

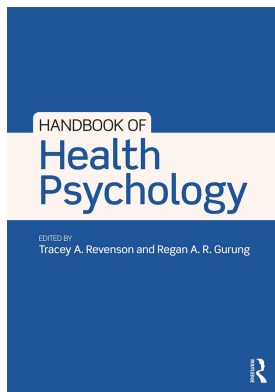
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On: 19 Sep 2020

Access details: *subscription number*

Publisher: *Routledge*

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: 5 Howick Place, London SW1P 1WG, UK



Handbook of Health Psychology

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Health Psychology Rising

Publication details

<https://www.routledgehandbooks.com/doi/10.4324/9781315167534-1>

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Published online on: 18 Dec 2018

How to cite :- Tracey A. Revenson, Regan A. R. Gurung. 18 Dec 2018, *Health Psychology Rising* from: Handbook of Health Psychology Routledge

Accessed on: 19 Sep 2020

<https://www.routledgehandbooks.com/doi/10.4324/9781315167534-1>

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HEALTH PSYCHOLOGY RISING

The Current Status and Future Directions of Health Psychology

Tracey A. Revenson and Regan A. R. Gurung

The publication of this *Handbook* could not come at a better time. Over a dozen journals focusing on health psychology or behavioral medicine exist in the U.S. and internationally, an indicator of the healthy interest among scholars. There are many more professional organizations catering to it as well (e.g., The British Psychological Society Division of Health Psychology, the Australian Psychological Society College of Health Psychologists, the European Health Psychology Society). The prominence of health psychologists in the field of psychology is growing as well. For example, Dr. Anne Kazak, the current editor of the American Psychological Association's flagship journal *American Psychologist*, is a health psychologist. Nancy Adler, Neal Miller, Shelley Taylor, Robert Kaplan, Elisa Epel, and James Sallis are among the many health psychologists that have been elected to membership in the National Academy of Medicine. Health psychologists can be found in psychology departments, academic medicine, public health, nursing, government agencies, hospital clinics, and private practice.

Nearly 70% of U.S. psychology departments offer an undergraduate course in Health Psychology (Norcross et al., 2016), compared to only 26% in the 1990s (Panjwani, Gurung, & Revenson, 2017). Health psychology features prominently in many recent introductory psychology textbooks (Griggs, 2014) and is rated as one of the most important topics covered in introductory psychology (McCann, Immel, Kadah-Ammeter, & Adelson, 2016), a course taken by approximately 1.6 million students a year (Gurung et al., 2016). There are now numerous graduate programs in the U.S. and Europe that offer doctoral or master's level training in health psychology and internships. The Variations in how health psychology is taught (Byrne, Gethin, & Swanson, 2017) have resulted in calls for standardization (Plass, Gruszcznska, Andersson, & Kassianos, 2018).

During the past four decades, health psychologists have worked to understand the biological, psychological, and social factors that affect health, health behavior, and illness. Researchers continue to grapple with probing questions that examine the bidirectional nature of mind and body interactions: How does depression contribute to the pathophysiology of cardiovascular disease? How can we convince more people to engage in regular cancer screening? How can we increase uptake and adherence rates for pre-exposure prophylaxis, or PrEP, the first biomedical prevention strategy for HIV, and how can we expand that research to underserved populations? How can we use the research evidence in health psychology to develop more effective and cost-effective behavioral interventions for those living with chronic illness? These questions (and others) are addressed in this volume, including the potential for the research evidence to be translated into clinical practice and health policy. In this chapter we look forward more than backward to present a new model of approaching health-behavior problems.

The Biopsychosocial Model

Health psychology encompasses educational, scientific, professional, and psychological contributions to promote and maintain (physical) health; to prevent and treat illness; and to identify the origins, determinants, and sequelae of health and illness (Matarazzo, 1982; Taylor, 1990). As a subfield of psychology, health psychology focuses on understanding the biological, psychological, and sociological relationship between health and illness, with a focus on physical health. Some argue that health psychology is one of the disciplines that comprise the multidisciplinary field of behavioral medicine, which, in turn, is part of a much larger universe that encompasses a vast array of medical and public health sciences and services (Freedland, 2017, p. 2).

