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Review Article

Jedi public health: Co-creating an identity-safe culture to promote health equity



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ABSTRACT

The extent to which socially-assigned and culturally mediated social identity affects health depends on contingencies of social identity that vary across and within populations in day-to-day life. These contingencies are structurally rooted and health damaging inasmuch as they activate physiological stress responses. They also have adverse effects on cognition and emotion, undermining self-confidence and diminishing academic performance. This impact reduces opportunities for social mobility, while ensuring those who "beat the odds" pay a physical price for their positive efforts. Recent applications of social identity theory toward closing racial, ethnic, and gender academic achievement gaps through changing features of educational settings, rather than individual students, have proved fruitful. We sought to integrate this evidence with growing social epidemiological evidence that structurally-rooted biopsychosocial processes have population health effects. We explicate an emergent framework, Jedi Public Health (JPH). JPH focuses on changing features of settings in everyday life, rather than individuals, to promote population health equity, a high priority, yet, elusive national public health objective. We call for an expansion and, in some ways, a re-orienting of efforts to eliminate population health inequity. Policies and interventions to remove and replace discrediting cues in everyday settings hold promise for disrupting the repeated physiological stress process activation that fuels population health inequities with potentially wide application.

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Once riding in old Baltimore,
Heart-filled, head-filled with glee,
I saw a Baltimorean
Keep looking straight at me.

Now I was eight and very small,
And he was no whit bigger,
And so I smiled, but he poked out
His tongue, and called me, 'Nigger.'

I saw the whole of Baltimore
From May until December;
Of all the things that happened there
That's all that I remember.

Countee Cullen, "The Incident", 1925

Most importantly, we call for an expansion and, in some ways, a re-orienting of efforts to eliminate population health inequity.

What is Jedi Public Health in concept?

The metaphor, "Jedi Public Health," references a scene in the 1977 Star Wars Movie, Episode IV, aptly named for our purposes: "A New Hope." In that scene, the stormtroopers (the bad guys) stop a car whose passengers include Obi-Wan Kenobi, a Jedi Master, and the droids R2-D2, and C-3PO (the good guys). The droids are being hunted by the stormtroopers to intercept the message R2-D2 is carrying to the Rebel Alliance from their spy, Princess Leia, who is being held hostage by the forces of darkness. With both droids in plain sight and thus in jeopardy, Obi-Wan employs a Jedi mind trick to convince the stormtrooper at the car that the droids are not the ones he is looking for. The dialogue proceeds:

Stormtrooper: Let me see your identification.

Obi-Wan: You don't need to see his identification.

Stormtrooper, accepting Obi-Wan's claim, calls out to nearby stormtroopers: We don't need to see his identification.

Obi-Wan: These aren't the droids you are looking for.

Stormtrooper: These aren't the droids we're looking for.

Obi-Wan: He can go about his business.

Stormtrooper: You can go about your business.

Obi-Wan: Move along.

Stormtrooper: Move along, move along.

Having accepted Obi-Wan's suggestion that this is a case of mistaken identity, the Stormtrooper lets the car proceed. For the passengers in the car, identity threat is diffused; their contingent stress is alleviated.

Through JPH, we focus on the role of "mistaken social identity" as how marginalized social identities are cued in settings and construed by individuals through dominant cultural prisms, forming road blocks that impede the ability of the marginalized to "go about their business" and "move along" in their lives, including along roads that are culturally meaningful to them. To that end, JPH is broadly concerned with developing a deeply democratic and pluralistic society (Geronimus & Thompson, 2004), leveraging not only broad social, legal, or political processes, but also making relatively straightforward changes in everyday settings that can lead to measureable population health improvements by disrupting socially-induced accelerated biological wear and tear across body systems (weathering) in everyday life.

We begin with the premise that we share one basic canvas of human biology, subject to historical influences and sociopolitical context. The central proposition of Jedi Public Health is that, despite this shared biology, population health inequality emerges through *structurally rooted biopsychosocial processes* (Geronimus, 2000; Geronimus & Thompson, 2004; Graham, Brown-Jeffy, Aronson, & Stephens, 2011; James, 1993; Pearson, 2008; Viruell-Fuentes, 2007) that trigger physiologic stress. These processes are engendered by unequal environments which have cues to social identity threat or safety embedded in them, and the better or worse fit between the needs and resources of groups of unequal privilege and the social institutions they must navigate.

Introduction

What are the population health implications of having cognitive, emotional, and physiological "bandwidth" taken up by the lived experiences of stereotype, stigma, and inequity that are especially common among members of non-dominant social identity groups? Bandwidth can be commandeered by acute, interpersonal incidents such as that described in the poem, occasions for subjective distress. Bandwidth can also be hostage to subtle or pervasive features of the social, psychological and physical environmental "surround" (Turner, 2013), subliminal reminders in our everyday rounds of the degree to which our social identity group is – or isn't – valued by society. We argue US social inequalities in health remain entrenched, in part, because of inequalities across social identity groups in the frequency, pervasiveness, objective severity, and subjective significance of such cues to social identity and one's societal value or acceptance. We choose this emphasis because the role of the "surround" in maintaining and perpetuating health inequity is under-theorized relative to other social determinants of population health including more overt racism and micro-aggression, yet, it informs the nature and frequency of more recognized social determinants of health, constraining potential progress in eliminating them. As we review and synthesize, an emergent body of social epidemiologic scholarship points to the promise of considering the surround, and also increasingly reveals the limits of focusing on the role of conventional socioeconomic indicators, such as income and education, alone (Pearson, 2008). Moreover, as with other broad contextual contributors to health inequity, such as sociopolitical context, the surround might, at first blush, be thought of as too amorphous, large or enmeshed to be a feasible intervention site to produce short or medium term change. We argue in contrast, that through applying what we call "Jedi Public Health" principles, the surround is not only an essential target of intervention, but an eminently practical and tractable one (Geronimus, 2013). While it is premature to offer an exhaustive JPH policy or intervention plan, we offer examples for straightforward, low-tech, and evidence-based interventions that help diffuse the ideological and psychosocial landmines that promote health inequity in everyday life.

