Cultural Stress Theory in the Context of Family Crisis Migration: Implications for Behavioral Health with Illustrations from the *Adelante Boricua* Study

Christopher P. Salas-Wright, et al. *[full author details at the end of the article]*

Abstract

On September 20, 2017, Hurricane Maria made landfall in Puerto Rico as a Category 4 hurricane with sustained winds of 155 miles per hour and torrential rains that ravaged the United States territory. In the midst of the crisis, several hundred thousand *Maria survivors* boarded humanitarian flights and cruise ships, seeking refuge on the United States mainland. More than three years later, tens of thousands of *post-Maria migrants* remain on the mainland as long-term emigres. In this article, we lay the theoretical/conceptual groundwork for researchers and practitioners interested in understanding the experiences of post-Maria migrants. Specifically, we aim to assist readers in thinking deeply about: [1] why many Puerto Ricans relocated, [2] the experiences of post-Maria migrants *en movimiento*, and [3] how such experiences shape their lives, behavior, and well-being. In understanding the experiences of post-Maria migrants, several theories/constructs emerge as especially salient. These include "push and pull" models, cultural stress theory and its transnational variants, the concept of crisis migration, and models of cumulative risk. We provide a succinct overview of each of these theories/constructs and describe the broad perspectives that serve as a foundational or orienting paradigm for our work (i.e., the life course perspective, the strengths perspective, and an ecodevelopmental framework). Finally, we provide illustrations of how these theories/concepts apply to emerging data from the *Adelante Boricua* study, an ongoing research project with post-Maria migrant youth and their parents, supported by funding from the National Institute on Minority Health and Health Disparities.

Keywords Puerto Rico · Migration · Discrimination · Theory · Family

On September 20, 2017, Hurricane Maria made landfall in Puerto Rico as a Category 4 hurricane with sustained winds of 155 miles per hour and torrential rains that ravaged the United States (U.S.) territory. More than a quarter of a million homes were damaged or destroyed, literally millions were left without power or clean water, and an estimated 3,000 people lost their lives (Fischbach et al., 2020). For weeks on end, the world watched as Puerto Rico struggled to recover and—critically—as several hundred thousand *Maria survivors* boarded humanitarian flights and cruise ships and relocated to the U.S. mainland (Schachter & Bruce, 2020), with the majority settling in nearby Florida (Martín et al., 2020). More than three years later, although estimates vary substantially, we can safely say that tens of thousands of *post-Maria migrants* remain on the U.S. mainland as long-term emigres (see Flores & Krogstad, 2019; Rivera, 2020).[1]

In this article, we lay the groundwork for researchers and practitioners interested in understanding the experiences of Maria survivors who relocated to the U.S. mainland. We do so in three distinct sections: In *Section I*, we begin by providing critical background information regarding the social and economic conditions in Puerto Rico prior to Hurricane Maria. In *Section II*, we present several key theories or concepts that we argue are valuable in understanding the experiences of post-Maria migrants and, subsequently, in *Section III*, we provide illustrations of how these theories/concepts can be applied to mixed methods data from our ongoing research with post-Maria migrant families in Florida. We conclude with an overall assessment of what our theorizing and data illustrations tell us about the situation(s) of post-Maria migrants and consider the next steps for research with this important population.

Section I

Necessary Background: Puerto Rico before María

An in-depth portrait of the conditions in Puerto Rico prior to Hurricane Maria is well beyond the scope of this article (for greater depth see Duany, 2017; Fischbach et al., 2020), but it is critical that we provide some basic background. Here we briefly describe some of island's pre-hurricane challenges in terms of economics, social dynamics, and infrastructure, and lay out, in broad strokes, the general trends in emigration from Puerto Rico over the last few decades.

Even before Hurricane Maria, Puerto Rico faced noteworthy economic and social challenges (de Onis, 2018). For example, influenced by manifold factors, including

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[1] To be sure, we are cognizant that the terms *émigré* and migrant are clumsy with respect to Puerto Ricans who move from Puerto Rico (a U.S. territory) to the U.S. mainland. We argue that the linguistic, cultural, and social context of Puerto Rico is sufficiently distinct from that of most communities on the U.S. mainland to justify conceptualizing Puerto Ricans as emigres/migrants. Yet, Puerto Ricans are U.S. citizens by birth with free movement from the territory to the mainland, and therefore cannot be considered immigrants (therefore, migrant is a better term). We strive to be mindful of this complex and delicate balance as we describe this unique population of *citizen migrants*.

island-level governmental corruption and U.S. federal governmental policies that excluded Puerto Rico from many stimulus programs available to U.S. states, the island's manufacturing and energy sectors struggled and began experiencing acute difficulties in the mid-2000s (Duany, 2017). In response, and under pressure from the U.S. Congress, the island government instituted austerity measures, such as reductions in funding for higher education (Colón, 2015). Concurrently, rising crime and violence rates in Puerto Rico have long been a source of concern and have led to "iron-fisted" policing strategies that have angered and alienated many of the island's urban residents (LeBrón, 2017). These are but two examples of the myriad pre-migration economic and social challenges that arguably contributed to the vulnerability of the island itself and that of many Puerto Ricans in the face of a large-scale natural disaster such as Hurricane Maria.

Critically, we also know that Puerto Rico's infrastructure—the electrical grid, ordinances governing home construction and renovation, and roads and bridges—was not well maintained (O'Neill-Carrillo & Rivera-Quiñones, 2018). For example, the electrical grid was in such perilous condition that even a small amount of wind damage would likely have caused power outages to most of the island (Aros-Vera et al., 2021). Further, the island government was generally regarded as corrupt, and this corruption was often viewed as a consequence of Puerto Rico's ambiguous relationship with the U.S. (Villaneuva, 2019). For example, in 2016, in response to Puerto Rico's mounting debt, the U.S. Congress passed the Puerto Rico Oversight, Management and Economic Stability Act (PROMESA), which created an oversight board to monitor the island's finances. The oversight board's austerity measures may have contributed, at least in part, to the infrastructure problems that prolonged the island's recovery from Hurricane Maria (Cabán, 2019).

