

# Social Inequality and Racial Discrimination: Risk Factors for Health Disparities in Children of Color

## abstract

A child's sense of control over life and health outcomes as well as perceptions of the world as fair, equal, and just are significantly influenced by his or her social experiences and environment. Unfortunately, the social environment for many children of color includes personal and family experiences of racial discrimination that foster perceptions of powerlessness, inequality, and injustice. In turn, these perceptions may influence child health outcomes and disparities by affecting biological functioning (eg, cardiovascular and immune function) and the quality of the parent-child relationship and promoting psychological distress (eg, self-efficacy, depression, anger) that can be associated with risk-taking and unhealthy behaviors. In this article we review existing theoretical models and empirical studies of the impact of racial discrimination on the health and development of children of color in the United States. On the basis of this literature, a conceptual model of exposure to racial discrimination as a chronic stressor and a risk factor for poor health outcomes and child health disparities is presented. *Pediatrics* 2009;124:S176–S186

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### KEY WORDS

social inequality, racial discrimination, health disparities, children of color

### ABBREVIATIONS

EBV—Epstein-Barr virus

CRP—C-reactive protein

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Social inequalities in income, housing, education, and other factors contribute significantly to disparities in mental and physical health for children of color in the United States. However, a gap remains in our understanding of the mechanisms by which race, ethnicity, or both might influence child health outcomes and disparities.<sup>1–12</sup>

Previous studies have failed to examine the full range of social inequalities to which children in communities of color in the United States are often exposed.<sup>4,13–15</sup> In particular, despite documented relationships between racial discrimination and poor health in adults,<sup>4,6,16,17</sup> few studies have examined the impact of racial discrimination on health outcomes in children of color.<sup>6,16–21</sup> As a result, our understanding of the etiology of health disparities and ability to develop successful prevention and intervention programs might be limited.

In this article we examine the potential effects of racial discrimination on the health of children of color in the United States. We include a discussion of children's understanding of racial discrimination; the impact of racial discrimination on parenting behaviors; biological, psychological, and behavioral responses to racial discrimination; and implications of the findings for child health disparities. A conceptual model of the possible impact of racial discrimination on health outcomes for children of color in the United States is also presented.

## DEFINITIONS

Children of color, who include those identifying as African American/black, Latino, and Asian or Pacific Islander, constitute ~30% of the US population and are among the fastest growing populations in the country.<sup>22–24</sup>

“Social inequality” describes societies in which specific groups do not have equal social status based on ethnicity,

**TABLE 1** Theoretical Models Related to the Study of Racial Discrimination and Children of Color

Theory	Major Premise
Ecological theory	Social circumstances and experiences at multiple levels of a society affect child development, parenting behavior, and health outcomes.
Social-stratification theory	Societies develop hierarchies of dominant and secondary social groups. Group location affects health outcomes by influencing the social experiences and environmental risks to which group members are exposed.
Theory of racial inequality and social integration	Membership in a secondary social group may result in perceptions of social inequality based on experiences of racial discrimination.

gender, or other characteristics.<sup>6</sup> “Racial discrimination” is a form of social inequality that includes experiences resulting from legal and nonlegal systems of discrimination.<sup>25–33</sup> These systems of discrimination create dominant and secondary social groups that differ in levels of power (political, economic, social, and personal) and access to goods and services (eg, medical care and services) in the society.<sup>5,7,34,35</sup> Racial discrimination may occur at personal (eg, individual exposure to prejudice and racial discrimination) and institutional (eg, discrimination in housing and education) levels.<sup>36</sup>

Although exposure to personal racial discrimination has characterized and influenced life options for many children of color in the United States,<sup>37</sup> racial discrimination at the institutional level is the primary cause of group differences in material conditions (eg, poverty, education, employment, and access to medical care) and power (eg, access to information, control of media, and political and economic influence). Institutional racism is structural in that it has been codified in the society's institutions, customs, and laws.<sup>36</sup> Exposure to personal and institutional racial discrimination, particularly when discrimination is legal, may foster high stress levels (ie, external circumstances that challenge or obstruct) that are consistently related to poor health outcomes for secondary social group members.<sup>7,27,38–41</sup>

## THEORETICAL FOUNDATIONS

Studies of the impact of racial discrimination on health outcomes and disparities in children of color are influenced by 3 theoretical models (see Table 1).