Rather than conceptualize individuals as fully autonomous actors with one specific identity, biology, resources, and set of cultural and health beliefs, the core unit for understanding what is at stake in JPH is *social identity*. According to Social Identity Theory (Tajfel & Turner, 1979), individuals are profoundly affected by their social group identities – their perceived memberships in socially defined groups – and how much the dominant culture values these groups, particularly as evidenced in the sensitivity of institutional structures that shape individuals' lived experiences to group needs (Graham et al., 2011; Pearson, 2008). Social identity categories correspond to broader cultural and societal constructions of population status by race, ethnicity, gender, religion, ancestry, language, sexual orientation, immigrant documentation status, socioeconomic status, residential neighborhood and other currently or historically salient vectors of social classification. Such categorizations initially structure and are reinforced by what social groups know about one another; what stylized wisdom or stereotypes they substitute for first-hand knowledge of each other; how they experience, treat, and regard one another; and what social structural location they are generally deemed to occupy in relation to each other. Individuals understand that their social identities shape their interpersonal relationships, their relationship to the state, and how they are treated and regarded both interpersonally and institutionally (Graham et al., 2011).

While social identities are semi-stable over time, they are also porous and situational. Memberships in identity groups are co-created and negotiated between the self and members of in-groups and out-groups under specific circumstances. Each person has multiple and intersectional social identities, and which has situational salience changes according to settings, interactions, and relationships (Steele, 2010). Triggers of these circumstantial identity shifts are the “contingencies of social identity” (Steele, 2010). For example, the salience and valence of being black or white varies with different experiences and settings, even in one's daily rounds. A black or white person does not change skin color over the course of a day, but circumstances and interpersonal interactions change its import and meaning, as these interactions are interpreted reflexively through shared dominant cultural prisms about race. In turn, the health implications of one's skin color fluctuate in response to cues that signal levels of race-consciousness, value or belonging in specific interactions and settings (Amaechi, 2011).

To illustrate, consider how a young black man may experience his blackness when he is home with family and friends compared to if he is pulled over by the police for a minor traffic infraction. In this example, there may be neutral or positive psychosocial import of being black when with family and friends; while one would suspect the encounter with the police officer would activate strong race-consciousness, psychosocial distress, and vigilance, together stimulating the physiological stress process, before any words are exchanged with the police officer and for at least the duration of the encounter. Thus, Jedi Public Health construes the health impacts of social identity to be dynamic and environmentally contingent, rather than biologically or culturally essential, or reducible to behaviors, traits, or material assets (Geronimus, 2013).

In JPH, the prominent biological mechanism through which contingencies of social identity influence health is repeated physiological stress process activation, or allostatic load (Geronimus, Hicken, Keene, & Bound, 2006; McEwen & Seeman, 1999; Seeman, McEwen, Rowe, & Singer, 2001). Stress-activated biological (allostatic) systems enable people to respond to changing physical aspects of the surround and to cope with ambient stressors such as noise and crowding, imminent danger, hunger, extreme temperature shifts, or infection. Some stressors are objective (e.g., temperature extremes) and others are subjective (e.g., financial anxiety); some are passing, and some are prolonged or chronic,

including those that require sustained cognitive and emotional engagement to mitigate, resist, or undo (Geronimus, 2000; James, 1994). Notably, all these stressors may have negative physiological impacts whether or not they are identified as taxing by those under stress.

As McEwen (1998) notes, the body's reaction to a stress-induced challenge is twofold: turning on an allostatic response that introduces a complex cascade of stress hormones into the body, and then shutting off this response when the threat has receded. When – because of sustained or repeated stress – allostatic systems are not completely deactivated, the body experiences long-term exposure to stress hormones that can cause wear and tear on the cardiovascular, metabolic, and immune systems. This wear and tear increases susceptibility to infectious disease; early onset of chronic diseases such as hypertension, diabetes, morbid obesity, and metabolic syndrome; as well as mood disorders, functional limitations, and early death (McEwen, 2003, 2000, 1998; Seeman et al., 2001). Through this and other mechanisms, identifying – or being identified by others – as a member of either a socially privileged or a socially stigmatized population group in everyday settings exerts disparate health impacts on the human biological canvas. Evidence of such weathering – the increased physiological vulnerability, early health deterioration, and accelerated aging of marginalized compared to other population groups – has been well-documented in the US for blacks (Geronimus et al., 2006, 2015; Geronimus & Thompson, 2004), and also suggested for Latino immigrants with longer duration of the US residence (Kaestner, Pearson, Keene, & Geronimus, 2009) and the poorest urban and rural US whites (Geronimus, Bound, & Colen, 2011; Geronimus et al., 2015). Differences in life experiences shaped by dominant belief systems about what can be expected of and is deserved by specific population groups, and the corollary frames for interpreting experiences, translate social inequality into health inequality.

Conceptual and evidentiary building blocks for Jedi Public Health

Defining the Surround: The dominant cultural landscape and its phantasms

A key feature of JPH is recognizing that exposure to objective and subjective stressors and access to healthy coping resources are socially patterned on the population level. Objective stressors that disproportionately affect marginalized populations include living in neighborhoods with toxic environmental exposures and in homes with overcrowded, rodent-infested, or decaying environments – all resulting from decades of disinvestment in municipal infrastructure in high-poverty or racially segregated areas (Bosma, Van De Mheen, Borsboom, & Mackenbach, 2001; Geronimus, 2000, 2015; Schulz, & Northridge, 2004; Shmool et al., 2014). In a hierarchical racialized society, it is well understood that separate is not equal, at least in terms of material, physical, and political resources available to segregated groups. Less considered in health disparities research is the fact that the exact same setting can be experienced differently by members of different social identity groups, with more positive or adverse effects on different populations. Routes to these differences include challenges to identity safety that emanate from dominant cultural beliefs. These socially patterned stressors are in part determined by widely circulating negative social meanings that are ascribed to marginalized social identities. As we elaborate below, these cues to marginalization in everyday life have powerful health impacts. Moreover, these challenges may be especially pernicious in integrated settings as these mechanisms for population health inequity come into play

most strongly in places where members of diverse groups interact and on the dominant group's terms. The objective of JPH is to address this diversity problem, writ large. How can integrated classrooms, neighborhoods, workplaces, societies etc. function for the benefit of everyone? Be settings where everyone can flourish and be healthy; be places where members across populations can expect chronic illness, disability and death to come in their "logical position" (Blythe, 1979) at the close of a long and active life?