These and other challenges prompted a pre-Maria migration whereby hundreds of thousands of Puerto Ricans relocated to the U.S. mainland beginning in 2006 (Flecha et al., 2017). Indeed, the island lost almost 10% of its population between 2006 and 2017 (Melendez & Hinojosa, 2017). Whereas New York City, Boston, and Philadelphia were the primary destinations for Puerto Ricans migrating to the U.S. mainland in the 1950s and 1960s, Central Florida has become the primary destination for the current wave of arrivals from the island (Acosta-Belén & Santiago, 2018). Indeed, the Orlando-Kissimmee metropolitan area has seen remarkable growth over the last thirty years, increasing from 53,000 Puerto Ricans in 1990 to 288,000 in 2010 and reaching a pre-Maria pinnacle of 360,000 in 2016 (Collazo et al., 2010; U.S. Census Bureau, n.d.). By way of context, according to the 2016 American Community Survey, there were a total of 785,000 Puerto Ricans living in the five boroughs of New York City.

Section II

Thinking Deeply about Migration and Wellbeing: Key Theories and Constructs

As scholars focused on Latin American migration and health, our overarching tasks are to think deeply about: [1] why people move, [2] the experiences people have

en movimiento, and [3] how such experiences shape their lives, behavior, and well-being. In understanding the experiences of Maria survivors who relocated to the U.S. mainland, a number of theories and constructs emerge as especially salient. These include "push and pull" models, cultural stress theory and its transnational variants, the concept of crisis migration, and models of cumulative risk. Below we provide a succinct overview of each of these key theories/constructs and describe the broad perspectives that serve as a foundational or orienting paradigm for our work (i.e., the life course perspective, the strengths perspective, and an ecodevelopmental framework) (see Fig. 1). Our aim here is not to provide an exhaustive definition of each of the aforementioned topics; rather, we provide key information that can help readers to orient themselves vis-à-vis our theorizing and direct readers to foundational texts that can provide more depth and detail.

Push and Pull Theorizing on Migration

The sociology of immigration posits a number of factors that determine who will migrate and who will not, as well as those regions that will send migrants and those regions that will receive them. One of the key determinants is *push* and *pull* (Sabates-Wheeler et al., 2008). Broadly, push factors refer to those conditions that increase discomfort and decrease sustainability among individuals residing within a given society, whereas pull factors refer to those conditions in a potential destination society that attract people to migrate there. Theories of push and pull have generally posited these factors in primarily economic terms (see Van Hear et al., 2018, for an extended discussion). However, as Van Hear and colleagues note, push and pull factors can also include social networks—such as having friends and family in the destination society. Indeed, even if economic factors were to fully determine who migrates from one society to another, these factors cannot completely account for *where* migrants settle once they arrive in the destination country or region. Migrants
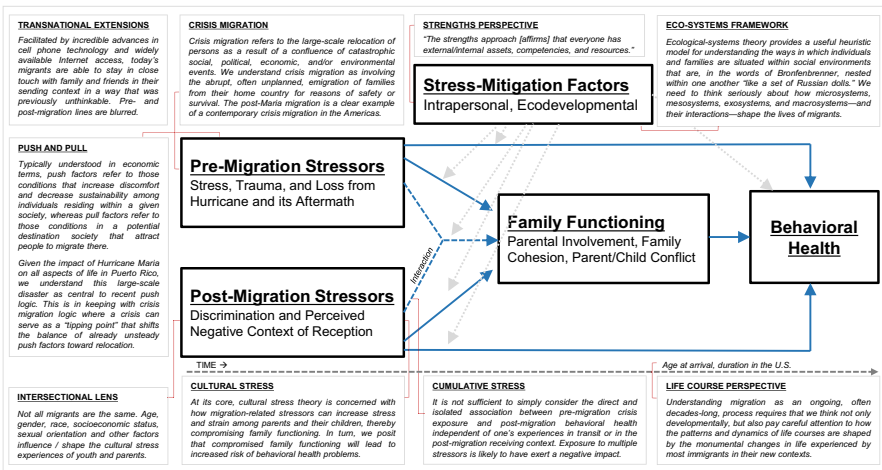

Fig. 1 The theories and concepts that inform our understanding of the experiences post-Maria migrants

who have a choice of destination societies and regions will likely migrate to communities where their ethnic and cultural groups are well represented, as well as where they can settle into pre-existing social networks (such as reuniting with friends and family members; Bilecen et al., 2018). For example, various waves of Cuban refugees have settled in Miami because of the presence of a large co-ethnic community and of family and friends (Rothe & Pumariega, 2007).

Migrants and migrant waves vary, however, in the extent to which their move from origin to destination society is voluntary versus forced (Erdal & Oeppen, 2018). Migrants whose decision to migrate is largely voluntary—such as people moving to pursue higher education—may be able to consider carefully when and where they will relocate. However, *crisis* migrants—people who are driven from their countries or regions of origin by wars, natural disasters, government repression, and other uncontrollable factors (Vos et al., in press)—may have less choice in terms of when they migrate or the destination to which they migrate. Indeed, crisis migration is marked by large numbers of people leaving the epicenter of a crisis or disaster and entering destination countries or regions *en masse* (such as the mass exoduses out of Syria and Venezuela; Vos et al., in press). In turn, mass migration often activates defensive reactions among destination-society members, such as discriminatory behaviors and policies (Coenders et al., 2008). It can be surmised, then, that forced migrants—especially those who are pushed out by crises and disasters—may encounter elevated levels of discrimination following their arrival in the destination society/region.

A key assumption underlying crisis migration is that the crisis or disaster itself is the primary push factor underlying migration from the sending country or region. That is, for example, Puerto Ricans migrating to the U.S. mainland following Hurricane Maria may be assumed to have left because of the hurricane, with the supposition that they were not planning to migrate before the hurricane and would not have migrated if not for the hurricane. However, there is also the possibility that the crisis represents a "tipping point," and that the crisis may serve as the final push for individuals and families who have been considering migrating for other reasons. With specific reference to Puerto Rico, people might have been thinking about leaving because of economic and safety concerns, but the hurricane was the "last straw" that prompted them to migrate to the U.S. mainland. As seen in Section III, data from the *Adelante Boricua* study allow us to contrast these two perspectives on crisis migration and to generate additional knowledge on the role of crisis events and conditions in prompting migration.

Cultural Stress Theory

Theory Overview At its core, cultural stress theory is concerned with how migration-related stressors can increase stress and strain among parents and their children, thereby compromising family functioning. In turn, we posit that compromised family functioning will lead to increased risk of behavioral health problems. As described in the next subsection, we also are concerned with how key intrapersonal and ecodevelopmental protective factors can buffer stressors and facilitate thriving,

but the theory had its genesis in examining the negative impact of adverse experiences among migrant families.

