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Social Transition for Transgender and Gender Diverse Youth, K-12 Harassment, and Adult Mental Health Outcomes

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Abstract

Purpose: Many transgender and gender diverse (TGD) youth undergo social transition, in which they change their gender expression to align with their gender identity. Our objective was to examine associations between timing of social transition (during the prepubertal childhood period, adolescence, or adulthood) and adult mental health outcomes.

Methods: We conducted a secondary analysis of the 2015 U.S. Transgender Survey, a cross-sectional non-probability survey of 27,715 TGD adults in the United States. Based on self-report, participants were categorized as having undergone social transition during childhood (ages 3-9), adolescence (ages 10-17), or adulthood (ages ≥18). Using multivariable logistic regression, we examined associations between timing of social transition and adult mental health outcomes.

Results: After adjusting for demographic and potential confounding variables, childhood social transition was associated with lower odds of lifetime marijuana use (aOR 0.7, 95% CI=0.5-0.8, p<.0001) when compared to adult social transition. Prior to adjusting for K-12 harassment based on gender identity, adolescent social transition was associated with adverse mental health outcomes, including greater odds of lifetime suicide attempts when compared to adult social transition (aOR 1.3, 95% CI=1.1-1.7, p=.004). These associations were no longer significant after further adjusting for K-12 harassment.

Conclusions: Though past research has shown TGD youth who undergo social transition have favorable mental health outcomes in the short term, they may have worse mental health in adulthood if not protected from K-12 harassment based on gender identity. It is the responsibility of clinicians to emphasize the importance of adolescents having safe and affirming social environments.

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INTROODUCTION

Transgender and gender diverse (TGD) youth are those whose gender identity (i.e., their inner sense of their own gender) does not align with societal expectations based on their sex assigned at birth.[1] A recent study of adolescents in the United States (U.S.), conducted by the Centers for Disease Control and Prevention, estimated that 1.8% of adolescents in the U.S. identify as TGD.[2]

For prepubertal youth, medical interventions are not recommended.[3, 4] Some TGD prepubertal children, however, may choose to undergo a "social transition."[5] This refers to the child adopting the name, pronouns, gender expression (e.g., clothes, haircut) and/or gender roles that match their gender identity.[5] Benefits of this approach may include self-actualization of a child's gender identity by having their gender expression align with their identity, which could decrease gender dysphoria and subsequently improve self-esteem and global functioning.[1]

Whether or not to recommend allowing a child to undergo a prepubertal social transition has been an area of controversy in pediatrics.[5] Some clinicians have argued for a "watchful waiting" approach, in which parents are counseled not to facilitate a social transition for their child until they reach puberty.[6] The rationale proposed for this has been that a prepubertal child may subsequently no longer identify as a gender different from their sex assigned at birth, and that such a "de-transition" could lead to social stress. Proponents of this approach assert that gender identity is less stable prior to puberty, though the data underlying this assumption have been contested.[7] Other clinicians have argued that prepubertal children should be allowed to socially transition if they so desire, because preventing social transition reduces autonomy regarding self-actualization, and may lead to shame as well as damaged relationships between the child and their parents and clinicians.[8] Proponents of this approach have highlighted that social stress due to a potential "de-transition" could be alleviated by working with persons in the child's environment to ensure validation. In the past, a third approach has been described, in which a clinician utilizes psychotherapeutic approaches in an attempt to force a child toward a non-TGD identity and expression;[9] such approaches are now considered dangerous[10] and unethical.[11] Social transition after the onset of puberty (i.e., during adolescence or adulthood) has been somewhat less controversial in medical and mental health guidelines than childhood social transition, albeit often controversial in communities.[12]

There is a paucity of data regarding the mental health outcomes of prepubertal TGD youth who socially transition. Two small studies of community-recruited prepubertal TGD youth found that those who were allowed to socially transition had rates of internalizing psychopathology (e.g., anxiety and depression) nearly indistinguishable from their non-TGD peers.[13, 14] Research from this same group found that prepubertal social transition does not appear to result in children identifying more strongly as TGD following social transition, but rather that the intensity of their TGD identity prior to social transition predicted their subsequent social transition.[15]

