Biologically Universal yet Ethnically Diverse: Puberty and Its Psychological Effect on Adolescent Girls’ Mental Health

From a biological perspective, puberty is a universal phenomenon; the bodies of healthy adolescents experience pubertal changes regardless of their sociodemographic backgrounds. However, the psychological effect of puberty appears to vary by contextual variables [1]. The study published in this issue by Deardorff et al. [2] offers a critical insight into the heterogeneity of the psychological effect of puberty, qualified by race-ethnicity in adolescent girls in the United States.

Puberty, Mental Health, and Race-Ethnicity

The issue of race-ethnicity appeared at the center of attention in puberty research when, more than two decades ago, a report showed that African American girls exhibited more advanced puberty than white girls in the United States [3]. More recent data confirm this racial-ethnic pattern. For instance, thearche, the onset of breast development, arrives earliest for African American girls, followed by Hispanic, non-Hispanic white, and Asian American girls [4]. The secular trend in puberty [4,5] further makes African American and Hispanic girls the groups at the forefront of historically early puberty.

Although racial-ethnic differences in the timing of puberty have been recognized, investigation into how the psychological impact of puberty on mental health varies by race-ethnicity lags behind. Some studies have taken the approach of focusing on a single racial-ethnic group [6], but studies that include multiple race-ethnicity groups that allow comparative evaluation are rare. The contribution of the study by Deardorff et al. is significant in that it fills this gap. The findings for Asian American girls are particularly illuminating, as there is a comparative scarcity of data on Asian American girls in the current literature. The paucity of our knowledge about this group may stem from the untested assumption that because, at the group level, they are relatively late maturing, they are expected to be at low risk for mental health problems. However, the surprising findings reported by Deardorff et al. indicate that the late onset (rather than early onset) of breast development was associated with elevated depressive symptoms in Asian American girls. In the context of racial-ethnic gradation in the timing of puberty among American girls, late-developing Asian American girls represent the last group to initiate the puberty process, making them a clear “off-time” group that deviates from the “social clock” [7] or normative timetable of life events. While this finding requires replication with a larger sample, it highlights the potential power of race-ethnicity to alter the meaning of off-time maturation.

Next Step: Two Emerging Considerations

Findings from the study by Deardorff et al. set up the stage for emerging critical questions that urgently need answers. First, the moderator, race-ethnicity, is a highly “packaged” and “intersecting” construct [8,9]. Racial-ethnic group membership is correlated with culture, history, skin color, economic status, stress exposure, and even healthcare access, which are all correlated with both puberty and mental health. It is necessary to tease apart the tightly interwoven webs of these correlates to understand how and why race-ethnicity qualifies the association between puberty and mental health. Several lines of investigation are already being pursued. For example, research has shown that the expectations attached to early puberty may differ according to race-ethnicity. This can be seen in the research of African American girls’ experience of adulthood, a process where others misperceive and mistreat them as more adult-like and less innocent than warranted [10]. Originally, it was speculated that early puberty might exacerbate this adultification process [5], which may then lead to downstream mental health consequences, especially for African American girls. However, as puberty timing or tempo did not significantly impact depression or anxiety among black girls in the study by Deardorff et al., the mental health implications of puberty-associated adultification need to be further investigated.

Another potential lead lies in the psychological reactions to pubertal maturation, which are likely to vary by race-ethnicity (or, perhaps more precisely, by the correlates of race-ethnicity, such as culturally prescribed standards of beauty) [11,12]. A review of qualitative studies that evaluated experiences of puberty in girls in the United States suggests that although the experiences of pubertal maturation were generally viewed as unfavorable, African American and Hispanic girls were more likely to tie puberty to vigilance for self-protection from boys and fear

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about unwanted pregnancy [13]. Similarly, acne—a major skin change that becomes prevalent during the pubertal transition—is universally viewed as unsightly, but the psychological effects of acne are likely to vary by skin color (another correlate of race-ethnicity) [12], with individuals with darker skin color having heightened concern about post-inflammation skin damage [14]. Although it remains unknown what drives these diverse reactions to puberty, a plausible hypothesis is that cultural values (e.g., standards and ideals of beauty) and norms play important roles in unpacking the role of race-ethnicity [11,12].

Second, the study by Deardorff et al. highlights the need to explain the differential effects of breast development and pubic hair. Why would these two correlated facets of puberty have unique effects on adolescent girls’ mental health? Puberty researchers, especially when investigating the role of puberty in mental health, have traditionally compressed the different facets of puberty (e.g., breast development, growth support, skin change, pubic hair, voice change) into a single collective. However, as evidenced in the study by Deardorff et al. [2], each pubertal facet has unique roles in predicting internalizing psychopathology. Thus, a careful, detailed evaluation of the meaning and experiences attached to each pubertal facet would be an important future avenue to explore.

The visibility of puberty-related body changes seems to be an important factor to explain this differential effect. As noted by Deardorff et al. [2], breast development is visible and exerts a social impact, while pubic hair is a covert, private matter. And, the meaning and valence attached to these body changes, and ultimately body image, appear to differ by culture [15]. The examination of the role of visibility in explaining pubertal effects on mental health by race-ethnicity would illuminate how we understand the private and social experiences of pubertal maturation in diverse settings.

Relatively, the issue of visibility of pubertal change is a fascinating topic in the time of pandemic-enforced social distancing, quarantines, and lockdowns. Adolescents’ bodies will grow and change with or without a pandemic. However, isolation strategies intended to mitigate the pandemic’s effects also make adolescents’ body changes less visible to and noticeable for their peers. Even when they are made visible in virtual venues, the images presented to others may be highly edited or selected. Puberty data from the coronavirus disease 2019 pandemic era could have the potential to highlight with remarkable clarity the importance of visibility in adolescents’ experiences of puberty.

The work of Deardorff et al. [2] reminds us that while biological mechanisms underlying puberty are similar across individuals, the psychological experience and effect of puberty are heterogeneous. A fruitful next step is to ask, what is driving the racial-ethnic diversity in the psychological effect of puberty?

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References