Cultural stress theory uses a number of terms that should be succinctly defined. To begin, *migration-related stressors* refer specifically to the experiences of othering, rejection, or hostility that migrant youth and adults may experience directly (as with discrimination) or that they may perceive as part of a broader community/social landscape (as with negative context of reception). Here *discrimination* may manifest as being treated unfairly or negatively by peers, community members, or authority figures because of one's Puerto Rican identity or because one speaks English with an accent or has limited English language ability. By contrast, *negative context of reception* captures the sentiment that Puerto Ricans are not welcome in the U.S. or that Puerto Ricans do not have the same opportunities as non-Hispanic Whites or other groups. We are also interested in *bicultural stress* where, typically, children assimilate the practices, values, and identifications of the receiving community at a faster rate than their parents—and this discrepancy introduces parent–child conflict and compromises parental involvement and parent–child communication.

By *family functioning*, we refer to the nature and quality of the relationship between family members—typically conceptualized as those within the household or core members of an extended family that regularly interact. Here we are interested in understanding the extent to which, for example, parents and their children are able to communicate effectively, listen to one another, show warmth and affection, and work together to address life's challenges. Family functioning also captures behavior such as family members enjoying spending time together and help one another. Our underlying assumption here is that family functioning is a highly desirable outcome not only because it tends to be intrinsically enjoyable to experience a close and warm family unit, but also because positive family functioning is posited as relating directly to the health and well-being of children, their parents, and all members of a family. Within the context of migration, we also conceptualize families as being a critical source of stability and support that is arguably more constant than the many changes that migrants experience in their new receiving context.

A Thought Experiment: Isán and Gloria Having defined these constructs, we can begin to envisage how they may manifest in the lives of post-Maria migrant families. For instance, imagine Isán, a 14-year-old post-Maria migrant boy who relocates with his family from rural Puerto Rico to a suburb of Orlando, Florida. Let us assume that Isán struggles with English and is often targeted at school by other youth who ridicule his accent and speak disparagingly about the large number of (often poor) post-Maria migrants who have shown up in recent years. Prior to leaving Puerto Rico, Isán always felt like he fit in as a Spanish-speaking Puerto Rican on the island. We can also imagine that Isán's mother, Gloria, is on social media and is sometimes troubled by posts she sees that express the sentiment that Central Florida already had too many Puerto Ricans and does not want any more Maria survivors.

Cultural stress theory is interested in how Isán's experiences of ethnic discrimination at school and Gloria's general feeling that the receiving context is unwelcoming may create or exacerbate problems at home. Perhaps Isán begins to feel embarrassed about being Puerto Rican and channels this embarrassment as frustration towards

his mother. Or perhaps he begins to withdraw at home, silently feeling resentment that his mom chose to disrupt his life back home in Puerto Rico. Here we would also be interested in how impaired functioning between Isán and his mother relates to both of their behavioral health. Does Isán's sense of isolation leave him feeling depressed? Does his frustration and distance with his mother make him more likely to break his family rules by drinking with kids from school? Cultural stress theory posits that, on average, the answer to these questions is yes: the general model states that migration-related cultural stress leads to impaired family functioning which, in turn, leads to increased behavioral health risk.

Caveats, Intersections and Strengths To be clear, we are not arguing that every young post-Maria migrant who experiences discrimination will have problems at home and will experience behavioral health problems. We are hypothesizing about the strength of the associations on average—and, importantly, we also posit that individual, family, and community strengths can mitigate the negative impact of migration-related stressors. For instance, a strong sense of ethnic identity or pride may help Isán to shake off the discriminatory comments from other kids at school. Or maybe a strong religious faith helps both Isán and Gloria to reinterpret cultural stressors and dedicate time and energy to their relationship. Without providing an exhaustive list of strengths or stress-mitigation factors, the point here is that cultural stress theory also takes seriously the internal and external resources that migrant youth and their families so often bring with them and maintain.

Another caveat to underscore is that not all migrants, and certainly not all post-Maria migrant families, are the same. For instance, using an intersectional framework, we can surmise that the migration related experiences of Afro-Puerto Ricans (roughly 12% of Puerto Ricans identify as Black) may be different from those Puerto Ricans who do not identify or present as having African ancestry. Indeed, we did not clarify his skin tone or hair texture in our vignette, but one could imagine that, were Isán Afro-Puerto Rican, he might experience ridicule because of his limited English, broad anti-Puerto Rican sentiment, *and anti-Black racism*. Beyond race, we also recognize that it is important to consider other core demographic factors such as age of migration (which relates to acculturation [see Schwartz et al. 2010]), gender or biological sex, family income or socioeconomic status, sexual orientation, and other identity constructs. Moreover, as we have described elsewhere (Salas-Wright & Schwartz, 2019), it is apparent that not all receiving contexts are the same. That is, the experience of being a post-Maria migrant in a Puerto Rican enclave in Orlando is likely distinct from that of being a post-Maria migrant in Miami, Tampa, or any of the many small towns in Florida where post-Maria migrants relocated after the hurricane. Simply put, whereas the basic framework of cultural stress theory is rather straightforward (cultural stress ➔ family functioning ➔ behavioral health), closer inspection makes clear that it is also flexible enough to capture the diversity of experiences that post-Maria and other migrants embody.

Transterritorial Extensions As is the case with most migration and acculturation research, our work in the area of cultural stress began within a domestic U.S. frame.

That is, our emphasis was primarily on understanding the experiences of immigrants following the migration experience using the tacit assumption that, in practice, when immigrants arrived in the U.S. they experienced a near complete rupture with the country they left behind. Increasingly, however, it has become evident that twenty-first century communication technology and relatively inexpensive long-distance travel has rendered the aforementioned assumption untenable. As described in greater detail below, we now argue that cultural stress research be rooted in a framework that is fundamentally transnational.

These days "faraway countries" are not so far away. Facilitated by incredible advances in cell phone technology and widely available Internet access, today's migrants—just like seemingly everyone else on the planet—are able to stay in close touch with family, friends, and former neighbors in their sending context in a way that was previously unthinkable. We observed this pattern of interconnectedness in a recent study of Venezuelan migrant youth in the U.S., documenting that roughly 85% of our sample was in at least *weekly* contact with friends in Venezuela and roughly 20% were in *daily* contact with friends in both the U.S. and in Venezuela via voice, text/chat, and social media (Salas-Wright et al., 2020). Although some evidence suggests that immigrants may have more difficulty with Internet access than the general population (Cherewka, 2020), more than 95% of individuals in the U.S. own a cellular phone and most own a smart phone (Pew Research Center, 2021). Beyond these specifics, the point here is that most immigrants now are able to find a way to at least call and very likely text/message or video chat with people in their sending context/country.

