Exploring the mental health experiences of young trans and gender diverse people during the Covid-19 pandemic

Abstract

Background: Both anxiety and depression have been identified as negative health outcomes associated with the distressing nature of the Covid-19 pandemic, especially among young people. Within this age demographic, trans and gender diverse people may be particularly vulnerable to pandemic-related mental health outcomes, such as anxiety and depression, due to the social challenges, gender dissonance, and poor mental health they experience. Furthermore, the social distancing measures impose several unique social and help-seeking challenges which may further contribute to the worsening of mental health. While there has been acknowledgment that vulnerable populations may be disproportionally affected by the pandemic, the experiences of trans and gender diverse youth have received very little empirical attention.

Aims: To explore the mental health impact of Covid-19 on the lives of young trans and gender diverse people in the UK.

Method: In total, 243 people took part in an online survey between May and July in 2020. Eighty-two people were removed due to providing insufficient data. The analysed dataset therefore comprised of 161 respondents ranging from 16 to 25 years (M=20; SD=2.68). Participants were asked how social distancing measures had impact on their social lives, mental health and access to health services. They were also asked to complete validated measures of anxiety and depression.

Results: This study found that those who experienced a greater impact of the Covid-19 outbreak and its associated social distancing measures, reported poorer mental health. Lack of social support, negative interpersonal interactions, unsupportive and non-affirming living environments and the inability to access mental health support and gender-affirming interventions were all factors that were associated with poor mental health.

Conclusion: The findings provide specific direction for the tailoring of mental health service delivery to this population, noting the need for private, safe spaces in which young people can feel supported and have their gender identity affirmed.

Key words: *Coronavirus, Covid-19, mental health, anxiety, depression, trans, gender diverse, youth*

Introduction

The Covid-19 pandemic poses a global risk to mental health (World Health Organisation (WHO), 2020a) and, identifying its impact on mental health is a scientific priority (Holmes et al., 2020). The psychologically distressing nature of the Covid-19 has been linked with reduced wellbeing and increased stress and anxiety, resulting in a proliferation of Covid-anxiety studies (e.g., Lee, 2020; Milman, Lee & Neimeyer, 2020). Evidence suggests that as well as being correlated with both health-related and generalised anxiety, fear of Covid-19 is also linked with depression (Lee, Jobe, Mathis, & Gibbons, 2020; Wang et al, 2020). Consequently, there is an urgent need to support the mental wellbeing of community members to avoid a global mental health crisis (Choi, Heilemann, Fauer, & Mead, 2020).

However, the impact of the pandemic is not experienced equally across communities (Templeton, et al., 2020; O'Connor et al., 2020; Van Bavel et al., 2020). While it is known that existing mental health conditions can place individuals at greater risk of mental distress during these unprecedented times (Brooks et al., 2020), less is known about the risk factors associated with other marginalising characteristics, such as those experienced by trans and gender diverse youth (Bowleg, 2020). Understanding the nature and extent of this impact is critical given that existing evidence suggests young people in general may already be susceptible to the detrimental mental health outcomes associated with Covid-19 (Fancourt et al., 2020; Smith et al., 2020). As of 2019, the majority of young people in the United Kingdom (UK) aged 16-24 years are in some form of education, employment or training (ONS, 2019a), with many still residing in the family home with parents (ONS, 2019b). Developmentally, these years are crucial, and have been described as a period of emerging adulthood (Arnett, 2000), whereby young people look towards achieving key markers of transition to adulthood whilst negotiating the path of individuating from family (Arnett, 2000), a journey that is likely to have been severely affected by the Covid-19 pandemic. In this context, young trans and gender diverse people may be a particularly vulnerable group given the additional distress associated with body/gender dissonance, social challenges (e.g., discrimination, stigma, estrangement, isolation), and increased mental ill-health experiences (e.g., anxiety and depression; Cooper, Russell, Mandy & Butler, 2020; Jones, Bouman, Haycraft, & Arcelus, 2019; Strauss et al, 2020). Yet, their experiences of the pandemic have received surprisingly little empirical attention (Fish et al., 2020), with the focus being more broadly on the LGBTQ+ population. This neglect may contribute to the persistence of health inequities for these individuals in the wake of the pandemic (Gorczynski & Fasoli, 2020). It has been suggested that in order to

understand, and ultimately address, the impact of pandemic-related restrictions, such as quarantine and distancing, on the health and wellbeing of vulnerable groups there is a need to gather robust empirical evidence and to engage with the accounts of those with lived experiences of vulnerability (Holmes et al., 2020).

Challenges associated with gender diversity during Covid-19

Social support is known to be protective of poor mental health in trans and gender diverse people (e.g., Pflum et al., 2015; Veale, Peter, Travers, & Saewyc, 2017). More specifically, social support from family and friends has been identified as a predictor of quality of life (Davey, Bouman, Arcelus & Meyer, 2014), reduced depressive symptoms, suicidal ideation (Veale et al., 2017; Wilson et al., 2016) and increased mental wellbeing (Alanko & Lund, 2020). Support that is affirming of the young person's gender identity has been found to be a correlate of good mental health, with family connectedness reported as one of the strongest protective factors (Alanko & Lund, 2020; Olson, Durwood, DeMeules, & Mclaughlin, 2016; Veale et al., 2017). Connectedness to peers (i.e., those who also identify as trans and gender diverse) is also thought to be instrumental to a young trans and gender diverse person's mental health as it serves to buffer against experiences of stigma, discrimination and prejudice by providing group-level coping resources such as normalising and validating emotional responses to distressing social encounters (Pflum et al., 2015; Hendricks & Testa, 2012). However, experts believe that Covid-19 restrictions that prevent people from having any social contact outside their household, are likely to reduce opportunities for trans and gender diverse youth to access vital social support although there is currently a need to support this with empirical data (van der Miesen et al., 2020). Young trans and gender diverse people are likely to have become estranged from important social networks where they experience positive interaction and are able to present as their authentic selves (Fish et al., 2020). Many organised peer support groups have been unable to continue due to limited resource in moving support online. The closing or reduction of face-to-face contact in schools, colleges, universities and workplaces may also result in reduced opportunities for vital social support that can mitigate against negative social interaction experienced while living in unsupportive and transphobic environments where those cohabiting (e.g. parents) may not affirm the young person's gender identity (Herman & O'Neill, 2020; LGBT Foundation, 2020; van der Miesen et al., 2020).

