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Pick a Box, Any Box: The Influence of Commercialized Genetics on Caribbean Biosociality

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Abstract

This is an interview with three Caribbean international students at Stanford University, covering how commercialized genetics may shape or change understandings of identity yet cannot fully capture the nuances of identity formation. Through personal stories and interviews, we can specifically monitor how the commercialization of genetics has influenced the ways in which people understand both their identities and the field's capabilities. Caribbean populations are of particular interest given the combination of their complex colonial past and their strong sense of ethnic identity and unity. These interviews gauged how the interviewees perceived genetics as a field, as well as how information discovered via ancestry testing would influence the way they self-identify. The interviews revealed that commercialized genetics may shape or change understandings of identity, yet it cannot fully capture the complexities of identity formation. This study uncovered nuances in the interviewees' understandings of "being mixed" and genetic kinship, revealing the ability of commercialized genetics to re-create their identities. This information allows for a closer monitoring of biosociality and gives insight into the way specific populations interact with changing cultural categorizations, as well as the "exactness" of science and inexactness of identity.

Introduction: Exploring Biosociality

Rapid advancements in the field of genetics have created a social and ethical world that is quickly trying to understand and keep up with the field. Paul Rabinow (1992) explores some of these dynamic relationships and advancements in his study of biosociality, a term he coined. Rabinow defines biosociality as when social relationships or groups form around genetic information (Rabinow, 1992, p. 99). In this model, older cultural classifications (i.e. race, gender, age) are joined with new genetically informed classifications (i.e. ancestry and predisposition for disease), and the new classifications "cross-cut, partially supersede, and eventually redefine the older categories in ways which are worth monitoring" (Rabinow, 1992, p. 103). Monitoring this dynamic relationship between old and new cultural classifications provides insight into how individuals are internalizing and interacting with both forms of cultural classification. The goal of this study was to understand how genetic ancestry tests may inform "older" cultural categorizations.

Why the Caribbean?

Caribbean-identified individuals are of particular interest in this study because of the tension between their strong cultural affiliation and the erasure of their history due to colonialism. It is therefore unclear whether genetic ancestry testing would have an impact on Caribbean identity re-creation and self-discovery. In *Cultural Identity and Diaspora* (1990), Stuart Hall describes two definitions of cultural identity. The first definition terms cultural identity as one shared culture that people with a shared history have, and these facets provide stable and continuous frames of reference and meaning (Hall, 1990, p. 223). The second definition adds to the first by acknowledging that there are also points of *difference* within cultural identity, and it views cultural identity as "becoming" and "being," as ever-changing, because it is based on the future as much as the past (Hall, 1990, p. 225). Hall notes that the discontinuities acknowledged in the second definition constitute the "uniqueness" of the Caribbean, where colonialism has unified people across their differences but cut them off from "direct access to their past" (Hall, 1990, pp. 225-227). He describes black Caribbean identities as framed by two vectors, simultaneously operative: one vector is similarity and continuity (grounding and continuity with the past), and the other is difference and rupture (shared Caribbean culture filled with discontinuity due to colonialism) (Hall, 1990, p. 228). Hall draws on ideas of Frantz Fanon to argue that, for post-colonial societies, the rediscovery of cultural identity is driven by:

> passionate research…directed by the secret hope of discovering beyond the misery of today, beyond self-contempt, resignation and abjuration, some very beautiful and splendid era whose existence rehabilitates us both in regard to ourselves and in regard to others. (Hall, 1990, p. 223)

When a genetic ancestry test is used as a tool for this "passionate research" and "self-discovery," its flaws can result in a large personal impact on individuals and communities. Hall's simultaneous vector analogy described above shows how influential genetic test results would be in reshaping or influencing the identity of Caribbean individuals by reframing their pasts and the futures.