Returning to Isán and Gloria: in today's environment, there is a good chance that Isán at least talks to his cousins in Puerto Rico on the phone and that Gloria chats on WhatsApp with her island-residing sister and mother and follows events back home via her Facebook feed. It is also quite conceivable that Isán and Gloria are able to travel to Puerto Rico to spend time with friends and family. Presently, scholars do not have good answers as to what this kind of transnational—or, in the case of Puerto Rico, *transterritorial*—connectedness and communication mean for immigrant adaptation, acculturation, health, and well-being. But it is clear that we must take seriously the immense and ever-evolving possibilities for connectedness that are possible among migrants/immigrants in our world today.

Crisis Migration

Often when we think about migration, there is a tacit assumption that people calmly deliberate the benefits and drawbacks of push and pull factors before making a life altering decision. This conceptualization matches up with the logic of economic migrants acting as purely rational actors with sufficient time to calculate the most advantageous situation (Stay in Bogotá and continue working? Take advantage of the work visa and take a chance in New York?). Indeed, for many this very well may be the case; however, increasingly scholars have highlighted the fact that an important proportion of international migrants are faced with a very different reality—that is, emergency situations dictate that they must make

the decision to move not inside a contemplative vacuum but in the face of time sensitive, life-threatening circumstances. In such situations, the movement of individuals and/or families can be called crisis migration.

When we speak of *crisis migration*, we are referring specifically to the large-scale relocation of persons as a result of a confluence of catastrophic social, political, economic, and/or environmental events. We understand crisis migration as involving the abrupt, often unplanned, emigration of families from their home country for reasons of safety or survival (Schwartz et al., in press; Vos et al., in press). To capture the emotional flavor of crisis migration, we are thinking about situations in which persons or families look at their immediate context and conclude: "We have to go now." In the Americas, there are several crisis migration examples we can highlight—the out-migration of Puerto Ricans following Hurricane Maria is a clear instance, as is the mass movement of Venezuelans, since 2015, to countries across the Americas in the face of widespread hunger, soaring inflation, and very high levels of crime and violence (International Monetary Fund, n.d.; Salas-Wright et al., 2020; United Nations Office on Drugs & Crime, 2019). Here we might also highlight the large-scale exodus of children and families from Central America's "Northern Triangle" in response to the convergence of intractable poverty and, critically, extreme levels of life-threatening gang violence and intimidation (Hiskey et al., 2018).

Identifying paradigmatic examples of crisis migrations in contemporary Latin America begs the question of identifying examples of non-crisis migrations in Latin America. Perhaps the most important example is that of migration from Mexico to the U.S. throughout the latter half of the twentieth century. Here we see a very large movement of individuals and families migrating from south to north, but the Mexican sending context was one primarily defined by economic scarcity in the absence of migration-driving catastrophic sociopolitical conditions (e.g., an armed conflict across much of the country) or a massive environmental event (e.g., a severe drought). This is not to say that Mexico did not experience important social, political, economic, or environmental crises—the Mexico peso crisis, the Zapatista uprising in Chiapas, and the Mexico City earthquake are but a few examples. Our point here is that these and other important events did not dramatically transform the longer standing migration patterns from Mexico to the U.S.

In other words, not every crisis results in a crisis migration; in fact, many crises do not result in a large-scale movement of people. This is a key point that McAdam (2014) makes in underscoring the importance of an "underlying social dimension" that, together with a crisis event, leads to a large-scale outmigration. As we discussed above, although Hurricane Maria was overpowering in its force and scope, the longer-term outmigration of Puerto Ricans is very likely best understood in concert with the manifold social, political, and economic challenges that characterized life for many in Puerto Rico prior to the hurricane. Similarly, many families may leave their home country as a result of a personal economic or safety crisis—perhaps a family's small business fails or a person is threatened by a local street gang. These individual or family level crises are unquestionably important, but they would only be related to crisis migration if they occurred as part of a broader economic downturn (as with Venezuela's current situation) or public safety crisis (as with El

Salvador's uptick in gang violence in the 2010s) that prompted large-scale movements of people (Martin, Weerasinghe, & Taylor, 2014).

As a research team, we are not only interested in *defining* crisis migration, but in understanding the ways in which migrations prompted by crisis may uniquely relate to immigrant adaptation and health. Our core supposition is that, all things being equal, pre-migration exposure to a crisis and the overall experience of crisis migration is more stressful than a non-crisis migration experience in which one is able to deliberate within a context of relative calm and to fully plan and prepare for departure. In the section below, we will further explore the impact of crisis on post-migration adaptation in concert with other pre-migration, transit, and post-migration factors.

Cumulative Stress Logic

As we seek to understand the role of cultural stressors in the context of family crisis migration, we inevitably must contemplate how multiple stressors (or protective factors) may together influence family functioning and behavioral health. That is, our assumption is that it is not sufficient to simply consider the direct and isolated association between pre-migration crisis exposure and post-migration behavioral health independent of one's experiences in transit or in the post-migration receiving context. Presumably, exposure to multiple stressors at different points in the migration experience is likely to exert a negative impact.

If we return to our thought experiment and the experiences of Isán, we might consider how Isán's experience of bullying based on his stage of language learning and his ethnic identity are influenced by his experiences during and shortly after Hurricane Maria. Let's imagine for a moment that Isán's rural home and community were—as in the case of many rural Puerto Ricans—decimated and that he was, unavoidably, exposed to hours of terrifying uncertainty as the wind and rain invaded the world around him. To make matters worse, not only was the storm itself terrifying and traumatizing, but Isán's town was also left without power, water, and sufficient food for weeks and was effectively isolated from the rest of the world. Such experiences were not only challenging in the moment, but the images of the hurricane and its sequelae are often in Isán's mind (invariably with a strongly negative emotional charge). When asked, he admits that both his traumatic experiences in Puerto Rico and his negative experiences at school in Central Florida have affected him considerably.