Alongside these social challenges, many trans and gender diverse people will experience significant distress due to dissonance of assigned and experienced gender which has been

associated with poor mental health (Cooper et al., 2020). Some of this distress can be managed through gender expression with haircuts and hair removal treatments, for example (Bradford, Rider, & Spence, 2019). The inability to access these services due to social distancing regulations is likely to have a detrimental impact on mental health. For those wishing to engage in a medical transition, undergoing gender-affirming medical interventions such as hormonal treatment, top (chest) or bottom (genital) surgery has been found to alleviate poor mental health among trans and gender diverse people (Davis & Meier, 2014; Lindqvist et al., 2017; Ruppin & Pfäfflin 2015). While not all trans and gender diverse people will wish to access gender affirming medical interventions (Arcelus & Bouman, 2017; Beek et al., 2016), Covid-19 will undoubtedly increase waiting times for those seeking treatment (van der Miesen, et al., 2020). Extremely long waiting times at gender identity clinics around the world are already a serious issue. Before Covid-19, UK waiting times were estimated to be 33-36 months (Bouman & Richards, 2013; National Health Services, 2020). The impact that delaying access to gender affirming medical interventions has on mental health has consistently been a cause for concern under normal circumstances (Bauer et al., 2015) with this being exacerbated during the pandemic (van der Miesen et al., 2020; Wang et al., 2020). For many, gender-affirming surgeries have been cancelled and due to the additional pressure this has put on an already overwhelmed waiting list, individuals seeking gender affirming care over the next few years are likely to be substantially impacted (van der Miesen et al., 2020).

Given the significant challenges outlined above, this population will require greater mental health support over the course of the Covid-19 pandemic. However, trans and gender diverse people tend to receive suboptimal care in mental health services due to a lack of knowledge around gender diversity by healthcare professionals, and non-tailored treatment plans which delays them accessing timely and appropriate care (Government Equalities Office, 2018; Hoffman, Freeman & Swann, 2009). Under the current circumstances, there is also concern about the effectiveness of mental health support for these young people as resource for such support decreases and is increasingly delivered virtually (van der Miesen et al., 2020). This is likely to be exacerbated by general public health concerns over limited access to mental health services during the pandemic and the need for fast adaptation to effective remote delivery (Holmes et al, 2020; O'Connor, et al., 2020). Many are also anxious about engaging in some virtual modes of mental health support (e.g., by telephone) due to a lack of a safe and private space to do so (Fish et al., 2020).

As noted above, in order to reduce the impact of the Covid-19 pandemic on vulnerable groups, it is necessary to provide reliable and robust multi-method evidence of their experiences that is both sensitive to lived experiences and effective at moving toward more equitable solutions (Holmes et al, 2020; Gorczynski & Fasoli, 2020). However, despite some promising initial qualitative research revealing the impact of the pandemic on the LGBTQ+ population in the context of online support resources (Fish et al., 2020), there is currently a lack of understandings about the specific impact of Covid-19 on trans and gender diverse youth meaning important nuances associated with gender identity and transition are not taken into consideration. Therefore, this study aimed to explore the impact of the Covid-19 pandemic on the mental health of young (16-25 years) trans and gender diverse people using an online survey employing both standardised psychometric measures and open-ended questions. This multi-method study will be the first to quantify the relationship between the impact of specific aspects of Covid-19 and mental health (specifically anxiety and depression) while participants' written accounts will illuminate *why* and *how* the Covid-19 pandemic has affected mental health.

Method

Participants and procedure:

Young people, resident in the UK, that self-identified as trans or gender diverse aged between 16-25 years were recruited via a weblink to an online survey shared on social media and the websites of UK-based population-specific support organisations.

Following ethical approval granted by the first author's institutional Research Ethics Committee, the survey was open between 3rd May and 4th July 2020. During this period, the UK experienced its highest rate of Covid-19 positive cases within the first wave of the pandemic (approximately 108,655; WHO, 2020b) and residents experienced the most stringent social distancing measures employed in the first wave. During the study period, people were only allowed the leave the house for essential shopping, exercise and medicine, before restrictions were eased in July 2020.

Measures:

The survey employed in the study comprised of two parts. Part 1 was aimed at gathering quantitative data to explore the relationships between specific dimensions of experiences of the Covid-19 pandemic and mental health outcome variables (anxiety and depression). Part 2 was a series of open-ended questions designed to explore participants' accounts of their experiences

in their own words in order to help elucidate any identified relationships between the quantitative variables whilst giving voice to the participants.

Quantitative measures:

Anxiety was measured using the GAD-7 (Spitzer, Kroenke, Williams, & Löwe, 2006). Seven items (e.g., "Feeling nervous, anxious or on edge") assessed anxiety during the preceding two weeks on a 4-point Likert scale (0 = not at all – 3 = nearly every day). The sum of scores was calculated and higher score represented higher levels of anxiety. The scale has been found to have good reliability and validity in both general public and clinical samples, globally (Lowe et al., 2008). In the current sample, the scale was also found to be reliable (α= .91)

Depression was measured using the PHQ-9 (Kroenke & Spitzer, 2002). Participants rated nine statements based on their feelings over the previous 2 weeks (e.g., "Little interest or pleasure in doing things") on a 4-point Likert scale ranging (0 = not at all – 3 = nearly every day). The sum of scores was calculated and higher scores represented higher levels of depression. Previous studies have shown the PHQ-9 has excellent reliability and validity in primary care settings (Kroenke, Spitzer, & Williams, 1999). This was replicated in the current sample (α=.88)

Impact of Covid-19 was measured using an 8-item study-specific tool created by the authors that captured experiences since the implementation of social distancing regulations in the UK. To develop the tool, expert articles were reviewed, and charities concerned with supporting young trans and gender diverse people were consulted. The measure captured impact in relation to three main areas: social support, living situation and service access (gender transition and mental health). A copy of the measure can be found in Table 3. People were asked to rate these 8-items on a 5-point Likert scale (1 = strongly disagree – 5 = strongly agree). The mean was calculated, and a higher score represented a greater degree of impact as a result of Covid-19. The reliability of the 8-items was acceptable (α=.68)

Open-response questions: A series of open-ended questions were included that aimed to explore the impact of Covid-19 for this population. Firstly, where participants had responded 'yes' when asked if their living situation had changed, we asked them to explain this change. We then asked ten questions about their experience of the implementation of social distancing

regulations, their mental health, their support needs and experiences of social support during the pandemic so far. These items have been provided as supplementary information.

Demographic data were also collected from participants including age, gender, ethnicity, education/employment status, living situation, stage of social and medical transition, isolation status and whether the participants had been diagnosed with Covid-19.

Analysis:

Quantitative analysis: IBM SPSS version 26 was used to conduct all quantitative analysis. First descriptive statistics were calculated for all sociodemographic and study variables. Normality testing demonstrated that the data was not normally distributed and therefore when available, non-parametric tests were conducted. The impact of Covid-19 across the whole sample was analysed by calculating the frequency of each response across the 8-item tool developed for this study. To determine the mental health impact of Covid-19 and the associated social distancing measures, hierarchal regression to control for age, gender and satisfaction with stage of transition was conducted. This variable was controlled for as it is well established that gender affirming medical interventions are associated with alleviation of mental health symptoms in those who are treatment seeking (Davis & Meier, 2014; Lindqvist et al., 2017; Ruppin & Pfäfflin 2015). Two separate models were analysed with anxiety and depression as outcome variables. Level of significance was set at $p<0.05$.