### Ecological Theory

Bronfenbrenner<sup>42</sup> concluded that relationships between a child and his or her immediate environment (microsystem) and the larger social environment (macrosystem) must be evaluated to fully understand development.<sup>9,43</sup> Because racial discrimination is pervasive and occurs at multiple levels, evaluating its impact may be particularly critical to understanding health outcomes for children of color.<sup>8,44</sup> For example, at the macrosystem level, children of color may experience negative images of their reference group and chronic stress associated with an implied group difference.<sup>44</sup> Macrosystem variables, such as institutions (eg, banks, schools, and media) and policies (eg, lending practices and restrictions and educational practices) that affect economic well-being and foster stereotypes of groups of color in the United States, may also influence microsystem variables, such as family functioning and neighborhood conditions, that affect children's development.<sup>9,44–51</sup>

### Social-Stratification Theory

“Social stratification” refers to the historical and current social, political,

and cultural processes that result in a society's hierarchy of groups.<sup>40,52,53</sup> For example, despite significant gains, black Americans, as a group, tend to have lower social status in the United States as a result of their history of legal segregation.<sup>51,53</sup> A group's place in a social system influences its exposure to risk factors, such as racial discrimination, that lead to stress and may directly and indirectly affect health.<sup>26,33,39,40,51–54</sup>

### Theory of Racial Inequality and Social Integration

The theory of racial inequality and social integration addresses the psychological pathways by which racial-discrimination experiences influence mental and physical health.<sup>55</sup> Anomie, which is characterized by feelings of hopelessness and perceptions of little control over life outcomes (ie, decreased self-efficacy), develops when children perceive contradictions between opportunities in the larger society and the conditions and lack of opportunity in their own lives.<sup>55</sup> Racial discrimination increases anomie by reinforcing perceptions of inequality and limiting options for achieving life goals.<sup>25,36,38,44</sup>

### RACIAL DISCRIMINATION: LEVELS OF EXPOSURE AND RACIAL SOCIALIZATION

Overt racism in the United States has waned considerably.<sup>56–58</sup> However, racial discrimination continues, although most individuals are not consciously aware of its impact on their judgments, decisions, and behaviors with respect to lower status groups.<sup>59,60</sup>

### Exposure to Racial Discrimination

Almost all (98%) black Americans experienced some form of racial discrimination.<sup>61</sup> Across ethnic groups, adults have reported experiencing personal insults (eg, name calling),

structural barriers (eg, refusals of loans), and hostile and exclusionary social environments.<sup>37,49,54,62–64</sup>

Children of color are also exposed to racial discrimination.<sup>65–67</sup> Black and Latino youth, particularly males, are most likely to report negative encounters with adults in the educational system, shopkeepers who accuse them of stealing, and negative interactions with the police.<sup>9,45,49,67–71</sup> Compared with other groups, Asian youth report higher levels of personal racism from peers (eg, racial slurs and name calling, rejection, physical harm threats, and exclusion from peer activities).<sup>67,70</sup> Black girls are more likely than other girls to report exposure to racism, and black males and females experience steep increases in racial discrimination as they grow older, especially from adults in positions of authority such as police officers.<sup>71–78</sup>

### Development of Racial Awareness

The successful negotiation of racial discrimination is a critical developmental challenge for children of color, who must build a healthy self-concept, decrease psychological distress, and identify successful coping strategies in the face of racial discrimination and social experiences that undermine the likelihood of achieving their goals.<sup>10,11,61,70,79,80</sup> Many become hyper-vigilant in an effort to detect racial discrimination and adjust their behavior to reduce the chance of racially aversive interactions.<sup>80</sup>

