychosocial mechanisms underlying quality of parenting among Mexican-American and white adolescent mothers. Journal of Youth and Adolescence. 1998; 27(5): 585–605.

Viladrich A. Beyond welfare reform: reframing undocumented immigrants' entitlement to health care in the United States, a critical review. Social Science & Medicine. 2012; 74(6):822–829. [PubMed: 21745706]

Villanueva CM, Buriel R. Speaking on behalf of others: A qualitative study of the perceptions and feelings of adolescent Latina language brokers. Journal of Social Issues. 2010; 66(1):197–210.

Wallace NM, Berent JM, McCarthy TG, Senn TE, Carey MP. Recruitment and retention of low-income, urban participants in a longitudinal study: Recognizing and strengthening participants' motivations. Behavior Therapist. 2014; 37:226–230.

Wong CA, Eccles JS, Sameroff A. The influence of ethnic discrimination and ethnic identification on African American adolescents' school and socioemotional adjustment. Journal of Personality. 2003; 71(6):1197–1232. [PubMed: 14633063]

Xue Y, Leventhal T, Brooks Gunn J, Earls FJ. Neighborhood residence and mental health problems of 5- to 11-year-olds. Archives of General Psychiatry. 2005; 62(5):554–563. [PubMed: 15867109]

Yancey AK, Ortega AN, Kumanyika SK. Effective recruitment and retention of minority research participants. Annual Review of Public Health. 2006; 27:1–28.