

Childhood Social Gender Transition and Psychosocial Well-Being: A Comparison to Cisgender Gender-Variant Children

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Objective: There is increasing interest regarding best practice for promoting well-being among gender-variant children. Social gender transition (e.g., name, pronoun, clothing changes) may benefit gender-variant children who desire to be of a gender that does not align with their birth-assigned sex. This study examined psychosocial challenges experienced by socially transitioned children and cisgender (i.e., birth-assigned sex and gender identity align) gender-variant children. **Method:** We used data from published samples of gender-variant children ($N = 266$) reporting psychosocial well-being using the Child Behavior Checklist or similar measures. A statistical bootstrapping approach was used to control for birth-assigned sex, age, and degree of gender variance when comparing cisgender gender-variant (CGV) and socially transitioned children described as being supported in their gender identities. Within the CGV sample, we examined parental attitudes toward childhood gender variance, as well as correlations between these parental attitudes and peer relations with children's psychological well-being. **Results:** There was little evidence that psychosocial well-being varied in relation to gender transition status. Parents of CGV children were generally accepting of childhood gender variance, but only poor peer relations predicted lower psychological well-being among these children. **Conclusion:** Socially transitioned children appear to experience similar levels of psychosocial challenges as CGV children. While further research is needed to evaluate possible effects of childhood social gender transition on well-being, this study suggests experiences of psychosocial challenges among gender-variant children require monitoring irrespective of transition status, and relationships with peers may be especially important to consider.

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Implications for Impact Statement

In general, gender-“atypical” children experience more risk of psychosocial challenges, and addressing poor peer relations may be key for ameliorating these risks.

Keywords: gender variance, childhood social gender transition, psychological well-being

In recent years, there has been increasing clinical, research, and societal debate regarding how to best promote the well-being of prepubertal children who experience distress because their gender expression and/or identity does not align with culturally defined gender norms or stereotypes associated with their birth-assigned sex (Edwards-Leeper, Leibowitz, & Sangganjanavanich, 2016; Ehrensaft, Giammattei, Storck, Tishelman, & Keo-Meier, 2018; Steensma & Cohen-Kettenis, 2018; Temple Newhook et al., 2018; Turban & Ehrensaft, 2018; Zucker, 2018). Gender variance describes this occurrence more generally (Adelson, 2012)—although other terms have also been used (e.g., gender diverse, nonconforming, or expansive) and terminology in this field is evolving (Turban & Ehrensaft, 2018). To describe children who exhibit gender variance and transitioned to the other binary (i.e., girl/female or boy/male) gender identity, the terms transgender (Olson, Durwood, DeMeules, & McLaughlin, 2016a, 2016b) and cross-gender identified (Kovalanka, Weiner, Munroe, Goldberg, & Gardner, 2017) have been used. Given the combination of gender variance and gender transition, this latter group may have experienced distress related to their birth-assigned sex and met *Diagnostic and Statistical Manual of Mental Disorders—fifth edition* diagnostic criteria for gender dysphoria (GD; American Psychiatric Association, 2013) prior to such a transition, whereas similar levels of gender variance associated with cisgender identity (i.e., experienced gender identity and birth-assigned sex align) may be comparable, though not equivalent, to GD (Adelson, 2012; van der Miesen, Nabbijohn, Santarossa, & VanderLaan, 2018).

A principal focal point in ongoing debates concerns the utility of childhood social gender transition (SGT) as a means of ameliorating psychological distress and improving well-being. For prepubertal children, a complete

SGT entails changes to characteristics such as the child’s name, pronouns, and appearance (e.g., hairstyle, clothing) in all aspects of day-to-day life, whereas a partial SGT consists of either some of these changes and/or these changes only taking place in certain contexts (e.g., in the child’s home, but not in public places such as in the child’s school; Kovalanka et al., 2017; Olson et al., 2016b; Steensma, McGuire, Kreukels, Beekman, & Cohen-Kettenis, 2013). Thus, complete SGT may be thought of as aligning with the gender binary, whereas partial SGT in which gender identity is uncertain, intermediate, or fluid might be best described as nonbinary. In this article, we use the term *cisgender* to refer to all nonsocially transitioned children and the term *social gender transition* to refer to those who identify as the other gender. That said, we note that some of these children may be nonbinary, may sometime evolve to socially (de)transition or may wish to socially (de)transition but be constrained by family or social circumstances.

Clinic-based studies of child GD/gender variance/transgender samples have indicated increased mental health risk, most commonly when examining widely used screening measures such as the Child Behavior Checklist (CBCL; for reviews, see Ristori & Steensma, 2016; Zucker, Wood, & VanderLaan, 2014), but also when examining rates of mental health diagnoses (Becerra-Culqui et al., 2018). These findings parallel those from clinic-based GD/gender variance/transgender adolescent samples showing elevated mental health risk (Becerra-Culqui et al., 2018; de Vries, Steensma, Cohen-Kettenis, VanderLaan, & Zucker, 2016). Given that SGT (e.g., chosen name use; Russell, Pollitt, Li, & Grossman, 2018) and other gender-affirming practices (e.g., hormonal therapies to suppress puberty; de Vries, Steensma, Doreleijers, & Cohen-Kettenis, 2011) appear to benefit transgender youth’s mental health, childhood

SGT may be similarly beneficial. Some have hypothesized that childhood SGT might be critical to improve the short- and long-term psychological adjustment of children who experience GD and a transgender or nonbinary/expansive gender identity (Ehrensaft et al., 2018).