Qualitative analysis: A content analysis was conducted on the open-ended responses collected as part of this survey which has been found to be an effective form a qualitative analysis when attempting to address specific research questions (Schreier, 2012). Two of the authors independently coded the data and divergences discussed and initial themes developed. Themes were refined by discussion between all the authors.

Results

In total, 243 people took part in the online survey. Eighty-two people were removed due to providing insufficient data (e.g., only the consent page had been completed). The qualitative and quantitative dataset therefore comprised of 161 responses.

Descriptive statistics of sociodemographic variables:

Sociodemographic information of the sample can be found in Table 1. The mean age of the whole sample was 20 years (*SD* = 2.68). The sample consisted of 64 people identifying as trans male (39.8%), 32 people identifying as trans female (19.9%). 55 (34.2%) people reported a gender identity that fell outside the binary (e.g., non-binary, gender queer) and therefore were categorised as gender diverse. One person reported that they were not sure on their gender identity and n=9 (5.6%) didn't answer the question. The majority were White n=144 (89.4%).

Most of the sample were in full-time education (n=97; 60.2%) and lived with their parent(s)/siblings in the family home (n=87; 54%). Some of the young people had changed their living environments due to the Covid-19 pandemic (n=45; 28%). An open-ended question demonstrated how many of these individuals had moved from university accommodation back to the family home during this time.

Most of the young people were following social distancing measures and during the time the data was collected were only leaving their home for essential shopping, exercise and medicine (n=136; 84%). Most of the sample had not had Covid-19 (n=140; 87%).

A large number of the young people were on the waiting list at a gender identity clinic (n=69; 42.9%), with the majority not taking gender-affirming hormones (n=104; 64%) or hormones blockers (n=140; 87%). Most had not undergone any gender-affirming surgery; top (n = 146; 90.7%), bottom (n =153; 95%) (see Table 1).

Insert Table 1 here

Description of mental health in the study sample:

In the current sample (n=122), the mean depression score was classified as moderately severe (*M*=15.89; *SD*=6.74)) while the median score (Median = 16) was classified as severe. For anxiety, both the mean (*M*= 12.85; *SD*=5.90) and median (Median = 14) were classified as moderately severe (Kroenke & Spitzer, 2002; Spitzer et al., 2006;). The distribution of scores across the four classification categories can be seen in Figure 1 and 2. For both the anxiety and depression scale, most of the young people fell into the most severe category.

Insert Figure 1 and 2 here

Impact of Covid-19:

The mean score for this scale was 3.17 (*SD*=.78) and the median 3.25. Most participants reported that they had lost vital sources of support and were not able to access support in the same way they had prior to the implementation of social distancing regulations in the UK. In most cases, participants reported that those they shared a living space with were aware of their gender identity. Although some were living in supportive environments about an equal number were not. A similar trend was seen when participants were asked about living as their authentic selves in daily life. The majority of young people in this study were concerned about the impact Covid-19 and associated social distancing measure were going to have on their transition with many reporting difficulties accessing medical treatment relating to this. This was also true for supporting mental health. Many reported difficulties in accessing services (see Table 2).

Insert Table 2 here

Hierarchal regression analysis for impact of Covid-19 on mental health and wellbeing:

Those who perceived a greater impact of the Covid-19 pandemic felt more anxious and depressed, after controlling for age, gender and satisfaction with stage of transition (see Table 3).

Insert Table 3 here

Qualitative findings:

Three main themes relating to mental health, interpersonal interactions and formal support were identified within the analysis. These can be found in Table 5 alongside exemplar quotes. Below is a summary of these findings.

From the qualitative comments provided by the young people, it was evident that mental health had deteriorated during the initial stages of the pandemic. Several participants specifically spoke about the worsening of anxiety and depression symptoms. Loss of structure and routine

by not being able to go to school, college, university or work was related to poor mental health. The extra time afforded to young people as a result of social distancing gave many unwelcome periods of self-reflection and rumination. Although in the minority, there were some participants that described how their mental health had improved due to social distancing. For some, the slower pace of life has allowed them to spend more time working on their mental health. Some found it to be a liberating experience with a marked reduction in social anxiety as they felt less pressure to engage in social activities and to conform to societal expectations of gender.

It was evident that for many, they were (unwillingly) spending significant amounts of time in unsupportive environments where they could not live authentically, with experiences of misgendered being common. As a result of social distancing, social networks have diminished with positive interaction being infrequent. The positive interaction they previously experienced, perhaps at school, university or formal support group, acted as a buffer against the negative and none-affirming interactions. Some had sought affirming interaction in novel ways, for example, to cope with negative social support, one participant identified that "Validation Station's daily texts are also a huge help," referring to a free text service set up in Spring 2020 by a team of non-binary young people offering daily gender validating text messages to more than 10,500 people during the initial Covid-19 lockdown period. However, this validating support was infrequent across the sample.

As a result of social distancing measures, many support organisations were unable to provide the peer support they once had and while some organisation were able to deliver this virtually, the young people found this challenging to engage with. Some felt that the rapport built within face-to-face interaction couldn't be replicated online whereas others were not able to find a safe space in their living environment to engage in online session due to fear of non-affirming co-habitants overhearing. Without this vital affirming support, the young people felt invisible and invalidated. However, some of the young people highlighted how their social network was already impoverished and therefore nothing had been lost as a result of the social distancing regulations due to the isolation they already experienced.

With regards to formal mental health support, again the young people experienced barriers to engaging with this remotely. Timely referral to these services was low due to an overwhelmed system. Several of the young people were also experiencing high levels of social anxiety,

especially with their voice, which prevented them utilising telehealth interventions. Some of this social anxiety was also related to the young people not being able to access gender affirming medical interventions that were vital to their gender expression and mental health. In some cases, this was related to non-medical interventions such as haircuts. However, it was clear that many young people were unable to access gender-related care to monitor hormones levels. Gender-affirming surgeries were also cancelled with no new date offered. This was difficult to comprehend due to the already long waiting time experienced.

