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A Gender-Centered Ecological Framework Targeting Black Men Living With Diabetes: Integrating a “Masculinity” Perspective in Diabetes Management and Education Research

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Abstract

Blacks have traditionally experienced a disproportionate burden of diabetes in the United States. Research published from 1980 to 2008 revealed a paucity of diabetes education and management research targeting Black men. There is a paucity of published research that takes into consideration attributes of “being male,” such as masculinity, and how its attributes influence diabetes self-management behaviors. This article discusses three important factors that may help explain diabetes-related disparities among Black men. These factors include absence of consistent sources of health care, lack of health insurance, and the absence of a masculinity perspective in diabetes education and management research. This article offers a gender-centered ecological framework that examines pathways between demographic factors, family functioning, knowledge and psychological health, biological health, behavioral health and medical compliance, masculinity, and diabetes-related outcomes. Recommendations for future research that consider how aspects of masculinity might lead to the identification of gender-based risk factors are presented.

Keywords

diabetes; Black men; masculinity; gender; ecological

Perceptions among men that they are invincible and not susceptible to harm, particularly harm generated as a result of modifiable risk factors, have long been discussed in published literature (Jack, 2005a, 2005b; Liburd, Namageyo-Funa, & Jack, 2007; Liburd, Namageyo-Funa, Jack, & Gregg, 2004; Meryn, 2001). As a result of misperceptions of invincibility (as well as other factors, such as poor personal health practices, maladaptive stress management skills, and inadequate health care-seeking behaviors), men in general have higher mortality rates for the 15 leading causes of death, and a life expectancy about 7 years shorter than that of women (Jack, Liburd, Spencer, & Airhihenbuwa, 2004; LaVeist, 2005; Minino, Heron, Murphy, & Kochanek, 2007; Minino, Heron, & Smith, 2006; Williams, 2003). The 15

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leading causes of death among men in 2004 were heart disease, cancer, stroke, chronic lower respiratory diseases, unintentional injuries, diabetes, Alzheimer's disease, pneumonia, kidney disease, septicemia, suicide, chronic liver disease and cirrhosis, hypertension, Parkinson's disease, and homicide (Minino et al., 2007).

According to national data, of all racial/ethnic groups, U.S.-born Black men tend to have some of the worst health outcomes. Black men have the lowest life expectancy and highest death rate compared with men and women in other racial/ethnic groups in the United States—a fact that has remained unchanged for at least the past 50 years (LaVeist, 2005). In 2004, Black men had an overall death rate 1.3 times higher than White men, 1.8 times higher than Hispanic men, 1.7 times higher than American Indian/Alaskan Native men, and 3.4 times higher than Pacific Islander men (Minino et al., 2006).

From a global perspective, the life expectancy for Black men in the United States is equally as troubling compared with the life expectancy of men in nonindustrialized countries. At birth, Black male infants have a life expectancy of 68.8 years, which is lower than that of male infants living in Iran (69.0 years), Colombia (69.3 years), and Sri Lanka (71.5 years; Watkins, 2005). Given the perceived global perceptions that the United States is a developed, wealthy nation, the life expectancy of Black men is strikingly lower than those of ethnic men in less developed, resource-poor countries. Less than acceptable life expectancy rates among Black men, both domestically and internationally, have raised important questions about the relationship between place and health outcomes. For example, researchers investigating disparities in mortality among racial/ethnic groups reported that the difference in life expectancy between Black men and Asian men living in high-risk urban areas of the United States was 15.4 years (Murray et al., 2006). In their landmark study of excess mortality among men in Central Harlem, McCord and Freeman (1990) concluded that Black men in New York City's Central Harlem "were less likely to reach the age of 65 than men in Bangladesh" (p. 176).

The persistent and overwhelming disparities in morbidity and mortality of multiple diseases among Blacks are not completely understood (Harper, Lynch, Burris, & Smith, 2007). Despite controlling for a number of social and economic variables, such as insurance status, marital status, and socioeconomic status (SES) that have been traditionally linked to variations in health risk and health outcomes, these variables are often less predictive in U.S.-born Black men. For example, despite controlling for SES in a number of epidemiologic studies, up to 31% of the excess mortality among Black Americans remains unexplained (Haywood, Miles, Crimmins, & Yang, 2000). Specific to diabetes, Black men experience a disproportionate burden of microvascular and macrovascular complications associated with Type 2 diabetes (Hardy & Bell, 2004).

