



Section 5. Psychology of development

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PUBERTAL CHANGES

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Abstract

Adolescence marks a significant period of biological transformation, with puberty serving as a key developmental stage. Hormonal changes during puberty, characterized by increased production of sex hormones, influence the development of secondary sexual characteristics. These changes not only affect physical characteristics, but also contribute to the intensification of gender identity and the consolidation of gender roles. Adolescents grapple with issues of self-identity and societal expectations during this transformational period.

Keywords: *Psychology, change, adolescence, hormonal*

Introduction

Puberty is a period of transformation characterized by hormonal surges and physical changes that propel individuals into adolescence. During this critical phase of human development, there is a dynamic interplay between hormonal fluctuations, brain development, and the emergence of distinct gender identities (Caldú, X., Dreher J. C., 2007, 66).

Puberty begins with the activation of the hypothalamic-pituitary-gonadal axis and leads to increased production of sex hormones, primarily testosterone in males and estrogen in females. These hormonal increases lead to the development of secondary sexual characteristics, such as breast development in females and facial hair growth in males. The visible manifestations of puberty contribute to the differentiation of gender roles and expect-

tations in social contexts (Cohen-Kettenis, P. and Friedemann P., 2010, 506).

Hormonal changes during adolescence also have profound effects on brain development, affecting neural circuits involved in emotional regulation, social cognition, and decision-making. The plasticity of the adolescent brain allows for the refinement of cognitive processes related to gender identity and the consolidation of gender roles. Understanding these neurobiological changes provides insights into the mechanisms that shape gender-related behaviors during adolescence.

Under the influence of puberty hormones, the brain's sexual differentiation contributes to the development of gender identity. During adolescence, the interaction between genetic predispositions and hormonal influences

further refines an individual's sense of self in relation to gender. The alignment or divergence between an individual's biological sex and gender identity begins to solidify during this stage of development.

Pubertal changes coincide with heightened peer interaction, which contributes to the socialization of gender roles. Adolescents seek acceptance and validation within peer groups, which leads to the reinforcement of gender norms and stereotypes. Peer influence, combined with hormonal changes, contributes to the internalization and performance of gender roles as adolescents navigate their social worlds (Il'in, E. P., 2007, 55).

Pubertal changes play a significant role in influencing gender expression and behavior. Hormonal fluctuations facilitate the intensification of gender-typed behaviors, such as increased interest in romantic relationships and greater self-awareness of gender identity. The convergence of biological and social influences during puberty leads to the diversification of gender roles observed among adolescents (Kuznetsova A. A., 2019, 45–46).

It is important to acknowledge the intersectionality of puberty changes and the variability of cultural influences on the formation of gender roles. Different cultural contexts can shape the experience of puberty and related expectations differently, influencing the expression of gender roles and identities. Understanding these factors is essential for

appreciating the diversity of gender experiences during adolescence.

The intersection of puberty changes and gender development impacts mental health outcomes. Adolescents dealing with the complexities of gender identity face increased stress, identity conflicts, and mental health problems. Recognizing the impact of pubertal influences on mental health is critical for the development of interventions that promote positive psychological well-being during this critical developmental period.

Continued research on the intersection of adolescent change and gender development is essential for a comprehensive understanding of the mechanisms involved. Future research should examine the moderating effects of individual differences, cultural contexts, and interactions between genetic and environmental factors to inform targeted interventions that support positive gender identity formation and mental health outcomes during adolescence.

Conclusion

Pubertal changes have a significant biological impact on the evolution of gender roles into adulthood. The interplay between hormonal fluctuations, brain development, and socialization processes contributes to the dynamic formation of gender identity during this transformational period.

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