Prevalence and Correlates of Perceived Societal Racism in Older African-American Adults with Type 2 Diabetes Mellitus

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Although experiences of racism in day-to-day life may affect minority patients' interaction with the health system and may influence health outcomes, little is known about these experiences in patients with chronic diseases. The goal of this study was to explore the frequency and correlates of perceived societal racism in 42 African Americans aged 50 and older with type 2 diabetes mellitus.

Twenty-seven items of the McNeilly Perceived Racism Scale were used to assess exposure to racist incidents in employment and public domains and emotional and coping responses to perceived racism in general. Mean age was 62, 71% were women, and more than half rated their health as fair/poor (55%). Overall, 95.2% of the participants reported at least some exposure to perceived societal racism. Higher mean lifetime exposure to societal racism, based on summary scores on the perceived racism scale, was reported by men (35.0 ± 19.1) than women (19.7 ± 14.4) ($P<.01$) and by those with higher household income (30.7 ± 17.3) than those with lower household income (18.6 ± 15.1) ($P<.05$). Greater passive coping (e.g., "avoiding it," "ignoring it") was associated with being female and having lower household income and fair/poor self-rated health.

The findings that perception of racism and a range of emotional and coping responses were common in older African-American patients attending two diabetes clinics suggest that physicians and other healthcare providers may need to be more aware of patients' day-to-day experiences of societal racism and the influence these experiences may have on patient trust in the medical system and their adherence to medical advice or engagement in self-management of their chronic conditions. **J Am Geriatr Soc 53:2202–2208, 2005.**

Key words: perceived racism; racial or ethnic bias; discrimination; diabetes mellitus; African American

Racial discrimination remains an ongoing experience for minority individuals in the United States, despite the passage of the Civil Rights Act of 1964 declaring racial discrimination illegal. Not only is the experience or perception of racial bias detrimental socially, but new evidence is also emerging indicating that the experience of racism may be detrimental to health.[1–6]

Although numerous studies have demonstrated an association between race and health, the association between racism and health status is less well studied. The study of racism may capture a more-dynamic aspect of race as it plays out in society, particularly for African Americans. For instance, day-to-day struggles with societal racism may give rise to mistrust in the medical system, as well as patient distrust of physicians, even if one does not experience racism in the health system itself.[7] African-American adults have been shown to be more likely to perceive racial discrimination and to report mistrust of the medical system than other race groups.[8–11]

Prior studies in younger adults have shown a prevalence of day-to-day and lifetime exposure to racial discrimination ranging from 70% to 100%.[12–14] Only a few studies have examined perceptions of racism in older adults.[8,15,16] Additionally, although experiences of racism may be associated with chronic disease, little is known about how often patients being seen in clinic settings for these diseases have experienced societal racism or their reactions to these experiences. Few studies have examined the

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experience of societal racism and the concomitant emotional and behavioral coping responses in older adults.[16]

The prevalence of perceived societal racism (experiences outside the medical system) was explored in older African-American adults with type 2 diabetes mellitus attending two university-based diabetes clinics. Additionally, the coping responses and feelings in response to perceived experiences of racial discrimination were examined.

METHODS

Participants

African-American patients aged 50 and older with type 2 diabetes mellitus attending the Primary Care and Endocrine clinics at Yale–New Haven Hospital were identified between June 1997 and February 1998. The Primary Care Clinic, which also referred patients to the Endocrine Clinic, served a racially diverse, primarily indigent population from the greater New Haven community. Fifty percent of the Endocrine Clinic referrals were from physicians, and the other half were community-based self-referrals. In each clinic, a diabetes clinical nurse specialist primarily provided diabetes management. Patients were telephoned 1 to 2 days before their clinic appointments and asked whether they were willing to participate in the study. Of the 68 consecutive patients who were eligible, 13 (19%) refused to participate, and 13 (19%) did not show for their appointments. The remaining 42 (62%) were interviewed on the day of their appointments.

Data Collection

Assessment of Perceived Racism

Three subscales of the McNeilly Perceived Racism Scale (PRS)[17] were used, including frequency of exposure to specific types of racist incidents, emotional responses to perceived racism, and coping responses to perceived racism. The PRS is a structured self-administered questionnaire assessing the experience of white racism against African Americans in multiple domains, including employment and public domains. It has been validated in other studies and has demonstrated good reliability.[18] The instrument used in this study was slightly adapted for use in a cohort of older patients by excluding questions in the "academic" and "response to racist statements" domains and by changing the questions from the first person to the second person pronoun to administer it face-to-face. Examples of excluded questions from the "academic" domain include, "Whites assume you gained admission to school only because of affirmative action and not based on your abilities or intelligence," and "You have been made to feel uncomfortable in a classroom of white students." Examples from the "responses to racist statements" domain include "Over the past few years, blacks have gotten more economic and educational breaks than they deserve" and "black people are generally not as smart as whites." Twenty-seven items were used to assess exposure to racist incidents in the employment domain (work outside of the home, including volunteer or other unpaid jobs), public domain, and emotional and coping response domains.

