from exposure to a disaster may help to attenuate disaster stress and reduce concomitant physical health effects.

—Andrew Baum and Angela Liegey Dougall

See also Stress, Appraisal, and Coping

Further Reading


DISCRIMINATION AND HEALTH

In race-conscious societies, race is a powerful predictor of access to societal rewards and a determinant of variations in health. Where social inequalities exist, discrimination is a key feature of intergroup relationships. Discrimination is important in serving to reinforce the symbolic boundaries that separate social groups from each other. Thus, racial categories capture an important part of the inequality and injustice that has historically and currently characterized racialized societies. There are multiple ways in which discrimination maintains these social inequalities. Arguably, the most important mechanism in the United States context is an institutional one. Residential segregation is a primary cause of racial differences in socioeconomic status because it determines access to education and employment opportunities. In addition, segregation can have deleterious effects on health through the negative conditions it creates in residential environments. In addition, there is growing research interest in the ways in which the subjective experiences of discrimination may be an additional mechanism by which discrimination may affect health. This latter mechanism is the focus of this entry.

THE PERSISTENCE OF DISCRIMINATION

There have been dramatic improvements in the racial climate in the United States in the last 50 years. On virtually every indicator of the endorsement of the principle of equality, there has been a large positive shift on the part of the White population, with the overwhelming majority of White Americans endorsing equality of opportunity for Blacks and other minorities in virtually every area of evaluation (Schuman, Steeh, Bobo, & Krysan, 1997). At the same time, other data suggest that racial attitudes are complex. The overwhelming support for the principles of equality coexist with substantial reluctance to support policies that would reduce racial inequalities (Schuman et al., 1997). In addition, data on stereotypes reveal the persistence of negative images of African Americans and other minorities. National data indicate that 56% of White persons believe that Blacks prefer to live off welfare, 51% believe that Blacks are prone to violence, 29% view Blacks as unintelligent, and 44% view them as lazy (Williams & Williams-Morris, 2000). Similarly, one in five or fewer Whites believe that Blacks are hardworking, not prone to violence, are intelligent, and prefer to be self-supporting. Moreover, Whites view all of the major ethnic minority populations more negatively than they view themselves, with African Americans viewed more negatively than all other groups and Hispanics viewed twice as negatively as Asians. Social psychological research indicates that when individuals hold a negative stereotype about a group, they will discriminate against an individual member of that group if they encounter one. Most important, this research shows that this process is both automatic and

unconscious (Hilton & Von Hippel, 1996). Thus, the persistence of negative racial stereotypes suggests that there will be widespread racial discrimination in the United States, with many perpetrators of racial bias being unaware of their discriminatory behavior.

Carefully executed scientific studies document the persistence of racial discrimination in multiple areas of society. Audit studies in employment and housing where Black and White applicants with identical qualifications apply for jobs or housing document continuing discrimination (Fix & Struyk, 1993). For example, audit studies in employment find discrimination that favors the White over the Black applicant 20% of the time. Similarly, a recent report from the Institute of Medicine documents widespread discrimination in the quality and intensity of medical treatment for a broad range of procedures in the United States (Smedley, Stith, & Nelson, 2003). Victims of discrimination are aware of at least some of these experiences and are able to describe them in both qualitative and quantitative research studies.

**Discrimination: A Pathogenic Stressor?**

It has been argued that subjective experiences of discrimination are an important domain of stressful life experiences that traditional batteries used to assess stress have not included (Clark, Anderson, Clark, & Williams, 1999; Williams, Neighbors, & Jackson, 2003). Consistent with this view, equity theorists have also noted that perceptions of unfair treatment can lead to negative emotional reactions and psychosomatic symptoms. Several laboratory studies have assessed the physiological and affective reactions of African Americans to mental imagery and videotape vignettes of discriminatory behavior. These studies have found that exposure to such racist experiences leads to increased cardiovascular and psychological reactivity (Harrell, Hall, & Taliaferro, 2003). More generally, the experimental manipulation of unfair treatment in laboratory settings has a broad range of negative psychological consequences for individuals (Dion, 2001).

There are several reviews of the literature on the association between discrimination and health outcomes (Harrell et al., 2003; Krieger, 1999; Williams & Williams-Morris, 2000). This entry summarizes the findings of a recent review of population-based empirical studies that examined the association between perceptions of racial ethnic discrimination and health and identified some 53 published studies (Williams et al., 2003). These studies have focused on both physical and mental health outcomes and we provide an overview of the research in each major area of investigation and some illustrative examples of the existing research.