Insert Table 4 here

Discussion

The Covid-19 pandemic restrictions have likely had a substantial impact on all areas of life for young people who are at a crucial time in starting their journey towards adulthood and independence. Trans and gender diverse youth have been identified as a group who may be disproportionately impacted by the global Covid-19 pandemic and therefore particularly vulnerable to experiencing poor mental health (Cooper et al., 2020; Fish et al., 2020). This study is the first to empirically support these assumptions as it found that young people who perceived a greater negative impact of Covid-19 restrictions experienced elevated anxiety and depression symptoms. Given that this population already experiences poorer mental health compared to their cisgender peers (Becerra-Culqui et al., 2018; Jones et al., 2019; Strauss et al, 2020), these findings are concerning. They also emphasise the need for interventions that are capable of alleviating poor mental health in this vulnerable group. This is of particular relevance given the uncertainties around how long social distancing restrictions will be required as well as the impact of a continuous and repeated cycle of easing and increasing restrictions. Such interventions should be sensitive to the specific concerns highlighted in the qualitative findings.

The qualitative comments elucidate specifically *how* and *why* Covid-19 has impacted these young people's lives and support specific recommendations on how this vulnerable population can be best supported during this time. Challenges with estrangement, non-affirming relationships, and access to healthcare are common among trans and gender diverse youth (e.g., Veale et al., 2017; Hoffman et al., 2009). Within this study, it was evident that Covid-19 restrictions had exacerbated these challenges whilst reducing access to protective factors such as social support and gender-affirming treatment.

Implications:

Having access to positive social interactions that serve to mitigate against negative encounters (often experienced at home) was evidently important to these young people. While increasing opportunities to stay socially connected is needed, interventions should be curated to the needs of the population and sensitive to the elevated social anxiety and threat this population experience. Creating a safe space that young people cannot only access discreetly, but have their gender identity and expression affirmed, is important. In the USA, an online chat-based support group for LGBTQ+ youth was found to facilitate safe and discrete support while at home during the Covid-19 pandemic (Fish et al., 2020). However, it is unclear how many of these young people identified as trans or gender diverse and given important nuances related to gender identity and transition highlighted within this study, interventions targeted specifically at this population are likely to be the most beneficial in creating a sense of connectedness. Such interventions might also be important for those young people who, like those in our study, welcomed the reduction in social contact imposed by social distancing as they felt less pressure to conform to gender ideals and hence experienced less social anxiety. When social distancing measures are relaxed, these young people may be particularly vulnerable to becoming isolated as they continue to avoid social interaction.

Distress associated with gender dissonance was also prevalent within this study. While these feelings were magnified by unsupportive interactions (e.g., misgendering), the inability to access gender-affirming care was also identified as a contributing factor. The impact of extended waiting times for gender identity services has continually had significant impact on mental health, with an increased waiting time between GP referral and access to specialist services resulting in almost two thirds reporting deterioration in mental health (Bauer et al., 2015). With waiting times increasing due to Covid-19 across gender identity services (Harrison, Jacobs & Parke, 2020), consideration of strategies to mitigate against the mental health impact of inevitably extremely long waiting over the next few years is vital.

To help manage poor mental health in this population, access to timely and effective formal mental health support may be required by some. However, this study revealed that access to mental health services was low. Comments from young people highlighted how the mode of delivery (e.g., via the phone) was not always accessible to them. In swiftly moving mental health support services to remote delivery, it was likely that services were unable to consider and accommodate the needs of specific populations. Outside of the Covid-19 context, the lack

of accessible mental health interventions for trans and gender diverse youth has already been highlighted. The use of web and text-based interventions have been suggested as more acceptable modes of delivery as they can reduce social anxiety that can be associated with traditional face-to-face or e telephone delivered interventions(Perry, Strauss & Lin, 2018). Due to anonymity, the online world also provides young people with a safe and non-threatening environment to express their gender identity (Arcelus et al., 2016; Griffiths, Bouman & Arcelus, 2016). For sexual minority groups, web and mobile mental health interventions have been shown to be acceptable and feasible (e.g., Fleming, Hill & Burns, 2017; Lucassen, Merry, Hatcher & Frampton, 2015). The need for acceptable interventions that are delivered via the web or mobile is even more prominent while the world continues to observe social distancing measures that restrict face-to-face mental health support. Given the lack of mental health interventions that have been specifically designed with young trans and gender diverse youth in mind, mental health service providers should consult with this population to ensure their services are accessible and acceptable (Lucassen et al., 2018).

Strengths, limitations and future research:

While this is the first empirical study to demonstrate the mental health impact of Covid-19 on young trans and gender diverse people, there are some limitations to be considered. This study was of a cross-sectional nature, and therefore cause and effect cannot be determined. The measure that assessed the impact of Covid-19 was self-developed by the authors and hadn't undergone a formal development and validation process. Due to this, the measure did not contain subscale which represent the domains covered on the measure (social support, living situation and service access (gender transition and mental health)). Therefore, the quantitative analysis was not able to explore mental health outcomes across these specific domains. However, the qualitative analysis did go some way in explaining how the pandemic has impacted on these domains of life and affected mental health. The study sample was also predominately White and according to intersectionality theory, young trans and gender diverse people who are also part of other minority groups (e.g., ethnic minority groups) may be exposed to 'double stigma' and thereby experience further vulnerability during this time (Bowleg, 2020). Within a Covid-19 context, intersectionality of marginalised identities should be explored further to reduce inequality. Future research should continue to explore the longer-term impacts of the Covid-19 pandemic on mental health outcomes.

Conclusion:

This work is the first to investigate the impact of the Covid-19 pandemic and its associated restrictions on the mental health of young trans and gender diverse using a multi-method approach. As expected, these restrictions have had a predominantly negative effect on this population's mental health. While this population is already vulnerable to poor mental health when compared to their cisgender peers, the current pandemic has brought an abrupt halt, or at least a significant delay, to young people's social and medical transitions. They also find themselves without vital sources of informal social support and with limited access to healthcare services. Our findings highlight the specific challenges that trans and gender diverse youth face while restrictions remain in place. They provide specific direction for the tailoring of mental health service delivery in particular to this population, noting the need for private, safe spaces in which young people can feel supported and have their gender identity and expression affirmed.

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Conflict of Interest

The authors declare that they have no conflict of interest

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References

Alanko, K., & Lund, H. (2020). Transgender Youth and Social Support: A Survey Study on the Effects of Good Relationships on Well-being and Mental Health. *YoUng*, *28*(2), 199-216.

Arcelus, J., Bouman, W. P., Jones, B. A., Richards, C., Jimenez-Murcia, S., & Griffiths, M. D. (2016). Video gaming and gaming addiction in transgender people: An exploratory study. *Journal of Behavioral Addictions*, *6*(1), 21-29.

Arcelus, J., & Bouman, W.P. (2017). *Language and Terminology.* In: W.P. Bouman & J. Arcelus (Eds.). The Transgender Handbook – *A Guide for Transgender People, their Families and Professionals* (pp. 1-12). New York: Nova Publishers.