The first set of items measured exposure to specific types of racism in the public and employment domains. For each item, participants were asked how often they had the experience of racism in their lifetime; response categories ranged from never to very often on a 5-point Likert scale. For example, participants were asked, "You hear comments from whites expressing surprise at your or other 'minority' individuals' intelligence or industriousness," or "Whites assume you work in a lower-status job than you do and treat you as such." The second set of questions assessed participants' emotional responses to experiences of racism in general (i.e., with no reference to the specific statements in the first set). Participants were asked, "When you experience racism, you generally feel . . . frustrated, sad, etc.?" Seven emotions were assessed (e.g., angry, powerless) and the three response categories for each emotion were not at all, moderately, and extremely.

The third set of items assessed participants' coping responses to general experiences of racism, again with no reference to the prior statements. Participants were asked, "When you experience racism, you generally deal with it by . . . speaking up, accepting it, ignoring it, etc.?" The response categories ranged from never to very often on a 5-point scale.

During the pilot testing of the questionnaire, several participants reported in the first set of items measuring exposure to specific types of racism as never having had such experiences but described several different feelings and ways of dealing with societal racism. Therefore, one open-ended question was added to explore the types of experiences they associated with their emotional responses. The question asked was "Please describe a racist incident that made you feel . . . angry, frustrated, sad, powerless, etc." The qualitative data resulting from this type of question can facilitate understanding the conceptual adequacy of structured measures in minority populations.[18]

Sociodemographic and Clinical Variables

Other attributes examined included sociodemographics (age, sex, education, and income), clinical characteristics (presence of hypertension, body mass index, glucose, and glycosylated hemoglobin), and self-rated health (ascertained by asking participants to rate their health as excellent, very good, good, fair, or poor). All clinical measures were obtained from the medical records except for self-report of height. Body mass index was calculated from the weights and heights obtained, and serum glycosylated hemoglobin was collected at the time of the baseline interview. The Yale–New Haven Hospital normal reference range for glycosylated hemoglobin was 5.5% to 8.2%. Good diabetes control was defined as glycosylated hemoglobin within 1% of the upper limit of normal or 9.2% or less.

The interviewers were African American and were trained and tested for interrater reliability on all interview questions. The Yale University School of Medicine Human Investigations Committee approved the study protocol, and all subjects provided oral, informed consent.

Analysis

The statistical analysis was conducted using Stata statistical software (Release 8.0, StataCorp, College Station, TX). Descriptive analyses were performed to assess the sociodemographic and clinical characteristics of the study participants.

For the following analyses, each set of items was converted into multiitem 100-point scales. To describe the lifetime exposure to perceived racism, the frequency at which participants experienced each exposure frequently (fairly often and very often) and ever (rarely or greater) was reported. The events were separated according to whether the experience was personal (happened to them), observed (happened to someone else), or attitudinal in nature. The eight items on the coping response scale were divided into two components: active and passive coping. A similar classification scheme was used in a study using the original PRS.[19] Two items were classified as active coping—speaking up and trying to change things—and the rest as passive coping—accepting it, ignoring it, keeping it to yourself, praying, avoiding it, and forgetting it. This grouping into active and passive coping was derived during scale development and was based on the interitem class correlations (correlation coefficient $\geq$0.30) using Cronbach alpha.

To assess whether sex, income, and self-rated health were associated with perceived exposure and responses to racism, *t* tests were used to compare scores in each stratum. These were tested for internal consistency reliability in this sample, and Cronbach alpha ranged from 0.77 to 0.93.

RESULTS

The participants had a mean age of 62; most were women (71%) and had a household income less than $15,000 (55%). The mean glycosylated hemoglobin was 10%, and more than half (55%) rated their health as fair/poor (Table 1). Participants from the Endocrine clinic were on average younger and more educated and had a higher income than those from the Primary Care clinic, but there were no differences in diabetes control or self-rated health (data not shown).