Using the logic of cumulative stress exposure, we would expect that, all things being equal, this pre-migration stress adds another layer of adversity that increases behavioral health risk in either a linear fashion (for example, incrementally increasing the risk of depression by X%) or may exponentially exacerbate risk (Evans et al., 2013; Liddell & Guiney, 2015). Scholars have also argued for a *dimensional* approach to examining the experience of adversity across multiple domains and argue that not all experiences should be considered to have equal weight in terms of their capacity to contribute to behavioral health risk (Sheridan & McLaughlin, 2014). However we operationalize these relationships, the core insight here is that we would be wise to at least consider how crisis factors and

post-migration stressors may together interact to influence longer-term outcomes. The logic of cumulative stress applies specifically to how we think about pre- and post-migration cultural stressors, but we also note that other factors that are not directly related to migration—such as illness or any number of maladies of everyday life—can also further compound the impact of migration related stressors.

Complementary Perspectives

We view three broad conceptual frameworks or lenses as complementary to the aforementioned theories and concepts that help us understand the experiences of post-Maria migrants. These include the life course perspective, the strengths perspective, and the eco-developmental framework—to be sure, it is well beyond the scope of this article to describe these exhaustively, but it is critical that we lay out the core concepts of these frameworks as they are integral to our broad understanding of cultural stress in the context of family crisis migration.

The Life Course Perspective As noted by Elder (1998), the life course perspective has as its core "the notion that changing lives alter developmental trajectories" (p. 1). Migration in general, and certainly crisis migration in particular, exemplify what is at the core of *changing lives*—indeed, immigrant youth and their parents often leave behind the familiar to enter into milieux marked by cultural, linguistic, and manifold contextual differences. In our work, we are deeply interested in understanding how migration results in changes in roles and statuses (*transitions* in the language of the life course perspective) both upon arrival and over time.

For instance, a late adolescent migrant might transition from the role of a high school student in their home country to a full-time worker upon arrival in the US. Within the frame of the life course perspective, such transitions can lead to broader, longer-lasting changes in one's life trajectories—in this case in the realm of education and work. That is, leaving school and transitioning into a lower wage services industry position not only has implications for one's immediate future, but also can change the course of one's work/employment trajectory for years. Similarly, a mother may transition from someone whose labor takes place within the frame of home in the home country to someone who, with time, transitions into the role of both a part-time homemaker and a part-time worker. Or perhaps a father who is an educator in the home country transitions from the role of trained professional to that of a transportation sector worker (e.g., Uber driver) due to his limited English and need for US-based training certifications.

There are countless examples of such change, but, fundamentally, the key point is that we view migration as a temporal process that begins upon departure from the home country and unfolds and changes in the new receiving context. Understanding migration as an ongoing, often decades-long, process requires that we think not only developmentally, but also pay careful attention to how the patterns and dynamics of life courses are shaped by the monumental changes in life experienced by most immigrants in their new contexts.

The Strengths Perspective The strengths perspective is rooted in the conviction that a deficit approach to understanding the lives of individuals, families, and communities—one that gives primacy to problems, psychopathology, illness, or other challenges—is profoundly incomplete. Consistent with the resilience literature, which focuses on internal and external traits or adaptations that are developed in response to social and contextual stressors, the strengths perspective calls us to consider *what is right* in addition to *what is wrong* (or missing). As Saleebey (2008) notes, "[T]he strengths approach obligates us to understand—to believe—that everyone… has external and internal assets, competencies, and resources" (p. 127). Often, in the face of life's challenges, such assets may be hard to observe at first glance, but this perspective asserts that natural resources invariably rest beneath the surface and that human beings have a fundamental capacity for health and self-righting (Saleebey, 2011; Weick et al., 1989).

This asset-focused framework is central to social work practice, and it is a point of emphasis in our efforts to understand migration-related stress and its impact. In practice, this perspective carries several direct implications. First, as we hone in on the influence of migration-related stressors on family and behavioral health, we also posit that key assets can function as effective stress-mitigation factors in the face of adversity (see Cobb et al., 2019). Such resilience may include intrapersonal factors such as intrinsic spirituality, religious faith, or a strong sense of ethnic identity (Salas-Wright et al., 2014; Schwartz et al., 2007) as well as ecodevelopmental factors such as prosocial peers, school bonding, and extended/transnational family and community supports (Salas-Wright et al., 2020; Schwartz et al., 2006). Beyond the specifics, the core insight here is that an array of positive factors in the lives of immigrants can serve to protect well-being and health in the face of stress. A second, related implication is that our theoretical models are not limited exclusively to outcomes in the domain of distress, illness, or problem behavior. Rather, we also consider outcomes firmly in the domain of thriving (including positive youth development's "5 Cs": confidence, character, connection, competence, and contribution) (Lerner et al., 2005).

A third implication of the strengths perspective in our work is reflected in our efforts to build strong research and practice collaborations/partnerships with community organizations. Often community organizations—be they cultural associations, religious communities, advocacy groups, or social service agencies—are clear manifestations of the social assets that are most readily available to immigrants and compelling examples of how immigrants can and do thrive. For instance, we have built a robust partnership with an Episcopal parish in Orlando, Florida—Iglesia Episcopal Jesús de Nazaret (JDN)—a community that, as an expression of its religious mission, has responded directly to the concrete needs of newly-arrived Puerto Rican migrants as well as immigrants from across Latin America.[2] Many of the JDN

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[2] We hesitate to list only one organization in this article; however, the limitations in space require that we make this third point succinctly. That being said, we would be remiss not to mention our core community partner in Miami, Florida—Raíces Venezolanas—which, like JDN, is led by recently-arrived immigrants and designed to support the transition of immigrant families (in this case from Venezuela).

parishioners are themselves recently arrived crisis migrants, and their work unequivocally represents Saleebey's (2000) core postulate that, "Even in the most demanding environments, there are natural resources… available to individuals, groups, and families" (p. 128). JDN parishioners work tirelessly to help recent migrants to transition and, critically, they have helped us to ask the right research questions, to do so in a way that is culturally congruent, and to share our research with members of the community who are most likely to care passionately about our findings.

An Eco-Systems Framework A number of integrative perspectives have been introduced to organize the various social-ecological influences on developmental outcomes among youth and families. Many of these perspectives are grounded in the seminal work of Bronfenbrenner (1979), who proposed a number of concentric systems: macrosystem, exosystem, mesosystem, and microsystem. Subsequent theories, such as ecodevelopmental theory (Szapocznik & Coatsworth, 1999), have further refined and organized Bronfenbrenner's levels; and, in turn, these theories have been adapted specifically for the lives of migrants and migrant families (Pérez, in press). Here we briefly discuss the social ecology of migrant families.