These studies suggest that, in the short term, TGD youth who are allowed to socially transition have favorable mental health outcomes. To our knowledge, no studies to date have examined mental health outcomes in adulthood among individuals who socially transition as minors. We hypothesized that these youth may suffer greater societal stigma and bullying as they progress through adolescence and adulthood, which could result in those who undergo a social transition during childhood or adolescence having greater odds of adverse adult mental health outcomes when compared to those who socially transition as adults.[5]

The current study analyzed data from the 2015 U.S. Transgender Survey (USTS), a large cross-sectional non-probability sample of 27,715 TGD adults in the U.S. and, to our knowledge, the largest survey of TGD people to date.[16] We examined associations between the age at which participants reported undergoing a social transition: during childhood (ages 3-9), adolescence (ages 10-17), or adulthood (ages ≥18), and adult mental health outcomes, including severe psychological distress, multiple measures of suicidality, and measures of substance use. The large sample size allowed us to adjust for a range of potential confounding variables. In post hoc analyses, we examined if such associations were present after further adjusting for harassment based on gender identity in the K-12 period from classmates, teachers, or school staff. It is, to our knowledge, the first study to examine the associations between age of social transition and adult mental health outcomes among TGD people.

METHODS

Study Population

The USTS is a cross-sectional non-probability survey and the largest existing dataset of TGD people to date.[16] TGD participants ages 18 and over were recruited in collaboration between the National Center for Transgender Equality (NCTE) and over 400 community outreach organizations.[16] This allowed for the recruitment of 27,715 participants, who completed psychometrics and survey questions during the data collection period between August and September 2015. The final sample included participants from all 50 U.S. states, as well as Washington D.C., Puerto Rico, and U.S. territories abroad. The protocol for the current study was reviewed by the Fenway Institutional Review Board. Because not all TGD people undergo a social transition, we restricted the current study to those who reported that they had undergone social transition. This was assessed by answering “Yes” to the question, “Do you currently live full-time in a gender that is different from the one assigned to you at birth?” Response options were “Yes” and “No.” Participants were also asked the age at which they began to live full-time in a gender that was different than the one assigned at birth. Those who reported an age younger than 3 (N=61) were excluded. The sample was further restricted to participants who realized they had a gender identity different from their sex assigned at birth during childhood, using the question: “At about what age did you begin to feel that your gender was “different” from your assigned birth sex?” This resulted in inclusion of 9,711 participants for the current study analyses.

Demographic Variables & Potential Confounding Variables

Demographic variables were collected, including age at time of survey completion (as a continuous variables and using U.S. census categories to capture potential cohort effects), years elapsed between age of realization of gender identity and social transition, gender identity, sex assigned at birth, sexual orientation, race, education level, employment status, relationship status, and total household income. We also examined potential confounders with known associations with mental health outcomes among TGD people, including family support of gender identity,[17] lifetime exposure to gender identity change efforts,[10] history of treatment with pubertal suppression,[18] and history of treatment with gender-affirming hormones.[19]

In post hoc analyses, we examined experiences of harassment based on gender identity between kindergarten and 12th grade (K-12) from classmates, teachers, or school staff. Due to collinearity between the types of K-12 harassment, participants were coded as having experienced any type of K-12 harassment if they endorsed any of the following experiences while they were in K-12: “I was verbally harassed because people thought I was trans,” “I was physically attacked because people thought I was trans,” or “I experienced unwanted sexual contact because people thought I was trans.”

Age of Social Transition

All participants who reported they had undergone a social transition were asked, “How old were you when you started to live full-time in a gender that is different from the one assigned to you at birth?” and provided a drop-down list of all integer ages 1 through 99. Participants were divided into three categories based on their responses: childhood social transition (ages 3-9), adolescent social transition (ages 10-17), and adult social transition (ages ≥18). Age 10 was used as an approximate prepubertal cut-off,[20, 21] as the ages at which participants reached Tanner 2 of puberty were not available in the dataset.