Several excellent chapters describe the rich history of the first 40 years of the field and we refer the reader to them (Friedman & Adler, 2011; Pickren & Degni, 2011; Wallston, 1996). In its infancy the field of health psychology brought together psychologists from traditional areas of psychology who shared a common interest in problems of health and illness but who brought their own disciplinary paradigms and methodologies to the table. Not surprisingly, this smorgasbord of models, approaches, methods, and jargon appeared confusing at times. More recently, doctoral students are being trained specifically in health psychology, and the connections between physical health and individual cognitions, emotions, and behavior are exposed and at the forefront of the work.

The original paradigm adopted by health psychology was the *biopsychosocial model* (Engel, 1977; Schwartz, 1982), which posited that physiological, psychological, and social factors are braided together in health and illness processes and cannot be studied in isolation. Contrasting itself with traditional biomedical models, the biopsychosocial model did not give primacy to biological indices, stating that it was impossible to understand disease processes without understanding the psychological mechanisms propelling them or the social context surrounding them. The biopsychosocial model was inclusive enough to be applied to risk estimates for particular diseases as well as health-promoting behaviors and environments, to disease progression as well as psychosocial adaptation to illness, and to individually oriented therapeutic and behavior change interventions as well as broader community-based and media approaches. The biopsychosocial model stimulated theorizing, research designs, and methodologies (Wade & Halligan, 2017). Most important, the model suggested a multi-cause, multi-effect approach to health and illness, rather than the limiting single-cause, single-effect approach.

Within medicine, a biomedical approach on pathogens and cellular pathologies will likely continue to identify physiological and pharmaceutical interventions for many acute and chronic diseases. However, in the 40 years since the publication of the biopsychosocial model (Engel, 1977) and health psychology's near universal adoption of this model, it has become clear that divorcing the study of health and disease from the broader context of the person and the individual's social, cultural, and political contexts greatly limits our understanding (Revenson, 2012). As we contemplate the approaching third decade of the millennium, let's take a look at the continued viability of the biopsychosocial model and where health psychology is going and needs to go.

Successes of Health Psychology in the 20th and Very Early 21st Century

Crossing Levels of Analysis

In a classic paper, Anderson (1998) described a framework for health sciences that involves the need to study multiple levels of analysis for any health problem (the social/environmental, behavioral/psychological, organ systems, cellular, and molecular levels). More importantly, he indicated that great advances would occur not with research that examines the association of variables *within* levels but with research that focuses on reciprocal and mutually causative processes *between* and *across* levels. At

the time, much of health psychology research involved examining how a single variable, or multiple variables within a single level, affected health outcomes in an additive fashion. Anderson urged health psychologists to examine interactions among variables from at least two different levels of analysis to move the field of health psychology forward.

There are two ways in which *new* approaches, perhaps better described as paradigmatic world-views, have come into health psychology. The first is a centripetal move inward toward the original “center” of biological and microanalytic processes (Gruenwald & Wang, Chapter 15, this volume; Robles et al., Chapter 5, this volume). Contemporary research examines the pathways through which stress perceptions affect infection on organ system, cellular, and molecular levels. As an exemplar of this research, Epel and her colleagues (2004) discovered that among women facing chronic stress as well as women facing “normal” stress, greater perceived stress was associated with the biological indicators of accelerated cellular aging (telomere length, telomerase, and oxidative stress). The study of telomeres has now become “routine” in health psychology to help us understand outcomes such as mental health and premature aging (Epel & Prather, 2018). Health psychologists are now looking to genomics to aid in predictions of behavioral change as well (Hay, Bowers, & Hamilton, Chapter 35, this volume). Another emerging focus is human studies examining the microbiota of the brain-gut axis for its apparent role in mental and physical health (Maier & al’Absi, 2017).

The second advance is a centrifugal force that moves health psychology outward toward the social, cultural, and political level of analysis. Health psychologists have taken the lead in examining the biological and psychological mechanisms by which socioeconomic status (SES) affects both individual and community health outcomes (Ruiz, Steffen, Doyle, Flores, & Price, Chapter 21, this volume). Others have focused on how the social world we live in can affect disease progress, adjustment to illness, and mortality (Holt-Lunstad, Smith, & Layton, 2010; Chapters 13, 20, 29, 30, this volume). Moving away from simplistic models of race differences, psychologists have examined how perceptions of racism can affect cardiovascular reactivity and heart disease, specifying mediating mechanisms at multiple levels, including everyday racism, coping, and community norms (Brondolo, Lackey, & Love, 2012; Edwards et al., Chapter 24, this volume).