The *macrosystem* refers to societal and cultural norms, immigration and colonial policies, and population-level attitudes toward migrants. For example, migrant families are often adversely affected by xenophobic attitudes and policies that marginalize and exclude migrants (Roche et al., 2018)—such as separating families at the border, deporting parents of U.S. citizen children, and punishing migrants for attempting to access public assistance during times of unexpected need (Zayas, 2015). Macrosystemic effects on migrant families can be so pernicious that some writers (e.g., Menjívar & Abrego, 2012) have referred to these effects as "legal violence." Indeed, the PROMESA Act, through which the U.S. government effectively seized Puerto Rico's finances, might be construed as a form of legal violence against Puerto Ricans—especially given that the resulting austerity measures may have prevented the island government from acquiring sufficient resources needed to recover from Hurricane Maria.

Exosystems refer to the social ecologies of one's parents, partner, or other close family members or friends. For instance, although children do not directly participate in their parents' work and social environments, stressors that parents encounter will affect children indirectly through compromised, distracted, and harsh parenting (Lorenzo-Blanco et al., 2016). Migration-related stressors can also compromise parenting and, in turn, lead to increased emotional distress among parents and children (Rubio-Hernandez & Ayón, 2016). For example, parents who are concerned about deportation, finding stable work, language barriers, or other stressors related to migration will likely be less patient and involved with their children—which, in turn, may impair the children's developmental, emotional, cognitive, and academic outcomes.

Mesosystems refer to interconnections between the "worlds" in which a person participates directly, such as parents' involvement in children's schooling. With specific relevance to migration, schools that offer targeted services to engage migrant parents—such as translation services, transportation to and from parent-engagement events, and support staff dedicated to communicating effectively with migrant

parents—may be most likely to encourage high levels of parental involvement in school, which in turn is likely to result in greater academic achievement among children (Marschall, 2006). Another example of a mesosystemic context relevant to migrant youth involves parents' abilities to monitor, and communicate with adolescents about, peer affiliations and associated risks (Walsh et al., 2014). Indeed, Walsh and colleagues found that, in Israel, adolescents from immigrant families reported less parental monitoring of peer activities, and less communication with parents about peers, compared to adolescents from native-born Israeli families.

Finally, *microsystems* refer to the individual contexts in which individuals function, such as family, neighborhood, peers/friends, and school/work. These contexts exert direct effects on migrant children's and families' adjustment (see Pérez et al., in press, for a review). For example, family relationships can be disrupted by migration when parents work multiple jobs, youth are left home by themselves, and parental involvement decreases from pre-migration levels (Bacallao & Smokowski, 2007). Migrant youth may struggle in school because of unfamiliarity with the destination country's or region's school system (Marks et al., 2018). Peers may reject or discriminate against migrant children because of their or their parents' accents, traditional values, or cultural backgrounds (Plenty & Jonsson, 2017).

Section III

Brining Theory to Reality

Section I provided the groundwork for thinking about the post-Hurricane Maria migration, and *Section II* systematically examined theories and constructs that we believe are especially relevant to understanding cultural stress and family crisis migration. We believe that these sections provide an important contribution, but, admittedly, our contribution up to this point has primarily addressed the realm of ideas.

Section III aims to bring this theoretical and conceptual work to life—that is, drawing primarily from our recently-collected baseline data on post-Maria migrant children and their parents (i.e., the *Adelante Boricua* study) but also on our prior work in this area, we bring theory to reality by examining how, to varying degrees, the aforementioned theories fit with our data. To be sure, we do not seek to conduct full formal tests of theory (this work will unfold over several years as we continue to follow this population); rather, we use mixed methods data to illustrate and add richness/texture to the theoretical points made in *Section II*. That being said, we will not hesitate to present findings that run contrary to our theorizing on push and pull factors, cultural stress theory, crisis migration, and cumulative stress.

The Adelante Boricua Dyad Subsample

Beginning in the summer of 2020, we recruited parent-adolescent dyads who had survived the hurricane and subsequently relocated to Florida (*N*=71 dyads, or 142

participants, at the time of this writing in April, 2021). Because adolescence is generally defined as the second decade of life, we recruited families where at least one child was between 10 and 20 years old. We surveyed parents and youth about an array of variables related to crisis migration, including hurricane-related trauma, post-traumatic stress symptoms, cultural stress, family functioning, and behavioral health.

Due to the coronavirus pandemic and associated mitigation strategies (e.g., remote work, social distancing, restrictions on in-person recruitment), we have been unable to conduct face-to-face recruitment and data collection. Rather, in collaboration with JDN, our community advisory boards, and other key partners, recruitment has been conducted entirely via virtual or remote means, including direct outreach via phone and email as well as recruitment via social media posts, Facebook advertisements, and participant e-referral (as part of our respondent driven sampling approach, we provide secondary incentives for participants who refer other eligible individuals). Given that in-person contact is often essential for recruiting migrant samples (Knight et al., 2009) and the coronavirus pandemic has disrupted many lives, virtual recruitment has been challenging and has moved forward at a far slower rate than in our previous work.

We can succinctly describe the key demographic characteristics of our sample. In terms of age at the time of survey, the mean age is 14 years ($SD = 2.0$) for adolescent participants and 44 years ($SD = 4.5$) for parents. With respect to gender, more than half (60%) of our youth participants are male, but 73% of our parent participants are female—this is a trend that is consistent with our prior research with immigrant adolescent/parent dyads (Schwartz et al., 2012) and immigrant parents (Schwartz et al., 2018). Most dyads reported arriving in the US in 2017 (42%) or 2018 (16%), but noteworthy proportions resettled in 2019 (31%) and 2020 (11%). Based on conversations with our community partners, we allowed any Puerto Rican migrants who moved after Hurricane Maria to enroll in our study as we conceptualize of the large-scale movement of Puerto Ricans since 2017 as part of a broad post-Maria phenomenon. Finally, in terms of English language ability, most youth in our sample reported speaking "well" (33%) or "very well" (40%), whereas most parents reported speaking "poorly" (40%) or "very poorly" (31%).

Push and Pull

As detailed above, a core assumption in "push and pull" theorizing is the notion that a combination of economic, social, and political factors *push* people out of their home country/territory whereas other factors in these domains *pull* people to their new receiving context (Portes & Rumbaut, 2014). Here we lay out three sets of findings that speak to this dynamic, which, notably, have led us to revise some of how we understand the post-Maria migration.