Dominant cultural beliefs shape context which in turn shapes population health. According to Ashmore, Deaux, and McLaughlin-Volpe (2004), context has at least two components. One includes "patterns of interpersonal behavior, shared beliefs, and informal rules and procedures" (Ashmore et al., 2004). The second is the social structural component, which comprises formal positions, rules, and procedures (e.g., laws and policies). The surround is embedded in both components of context, inasmuch as it provides the pervasive logical structure that organizes social expectations for appropriate behavior, authoritative vectors of social hierarchy, and the rubric for social evaluation of identity groups, according to these expectations and vectors. As Geertz (1983) wrote, "common sense is not what the mind clear of cant spontaneously apprehends, it is what the mind filled with presuppositions... concludes." Like darkness, the surround envelops; yet, like Anne Frank's candle, a single light can both defy and define it. By illuminating the surround, JPH is intended to deepen understanding of where racial and other social inequities in health come from, why they resist change, and why we become better positioned to promote health equity when we shift focus from individual behavioral or resource deficits to dynamic situational problems.

Cognitive imagery and ideas influenced by sociocultural beliefs and attitudes are the purveyors of the surround to our collective hearts and minds. Harrell refers to these as "phantasms" and argues they represent the role of worldview in the imagination, encompassing cognitive phenomena such as sense of self, social categories, and cultural narratives. Phantasms fill in gaps in our firsthand experience with objects of perception, allowing us to interpret them beyond what we literally see. They seem natural and common-place, although they are subjective and contingent. Harrell (2013) argues that phantasms influence almost all of our everyday experiences, including art, entertainment, commerce, culture and power relationships. They are integral to the surround, creating each person's structured, yet virtual, social reality and their ability to interpret it on dominant cultural terms.

Stereotypes are a subset of phantasms whereby, for example, the actions of an unknown person with phenotypic markers of a socially constructed category are imbued with connotative meanings beyond any literal perception of that person in the moment. So, for example, a recent news story suggests stereotypes figured in a police action to break up a disruptive party at a community pool. An officer was blatantly threatening and physically aggressive with the black teens but not the white teens at the pool. Indeed, a white teen in full view of the officer captured the entire incident on video, without being interpreted by the officer as threatening. The video was key evidence leading to actions to suspend the officer, who ultimately resigned as a result ([Texas police officer at center of pool party controversy resigns, 2015](#)).

Several innovative studies have documented the health consequences of social identity activating aspects of the surround. In one such study, Lauderdale (2006) used birth certificate data to compare birth outcomes in the six months after September 11, 2001 with those of the same 6-month period one year before among California women across a range of ethnic and racial groups. She found that the relative risks of poor birth outcomes, including low birth weight, were higher in the 6 months after 9/11/2001 solely for Arabic-named women. Birth outcomes for women from other racial/ethnic groups – white, black, Hispanic,

Asian/Pacific Islander, or Native American – did not change (Lauderdale, 2006). After September 11, 2001, Arab-Americans (and those perceived to be Arabs in the U.S.) experienced increased harassment, violence, and other forms of discrimination. Although the Arabic women in the sample may not have experienced discrimination personally after 9/11/2001, events appear to have reconfigured the nature and salience of dominant cultural phantasms about Muslims, creating a severely stigmatizing surround for their group, heightening social identity threat and contributing to adverse outcomes for Arabic mothers and infants.

Regarding health care, Reisner et al. (2015) found that discrimination over the past year in health care settings experienced by transgender and gender-nonconforming people was independently associated with a substantially increased risk of emotional and physical symptoms and of postponing needed sick or routine care. This was after taking account of reported experiences of discrimination in other public accommodations settings – which also conferred increased health risk.

Although it is a foundational American belief that adhering to the American Creed – taking personal responsibility and investing in one's education and socioeconomic mobility (Geronimus & Thompson, 2004) – will have only positive health consequences, several investigators find there can also be health costs for members of marginalized groups who do so, depending on their historically structured circumstances and the psychosocial and material stakes involved (Pearson, 2008). Thus, James (1994) demonstrates that African American men who score highly on the John Henryism Active Coping Scale – i.e. have a strong internal locus of control and are highly motivated to succeed – yet, run up against structural impediments to success, are at increased risk for high blood pressure. Dressler (1982) finds that cultural consensus on what constitutes success, coupled with congruence with meeting this standard, is associated with reduced risk of hypertension, while incongruence with meeting this standard is associated with increased risk of hypertension. Based on her research with Mexican women in Detroit, Viruell-Fuentes (2007) proposes that extensive and cumulative exposure to "othering"—that is exposure to messages, structures, and experiences that ascribe Mexicans a marginalized status within U.S. society—contributes to the health deterioration that Mexican immigrants are observed to experience over time and across generations (Kaestner et al., 2009). These health harmful "othering" experiences become more prevalent as immigrants or their children leave ethnic enclaves to navigate integrated institutions such as higher education and professional workplaces. Pearson provides evidence that the weakening of co-ethnic social ties as marginalized groups assimilate and increase their mainstream socioeconomic success can also be health harmful (Pearson, 2008; Pearson & Geronimus, 2011). John Henryism, status incongruity, othering, and weak co-ethnic social ties are all plausible experiential, and, structurally-rooted, mechanisms for weathering.

Laws and policies can serve as structural forms of stigma (Corrigan, Markowitz, & Watson, 2004; Corrigan et al., 2005) that create or enforce negative phantasms about members of non-dominant groups. Much evidence speaks to the wide-ranging health impacts, from mental health to mortality, of laws and policies that signal the sociopolitical inclusion or exclusion of particular social identity groups. Although earlier research in legal sociology argued that laws merely reflect social norms, recent evidence indicates that laws also shape social norms—a phenomenon termed the "expressive role of law" (Burris, 2006). For example, two recent studies found that public opinion regarding smokers and gays became more negative in areas that passed laws banning smoking and same-sex marriage (Donovan & Tolbert, 2013; Pacheco, 2013). The laws influenced the phantasms employed to interpret the categories of "smokers" and "gays,"

suggesting that for better or for worse, phantasms are powerful, and also malleable. They are an important target for interventions aimed to undo the health harmful features of the surround and provide a key construct for understanding and ultimately leveraging context to improve population health.