To date, empirical evidence bearing on this hypothesis remains scant. Anecdotally, clinicians and parents have reported improved psychological well-being following childhood SGT (e.g., Stewart, 2018). In terms of quantitative data, only two parent-report studies of psychological well-being among children who had undergone complete SGT have been published. For 31 children ages 6-to-12 years described as cross-gender identified, Kuvalanka et al. (2017) found that only about 25% were in the borderline/clinical range on the CBCL total, internalizing, and externalizing scales. Olson et al. (2016b) reported that 73 transgender children ages 3–12 years did not differ on a measure of depression compared to the population average or to cisgender comparison groups consisting of either their siblings or unrelated age-matched controls, but they did show elevated anxiety. Self- and parent-report replicated these findings for 9- to 14-year-olds (Durwood, McLaughlin, & Olson, 2017).

This literature is limited by a lack of a suitable comparison sample of cisgender gender-variant (CGV) children. Kuvalanka et al. (2017) included a comparison group whose rate of CBCL borderline/clinical-range scores were greater than those of completely SGT children, but this group was small ($n = 14$) and combined gender-variant children described as cisgender, nonbinary, or uncertain (e.g., inconsistent in articulating cross-gender identity). Olson et al. (2016b) compared depression and anxiety for their sample to CBCL internalizing scores among GD-referred children from clinics in Toronto, Canada (Zucker & Bradley, 1995) and Utrecht, the Netherlands (Cohen-Kettenis, Owen, Kaijser, Bradley, & Zucker, 2003). Olson et al. reported their sample showed greater psychological well-being than these clinic samples and, thus, argued for gender-affirming approaches and childhood SGT. However, Olson et al.'s comparisons did not provide statistical controls (e.g., age and birth-assigned sex compositions of the samples) and these clinic samples were based on children seen in these clinics

one or more decades ago. Regarding this latter point, relying on potentially outdated clinical samples to draw conclusions about contemporary gender-variant children may be ill-advised (Temple Newhook et al., 2018). For example, increased acceptance of gender variance in recent years may have lessened the experiences of stigmatization and discrimination that are thought to reduce gender-variant children's psychological well-being (Zucker et al., 2014).

Still, experiences of stigmatization and discrimination may be present—though perhaps to a lesser degree than in the past—and influence psychological well-being among children who express gender variance (Zucker et al., 2014). While gender-affirming approaches challenge stigmatization of gender variance, other factors may impact psychological well-being. Poor peer relations is a robust predictor of elevations in behavioral and emotional challenges among children and youth who experience GD/transgender identity (Kuvalanka et al., 2017; Steensma et al., 2014). Children tend to prefer gender-stereotypical over gender-variant peers, especially for peers who are of the same birth-assigned sex (Wallien, Veenstra, Kreukels, & Cohen-Kettenis, 2010). When children categorize hypothetical transgender peers based on expressed gender identity rather than birth-assigned sex, they tend to be more accepting of these peers—presumably because they perceive the peers' gender expression as stereotypical relative to their identity; however, children often categorize hypothetical transgender peers in relation to their birth-assigned sex rather than expressed gender identity and accordingly show less preference for these peers (Gülgöz, Gomez, DeMeules, & Olson, 2018). Thus, SGT might not necessarily improve peer relations. Consequently, SGT children might still be at risk of experiencing poor peer relations and, by extension, lowered psychological well-being.

The present study examined psychosocial well-being in previously published samples of contemporary gender-variant children who were either CGV (van der Miesen et al., 2018) or had undergone complete SGT (Kuvalanka et al., 2017; Olson et al., 2016a, 2016b). Of primary interest was whether the CGV and SGT children varied in terms of psychosocial well-being, specifically with respect to experiences of behavioral and emotional challenges and poor peer relations, statistically matched for

age, birth-assigned sex, and level of gender variance. We also had secondary aims with respect to the CGV sample. First, we examined their experiences of behavioral and emotional challenges relative to population norms, which were not reported previously. Second, prior literature suggests parental acceptance of a child's gender-variant expression serves as a protective factor (Kusalanka et al., 2017; Olson et al., 2016a, 2016b), whereas poor peer relations are a risk factor for psychological well-being among GD/transgender children. Hence, we examined whether such was the case within the sample of CGV children.