Engaging in Interdisciplinary Research

In an editorial for *Health Psychology*, Kenneth Freedland (2017) recognized that in many large-scale intervention studies, multiple groups work in concert to improve health. In his view, health psychology is a critical part of a larger picture that includes behavioral medicine, medicine, health care, and public health. Today, the line between who is responsible for such interventions is blurring although traditional training models still ensure that individuals take a specific route (i.e., an MD or PhD), even if they are contributing towards the same goals. As exemplified by the chapters in this handbook, health psychological research has great relevance not only to theory in psychology but also to applications in clinical and public health. The relevance cannot be understated, especially in light of the changing landscape of access to health care in the U.S. and the need for integrated care and self-management (McDaniel et al., 2014).

A case in point is the greater existence of chronic conditions (vs. acute or infectious diseases), which now include heart disease, cancer, diabetes, and human immunodeficiency virus (HIV). To improve the quality of life among those living with chronic conditions, health psychologists collaborate across different domains, blending the expertise of various trained specialists. As we move forward, the need will only increase for “large, multicenter, randomized controlled trials (RCTs) . . . and large, multicenter RCTs require large, well-organized, multidisciplinary research teams and networks” (Freedland, 2017, p. 2).

One exemplar of this approach is the ORBIT model (obesity-related behavioral intervention trials; Czajkowski et al., 2015). Developed by an interdisciplinary consortium of scholars leading trials

to develop and refine strategies to alter obesity-related health behaviors (e.g., dietary intake, physical activity) and to translate findings from basic research on human behavior into more effective clinical, community, and population interventions to reduce obesity. The ORBIT model focuses exclusively on the *early, pre-efficacy phases* of behavioral treatment development, but also makes it possible to integrate the ORBIT framework with other frameworks that outline steps beyond the pre-efficacy phase. The National Institutes of Health Office of Behavioral and Social Sciences Research (OBSSR) strategic plan for 2017–2021 also explicitly focuses on enhancing and promoting the research infrastructure, methods, and measures needed to support a more cumulative and integrated approach to behavioral and social sciences research (Riley, 2017, p. 5).

Emerging Areas in Health Psychology

The future of health psychology depends on our ability to foster rigorous intellectual growth and translate our research findings into viable interventions. To do so we must build on existing strengths and respond to emerging needs in the next decade. Throughout this *Handbook* we asked authors to provide a description of the state of the science in their area—the current research and pressing issues. For example, the chapter on nicotine and tobacco use (Mermelstein & Brikmanis, Chapter 9) deals with the current crisis on vaping and other nicotine delivery systems used by adolescents and young adults.

As shown in Part VI of this *Handbook*, several emerging areas within health psychology are developing at a rapid pace. Emergent research is honing in on critical health problem topics such as sleep (Zhou, Bakker, & Johnson, Chapter 36) and sexual health (McClelland, Chapter 37). Newer populations are being targeted for intervention, including veterans (Trivedi & Mori, Chapter 38). Innovative clinical techniques, such as mindfulness, are being used more and more for health conditions (Kristeller, Chapter 39). Methodologies have invigorated both research and its translation into practice, including delivery of health care through new channels, including digital media and common “electronics” (Yardley, Bradbury, Nadarzynski, & Hunter, Chapter 40). Techniques from neuroscience, coupled with social psychology and stress research have led to a new area, health neuroscience (Zoccola, Woody, & Bryant, Chapter 34), and a recent focus on epigenetics (Hay, Bowers, & Hamilton, Chapter 35), which has the potential to revolutionize the personalization of disease risk.

The field is now seeing a renewed emphasis on particular areas that have been the “meat and potatoes” of health psychology, such as obesity (Halliday, Epperson, & Song, Chapter 7), theories of behavior change (Michie, Marques, Norris, & Johnston, Chapter 6), and illness cognitions (Broadbent, Chapter 18). Also gaining increased attention are areas that have not occupied a central place in health psychology, such as aging (Emery, Landers, & Shoemake, Chapter 19) and religion and spirituality (Park & Carney, Chapter 17). It is now clearer than ever, as we have emphasized in this chapter, that the health of diverse populations, including women (Chapter 22), African Americans (Chapter 24), Latinos (Chapter 25), Asian Americans (Chapter 26), and those identifying as a non-majority sexual orientation (Chapter 23) must be core considerations for any topic within health psychology.

