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TRANSGENDER IDENTITY AND EXTERNALIZING PROBLEMS IN ADOLESCENCE: IS THERE A CONNECTION?

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Tiivistelmä

Aliisa Tenhola: Eksternalisoivien oireiden ja ongelmakäyttäytymisen yleisyys trans-identifioituvilla nuorilla verrattuna heidän ikätovereihinsa.
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Internalisoivien mielenterveyshäiriöiden yhteys transsukupuolisuuteen sekä sukupuoliahdistukseen nuorten keskuudessa on osoitettu monissa tutkimuksissa. Nuorten eksternalisoivien mielenterveyshäiriöiden yhteyttä transgender-identiteettiin sekä sukupuoliahdistukseen on tarkasteltu huomattavasti vähemmän. On kuitenkin esitetty, että sukupuoliahdistuksen kokemus sekä siihen liittyvä syrjityksi tuleminen voisivat johtaa myös eksternalisoivien mielenterveyshäiriöiden esiintymiseen.

Tämän tutkimuksen tarkoituksena oli selvittää, esiintyykö trans-identifioituvilla nuorilla (nuoret, jotka kokevat sukupuoli-identiteettinsä eroavan biologisesta sukupuolestaan) enemmän eksternalisoivia oireita ja ongelmakäyttäytymistä verrattuna heidän ikätovereihinsa. Lisäksi tutkimuksessa tarkasteltiin, vaikuttavatko nuorten internalisoivat oireet saatuihin tuloksiin. Tutkimuksessa käytettiin Nuorten mielenterveys – prospektiivinen seuranta- ja replikaatiotutkimus -aineistosta vuoden 2018–2019 dataa, joka pohjautuu tamperelaisten 8. ja 9. luokkalaisten täyttämään anonyymiin Kouluterveyskyselyyn. Tutkimukseen osallistui 1 386 nuorta, joiden iän keskiarvo kyselyyn vastatessa oli 15,59.

Tutkimuksessa tarkasteltiin yhdeksän eri eksternalisoivan oireen ja ongelmakäyttäytymisen yleisyyttä trans-identifioituvilla nuorilla verrattuna heidän ikätovereihinsa. Kun tulokset kontrolloitiin iällä, sukupuolella, rehellisyyskysymyksellä sekä masennuksella, ei eksternalisoivien oireiden ja ongelmakäyttäytymisen esiintyminen eronnut trans-identifioituvilla nuorilla heidän ikätovereistaan. Erityisesti masennuksella kontrolloitaessa lievä korostuneisuus eksternalisoivissa oireissa ja ongelmakäyttäytymisessä trans-identifioituvien nuorten keskuudessa hävisi, mikä viittaa jo aikaisemmissa tutkimuksissa todettuun yhteyteen internalisoivien oireiden sekä sukupuolidysforian välillä.

Avainsanat: Transgender-identiteetti, nuoruusikä, eksternalisoivat mielenterveyshäiriöt, väestötutkimus

Sisällysluettelo

Transgender identity and externalizing problems in adolescence: is there a connection?

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ABSTRACT

Gender dysphoria and transgender identity in adolescence have been associated with overrepresentation of internalizing symptoms and disorders, but research on their associations with externalizing symptoms and disorders is scarce and the findings inconsistent. We set out to study the possible associations between transgender identification and externalizing symptoms and behaviours among ninth graders who participated the Adolescent Mental Health Cohort and Replication Study. In total 1,386 respondents aged mean (SD) 15.59 (0.41) years participated. Of the respondents, 96.9% reported cisgender identity and 3.1% identified as transgender. Nine different externalizing problems were compared between cisgender and transgender identifying adolescents. After controlling for confounding due to age, sex, honesty of responding and depression, no differences in externalizing problems were seen between the gender identity groups. Transgender identification in adolescence is not associated with elevated or diminished externalizing problems.