The Harms of Genetics as Recreation: Overview of Existing Studies of Biosociality

Genetic ancestry testing can serve as both a casual and serious purpose of reframing or clarifying one's identity. However, genetics is a science and does not take into account the many cultural and racial identities that also make up a person; genetics must therefore be interpreted with caution. Its repute as an exact science gives it significant, and potentially dangerous, weight. In *Race, Risk, and Recreation* (2013), Sandra Lee claims that personal genomic tests offer both recreation and re-creation to the consumer (Lee, 2013, p. 2). Recreation offers the promise of discovering oneself (passively), whereas re-creation is the power to change oneself through the recovery of ancestral information (Lee, 2013, p. 2). However, the recreation aspect of genetics must be questioned when the test can impact individuals and communities, have unpublicized limitations and presuppositions, and reinforce misconceptions about race and identity (Bolnick *et al.*, 2007, p. 399). Specifically, ancestry testing is often pursued by individuals for personal reasons, or by vulnerable populations hoping to understand their complex history (Bolnick *et al.*, 2007, p. 399). For instance, African-Americans may use ancestry testing to search for a "homeland" after slavery erased much of their history (Bolnick *et al.*, 2007, p. 399). Although consumers may purchase commercialized genetic ancestry tests to learn about race and ethnicity, there is no certain link between DNA and racial or ethnic affiliation (Bolnick *et al.*, 2007, p. 400). The accuracy of genetic ancestry tests are dependent on the databases they are drawing from, which cannot possibly capture all human genetic diversity, even for a particular group or region (Bolnick *et al.*, 2007, p. 399). Additionally, it is inaccurate to link genetic information to modern-day populations and regions, which have migrated and changed over time (Bolnick *et al.*, 2007, p. 400). In general, genetic ancestry testing lacks the historical, cultural, and temporal context of race and ethnicity (Bolnick *et al.*, 2007, p. 400). In our society, race has large social, political, and economic implications, which is why we need to be careful to not redefine or reify it in ways that disconnect it from its historical and socioeconomic context (Bolnick *et al.*, 2007, p. 400).

We interpret DNA to be fact, or, as Sandra Lee describes, we prescribe to the "'DNA Mystique', an illusion of precision and certainty" (Lee, 2013, p. 17). This assumption, coupled with the treatment of race as fact in science, calls for concern. For instance, Sandra Lee explains her concept of "biobanks of a kind" where "research specimens are 'raced'

and organized based on assumptions that biological differences can be characterized as inherent, indelible markings of group difference" (Lee, 2013, p. 14). Research often depends on categorization as a form of organization, resulting in biological constructs becoming synonymous with socially constructed classifications used to distinguish people (Lee, 2013, p. 14). These forms of organization can result in the reification of social categories and constructs, such as race. One popular commercialized genetics company, *23&Me*, argues that the consumer has the "freedom to affiliate" with an ethnic group, and that ethnicity serves as a proxy for genetic and non-genetic factors (Lee, 2013, p. 15). This company allows the consumer to choose amongst various racial categories (which are labeled as the reference "ethnic" group) determined by the U.S. census when interpreting their results, thereby informing their results based upon varying personal interpretations of complex social constructs (Lee, 2013, p. 15). The flaw in this model is that variable ways of self-identification are used to inform ancestry results, those results are supposed to then inform the user about their identity, and it is assumed that the information given is based on genetic "fact."

Furthermore, commercialized genetics as recreation has the power to redefine common notions of identity and relatedness. Lee uses Catherine Nash's definition of "genetic kinship," which is the phenomenon where the "culture of human relatedness" is becoming reconfigured based upon genetic ancestry tests (Lee, 2013, p. 12). This phenomenon is best demonstrated in films such as "African American Lives" where participants used an admixture test to determine their ancestral make up (PBS, 2006). It was particularly interesting to note how fluid the participants' identities and self-identification became when these flawed genetic tests dictated their ancestral origins. Pastor T.D. Jakes describes the connection between his traced roots as "strangely familiar" and related it to "a set of twins separated at birth" (PBS, 2006, 24:34). Pastor T.D. Jakes' experience highlights aspects of biosociality in how he formed a new way of looking at family, a type of older cultural categorizations. The commercialization of genetics presents consequences of impacting individuals and groups, perpetuating the "DNA Mystique," and reifying social constructs.