A New Model for Health Psychology: The Biopsychosociocultural Model

It is time to explicitly broaden health psychology’s approach. Within health psychology, the biopsychosocial model awarded social factors a central place, but it continued the tradition of stressing individual-level factors over social structural, political, or cultural factors. Specifically, the critical ingredients still lay *within* the person rather than in the experiences people have within their

social-cultural political contexts. We must now recognize the role of culture and put it on par with the other components previously stressed. As applied to health psychology, the biopsychosociocultural approach not only adds culture directly into the mix, but also posits that health, illness, and health behaviors are the result of reciprocal relationships between individuals and the contexts in which they live. As with the biopsychosocial model, this perspective recognizes that health or illness is not the product of a single underlying factor but of the interplay among multiple factors both within and outside the individual.

The biopsychosociocultural model delineates multiple domains and incorporates multiple levels of analysis (Figure 1.1). Three aspects are worth noting. First, health-behavior phenomena are embedded in multiple domains. Second, these domains are in constant dynamic interaction with each other; that is, there are reciprocal relationships across multiple levels of analysis (Anderson, 1998). Third, variables at more molar levels of analysis are as essential to understanding health outcomes as are more molecular or individual-level attributes. Let us add to this one important caveat: The biopsychosociocultural model exposes the interconnections among persons and their contexts, but it is neither a theory nor a testable model. Most importantly, it serves as a reminder of the critical determinants of behavior.

Although some researchers stay mired in one domain, much research in health psychology has linked two or even three of the domains within the biopsychosocial model. For example, the study of how the social environment affects physiological processes, and consequently health, has been an extremely productive area and an important achievement of the field of health psychology. Studies have helped us understand why “friends are good medicine” (Hersey, Klibanoff, Lam, & Taylor, 1984) and how families play an influential role in health and illness (Alderfer & Stanley, 2012). Systematic reviews and meta-analyses show that social networks and social isolation are related to all-cause mortality (Holt-Lunstad et al., 2010; Holt-Lunstad, Smith, Baker, Harris, & Stephenson, 2015). Starting with a germinal article by Taylor, Repetti, and Seeman (1997) and leading up to current work, emphasis has changed to how social relationships literally, “get under the skin”, affecting endocrine and immune system responses (e.g., Uchino et al., 2018).

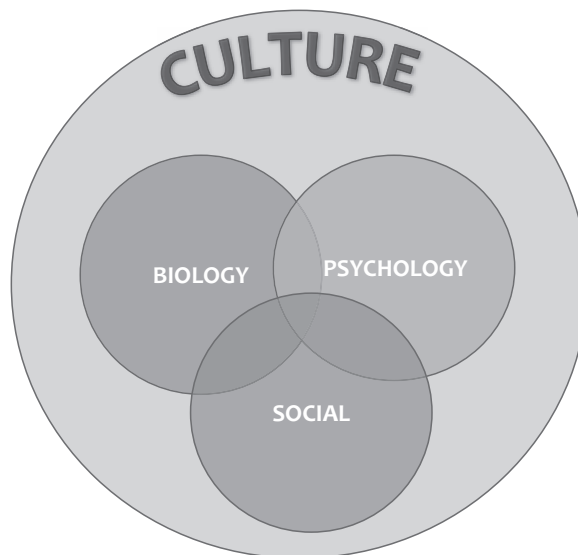


Figure 1.1 The Biopsychosociocultural Model

Adding Culture to the Biopsychosocial Model

What has been missing for many years is an equal emphasis on cultural influences on health and how they link with biological, psychological, and social determinants. We believe that this may be one of the most important for moving health psychology forward in the 21st century. The answer to the simple question “Are you healthy?” can vary according to where you live, how old you are, what your parents and friends think constitutes health, what your religious or ethnic background is, and what a variety of other factors indicate about you (Gurung, 2019). In some respects, the cultural context forms the superstructure over all other aspects of the biopsychosocial model. What people think, feel, and do about their health is situated in a broader context—one that includes cultural origins, history, religion, politics, economics, and community.