In other recent studies, Hatzenbuehler and colleagues used quasi-experimental designs that capitalize on the rapidly changing policy environment surrounding same-sex marriage in the U.S. to explore the health consequences of policies related to sexual identities (Hatzenbuehler et al., 2014, 2012; Hatzenbuehler, McLaughlin, Keyes, & Hasin, 2010). One of these quasi-experiments sampled gay and bisexual men living in Massachusetts, analyzing health indicators before and after same-sex marriage was legalized there in 2003. In the 12 months after the legalization, data revealed substantial reductions in several mental and physical health indicators—including a 14% reduction in depression, an 18% reduction in hypertension, and a 15% reduction in health care utilization/cost—compared with the 12 months before the legalization (Hatzenbuehler et al., 2012). In contrast, health care costs during this same period increased for the general population in Massachusetts, documenting the specificity of these improved contextual effects for the social identity groups studied: gay and bisexual men.

Fundamental social and cultural causes of health and disease

JPH builds, in part, on the concept of “Fundamental Social Causes of Disease” (FSCD) introduced by Bruce Link and Jo Phelan (1995), who argue that reducing population health inequality requires more than identifying and addressing the proximate determinants of (or risk factors for) disease. It requires identifying and addressing the “causes of the causes.” Link and Phelan emphasize that material and other measureable resources associated with advantaged socioeconomic position (e.g., wealth, knowledge, prestige, power, and beneficial social connections) are protective factors against poor health. From this “fundamental causes” perspective, the only effective way to eliminate differentials in health is to address the underlying “social inequalities that so reliably produce them” (Link & Phelan, 1996).

Link, Phelan and others have amassed considerable empirical evidence consistent with the theory, especially in the context of unequal access to new treatment technologies or knowledge of behavioral risk factors for disease (Phelan, Link, & Tehranifar, 2010). However, practical approaches to interfere with the reliable reproduction of social inequalities are less well articulated or tested. Social inequalities are reliably reproduced neither by natural law nor social edict. They are maintained and proliferated, in part, as common sense: reflexive cultural understandings of the social world and of personal and legal codes of conduct that, in a multicultural society, coalesce into assumed social identity hierarchies through countless, perpetual, and often unwitting everyday acts, political opinions, and the symbolic violence embedded in the surround. Thus, JPH expands upon the domain of “causes of the causes,” going beyond differences by social class in financial, human, and social capital that are fungible in a market economy to questions of culture.

Indeed, interest in the role of culture in health inequities has grown and, to some extent, evolved. This could provide an important and sorely needed space for deepening scientific understanding of the role of culture in health. Yet, often researchers of culture and health limit themselves to defining culture as static differences across groups in beliefs, values, and practices that tend to harm or promote health. With the exception of some romanticized or “model minority” cultures, many of the cultural influences emanating from minority, immigrant, and poor populations tend to be viewed by public health advocates as

unhealthy. In this conventional view of culture and health, the goal of health intervention is to educate or incentivize these groups to “trade up” their unhealthy culture-based beliefs and practices for beliefs and practices commonly understood to be more healthy (Geronimus, 2000; Viruell-Fuentes, 2007).

Implicit in this conceptualization of culture and health is a risk-factor, not a fundamental cause, perspective on population health inequity. Often the practices to be exchanged are isolated, individual, behavioral risk factors related, for example, to diet or exercise. We believe this approach misconstrues the nature of culture and its contribution to health in several important ways. First, all social identity groups are culture-bearing in ways that shape behavior and influence health, not just racial/ethnic minority groups, immigrants, the exotic, or the poor (Di Leonardo, 1998). Second, cultures are ecological and dynamic rather than the sum of independent “risk” or “protective” factors. And third, all cultures promote human needs by their plasticity in the face of stigma and local conditions that constrain the ways and means of leveraging opportunities (Geronimus, 2000; Levine, Cassidy, & Jentzsch, 2010). In short, all cultures, including the dominant culture, are historically contingent and politicized.

JPH recognizes that dominant and non-dominant cultures, like social identities, are semi-stable, yet porous, responsive to context, and contingent. From a JPH perspective, common understandings of culture and health ignore the positive role of culture as a source of identity affirmation and reciprocal obligation. That is, the reduction of the concept of non-dominant cultures to potentially health-harmful values or behaviors ignores their critical roles in promoting material and psychosocial well-being through (1) facilitating risk-pooling (Betancur, 2011; Geronimus & Thompson, 2004; Stack, 1974) and (2) providing an alternative and validating cultural framework to the dominant one that marginalizes them (James, 1993). Common understandings also down-weight the potentially adverse impacts of dominant culture on the health of the social identity groups it implicitly marginalizes that we have discussed (Geronimus, 2000; James, 1993; Pearson, 2008).

JPH posits that the most profound implications for population health inequity are found at the fault lines between cultural groups of unequal power and privilege rather than within any single cultural group (Geronimus, 2000). These fault lines are particularly problematic for health when the perspectives of the marginal and dominant cultures conflict, which can lead to cultural oppression of the marginalized group (Geronimus & Thompson, 2004). Applying common understandings of culture and health do not avoid this pitfall. Also troubling, is the extent to which members of marginalized cultures, as Americans, internalize dominant cultural perspectives that often work at cross purposes to their health (Dressler, 1982; James, 1994; Pearson, 2008; Viruell-Fuentes, 2007). Understanding the meaning and role of culture in health, and how culture clashes may activate conflicting social identities, will help public health develop new intervention approaches that address the cultural “causes of the causes” of health inequality. These would include reshaping aspects of the dominant culture, leveraging positive resources of non-dominant cultural groups, and repairing the fault lines between dominant and other cultural groups.

Recently, discussion of culture and health has been augmented as researchers consistently document that not all residential contexts facilitate the chance to maintain healthy behaviors; while some make it all but impossible (LaVeist, 2002). This is an important contribution to understanding why individuals in some population groups are less likely than others to make what we deem healthy choices. As such, it endorses new and more sympathetic narratives to explain population differences in maintaining healthy lifestyles. It also asks the broader society to participate in promoting health equity by investing in making healthy choices

a real option for all groups, no matter where they live, instead of placing the full onus on members of marginalized populations, themselves, often setting them up for failure.