Methodology

This ethnographic study was conducted via three interviews with self-identified Caribbean students from Stanford University: Amanda, Malik, and Troy.[1] The questions (see below) gauged how the interviewees perceived genetics as a field, as well as how information discovered via ancestry testing would influence the way they self-identify. The goal of these questions was to understand how genetic ancestry tests may inform "older" cultural categorizations. After asking the questions outlined below,

[1] Names have been changed.

I then described flaws of genetic research that I outlined in the section entitled "The Harms of Genetics as Recreation" and asked the participants to indicate how that knowledge influences their perceptions to the questions I previously asked. Finally, I showed the interviewees an online commercial for *23&Me* and asked for feedback on what messages they thought the commercial was attempting to portray. Overall, the interview methodology was used in order to draw out a more nuanced understanding of how Caribbean-identified individuals construct their identities and their flexibility when given information about genetics.

Checkpoint Pre-Interview Questions

1. Do you mind if I record this conversation just for reference when writing my piece?
2. If you feel uncomfortable with any questions please let me know.
3. I understand that these questions can be very personal so please feel free to let me know if you need a break to think and/or process at any point.
4. Let me know if you'd prefer to remain totally anonymous in this study.

Guiding Interview Questions

1. When asked questions about your identity (i.e. "Where do you come from?") what is your usual response?
2. Why do you use those markers to describe your Caribbean/cultural identity?
3. When you think about genetics what comes to mind? What do you typically associate with it?
4. Do you think that finding out something about your genome [described what a genome is] would have the potential to change how you see yourself?
5. There are companies out there for ancestry testing; do you think that would be of interest to you? Why?
6. Specifically pertaining to your Caribbean background, do you think genetics could be used in further understanding that? How? Given a scenario where you did ancestry testing and unknown or surprising information was revealed about where your origins and ancestors are from, would that influence how you perceive yourself and your identity? How?
7. What would you want to know more about, in terms of how your genetic information is used?
8. Do you see any potential benefits with genetics research? Any potential harm?

"Being Mixed" in the Caribbean: Using Old and New Cultural Constructions to Define "Mixed"

Given the Caribbean's colonial history of enslaved Africans and indigenous communities, as well as indentured servants from Asia (Hall, 1990, p. 227), the post-colonial Caribbean is a region of mixture. All interviewees referenced this concept of mixture, although their interpretations of how they choose to reconcile that mixture, as well as how they would or would not use genetics to inform their interpretations of "being mixed," differed.

Amanda remarked that knowing that "there is a mix in [her] genetic makeup" would encourage her to learn more about where she came from through ancestry testing, yet she was simultaneously wary of the potential consequences of the results. She asked herself, "How will it fortify me beyond satisfying fascination?" when grappling with how genetics would influence the way she perceived herself. She then questioned what she would gain from an ancestry test, explaining that receiving a list of countries that she is from would not satisfy her as much as knowing "the history of the people I'm from." This point is powerful because rather than connecting her ancestry with a geographic location, she linked it to *people*. People are a specific cultural unit composed of history and dynamic relationships, facets that genetics arguably cannot fully provide.

Throughout the interview, Amanda explicitly acknowledged her "mixture" of both cultural ancestry and experience. On one hand, Amanda is from the Bahamas, her father's family is Jewish and traces back to Canada and Lithuania, and her great-grandfather is from Barbados. On the other hand, as a child, Amanda self-identified with being African-American and Bahamian based on the passports she had. She mentioned that as she matured, she realized that experience was more important than a document as a marker of her identity. Similar to ancestry testing where genetics is treated as "fact", passports are understood to be a defined category assigned to people, as opposed to more fluid forms of cultural categorization. Amanda's case highlights the argument that official prescribed categorization, including genetics, is not as powerful as personal interpretation.