Within the context of Hurricane Maria, a core assumption is that the hurricane and its aftermath served as a primary driver for the vast majority of post-Maria migrant families. Interestingly, however, our data paint a more complex picture. For instance, we asked participants to answer the following open question in our survey: "Why did you move to the U.S. from Puerto Rico?" In coding the responses, we

see that 31% referred specifically to the hurricane or damage it caused, but a majority referenced other factors such as occupational or work reasons (39%) or a desire for improved quality of life (30%). That is, when asked directly, a majority of our respondents did not specifically mention Hurricane Maria as a push factor.

This is not to say that Hurricane Maria was an unimportant factor in people's migration decision-making, but it does suggest a more complex situation. Indeed, we see in evidence from focus groups we conducted with post-Maria migrants in Orlando in 2018 that many were struggling with economic, health, and social factors in Puerto Rico prior to the hurricane—and, given this struggle, were seriously considering migrating before Hurricane Maria changed the landscape of the island (this is an emerging theme in our ongoing qualitative work as well). More precisely, many 2018 focus group participants underscored the pre-hurricane challenges of finding sufficient care for children with learning disabilities or older family members with chronic health conditions. As one participant noted:

> In Puerto Rico, you truly could not find anything [before the hurricane], no help for kids that have learning disabilities, or help for those who need it to live. So, the hurricane gave the final push [translation: *Nos dio el empujón*]. Gave the push for us to say, "Okay, let's go and see what we can do in Orlando."

In other words, in keeping with McAdam's (2014) understanding of crisis migration, we see many participants speaking not about Hurricane Maria as the one and only factor that caused them to move. Rather, we hear participants describing the hurricane and its aftermath as a "tipping point" that, in the broader context of underlying economic, social, educational, and healthcare factors, accelerated or catalyzed the migration decision.

What do these findings suggest in terms of push and pull theorizing? Our interpretation is that, unquestionably, Hurricane Maria and its aftermath functioned as an important push factor for many Puerto Rican families. But there were also other critical push factors such as Puerto Rico's sluggish economy (before and clearly after the hurricane) and other social, educational, and healthcare shortcomings as well. Emerging evidence from our work suggests a constellation of pre-hurricane push factors in Puerto Rico that moved from challenging to unmanageable in late 2017. As a Puerto Rican mother in Central Florida recently noted in a qualitative interview, "We were seriously thinking about moving to the US before the hurricane, but I knew we had to leave when my job went away after the hurricane and we ran out of money." Migration had been on their minds for years, but they did not relocate—and yet, less than once week after running out of money (as a direct consequence of the hurricane), the family booked a JetBlue flight to Orlando.

Cultural Stress Theory

Cultural stress theory is primarily concerned with how *post-migration* cultural stressors—such as ethnic discrimination—influence behavioral health. Here we briefly describe the degree to which post-Maria migrants report exposure to cultural
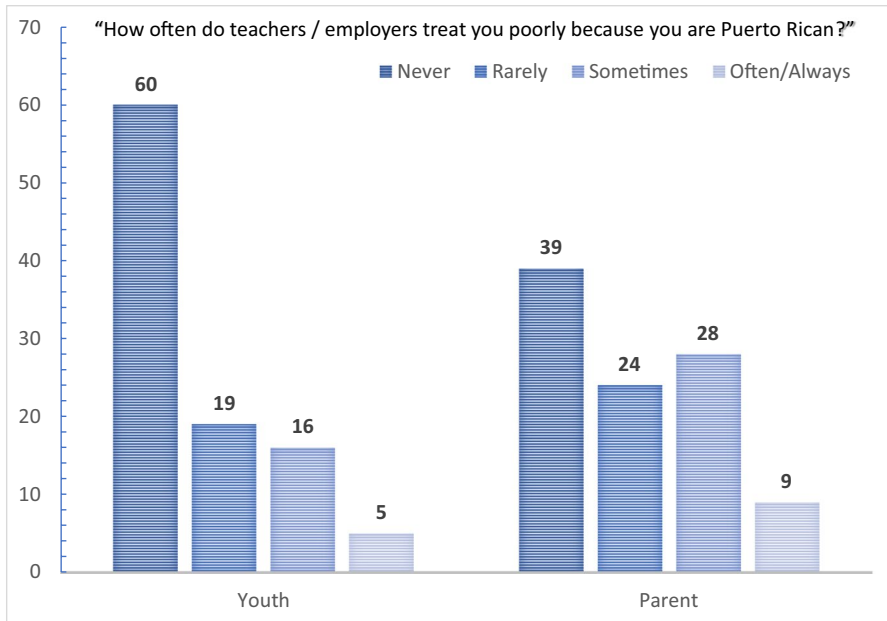
Fig. 2 Proportion of post-Hurricane Maria migrant youth and parents endorsing discrimination

stressors and the emerging relationships between cultural stress and behavioral health in this population.

Figure 2 displays the responses to the question of how often post-Maria migrants report experiencing discrimination from an authority figure (for adolescents, a teacher; for parents, an employer) based on one's Puerto Rican identity (from Phinney et al., 1998). Here we see three interesting findings: First, we see that a substantially larger proportion of adolescents (60%) report "never" experiencing discrimination as compared to their parents (39%). Second, we see that a much smaller proportion of youth reports experiencing recurrent discrimination ("sometimes" or more often; 21%) compared to parents (37%). Third, beyond endorsing cultural stressors, we also see that discrimination is associated with depressive symptomatology among parents ($\beta = 0.52$, $p < 0.001$; as measured by CES-D [Radloff, 1977]), even when controlling for gender, English proficiency, education, and income. Conversely, we see no significant association between discrimination and depression among adolescent participants ($\beta = 0.19$, $p = 0.16$).