Transgender, adolescence, externalizing disorders, population survey

INTRODUCTION

Gender, gender identity and gender dysphoria

The term gender can refer to biological sex but also to psychological and social aspects of one´s gender (1). Gender identity is a person`s inner sense of their gender and a component of a person´s identity. Gender identity is usually congruent with biological sex, but these may differ. (2) According to DSM-5 Gender Dysphoria (GD) refers to a remarkable incongruence between one´s experienced gender and sex assigned at birth that causes clinically significant distress or causes harm in important areas of functioning (3). Identifying as transgender means that the experience of gender identity and biological sex do not match. Not everyone identifying as transgender experiences gender dysphoria. (4)

Adolescence and gender

Adolescence is taken to occur between the ages of 12 and 24. It is a developmental stage during which rapid maturation of the central nervous system, biological growth and reaching sexual maturity take place. The cognitive, psychological and social developmental events of adolescence lead to adulthood. (5,6)

One of the key developmental tasks of adolescence is to find one's own identity. Adolescents aim to find their own place and role and form a conception of right and wrong. (7) According to Havighurst, the developmental tasks of adolescence are to form personal values and morals that will enable the adolescent to build their personality, and further to form a mature picture of the different genders, to accept one's own sexual body and to find an established gendered role (8, 9). Thus, many of the development tasks have a connection to gender.

Mental disorders and gender identity

Adolescents who identify as transgender or suffer from GD are more likely suffer from internalizing mental disorders than adolescents whose gender identity is congruent with their biological sex. Studies across Europe and North America have found that 40–45% of adolescents referred to specialized gender identity services have significant mental health problems, most commonly depression, anxiety, self-harm and suicidal ideation/behaviour. (10) An American clinical primary care study compared mental health complaints between 12 to 29-year-old transgender and cisgender patients. Of the transgender youth, 50.6% had depressive symptoms or depression compared to 20.6% of the controls. In addition, 26.7% of the transgender and 10% of the cisgender subjects had an anxiety disorder, and transgender youth also had more commonly suicidal ideation (31.1%), suicide attempt (17.2%) and self-harm without lethal intent (16.7%) than did cisgender patients (11.1%, 6.1% and 4.4%). (11)

Population studies also suggest a higher prevalence of internalizing mental health problems among transgender than among cisgender youth. In a school survey in New Zealand, 41.3% of transgender-identifying adolescents had depression or symptoms of depression compared to 11.8% of cisgender students. Of the transgender-identifying students 19.8% and of the cisgender students 4.1% had attempted suicide and self-harm was also more common among transgender-identifying students (45.5%) than among cisgender students (23.4%). (12)

Significantly less is known about the connection between externalizing mental disorders and gender dysphoria. Studies among adolescents referred to specialized gender identity services have rarely mentioned externalizing disorders (10). Among transgender and gender-nonconforming adolescents enrolled in a primary care service system in the USA, both internalizing and externalizing disorders were more common than among controls of either sex (13). In two survey studies in the USA, transgender-identifying students were markedly more likely to engage in substance abuse and problem gambling than were other students of the same age (14, 15).

The high prevalence of internalizing disorders in adolescents with gender dysphoria and transgender-identifying adolescents has been explained by the difficulties of experiencing and expressing gender and by the stress resulting from the discomfort. Gender expression may further lead to being discriminated against and to both mental and physical violence, which increases the risk of social exclusion and mental disorders. (4) Discrimination against adolescents experiencing gender dysphoria may also impair their social skills due to a lack of relationships. This can lead to social phobia. (16)

It has been suggested that both stress resulting from experiencing gender dysphoria/ transgender identity and discrimination related to it can also manifest as externalizing disorders (4) even though few studies have focused on externalizing problems among youth with gender dysphoria or transgender identification.

Research may simply have ignored the possibility of externalizing symptoms and disorders among youth with gender dysphoria/ transgender identity because of focusing on internal stress and victimization. Externalizing disorders are common in adolescents; they often co-occur with internalizing mental disorders and there is some overlap between internalizing and externalizing mental disorders and symptoms (17). To better understand the connections between GD/ transgender identity and mental health in adolescence, research needs to address externalizing symptoms and disorders.

Aim of the study

The aim of the present study is to explore the possible associations with externalizing symptoms and problem behaviours with transgender identification among adolescents. More specifically, we sought answers to the following questions:

1) are externalizing symptoms and problem behaviours associated with transgender identification among adolescents in the general population, and
2) do the possible associations persist when internalizing symptoms, often overlapping with externalizing problems, are controlled for?