The frequencies of lifetime exposure to perceived racism in the public and employment domains varied widely by item (Table 2). For example, one of the most frequently reported personal experiences in the public domain was "when shopping, followed by white security guards or watched by white clerks" (67%), whereas uncommon events were "house vandalized because of your race" (14%) and "denied hospitalization or medical care because of your race" (14%). The most frequent observed experience was "hear comments from whites expressing surprise at 'minority' individuals' intelligence or industriousness" (78%). Lifetime exposure to perceived racism in the employment domain was a common personal occurrence (ranging from 38% to 62% across items) for most participants. The range of reports of frequent exposure (fairly often or very often) was 2% to 29% for in the pubic domain and 5% to 26% for in the employment domain.

Table 1. Characteristics of Participants (N = 42)

Variable	Value
Sociodemographic	
Age, mean ± SD	62 ± 8.6
Female, n (%)	30 (71)
Education, years, n (%) (N = 32)	
<12	13 (41)
≥12	19 (59)
Household income, $, n (%)	
<15,000	23 (55)
≥15,000	19 (45)
Not enough or just enough money at end of month to make ends meet, n (%)	26 (62)
Self-rated health, n (%)	
Good-excellent	19 (45)
Fair/poor	23 (55)
Clinical	
Hypertension, n (%) (N = 41)	34 (83)
Body mass index, mean ± SD (N = 39)	33 ± 8.0
Glycosylated hemoglobin, mean ± SD (N = 37)	10 ± 2.4

SD = standard deviation.

Overall, 95.2% of the participants reported at least some perceived racism; with 71.4% indicating that perception of at least one of the measures was frequent (fairly often or very often). Only 4.8% reported no perceived racism.

When evaluating emotional and coping responses to exposure to perceived racism, more than half of the participants reported feelings ranging from strengthened to powerless, but only one third reported feeling ashamed (Table 3). Participants reported active and passive coping in response to racism.

When asked to give an example of a racist event that led to any of the feelings they had, the structured items captured most of the incidents that they reported, but several did not fit precisely with what was on the PRS checklist. For example, personal experiences of being made to wait for service or being refused service somewhere other than a restaurant were mentioned several times.

The mean scores of the adapted PRS subscales were used to assess the correlates of lifetime exposure to racism in the public domain, emotional responses, and active and passive coping responses across sex, income, and self-rated health (Table 4). Men reported higher mean lifetime exposure to racism in the public domain (35.0 ± 19.1) than women (19.7 ± 14.4) ($P = .007$). Participants with a household income of $15,000 or greater had a higher mean score of lifetime exposure to racism in the public domain (30.7 ± 17.3) than those with lower household income (18.6 ± 15.1, $P = .02$). There were no differences in the mean score of lifetime exposure to racism in the report of self-rated health, nor was there a difference in the mean scores for emotional responses in any of the measured categories.

Greater active coping was associated with male sex, higher income, and rating one's health good to excellent, whereas passive coping was associated with female sex, lower income, and fair/poor self-rated health. Age and other clinical measures, including glycosylated hemoglobin, were also examined, but no relationship was found with lifetime exposure to racism in the public domain, emotional responses, or coping (data not shown).

DISCUSSION

The results suggest that perceptions of societal racism appear to be common in African-American patients cared for in two diabetes clinics. Other studies have found a similar prevalence rate of racist experiences in African Americans, ranging from 20% to 100%,[14,15,20] but most of these studies were performed in younger adults. Although African

