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Jan. 19, 2023, 5:13 PM EST

By Jo Yurcaba

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## Hormone therapy improves mental health for transgender youths, a new study finds

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Transgender youths reported more life satisfaction and fewer symptoms of depression and anxiety after receiving gender-affirming hormone therapy for two years, according to a new study.

[The research](#), published Wednesday in the New England Journal of Medicine, evaluated 315 transgender youths between 12 to 20 years old, with an average age of 16, over the course of two years while they were being treated with gender-affirming hormone therapy.

Researchers found that, on average, participants reported increases in positive emotions, life satisfaction and appearance congruence. Those increases were associated with decreases in depression and anxiety symptoms.

The findings, researchers wrote, support the use of hormone therapy as an effective treatment for trans and nonbinary youths.

The researchers said their findings also suggest appearance congruence is important for trans and nonbinary youths' well-being. The mental and physical health differences between youth who had undergone substantial "gender-incongruent" puberty — which is the puberty associated with their assigned sex at birth — and those who had not also supported the importance of appearance congruence for well-being.

The researchers are a group of physicians and professors associated with universities and children's hospitals in Chicago, Boston and Los Angeles. The study was supported by a grant from the Eunice Kennedy Shriver National Institute of Child Health and Human Development.

The researchers used scales that measured depression and anxiety, positive emotions and sense of life satisfaction, and appearance congruence — meaning how much a trans person feels their external appearance aligns with their gender identity. Participants rated each of these factors numerically.

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Only a small subgroup (24 participants) in the study did not undergo extensive gender-incongruent puberty, either because they began puberty blockers at an early stage of puberty, or started gender-affirming hormones when their puberty began later.

"Those who had not gone through substantial gender-incongruent puberty had higher scores for appearance congruence, positive affect, and life satisfaction and lower scores for depression and anxiety at baseline than youth who had undergone substantial endogenous puberty," meaning the puberty associated with their assigned sex, the researchers wrote.

They also noted that depression and anxiety symptoms decreased significantly and life satisfaction increased significantly among trans and nonbinary youth designated female at birth but not for those designated male at birth. This difference, they wrote, could be attributed to a few factors: First, some

physical changes associated with estrogen, such as breast growth, can take between two to five years to reach their “maximum effect.”

As a result, the researchers speculated that a longer follow-up period may be necessary for trans feminine youth to see an effect on mental health.

Second, they wrote that physical changes that result from going through testosterone-driven puberty, such as a deeper voice, might be “more pronounced and observable” than those associated with an estrogen-driven puberty.

Third, the researchers wrote that it’s possible the differences in anxiety and life satisfaction could be related to less social acceptance of transfeminine people, compared with transmasculine people.

[Research published](#) in the Journal of Adolescent Health in 2021 suggested that transfeminine youth may experience more minority stress, which is stress faced by stigmatized minority groups like LGBTQ people, than transmasculine youth.

The authors of the new study wrote that understanding the effect of gender-affirming hormones on the mental health and well-being of transgender and nonbinary youth “would appear crucial, given the documented mental health disparities observed in this population, particularly in the context of increasing politicization of gender-affirming medical care.”

Over the last two years, state legislatures have considered dozens of bills that seek to restrict access to gender-affirming medical care, such as puberty blockers, hormone therapy and surgery for transgender minors.