**DISCRIMINATION AND MENTAL HEALTH**

Mental health status is the most frequently assessed indicator of health in studies of discrimination. A broad range of mental health outcomes have been examined. These include measures of well-being, self-esteem, perceptions of control, psychological distress, anger, as well as specific psychiatric disorders such as major depression, generalized anxiety, and substance use. Moreover, some 80% of the 47 associations examined in the literature between measures of discrimination and an indicator of mental health found that higher levels of discrimination were associated with poorer mental health status. For example, a national study of over 3,000 American adults found that perceptions of acute and chronic discrimination were positively related to psychological distress, major depression, and generalized anxiety.

Most of the research studies in this area have been U.S.-based, and most studies have focused on the African American population. However, several studies have documented similar patterns of associations for other minority groups in the United States. For example, a study of over 3,000 Mexican Americans found that higher levels of perceived discrimination were positively associated with scores on the CESD depression scale. In a similar vein, a study of 1,747 Chinese American adults in Los Angeles who perceived discrimination based on race and language or accent was associated with psychological distress. A study of over 200 American Indian adolescents also found that perceived discrimination was associated with higher levels of substance use, psychological distress, and anger.

Equally impressive is the fact that studies in other countries are also finding inverse associations between discrimination and mental health. A study of 647 Southeast Asian refugees in Canada documented that perceptions of discrimination positively related to depressive symptoms. Studies in the Netherlands of both Iranian refugees, as well as Turks and Moroccans, find higher levels of discrimination associated with poorer mental health. Similar findings come from recent
studies in the United Kingdom. A national study in England and Wales found that perceptions of discrimination were positively associated with depressive symptoms and the annual prevalence of psychosis. A study in Ireland noted that experiences of discrimination were associated with higher levels of psychological symptoms among Black, Asian, and Arab adolescents and adults. A recent study of 1,146 immigrants in Finland also found an 18-item scale of discrimination to be positively related to levels of psychological distress.

DISCRIMINATION AND PHYSICAL HEALTH

Multiple measures of physical health status have been examined (Williams et al., 2003). Six studies using a single-item global self-rated health measure have all found a positive association between discrimination and ill health. Nine of the 11 additional studies using other self-ratings of health or checklists of chronic illnesses documented that discrimination was related to poorer health status, at least under some conditions. For example, one recent study found perceived discrimination to be predictive of self-rated ill health and a composite measure of chronic health problems in a sample of 3,012 Mexicans in California. Similarly, in a probability sample of over 1,106 adults in Michigan, both chronic and acute discrimination were positively related to reports of ill health and chronic conditions for Blacks but not Whites.

There has been considerable interest in the association between discrimination and hypertension (Williams & Neighbors, 2001). Eleven studies have examined this association and the findings are mixed. Three studies have documented a clear positive association between discrimination and elevated blood pressure: in an additional five, this effect exists conditional on coping style, sex, socioeconomic status (SES), or race, and three studies find no association between discrimination and blood pressure. Illustrating the complexity of findings in this area, Krieger and Sidney (1996) found, in a sample of over 2,000 African Americans, that blood pressure levels were higher for women and working-class men who reported no discrimination and who reported discrimination in three or more social situations, compared to those with discrimination in one or two situations. Among professional men, discrimination was positively related to systolic and diastolic blood pressure.

Other health outcomes have also been examined. Perceptions of discrimination were unrelated to self-reported heart disease in two studies, but a recent study found that perceptions of chronic discrimination were positively related to the onset of subclinical disease in the carotid artery for Black but not White women. Two studies have examined the association between perceived discrimination and low birth weight, and one has explored the association with adult mortality and the findings here have been mixed. Five studies have found a positive association between discrimination and cigarette use or alcohol consumption. Moreover, two studies have found that discrimination makes an incremental contribution above SES in explaining Black-White differences in self-reported health.

RESEARCH ISSUES

In order to shed light on how perceptions of discrimination may be related to health, advances are needed in the conceptualization and measurement of discrimination and in the theoretical identification and the empirical verification of the plausible pathways by which this stressor can affect various health outcomes.

Measuring Discrimination Comprehensively

Studies to date have not given sufficient attention to capturing exposure to discrimination comprehensively and to assessing the cumulative burden of such exposure over the life course (Krieger, 1999; Williams et al., 2003). Some studies have relied on single-item indicators of discrimination. Such approaches underestimate the actual level of discrimination. In most studies, participants' exposure to discrimination is measured at one point in time. In some studies, respondents were asked to provide a retrospective report about exposure to perceived discrimination over their life course, while other studies used a 30-day, 1-year, or 3-year time frame.

