

INTRODUCTION

Special Issue on Latino Physical Health: Disparities, Paradoxes, and Future Directions

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Latinos are the nation's largest racial/ethnic minority group, yet knowledge of their physical health is less well documented or understood relative to other groups. Like other racial/ethnic minorities and underserved populations, Latinos experience significant educational, economic, environmental, social, and physical health risks coupled with significant health care access issues. Despite these challenges, Latinos appear to experience better health and live longer than non-Hispanics including non-Hispanic Whites; an epidemiological phenomenon commonly referred to as the *Hispanic or Latino health paradox*. These contradictory findings cast doubt on the generalizability of several tenets of psychosocial health and health disparities, spur new questions regarding the nature of risk and the cause of such resilience, and generate opportunities for psychologists to contribute to improving understanding of the ways by which sociocultural factors shape health. The aim of this special issue is to provide concise, state-of-the-science reviews synthesizing current knowledge and future directions on key aspects of Latino health. Here we introduce the issue, identify key themes, discuss the current status of the emerging sociocultural hypothesis of Latino health resilience, and offer considerations for future directions.

Keywords: health disparities, Hispanic/Latino, Hispanic paradox, minority health, race/ethnicity

Latinos are a vibrant and growing segment of the United States population numbering more than 55 million and accounting for 17% of the total U.S. population in 2015 (U.S. Census Bureau, 2015). Like other racial/ethnic minorities, Latinos experience significant psychosocial and physical health risk challenges including significant disparities in income, education, employ-

ment opportunities, discrimination, and access to health insurance and access to quality care. Yet, despite this adversity, Latinos as a group generally experience better mental and physical health with greater life expectancy than non-Hispanic Whites, an epidemiological phenomenon commonly referred to as the *Hispanic or Latino health paradox*. Notably, Latinos do show health disadvantages relative to non-Latino Whites for some health risk factors, risk markers, and conditions and health patterns also vary substantially within the heterogeneous Latino pan-ethnic grouping. For example, these health advantages are generally greater at more advanced ages and appear stronger for the foreign-born (Dey & Lucas, 2006; Singh, Rodriguez-Lainz, & Kogan, 2013; Vega, Rodriguez, & Gruskin, 2009). However, the observed health advantages appear to erode with increas-

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ing acculturation or duration of U.S. residence, and they may be changing over time as the U.S. population ages (Daviglus et al., 2012; Gordon-Larsen et al., 2003) and the adult consequences of childhood obesity disparities emerge (Buttenheim et al., 2013). Nevertheless, the overall findings are both broad and robust.

This contradiction between high risk factor prevalence and paradoxical advantages in disease prevalence and outcomes casts doubt on the generalizability of several tenets of psychosocial health and health disparities, spurs new questions regarding the cause of such resilience, and generates opportunities for understanding the ways by which sociocultural factors shape health.

Introduction to the Special Issue

The aim of this special issue is to provide psychologists and mental health practitioners with a benchmark understanding of Latino physical health through a collection of concise, state-of-the-science reviews synthesizing current knowledge and future directions on key topics. The issue is organized into four invited reviews addressing the three leading causes of death (heart disease, stroke, cancer), health promotion with application to obesity and diabetes, and a review of key epidemiological and psychosocial aspects of child/adolescent health. The topics were chosen based on their importance, broad impact, and maturity of the associated literature. The manuscripts emphasize differences by nativity/acculturation and by Latino background, where such data are available, and highlight gaps in the existing knowledge base.

A brief note on terminology: First, readers will notice that the umbrella terms Hispanic and Latino are used often and interchangeably in these reviews reflecting their history of use in the biomedical literature, including in federally funded investigations and national vital statistics reports. Second, although the reviews were written with a non-MD audience in mind, a few key terms should be defined to facilitate understanding for those unfamiliar. *Prevalence* refers to the total number of cases of a disease, condition, or behavior whereas *incidence* refers to the number of new cases in a given time period. *Etiology* and *pathophysiology* both refer to the

causes of a disease with *etiology* referring to the broad constellation of risk factors and *pathophysiology* referring specifically to the physiological pathway or processes.

Key Themes

Several themes emerged across the manuscripts that allow us to comment on trends in health patterns and on the characteristics of the data. Here, we address the most salient issues.

Limited Data on Hispanic/Latino Physical Health

All of the reviews note significant and pervasive gaps in the biomedical literature for Latinos. In summary, data on Hispanic/Latino physical health is largely epidemiological and limited to prevalence and incidence rates for major causes of illness and disease and established risk factors. This has at least three important implications: First, the epidemiological data limit us to describing rates for major health challenges such as prevalence and incidence of major cancers (e.g., breast, lung) without much information on mechanisms which are necessary to inform effective interventions. Second, data on specific disease variations, responses to specific interventions, and longitudinal survival trends is often lacking for Latinos or is inferred from data on other racial/minorities such as non-Hispanic black/African Americans. Third, risk factor prevalence (e.g., smoking rates, cholesterol levels) is often available, but there is some question about relevance given that most risk factors are derived from studies of non-Hispanics. Although most risks are likely generalizable, it is possible that some “established risk factors” are less relevant for Hispanics (or vary in relevance as a function of Latino background) and that some Hispanic-specific factors have not yet been identified.