Method

Participants

In van der Miesen et al. (2018), parents/caregivers of children ages 6-to-12 years completed an online questionnaire between June and December 2016. The study was approved by the University of Toronto Research Ethics Board. Participants provided informed consent before participating. The majority was recruited via Facebook advertisements; some were recruited via an online classified advertising site, Kijiji, and through community centers. The survey was advertised as being about childhood gender expression and psychological well-being. The original van der Miesen et al. study examined associations between childhood gender expression, ranging from stereotypical to variant, and clinical and borderline-clinical range behavioral and emotional challenges. In total, 3,097 parents/caregivers completed the questionnaire. Due to incomplete data on one or more focal measures (i.e., birth-assigned sex, current gender identity, age, Gender Identity Questionnaire for Children [GIQC], CBCL), 937 participants were excluded. Further, to provide a sample of gender-variant children whose gender variance levels were similar to those of children referred to specialty gender clinics, only children with a GIQC score ≤ 3.54 were included (see below for rationale). The resulting sample included 171 children, of which 162 had a parent-reported birth-assigned sex and current gender identity that aligned. Included in this study are these 162 CGV children.¹

To facilitate comparisons to SGT children, we relied on previously published contempo-

rary samples in which the SGT children had been described as having a current gender identity that aligned with the other gender in a binary fashion and included the necessary information on psychological well-being (i.e., CBCL or a comparable metric). We were aware of the samples from Kusalanka et al. (2017) and Olson et al. (2016a, 2016b). To discern whether any additional contemporary samples should be included, we searched the PsycINFO database for peer-reviewed primary empirical articles published between January 2013 and February 2019, inclusive, using the following search: *child* and (*social gender transition* or *cross-gender* or *transgender* or *trans*) and (*mental health* or *well-being* or *CBCL* or *Child Behavior Checklist* or *behavioral* and *emotional problems* or *anxiety* or *depression*). This search returned 372 peer-reviewed articles, including Kusalanka et al. and Olson et al. No other articles met the inclusion criteria (i.e., a sample including children only, a group of SGT children described as transgender/cross-gender identified in a binary fashion, and reported CBCL data or a comparable metric).

Thus, the two comparison samples of SGT children for the present study included 31 children described as cross-gender identified (Kusalanka et al., 2017) and 73 transgender children (Olson et al., 2016a, 2016b). Kusalanka et al. reported on a community sample recruited from 2011 to 2013 via online parent support groups. The parents were described as generally accepting and supportive of their children's gender presentations. Olson et al. reported on a community sample of parents (recruitment dates not reported), and the parents were recruited through various means (i.e., support

¹ The analyses in van der Miesen et al. (2018) excluded those children who, based on parent-report, had received a clinical mental health diagnosis. Such an exclusion criterion was not used in prior studies of SGT children (Kusalanka et al., 2017; Olson et al., 2016a, 2016b). Thus, in addition to the children without parent-reported mental health diagnoses included in the van der Miesen et al. analyses, the sample from van der Miesen et al. reported on here also includes 35 gender-variant children with one or more parent-reported mental health diagnoses (i.e., 19 attention-deficit/hyperactivity disorder, 10 mood and/or anxiety disorder, five autism spectrum disorder, three oppositional defiant disorder, three other neurodevelopmental disorder, two sensory processing disorder, two obsessive compulsive disorder, and two learning disability).

groups, conferences, online advertisements, word of mouth) and were described as supportive of their children's gender identities. Although both studies included comparison groups of non-cross-gender identified and cis-gender gender-stereotypical children, respectively, these additional groups were not considered here because the current study aimed to compare CGV and SGT children with a binary gender identity.

Key demographics for the samples are shown in Table 1. These included the child's birth-assigned sex, age, country where the research was performed, ethnicity, socioeconomic status (SES), and family structure. For further sample details, see the original articles.

Measures

Table 1 reports details for the GIQC by sample, where available. The GIQC is a 16-item parent-report questionnaire that measures gender variance (Johnson et al., 2004). There are two parallel questionnaires, one for children assigned male at birth and one for children assigned female at birth. Items are rated on a 5-point Likert scale from 1 (*opposite to birth-assigned sex*) to 5 (*same as birth-assigned sex*). Example items are "(S)he imitates (fe)male characters seen on TV or in the movies" and "(S)he experiments with cosmetics (makeup) and jewelry" (for a complete list of items, see the Appendix of Johnson et al., 2004). The GIQC has a one factor solution that includes 14 of the 16 items (all except Items 8 and 16; see Johnson et al., 2004). Using the mean of these 14 items, the GIQC score distinguished well between children who were versus were not referred to a specialty gender clinic with a large effect size (Cohen's $d = 3.70$; Johnson et al., 2004). A cut-off GIQC score of ≤ 3.54 provides good sensitivity (86.8%) and specificity (95%) for distinguishing children referred to specialty gender clinics versus other children (Johnson et al., 2004). Hence, for the CGV children in the van der Miesen et al. (2018) sample, we used ≤ 3.54 as the cut-off GIQC score for inclusion in this study.