Authors (LJJr. and TT) conducted a PubMed (Medline) and PsycInfo literature search from 2000 to 2008 that focused exclusively on diabetes management and education research, with a particular focus on Black men. The literature search revealed that a paucity of published research exists. The lack of diabetes management and education research among Black men living with diabetes is striking, given that Black men have two to four times the rate of renal disease, blindness, amputations, and amputation-related mortality than that experienced by non-Hispanic Whites (Lanting, Joung, Mackenbach, Lamberts, & Bootsma, 2005).

The management of diabetes is complex and therefore necessitates research to identify factors that enhance or minimize the ability of Black men to achieve and maintain healthy behaviors (Jack, 2007). Diabetes management is complex because multiple and overlapping behaviors such as diet and exercise (Reader, 2007), stress management (Donath et al., 2008), foot care (Canavan, Unwin, Kelly, & Connolly, 2008), appointment scheduling and

attendance (Peyrot et al., 2005) must be initiated and sustained simultaneously throughout the life experience of individuals living with diabetes (Jack, Liburd, Vinicor, Brody, & Murry, 1999).

Available published diabetes self-management education studies targeting Black Americans are typically composed largely of Black women (Jack et al., 2004). In the few studies that did include Black men, poorer short-term outcomes (e.g., higher hemoglobin A1c, cholesterol, and blood pressure) between the two genders were reported, with no specific explanation (such as gender norms, gender roles, gender role conflict, and perceptions of masculinity) that moved beyond merely reporting gender characteristics—being male or female—were offered to explain reported differences (Jack, 2004).

This necessary pursuit is complex and requires multidimensional and transdisciplinary approaches in chronic disease prevention and control. In this instance, a key question must be addressed: Where might researchers begin this effort to identify a multidimensional approach to understanding less explored aspects of how the social environment (e.g., social network of Black men) influences expressions of masculinity? This exploration would help to identify how attributes of masculinity, along with many other factors, influence short-, intermediate-, and long-term outcomes. However, as previously mentioned, published studies targeting Black men living with diabetes are scarce (Jack, 2004).

Published studies involving Black men focused primarily on diseases that disproportionately affect Black men, such as prostate cancer (Jones, Underwood, Rivers, 2007), hypertension (Gainer et al., 2008), and ventricular hypertrophy (Nunez et al., 2004). Many of these studies focused primarily on pathophysiological aspects of the disease (e.g., etiology, complications, and pharmacological treatment effects; Jack, 2005a; Rice & Jack, 2006), with less attention given to examining aspects of the social environmental context through which disease prevention and management are influenced (Armour, Norris, Jack, Zhang, & Fisher, 2005).

Regardless of race, gender, or ethnicity, there are important contributory factors that influence behavior, health status, and quality of life among persons diagnosed with diabetes. Fisher (2006) reports four categories of contributory factors that are biological in nature: affective/emotional, social, and financial. According to Ashram (1998), a person's gender (as filtered through adopted gender roles) influences several aspects of medical management that range from adhering to medication management; establishing new life roles regarding family, friends, and employment, and mastering new skills to manage feelings of anger, fear, depression, guilt, or shame.

This is particularly important as gender role conflict leads to negative health producing patterns/factors, such as obsession with achieving and maintaining success, power and competition, conflict between work and family relations, restrictive emotionality, and restrictive affectionate behavior (Mahalik & Cournoyer, 2000; Mansfield, Addis, & Courtenay, 2005). Each of these negative health producing patterns have consistently been reported as strong predictors of men not seeking preventive care services and psychological assistance (Mahalik & Cournoyer, 2000; Mansfield et al., 2005; Ciechanowski et al, 2006). Absent from diabetes education and disease management research targeting Black men is an understanding of gender role conflict/strain and stress because of Black men's inability and/or unwillingness to negotiate the many social cues that promote gender role behaviors that impede health.