To the extent that this approach increases physical access to the means to make healthy choices more equitable, this is a positive step. However, even with these enhancements this approach relies on a risk-factor or proximate, rather than fundamental, cause understanding of population health inequity. Consistently, evidence problematizes a proximate cause approach. Health profiles of equally well-educated or high income members of marginalized social identity groups are worse than those in dominant groups across many dimensions (Geronimus et al., 2006, 2015; Geronimus & Thompson, 2004; LaVeist, 2002; Pearson, 2008). Nor does it distinguish facilitating healthy choices that have a strong evidentiary base, from those that are believed to be healthy by the dominant group as a matter of their socially-structured “common sense” (Geronimus & Thompson, 2004). In the latter case, promoting dominant group behaviors in marginalized groups can be an expression, however inadvertent, of power and oppression. And it does not address the fact that investment in underserved areas and populations requires political will on the part of the dominant culture. Such political will requires deep empathy to understand why marginalized groups behave differently in some value-charged aspects of social life than dominant groups would have them behave, a sensitivity that is often lacking or, at best, fragile (Geronimus & Thompson, 2004). Given these limitations, applying even the augmented understanding of culture and health may ameliorate, but will not eliminate, population health inequity (Geronimus, 2000).

JPH deepens the cultural dimension to include the historical and dominant cultural forces that drive the social patterning of inequities, even on the material plane, through pervasive processes of differential empowerment and disempowerment (Geronimus, 2000; Geronimus & Thompson, 2004). In this way, by drawing on recent advances in social psychology (see section (c) below), JPH illuminates how “race/ethnicity” and other social identity inequities in health are integral to the macro-social constructs of “power and privilege” as contained in common social epidemiological and materialist frameworks, including FSCD.

Stereotype threat and the contingencies of social identity

As described above, the surround represents the dominant cultural terms for success or belonging and the phantasms through which they are interpreted to have been met (or not met) by different groups, apportioning power, privilege, and affirmation unequally across social identities. The surround becomes integral to our everyday rounds and personal biology as it frames the contingencies of social identity that are at play in local settings. As a general phenomenon, members of stigmatized groups enter new situations with uncertainty about whether those they interact with will judge them according to prevalent stereotypes related to their stigmatized group identity (Goffman, 1963; Murphy in Taylor, 2011). They tune their radar screens for cues indicating whether or not they belong, can trust others or expect fairness, and can be authentic or, instead, must expend effort in identity management in the setting (Goffman, 1963; Murphy in Taylor, 2011). Being vigilant to whether social identity threat is “in the air” in a particular setting can compromise self-confidence and observable performance, while triggering sustained physiological stress processes in members of marginalized groups.

In performance settings such as classrooms or workplaces, members of marginalized groups are sensitive to stereotype threat: a situational predicament in which one fears confirming, a negative stereotype about their social identity group through one's behavior or performance (Steele & Aronson, 1995; Aronson and

Steele, 2005). Steele and colleagues have developed and found robust evidence across social identity groups for the effect of stereotype threat on performance, including on school, work, and athletic performance (Nguyen & Ryan, 2008; Steele, 2010; Walton & Spencer, 2009). In randomized controlled trials, Steele and colleagues consistently find underperformance among individuals who encounter situational cues – often subtle – signaling the salience to their success of negative stereotypes attached to their social identity group (Boucher & Murphy, 2016; Murphy, Steele, & Gross, 2007; Murphy & Taylor, 2011; Nguyen & Ryan, 2008; Walton & Spencer, 2009). Steele (2010) observes that such threat is sufficiently powerful to “single out an identity and make it the center of a person's functioning, powerful enough to make it more important, for the duration of the threat, at least, than any of the person's other identities.” Thus, for example, researchers found that Asian American girls perform better on tests of mathematical achievement when they are cued to remember they are Asian; and do worse on the same math tests when cued to remember they are girls (Cheryan & Bodenhausen, 2000; Shih, Pittinsky, & Ambady, 1999). This impact has been observed in Asian girls in the US as young as 5 years old (Ambady, Shih, Kim, & Pittinsky, 2001).

On a more sustained level, cues in classrooms or other performance settings can differentially affect the engagement, aspirations, persistence, and performance of members of different social identity groups (Murphy & Taylor, 2011; Steele, Spencer, & Aronson, 2002). Cheryan et al. found even small and seemingly cosmetic changes in classrooms can profoundly affect the appeal to members of marginalized groups of the subject matter being taught in a classroom. For example, experiments showed that when investigators varied decorations and objects in a classroom – e.g. Star Trek posters or nature posters – the level of female undergraduates' interest in computer science was influenced. Unlike when Star Trek posters were displayed, being in rooms decorated with nature posters boosted women's interest in computer science to be equivalent to men's. Men's interest was unaffected by which posters were displayed (Cheryan, Plaut, Davies, & Steele, 2009).

Murphy et al. (2007) found evidence of similar effects in undergraduates majoring in math, science, and engineering (MSE). In an experimental setting, MSE students were asked for their opinions of an advertising video for an MSE summer leadership conference that Stanford University was considering hosting the next summer. The investigators varied whether the video depicted a balanced or unbalanced gender representation, under the hypothesis that women would be sensitive to the cue of gender representation in the MSE setting. Indeed, women who watched the gender-unbalanced MSE video showed more vigilance to both the details of the conference video and cues in their physical context, compared with women who watched the gender-balanced video. They also, anticipated a lower sense of belonging in the conference and reported less desire to participate in it after watching the unbalanced video than after watching the balanced video. The cue of gender representation did not have similar effects on male MSE students, although males did note increased interest in participating in the conference when it was represented as gender-balanced.

The relevance of stereotype threat research to population health inequity is multifaceted. At a minimum, structurally-rooted impaired test performance reduces chances for educational, economic and professional success disproportionately among members of marginalized groups. Further, those who succeed in conventional socioeconomic terms despite facing stereotype-threat challenges, may experience health harms, to the extent that coping with these challenges triggers physiologic stress in the moment or, through repeated episodes, contributes to the increasingly well-documented finding that social mobility exacts a physical price

among members of marginalized groups (Colen, Geronimus, Bound, & James, 2006; Geronimus et al., 2015; James, 1994; Miller, Yub, Chena, & Brody, 2015; Pearson, 2008; Viruell-Fuentes, 2007). Indeed, counter to expectation based on more conventional or emphatically materialist understanding of the social determinants of health, recent studies of indicators of biological aging (such as telomere length or DNA methylation profiles) suggest that for low-SES and minority youth and adults, those exhibiting indicators of greater socioeconomic success also show evidence of accelerated biological aging compared to their less socially mobile peers (Geronimus et al., 2015; Miller et al., 2015).