Culture consists of

patterns, explicit and implicit, of and for behaviour [sic] acquired and transmitted by symbols, constituting the distinctive achievements of human groups, including their embodiment in artifacts; the essential core of culture consists of traditional (i.e. historically derived and selected) ideas and especially their attached values.

(Krober & Kluckhohn, 1952, p. 181)

We consider culture to encompass cognitions, emotions, behaviors, and social interactions that are infused with specific values, belief systems, and worldviews. Culture doesn’t always connote “far away lands”. Old age can be considered a culture in itself—one that we will all (hopefully) be part of at some point. Myerhoff (1979) described the culture of elderly Jewish people living in Venice Beach, California, and how their social connections, shared history, and sense of community promoted health and well-being. As further elucidated by Frost and Svensson (Chapter 23, this volume), individuals who do not identify as cisgender face unique stresses because of their minority status (discrimination, stigma, concealment, and internalized homophobia) that affect health and well-being.

In its most basic essence, and as often conceptualized in health psychology, culture includes molar variables such as age, gender, sexual orientation, race/ethnicity, socioeconomic status, and education. These demographic markers may be proxy variables that denote health-promoting or health-damaging psychological processes, as first described by Karen Matthews (1989). They provide proscribed and culturally acceptable modes of behaving and, at the same time, place boundaries around the cognitions, emotions, and behaviors that are considered acceptable. It is unlikely, however, that simple proxy variables adequately capture the cultural blueprints for addressing health-related behavior in an ethnic or cultural community.

Why? Data based on binaries or nominal categories such as ethnic group membership do not elucidate the factors that explain *why* group differences occur. For example, in a study of men who have sex with men (Valleroy et al., 2000), the HIV prevalence rate for Latinos was twice that of Whites and, for African Americans, prevalence was six times that of Whites. But these data do not inform us what it is *within* the groups that might account for the differences *between* the groups or why. As Meyerowitz, Richardson, Hudson, and Leedham have written, “The classification of people into racial or ethnic groups becomes meaningful only when the classification leads to a better understanding of the factors that have led to disparity in disease treatment and health outcome” (1998, p. 49).

On a more complex level, the elements of the cultural domain that affect health are those same molar variables *as expressed in society*: economic inequality, sexism, heterosexism, ageism, racism, immigration policies, acculturation, and poverty. Through these structural variables, culture supplies the blueprints that shape biopsychosocial processes: how meaning is given to events, which behaviors are appropriate in which situations, and what competencies are valued. These blueprints, or cultural schemata, provide the various cultural lenses that inform people’s worldviews, for example,

whether one should follow the advice of “traditional” medical providers or turn to culturally sanctioned healers. Cultural blueprints also shape cognitive appraisals of disease and coping efforts (Aldwin, Lee, Choun, & Kang, Chapter 16, this volume), guide treatment decisions (Diefenbach and Fleszar, Chapter 12, this volume), and determine how illness is defined and expressed (Broadbent, Chapter 18, this volume). Culture also may define the acceptability of particular coping responses, such as emotional expression or anger, and thus their value as adaptive mechanisms. Moreover, most individuals are members of multiple cultural or social groups that condition the meaning of other social categories.

Moreover, ethnic categorization does not lead us to answers when it is confounded with socioeconomic status or poverty. Poverty does not fully account for race differences in health; these differences occur at every level of the SES gradient (Adler et al., 1994; Ruiz, Steffen, Doyle, Flores, & Price, Chapter 21, this volume). Instead, our understanding of variation in health outcomes might increase if we consider the psychological manifestations of ethnicity, such as discrimination or racism, and the effects of these manifestations on health and adjustment to disease (Chapters 24–26).

Unraveling Health Disparities

Health disparities across cultures are large, pervasive, and persistent (Kaplan, Roux, Simon, & Galea, 2017). Not all Americans are similarly healthy (Arcaya & Figueroa, 2017). As shown in Chapter 24, African Americans are at significantly higher risk for health issues than Americans overall due to heart disease, cancer, diabetes, HIV, and homicide. Corresponding to this and other differences, the U.S. health care system has been making active attempts to broaden approaches toward health care and advance knowledge about different cultures or cultural competence (Purnell & Pontious, 2014). Unfortunately, the health disparities between cultural groups are widening because of several trends, including access to health care, access to quality health care, and current health care reforms, such as the Affordable Care Act. There also are widening gaps in income, education, and environmental hazards, all of which impact health (Arcaya & Figueroa, 2017).