This article discusses three factors that greatly affect health status among Black men. First, this article briefly discusses how the absence of consistent sources of health care and lack of health insurance affect health outcomes. Next, it focuses largely on the absence of diabetes

education research that takes into consideration the important relationship between masculinity and health among Black men. Authors define masculinity and important constructs, such as gender norms, gender roles, and gender role conflicts that can be used to understand how attributes of masculinity influence the adaptation and maintenance of diabetes-related behaviors. Thereafter, a gender-centered ecological framework that can be used to frame future gender-centered diabetes management education research and practice targeting Black men and their families is presented and discussed. This article concludes with recommendations for future research that considers how aspects of masculinity such as gender role conflict can lead to the identification of gender-based risk factors around which male- and family-centered diabetes management education interventions can be designed, implemented, and evaluated.

Absence of Consistent Sources of Health Care

National surveys have documented that Blacks are less likely than Whites to have a usual source of health care (Hong, Baumann, & Boudreaux, 2007; Pieis & Lethbridge-Ceijku, 2006). The absence of consistent care—often referred to as usual or routine care—leads to delays in preventive care services and delays in obtaining timely medical interventions. The absence of usual sources of health care limits Black men from having access to consistent medical care, and may help explain the over reliance on emergency rooms among both Black women and men for symptoms that can no longer be ignored (Banks & Dracup, 2007). Experts agree that eliminating disparities in health care and ensuring that the health care delivery system is responsive to the needs of minority groups should remain a national priority (Satcher, 2006; Satcher et al., 2005). Utilization of a responsive health care system that provides quality health care services regardless of race or ethnicity is shaped by a number of important factors, including the availability of health insurance.

Lack of Health Insurance

Men in this country are more likely to lack health insurance compared with women (Mah, Soumerai, Adams, & Ross-Degnan, 2006; Wheeler et al., 2007). This can be explained in part because men are less likely to qualify for public sources of insurance in which eligibility is linked to childbearing and/or the care of dependent children (Agency for Healthcare Research and Quality, 2006). After taking this into consideration, more than 25% of nonelderly Black men were without health insurance in 2005 compared with 15% of non-Hispanic White men and 21% of Asian men (U.S. Census Bureau, 2006). Without question, health insurance coverage is critically important. The availability of health insurance can better position Black men to have the necessary coverage to reduce out-of-pocket expenses, particularly for preventive care services.

Absence of Aspects of Masculinity in Diabetes Management and Education Research

Although on the surface aspects of masculinity have been acknowledged as important, they are less explored through rigorous diabetes management and education research. A rigorous research exploration examining the relationship between masculinity and chronic disease prevention and control is overdue. Researchers, clinicians, and practitioners from across several diverse contributory disciplines (e.g., public health, nursing, medicine, sociology, anthropology, social epidemiology, social psychology, health systems, systems modeling) acknowledge that under the best scenarios, using the best available science, the identification of root causes and more importantly, what to do about them remains a challenging, but necessary task (Jack, 2005c; Jack et al., 2004; Liburd, Jack, Williams, & Tucker, 2005).

Masculinity, a less explored root cause of health disparities, is a socially constructed phenomenon operating at and across multiple levels—the individual, family, community, and society. The social construction of masculinity can therefore produce social norms that either positively or negatively reinforce the adoption of health compromising behaviors. A good example would be to examine whether men are viewed as being manly when demonstrating health promoting behaviors, for example, eating nutritious meals in the presence of peers, colleagues, and friends (especially among other men). Therefore, the less explored role of masculinity in shaping social norms among Black men offers researchers an opportunity to identify how masculinity can indirectly contribute—either negatively or positively—to the decrease in and or elimination of diabetes-related health disparities among this vulnerable population. Hence, future diabetes education programs targeting Black men potentially may be able to improve intervention effectiveness by incorporating strategies that allow the identification and transformation of socially constructed aspects of masculinity that negatively influence health behaviors.