Growing evidence indicates that stereotype threat operates to impede performance by recruiting affective neural networks in the brain while short-circuiting cognitive ones (Schmader, Johns, & Forbes, 2008). Critical to JPH, researchers have also found that being in a stereotype threat condition activates physiological stress processes, raising blood pressure, affecting heart rate and stability, increasing rumination, and selectively recruiting neural networks and reducing working memory – all markers of physiological stress process activation (Blascovich, Spencer, Quinn, & Steele, 2001; Derks, Inzlicht, & Kang, 2008; Schmader et al., 2008; Murphy et al., 2007). For example, in Murphy et al. (2007), women study participants showed faster heart rates, greater skin conductance, and greater sympathetic activation of the cardiovascular system while watching the gender-unbalanced video than while watching the gender-balanced video. Blascovich et al. (2001) found that African Americans completing a test in a stereotype threat condition exhibited increased blood pressure (and performed more poorly) compared to when they took the same test in a nonthreatening condition or when white American study participants took the test. Their heightened blood pressure reactivity continued during a rest period and through completion of a second test. These types of stress responses have been mechanistically linked to biological wear and tear across body systems (Geronimus et al., 2006; McEwen & Seeman, 1999).

In sum, physiological stress process activation is sensitive to cues emanating from negative social identity stereotypes. We all experience such psychosocial stress from time to time, for example, when we choke on tests or in athletics, have stage fright, feel marginalized or threatened in specific contexts, or experience culture shock in new settings. The ultimate health harm from these threats will depend not only on their severity and chronicity, but on the access of stigmatized group members to valued coping resources and affirmation. To the extent that any of these factors vary by social identity group, the degree of health harm by social identity group in the larger population will also vary. The social psychological literature reviewed informs the primary tenet of JPH praxis: that systematically disrupting stereotype threat by thoughtfully removing or replacing injurious cues in integrated settings can promote health equity by reducing health deterioration secondary to chronic stress process activation, as well as by reshaping settings to level the playing field for specific performance.

Our argument, then, is that it is imperative to enhance notions of the social determinants of health to include the ubiquitous cues – and shared intersubjectivity of how to interpret them – that emanate from dominant cultural axioms and marginalize some social identity groups in very particular ways, while valorizing others (Geronimus & Thompson, 2004). When social cues are persistently threatening and severe, stress process activation can become chronic, weathering the bodies of members of marginalized populations.

Jedi Public Health practice

Major advances are being made in the study of stress physiology – its impacts on molecular dynamics, biological systems, and

ultimate links to poor health in individuals (Everson-Rose & Lewis, 2005; McEwen, 1998; McEwen & Seeman, 1999; Spruill, 2010). As well, approaches to managing and mitigating stress through personal behavior are being proposed both by scientists (McEwen, 1998), and also as a growing part of popular culture (Altman, 2014; Tuller, 2002). However, investigation of the nature and potential mitigation of structurally inherent stressors that activate physiological stress processes inequitably across populations in everyday life to induce weathering is lacking. JPH is a call to fill in this gap, and provides an evidence-based framework for starting to do so.

Among the goals of JPH is to better align settings with the social identities that occupy them; to diversify policies, practices, and attitudes in ways that decenters privileged social identities; that is, dislodges the privileging and valuing of some over others, leveling the playing field (Graham et al., 2011). This requires being identity conscious rather than identity blind, addressing legacies of “isms” by helping to reconstruct social institutions and the surround, and cultivating empathy across groups and respect for local knowledge and culture.

In translating JPH theory into policies, programs, or other intervention approaches, the basic principle is that eliminating health inequity is not an individual or single-group project or responsibility. Members of all social identity groups – advantaged and disadvantaged – must contribute to changing the ideological mindsets, relationships, and environments in which cues that trigger physiological stress process activation in members of marginalized groups are embedded. We can start by learning to recognize cues to stigmatized identity and cooperate in their removal and replacement. The stereotype threat literature provides examples of straightforward and effective interventions that have successfully mitigated the effect of stereotype threat on performance. These attest to the feasibility of diffusing the adverse impact of injurious stereotypes in specific situations that can be expanded towards the development of JPH interventions.

Changing situational cues

The theory underlying JPH approaches to practice and policy is that phantasms related to social identity can be leveraged to have neutral or empowering effects, rather than oppressive ones. As we have described, identity threatening cues initiate a vigilance process among stigmatized individuals that affects their psychological and behavioral functioning and dampens their performance. Identity safe cues, however, reverse this process by signaling to people that their social identity is valued (Murphy & Taylor, 2011). In the broadest sense, this means advocacy for and adoption of public health approaches that work to reduce stereotype and social identity threat, especially in integrated settings, that affirm respect for and inclusion of all people, and that counter the potential for dominant culture oppression in policy and intervention strategies. Reducing stereotype threat for marginalized groups in all contexts will diminish the insults that accumulate for group members, thereby supplanting the corrosive effects of physiological stress and weathering with positive recursive processes.

The stress activation process that accompanies deteriorated performance appears to be triggered by setting-specific cues that signal the salience and valence of social identity. As Steele (2010) notes:

If there is nothing in these settings that you have to deal with because you are a woman, or black, or older, or have a Spanish accent then these characteristics will not become important social identities for you in that setting. They'll be characteristics you have. You might cherish them for a variety of reasons. But in that setting they won't much affect how you see things, whom you identify with, how you react emotionally to events

in the setting, whom you relate to easily, and so on. They won't become central to whom you are there.

The objective of JPH is to ensure that stigmatized social identity is not chronically central to whom people are in everyday life; and never central in high stakes performance settings. This goal points to fruitful junctures for interventions to protect identity safety in potentially threatening circumstances and settings, including changing situational identity contingencies, the cues that signal them, and the narratives used to interpret them (Steele, 2010). There is growing literature on such interventions in the context of academic performance, as summarized below. Our hope is that they can also be adapted to other settings to yield long-term health rewards as well as greater opportunities for academic success for members of marginalized groups.