The CBCL (Achenbach & Rescorla, 2001) measured emotional and behavioral challenges. The CBCL is a 118-item parent-report questionnaire for 6- to 18-year-olds with items rated as 0 (*not true*), 1 (*sometimes or somewhat true*) or

2 (*very or often true*). Children's total challenges were calculated as raw scores and as T scores, and Internalizing and Externalizing challenges were calculated as T scores. Consistent with Kovalanka et al. (2017), T scores were calculated using the American norms relative to the child's age and birth-assigned sex. Internalizing challenges are defined as disturbances of emotions (e.g., anxiety). Externalizing challenges are characterized as behavioral excesses or disturbances of conduct (e.g., aggression). Clinical-range T scores for Total, Internalizing, and Externalizing challenges were those classified as clinical (>90 th percentile and T score ≥ 64 in nonreferred samples) and borderline-clinical range (>84 th percentile and T score ≥ 60 to ≤ 63 in nonreferred samples). As in prior research, a Poor Peer Relations score was the sum of CBCL Items 25 ("Does not get along with other kids"), 38 ("Gets teased a lot"), and 48 ("Not liked by other kids"; Cohen-Kettenis et al., 2003; Kovalanka et al., 2017). For Poor Peer Relations, the absolute range was 0–6. Cronbach's α for the three items was .75.

Using these CBCL variables, we made all of the comparisons between the CGV and SGT samples that were possible. Kovalanka et al. (2017) allowed for comparisons of the total raw score, Internalizing T scores, Externalizing T scores, Poor Peer Relations, and proportions of the sample showing clinical, borderline-clinical, and nonclinical range scores. In both van der Miesen et al. (2018) and Kovalanka et al., CBCL Item 110 ("Wishes to be of the opposite sex") was scored as 0 so as not to inflate the total raw score (note that Item 110 is not included in the Internalizing or Externalizing T -score calculations). Olson et al. (2016a, 2016b) used parent-report versions of the Patient-Reported Outcomes Measurement Information System (PROMIS; Varni et al., 2012) for anxiety and depression symptoms. PROMIS provided an index that was comparable to the CBCL Internalizing T score (i.e., like the CBCL, the normed scores have $M = 50$, $SD = 10$, with 10% falling in the clinical range).

The Child-Rearing Sex-Role Attitude Scale-Adapted Version (CRSRAS; Freeman, 2007) was available for 154 participants in the van der Miesen et al. (2018) sample. This 19-item parent-report scale assesses parental beliefs about gender stereotypic and counterstereotypic behavior in children measured on a 5-point Likert

Table 1
Key Sample Characteristics

Characteristic	van der Miesen et al. (2018) CGV group	Kuvalanka et al. (2017)	Olson et al. (2016a, 2016b)
	$N = 162$, $GIQC \leq 3.54$	$N = 31$ with CGI explicitly and consistently identify as the gender "opposite" that which they were assumed to be at birth). All happened to have socially transitioned; 27 received a GID diagnosis	$N = 73$ transgender children who had socially transitioned, i.e., who identify as the gender "opposite" their birth-assigned sex and are supported to live in their experienced gender
Birth-assigned sex	104 AFAB, 58 AMAB	14 AFAB, 17 AMAB	22 AFAB, 51 AMAB
GIQC score	$M = 3.32$, $SD = .233$	$M = 1.79$, $SD = .37$	Not available
Age of child	$M = 8.80$, $SD = 2.01$; range = 6–12.92 years	$M = 8.7$, $SD = 1.9$; range = 6–12 years	$M = 7.7$, $SD = 2.2$; range = 3–12 years
Geographic region ^a	Canada	U.S.	U.S.
Ethnicity of child	57% European 22% Multirethnic 11% Other	No separate report for the CGI group but among the overall sample ($N = 45$), 80% were White, and the rest were multirethnic	Among the 73 transgender children, 70% were White non-Hispanic
Socioeconomic status	The remaining children were Asian, Aboriginal, or Caribbean Income (CAD) $\leq \$23,999$ (8%) $\$24,000$ – $\$49,999$ (27%) $\$50,000$ – $\$79,999$ (24%) $\$80,000$ – $\$124,999$ (27%) $\geq \$125,000$ (14%) Unknown ($n = 2$)	No separate report for the CGI group but among the overall sample ($N = 45$): 20% below Bachelor's degree; 80% Bachelor's degree or higher	Income (USD) $\leq \$25,000$ (1) $\$25,001$ – $\$50,000$ (7) $\$50,001$ – $\$75,000$ (7) $\$75,001$ – $\$125,000$ (41) $> \$125,000$ (44)
Family structure	Participating parent education: 61% College diploma or trade school certificate or below 23% Bachelor's degree 14% Postgraduate degree 2% Other professional degree Married/Common law (72%) Other (28%)	Most of the families fell in the first ranking of Hollingshead's (1975) four-factor index of social status, which takes into account the education level and occupation of the caregivers, namely, business/professional (the highest social status ranking)	Not available

Note. CGV = cisgender gender-variant; GID = Gender Identity Disorder, the diagnostic term replaced by Gender Dysphoria in the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders*; AFAB = Assigned Female-at-Birth; AMAB = Assigned Male-at-Birth; GIQC = Gender Identity Questionnaire for Children; CGI = cross-gender identification.