Outcomes

Past-month severe psychological distress was defined as a score ≥13 on the Kessler-6 Psychological Distress Scale.[22] This cutoff has been determined to have a total classification accuracy of 0.92 for meeting criteria for a DSM-IV diagnosis other than a substance use disorder and having a global assessment of functioning score of less than 60.[22] Multiple measures of suicidality were assessed including lifetime suicidal ideation, lifetime suicide attempt, past-year suicidal ideation, past-year suicide attempt, and past-year suicide attempt resulting in medical attention.[10] Past-month binge drinking was defined as drinking five or more standard drinks on a single occasion, a threshold that has been established for research with TGD adults.[23] Lifetime marijuana use and illicit drug use (excluding marijuana) was also assessed. All outcome variables were treated as dichotomous.

Statistical Analyses

Descriptive statistics were conducted to compare the three groups on demographic variables. Chi-square tests assessed differences between social transition age groups for all categorical variables, including age at time of survey completion in U.S. Census categories, gender identity, sex assigned at birth, sexual orientation, race, education level, employment

status, relationship status, total household income, family support for gender identity, lifetime exposure to gender identity change efforts, ever receiving treatment with pubertal suppression, and ever receiving treatment with gender-affirming hormones. For the non-normally distributed continuous variables, age at time of survey completion and time to social transition, Kruskal-Wallis H tests assessed differences between the three age groups. To examine associations with each mental health outcome, we used binary logistic regression and a significance level of $p \leq .05$. For each outcome that was significantly associated with social transition age groups in a univariate model, we built multivariable models. Those were adjusted for the covariates associated with each outcome at the level of $P \leq .20$.[24] For the post hoc analyses, all models were adjusted for K-12 harassment, in addition to the original covariates. Associations between covariates and outcomes of interest are reported in Supplemental Table 1. All tests were conducted with SPSS software version 25.

RESULTS

Demographic Differences & Potential Confounding Variables

Of the 9,711 included participants, 165 (1.7%) reported social transition in childhood, 1,196 (12.3%) report social transition in adolescence, and 8,350 (86.0%) reported social transition in adulthood. These three groups had statistically significant differences with regard to age at time of survey completion, years elapsed between realization of gender identity and social transition, gender identity, sex assigned at birth, sexual orientation, race, education level, employment status, relationship status, total household income, family support of gender identity, lifetime exposure to gender identity change efforts, having ever received pubertal suppression, and having ever received gender-affirming hormones (Table 1).

Childhood Social Transition

The mean age at time of survey completion for participants who reported a social transition during childhood was 30.7 (SD 13.0). Forty of these participants (24.2%) were assigned male sex at birth. After adjusting for demographic variables and potential confounding variables from Table 1, social transition during childhood was not associated with greater odds of any adverse mental health outcomes when compared with those who socially transitioned during adulthood (Table 2). Social transition during childhood was associated with lower odds of lifetime marijuana use when compared with those who socially transitioned during adulthood (aOR 0.7, 95% CI=0.6-0.9, p<.001).

In post hoc analysis, we examined associations between age of social transition and K-12 harassment based on gender identity. Participants who reported a childhood social transition were more likely to have been exposed to harassment based on gender identity than those who socially transitioned in adulthood (Table 3). After adding K-12 harassment based on gender identity to the model, there continued to be no detected association between childhood social transition and adverse mental health outcomes measured, when compared to those who socially transitioned during adulthood (Table 4). Childhood social transition remained significantly associated with lower odds of lifetime marijuana use when compared to adult social transition (aOR 0.7, 95% CI=0.5-0.8, p<.001).

Adolescent Social Transition

The mean age at time of survey completion for participants who reported a social transition during adolescence was 22.8 (SD 7.8). 222 of these participants (18.6%) were assigned male sex at birth. After adjusting for demographic variables and potential confounding variables from Table 1, and prior to adjusting for K-12 harassment based on gender identity, social transition during adolescence was associated with greater odds of lifetime suicide attempt (aOR 1.3, 95% CI=1.1-1.7, p=.004) and past-year suicidal ideation (aOR 1.2, 95% CI 1.01-1.5, p=.04) when compared with those who socially transitioned during adulthood (Table 2). In post hoc analyses, participants who reported an adolescent social transition were more likely to have been exposed to harassment based on gender identity than those who socially transitioned in adulthood (Table 3). After additional adjustment for K-12 harassment based on gender identity, none of the associations with adverse mental health outcomes remained statistically significant (Table 4).