Given that the construct of masculinity has not been well-defined in men's health research (Liburd et al., 2007), what then is masculinity? Masculinity refers to a shared perception/understanding among men and women as to what it means to be a man: How one should look, dress, talk, and behave in a multilevel social network of friends, peer groups, family, colleagues, and society in general (Edley & Wetherell, 1996; Liburd et al., 2007). A shared perception among men and women as to what is meant to be a man is further defined by ethnicity and culture. In other words, perceptions of what behaviors are appropriate may vary both within groups of women, groups of men, and among women and men of different racial and ethnic origins. Three important attributes of masculinity include gender norms, gender roles, and gender role conflict. Although less explored among Black men living with diabetes, these three constructs are used to identify acceptable and unacceptable rules and standards that guide and constrain positive or negative health promoting behaviors. Gender norms are rules and standards that guide and constrain one's behavior (Mahalik et al., 2003).

Gender role is a term used in the social sciences and humanities to denote a set of behavioral norms associated with a given gendered status in a given social group or system (Jack, 2005a). Early explanation of gender roles (David & Brannon, 1976, pp. 44–45) have included one or more of the following gender norms, which have shaped family and societal expectations of men: “being the big wheel” (in other words, seeking success, and maintaining a certain status at the cost of taking care of oneself), “the sturdy oak” (exhibiting toughness, confidence, independence), “give em hell image” (aggressiveness, being the tough guy), and “no sissy stuff” (sufficient disdain for and avoidance of femininity in male behavior).

Research suggests that “it is difficult to live up to these norms and stereotypes defining traditional male gender roles because frequently they are highly idealized and internally contradictory” (Addis & Mahalik, 2003, pp. 11–12). This phenomenon has been described as gender role strain or gender role conflict (Pleck, 1981). Thus, a shared understanding of what it means to be a man is learned and reinforced based on cues to action, rewards, and penalties from a multilevel social network consisting of formal and informal members. Examining previously described attributes of masculinity among Black men diagnosed with diabetes will also allow researchers to learn how racial identity and cultural background influence the formation of social norms regarding the adoption and sustainability of healthy diabetes management behaviors among family members, same gender and opposite gender friends. This would include, for example, seeking and obtaining routine diabetes care, blood glucose monitoring, proper diet and exercise, medical adherence, and obtaining routine diabetes care.

Integrating Masculinity Into Diabetes Management and Education Research: A Gender- Centered Ecological Framework

Health disparities experienced by Black men can be addressed, in part, by examining and changing attitudes, beliefs, and practices influenced by cultural norms that define what is considered appropriate. Future diabetes management and education research must modify existing, or create new, psychometrically tested instruments to measure important aspects of masculinity that would provide a better understanding of how masculinity affects a Black man's ability to self-manage his diabetes, as influenced by the social-cultural context (e.g., family).

Important, although currently absent in family-centered diabetes management education research and practice, masculinity constructs such as gender norms, gender roles, and gender role conflict greatly influence a family's ability to manage diabetes. This should not be surprising given that diabetes is a family condition, and as such, its manageability must occur from a family-focused context. Hence, considering the previously mentioned discourse, the field will be in a better position should it move beyond merely acknowledging that differences in health outcomes among men and women are attributable primarily to gender status—being male or female. Instead, the research community should explore how masculinity influences key differences in important biological, affective/emotional, and behavioral outcomes among Black diabetic men.

One way to accomplish this is to explore advances in the study of the psychology of men and masculinity, an emerging scientific discipline that can help health professionals working in medicine, nursing, and public health to identify reasons why men differ from women across a number of important, traditionally explored mediating/moderating factors. These factors include diabetes knowledge, locus of control, and self-efficacy. Furthermore, exploring how aspects of masculinity contribute and explain cross-situational variability within-person and within-group differences in men's behaviors is critically important (Addis & Mahalik, 2003; Mansfield et al., 2005). This framework also proposes that within the context of understanding masculinity, researchers take into consideration how important aspects of culture, geographic location, perceptions/expectations of gender roles among Black men and women, and the quality of couple- and family-relationships influence diabetes-related outcomes.

Rigorously investigating how dimensions of masculinity influence health-decision making, psychological well-being, quality of life, health care-seeking behaviors, and participation in clinical and community-based studies will greatly add to the body of literature concerned with Black men's health. Most importantly, future research will greatly assist our understanding of ways that health professionals, regardless of the intervention setting (e.g., clinical or community), can better understand and identify strategies to work collaboratively with Black men and their families.

