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## Author Response to McKean, Vande Voort, and Croarkin (2016)

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We are grateful for the comment from McKean et al on our article reporting on anxiety and depression among a group of socially transitioned, prepubescent transgender children ages 3 to 12 years. Although we have additional research in progress that can better speak to some of their concerns (eg, the focus in the first article on parental reports), we are able to provide additional information from the *Pediatrics* data set to address their 2 major concerns: (1) the (high) socioeconomic status of our participants; and (2) the results with regard to the age distribution of our sample.

First, McKean et al point out that our study focused on a "narrow socioeconomic sample," or more specifically, that our sample was considerably wealthier than the average American or Canadian family. This issue is one we have discussed elsewhere, and we agree that it is a limit to the generalizability of our findings. To better understand this issue, we report our results according to socioeconomic group in Table 1. It is noteworthy that the sample of families with incomes less than \$75 000 was small in the *Pediatrics* article. We have since recruited additional lower income families that will appear in a future article, and we appreciate that McKean et al reiterated the importance of this issue. We do generally find, across all groups of participants, that children in families earning more than \$125 000 per year exhibit lower mean levels of anxiety and depression, and this finding may be especially true for transgender children.

A second concern raised by McKean et al involved our use of a "wide developmental swathe"; that is, children between the ages of 3 and 12 years. They also noted that our measure was used with 3-year-olds (n = 1) and 4-year-olds (n = 8) in addition to children aged 5 years (n = 64), for whom the scale was designed. Although breaking the sample into subgroups resulted in small sample sizes, we nonetheless did so. This approach allowed us to also compare our responses with a group of gender nonconforming children reported by Singh et al.<sup>3</sup> Importantly, the article by Singh et al reported on gender-dysphoric children at the Toronto clinic who came from high-income backgrounds. Although the exact measure used across the 2 articles was different (Patient Reported Outcomes Measurement

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Information System versus the Child Behavior Checklist), the scores on both measures are based on large normed samples that use the standardized *t* scores. In general, we found a lower mean internalizing score in our *Pediatrics* sample (52.2, the average *t* score of the depression and anxiety Patient Reported Outcomes Measurement Information System scales) than Singh et al did (58.4, on the internalizing subscale of the Child Behavior Checklist). In addition, at every age, we found fewer children in the "clinical range" (top 10% of internalizing scores): 3- to 5-year-olds, 4.5% of our 22 children and 23% of 139 children from Singh et al; 6- to 7-year-olds, 6.3% of our 16 children and 47% of 68 children from Singh et al; 8- to 9-year-olds, 8.7% of our 23 children and 64.4% of 45 children from Singh et al; and 10- to 12-year-olds, 16.7% of our 12 children and 77.7% of 18 children from Singh et al. Our mean internalizing scores according to age were as follows: 3- to 5-year-olds, 50.2; 6- to 7-year-olds, 52.9; 8- to 9-year-olds, 51.0; and 10- to 12-year-olds, 56.9. Means according to age group are unavailable in Singh et al.

Reporting these results next to each other allows us to address the question by McKean et al of our study: "Might the lack of detected psychopathology be related as much to the wealth and privilege of the families observed?" Given that Singh et al<sup>3</sup> also worked with gender nonconforming children who came from high-income backgrounds, and those children had high rates of internalizing disorders, we do not believe that high wealth and privilege alone can explain our findings. Although the samples differed in other ways (eg, Canadians versus primarily Americans, the years when the studies were run), we believe that 2 key features distinguished our sample from theirs: (1) all of our participants claim a gender identity that differs from their sex; and (2) our participants socially transitioned to present as that gender in everyday life.

We greatly appreciate the interest in our study, and we hope that our future research as well as research from other laboratories and clinics can ultimately address the critical questions raised by McKean et al: do we see good mental health outcomes in transgender children who socially transition early in development who are from lower income backgrounds? Do we see similar rates of psychopathology when we use reporters other than parents? We believe that as the number of children socially transitioning early in development increases, and as more research groups study this population, we will have more definitive answers to these questions.

## REFERENCES

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 TABLE 1

 Mean t Score Values for Anxiety and Depression for Participants in Olson et al 1 According to Household Income

Income Level	Controls	Siblings	Transgender
<\$75 000			
Anxiety	51.1	56.2	55.9
Depression	49.9	49.2	51.2
Sample Size	14	5	11
>\$75,00> and <\$125 000			
Anxiety	52	53.2	56.8
Depression	49.3	49.8	53.3
Sample Size	31	19	30
>\$125 000			
Anxiety	49.5	50.8	51.2
Depression	46.6	48.9	46.8
Sample Size	28	25	32