In the school setting, stereotype threat researchers (Jamieson, Mendes, & Nock, 2013; Martens, Johns, Greenberg, & Schimel, 2006; Schmader, 2010; Sekaquaptewa, Waldman, & Thompson, 2007; Steele, 2010; Steele & Aronson, 1995; Walton & Cohen, 2011) have shown positive results in improving performance through simple methods that focus on altering situational cues, such as:

- Avoiding identity threatening primes by placing demographic questions (e.g. gender, race, ethnicity, income) at the end rather than the beginning of high stakes tests;
- Removing classroom or workplace decorations such as posters that signal gendered or racialized belonging or exclusion.
- Having students affirm their most valued sense of self, early in a school term, helping to inoculate them from threats;

Still straightforward, but requiring greater – though generally not Herculean—effort:

- Increasing a minority group's critical mass in integrated settings;
- Fostering intergroup exchanges that substitute familiarity and first-hand knowledge for stereotype-driven assumptions;
- Helping students develop a narrative about the setting that explains their frustrations—often accomplished through social ties, cross-group friendships, and role models.

Moreover, framing the capacity to meet academic challenges as learnable and expandable rather than as a fixed capacity is an important alteration to the surround that can neutralize threatening cues (Murphy & Dweck, 2010). Environments that endorse a “fixed” versus a “growth” mindset may magnify the impact of stereotype threat on performance for members of negatively stereotyped groups (Aronson, Fried, & Good, 2002; Emerson & Murphy, 2015; Good, Aronson, & Inzlicht, 2003). Those who ascribe to a fixed mindset believe that abilities are inherent and immutable – that people are or are not endowed with the abilities necessary for success in, for example, math, art, or athletics. In contrast, people who endorse a growth mindset believe that ability is developed and malleable, dependent on learning, effort, and practice rather than simple inheritance (Dweck, 2000; Dweck & Leggett, 1988). Research suggests that, when faced with challenges or setbacks, those with fixed mindsets have lower levels of confidence, motivation, persistence, flexibility, strength of effort, and performance (Blackwell, Trzesniewski, & Dweck, 2007; Hong, Chiu, Dweck, Lin, & Wan, 1999; Nussbaum & Dweck, 2008) than those with growth mindsets (Aronson et al., 2002; Blackwell et al., 2007; Hong et al., 1999; Nussbaum & Dweck, 2008). Of most relevance to JPH, Murphy and Dweck (2010) examine how fixed and growth mindsets affect people when they are held and communicated by institutions and powerful others like teachers and workplace supervisors. They find that organizational mindsets can contribute

to a climate that influences the motivation, affect, behavior, self-presentation, self-concept, and treatment of others in the setting (Emerson & Murphy, 2015, 2014; Murphy & Dweck, 2010). They find evidence that the influence of mindset on the persistence and performance of stigmatized group members is especially potent under conditions of power imbalances (Emerson & Murphy, 2015, 2014). Researchers have also found that the performance of members of marginalized groups improves in school settings where the ability to meet academic challenges is framed by educators as learnable and expandable (growth mindset) rather than as a fixed capacity (Murphy & Dweck, 2010).

Note that these highly successful and often stunningly straightforward approaches to improving academic performance of marginalized students focus on changing learning environments, interactions, and repertoires for employing phantasms to free students to flourish unencumbered, rather than on changing individual student behavior. Moreover, studies with longitudinal follow-up show evidence that the interventions itemized above improve performance in the short term and also having continuing positive effects on academic performance over many years (Kenthirajah & Walton, 2015). If repeated episodes of vulnerability to stereotype threat also activate repeated episodes of health-harmful physiological stress processes, then, at least theoretically, there is reason to be hopeful that these straightforward interventions in schools could also mitigate population weathering.

Many of the guiding principles and approaches for the creation of identity-safe environments in schools can be applied to other institutional settings such as health care facilities (Aronson, Burgess, Phelan, & Juarez, 2013), workplaces (Emerson & Murphy, 2014; Link & Phelan, 1995; Murphy & Taylor, 2011), police–community relations (Alexander, 2010; Balko, 2013; Geller, Fagan, Tyler, & Link, 2014; Najdowski, 2011; Purtle, 2013), and the media (Eberhardt, Davies, Purdie-Vaughns, & Johnson, 2006; Entman & Rojecki, 2000; Gilens, 1999). For example, Metzler and Hansen (2014) articulate the case for including structural awareness as part of medical education and propose 5 core competencies for such education: (1) recognizing the structures that shape clinical interactions; (2) developing an extra-clinical language of structure; (3) rearticulating “cultural” formulations in structural terms; (4) observing and imagining structural interventions; and (5) developing structural humility.

JPH also promotes evaluation of other institutional practices for the extent to which they spring from and/or reinforce the oppressive phantasms and fixed mindset approaches that pose threats to members of disadvantaged groups. For example, until recently, the NYPD had a policy of handcuffing children over age 6 in police custody, regardless of the reason they were in custody or whether they posed any credible physical threat. Among the possible objections to this rule, the public practice might well be a cue to stigmatized social identity, threatening identity safety for the children who experienced it directly and for the children and adults who witnessed its application. Many practices pursuant to police militarization in high poverty urban areas could have this effect (Balko, 2013). Standard police practices can be reviewed with an eye towards eliminating or replacing those that cue and reinforce stigmatized social identity without clear benefit for public safety.

Changing the surround

Disrupting oppressive aspects of the surround and making space for a more empowering and deeply pluralistic surround may seem daunting, even impossible. But it does not have to be. Population health inequity is vast and enmeshed, but mutable. Take air pollution as an analogy. Air pollution is ubiquitous, but it is not inherent. Rather pollution has known causes and is the

product of many accumulated decisions and behaviors vis-à-vis these causes. When decisions and behaviors about known sources of environmental harm are altered, pollution levels can be (and have been) reversed. The surround that maintains health inequality via insults to social identity is also ubiquitous. Like pollution, as discussed above, it has known and knowable causes that are subject to alteration: cues in settings and interactions, laws and policies, institutional practices, mediated experiences, and institutional and organizational mindsets. Most of these factors are informed by a specific set of phantasms that are themselves mutable.