^a Although the van der Miesen et al. (2018) sample was Canadian, Child Behavior Checklist data for this sample were scored using U.S. population norms.

scale from 1 (*strongly disagree*) to 5 (*strongly agree*). An example item is “I would buy my son a doll.” A mean score was calculated for the 19 items. Lower scores indicated more traditional attitudes and higher scores indicated more accepting attitudes toward gender variance in children. Cronbach’s α was .86.

Statistical Analysis

We used rejection sampling (MacKay, 2003), a method that allowed us to generate bootstrapped samples to facilitate comparisons of the CGV sample of van der Miesen et al. (2018; the proposal sample) to each of the SGT samples in other studies (the target samples). Bootstrapping makes it possible to simulate data sets that statistically match on specified parameters (e.g., age, assigned male-female ratio) so that the data sets can be considered comparable on those parameters. The target distribution was modeled using a multivariate normal distribution from the available demographic variables reported most consistently across the studies: age, birth-assigned sex (i.e., number of children assigned male and female at birth, respectively), and GIQC scores (for all studies except Olson et al., 2016a, 2016b). One thousand iterations were generated by the bootstrapping process. For continuous variables, comparisons were conducted using *t* tests. For differences in percentage distributions, comparisons were conducted using chi-square tests. Comparisons were based on available information on percentages, means, standard deviations, and confidence intervals.

Within the van der Miesen et al. (2018) sample, we tested for elevations in behavioral and emotional challenges by comparing *T* scores to the CBCL normed population mean score of 50 using one-sample *t* tests, and the normed percentage in the clinical range of 10% using the binomial test. Also, the CRSRAS mean score was compared to the scale midpoint of 3 (“undecided”) using a one-sample *t* test to evaluate whether it is reasonable to infer that parents in this sample, like those in the comparison studies, tended to be accepting of their children’s GV. We also examined Pearson’s *r* correlations between the CRSRAS and the Poor Peer Relations scales with the continuous CBCL behavioral and emotional challenges measures. All

inferential tests were two-tailed and used a conventional α of .05.

Results

Comparisons of CGV to SGT children are shown in Figure 1. The van der Miesen et al. (2018) and Kuvalanka et al. (2017) samples showed no significant group differences on the continuous measures: CBCL Total Raw Score, $M_{\text{Kuvalanka et al.}} = 27.97$ ($SD = 19.59$), $M_{\text{van der Miesen et al.}} = 33.49$ ($SD = 4.36$), $t(1029) = -1.57$, $p = .127$; Internalizing *T* score, $M_{\text{Kuvalanka et al.}} = 53.23$ ($SD = 9.92$), $M_{\text{van der Miesen et al.}} = 54.57$ ($SD = 1.92$), $t(1029) = -.75$, $p = .458$; Externalizing *T* score, $M_{\text{Kuvalanka et al.}} = 51.16$ ($SD = 10.29$), $M_{\text{van der Miesen et al.}} = 52.40$ ($SD = 1.97$), $t(1029) = -.67$, $p = .508$; or Poor Peer Relations, $M_{\text{Kuvalanka et al.}} = .74$ ($SD = 1.21$), $M_{\text{van der Miesen et al.}} = .84$ ($SD = .22$), $t(1029) = -.46$, $p = .649$. There were also no significant differences in clinical or borderline-clinical range scores. For Total *T* score, the percentages of children in the clinical, borderline, and nonclinical range were 16.1%, 9.7%, and 74.2% for Kuvalanka et al. and 26.29% ($SD = 7.78\%$), 12.08% ($SD = 5.88\%$), and 61.63% ($SD = 8.63\%$) for van der Miesen et al., respectively, $\chi^2(2) = 1.22$, $p = .544$. For Internalizing *T* scores, the percentages of children in the clinical, borderline, and nonclinical range were 12.9%, 9.7%, and 77.4% for Kuvalanka et al. and 24.80% ($SD = 7.85\%$), 6.41% ($SD = 4.40\%$), and 68.79% ($SD = 8.19\%$) for van der Miesen et al., respectively, $\chi^2(2) = 1.73$, $p = .42$. For Externalizing *T* scores, the percentages of children in the clinical, borderline, and nonclinical range were 12.9%, 12.9%, and 74.2% for Kuvalanka et al. and 18.68% ($SD = 6.82\%$), 13.61% ($SD = 5.87\%$), and 67.71% ($SD = 7.75\%$) for van der Miesen et al., respectively, $\chi^2(2) = .49$, $p = .78$.² Olson et al. (2016a, 2016b) reported Internalizing *T* scores only. Olson et al. ($M = 52.20$, SD not reported) and van der Miesen et al. ($M = 53.25$, $SD = 1.32$) showed no statistically

² Results on percentage distributions for the van der Miesen et al. (2018) sample contain SD s because this group was bootstrapped and the sampling procedure produced SD s.