Table 2. Prevalence of Lifetime Exposure to Perceived Racism

Perceived Racism	Ever*	Frequent†
	n (%)	
In the public domain		
Personal experience		
When shopping, followed by white security guards or watched by white clerks	28 (67)	8(19)
Waiters and waitresses ignore you and serve whites first	28 (67)	6 (14)
People “talk down” to you because you are black	26 (62)	5 (12)
Encountered legal restriction against blacks, such as housing, marriage, jobs, use of public facilities	24 (57)	5 (12)
Called insulting names related to your race or skin color	24 (57)	4 (10)
Have had to allow whites to obtain best seats in public places because of your race	21 (50)	4 (10)
Have had difficulty getting a loan because you are black	18 (43)	10 (24)
Refused rental housing that later rented to whites of similar standing (e.g., comparable family income) because of your race	12 (28)	3 (7)
Followed, stopped, or arrested by white police more than others because of your race	10 (24)	3 (7)
House vandalized because of your race	6 (14)	1 (2)
Denied hospitalization or medical care because of your race	6 (14)	1 (2)
Attitudinal		
Tasks that require intelligence are usually given to whites, while blacks get those that don’t require much thought	24 (57)	7 (17)
Observed experience		
Hear comments from whites expressing surprise at “minority” individuals’ intelligence or industriousness	33 (78)	12 (29)
Know of people who have gotten into trouble (gotten hurt, beaten up, shot) by whites (individuals, gangs, police, white hate groups) because of their race	24 (57)	10 (24)
Known black men who have suffered negative consequences for talking to white women (being hurt or killed)	17 (40)	4 (10)
Have heard white men talk about not desiring black women for “serious” relationships versus those with white women	15 (36)	9 (21)
Employment domain		
Whites assume you work in a lower-status job than you do and treat you as such	26 (62)	5 (12)
Treated with less dignity and respect than you would be if you were white	24 (57)	9 (24)
Because you are black, assigned the jobs no one else wants to do	22 (52)	4 (10)
Because you are black, you feel as if you have to work twice as hard	21 (50)	11 (26)
Racial jokes or harassment are directed at you at work	21 (50)	2 (5)
Watched more closely than other workers because of your race	20 (48)	5 (12)
White coworker with less experience and qualifications got promoted over you	20 (48)	10 (24)
At work, when different opinions would be helpful, your opinions are not asked for because of your race	18 (43)	2 (5)
Ignored or not taken seriously by your boss because of your race	16 (38)	2 (5)

Note: Participants were asked, “How often each experience has happened in the past year and in your lifetime?” Response categories were never, rarely, sometimes, fairly often, and very often.

* Participants reporting any experience of racism.

† Participants reporting experiences that were fairly often or very often.

Americans are most likely to report such experiences, these experiences have also been documented in other minority groups.[13,15,21] The results also suggest that the exposure to or perceptions of racial/ethnic discrimination remain ongoing life experiences, particularly for African Americans.

In this study, the perceptions of racism evoked a range of emotional responses, such as anger, powerlessness and sadness, and coping responses that were active, where individuals tried “to change things” or passive, where individuals kept the experience to themselves or tried “to forget it.” Similar findings have been noted in studies of younger individuals.[22,23]

As in other studies it was noted that male participants and those with higher income reported higher lifetime exposure to racism in the public domain. One potential explanation is that those with higher education and income are more likely to interact with individuals outside their race groups and therefore more likely to be exposed to racial discrimination.[13,15,24] Also, in this study, participants with higher income reported dealing with racism in a more active way, whereas female participants and those of lower income used passive behavioral coping more frequently. As one study[13] noted, women tend to overlook or deny the racism they encounter more than men do. Furthermore, women and those from lower income levels may feel less empowered to deal actively with racism, because historically they have had less power in society. Additionally, an association between self-rated heath and active and passive

Table 3. Prevalence of Emotional and Coping Responses in Response to Racism

Response	n (%)
Emotional responses: moderate/extremely*	
Strengthened	31 (74)
Angry	30 (71)
Frustrated	25 (60)
Sad	24 (57)
Stressed	23 (55)
Powerless	22 (52)
Ashamed	14 (33)
Coping responses: sometimes/often†	
Active responses	
Speaking up	29 (69)
Trying to change things	20 (48)
Passive responses	
Praying	32 (76)
Avoiding it	26 (62)
Ignoring it	23 (55)
Keeping it to yourself	22 (52)
Accepting it	17 (40)
Forgetting it	17 (40)

* Participants were asked, "When you experience racism you generally feel. . . ". Response categories not at all, moderately, and extremely collapsed into not at all versus moderately/extremely.

† Participants were asked, "When you experience racism, you generally deal with it by. . .". Response categories never, rarely, sometimes, fairly often, and very often collapsed into never or rarely versus sometimes/often.

Table 4. Lifetime Exposure and Emotional and Coping Responses to Racism by Sex, Income, and Self-Rated Health[1] (N = 42)