MATERIALS AND METHODS

The data for this study were obtained from the Adolescent Mental Health Cohort study (AMHC) 2018-19 wave. The AMHC is an anonymously completed school survey providing cross-sectional time trend data on adolescent mental health. It has been conducted among ninth graders (15 to 16 years old) in Tampere, Finland, in the academic years 2002–03, 2012–13 and 2018–19. The latest wave was

collected online. The participants logged in to the survey using personal codes during a school lesson supervised by a teacher, who provided information on the study but did not intervene in the responding. Participation in the survey was voluntary. After reading the written information the adolescents were asked to indicate their consent online. Parents were informed by a letter in advance, but active parental consent was not sought. The study was duly approved by the ethics committee of Tampere University Hospital and given appropriate administrative permission by the appropriate authorities of the City of Tampere (18, 19).

In the autumn term of the academic year 2018-19, 1,674 ninth graders were identified from the pupil register of the city, and personal codes to log in to the survey were created for them. A research assistant attended each school on an agreed date and distributed the codes to the pupils. Altogether 1,425 adolescents were present on the survey days, obtained their codes and logged in to the survey. Of these, 39 (2.7%) declined to respond, leaving 1,386 participants, of whom 676 (48.8%) reported that their sex (as indicated in identity documents) was female and 710 (51.2%) male. The mean (SD) age of the participants was 15.59 (0.41) years.

Measures

Sex and gender identity. At the beginning of the survey the respondents reported their sex, with response alternatives “boy” and “girl”. It was explicitly mentioned that this question referred to sex as stated in official identity documents. According to reported sex, the respondents are referred to here as boys and girls, or as males and females. Later, in the section of the survey addressing health, respondents were asked about their perceived gender as follows: “Do you perceive yourself to be…”, with response options “a boy/a girl/both/none/my perception varies”. According to sex and perceived gender, the respondents were categorized to one of three gender identities: cisgender identity (reported male sex and perceives himself as a boy; or reported female sex and perceives herself as a girl), opposite sex identification (male sex, perceives herself to be a girl; or female sex, perceives

himself to be a boy) and other/non-binary gender identity (independent of sex: perceives her/himself to be both a boy and a girl, perceives her/himself to be neither a boy nor a girl, variable). Of the respondents, 96.9% reported cisgender identity, 0.2% opposite sex identification and 2.9% other/non-binary gender identity. In the analyses, cisgender and transgender (=opposite sex identification or other/non-binary gender identity) were compared.
Externalizing symptoms and problem behaviours were analysed aggressive and rule-breaking behaviour, alcohol use, smoking, substance use, risk-taking sexual behaviour, truancy and bullying.

Aggressive and rule-breaking behaviours were measured using the Youth Self Report (YSR) aggression and delinquency scales (20). Aggressive / rule-breaking behaviour reaching 90 percentiles in this dataset was considered significant aggressive / rule-breaking behaviour.

Alcohol use was measured in the survey with two questions: “On the whole, how often do you consume alcohol, a half-bottle of beer or more, for example?” and “How often do you consume alcohol until you are really drunk?”. In the analysis, frequency of alcohol use was dichotomized to at least monthly vs. less frequently. The number of occasions of being drunk was dichotomized to ten times vs. less or not at all. Earlier studies have demonstrated that alcohol use exceeding these limits is problematic in this age group (21). In the present sample, 10.4% reported drinking alcohol at least monthly and 4.4% reported having been drunk ten or more times.

Smoking was surveyed with two questions: “How many cigarettes, pipefuls and cigars have you smoked altogether?” with the response alternatives none/ just one/ about 2–50 and “Which of the following alternatives best describes your current smoking habits?” with the response alternatives once a day or more often/ once a week or more often, but not every day/ less often than once a week/ stopped smoking (temporarily or permanently)”(22). In the analysis, smoking was

dichotomized to no (not at all or just once) vs. current or earlier smoking, more than just once. Of the respondents, 14.5% reported current or earlier smoking.

Substance use was also measured by questions from the School Health Promotion Study "Have you ever tried or used marijuana or hashish / sniffing / prescription drugs or alcohol and prescription drugs combined to become intoxicated / ecstasy, amphetamines, Subutex, heroin, cocaine, LSD, gamma or similar narcotic substances / narcotic substances that you did not know what it was? "All of these had response options never / once / two to four times / five times or more. In the analysis, the use of drugs other than alcohol alone was dichotomized to no use or experimentation with substances vs. has experimented with or used substances. Of the respondents, 10.8% had experimented with or used substances other than alcohol.