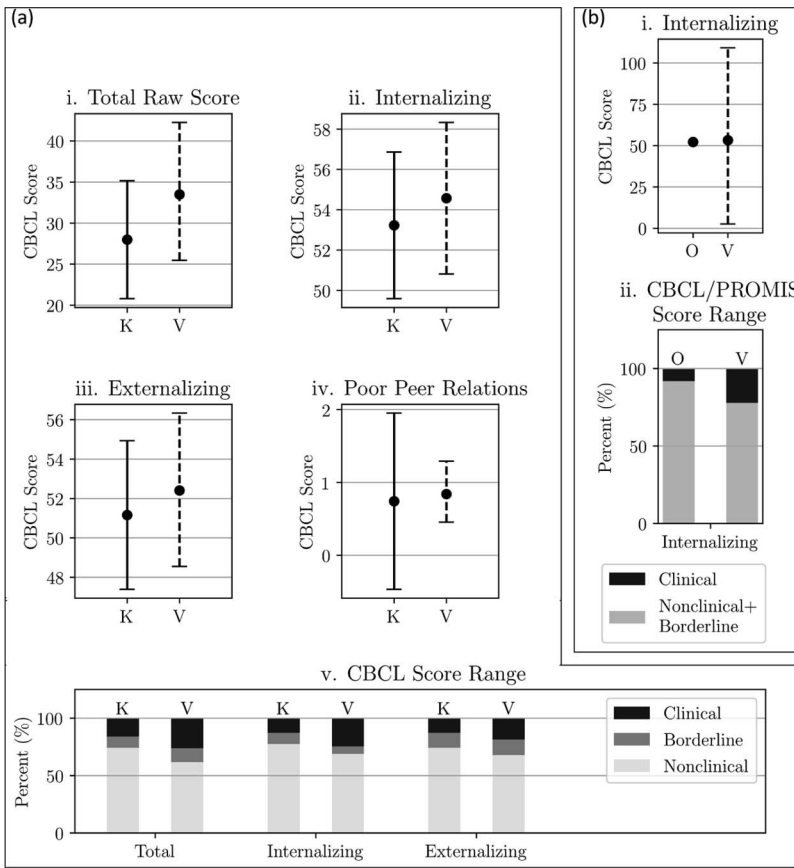


Figure 1. Cross-sample comparisons. In each cross-study comparison, the cisgender gender-variant group (V; van der Miesen et al., 2018) sample was bootstrapped to mimic the target sample on age, birth-assigned sex, and Gender Identity Questionnaire for Children scores (if available). Comparisons were based on available information on percentages, means, standard deviations, and/or confidence intervals. Panel (a) shows the comparisons with Kuvvalanka et al., with (a; i) to (a; iv) showing means and 95% confidence intervals and (a; v) showing percentages. Panel (b) shows the comparisons with Olson et al. (2016a, 2016b), with (b; i) showing the mean and 95% confidence interval for van der Miesen et al. and only the mean for Olson et al. because no measure of spread was reported and (b; ii) showing percentages with borderline clinical and nonclinical range scores combined because Olson et al. did not report them separately. K = socially gender transitioned group of Kuvvalanka et al. (2017); O = socially gender transitioned group of Olson et al. (2016a, 2016b); CBCL = Child Behavior Checklist; PROMIS = Patient-Reported Outcomes Measurement Information System.

significant mean difference between groups on this measure, $t(1071) = -.80, p = .426$, but significantly fewer children were in the clinical range in Olson et al. (8.2% of 3- to 12-year-olds) compared to van der Miesen et al. (22.2%, $SD = 4.83\%$), $\chi^2(1) = 5.35, p = .02$; however, for the 51 children 6-to-12 years old in Olson et al. (i.e., the same age range as the CGV sample), there was no sig-

nificant difference for the percentage in the clinical range between the Olson et al. (9.8%) and van der Miesen et al. samples (21.7%, $SD = 5.53\%$), $\chi^2(1) = 2.67, p = .102$.

Analyses within the van der Miesen et al. (2018) sample were based on the original data (i.e., not based on the bootstrapped samples reported above and in Figure 1). Compared to the normed population mean T score of 50,

CGV children were significantly elevated for Total ($M = 54.70$, $SD = 11.96$), $t(161) = 5.00$, $p < .001$, Internalizing ($M = 54.56$, $SD = 11.77$), $t(161) = 4.93$, $p < .001$, and Externalizing ($M = 52.40$, $SD = 11.81$), $t(161) = 2.59$, $p = .011$, T scores. Compared to the population percentage in the clinical range of 10%, they were elevated for Total (24.1%; $n = 162$; $z = 5.84$, $p < .001$), Internalizing (25.3%; $n = 162$; $z = 6.36$, $p < .001$), and Externalizing (17.9%; $n = 162$; $z = 3.22$, $p = .001$) clinical-range CBCL T scores. Parents' CRSRAS scores were significantly higher than the midpoint (i.e., 3 = *undecided*) of the scale ($M = 4.66$, $SD = .40$, range of 2.74–5.00 with only one parent scoring below the midpoint), $t(153) = 51.56$, $p < .001$, indicating generally accepting attitudes toward childhood gender variance. There were no statistically significant correlations between CRSRAS scores and CBCL Total Raw scores ($n = 154$, $r = -.016$, $p = .843$), Internalizing T scores ($n = 154$, $r = -.041$, $p = .617$), or Externalizing T scores ($n = 154$, $r = -.035$, $p = .668$). There were, however, statistically significant positive correlations between Poor Peer Relations scores and CBCL Total Raw scores ($n = 162$, $r = .626$, $p < .001$), Internalizing T scores ($n = 162$, $r = .497$, $p < .001$), and Externalizing T scores ($n = 162$, $r = .437$, $p < .001$).