The construct of racism (vs. “race”) can be used as an exemplar to inform our understanding of health psychology’s role in minimizing health disparities. Racial/ethnic group membership is a marker for many non-observable psychological processes: identity, labeling by others, group pride, stigma, lifelong racism, and discrimination. In the U.S., race/ethnicity is embedded in a sociohistorical context that is dominated by unequal power and unfair treatment (Mays, Cochran, & Barnes, 2007). Thus, race and ethnicity should not be considered as biological variables but as markers that lead to differences in exposure or vulnerability to risk factors and resources. In the terminology used by Phelan and Link (2015), race/ethnicity is a “fundamental cause” of illness: It influences or even creates the more proximal intervening mechanisms that lead to disease. For example, when new health-enhancing discoveries are made, access to those benefits is affected by racism (Barr, 2014).

Racism has been defined as “the beliefs, attitudes, institutional arrangements, and acts that tend to denigrate individuals or groups because of phenotypic characteristics or ethnic group affiliation” (Clark, Anderson, Clark, & Williams, 1999, p. 805). It includes negative attitudes and beliefs about ethnic minority groups (prejudice) and differential treatment of members of those groups (discrimination). Perceived racism or interpersonal racism, more psychological constructs, reflects exposure and reactions to individual or institutional racism, and may encompass experiences ranging from social exclusion or workplace discrimination to physical threat and aggression (Brondolo et al., 2008). It is through the experience of prejudice and discrimination—or even the perception or anticipation of prejudice and discrimination—that racism produces negative effects on immune and inflammatory processes (biological domain), mental health (psychological domain), and intergroup relations (social domain).

Racism can affect health via mechanisms at all levels of analysis (Anderson, 1998). First, racism probably has its largest impact on health status by restraining economic attainment. Racism restricts educational and employment opportunities, limits social mobility, and affects the availability and quality of health care. Second, racism modulates exposure to both risk factors and resources. For example, it can result in minority group members living in segregated neighborhoods that may not be given a fair share of educational resources. Geronimus has proposed the “weathering hypothesis” (Geronimus, Hicken, Keene, & Bound, 2006), which suggests that early cumulative exposure to stress via structural factors, such as racism and poverty, causes African Americans to age prematurely.

Third, racism has been shown to directly affect psychological and physiological functioning (Pascoe & Smart Richman, 2009). How does perceived racism play out in concrete terms—in Taylor, Repetti, and Seeman’s words, “get under the skin”? Most of the research in health psychology has focused on this third level. In multiple studies, African Americans who experience or attribute interpersonal mistreatment to racial discrimination or who face structural components of racism have increased markers for cardiovascular disease, including hypertension, subclinical carotid disease, coronary artery calcification, coronary artery obstruction (elevated low-density lipoprotein (LDL)), visceral abdominal fat increased C-reactive protein, and myocardial infarctions (see introductory section of Lukachko, Hatzenbuehler, & Keyes, 2014; Chapter 24, this volume), and, in experimental designs, greater cardiovascular reactivity and slower recovery in response to acute discriminatory stress (Lucas et al., 2016). Moreover, these effects can be inflamed by other types of discrimination, such as sexism (Salomon, Burgess, & Bosson, 2015).

A framework proposed by Clark and his colleagues (1999) suggests that racism may be conceptualized as a stressor and that the way one copes with it may account for some of the excess risk for cardiovascular disease in African Americans through changes in autonomic modulation (see Brondolo, Ver Halen, Pencille, Beatty, & Contrada, 2009; Brondolo et al., 2011 for empirical evidence). Here, the cultural domain is linked with the three domains of the biopsychosocial model. Social situations that could be construed as racist can result in greater and more prolonged physiological stress responses, greater cardiovascular reactivity, and slower recovery) in both experimental and community-based studies. Internalized racism, in which ethnic minority group members accept the dominant ideology of their inferiority, has been correlated with increased psychological depression, substance abuse, and chronic physical health problems (Paradies et al., 2015).