Situations and surrounds are reinforcing. For example, educating physicians to be structurally competent, training educators to endorse a growth versus fixed mindset in their classrooms, and changing police protocols to prohibit handcuffing of small children, in effect, changes the surround in the specific contexts of health care facilities, schools, and neighborhoods. Laws and policies are another means of formally intervening in the surround on a societal scale. Despite the effect of policies on a wide range of issues—including education, marriage, neighborhood environments, media representations, and employment—they are rarely made with an eye toward their impact on social identities. Of course, there are some instances (e.g., constitutional amendments banning same-sex marriage, immigration-related omnibus laws) in which laws are purposefully enacted to undermine identity safety, and the research reviewed above demonstrates that these exert pernicious health effects. However, in many other cases, the consequences of laws and policies for identity-safe contexts may be unknown and, if adverse, unintended. As several have argued (e.g. Geronimus, 2000; Richman & Hatzenbuehler, 2014), policymakers should use health impact projections to inform their social policy proposals, just as they routinely use cost–benefit analyses. In addition, JPH urges such health impact projections to consider explicitly the extent to which proposed or existing policy maximizes an identity-safe culture. Collaborations between social epidemiologists, psychologists, community based participatory research partnerships and policymakers can help ensure this approach to policy development.

An ever-expanding feature of the surround is the media: mass media, social media, and mobile media. Phantasms are informed, projected, and reinforced by these sources of mediated experiences. Developing media expertise and points of entrée provides opportunities to change the cues projected by mass media. Thus, JPH practitioners must have access to and legitimacy within the media world. They can reach out directly to journalists, directors, producers, writers, and celebrities to develop a JPH presence in mass media—which remain ubiquitous despite the rise of social and mobile media.

Regarding digital media, just as stereotyped depictions of stigmatized groups are projected through the mass and social media, Harrell (2013) argues that cultural assumptions are also embedded in digital infrastructure, itself (Harrell, 2013) — that computational systems are cultural systems. Harrell and colleagues have reported experimental evidence showing that computing systems are often used – not necessarily intentionally – for subjective purposes, including reinforcing and proliferating stereotypical beliefs about social identity, perpetuating a rigged surround (Harrell, 2013). An obvious example is seen in the ways video gaming avatars reinforce social identity group stereotypes. Isbister (2006) also addresses “powerful gender and cultural issues that can influence perception of characters” in the context of video games. Grounding computing practice in a wider set of cultural practices and values than those currently privileged in computer science and engineering – which Harrell describes as “‘Western’, materialistic, symbolic language-focused, and production-oriented modes of thought” – would impact the surround in positive ways

for the many who engage these systems (Harrell, 2013). Beneath the surface, JPH practitioners can map discriminatory patterns within digital environments and collaborate with experts in digital media to develop alternative patterns.

While doing our best to design settings, institutionalized interactions, expressive laws and media to maximize identity safety, and thereby reduce health-threatening stress process activation, we can also take steps to stop stress-inducing challenges as they arise, limiting their contribution to biological wear and tear. Developing and promulgating a critical consciousness – including counter narratives – can help expose and defuse surfacing cues of stigma or entitlement attached to social identity, altering setting social dynamics and reducing related identity threat. JPH might work to expand platforms for community counter-narrative production that can drive public and local discourse. Counter narratives, oppositional gaze development (or critical consciousness raising), and protest are historically important ways for changing hearts and minds – or at least protecting stigmatized people from the most pernicious impacts of threatening phantasms (Geronimus & Thompson, 2004). For example, the Lafargue Psychiatric Clinic, which operated in Harlem between 1946 and 1958, offered counseling to black people with a counter narrative on mental illness that treated Harlem patients as psychological products of their oppressive social context (Eversley, 2001). Similarly, also in the context of mental health, Rev. Martin Luther King, Jr. referred to a need to change the surround rather than enjoin the disadvantaged to align with it. In particular, he objected to the common use and understanding of the term “maladjusted” in modern psychology.

I never intend to become adjusted to segregation and discrimination. I never intend to adjust myself to religious bigotry or mob rule. I never intend to become adjusted to economic conditions that will take necessities from the many to give luxuries to the few. And so I call upon you to be maladjusted and continue in the maladjustment that you have already demonstrated, for it may well be that the salvation of our world lies in the hands of the maladjusted. And so, let us be maladjusted.

JPH embraces the notion that critical consciousness and counter narratives can change phantasms from oppressive to empowering. In fact, creating the social and political space to recast stereotype threat and to roll out new visions for social identity are among the most powerful ways that JPH practitioners can address the fault lines where injurious phantasms substitute for firsthand experience. The historian Robin D.G. Kelley sums up his review of black “freedom dreams” this way: “Struggle is par for the course when our dreams go into action. But unless we have the space to imagine and a vision of what it means fully to realize our humanity, all the protests and demonstrations in the world won’t bring about our liberation” (Kelley, 2002).

Conclusion

Population health inequity emerges from core cultural beliefs and phantasms that privilege some identities and ways of being in the world, while marginalizing and devaluing others (Geronimus & Thompson, 2004; James, 1993; Pearson, 2008; Viruell-Fuentes, 2007). In turn, the policies, practices, and attitudes of community institutions (schools, government, economic, legal and health systems, etc.) intended to serve citizens may be misaligned to the marginalized groups that attempt to reap their benefits (Graham et al., 2011; James, 1994; Pearson, 2008). Navigating institutions under conditions of misalignment, itself, can trigger physiological

stress responses that increase health vulnerability (Geronimus et al., 2006; James, 1994; Pearson, 2008; Viruell-Fuentes, Miranda, & Abdulrahim, 2012).

JPH is concerned with the nature and intensity of such “contingencies of social identity” over the course of each day and over intersecting lifetimes. These contingencies are structurally rooted and harmful to health inasmuch as they activate physiological stress responses (Geronimus, 2013; Steele, 2010). They also have adverse effects on cognition and emotion, undermining self-confidence and diminishing performance. This impact reduces opportunities for social mobility, while ensuring those who “beat the odds” will pay a physical price for their positive efforts (Geronimus et al., 2015; James, 1994; Miller et al., 2015).

In popular culture, Jedi masters are portrayed as a network of autonomous actors who are wise; teachers as much as warriors. Jedis are joined by their allegiance to an aspirational positive force, and in JPH, so should we be. Even Jedi prowess with space-age technology is guided by this unswerving allegiance; moreover, Jedis can use the most modest of technologies to powerful effect. The emphasis on commitment and aspiration, rather than on brute strength or isolated expertise, means anyone can be a Jedi; it is an expandable capacity. In practice, Jedi Public Health emphasizes the need to co-create a culture of identity-safety discursively, symbolically, materially, politically, digitally, and practically – in communities, classrooms, workplaces, clinicians offices, policy settings, and everywhere we live, think, imagine and act.

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