Research efforts are needed that would comprehensively characterize discrimination in multiple areas of social life. Like other stressful experiences, discrimination is multidimensional, and its assessment should provide coverage of all relevant domains. The most commonly assessed types of stressful experiences are life events, chronic stress, and daily hassles. Life events are discrete, observable stressors. Daily hassles refer to chronic irritations that are minor. Chronic stressors are ongoing problems that are often role related. They all have their analogues
among existing measures of discrimination. Major acute experiences of racial bias are the most commonly assessed type of discriminatory experience. The Everyday Discrimination Scale, developed by Williams and colleagues (1997), attempts to capture persistent and recurring, everyday, chronic minor experiences. However, that scale is generic, and it is important to capture measures of chronic discrimination in multiple domains, such as employment, educational, and public settings, as in the measure developed by McNeilly and colleagues (1996). In the general literature on stress, chronic stressors are stronger predictors of the onset and course of illness than are acute life events (Cohen, Kessler, & Underwood, 1995), but they are a challenge to measure. Measures of chronic exposure to discrimination are needed that directly assess the duration and frequency of exposure.

Traumas, nonevents, and macrostresses are other distinctive types of stress (Wheaton 1999) that point to promising areas of expansion for comprehensively assessing discrimination. Traumas are acute stressors, such as sexual assault that are severe, overwhelming in impact, and generally regarded as outside of the usual range of experience. Macrostressors are large-scale systems-related stressors such as economic recessions. Nonevents are desired and expected experiences that fail to occur. Most important, the various stressors have independent effects on health, such that an evaluation of the full impact of stress requires the inclusion of all relevant classes of stressors (Wheaton, 1999).

In addition to discrete acute and chronic experiences of discrimination, the structure and culture of racism can also create hostile environments in which the ever-present threat of discrimination can lead to heightened physiological arousal that can adversely affect health. Assessing the full impact of racism will require measures of vigilance that capture both the perceptions of danger in one’s environment and the psychological and behavioral efforts to remain vigilant.

Measuring Discrimination Accurately

There is concern in the literature that the salience of race can lead to some minority group members perceiving as race-related incidents that may not be, or even developing a mind-set in which they perceive incidents of racism that do not exist in reality. The available evidence suggests that these concerns may not be warranted (Williams & Neighbors, 2001). First, respondents appear to interpret discrimination as intended by researchers, and self-reports of discrimination are consistent with objective experiences. Second, one national study has documented that baseline mental health status (psychological distress and major depression) is unrelated to subsequent reports of discrimination. Third, because reporting discrimination is likely to adversely impact self-esteem and perceptions of control, at least some minority group members are likely to minimize and deny experiences of discrimination. Thus, underreporting may be at least an equally serious threat to the validity of self-reports of discrimination as overreporting. Nevertheless, there is still the need for future research to adjust reports of discrimination for underlying psychological characteristics such as social desirability and neuroticism. Such adjustment strengthens the analytic design and increases the likelihood that observed associations between perceived discrimination and health outcomes might reflect a causal relationship.

At the same time, several strategies that have been used to improve the accuracy of the reporting of stressors should be applied to the study of discrimination as well. These include the use of cues to memory such as visual representations and reminders of personally salient events, wording the questions in ways so as to clearly define the domain of the experience being captured, and using a life-events calendar, which helps to date the onset and resolution of stressors (Williams et al., 2003).

Self-reports of bias also understate the full extent of exposure to discrimination. Given the nature of social interactions, subordinate group members will often lack full knowledge regarding any specific interpersonal transaction (Krieger, 1999). Secondly, and of greater challenge to measure, is the potential that some individuals cope with discrimination by minimizing or even denying its occurrence. Given the potential importance of the phenomenon of denial in research on discrimination and health (Krieger, 1999), future efforts to operationalize it in epidemiological research are a high priority.

Perceived discrimination relies on individual perception and emphasizes the attributions made by the individual. The subjective nature of discrimination and the ambiguity inherent in much interpersonal interaction often leads to uncertainty regardless the attribution of significant incidents of unfair treatment. The attempt to make sense of interracial interactions can stimulate physiological responses (Williams & Neighbors, 2001). The worry and rumination regarding
the causes of experiences of unfair treatment may be a part of the added burden that nondominant group members bear. Future research should assess the degree of ambiguity in the perception of discrimination and examine potential consequences for health.