Discussion

This study addressed a gap in the nascent empirical literature regarding childhood SGT and psychosocial well-being. Its main contribution is that it provides a large contemporary comparison sample of CGV children. Also, it employed a statistical approach that improved the ability to match the CGV sample for birth-assigned sex, age, and degree of gender variance (i.e., GIQC score). Thus, this approach emphasized comparison of gender-variant children whose identities varied (i.e., cisgender compared to transgender/cross-gender binary identities), whereas most prior research on gender variance/GD/transgender identity and psychosocial well-being compared children of the same birth-assigned sex who varied in gender expression (for review, see Zucker et al., 2014). As such, this study is unique in that gender identity, rather than gender expression relative

to birth-assigned sex, is the focus of comparisons.

For psychosocial challenges, CGV and SGT children differed for one comparison. SGT children in Olson et al. (2016a, 2016b) were less likely than CGV children to show clinical-range internalizing challenges; however, these groups had similar mean internalizing T scores and the comparison of clinical-range scores was not significant when the sample age ranges were matched to 6-to-12 years old. Thus, the significant comparison was likely due to low prevalence of clinical-range scores among 3–5 year olds in Olson et al. (i.e., 4.5%).

Overall, then, gender-variant children appeared to experience similar psychosocial challenges regardless of transition status. In combination with the original studies drawn on here, these findings help clarify how contemporary North American gender-variant children's psychosocial well-being and risk compares to that of other children. The available data suggest a minority of such children experience clinically significant behavioral and emotional challenges; in the original van der Miesen et al. (2018); Kivalanka et al. (2017), and Olson et al. (2016a, 2016b) samples, the majority of children did not have clinical or borderline clinical-range T scores. Thus, for gender-variant children whose identities align with the gender binary, only a minority experience clinically significant behavioral and emotional challenges.

Yet, SGT and CGV children nevertheless experience elevated behavioral and emotional challenges relative to population norm scores and/or comparison samples of cisgender gender-stereotypical children. Compared to population norms, the CGV sample reported on here had significantly elevated total, internalizing, and externalizing challenges. Kivalanka et al.'s (2017) SGT sample had marginally elevated internalizing challenges,³ and Olson et al.'s (2016b) SGT sample had significantly elevated anxiety (but not depression) mean T scores. Further, in the original studies, Olson et al. and Durwood et al. (2017) reported elevated anxiety among SGT compared to gender-stereotypical

³ Kivalanka et al. (2017) reported a M (SD) Internalizing T score of 53.23 (9.92) for the 31 SGT children in their sample, which is marginally significantly elevated compared to the population norm T score of 50, one-sample t test, $t(30) = 1.81$, two-tailed $p = .08$.

children and youth. Likewise, van der Miesen et al.'s (2018) original sample of gender-variant children was at elevated risk compared to a sample of gender-stereotypical children and showed rates of clinical-range CBCL challenges that were on par with those of children referred to specialty gender services (see Zucker et al., 2014). An analysis of the van der Miesen et al. sample focusing on peer relations found that gender-variant children assigned male at birth had poorer peer relations than gender-stereotypical male control children (MacMullin, Aitken, Nabbijohn, & VanderLaan, 2019). By extrapolation, SGT children may similarly be at elevated risk given their psychosocial challenges resembled those of the CGV children from van der Miesen et al.

Clinical Implications

The present study underscores the need for continued efforts to ameliorate the relatively elevated risk of psychosocial challenges experienced by gender-variant children in comparison to cisgender children with more stereotypical gender expression. The findings to date suggest evaluation and monitoring of psychosocial challenges on a case-by-case basis is warranted regardless of transition status. Importantly, psychosocial risk extends beyond clinical populations of gender-variant children seen in specialty gender clinics to children from the community (van der Miesen et al., 2018; MacMullin et al., 2019). As such, awareness of psychosocial challenges experienced by gender-variant children should extend beyond specialty clinics and into health care and allied fields (e.g., education) more broadly.

With regard to promoting gender-variant children's well-being, it has been argued that supporting their gender expression is key (Ehrensaft et al., 2018). The SGT children in the Kovalanka et al. (2017) and Olson et al. (2016a, 2016b) samples were described as having parents who were supportive of their children's gender expression, and the parents of the CGV children from van der Miesen et al.'s (2018) sample self-reported that they were generally accepting of childhood gender variance. While some research does indicate that having parents who hold more accepting attitudes toward childhood gender variance is a protective factor when it comes to gender-variant children's psy-

chological well-being (Santarossa, Nabbijohn, van der Miesen, Peragine, & VanderLaan, 2019), the present findings suggest parental acceptance alone may not be sufficient to completely ameliorate the risks to psychological well-being. As described above, the samples of SGT and CGV children examined here appear to be at relatively greater risk despite parental support/acceptance. Also, for the CGV sample, parental acceptance of childhood gender variance was not significantly correlated with the children's psychological well-being.