Using the New Model in Research and Intervention Development

We propose that in adopting a biopsychosociocultural model, health psychologists will focus more on critical *cultural variations* in the conceptualization and perception of what is considered to be healthy, health-seeking behaviors, and interactions with health care providers. This involves understanding within-group variation as legitimate in its own right (vs. between-group differences). This is essential for behavioral health interventions in different cultural groups and to demonstrate effectiveness in improving health behaviors and outcomes (Barrera, Castro, Strycker, & Toobert, 2013). One approach to developing such health interventions is to culturally adapt original evidence-based interventions, although one can also work from formative research with only a particularly subgroup.

One example of the first approach is a culturally anchored dietary program for Latina diabetes patients where investigators tested a culturally adapted, multiple-health behavior-change program for Latinas with Type 2 diabetes, ¡Viva Bien! (Toobert, Strycker, Barrera, et al., 2011). Treatment included group meetings to promote a culturally adapted Mediterranean diet, physical activity, supportive resources, problem solving, stress-management practices, and smoking

cessation. The ¡Viva Bien! program was effective in improving and maintaining some psychosocial, behavioral, and biological outcomes related to heart health across 12 months (Toobert, Strycker, King, et al., 2011).

We also propose that we broaden the definition of “culture” or “cultural groups”. For example, differences in health or health behaviors that are shaped by religion, age, or sexual orientation are now likely to be discussed under the umbrella of “cultural differences”. It is clear that a person’s religion and spirituality will make a significant influence on health behaviors (Chapter 17), as Catholics, Buddhists, Hindus, and Muslims each have different health beliefs (Von Dras, 2017) and even these may vary according to the extent to which one labels oneself as spiritual or religious.

A few guidelines are in order to give appropriate attention to conduct research and design interventions within a biopsychosociocultural model. First, consider culture at every step of the research process, starting with the theory(ies) underlying the research study or the behavioral principles underlying the intervention (Michie, Marques, Norris, & Johnston, Chapter 6, this volume). Researchers must question whether current theories are equally relevant across cultures. If there is no knowledge base (and there won’t be in some areas), researchers must generate theories and choose methods that are more culturally anchored, and in some cases, unique to particular cultures or contexts. Alternately, investigators need to conduct research to fill the gaps! This often requires an early step of formative or qualitative inquiry, as most majority status researchers are not informed about other perspectives.

Second, researchers must use methodologies that are culturally anchored. Health psychologists must move the focus away from *between*-group differences (which often uses the majority group as what is normal) unless they can elucidate the mechanisms that lead to those health disparities. Researchers must consider the type of data that is needed to assess each domain within the model or to assess the particular construct they are studying. This may mean collecting physiological, self-report, and qualitative–phenomenological data, possibly over a long period of time, with a large sample of people, or with a series of $N = 1$ studies (Shaffer, Kronish, Falzon, Cheung, & Davidson, 2018). Many cultural constructs can be measured validly from the individual’s perspective, e.g., perceived social support or perceived racism, because these phenomena are socially constructed. Appraisals help us understand the perspectives of individuals or groups who have largely been silenced.

As there is a need to develop more culturally anchored theories of health behavior, there is a clear need to work toward greater applications of the biopsychosocial model and move it from the theoretical realm into a more practical one. At the same time, one must ensure that practice informs research and both practice and research inform policy (Keefe et al., 2002).

Conclusion

Taken as a whole, health psychologists have made gigantic strides in the prevention of illness and in aiding those of us who do get sick. Clearly, the utility of a taking a biopsychosocial (vs. biomedical) approach has already paid dividends, but we are now ready for the era of the biopsychosociocultural model. All we need is to expand our focus to better incorporate diverse cultural backgrounds into our research and intervention development (Purnell et al., 2011). This involves not simply diversifying samples but culturally adapting theoretical models so that the questions “make sense” and asking questions that make sense to the individuals that are being studied! Indeed, what we do and why we do it are shaped by a variety of factors, and our health and well-being are no exceptions. A biopsychosociocultural approach might provide health psychology with stronger direction that not only incorporates the social nature of our interactions but also explicitly acknowledges the role that culture plays in the health of the nation.

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