Subscale*			
Lifetime exposure to racism in the public domain	n	Mean ± Standard Deviation	*P*-value
Sex			
Female	30	19.7 ± 14.4	.007
Male	12	35.0 ± 19.1	
Income, $			
<15,000	23	18.6 ± 15.1	.02
≥15,000	19	30.7 ± 17.3	
Self-rated health			
Fair/poor	23	22.1 ± 15.6	.42
Good-excellent	19	26.4 ± 18.9	
Emotional responses			
Sex			
Female	29	39.2 ± 26.5	.63
Male	12	43.4 ± 23.1	
Income, $			
<15,000	23	38.5 ± 25.4	.59
≥15,000	19	42.8 ± 25.7	
Self-rated health			
Fair/poor	23	43.8 ± 26.7	.34
Good-excellent	18	36.1 ± 23.6	
Active Coping			
Sex			
Female	29	40.9 ± 31.7	.20
Male	12	54.2 ± 23.4	
Income, $			
<15,000	23	32.6 ± 24.9	.002
≥15,000	19	60.4 ± 28.8	
Self-rated health			
Fair/poor	23	33.7 ± 27.3	.005
Good-excellent	18	59.0 ± 27.4	
Passive Coping			
Sex			
Female	29	49.0 ± 24.3	.045
Male	12	31.6 ± 24.9	
Income, $			
<15,000	23	58.0 ± 17.9	<.001
≥15,000	19	25.9 ± 22.3	
Self-rated health			
Fair/poor	23	53.8 ± 23.6	.004
Good-excellent	18	31.2 ± 22.4	

Note: Unpaired *t* tests.

* Values on Perceived Racism Subscales converted to 0 to 100 scale; higher scores indicate more racism or emotional or behavioral coping responses.

coping was found. Few studies have examined the association between self-rated health and racial discrimination;[25] this study is the first to show an association between coping responses to perceived racism and self-rated health. Given that self-rated health is strongly predictive of morbidity and mortality and incorporates participants' perception of their physical and psychological health,[26–29] understanding the nature of the association between experiences of racism, including emotional and coping responses, and self-rated health demands further study.

Methodological Considerations

Several caveats are worthy of comment. Because of its small sample size, this study is exploratory in nature, and therefore other possible associations may have been missed. The cross-sectional design does not permit the examination of causal directions. Only African-American patients who attended two university-based outpatient clinics were studied, making generalizability a concern.

Income was dichotomized using the median as the cutpoint because of insufficient power to analyze more than two income groups. Thus, the dichotomous income classification does not adequately describe the group's socioeconomic status (SES). Net worth was also not assessed, which would have given a more robust indication of economic status in a sample of mostly retired persons. Net worth would have also allowed for more in-depth examination of the relationship between economic status and perceived racism. Because few participants were affluent, it is not known whether affluent African-American patients would have reported similar experiences, nor was this study able to disentangle the effect of SES from that of race. Future studies will need to examine how SES affects the relationship between race and perceptions of racism. Additionally, because information on whether participants' experience with racism had altered their trust or approach to medical treatment was not collected, the relationship between trust and racism could not be directly examined.

Many of the racism scales have been developed in younger populations; thus, this is one of the first to explore their measurement properties in older adults. The scales proved to have good internal consistency and reliability (Cronbach alpha ranged from 0.77 to 0.93). Results of the open-ended question, in which additional cogent experiences were captured that were not represented in the structured list, suggested other areas not captured on the current instrument. Future studies should continue to explore quantitative and qualitative approaches to refining and improving measurement of these complex and emotionally laden concepts.

Implications

The results highlight the need for awareness and understanding of how these experiences in day-to-day life affect patients' health outcomes and experience with the health system. This study was likely underpowered to detect an association between glycosylated hemoglobin and racism, and therefore larger studies with a comparison population are needed to evaluate these outcomes. It is not clear how aware physicians and other healthcare providers are of patients' day-to-day experiences of inequities in society and the influence these experiences may have on patient trust in the medical system, their adherence to medical advice, or their engagement in self-management. Provider awareness may lead to improved provider-patient relationships and, ultimately, improved minority health. One reason this is important is that medical mistrust, grounded in real-life experiences of patients, can affect the provider-patient relationship, manifested as lack of adherence to medical treatment or self-care management of diseases such as diabetes mellitus or hypertension.

Future studies are needed to substantiate the relationship between racism, including emotional and coping responses, and health outcomes and to assess whether societal racism affects the doctor-patient relationship and whether increased provider awareness and understanding would lead to improved patient trust, adherence, self-management, and ultimately, improved health outcomes for minority populations with chronic disease.