Comparing Childhood and Adolescent Social Transition

After adjusting for demographic variables and potential confounders from Table 1, we detected no difference between childhood and adolescent social transition on any mental health outcomes examined (Table 2), including after post hoc analyses that further adjusted for K-12 harassment (Table 4).

DISCUSSION

There has been considerable debate in pediatrics regarding the potential benefits and risks of counseling parents to allow social transition for their prepubertal children who assert a TGD identity.[5] Social transition during adolescence and adulthood has generally been less controversial in medical guidelines compared to adolescent or adult social transitions, albeit often controversial in communities.[12] This is, to our knowledge, the first study to examine associations between recalled age of social transition and adult mental health outcomes. We did not detect any association between social transition during childhood and adverse mental health outcomes when compared to social transition during adulthood. In fact, social transition during childhood was associated with lower odds of lifetime marijuana use compared to adult social transition. Though we found social transition during adolescence to be associated with greater odds of some measures of suicidality compared to social transition during adulthood prior to adjusting for K-12 harassment based on gender identity, these associations were no longer statistically significant after adjusting for K-12 harassment based on gender identity. These findings suggest that social transition itself is not harmful, but that adverse reactions within unaccepting school environments are. An unaccepting environment is not an appropriate reason to withhold a social transition; instead, clinicians caring for TGD youth undergoing a social transition ought to provide guidance with regard to the importance of seeking a school environment that is accepting and validating. It appears this is of particular importance for those first socially transitioning as adolescents.

We found that experiences of K-12 harassment were common among those who socially transitioned during childhood or adolescence. Among those who socially transitioned as children, 53.1% were exposed to at least one type of harassment based on gender

identity, compared to 19.3% of those who did not socially transition until adulthood. Rates were similar for those who socially transitioned during childhood and those who socially transitioned during adolescence. The high prevalence of harassment is consistent with previous studies showing that TGD young people disproportionately feel unsafe[25] in school and experience concerning rates of exposure to bullying[26] and physical violence[25]. Furthermore, transphobic bullying has been associated with negative effects on the family and social relationships of TGD young people, which are critical protective factors for short- and long-term mental health outcomes.[27] Results from the current study indicate that K-12 harassment based on gender identity is a common experience that may have a substantial impact on suicidality among TGD people. This is of particular concern, given that rates of lifetime suicide attempts among this population are as high as 40%.[16]

Various strategies have been examined to improve school climate for sexual and gender minority youth, though most of these have focused primarily on sexual minority youth.[28] Relatively less is known regarding the most effective interventions to improve school climate for TGD youth.[28] Peer-based support, whether through the existence of Genders and Sexuality Alliances or through workshops focused on peer-led intervention when harassment occurs, have been shown to effectively reduce bullying for sexual minority youth.[29, 30] Anti-bullying policies have been found to result in less fear-based absenteeism and bullying victimization among sexual minority high school students.[28] Taken together, the literature suggests that peer-, curriculum-, and policy-based approaches may promote safer and more affirming school environments for TGD youth undergoing social transition. It is important to note that the onus for addressing a potentially hostile school environment lies with school officials, school districts, school boards, and educational policy rather than with individual TGD youth and their parents to delay social transition in order to avoid harassment. More research is needed to understand best practices to prevent harassment-related adverse outcomes specifically among TGD youth.

The finding of an association between adolescent but not childhood social transition and adverse mental health outcomes prior to adjusting for K-12 harassment may indicate that youth who transition in childhood develop greater resilience in the face of K-12 harassment and become somewhat less vulnerable to the effects of gender-based harassment, perhaps from having more time to live in their gender identity and subsequently feeling more secure. Further research is needed in this area to better understand the nature of this association.

Limitations

Although the USTS is the largest existing sample of TGD people to date, with broad geographic representation, it is a non-probability sample and thus may not be representative of TGD people in the U.S. The USTS sample is younger, with fewer racial minorities, fewer heterosexual participants, and higher educational attainment when compared to probability samples of TGD people in the U.S.[31] Due to the cross-sectional nature of the data, reverse causation cannot be ruled out. The USTS also lacked data regarding the age at which participants entered puberty, thus making it impossible to confirm that all participants in the childhood social transition group had in fact socially transitioned before puberty; age 10 was therefore used as an approximate cutoff for the childhood social transition group.