By using a contextual framework for diabetes management, the gender-centered diabetes management education ecological framework, presented in Figure 1, offers a theoretical approach to understanding the influence of variables across multiple levels of influence that directly and indirectly affect short-, intermediate-, and long-term health outcomes. This framework encourages close examination of less explored aspects of masculinity within the context of the family. It is an extensively expanded version of a previously published ecological framework (Jack et al., 2004). This modified theoretical framework illustrates important pathways through which diabetes-related health disparities are ultimately influenced. The theoretical framework considers important domains including demographic factors, knowledge and psychological health, biological health, behavioral health and

medical compliance, and masculinity that are influenced by reported aspects of family functioning.

Gender-tailored research targeting Black men may lead to the identification of gender-based buffers and risk factors that shape couple–family risk factors that can help reduce generational risk for diabetes. Examples of potential couple–family risk factors include low marital satisfaction; high criticalness, hostility, and conflict, low closeness/cohesion, and lack of congruence in diabetes beliefs and expectations (Fisher, 2006). How these potential couple–family risk factors contribute not only to the poor self-management of diabetes but also to the family’s ability to manage diabetes, (e.g., family management) represents an exciting area of future research (Chesla et al., 2004). The framework acknowledges the tremendous influence of the family context and published factors associated with family functioning (Fisher, 2006; Jack, 2004) that mediate and or moderate diabetes knowledge, psychological health, biological health, behavioral health, medical compliance, and masculinity.

Central to this framework is the importance of traditional components of a diabetes management education curriculum (e.g., nutrition education, physical training, health literacy, medication usage, health care team–patient relationship quality, and diabetes knowledge). The framework identifies three categories of previously published diabetes-related outcomes: short-, intermediate-, and long-term (Glasgow & Osteen, 1992; Jack, 2004; Norris et al., 2002). Progress across each of these outcomes will help reduce the tremendous burden of diabetes among Black men.

Glycemic control, appropriate weight, blood pressure, and lipid levels have been identified as important short-term outcomes. Short-term outcomes have traditionally been used to assess patients’ daily management of diabetes and to monitor patients’ progress toward reducing microvascular and macrovascular morbidity—identified in the framework as intermediate outcomes. The major goal is to make improvements in long-term outcomes, such as quality of life and mortality reduction. In addition, it would be critical to understand whether a gender-centered diabetes management and education intervention would influence, and ultimately institutionalize, gender- supportive attitudes, practices, and norms across generations. This is very important given the many gender norms that influence learned behaviors regarding meal and snack patterns, acceptable foods, food combinations, and portion sizes. This important transfer of capacity from generation-to-generation has been identified in the framework as generational impact—an important long-term outcome around which future research can and should be explored.

Conclusion

An important role of medicine, nursing, and public health is to help reduce and or eliminate health disparities among racial and ethnic populations (Blustein, 2008; Bostick, Morin, Benjamin, & Higginson, 2006; Gebbie, Rosenstock, & Hernandez, 2003; Smith, 2007; Voelker, 2008). An equally important role of these three disciplines would be to explore ways to conduct research that can examine the many root causes of health disparities operating at the levels of the individual, family (and other social networks), community, and society.

This article has discussed the overall health status and some possible root causes of health disparities experienced by Black men in the United States, and provided a gender-sensitive theoretical framework that can guide future diabetes education research. The epidemiological burden of diabetes in the United States—particularly the tremendous burden of diabetes among Black Americans—continues to be a national priority (Mukhtar,

Jack, Martin, Murphy, & Rivera, 2005). This article provides a rationale as to why exploring attributes of masculinity are important in an effort to identify ways to improve on traditional diabetes management and education efforts.

As previously mentioned, to our knowledge, there have been no studies examining perceptions of masculinity, such as self-identified gender role conflict and how these perceptions are implicated among men diagnosed with diabetes, particularly Black men living with diabetes. Therefore, this article also advocates that future gender-based research in diabetes management among Black men take into consideration gender role conflict. Investigating the benefits and costs for men and others (e.g., spouse, partner) for both conforming and not conforming to established gender role norms would be beneficial to men and their families (Mahalik et al., 2003; Porche, 2007). Ultimately, examining aspects of gender from a Black male worldview would help multiple fields of interest to identify the role of masculinity in shaping how Black men, their families, and significant others collectively are able to effectively manage diabetes.