Learning about aspects of her familial cultural identity and history convinced Amanda that ancestry test results would indeed change the way she thinks of herself. She also noted an internal struggle based on her varying and changing interpretations of self-identification:

> [In class] there'd be a lot about the African-American experience. I've always sought the African-American experience and I completely abandon the fact that that's not my history. My history is from the Bahamas, and I barely know anything about the Bahamian history and that was barely taught to me, and my instinct is to [say], "oh, I need to know more about Martin Luther King, Jr. and Rosa Parks [and] what they did." But I'm here and I haven't fully learned about the Tainos and the Arawaks and their destructions, so I think what would satisfy me and [let me] truly feel content with myself is if I know the history of it as opposed to a list of the countries. So definitely the stories of the ancestors.

In this regard, Amanda would want to know more about her ancestors and their history in order to fill knowledge gaps about her ancestral mixture. The stories that Amanda desires are elements that genetics cannot provide. Once again, this contributes to the idea that Amanda's "mixture" is one that she views culturally rather than genetically.

Malik, a Trinidadian-identified individual, explained that "Caribbean is all encompassing of what represents [his] identity, it represents multiculturalism, which is an aspect of [his] identity." Malik actually interpreted "mixture" to be ingrained in the Caribbean identity. For this reason, he did not think that ancestry testing would influence the way he viewed himself or his Caribbean identity, even if it revealed unexpected information about his origins:

> [Ancestry testing] would not influence how I see myself. I'm very secure in myself. Maybe this is my niche view, but even though our ancestors came from all different places in the Caribbean, the cultures are very mixed, yet somewhat separate from that, and it grew to be something different. As in, all those cultures merged together and grew to be different from each one separately. And for me that is what I am part of. I'm not necessarily a part of where my ancestors are from, so I don't have an emotional connection to it. I just feel like my culture has all of these hybrid cultures that formed it, rather than a specific country that my ancestors came from. I think it would be something interesting to figure out in my personal time, I don't think it would change personally how I view myself.

This concept of viewing the Caribbean identity as a hybrid as opposed to one specific ancestral link seems to draw the recreational fun out of commercialized ancestry testing, where in many cases the entertainment factor is based on revealing that a person has mixed ancestry. In this case, recreational ancestry testing is no longer rooted in the pleasure of self-discovery and re-creation (Lee, 2013, p. 2). Although Malik explained that his father is from Trinidad, his mother is from Grenada, and that he spent a few years in Texas, his understanding of his Caribbean identity as already being a hybrid in its origins results in a dominant national and experiential affiliation to Trinidad and Tobago. This begs the question of how much of an impact genetic ancestry results would have on an individual that views their identity as both a hybrid and rooted in one place and culture.

Finally, for Troy, an individual from Jamaica, even if ancestry testing revealed assumptions he made about himself, he did not think it would change his understanding of his Caribbean identity. Although Troy does not consider himself mixed, it is his understanding of the colonial mixture that would not allow for many surprises with genetic ancestry testing:

> I don't consider myself as being mixed. So I don't grapple with questions of ambiguity or identity and locating ancestors, or [question] me being Black and of African descent. To the extent that genetics was supposed to clarify that for me, I don't know how that would influence my Caribbean identity because slavery was so much a part of that experience.

This interview revealed that Troy does not think he grapples with ambiguity or identity, nor does he consider himself mixed. This security in his identity may presumably be rooted in his strong affiliation with "Jamaican" and "Caribbean," both of which are all-encompassing terms that carry the weight of their histories with them. This history may be something that genetics can attempt to confirm, but would not necessarily surprise Troy.