[20, 21] It will be important to collect this information in future studies, as age of pubertal onset varies both within and between various demographic groups (i.e., by sex assigned at birth, race, and additional factors). [20, 21] Future prospective studies will be important to better understand the longitudinal course of mental health outcomes among TGD people who socially transition during childhood or adolescence. The current study was unable to identify participants who transitioned in childhood or adolescence but are no longer living with a gender expression that aligns with their gender identity, as such participants would not have been included in this study. Future research is needed in this area. Of note, a recent study noted that most current TGD adults who have "de-transitioned" at some point in their lives attribute this to external factors, including stigma and harassment. [32] The current study included data on three types of K-12 harassment (verbal, physical, and sexual) but did not assess the duration, frequency, or intensity of these various types of harassment. Future studies should examine these features in detail. The USTS did not collect information on past or current formal mental health and substance use disorder diagnoses. Additionally, measures of mental health and substance use prior to social transition were not available. Future studies should investigate these as potential confounders.

The current study found that, after adjusting for K-12 harassment based on gender identity, social transition during childhood or adolescence was not associated with greater odds of adverse mental health outcomes when compared to adult social transition. In fact, TGD people who socially transitioned during childhood had lower odds of lifetime marijuana use than those who underwent social transition in adulthood. The study also found that prior to K-12 harassment being adjusted for, adolescent social transition was associated with adverse adult mental health outcomes, highlighting the importance of working with communities to ensure that TGD youth are transitioning in environments that are validating and supportive.The results highlight the importance of creating a safe and affirming school environment for TGD youth who undergo social transition, while also suggesting that social transition itself is an appropriate approach for youth, during childhood or adolescence.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Implications and Contribution:

Transgender youth who socially transition have favorable short-term mental health outcomes. However, there is a paucity of data regarding their mental health in adulthood. This study found, after adjusting for K-12 harassment based on gender identity, no association between childhood or adolescent social transition and increased odds of adverse adult mental health outcomes, when compared to adult social transition.

Table 1.

Demographics, Mental Health, and Substance Use

		How old were you when you started to live full-time in a gender that is different from the one assigned to you at birth?				
	All N=9711	**In childhood, age 3 – 9 n=165**	**In adolescence, age 10 – 17 n=1196**	**In adulthood, age 18 and over n=8350**		
	μ (SD)	**μ (SD)**	**μ (SD)**	**μ (SD)**	**H**	**p**
Current age	34.8 (13.9)	30.7 (13.0)	22.8 (7.8)	36.6 (13.8)	1653.7	**<.001**
Time to social transition (years)	23.4 (12.8)	0.9 (1.5)	10.1 (2.7)	25.7 (12.3)	3112.9	**<.001**
	n (%)	**n (%)**	**n (%)**	**n (%)**	x^2	**p**
Current Age, census categories					1616.8	**<.001**
18 – 24	2774 (28.6)	74 (44.8)	918 (76.8)	1782 (21.3)		
25 – 44	4561 (47.0)	61 (37.0)	240 (20.1)	4260 (51.0)		
45 – 64	2036 (21.0)	28 (17.0)	33 (2.8)	1975 (23.7)		
65+	340 (3.5)	2 (1.2)	5 (0.4)	333 (4.0)		
Gender Identity					540.1	**<.001**
Woman	2072 (21.4)	9 (5.5)	100 (8.4)	1963 (23.5)		
Man	1308 (13.5)	25 (15.2)	253 (21.2)	1030 (12.3)		
Trans Woman	2140 (22.1)	21 (12.8)	97 (8.1)	2022 (24.2)		
Trans Man	2706 (27.9)	40 (24.4)	444 (37.2)	2222 (26.6)		
Non-binary / Genderqueer	1477 (15.2)	69 (42.1)	300 (25.1)	1108 (13.3)		
Sex Assigned at Birth					450.5	**<.001**
Female	5266 (54.2)	125 (75.8)	974 (81.4)	4167 (49.9)		
Male	4445 (45.8)	40 (24.2)	222 (18.6)	4183 (50.1)		
Sexual Orientation					86.8	**<.001**
Heterosexual / Straight	1837 (18.9)	30 (18.2)	212 (17.7)	1595 (19.1)		
Asexual	676 (7.0)	21 (12.7)	137 (11.5)	518 (6.2)		
Pansexual / Queer	4793 (49.4)	70 (42.4)	602 (50.3)	4121 (49.4)		
Gay / Lesbian / Bisexual	1812 (18.7)	27 (16.4)	155 (13.0)	1630 (19.5)		
Not listed	593 (6.1)	17 (10.3)	90 (7.5)	486 (5.8)		
Race					68.7	**<.001**