References

- Addis M, Mahalik J. Men, masculinity, and the contexts of help seeking. *American Psychologist* 2003;58:5–14. [PubMed: 12674814]
- Agency for Healthcare Research and Quality. Table 216b. National Healthcare Disparities Report, 2006: Appendix D, Data Tables. 2006. Retrieved November 13, 2007, from <http://www.ahrq.gov/qual/nhdr06/access/utilization/T216b.htm>
- Armour TA, Norris SL, Jack L Jr, Zhang X, Fisher L. The effectiveness of interventions in people with diabetes mellitus: A systematic review. *Diabetic Medicine* 2005;22:1295–1305. [PubMed: 16176186]
- Ashram G. Diabetes in men (Preface). *Diabetes Spectrum* 1998;11:80–81.
- Banks A, Dracup A. Are there gender differences in the reasons why African-Americans delay in seeking medical help for symptoms of an acute myocardial infarction? *Ethnicity and Disease* 2007;17:221–227. [PubMed: 17682349]
- Blustein J. Who is accountable for racial equity in health care? *Journal of the American Medical Association* 2008;299:814–816. [PubMed: 18285593]
- Bostick N, Morin K, Benjamin R, Higginson D. Physicians' ethical responsibilities in addressing in addressing racial and ethnic healthcare disparities. *Journal of National Medical Association* 2006;98:1329–1334.
- Canavan R, Unwin N, Kelly W, Connolly V. Diabetes- and nondiabetes-related lower extremity amputation incidence before and after the introduction of better organized diabetes foot care: Continuous longitudinal monitoring using a standard method. *Diabetes Care* 2008;31:459–463. [PubMed: 18071005]
- Chesla C, Fisher L, Mullian J, Skaff M, Gardner P, Chun K, et al. Family and disease management in African-American patients with type 2 diabetes. *Diabetes Care* 2004;27:2850–2855. [PubMed: 15562196]
- Ciechanowski P, Russo J, Katon W, Simon G, Ludman E, Von Korff M, et al. Where is the patient? The association of psychosocial factors and missed primary care appointments in patients with diabetes. *General Hospital Psychiatry* 2006;28:9–17. [PubMed: 16377360]
- David, DS.; Brannon, R. *The forty-nine percent majority: The male sex role*. Reading, MA: Addison-Wesley; 1976.
- Donath M, Schumann D, Faulenbach M, Ellingsgaard H, Perren A, Ehse J. Islet inflammation in type 2 diabetes: From metabolic stress to therapy. *Diabetes Care* 2008;31(Suppl 2):S161–164. [PubMed: 18227479]
- Edley, N.; Wetherell, M. *Masculinity, power and identity*. In: Mac an Ghaill, M., editor. *Understanding masculinities: Social relations and cultural arenas*. Buckingham, UK: Open University Press; 1996. p. 185–201.