Children of color aged 3 to 4 years are most likely to identify with members of dominant social groups and negative racial stereotypes.<sup>79,81–83</sup> Younger children may not fully understand racial discrimination<sup>84</sup> and are often sheltered from its effects by their family and community.<sup>44,82,85</sup> However, they are significantly influenced by parental attitudes and experiences concerning racial discrimination and by mes-

sages about race from macrosystem sources such as the media.<sup>8,45</sup>

As children develop inference-making skills, they learn of attitudes toward and stereotypes about groups in their society that can result in negative perceptions of their own group.<sup>36,44,45,83,86</sup> Exposure to racial discrimination at this point can increase self-consciousness; decrease self-esteem and self-efficacy; and foster anger, depression, and anxiety symptoms.<sup>45,86</sup> These experiences can have enduring effects on mental and physical functioning in adulthood.<sup>64</sup>

At the ages of 10 to 12 years, children become more morally conscious and concerned about merit, equity, advantage, and disadvantage issues.<sup>87</sup> Exposure to racial discrimination at this age can cause feelings of helplessness, demoralization, and discouragement.<sup>45</sup> However, the development of abstract thinking can increase children's ability to identify with members of their own group and see themselves from their own perspective instead of others' perspectives.<sup>45,86</sup>

During adolescence, children of color show greater awareness of conditions related to social position and minority status and are especially influenced by observations of racial discrimination in family and friends.<sup>45</sup> Their recognition of membership in a devalued social group may cause anger levels to increase dramatically.<sup>88–91</sup>

### Racial Socialization

Children of color learn to cope with racial discrimination through racial socialization.<sup>92–94</sup> The critical role of parents in preparing children to cope with discrimination's adverse effects is well documented.<sup>12,64,85,92,95</sup> Nearly 90% of black parents regard racial socialization as an important goal in raising their children, and most attempt to protect their children from racial discrimination's effects while promoting

a sense of cultural pride and well-being.<sup>46,83,92,96</sup> Youth whose parents prepare them to recognize and cope with racial discrimination have reported less distress in response to personal and institutional discrimination.<sup>67</sup>

### Parenting Behaviors

Parents' ability to successfully socialize their children is related to their personal experiences of and reactions to racial discrimination.<sup>46–49,70,71,92–94,97</sup> Parental support of and sensitivity to their children decreases when they are stressed by their own racial-discrimination experiences.<sup>61,85</sup> Parents' exposure to racial discrimination also decreases their likelihood of providing a warm and caring environment for their children<sup>61</sup> and increases irritable, explosive, and uninvolved parenting and harsh discipline.<sup>9,45</sup> Many black mothers report that they vicariously experience racism by witnessing discrimination against their children.<sup>64</sup> Children's reports of unfair treatment by an adult are associated with a greater likelihood of receiving parental messages about discrimination and promotion of mistrust.<sup>93</sup>

### SOCIAL INEQUALITY'S IMPACT ON CHILD OUTCOMES AND FUNCTIONING

Krieger<sup>98</sup> has argued that studies of the direct effects of social inequalities, particularly racial discrimination, are needed to assess the potential impact of these social experiences on health outcomes. To examine the impact of social inequalities on health outcomes in adults and children, studies have merged investigations of "upstream" social factors (ie, poverty, education, and racial discrimination) that affect health with "downstream" studies of biological pathways related to disease and the impact of social environments, and children's adaptation to them, on later health and development.<sup>7,37,99,100</sup>

### Social Inequality and Allostatic Load

Many of the studies that have linked social inequalities with health outcomes are based on a stress model that posits that inequalities result in chronic stress, which precipitates physiological responses that increase the likelihood of disease and mortality in adults and children.<sup>7,37,101</sup>