			How old were you when you started to live full-time in a gender that is different from the one assigned to you at birth?				
		All N=9711	**In childhood, age 3 – 9 n=165**	**In adolescence, age 10 – 17 n=1196**	**In adulthood, age 18 and over n=8350**		
		μ (SD)	**μ (SD)**	**μ (SD)**	**μ (SD)**	**H**	**p**
	Racial Minority	2101 (21.6)	59 (35.8)	349 (29.2)	1693 (20.3)		
	Not racial minority (White / European American)	7610 (78.4)	106 (64.2)	847 (70.8)	6657 (79.7)		
Education Level						985.0	**<.001**
	Less than high school	278 (2.9)	11 (6.7)	144 (12.0)	123 (1.5)		
	High school graduate / GED	1076 (11.1)	34 (20.6)	314 (26.3)	728 (8.7)		
	Some college / Associate's degree	4320 (44.5)	70 (42.4)	572 (47.8)	3678 (44.0)		
	Bachelor's degree or higher	4037 (41.6)	50 (30.3)	166 (13.9)	3821 (45.8)		
Employment Status						195.1	**<.001**
	Employed	6506 (85.9)	98 (77.2)	614 (70.8)	5794 (88.0)		
	Unemployed	1070 (14.1)	29 (22.8)	253 (29.2)	788 (12.0)		
Relationship Status						7.4	**.02**
	Partnered	4865 (52.0)	73 (46.8)	565 (48.8)	4227 (52.6)		
	Unpartnered	4487 (48.0)	83 (53.2)	592 (51.2)	3812 (47.4)		
Total Household Income						43.4	**<.001**
	< $25,000	3025 (33.4)	67 (45.3)	426 (40.4)	2532 (32.2)		
	$25,000 – $49,999	2095 (23.1)	30 (20.3)	210 (19.9)	1855 (23.6)		
	$50,000 – $99,000	2207 (24.4)	24 (16.2)	215 (20.4)	1968 (25.1)		
	>$100,000	1728 (19.1)	27 (18.2)	203 (19.3)	1498 (19.1)		
Family support of gender identity						50.9	**<.001**
	Supportive	5520 (59.2)	73 (45.9)	696 (59.6)	4751 (59.4)		
	Neutral	1596 (17.1)	26 (16.4)	194 (16.6)	1376 (17.2)		
	Unsupportive	1706 (18.3)	33 (20.8)	204 (17.5)	1469 (18.4)		
	Family doesn't know	497 (5.3)	27 (17.0)	74 (6.3)	396 (5.0)		
Ever exposed to gender identity change efforts						20.7	**<.001**
	Yes	1996 (23.3)	30 (25.2)	279 (29.1)	1687 (22.5)		
	No	6575 (76.7)	89 (74.8)	681 (70.9)	5805 (77.5)		
Ever had pubertal suppression						244.7	**<.001**