Taken together, these findings indicate that, compared to their children, post-Hurricane Maria parents are more likely to endorse cultural stressors and more likely to experience such stressors in a recurrent fashion. And, critically, we see evidence that there is a robust relationship for parents between exposure to this cultural stress paradigm and depressive symptomatology. That is, not only are
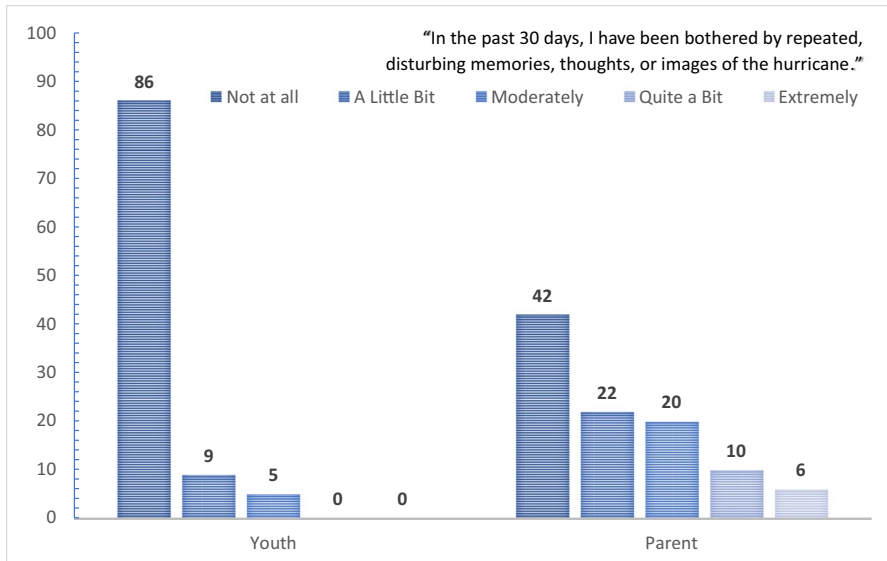
Fig. 3 Proportion of post-Hurricane Maria migrant youth/parents endorsing hurricane-related distress

post-Maria migrant parents experiencing greater levels of discrimination, but exposure to the stressor appears to yield adverse mental health consequences.

Crisis Migration

An important extension in our work has been to consider how pre-migration factors likely relate, in concert with post-migration cultural stressors, to long-term behavioral health outcomes. This point is especially salient in reference to pre-migration disasters such as Hurricane Maria that, in combination with socioeconomic factors, precipitated a large-scale migration. Here we look briefly at pre-migration factors related the hurricane and consider how such experiences/stressors relate to post-migration behavioral health.

Figure 3 displays the responses to the following prompt presented to both adolescent and parent participants: "In the past 30 days, I have been bothered by repeated, disturbing memories, thoughts, or images of the hurricane" (from Vergberg et al.'s (1996) HURTE measure). Close examination of the response patterns yields several important findings: First, the vast majority of adolescents in our sample (86%) reported "not at all" being bothered by memories of the hurricane, and only 5% of adolescent participants reported "moderate" levels of difficulty. Second, more than half (58%) of post-Maria migrant parents reported having been bothered by memories of the hurricane, and more than one in three (36%) reported moderate to extreme levels of difficulty. Simply put, we observe a remarkably different pattern of responses among parents and their children, both of whom experienced the storm and all of its destruction in Puerto Rico.

When we examine the association between hurricane-related distress and current depressive symptomatology, we also see important adolescent/parent differences. Indeed, we see no significant association between hurricane-related distress and depressive symptomatology among youth ($\beta=0.04$, $p=0.76$) but a robust association between the aforementioned constructs among parents ($\beta=0.40$, $p=0.002$). Moreover, we see that hurricane-related distress also significantly interacts with parent discrimination ($\beta=0.25$, $p=0.04$) to predict depressive symptomatology. Specifically, we see that the effects of hurricane trauma seem strongest when discrimination is low or moderate, but are not significant when discrimination is high. To be sure, this runs contrary to our theorizing on cumulative stress as we presumed that exposure to pre-migration plus post-migration stress would yield worse outcomes, but here we see a more complex picture.

The findings here once again suggest that the experiences of post-Maria migrant youth and parents are distinct. Namely, we see that—more than three years after the storm—parents are much more likely to endorse hurricane-related distress and we see that hurricane trauma among parents is related to depressive symptomatology both directly and in concert with post-migration discrimination. In the same breath, our early findings suggest that the vast majority of post-Maria migrant youth are not experiencing hurricane-related distress and that, on average, distress is not related to depressive symptoms among these youth.

Conclusion

Bringing It All Together

More than three years after Hurricane Maria, we know that many island-born Puerto Ricans continue to live far from their communities of origin. Indeed, conservative estimates indicate that tens of thousands of Puerto Ricans have yet to return, if ever, to their communities on the island. As migration researchers focused on behavioral health, we are compelled to understand the experiences of this unique population and to consider how our research with post-Maria migrant families can inform efforts to support Puerto Rican crisis migrants, and crisis migrants from across the globe, to resettle, adapt, and thrive.

In this article, we have sought to lay out theories and concepts that we view as vital in understanding not only the decision to migrate, but also the longer-term experiences of post-Maria migrant youth and families. These include *push and pull* frameworks that emphasize economic factors in the sending and receiving contexts, *cultural stress theory* which examines how discrimination and other stressors impact families, the concept of *crisis migration* that considers how pre-migration crises can serve as "tipping points" that prompt relocation, and *cumulative stress logic* which views pre- and post-migration stressors as interacting to impact post-migration adaptation and wellbeing. All of these theories/concepts are understood within the broader scaffolding of the life course (which asserts that changing lives alter developmental trajectories) and strengths perspectives (which emphasizes that assets must be central to our understanding of individuals, families, and communities), and

an ecosystemic framework (which seeks to understand individuals within multiple layers of social systems).

Rooted in these frameworks, we present salient illustrations from our *Adelante Boricua* study that illuminate the real-world dynamics of push and pull, cultural stress, and crisis migration among youth and their parents. Given that we are limited to baseline data, our findings can only point cautiously to emerging trends and potential implications. However, over the next few years, as we continue to conduct research with post-Maria migrant families and to engage with organizations committed to supporting this population, our task will be to systematically explore and test hypotheses that can deepen our understanding as to how cultural stress processes unfold in the context of family crisis migration.

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Authors and Affiliations

Christopher P. Salas-Wright[1] · Mildred M. Maldonado-Molina[2] · Eric C. Brown[3] · Melissa Bates[2] · José Rodríguez[4] · María Fernanda García[5] · Seth J. Schwartz[6]

✉   Christopher P. Salas-Wright
     Christopher.Salas-Wright@bc.edu

[1]   School of Social Work, Boston College, 140 Commonwealth Ave., Chestnut Hill, MA 02467, USA

[2]   Department of Health Education & Behavior, College of Health & Human Performance, University of Florida, Gainesville, FL, USA

[3]   Division of Prevention Science and Community Health, Department of Public Health Sciences, Miller School of Medicine, University of Miami, Miami, FL, USA

[4]   Iglesia Episcopal Jesús de Nazaret, Orlando, FL, USA

[5]   Department of Educational and Psychological Studies, School of Education and Human Development, University of Miami, Coral Gables, FL, USA

[6]   Department of Kinesiology and Health Education, College of Education, University of Texas at Austin, Austin, TX, USA