When social experiences chronically challenge biological systems, the body's ability to effectively and efficiently respond to these demands may diminish, potentially resulting in overt disease pathology.<sup>37,101–104</sup> Allostatic load, a measure of the body's response to environmental demands, is a marker of adjustment to perceived or actual challenge, the degree of stress to which the person is exposed, and the resulting impact on multisystem function.<sup>101</sup>

Biomarkers of allostatic load include heart rate changes in response to posture or activity changes; cortisol measures in response to stress and daily variations in cortisol levels; acute-phase protein of inflammatory response to pathogen exposure; antibodies to Epstein-Barr virus (EBV); weight for height and age; height for age; insulin resistance; and glucose, high-density lipoprotein, low-density lipoprotein, and triglyceride levels.<sup>7,102,105,106</sup> These biomarkers are associated with social inequalities such as poverty, homelessness, family dysfunction, workload, inadequate housing, and lack of social support.

For example, homeless boys aged 10 to 14 years in Nepal had higher mean cortisol levels, whereas boys in urban settings had lower values of acute-phase protein of inflammatory response to pathogen exposure and higher antibodies to EBV titers, as well as lower cardiovascular fitness levels and vagal tone.<sup>101</sup> These findings were attributed, unexpectedly, to the higher levels of

social inequality experienced by urban youth. Social inequality was also associated with higher insulin, glucose, insulin resistance, and low-density lipoprotein cholesterol levels and lower high-density lipoprotein cholesterol and triglyceride levels in US children after the authors controlled for potentially confounding variables.<sup>1</sup>

Two of the most common measures of allostatic load are antibodies produced in response to EBV and markers of systemic inflammation, such as C-reactive protein (CRP).<sup>102,106–108</sup> Exposure to social stress triggers increased antibody response to latent herpes viruses such as EBV.<sup>107</sup> Research has documented a linear relationship between social stress and decreased immune function, as measured by levels of CRP.<sup>108,109</sup> Exposure to social stress in children is associated with decreased immune function based on EBV-antibody measures.<sup>101</sup>

Social inequality and the resulting stress can lead to an increased antibody response via the downregulation of the immune system's cellular arm, which allows replication of latent EBV within infected host cells.<sup>107</sup> This stress-related viral reactivation results in the production of more circulating immunoglobulin G antibodies to counteract the virus's heightened circulation.<sup>108</sup> Genetic factors can mediate or moderate relationships between stress, allostatic load, and health outcomes.<sup>17,105</sup> Symptoms of depression in response to social inequality are associated with increased levels of CRP<sup>109</sup> and proinflammatory cytokine production.<sup>107</sup>

### Racial Discrimination and Allostatic Load

Few studies have specifically examined racial discrimination as a measure of social inequality and assessed its relationship to allostatic load in children. McEwen has argued that racial dis-

crimination creates a chronic biological challenge to human regulatory systems that should be evaluated empirically.<sup>103,104,110</sup>

Research has linked exposure to racial discrimination to overall self-reported health status in black adults.<sup>6</sup> Physiological arousal including elevated blood pressure, digital blood flow, and heart rate was related to laboratory analogues and survey measures of exposure to racial discrimination.<sup>111</sup> Despite differences in sampling schemes, methodologies, and analyses, findings have been remarkably consistent in documenting physiological reactivity in response to racial-discrimination exposure in black Americans.<sup>7</sup>

In children, interactions between perceived racism and coping responses predicted systolic blood pressure in black children aged 11 years on average.<sup>112</sup> Internalized racism (ie, belief in negative racial stereotypes) in black children aged 14 to 16 years was associated with waist circumference in girls but not boys and predicted body fat distribution and insulin resistance independently of age, income, birth weight, physical activity, and family history of diabetes.<sup>37</sup>