In all three cases, an understanding of the ways in which colonial forces created a mixed identity for the Caribbean resulted in an acknowledgement of their ancestral history being influenced by colonialism. This aligns with Stuart Hall's vector analogy, where one vector describes the grounding and continuity with the past, and the other describes the shared Caribbean culture filled with discontinuity due to colonialism (Hall, 1990, p. 227). However, these cases contest Frantz Fanon's argument that post-colonial rediscovery is driven by "passionate research . . . directed by the secret hope of discovering beyond the misery of today, beyond self contempt, resignation and abjuration" (Hall, 1990, p. 223). These interviews reveal the ways in which "mixture" is perceived through both older and newer forms of cultural categorization. Rather than using ancestry testing to "discover beyond the misery of today", these individuals were grounded by their shared Caribbean history, and they noted that, because they recognize that history, ancestry testing results would not influence the existent ways they identify with the Caribbean.

Understanding Genetic Kinship

Understanding the *story* was a theme throughout the interviews, revealing that ancestral testing for these Caribbean individuals was more about learning the history than determining their future identity. Genetic kinship, as described previously, is the phenomenon where "culture of human relatedness" is becoming reconfigured based on genetic ancestry tests (Lee, 2013, p. 12). While not using this exact terminology, the interviewees nevertheless discussed this concept of relatedness to the lost ancestors discovered via commercialized genetic ancestry testing. Amanda explained, "I think in the larger scheme it wouldn't affect how I define myself other than being able to claim more. It would entice the story aspect. Like who are they and why did they come here, what's their story?" This explanation emphasized her desire to learn about the culture of her ancestors rather than percentages and numbers that a genetic test would reveal. After I explained the consequences of genetic testing and Amanda realized that a test would not determine her identity for her, she challenged older cultural categorizations: "What's the point in knowing a specific place if that place, the geographical place, is man made anyway? . . . if I feel connected to a specific culture then I don't need someone else to tell me that." Here, Amanda understood relatedness and connection to be a personal choice and experience, rather than something that can be

defined by a test. Troy also discussed the disconnect and ambiguity of relatedness that results from genetic ancestry testing:

> I think it would be interesting to locate these genetic features to particular regions in the world where those features are from, if it says something about where I might have had "family" concentrated.

What was interesting about Troy's comment was his use of air quotes around the word "family." When I asked him why he made that gesture he explained:

> It's imagined family. I'll never know them, know what they felt like, or identify ways they would have shaped my lives beyond broad movement of Black people. I consider family to be more immediate to space of knowledge.

In both accounts, ancestry results were still seen as disconnected from the immediate experience. The interviewees may be interested in the stories of these supposed ancestors, but do not feel closely affiliated with them.

Conclusion

Trying to assign "exact" categories to identity has consequences for people whose backgrounds are more nuanced. When I was a child, my parents would always argue about which box to check on my school forms to indicate race. My mother would check "Asian/Pacific Islander" and my father would check "African-American/Black." Both of my parents were born in Guyana and I was raised in a region of Brooklyn, New York, where Caribbean representation and culture was prominent. I never thought about race or ancestry because I was deeply rooted in what I considered to be my Guyanese and Caribbean cultural heritage. When I moved to California to attend college, questions of categorization and race arose. No longer was I in a predominantly Caribbean city where saying "I am Guyanese" satisfied questions about my identity. I struggled with fitting myself into a racial category. Retrospectively, perhaps my parents were both right. Guyana is geographically in South America and culturally identifies with the Caribbean. Our ancestors include East Indian indentured servants, enslaved Africans, and several indigenous groups. Ancestral history muddled by colonialism has led to conflicting and constantly changing understandings of my identity, which cannot accurately be reflected in genetic tests or any other form of "exact" categorization.

The Caribbean's characteristic of having populations with a strong national identity, but also a history ruptured by colonialism, makes it a unique area for understanding how the general population understands genetic ancestry testing. Although this ethnographic study was limited in scope and sample size, it reveals nuances in how a particular population may perceive genetics, and its abilities to re-create their identities. The information gathered in this study emphasizes the need for a critical

monitoring of biosociality, especially when particular populations have different interpretations of changing cultural categorizations, the "exactness" of science, and the inexactness of identity.

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