Risk-taking sexual behaviour was surveyed by asking, first, if the respondent had ever had sexual intercourse (yes/no) and further, with how many partners (one / two / three / four / five or more). In the analysis, reporting five or more partners for sexual intercourse was defined as risk-taking sexual behaviour. (23) In the present sample, 2.9% had experienced intercourse with five or more partners.

Truancy was elicited by asking how many times adolescents had played truant class during the ongoing school year (not at all vs. at least once). Of the respondents, 10.2% had played truant at least once during the ongoing term.

Involvement in bullying was elicited with questions from the WHO Youth Study. (24). Bullying was first defined as "doing or saying bad things by other students or groups of students and by constantly teasing one student in a way they don´t like; it is not bullying in two students with approximately equal strength argue or fight". After that the students were asked to indicate how often during the ongoing term they had been bullied / bullied others (several times a week/ about once a week/less frequently/ not at all). In the analyses, bullying others was dichotomized

to not at all vs. any. Of the respondents, 10.9% reported any bullying behaviour during the ongoing term.

Depression was measured by the Finnish R-BDI version of the Beck Depression Inventory. The 13-item BDI-13 is a self-reporting scale used to measure symptoms of depression. Each item in the survey is scored on a scale of 0 to 3 depending on the severity of the symptom. The BDI-13 is reliable in predicting clinical depression. (25) In the analyses, depression was used as a continuous symptom score.

Honesty of responding

In survey studies adolescents may both under- and overreport their symptoms, problem behaviours and belonging to minorities (26). An honesty question has been suggested as a method for reducing bias (27). In accordance with this, an honesty question was presented "Have you responded in this survey as honestly as possible?", with response alternatives "yes" and "no". Of the participants in the present study, 87.7% answered "yes", 2.8% answered "no" and 9.5% did not respond to the honesty question. The honesty question with these three response categories was used a confounder and controlled for in the analyses.

Statistical analyses

The associations between transgender identity and the externalizing symptoms and problem behaviours were studied using cross-tabulations with chi-square statistics and with logistic regression. In logistic regressions, the outcome variables were entered each in turn as the dependent variable and gender identity (transgender vs. cisgender) as the independent variable, controlling for 1) age, sex and honesty of responding, and 2) age, sex, honesty of responding and depression. Odds Ratios with 95% confidence intervals are reported.

RESULTS

In bivariate analyses, aggressive behaviour, repeated drunkenness and frequent alcohol use were more common among adolescents reporting transgender identity than among cisgender adolescents (Table 1). After controlling for age, sex and honesty of responding, aggressive behaviour and frequent alcohol use persisted as statistically significantly associated with transgender identity. When, finally, depression was added, all differences between cisgender and transgender groups were levelled out (Table 1). Depression was statistically significantly associated with all the externalizing problems studied (ORs 1.05-1.35).

DISCUSSION

In this study, we analysed the associations between externalizing symptoms and problem behaviours and transgender identification among adolescents. We also explored if the possible associations persist when internalizing symptoms were controlled for. Studies among clinical samples suggested that even if adolescents with transgender identity and gender dysphoria present excessively with internalizing disorders, externalizing psychopathology is not a noticeable problem among them (10, 11) However, some population and primary care studies suggested that transgender adolescents also present with excessive externalizing problems such as substance use and gambling (13, 14).

In the present study, no associations were detected between externalizing symptoms and problem behaviour and transgender identification. Specifically, when depression was controlled for, even the few first detected associations between transgender identity and externalizing problems levelled out. A novel contribution of our study is that we explored a range of externalizing symptoms and behaviours

and also controlled for depression, which is common among transgender adolescents in both clinical and population samples (10, 11, 12), and often comorbid with externalizing problems (18). Even if transgender adolescents in clinical and population samples present with overrepresentation of internalizing disorders, the same is not true of externalizing problems.

An association between depression and externalizing symptoms and problem behaviours was confirmed in the present study as reported in earlier literature (17).

The few earlier studies that have suggested a connection between externalizing problems and transgender identity (13, 14, 15) were conducted in the USA. There may be cultural factors influencing differences in findings between the USA and Finland. Externalizing problems among transgender identifying adolescents may be more sensitive to the culture and social factors than internalizing problems, and transgender adolescents may also be treated differently in different cultures. For example, parental rejection as a reaction to adolescent transgender identity has been prominently discussed in the USA (28) but not much observed in Finland (29).