		How old were you when you started to live full-time in a gender that is different from the one assigned to you at birth?				
	All N=9711	**In childhood, age 3 – 9 n=165**	**In adolescence, age 10 – 17 n=1196**	**In adulthood, age 18 and over n=8350**		
	μ (SD)	**μ (SD)**	**μ (SD)**	**μ (SD)**	**H**	**p**
Yes	64 (0.7)	8 (4.8)	44 (3.7)	12 (0.1)		
No	9647 (99.3)	157 (95.2)	1152 (96.3)	8338 (99.9)		
Ever had gender-affirming hormones					510.4	**<.001**
Yes	7445 (77.4)	68 (41.7)	657 (55.5)	6720 (81.2)		
No	2180 (22.6)	95 (58.3)	527 (44.5)	1558 (18.8)		
Lifetime suicidal ideation	8235 (84.8)	135 (82.3)	1054 (88.3)	7046 (84.5)	12.8	**.002**
Past-year suicidal ideation	4491 (46.2)	76 (46.3)	723 (60.5)	3692 (44.3)	110.9	**<.001**
Past-year suicidal ideation with plan	2375 (24.5)	40 (52.6)	434 (60.0)	1901 (51.5)	17.6	**<.001**
Lifetime suicide attempt	4607 (47.4)	87 (53.0)	679 (57.0)	3841 (46.1)	51.3	**<.001**
Past-year suicide attempt	793 (8.2)	18 (23.7)	178 (24.7)	597 (16.2)	31.5	**<.001**
Past-year suicide attempt resulting in medical attention	377 (3.9)	7 (38.9)	73 (41.0)	297 (49.7)	4.8	.09
Past-month severe psychological distress	3138 (32.3)	64 (40.0)	601 (51.4)	2473 (30.2)	211.8	**<.001**
Lifetime illicit drug use	3434 (35.4)	46 (28.6)	299 (25.4)	3089 (37.4)	67.3	**<.001**
Lifetime marijuana use	6803 (70.1)	106 (65.4)	707 (59.7)	5990 (72.3)	81.4	**<.001**
Past-month binge drinking	2524 (26.0)	36 (21.8)	299 (25.1)	2189 (26.3)	2.3	.32

Note: Group differences between Current Age and Time to social transition were tested with Kruskal-Wallis H test

Table 2.

Outcomes.

	Childhood Social Transition, 3-9 (compared to Adults, 18+) (N=165)		Adolescent Social Transition, 10-17 (compared to Adults, 18+) (N=1196)		Childhood Social Transition, 3-9 (compared to Adolescents, 10-17) (N=165)	
	aOR (95% CI)	p	aOR (95% CI)	p	aOR (95% CI)	p
Suicidality (Past 12 months)						
Lifetime suicidal ideation [a]	0.8 (0.4 – 2.0)	.80	1.0 (0.7 – 1.3)	.90	1.7 (0.5 – 6.2)	.44
Past-year suicidal ideation [b]	1.0 (0.6 – 1.8)	.89	1.2 (1.01 – 1.5)	**.04**	0.7 (0.3 – 1.6)	.58
Past-year suicidal ideation with plan [c]	1.3 (0.7 – 2.6)	.45	1.2 (0.9 – 1.5)	.22		
Lifetime suicide attempt [d]	1.5 (0.9 – 2.6)	.12	1.3 (1.1 – 1.7)	**.004**		
Past-year suicide attempt [b]	1.3 (0.5 – 3.1)	.63	1.2 (0.9 – 1.7)	.28		
Past-year suicide attempt resulting in medical attention [e]	1.8 (0.5 – 6.7)	.36	1.1 (0.7 – 1.7)	.82		
Mental Health & Substance Use						
Past-month severe psychological distress (K6 ≥ 13) [b]	0.8 (0.4 – 1.4)	.43	1.1 (0.8 – 1.3)	.60	1.1 (0.4 – 2.7)	.83
Lifetime illicit drug use [f]	1.0 (0.5 – 1.7)	.87	1.0 (0.8 – 1.2)	.75		
Lifetime marijuana use [g]	0.7 (0.6 – 0.9)	**<.001**	0.7 (0.5 – 1.2)	.21		

Note: All models were adjusted for the following covariates: Current age, education level, family support for gender identity, and ever received treatment with gender-affirming hormones.

[a] Also adjusted for gender identity, sexual orientation, race, employment status, total household income, lifetime exposure to gender identity change efforts, time to social transition, and ever received treatment with pubertal suppression.

[b] Also adjusted for gender identity, sexual orientation, race, employment status, relationship status, total household income, lifetime exposure to gender identity change efforts, and time to social transition.

[c] Also adjusted for gender identity, sexual orientation, employment status, total household income, lifetime exposure to gender identity change efforts.

[d] Also adjusted for sexual orientation, race, education level, employment status, total household income, lifetime exposure to gender identity change efforts, and time to social transition.

[e] Also adjusted for relationship status and time to social transition.