Arnett, J. (2000) Emerging adulthood. A theory of development from the late teens through the twenties. *The American Journal of Psychology*. *55*(5), 469–480.

Bauer, G. R., Scheim, A. I., Pyne, J., Travers, R., & Hammond, R. (2015). Intervenable factors associated with suicide risk in transgender persons: a respondent driven sampling study in Ontario, Canada. *BMC public health*, *15*(1), 525.

Beek, T. F., Cohen-Kettenis, P. T., Bouman, W. P., de Vries, A. L., Steensma, T. D., Witcomb, G. L., ... Kreukels, B. P. (2016). Gender incongruence of adolescence and adulthood: Acceptability and clinical utility of the World Health Organization's proposed ICD-11 criteria. *PLoS One*, *11*(10), e0160066.

Becerra-Culqui, T. A., Liu, Y., Nash, R., Cromwell, L., Flanders, W. D., Getahun, D., ... & Quinn, V. P. (2018). Mental health of transgender and gender nonconforming youth compared with their peers. *Pediatrics*, *141*(5), e20173845.

Bouman, W. P., & Richards, C. (2013). Diagnostic and treatment issues for people with gender dysphoria in the United Kingdom. *Sexual and Relationship Therapy*, *28*(3), 165-171.

Bowleg, L. (2020). We're not all in this together: On COVID-19, intersectionality, and structural inequality. *American Journal of Public Health*, *110*(7), 917.

Bradford, N. J., Rider, G. N., & Spencer, K. G. (2019). Hair removal and psychological well-being in transfeminine adults: associations with gender dysphoria and gender euphoria. *Journal of Dermatological Treatment*. Advance online early. DOI: https://doi.org/10.1080/09546634.2019.1687823

Cohen, R. I. S., & Bosk, E. A. (2020). Vulnerable youth and the COVID-19 pandemic. *Pediatrics, 146*(1), e20201306. DOI: https://doi.org/10.1542/peds.2020-1306

Choi, K. R., Heilemann, M. V., Fauer, A., & Mead, M. (2020). A second pandemic: Mental health spillover from the novel coronavirus (COVID-19). *Journal of the American Psychiatric Nurses Association.* Advance online early. Doi: 1078390320919803.

Connolly, M. D., Zervos, M. J., Barone II, C. J., Johnson, C. C., & Joseph, C. L. (2016). The mental health of transgender youth: Advances in understanding. *Journal of Adolescent Health*, *59*(5), 489-495.

Connolly, M. D., Zervos, M. J., Barone II, C. J., Johnson, C. C., & Joseph, C. L. (2016). The mental health of transgender youth: Advances in understanding. *Journal of Adolescent Health, 59*(5), 489-495.

Cooper, K., Russell, A., Mandy, W., & Butler, C. (2020). The phenomenology of gender dysphoria in adults: A systematic review and meta-synthesis. *Clinical Psychology Review, 80,* 101875.

Davey, A., Bouman, W., Arcelus, J. and Meyer, C. (2014) Social Support and Psychological Well-Being in Gender Dysphoria: A Comparison of Patients with Matched Controls. *The Journal of Sexual Medicine*, *11*(12), 2976-2985.

Davis, S. A., & Meier, S. (2014). Effects of testosterone treatment and chest reconstruction surgery on mental health and sexuality in female-to-male transgender people. *International Journal of Sexual Health, 26*(2), 113-128.

Fancourt, D., Bu, Feifei, Mak. W. H., & Steptoe, A. (2020). COVID-19 Social Study: Result Release 15; 1st July. Retrieved from: https://b6bdcb03-332c-4ff9-8b9d-28f9c957493a.filesusr.com/ugd/3d9db5_17cc74c304664db8ac9ea56e1dd301ae.pdf

Fish, J. N., McInroy, L. B., Paceley, M. S., Williams, N. D., Henderson, S., Levine, D. S., & Edsall, R. N. (2020). "I'm Kinda Stuck at Home With Unsupportive Parents Right Now": LGBTQ Youths' Experiences With COVID-19 and the Importance of Online Support. *Journal of Adolescent Health, 67*(3), 450-452.

Fleming, J. B., Hill, Y. N., & Burns, M. N. (2017). Usability of a culturally informed mHealth intervention for symptoms of anxiety and depression: feedback from young sexual minority men. *JMIR Human Factors, 4*(3), e22.

Fiorillo, A., & Gorwood, P. (2020). The consequences of the COVID-19 pandemic on mental health and implications for clinical practice. *European Psychiatry.* Advance online early. https://doi.org/10.1192/j.eurpsy.2020.35

Gorczynski, P., & Fasoli, F. (2020). LGBTQ+ focused mental health research strategy in response to COVID-19. *The Lancet Psychiatry*, *7*(8), e56.

Government Equalities Office. (2018). National LGBT survey: Research report. Retrieved from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/722314/GEO-LGBT-Survey-Report.pdf

Griffiths, M. D., Arcelus, J., & Bouman, W. P. (2016). Video gaming and gender dysphoria: Some case study evidence. *Aloma: revista de psicologia, ciències de l'educació i de l'esport Blanquerna*, *34*(2), 59-66.

Harrison, N., Jacobs, L., & Parke, A. (2020). Understanding the Lived Experiences of Transitioning Adults with Gender Dysphoria in the United Kingdom: An Interpretative Phenomenological Analysis. *Journal of LGBT Issues in Counseling*, *14*(1), 38-55.

Hendricks, M. L., & Testa, R. J. (2012). A conceptual framework for clinical work with transgender and gender nonconforming clients: An adaptation of the Minority Stress Model. *Professional Psychology: Research and Practice, 43*(5), 460–467.

Herman, J. L., & O'Neill, K. (2020). Vulnerabilities to COVID-19 Among Transgender Adults in the US. Retrieved from: https://williamsinstitute.law.ucla.edu/publications/transgender-covid-19-risk/

Hoffman, N. D., Freeman, K., & Swann, S. (2009). Healthcare preferences of lesbian, gay, bisexual, transgender and questioning youth. *Journal of Adolescent Health, 45*(3), 222–229.

Holmes, E. A., O'Connor, R. C., Perry, V. H., Tracey, I., Wessely, S., Arseneault, L., ... & Ford, T. (2020). Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *The Lancet Psychiatry*, *7*(6), 547-560.

Hughes, M. (2016). Loneliness and social support among lesbian, gay, bisexual, transgender and intersex people aged 50 and over. *Ageing and Society*, *36*(9), 1961.

Jones, B. A., Bouman, W. P., Haycraft, E., & Arcelus, J. (2019). Mental health and quality of life in non-binary transgender adults: A case control study. *International Journal of Transgenderism*, *20*(2-3), 251-262.

Kroenke, K., & Spitzer, R. L. (2002). The PHQ-9: a new depression diagnostic and severity measure. *Psychiatric Annals*, *32*(9), 509-515.