Racial discrimination may also affect prenatal development. Black women who reported higher racial-discrimination levels were twice as likely to deliver low birth weight infants.<sup>113</sup> Researchers who used physician-generated reports of birth weight and gestational age found, after controlling for confounding variables, that women who reported higher racial-discrimination levels were more likely to deliver premature and/or low birth weight infants.<sup>114</sup> This finding may be related to high levels of corticotrophin-releasing hormones in pregnant women who have experienced long-term stress.<sup>114</sup>

The potential impact of racial discrimination on health outcomes in children

of color may be exacerbated by racial discrimination from health care providers. An Institute of Medicine report on health disparities concluded that “(al)though myriad sources contribute to disparities, some evidence suggests that bias, prejudice, and stereotyping on the part of health care providers may contribute to differences in care.”<sup>115</sup>(p1) Massey<sup>116</sup> developed a biosocial model suggesting that racial discrimination and segregation results in a concentration of stressors such as poverty, unemployment, and violence. These stressors precipitate psychological and biological responses that result in persistently elevated levels of cortisol and other glucocortisol hormones. These elevated hormone levels may, in turn, be related to higher rates of coronary heart disease and inflammatory disorders.

### **Racial Discrimination, Psychological Functioning, and Risk Behaviors**

One of the most profound psychological effects of racial discrimination is on general self-efficacy, which is a child’s cognitive orientation and belief in his or her ability to affect future outcomes.<sup>38</sup> Self-efficacy is a critical component of mental health and a primary predictor of healthy behaviors.<sup>117</sup> Lower levels of self-efficacy are associated with risk behaviors such as drug use, aggression, and sexual risk-taking.<sup>88,117</sup>

The emergence of self-efficacy during childhood is critically influenced by location in a social hierarchy, and mastery varies inversely with social status and context.<sup>8,38,118,119</sup> When children do not develop a sense of control from their social experiences, their psychological distress increases.<sup>118,119</sup> For example, children exposed to racial discrimination can become alienated from the larger society and feel hopeless and powerless.<sup>120,121</sup> Higher rates

of depression are common among black youth who are exposed to racial discrimination.<sup>44,46,69,70</sup> In general, group differences in racial discrimination largely explain differences in psychological functioning between children of color and other groups.<sup>75</sup>

Exposure to racial discrimination is also a risk factor for violence in male black children<sup>6,122</sup> and is associated with lower levels of moral reasoning and development, empathy, and perceptions of justice.<sup>104,123–128</sup> Exposure to racial discrimination in children of color is also consistently related to internalizing (anxiety, depression, and withdrawal) and externalizing (anger and aggression) behavior, and these associations increase during adolescence.<sup>97</sup>

### **RACIAL DISCRIMINATION: A RISK FACTOR FOR CHILD HEALTH DISPARITIES**

#### **Disparities in Biological Functioning**

Research findings on racial discrimination and health outcomes (eg, high blood pressure, heart rate, and insulin and glucose levels)<sup>7,37,111–114,116</sup> may have implications for understanding disparities in chronic diseases, such as coronary heart disease and diabetes, in communities of color. Although the mechanisms by which racial discrimination may contribute to disparities in chronic diseases have not been fully identified, current data suggest that exposure to racial discrimination may be associated with biological and psychological changes that are complex and enduring and influence health outcomes in childhood and/or adulthood. For example, findings that women who experience racial discrimination are more likely to have preterm births are potentially important, because preterm birth, among other factors, can be a risk factor for chronic dis-

eases such as coronary heart disease, high blood pressure, and diabetes.<sup>57,114</sup>

The secondary social status that results in racial discrimination might also be a risk factor for drug use. In animal studies, secondary social status is associated with the number of dopamine receptors and higher drug use in subordinate members.<sup>129</sup> Human studies have shown significant relationships between drug use and secondary social status, particularly exposure to current and historical racial discrimination.<sup>130</sup> Difficulty in successfully regulating emotional responses to social stressors, such as racial discrimination, is also associated with higher levels of drug use in humans.<sup>131</sup>