Rather, peer relations appear to be a robust predictor of psychological well-being in gender-variant children. Within the CGV sample, elevations in total, internalizing, and externalizing challenges were significantly associated with poorer peer relations, with moderate-to-large effect sizes. This finding was consistent with those of prior studies of SGT children (Kovalanka et al., 2017) and children clinic-referred for GD (Steensma et al., 2014). As such, addressing poor relationships with peers should be a principal focus, perhaps especially for gender-variant children assigned male at birth for whom poor peer relations appears to be a particularly pertinent issue (MacMullin et al., 2019; Wallien et al., 2010).

Limitations and Future Directions

Although this study informs how the psychological well-being of SGT and CGV children compare, it does not provide insight into the potentially more critical issue of whether SGT itself helps to ameliorate psychological distress. Presumably, SGT children experience distress related to GD prior to transitioning, but it is unclear whether the children categorized as CGV from van der Miesen et al. (2018) were similarly distressed. It is possible that childhood SGT is associated with a decrease in psychological distress, as has been noted anecdotally (Stewart, 2018); however, no studies to date have employed a longitudinal design assessing psychological well-being pre- and post-childhood SGT.

The long-term implications of childhood SGT for psychological well-being are also unclear. Adolescents and adults who experience GD/transgender identity show elevated mental health risk (Becerra-Culqui et al., 2018; de Vries et al., 2016; Dhejne, van Vlerken, Heylens,

& Arcelus, 2016), and some argue childhood SGT might stem at least some of this risk (Ehrensaft et al., 2018). This issue relates to broader questions that need to be addressed by future research regarding which children might benefit from SGT and at which point in development (for further reading, see Edwards-Leeper et al., 2016; Ehrensaft et al., 2018; Steensma & Cohen-Kettenis, 2018; Temple Newhook et al., 2018; Zucker, 2018).

There are some caveats regarding the conclusiveness and generalizability of the present findings. To begin with, all the children in Olson et al. (2016a, 2016b) and 80% of the children in Kivalanka et al. (2017) were prepubertal, whereas information on pubertal status was not available for the van der Miesen et al. (2018) sample—although our comparisons matched the samples on age, which is a proxy for pubertal status. Also, the present samples were mostly white/European, which limits generalizability to other racial/ethnic groups. For SES, the original studies used different SES metrics, but descriptive data in Table 1 suggests parents in the CGV sample had lower SES (i.e., income, education) than parents in the SGT samples. To the extent that lower SES is a psychosocial risk factor, the well-being of the SGT samples might have been buoyed by higher SES, relative to the CGV sample. Last, this study focused on the gender binary (i.e., compared CGV and complete SGT) and children who are partially SGT or gender nonbinary might experience different levels of psychosocial well-being (Kivalanka et al., 2017). Whether these aspects of the samples relied on here affected our comparisons is equivocal. Further research that matches CGV and SGT child samples as closely as possible and also considers partially SGT or nonbinary children is needed.

Other limitations of this study and the literature more generally relate to measurement of psychosocial challenges and gender. All of the studies to date on childhood SGT relied on the limited and potentially biased information that comes from brief parent- and self-report screening instruments (e.g., CBCL, PROMIS). Obtaining reports from other informants (e.g., teachers) or having clinicians perform assessments using diagnostic interview schedules would produce more reliable findings. In addition, terminology and measurement regarding gender has been inconsistent across studies.

One example is the use of different terms like *cross-gender identified* (Kivalanka et al., 2017) and *transgender* (Olson et al., 2016b) to describe complete SGT. Devising operational definitions to delineate between complete SGT, partial SGT, and CGV and applying them uniformly across studies would help make studies more directly comparable. In addition, use of the GIQC as a validated and highly relevant metric of gender expression will enhance comparability to many existing samples, including van der Miesen et al. (2018); Kivalanka et al. (2017), and several clinical child GD samples (see Zucker et al., 2014). We also encourage researchers to include child-interview measures of gender identity and expression whenever possible (e.g., Martin, Andrews, England, Zosuls, & Ruble, 2017; Zucker et al., 1993) given that these measures may predict gender identity outcomes above and beyond parent-report measures (Steensma et al., 2013).

Conclusion

This study was the first to compare the psychosocial well-being of contemporary gender binary CGV and SGT children and to use a statistical approach that matched CGV and SGT samples on key variables (i.e., age, birth-assigned sex, and degree of gender variance). CGV and SGT children appear to be similar for psychosocial well-being, and both groups likely experience greater psychosocial risk than gender-stereotypical children. Irrespective of transition status, while parental support of gender-variant expression is likely protective, addressing poor peer relations may be particularly important for reducing risk and enhancing well-being.

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