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REFERENCES

1. Peters RM. Racism and hypertension among African Americans. West J Nurs Res 2004;26:612–631.
2. Institute of Medicine. Unequal Treatment: Confronting Racial and Ethnic Disparities in Healthcare. Washington, DC: The National Academies Press, 2003.
3. Williams DR, Neighbors HW, Jackson JS. Racial/ethnic discrimination and health: Findings from community studies. Am J Public Health 2003;93:200–208.
4. LaVeist TA, Sellers R, Neighbors HW. Perceived racism and self and system blame attribution. Consequences for longevity. Ethn Dis 2001;11:711–721.
5. Clark R, Anderson NB, Clark VR et al. Racism as a stressor for African Americans. A biopsychosocial model. Am Psychol 1999;54:805–816.
6. Williams DR. Race, socioeconomic status, and health. The added effects of racism and discrimination. Ann N Y Acad Sci 1999;896:173–188.
7. U.S. Department of Health and Humans Services. Mental Health: Culture, Race, and Ethnicity—A Supplement to Mental Health: A Report of the Surgeon General. U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mentor Health Services, 2001 [on-line]. Available at www.surgeongeneral.gov/library/mentalhealth/cre/ Accessed March 11, 2005.
8. Barnes LL, De Mendes Leon CF, Wilson RS et al. Racial differences in perceived discrimination in a community population of older blacks and whites. J Aging Health 2004;16:315–337.
9. Boulware LE, Cooper LA, Ratner LE et al. Race and trust in the health care system. Public Health Rep 2003;118:358–365.
10. Klassen AC, Hall AG, Saksvig B et al. Relationship between patients' perceptions of disadvantage and discrimination and listing for kidney transplantation. Am J Public Health 2002;92:811–817.
11. LaVeist TA, Nickerson KJ, Bowie JV. Attitudes about racism, medical mistrust, and satisfaction with care among African American and white cardiac patients. Med Care Res Rev 2000;57(Suppl 1):141–161.
12. Callender CO, Miles PV. Institutionalized racism and end-stage renal disease: Is its impact real or illusionary? Semin Dial 2004;17:177–180.
13. Kessler RC, Mickelson KD, Williams DR. The prevalence, distribution, and mental health correlates of perceived discrimination in the United States. J Health Soc Behav 1999;40:208–230.
14. Landrine H, Klonoff EA. The Schedule of Racist Events. A measure of racial discrimination and a study of its negative physical and mental health consequences. J Black Psychol 1996;22:144–168.
15. Gee GC. A multilevel analysis of the relationship between institutional and individual racial discrimination and health status. Am J Public Health 2002; 92:615–623.
16. Utsey SO, Payne YA, Jackson ES et al. Race-related stress, quality of life indicators, and life satisfaction among elderly African Americans. Cultur Divers Ethnic Minor Psychol 2002;8:224–233.
17. McNeilly MD, Anderson NB, Armstead CA et al. The perceived racism scale. A multidimensional assessment of the experience of white racism among African Americans. Ethnicity Dis 1996;6:154–166.

18. Stewart AL, Napoles-Springer AM. Advancing health disparities research: Can we afford to ignore measurement issues? Med Care 2003;41:1207–1220.
19. Clark R, Anderson NB. Efficacy of racism-specific coping styles as predictors of cardiovascular functioning. Ethn Dis 2001;11:286–295.
20. Bird ST, Bogart LM. Perceived race-based and socioeconomic status (SES)-based discrimination in interactions with health care providers. Ethn Dis 2001;11:554–563.
21. Finch BK, Vega WA. Acculturation stress, social support, and self-rated health among Latinos in California. J Immigr Health 2003;5:109–117.
22. Clark R. Perceptions of interethnic group racism predict increased vascular reactivity to a laboratory challenge in college women. Ann Behav Med 2000; 22:214–222.
23. Krieger N, Sidney S. Racial discrimination and blood pressure: The CARDIA study of young black and white adults. Am J Public Health 1996;86:1370–1378.
24. Ren XS, Amick BC, Williams DR. Racial/ethnic disparities in health. The interplay between discrimination and socioeconomic status. Ethn Dis 1999;9:151–165.
25. Boardman JD. Health pessimism among black and white adults: The role of interpersonal and institutional maltreatment. Soc Sci Med 2004;59: 2523–2533.
26. Benjamins MR, Hummer RA, Eberstein IW et al. Self-reported health and adult mortality risk: An analysis of cause-specific mortality. Soc Sci Med 2004;59:1297–1306.
27. Kopp M, Skrabski A, Rethelyi J et al. Self-rated health, subjective social status, and middle-aged mortality in a changing society. Behav Med 2004;30: 65–70.
28. Franks P, Gold MR, Fiscella K. Sociodemographics, self-rated health, and mortality in the U.S. Soc Sci Med 2003;56:2505–2514.
29. Idler EL, Kasl SV. Self-ratings of health: Do they also predict change in functional ability? J Gerontol B Psychol Sci Soc Sci 1995;50B:S344–S353.