An additional limitation highlighted by the reviews is the treatment of Latinos as a homogenous population, which ignores potential differences by background with downstream implications for surveillance and treatment efficacy. The resulting knowledge base is then constrained at the broad group level with limited applicability to specific backgrounds when those differences moderate risk and/or outcomes. As Balfour and colleagues note, there

are hopeful signs such as the recent Hispanic Community Health Study/Study of Latinos (HCHS/SOL: [Sorlie et al., 2010](#)) which emphasize Latino heterogeneity in risk. In addition, journals and investigators can improve clarity in the literature by making the reporting of Latino background an expectation prior to publication.

Evidence of Multiply Determined Risk

The four reviews included here document patterns of significant physical health and disease risks beginning in childhood and evident throughout the life span. These risks encompass disparities across socioeconomic markers, behavioral factors, physical risk factors, and health care access and quality. These observations are consistent with the biopsychosocial model of health (BPS: [Engel, 1977](#)), which posits risk as multiply determined by individual classes of factors (biological, psychological, social/cultural, environmental) and interactions between factors, with some indication that different factors may contribute more strongly at certain points in the disease course.

Obesity is a salient example of how these BPS relationships may influence disease disparities in Latinos. Isasi and colleagues describe the emerging picture of the Latino obesity epidemic as beginning in childhood and potentially attributable to a confluence of genetic vulnerabilities coupled with cultural ideals of larger child body size, parenting styles, eating behaviors and SES. Reviews by Belfour and by Yanez and colleagues describe how obesity is a risk factor for disease and how socioeconomic disparities impede health care access (i.e., screening, prevention, and management), leading to undiagnosed and late-stage diagnosed conditions. Finally, Arellano-Morales and colleagues note that the limited evidence supports education and promotion interventions to facilitate behavior change as effective for Latinos. However, more work is needed with attention to tailoring for the Latino audience, better outreach to vulnerable communities, and consideration of transnational ties (having ties to more than one country).

One important risk issue that received less attention, because of space and theme constraints, is the role of discrimination on health. Robust evidence, including meta-analytic data, link perceived discrimination to a host of neg-

ative mental and physical health outcomes ([Pascoe & Smart Richman, 2009](#)). Issues of discrimination and health are particularly salient for Latinos given the increasing hostility surrounding immigration issues with migrant and boarder communities being particularly vulnerable. Beyond working to improve society-level discrimination, psychologists and their health care partners should examine ways to mitigate the impact of discrimination from the perspective of the individual, family, and communities with implications for physical health.

Robust Evidence of Paradoxical Health Advantages

The reviews also highlight paradoxical advantages in the face of substantial risk. This observation is alluded to throughout this special issue and most prominently discussed in the reviews of heart disease (Balfour and colleagues) and cancer (Yanez and colleagues). In summary, the observation is that despite significant psychosocial and physical risk Latinos experience significant objective health advantages compared to non-Hispanics. Perhaps the most surprising finding is robust evidence documenting lower early mortality and greater longevity relative to non-Hispanic Whites. This finding, termed the *Hispanic mortality paradox*, is evident in national vital statistics ([Heron, 2015](#)), key population estimation studies ([Arias et al., 2010](#)), and in meta-analyses of the longitudinal literature ([Ruiz, Steffen, & Smith, 2013](#)). This special issues further highlights outcome advantages in the context of specific diseases such as cancer and heart disease. Importantly, these are large, clinically meaningful differences. For example, in their meta-analysis of the longitudinal literature, Ruiz and colleagues found that after controlling for age, sex, and other covariates, Latinos were 17.5% more likely to be alive at study conclusion compared with non-Hispanics. This finding complements a 20% advantage identified by [Arias et al. \(2010\)](#), who used an entirely different methodology. Moreover, U.S. vital statistics estimate that the average life expectancy for Latinos is now 81.6 years, nearly 3 years greater than the national average ([Heron, 2015](#)).

Advantages in cardiovascular disease and cancer prevalence and mortality likely contribute to the overall mortality advantage. Citing

the annual American Heart Association report (Mozaffarian et al., 2016), Belfour and colleagues highlight evidence that the age-adjusted cardiovascular disease prevalence for Latinos is lower than for either non-Hispanic Blacks or Whites. Moreover, national vital statistics data indicate that Latinos are the only group for whom CVD-related mortality is not the leading cause of death (Heron, 2015; Mozaffarian et al., 2016). Yanez and colleagues extend this point by noting that cancer is the leading cause of death for Latinos, yet the overall prevalence and mortality rates are lower for Latinos relative to non-Hispanics.