Lee, S. A. (2020). Coronavirus Anxiety Scale: A brief mental health screener for COVID-19 related anxiety. *Death Studies*, *44*(7), 393-401.

Lee, S. A., Jobe, M. C., Mathis, A. A., & Gibbons, J. A. (2020). Incremental validity of coronaphobia: Coronavirus anxiety explains depression, generalized anxiety, and death anxiety. *Journal of Anxiety Disorders*, *74*, 102268.

Lucassen, M., Samra, R., Iacovides, I., Fleming, T., Shepherd, M., Stasiak, K., & Wallace, L. (2018). How LGBT+ young people use the internet in relation to their mental health and envisage the use of e-therapy: exploratory study. *JMIR Serious Games*, *6*(4), e11249.

Lucassen, M. F., Merry, S. N., Hatcher, S., & Frampton, C. M. (2015). Rainbow SPARX: A novel approach to addressing depression in sexual minority youth. *Cognitive and Behavioral Practice*, *22*(2), 203-216.

Lindqvist, E. K., Sigurjonsson, H., Möllermark, C., Rinder, J., Farnebo, F., & Lundgren, T. K. (2017). Quality of life improves early after gender reassignment surgery in transgender women. *European Journal of Plastic Surgery*, *40*(3), 223-226.

LGBT Foundation. (2020). Hidden Figures: The impact of the COVID-19 Pandemic on LGBT communities in the UK. Retrieved from: https://lgbt.foundation/coronavirus/hiddenfigures

Milman, E., Lee, S. A., & Neimeyer, R. A. (2020). Social isolation and the mitigation of coronavirus anxiety: The mediating role of meaning. *Death Studies*. Advance online early. Doi: 10.1016/j.janxdis.2020.102196

National Health Services. (2020). Gender Identiy Clinic: waiting times. Retrieved from: https://gic.nhs.uk/appointments/waiting-times/

O'Connor, K., Wrigley, M., Jennings, R., Hill, M., & Niazi, A. (2020). Mental health impacts of COVID-19 in Ireland and the need for a secondary care mental health service response. *Irish Journal of Psychological Medicine*. Advance online early. doi: 10.1017/ipm.2020.64

Office for National Statistics (ONS) (2019a). Young people not in education, employment or training (NEET), UK: August 2019. Retrieved from: https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment/bulletins/youngpeoplenotineducationemploymentortrainingneet/august2019

Office for National Statistics (ONS) (2019b). Young adults living with their parents. Accessed on 4.12.2020. Retrieved from: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/families/datasets/youngadultslivingwiththeirparents

Olson, K., Durwood, L., DeMeules, M. and McLaughlin, K. (2016). Mental Health of Transgender Children Who Are Supported in Their Identities. *PEDIATRICS*, 137 (3), 1-8.

Perry, Y., Strauss, P., & Lin, A. (2018). Online interventions for the mental health needs of trans and gender diverse young people. *The Lancet Psychiatry*, *5*(2), e6.

Pflum, S. R., Testa, R. J., Balsam, K. F., Goldblum, P. B., & Bongar, B. (2015). Social support, trans community connectedness, and mental health symptoms among transgender and gender nonconforming adults. *Psychology of Sexual Orientation and Gender Diversity*, *2*(3), 281.

Ruppin, U., & Pfäfflin, F. (2015). Long-Term Follow-Up of Adults with Gender Identity Disorder. *Archives of Sexual Behavior*, *44*(5), 1321-1329.

Rimes, K., Goodship, N., Ussher, G., Baker, D. and West, E. (2017) Nonbinary and binary transgender youth: Comparison of mental health, self-harm, suicidality, substance use and victimisation experiences. *International Journal of Trangendersism*, 20 (2-3), pp. 230-240.

Richards, C., Bouman, W. P., Seal, L., Barker, M. J., Nieder, T.O., & T'Sjoen, G. (2016). Non-binary or genderqueer genders. *International Review of Psychiatry*, *28*(1), 95–102.

Simons, L., Schrager, S., Clark, L., Belzer, M. and Olson, J. (2013) Parental Support and Mental Health Among Transgender Adolescents. *Journal of Adolescent Health*, 53 (6), 791-793.

Smith, L., Jacob, L., Yakkundi, A., McDermott, D., Armstrong, N. C., Barnett, Y., ... & Tully, M. A. (2020). Correlates of symptoms of anxiety and depression and mental wellbeing associated with COVID-19: a cross-sectional study of UK-based respondents. *Psychiatry Research*, *291*, 113138.

Strauss, P., Cook, A., Winter, S., Watson, V., Toussaint, D. W., & Lin, A. (2020). Associations between negative life experiences and the mental health of trans and gender diverse young people in Australia: findings from Trans Pathways. *Psychological Medicine*, *50*(5), 808-817.

Stewart-Brown, S. (2015). Guidance on scoring Retrieved from http://www2.warwick.ac.uk/fac/med/research/platform/wemwbs/researchers/guidance/.

Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: the GAD-7. *Archives of Internal Medicine*, *166*(10), 1092-1097.

Schreier, M. (2012). *Qualitative content analysis in practice.* Sage publications.

Templeton, A., Guven, S. T., Hoerst, C., Vestergren, S., Davidson, L., Ballentyne, S., ... & Choudhury, S. (2020). Inequalities and identity processes in crises: Recommendations for facilitating safe response to the COVID-19 pandemic. *British Journal of Social Psychology*, *59*(3), 674-685.

Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., ... & Stewart-Brown, S. (2007). The Warwick-Edinburgh mental well-being scale (WEMWBS): development and UK validation. *Health and Quality of life Outcomes*, *5*(1), 63.

Van Bavel, J. J., Baicker, K., Boggio, P. S., Capraro, V., Cichocka, A., Cikara, M., ... & Drury, J. (2020). Using social and behavioural science to support COVID-19 pandemic response. *Nature Human Behaviour*, *4*, 460-471.

van der Miesen, A. I., Raaijmakers, D., & van de Grift, T. C. (2020). "You Have to Wait a Little Longer": Transgender (Mental) Health at Risk as a Consequence of Deferring Gender-Affirming Treatments During COVID-19. *Archives of Sexual Behavior*, *49*, 1395-1399.

Veale, J. F., Peter, T., Travers, R., & Saewyc, E. M. (2017). Enacted stigma, mental health, and protective factors among transgender youth in Canada. *Transgender Health*, *2*(1), 207-216.

Wang, Y., Pan, B., Liu, Y., Wilson, A., Ou, J., & Chen, R. (2020). Health care and mental health challenges for transgender individuals during the COVID-19 pandemic. *The Lancet Diabetes & Endocrinology*, *8*(7), 564-565.

Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International Journal of Environmental Research and Public Health*, *17*(5), 1729.

World Health Organisation. (WHO) (2020a). Substantial Investment needed to avert mental health crisis. Retrieved from: https://www.who.int/news-room/detail/14-05-2020-substantial-investment-needed-to-avert-mental-health-crisis

World Health Organisation. (2020b). WHO Coronavirus Disease (COVID-19) Dashboard. Retrieved from: https://covid19.who.int/

Wilson, E., Chen, Y-H., Arayasirikul, S., Raymond, F. and McFarland, W. (2016) The Impact of Discrimination on the Mental Health of Trans*Female Youth and the Protective Effect of Parental Support. *AIDS and Behaviour*, 20 (10), 2203-2211.

Yadegarfard, M., Meinhold-Bergmann, M. E., & H, R. (2014). Family rejection, social isolation, and loneliness as predictors of negative health outcomes (depression, suicidal ideation, and sexual risk behavior) among Thai male-to-female transgender adolescents. *Journal of LGBT Youth*, *11*(4), 347-363.

Table 1: Demographics of the whole sample (N=161)

Variable		n (%)
Education and working status	Full-time education	97 (60.2)
	Part-time education	1 (.6)
	Full-time employment	18 (11.2)
	Part-time employment	9 (5.6)
	Full-time self-employed	1 (.6)
	Part-time self-employed	4 (2.5)
	Unemployed	21 (13)
	Furloughed	3 (1.9)
	Missing	7 (4.3)
Living situation	With parent(s)/sibling	87 (54)
	Friends	16 (9.9)
	Spouse	12 (7.5)
	Own	13 (8.1)
	Other	16 (9.9)
	Missing	17 (10.6)
Living situation changed due to COVID-19	Yes	45 (28)
	No	110 (68.3)
	Missing	6 (3.7)
Isolation status	Only leaving house for essential reasons	136 (84.5)
	Key worker	7 (4.3)
	Isolation due to symptoms	3 (1.9)
	Shielding	3 (1.9)
	Other	5 (3.1)
	Missing	7 (4.3)
COVID-19	Yes – no formal diagnosis	15 (9.3)
	No	140 (87)

	Missing	6 (3.7)
Care of Gender Clinic	Yes	32 (19.9)
	No – on waiting list	69 (42.9)
	No – but have previously	6 (3.7)
	No – never	48 (29.8)
	Missing	6 (3.7)
Gender-affirming hormones	Yes	47 (29.2)
	No	104 (64.6)
	No due to COVID-19	5 (3.1)
	Missing	5 (3.1)
Blockers	Yes	14 (8.7)
	No	140 (87)
	No due to COVID-19	2 (1.2)
	Missing	5 (3.1)
Top surgery	Yes	10 (6.2)
	No	146 (90.7)
	Missing	5 (3.1)
Bottom surgery	Yes	3 (1.9)
	No	153 (95)
	Missing	5 (3.1)
Satisfied with stage of transition	Yes	13 (8.1)
	No	116 (72)
	Not sure	26 (16.1)

Table 2: Frequency (n) and percentage of responses (in parenthesis) for the Impact of COVID-19 measures

Item	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Missing data
1. I am not able to receive support via outlets that I have previously (e.g., support groups, helplines)	13(8.1)	25(15.5)	28(17.4)	60(37.3)	17(10.6)	18(11.2)
2. I lost vital sources of support	19(11.8)	21(13)	24(14.9)	51(31.7)	28(17.4)	18 (11.2)
3. People in my current living environment are unsupportive of my gender identity	59(36.6)	21(13)	19(11.8)	20(12.4)	24(14.9)	18 (11.2)
4. People in my current living environment are unaware of my gender identity	87(54)	12(7.5)	6(3.7)	15(9.3)	23(14.3)	18 (11.2)
5. I am not currently able to live as my authentic self in daily life	57(35.4)	21(13)	6(3.7)	25(15.5)	24(21.1)	

6. I am having difficulty accessing medical treatment relating to my transition (e.g., hormones)	19(11.8)	10(6.2)	31(19.3)	34(21.1)	49(30.4)	18 (11.2)
7. I am worried about the impact the crisis is having on the progression of my transition	10(6.2)	7(4.3)	17(10.6)	40(24.8)	69(42.9)	18 (11.2)
8. I am having difficultly accessing healthcare for my mental health	8(5)	14(8.7)	30(18.6)	38(23.6)	52(32.3)	19 (11.8)

Table 3: Regression model showing the association between gender-related impact of COVID-19 and mental health outcomes after controlling for age, gender and satisfaction with transition

Impact of CV-19	F	R^2	β
Depression	6.71***	.189	.417***
Anxiety	6.70***	.195	.422***

Note: * $p < .05$, ** $p < .01$, *** $p \leq .001$.

Table 4: themes and subthemes identified in analysis with supporting exemplar quotes

Theme	Subtheme	Exemplar quotes:
1. Mental health experiences	1.1. Positive	"Because of social distancing, I have less social anxiety when out in public." "I've spent more time working on my mental health and recovery." "I feel less guilty about not feeling up to doing activities with my friends since we're not allowed to do them anyway."
	1.2. Negative	"Feelings of depression, loss of direction and powerlessness have all been features of lockdown." "The lack of routine and financial uncertainty has made my anxiety worse and I am worried about a relapse of eating disorders because of not being distracted" "It has gone downhill hugely…I have been so god damned anxious about leaving my house it is driving me and my family up the wall, I can't go to a shop without having an anxiety attack." "I spend a lot of time with myself. That means being able to pick apart every single detail of what is wrong with me."
2. Social consequences	2.1. Gender-affirmation (or lack of)	"It made me go from being able to live as myself 90% of the time to now only being able to live as myself 15% of the time thanks to having to be around my parents." "I want to discuss things with my family to help them understand, but it's always met with hostility. I can't even cry about my problems without being chastised any more." "I have felt like because my family haven't been extremely supportive or comfortable with me being trans that I have been alone. Even though my friends accept me I haven't been able to call them and talk about for fear of my parents overhearing me." "One thing that has majorly effected my experience and allowed it to be somewhat positive is my parents, they are really supportive and I know a lot of other trans youth don't have that."
	2.2. Buffering effects of positive interaction	"Normally, simply being around people who know my real gender and hearing them casually gender me correctly would be enough to make invalidating interactions with my family easier to bear." "I live in an unsupportive household where college was my safe haven. Everyone there only knew me as my preferred name and pronouns and I didn't realise how good that was for my health until it was gone."