Chronic stressors such as racial discrimination may also increase susceptibility to viral infections (such as HIV infection).<sup>132</sup> Endocrine hormones, such as cortisol, might mediate this pathway.<sup>109</sup> The links between social stress, immune suppression, and enhanced susceptibility to infection suggest that immune function at the time of exposure to HIV may influence viral replication and the likelihood of the HIV virus infecting cells.<sup>133</sup> This conclusion is reinforced by findings that CRP levels, which are markers of inflammatory function, are directly related to HIV acquisition even when researchers control for sexual risk behaviors.<sup>133</sup> Prospective studies have also reported that higher EBV-antibody titers are associated with HIV seroconversion.<sup>134</sup>

### Disparities in Psychological and Behavioral Functioning

Independent of effects on biological functioning, perceptions of discrimination and inequality are associated with higher levels of substance use in adults (especially women) and youth of color under the age of 18.<sup>135–147</sup> A tension-reduction hypothesis<sup>135,136</sup> suggests that substance use in communi-

ties of color could be related to affective anxiety or depression states associated with social stressors such as racial discrimination that increase the motivation to self-medicate. Chronic states of physiological reactivity might exacerbate the psychological distress.<sup>135,136</sup> Findings also suggest increases in HIV/AIDS risk behaviors as a function of racial discrimination in black adult women and women worldwide.<sup>26,148–150</sup>

The findings on racial discrimination and aggressive behavior are particularly compelling. Among black youth, both victims and perpetrators of violence report experiences of discrimination and believe that violence is necessary for their survival.<sup>151</sup> Because racial-discrimination exposure is associated with lower levels of empathy, moral development, and perceptions of injustice, children who are exposed to chronic racial discrimination could also be less likely to develop the perceptions of empathy and moral justice that prevent violent behaviors.<sup>123–128</sup> Recent findings also suggest relationships between hostility and aggression, which have been associated with exposure to racial discrimination,<sup>45,97,122</sup> and inflammatory disease, as measured by interleukin 6 and CRP.<sup>152</sup>

### CONCEPTUAL MODEL

Childhood is a critical period for developing perceptions of the self, social relationships and realities, and a sense of mastery over life outcomes.<sup>8,44,45</sup> Exposure to racial discrimination from peers and adults can diminish a child's sense of worth and control and foster mistrust of others,<sup>9</sup> particularly when children see the devastating effects of personal and institutional racism on family and friends.<sup>45</sup> Younger children may be especially vulnerable to the effects of racial discrimination, because that may not understand the source of harsh or negative behaviors from others or the effects on their parents.<sup>9</sup> Such experiences can reinforce the

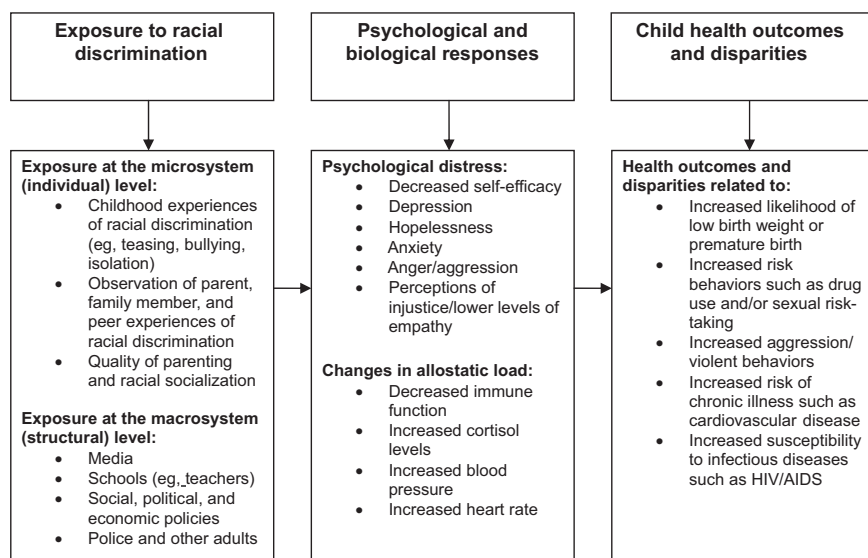
feelings of injustice, powerlessness, and victimization that lead to violent behaviors in older children.