- Fisher L. Family relationships and diabetes care during the adult years. *Diabetes Spectrum* 2006;19:71–74.
- Gainer, J.; Lipkowitz, M.; Yu, C.; Waterman, M.; Dawson, E.; Capdevila, J., et al. Association of a CYP411 variant and blood pressure in Black men. *Journal of American Society of Nephrology* [Epub ahead of print]. 2008. Retrieved June 3, 2008, from <http://jasn.asnjournals.org/>
- Gebbie, KM.; Rosentock, M.; Hernandez, LM., editors. *Who will keep the public healthy? Educating public health professionals for the 21st century*. Washington, DC: National Academies Press; 2003.
- Glasgow R, Osteen V. Evaluating diabetes education. Are we measuring the most important outcomes? *Diabetes Care* 1992;15:1423–1432. [PubMed: 1425111]
- Hardy R, Bell R. An epidemiological perspective on type 2 diabetes among adult men. *Diabetes Spectrum* 2004;17:208–214.
- Harper S, Lynch J, Burris S, Smith G. Trends in the black-white life expectancy gap in the United States, 1983–2003. *Journal of the American Medical Association* 2007;297:1224–1232. [PubMed: 17369405]
- Haywood M, Miles T, Crimmins E, Yang Y. The significance of socioeconomic status in explaining the racial gap in chronic health conditions. *American Sociological Review* 2000;65:910–930.
- Hong R, Baumann BM, Boudreaux ED. The emergency department for routine healthcare: race/ethnicity, socioeconomic status, and perceptual factors. *Journal of Emergency Medicine* 2007;32:149–158. [PubMed: 17307624]
- Jack L Jr. Diabetes and men's health issues. *Diabetes Spectrum* 2004;17:206–230.
- Jack L Jr. Towards men's health research agenda in health education: Examining gender, sex roles and health seeking behaviors in context. *American Journal of Health Education* 2005a;36:309–312.
- Jack L Jr. A candid conversation about men, sexual health, and diabetes. *Diabetes Educator* 2005b; 31:810–817. [PubMed: 16288088]
- Jack L Jr. Beyond lifestyle interventions in diabetes: A rationale for public and economic policies to intervene on social determinants of health. *Journal of Public Health Management and Practice* 2005c;11:352–355.
- Jack L Jr. Exploring healthy coping behaviors in diabetes self-management. *Diabetes Educator* 2007;33:1104–1106.
- Jack L Jr, Liburd L, Spencer T, Airhihenbuwa CO. Understanding environmental issues in diabetes self-management education research: A reexamination of eight studies in community-based settings. *Annals of Internal Medicine* 2004;140(Suppl 11):964–971. [PubMed: 15172922]
- Jack L Jr, Liburd L, Vinicor F, Brody G, Murry V. Influence of the environmental context on diabetes self-management: A rationale for developing a new research paradigm in diabetes education. *Diabetes Educator* 1999;25:775–790. [PubMed: 10646474]
- Jones R, Underwood S, Rivers B. Reducing prostate cancer morbidity and mortality In African American men: issues and challenges. *Clinical Journal of Oncology Nursing* 2007;11:865–872. [PubMed: 18063545]
- Lanting L, Joung J, Mackenbach S, Lamberts S, Bootsma A. Ethnic differences in mortality, end-stage complications, and quality of care among diabetic patients: A review. *Diabetes Care* 2005;28:2280–2288. [PubMed: 16123507]
- LaVeist, T. *Minority populations and health: An introduction to health disparities in the United States*. San Francisco: Jossey-Bass; 2005.
- Liburd L, Jack L Jr, Williams S, Tucker P. Intervening on the social determinants of cardiovascular disease and diabetes. *American Journal of Preventive Medicine* 2005;29(5Suppl 1):18–24. [PubMed: 16389121]
- Liburd L, Namageyo-Funa A, Jack L Jr. African-American men, 'masculinity,' and the challenges of type 2 diabetes: An anthropological perspective. *Journal of the National Medical Association* 2007;99:550–558. [PubMed: 17534013]
- Liburd L, Namageyo-Funa A, Jack L Jr, Gregg E. Illness narratives of African American men with type 2 diabetes: I'm going to handle it; It's not going to handle me. *Diabetes Spectrum* 2004;17:219–224.