	2.3. Already-impoverished social network	"I never had friends or support to start with so I haven't really lost anything." "I don't really have any support networks so social distancing etc hasn't affected me regarding that." "I think a lot of disabled people, especially disabled queers, will say that this 'new normal' is just our everyday and as such we do not see the change other than more resources actually be available (e.g., groups doing sessions online) and that when isolation is over we are just going to go back to not having those things and nothing will have changed."
3. Formal support	3.1 Trans support networks	"I have no access to physical LGBT groups and have lost a lot of gender affirming support." "Trans support group has stopped and don't have the facilities to carry out the services remotely." "Going to LGBTQ+ and QTIBPOC (queer, trans, intersex, black, people of colour) spaces, groups, events, kept me sane, because I live in a toxic lgbtq+phobic household. Now I can't go out and do that. Virtual spaces are nowhere near the same. The connection isn't there as much. You can't feel someone's energy via a computer screen."
	3.2. Mental health support	"Most support has moved online, however this feels inaccessible if I am too anxious to use my voice over chats" "I had to stop CBT as I have extreme phone anxiety"
	3.3 Gender-affirming treatments	"I am unable to access services such as a haircut…vital for me in order to counteract dysphoria." "My bottom surgery appointment was cancelled and hasn't been rescheduled." "Due to the measures that are taken for corona I cannot get my bloods done…I am currently on testosterone but I have procured it online illegally without guidance and because I cannot get my bloods done I cannot see how it is affecting me."

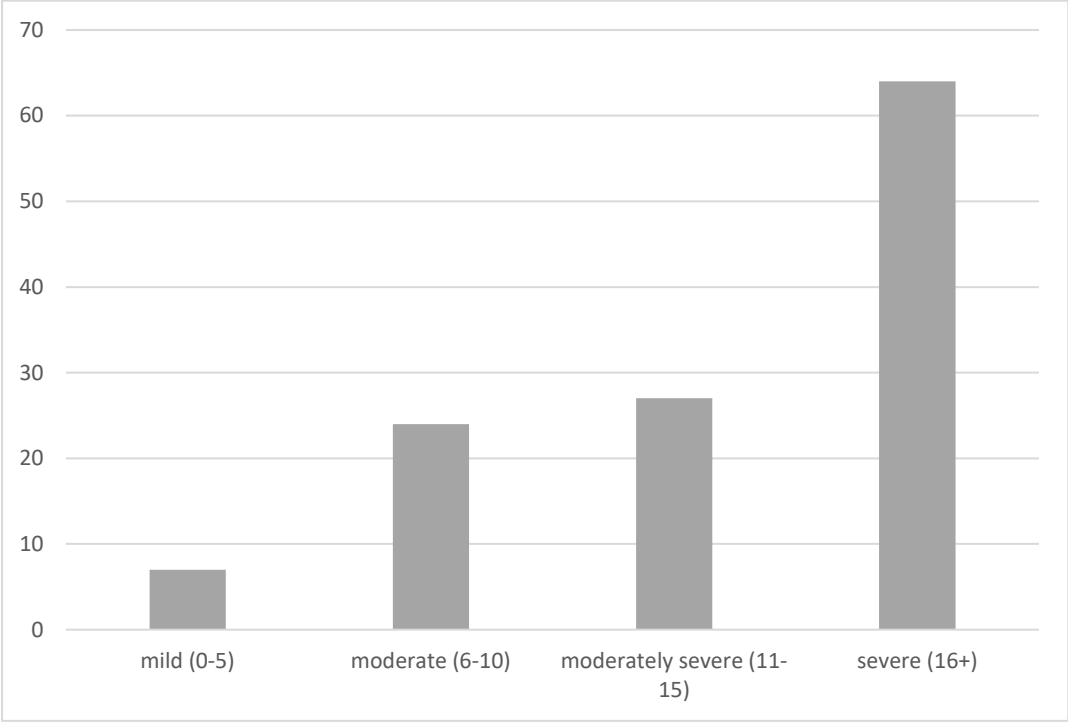

Figure 1: Distribution of scores across severity categories for the PHQ-9 in the current sample (n=122)

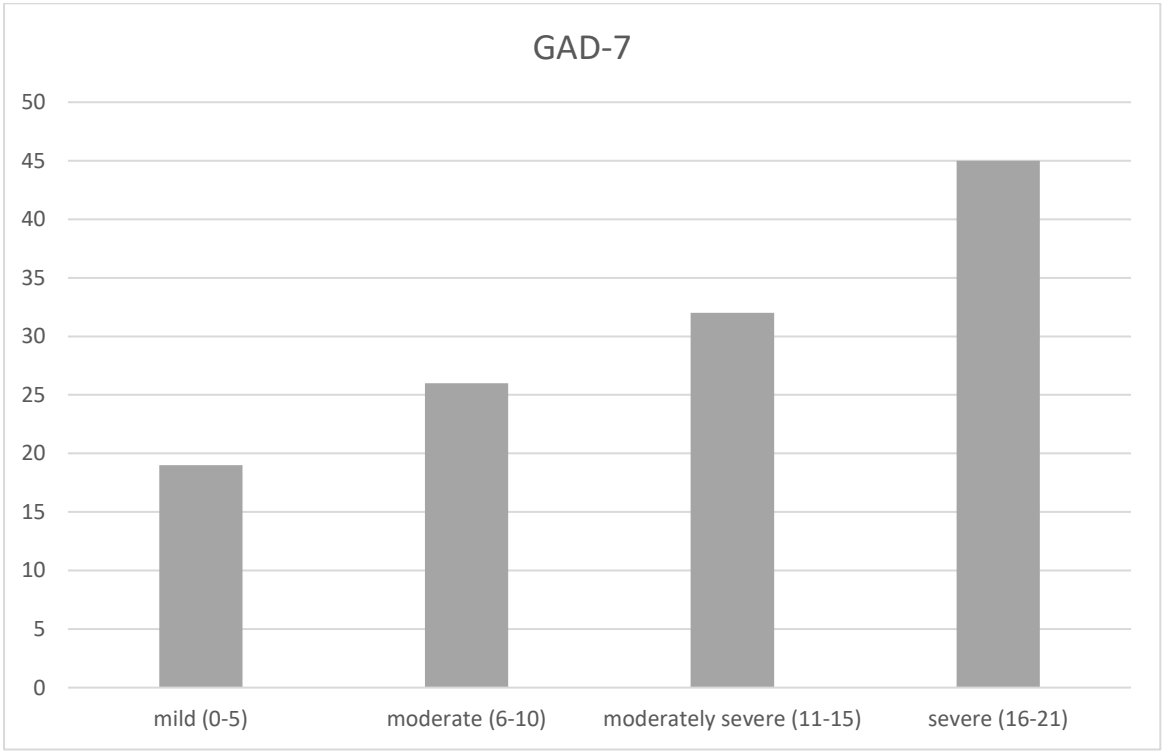

Figure 2: Distribution of scores across the severity categories for the GAD-7 in the current sample (n=122)