[f] Adjusted for gender identity, sexual orientation, employment status, relationship status, total household income, lifetime exposure to gender identity change efforts, and time to social transition.

[g] Adjusted for gender identity, sexual orientation, employment status, relationship status, total household income, and time to social transition.

Table 3.

K-12 Harassment.

N=9711

	How old were you when you started to live full-time in a gender that is different from the one assigned to you at birth?				
	In childhood, age 3 – 9 n=165	**In adolescence, age 10 – 17 n=1196**	**In adulthood, age 18 and over n=8350**		
	n (%)	**n (%)**	**n (%)**	***x*** ^{2}	**p**
K-12 Harassment					
I was verbally harassed because people thought I was trans	84 (50.9)	735 (61.5)	1991 (23.8)	759.1	**<.001**
I was physically attacked because people thought I was trans	44 (26.7)	312 (26.1)	1098 (13.1)	155.6	**<.001**
I experienced unwanted sexual contact because people thought I was trans	29 (17.6)	170 (14.2)	510 (6.1)	127.8	**<.001**
Any type (verbal, physical or sexual)	87 (52.7)	741 (62.0)	2043 (24.5)	749.3	**<.001**

Table 4.

Outcomes, Adjusted for Type of K-12 Harassment Experienced.

Adult social transition (18+) serves as the reference group for all multivariable models.

	Childhood Social Transition, 3-9 (compared to Adults, 18+) (N=165)		Adolescent Social Transition, 10-17 (compared to Adults, 18+) (N=1196)		Childhood Social Transition, 3-9 (compared to Adolescents, 10-17) (N=165)	
	aOR (95% CI)	p	aOR (95% CI)	p	aOR (95% CI)	p
Suicidality (Past 12 months)						
Lifetime suicidal ideation [a]	0.8 (0.4 – 1.8)	.60	0.9 (0.6 – 1.2)	.36	1.8 (0.5 – 6.5)	.41
Past-year suicidal ideation [b]	1.0 (0.6 – 1.7)	.96	1.2 (0.9 – 1.4)	.20	0.7 (0.3 – 1.7)	.40
Past-year suicidal ideation with plan [c]	1.3 (0.6 – 2.5)	.52	1.1 (0.8 – 1.5)	.44		
Lifetime suicide attempt [d]	1.4 (0.8 – 2.5)	.20	1.2 (1.0 – 1.5)	.08		
Past-year suicide attempt [b]	1.2 (0.5 – 3.1)	.65	1.2 (0.8 – 1.7)	.39		
Past-year suicide attempt resulting in medical attention [e]	1.9 (0.6 – 6.8)	.35	1.1 (0.7 – 1.8)	.66		
Mental Health & Substance Use						
Past-month severe psychological distress (K6 ≥ 13) [b]	0.7 (0.4 – 1.3)	.31	0.9 (0.8 – 1.2)	.65	1.1 (0.5 – 2.7)	.82
Lifetime illicit drug use [f]	0.9 (0.5 – 1.6)	.81	0.9 (0.7 – 1.2)	.54		
Lifetime marijuana use [g]	0.7 (0.5 – 0.8)	**<.001**	0.7 (0.5 – 1.2)	.18		

Note: All models were adjusted for the following covariates: K-12 harassment, current age, education level, family support for gender identity, and ever received treatment with gender-affirming hormones.

[a] Also adjusted for gender identity, sexual orientation, race, employment status, total household income, lifetime exposure to gender identity change efforts, time to social transition, and ever received treatment with pubertal suppression.

[b] Also adjusted for gender identity, sexual orientation, race, employment status, relationship status, total household income, lifetime exposure to gender identity change efforts, and time to social transition.

[c] Also adjusted for gender identity, sexual orientation, employment status, total household income, lifetime exposure to gender identity change efforts.

[d] Also adjusted for sexual orientation, race, education level, employment status, total household income, lifetime exposure to gender identity change efforts, and time to social transition.

[e] Also adjusted for relationship status and time to social transition.

[f] Adjusted for gender identity, sexual orientation, employment status, relationship status, total household income, lifetime exposure to gender identity change efforts, and time to social transition.

[g] Adjusted for gender identity, sexual orientation, employment status, relationship status, total household income, and time to social transition.