On the basis of this review of findings that exposure to racial discrimination in children of color may be a significant source of the social inequality and stress that contribute to child health disparities, we propose a conceptual model of the effects of racial discrimination on mental and physical health in children of color (Fig 1). The model incorporates findings on exposure to racial discrimination at the microsystem and macrosystem levels, psychological and biological effects, and health outcomes and disparities that may be related to changes in psychological and biological function.

### FUTURE RESEARCH DIRECTIONS

Krieger<sup>98</sup> has compared the potential impact of research on racial discrimination on the field of health disparities to the effects on the field of child abuse of the groundbreaking 1962 article by Kempe et al,<sup>153</sup> who documented the “battered-child syndrome” as a significant pediatric health problem. Similarly, research on the deleterious effects of racial discrimination on the health of children has the potential to “galvanize inquiry and action”<sup>98</sup>(p194) regarding child health disparities. However, future research must be guided by scientific rigor and methodology.

For example, improved measurement tools are critical to future research on racial discrimination and health in children of color. Measures that distinguish between personal and institutional discrimination and methods to measure and interpret data on physiological responses to racial discrimination, particularly allostatic load and stress biomarkers, are needed.<sup>34,36,50,101,102</sup> Multidisciplinary studies that use social and biological science methodologies should be conducted.<sup>37</sup> Research needs to develop more specific con-



**FIGURE 1**  
Conceptual model of the impact of racial discrimination on child health outcomes and disparities.

ceptual and theoretical models to analyze social inequality and health.<sup>5,26</sup> Researchers also need to recognize and examine the impact of cumulative exposure to multiple forms of social inequality such as poverty, violence, and racial discrimination on health outcomes in children of color. Previous research has demonstrated that a cumulative representation of risk is a better predictor of poor outcomes in youth than a single-predictor model.<sup>154–160</sup>

Awareness of the scientific need for and legitimacy of research on racial discrimination and child health must increase.<sup>35</sup> Federal agencies and peer-review committees should expect funded studies to include sufficient numbers of children of color to test the

external validity of theories and research across populations of youth.<sup>8</sup> There must also be greater recognition of the need for studies of racial discrimination that identify within-group variation and heterogeneity in health outcomes in children of color.

Although comparisons of children in dominant versus secondary social groups can be made to examine the differential impact of dominant versus secondary social status on health, direct comparisons of racial-discrimination experiences between these 2 groups might not be fruitful or scientifically valid. First, racial-discrimination experiences do not occur at the same frequency in members of dominant and secondary groups.<sup>75</sup> Second, current measures of

racial discrimination are not generally normed for members of dominant groups. Third, because of power differences between groups resulting from historical and current legal and nonlegal systems of discrimination, exposure to racial discrimination in dominant groups is unlikely to have the same effects as in secondary groups.<sup>39,53</sup> Thus, future studies should determine the degree to which variance in the frequency, severity, distribution, and/or developmental timing of experiences of racial discrimination contributes to heterogeneity in health outcomes within members of secondary social groups.

Finally, children's responses to social inequalities such as racial discrimination are malleable, and the related increases in risk behaviors can be modified.<sup>161–165</sup> Despite the intractability of social inequalities and the complexities of conducting research that requires attention to a host of potentially confounding variables, previous findings suggest that the effects of racial discrimination on health and disparities can be successfully addressed. Intervention and prevention programs can foster empowerment and behavioral change in youth of color by acknowledging the consequences of social inequalities such as racial discrimination and helping children address these inequalities on the basis of the principles of social justice and social action.<sup>161–165</sup>

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