The maturity gap theory posits that as biological maturation is accomplished, adolescents experience a discrepancy between their biological maturation, resulting in their desiring autonomy and independence, and their social maturation, i.e. the autonomy allowed to them, that lags behind their biological maturation in contemporary Western societies (30, 31, 32). Being accorded a status of restricted autonomy, adolescents start to engage in delinquent acts in an attempt to bridge the gap between their self-perceived maturity and the way society perceives them. Transgender identifying adolescents may not accept their biological maturation or may not perceive it as accomplished in such a way as to demand proceeding to adult privileges, and therefore they may not have the experience that social maturation lags behind biological maturation. Thus, applying the maturity gap theory, transgender identifying adolescents may not experience the same need to engage in delinquent acts as do cisgender adolescents. Transgender identifying

youth, on the other hand, experience a discrepancy between their biological maturation and their gender identity, which may then lead particularly to internalizing symptoms.

Methodological considerations

Our study has several strengths. In Finland, 99% of children attend compulsory comprehensive education (grades 1-9). Therefore, the data collected through schools is very representative of adolescents between the ages of 15 to 16. The data are also socio-economically representative (19). Controlling for honesty in responding is another strength of our study, as is controlling for depression associated with both transgender identity and externalizing symptoms.

A limitation of the present study is that although we explored several externalizing symptoms and behaviours, some of the problems investigated were rather rare, which weakens the reliability of the findings. The reliability is, however, strengthened by the fact that all the analyses pointed in the same direction.

Future studies should explore the associations between gender identity issues and externalizing problems in clinical gender-referred samples, as transgender identifying adolescents in general population may represent a different subgroup of adolescent development than those with clinical gender dysphoria seeking gender reassignment.

Table 1 Externalizing symptoms and behaviours according to gender identity (%, n/N), and associations between gender identity and externalizing symptoms and behaviours when age, sex and honesty of responding are controlled for (Model1), and when depression is added to the model (Model 2) (OR, 95% CI, p).

	cisgender	transgender	p cis vs. trans	OR (95% CI), p Model 1 controlling for age, sex, honesty of responding	OR (95% CI), p Model 2 controlling for age, sex, honesty of responding, depression
Aggressive behaviour	**11.9% (156/1312)**	**25.6% (11/43)**	**0.01**	**2.3 (1.1-4.7), p=0.02**	1.6 (0.7-3.4), p=0.3
Rule-breaking behaviour	10.9% (143/1316)	19.0% (8/42)	0.09	1.7 (0.8-3.8), p=0.2	1.1 (0.4-2.6), p=0.9
Been drunk 10 or more times.	**4.1% (54/1317)**	**1.6% (5/43)**	**0.04**	2.5 (0.8-7.3), p=0.1	1.5 (0.5-4.8), p=0.5
Alcohol at least monthly	**10.1% (130/1288)**	**23.3% (10/43)**	**0.01**	**2.4 (1.1-5.1), p=0.03**	1.8 (0.8-3.9), p=0.2
Smoking	14.6% (194/1329)	11.6% (5/43)	0.4	0.7 (0.3-1.9), p=0.5	0.4 (0.1-1.1), p=0.09
Substance use	10.6% (138/1298)	19.0% (8/42)	0.08	1.7 (0.8-3.9), p=0.2	1.0 (0.4-2.3), p=0.9
Truancy	11.6% (137/1182)	18.4% (7/38)	0.2	1.6 (0.7-3.8), p=0.3	0.9 (0.3-2.4), p=0.8
Bullied others at least once	10.8% (143/1318)	16.7% (7/42)	0.2	1.5 (0.6-3.7), p=0.3	1.1 (0.5-2.8), p=0.8
Risk-taking sexual behaviour	3.0% (40/1329)	4.7% (2/43)	0.4	2.1 (0.5-9.0), p=0.3	1.9 (0.4-8.7), p=0.4

Conclusion

Transgender identifying adolescents do not display more externalizing problems than their mainstream peers. This supports the understanding of identifying as transgender in adolescence not as a disorder but as variation of gender identity development. Externalizing problems do not need particular attention when health and social care professionals and schools encounter transgender identifying adolescents.

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