One approach to reducing the salience of race in assessing discrimination is to first ask respondents if they have been treated "unfairly" in multiple domains of life (Williams, Yu, Jackson, & Anderson, 1997). After respondents have endorsed an experience of unfair treatment, they are asked to attribute a reason. Potential reasons include race and ethnicity, gender, age, religion, and sexual orientation. This approach enables respondents to report on all instances of unfair treatment, but allows the researcher to separate instances attributed to race from those linked to other reasons. Asking repeated questions about "racial discrimination" or experiences "because of your race" could produce demand characteristics in which the respondent believes that it is desirable to the interviewer to report such experiences. This could lead to overreports of discrimination. On the other hand, respondents may vary in their thresholds of what constitutes discrimination and fail to report as discriminatory incidents that were not perceived as very serious.

Information about the stressor of discrimination and its particular context is necessary for determining its impact. Key aspects of discriminatory experiences include the type or domain in which it occurs, the magnitude of the event, the temporal characteristics of the event, and the nature of the relationship between this stressor and other race-related and non-race-related stressors (Cohen et al., 1995). Beliefs about self, such as racial consciousness and identity, might affect the appraisal of discrimination, and other variables, such as social support and feelings of control, could enhance an individual's capacity to cope and respond to discriminatory experiences.

The assessment of characteristics of discriminatory experiences should also include characteristics of the perpetrator. One study of African Americans found that experiences of discrimination were more strongly related to psychological distress when the perpetrator was also Black than when the perpetrator was White (Mays & Cochran, 1998).

**Understanding the Underlying Processes**

One of the most critical research needs is for more careful attention to the specific mechanisms by which perceptions of discrimination might adversely affect health. The literature on stress and health indicates that stressors can influence physical illness primarily through causing negative emotional states, such as anxiety and depression, which in turn can have direct effects on biological processes or patterns of behavior that affect disease risk (Cohen et al., 1995). It is thus plausible that one of the pathways by which discrimination can affect physical health outcomes may be indirect through psychological distress. That is, discrimination may lead to elevated psychological distress, which, in turn, may lead to chronic physiological arousal of the cardiovascular system. Research also needs to assess the extent to which reports of discrimination and the negative emotional states created by them might lead to health behaviors, such as impaired sleep patterns, decreased physical activity, increased substance use, and consumption of more food than usual, that may ultimately affect disease risk. As noted, some studies found that exposure to discrimination is associated with problem drinking and cigarette smoking. Thus, health-related behaviors should be included in any comprehensive assessment of coping responses to discrimination. Experiences of discrimination and the negative emotional states created by them may also lead to lower levels of compliance with medical recommendations (Cohen et al., 1995). This latter mechanism has not yet been explored in the literature. Researchers should also give attention to assessing the contribution of discrimination not only to the onset of disease but also to its severity and course.

At present, our understanding is limited regarding how exposure to discrimination leads to changes in particular biological responses and health behaviors. Research is needed that would identify the conditions under which particular types of exposure lead through specific processes to affect health. Such research should assess the conditions under which specific physiological systems, such as the cardiovascular, the neuroendocrine, and the immune system, are affected by particular types of exposure to discrimination. We are also largely unaware of the psychological or biological vulnerability factors for discrimination and the extent to which a given race-related stressor can produce varying responses in different individuals or groups. We are also not cognizant of the genetic and psychological factors that can make some organ systems vulnerable to the effects of discrimination on health. In the stress literature, for example, greater genetic vulnerability to depression is associated with
an increased impact of stressful life experiences on major depression (Kessler, 1997).

CONCLUSION

A growing body of research indicates that discrimination is associated with poor health status, with the association being strongest for mental health. At present, we do not know the extent to which exposure to perceived discrimination leads to increased risk of disease, the conditions under which this might occur, or the mechanisms and processes that might be involved. It is also not clear whether there is a dose response relationship between discrimination and changes in health status. However, the literature offers needed concepts, models, measures, and methods for rigorous and sustained scientific evaluation of the association between perceived discrimination and a broad range of health outcomes.

—David R. Williams

See also Cultural Factors and Health; Stress, Appraisal, and Coping

Further Reading


DIVORCE AND HEALTH

Marriage constitutes one of the most basic human relationships, forming the foundation for family life. Both men and women enjoy a range of benefits from