- Mah C, Soumerai S, Adams A, Ross-Degnan D. Racial differences in impact of coverage on diabetes self-monitoring in a health maintenance organization. *Medical Care* 2006;44:392–397. [PubMed: 16641656]
- Mahalik J, Cournoyer R. Identifying gender role conflict messages that distinguish mildly depressed from nondepressed men. *Psychology of Men & Masculinity* 2000;1:109–115.
- Mahalik JR, Locke B, Ludlow L, Diemer M, Scott RPJ, Gottfried M, et al. Development of the conformity to masculine norms inventory. *Psychology of Men & Masculinity* 2003;4:3–25.
- Mansfield A, Addis M, Courtenay W. Measurement of men's help seeking: Development and evaluation of the barriers to help seeking scale. *Psychology of Men & Masculinity* 2005;6:95–108.
- McCord C, Freeman HP. Excess mortality in Harlem. *New England Journal of Medicine* 1990;322:173–177. [PubMed: 2294438]
- Meryn S. The future of men and their health. *British Medical Journal* 2001;323:1013–1014. [PubMed: 11691742]
- Minino A, Heron M, Smith B. Deaths: Preliminary data 2004. *National Vital Statistics Reports* 2006;54:1–52.
- Minino A, Heron M, Murphy S, Kochanek K. Deaths: Final data for 2004. *National Vital Statistics Reports* 2007;55:1–119. [PubMed: 17867520]
- Mukhtar, Q.; Jack, L., Jr; Martin, M.; Murphy, D.; Rivera, M. Evaluating progress toward *Healthy People 2010* national diabetes objectives; Preventing Chronic Disease: Public Health Research, Practice and Policy. 2005. p. 1-8. Retrieved June 23, 2008, from http://www.cdc.gov/pcd/issues/2006/jan/05_0122.htm
- Murray C, Kulkarni S, Michaud C, Tomijima N, Bulzaccheilli M, Iandiorio T, et al. Eight Americas: Investigating mortality disparities across races, counties and race-counties in the United States. *PLoS Medicine* 2006;3:1513–1524.
- Norris S, Messina P, Caspersen C, Glasgow R, Engelgau M, Jack L Jr, et al. Increasing diabetes self-management education in community settings: A systematic review. *American Journal of Preventive Medicine* 2002;22(4S):39–66. [PubMed: 11985934]
- Nunez E, Arnett D, Benjamin E, Oakes J, Liebson P, Skelton T. Comparison of the prognostic value of left ventricular hypertrophy in African-American men versus women. *American Journal of Cardiology* 2004;94:1383–1390. [PubMed: 15566908]
- Peyrot M, Rubin R, Lauritzen T, Skovlund S, Snoek F, Matthews D, et al. Resistance to insulin therapy among patients and providers: Results of the cross-national Diabetes Attitudes, Wishes, and Needs (DAWN) study. *Diabetes Care* 2005;28:2673–2679. [PubMed: 16249538]
- Pieis J, Lethbridge-Ceijku M. Summary health statistics for U.S. adults: National Health Interview Survey. *National Center for Health Statistics, Vital Health Statistics* 2006;10:1–84.
- Pleck, JH. *The myth of masculinity*. Cambridge: MIT Press; 1981.
- Porche D. A call for American Journal of Men's Health. *American Journal of Men's Health* 2007;1:5–7. [PubMed: 19482778]
- Reader D. Medical nutrition therapy and lifestyle interventions. *Diabetes Care* 2007;30(Suppl 2):S188–S193. [PubMed: 17596470]
- Rice D, Jack L Jr. Use of an assessment tool to enhance diabetes educators' ability to identify erectile dysfunction. *Diabetes Educator* 2006;32:373–380. [PubMed: 16772653]
- Satcher D. The prevention challenge and opportunity. *Health Affairs* 2006;25:1009–1011. [PubMed: 16835179]
- Satcher D, Fryer G, McCann J, Troutman A, Woolf S, Rust G. What if we were equal? A comparison of the black-white mortality gap in 1960 and 2000. *Health Affairs* 2005;24:459–464. [PubMed: 15757931]
- Smith G. Health disparities: What can nursing do? *Policy, Politics, and Nursing Practice* 2007;8:285–291.
- U.S. Census Bureau. *Current Population Survey Annual Social and Economic Supplement*. 2006. Retrieved November 13, 2007, from <http://www.census.gov>
- Voelker R. Decades of work to reduce disparities in health care produce limited success. *Journal of the American Medical Association* 2008;299:1411–1413. [PubMed: 18364476]

- Watkins, K. Human development report 2005: International cooperation at a crossroads: Aid, trade and security in an unequal world. New York: United Nations Development Programme; 2005.
- Wheeler K, Campbell R, McAdams D, Robinson R, Dunbar V, Cook C. Inpatient to outpatient transfer of diabetes care: Perceptions of barriers to post discharge follow-up in urban African American patients. *Ethnicity and Disease* 2007;17:238–243. [PubMed: 17682352]
- Williams D. The health of men: Structured inequalities and opportunities. *American Journal of Public Health* 2003;93:724–731. [PubMed: 12721133]

Figure 1.
A gender-centered diabetes management education ecological framework