A note of caution is warranted with respect to these findings. First, these data reflect relative advantages not optimal outcomes. The rates of cardiovascular disease, cancer, and many other conditions are still strikingly high with clear room for improvement. Second, the documented advantages are largely in objective outcomes with less known about quality of life issues. There is some evidence that although Latinos survive disease, the advantaged years are of lower quality of life—a so-called “longer and linger” phenomenon. Researchers and health care providers should continue to strive for optimal health through improvements in risk modeling, surveillance, and disease management.

Further Speculation of a Sociocultural Advantage

The contradiction between apparent risk and observed health outcome advantages fuels speculation regarding the role of sociocultural factors as potential moderators of Latino health resilience, a point raised in several of the papers. The general argument is that Latino cultural values contribute to a tighter social fabric which confers resilience through pathways that promote social support and capital across varied contexts (i.e., family, community; for conceptual reviews see Gallo, Penedo, de los Monteros, & Arguelles, 2009 and Ruiz, Hamann, Mehl, & O'Connor, 2016). Latino values such as *simpatia* (valuing of social harmony), *familismo* (valuing of family), and *respeto* (respect and investment in care of older network members) contribute to greater social integration and cohesion. A lynchpin of this hypothesis is that higher social integration is a moderator of

health. In fact, substantial evidence including a recent meta-analysis of studies found that not only is social integration the strongest predictor of mortality among social relationship factors, but the magnitude of the effect was greater than smoking 15 cigarettes a day (Holt-Lunstad, Smith, & Layton, 2010).

Unfortunately, studies that actually *measure* cultural values and relate them to objective physical health indicators remain the exception rather than the rule. Indeed, a recent review of one of the most well-studied cultural values noted that such few studies actually measure the cultural values theorized to explain health patterns that their review was limited to an exploration of “plausible impact” (Katiria Perez & Cruess, 2014, p. 95). In contrast to the lack of direct evidence for specific cultural values, there is substantial evidence linking proxies of Latino culture to advantageous outcomes. The reviews in this special issue note that lower acculturation to U.S. culture and foreign-born nativity, both proxies of higher acculturation to Latino culture, are reliably associated with a wide range of mental and physical health advantages. Moreover, more ethnically dense Latino social environments such as barrios are associated with better health including for non-Hispanics who live in or near these neighborhoods (e.g., Shaw & Pickett, 2013).

In summary, the current status of the socio-cultural hypothesis might best be characterized as promising yet largely untested. This work has numerous public health implications ranging from improving health surveillance screenings to informing social network interventions with potential benefits for all.

Forward

The evidence presented in this special issue compels us to move beyond generalized notions of minority health to better understand the unique risks, strengths, and needs of each group. Indeed, the epidemiology of Latino health appears to challenge numerous tenets of physical health risk. Mechanism studies are needed to discern the pathways underlying these relationships among Latinos both at the group level and by Latino background to better understand their health etiology with implications for all. To some degree, these investigations will necessitate a paradigm shift from risk-

driven models to models incorporating, and in some cases, driven by resilience factors. Advances in elucidating these pathways will contribute to improvements in targeted interventions much like advances in understanding biological pathways to disease inform the development of medications.

Likewise, significant effort is needed to develop, adapt, and tailor interventions for Latinos, again at the group level and by Latino background, a point noted in all the reviews. This need presents a significant opportunity for psychologists given their research training, skills in behavior change, and expertise in assessing health perception data. Meeting this need also necessitates multidisciplinary collaborations and incorporating emerging approaches such as community participatory research as a means to improve fit with the intended targets. It is also critical to adequately train the next generation of social scientists to meet, refine, and carryout this work. This training entails creation of the next generation of health psychology curriculum that integrates cultural factors, embraces nuance, and strives toward optimization, broadly applied. Latino health can serve as model or “blueprint” for why these issues are important with implications for the greater public good.

Abstracto

Los Latinos son el grupo racial y étnico más grande en la nación y aun el conocimiento de la salud física de este grupo no es tan bien documentada o entendida en relación con otros grupos raciales/étnicos. Al igual que otras minorías raciales/étnicas, los Latinos experimentan retos educativos, económicos, ambientales sociales, y salud física, así como acceso a la salud y los problemas de calidad. A pesar de estos desafíos, los Latinos parecen tener mejor salud y viven más tiempo que los no-Hispanos, incluyendo los Blancos no-Hispanos; un fenómeno epidemiológico comúnmente conocido como la paradoja Hispana o paradoja de salud de los Latinos. Estos hallazgos contradictorios ponen en duda la generalización de varios preceptos de las disparidades de salud y de la salud psicosocial, estimulan nuevas preguntas acerca de la naturaleza de riesgo y la causa de dicha resistencia, y generan oportunidades para los psicólogos para contribuir a mejorar la comprensión de las formas en cuales los factores sociocultural determinan la salud. El objetivo de este número especial es proporcionar el estado de la ciencia, sintetizar los conocimientos actuales y futuras orientacio-

nes sobre temas clave. Aquí se introduce el tema, se identifica los temas clave, se discute el estado actual de la hipótesis emergente sociocultural, y se ofrece consideraciones para las direcciones futuras.

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