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## Combating the Dangers of Sedentary Activity on Child and Adolescent Mental Health During the Time of COVID-19



### To the Editor:

**A**lthough the impact of the coronavirus disease 2019 (COVID-19) pandemic, subsequent quarantine, and social distancing on physical activity has been covered extensively, there has been limited focus on the resulting sedentary behavior<sup>1</sup> on existing and emerging psychopathology. This is particularly disconcerting regarding children and adolescents, who rely on the ability to play to meet developmental milestones and who require more exercise than adults. Youth populations have been significantly disrupted by school closures and home confinement and are in developmental periods that overlap with the emergence of serious mental illness. Therefore, it is important to consider the mental health consequences for youths, and also explore ways to combat sedentary activity for this vulnerable population.

Participation in individual and group exercise has been found to be a robust pro-health activity, both in terms of building social support structures and resiliency factors, as well as in engaging mechanisms driving the onset and persistence of serious mental illness.<sup>2</sup> There is now a large body of literature showing that physical inactivity increases the risk of mental illness. For example, although the relationships between physical activity and mental health have potential for reverse causality, well-powered mendelian randomization studies (which can determine causal relations), using objectively assessed physical activity, have convincingly demonstrated that high levels of physical inactivity exert a casual effect on increased depression risk.<sup>3</sup> Alongside this, longitudinal data support the protective effect of physical activity on depression and anxiety,<sup>4</sup> which are highly ubiquitous in childhood and adolescence, with benefits more pronounced in youth than in adult samples. Likewise, sedentary behavior has been found to correlate with risk markers in adolescents at clinical high risk for psychosis.<sup>5</sup>

The current reality of widespread COVID-19 infections in many countries poses a substantial challenge to remediating this state, especially with concerns about looming additional waves. However, potential solutions do exist—

these can be seen in terms of public space—, school-, and home-based strategies. Public space options are numerous, although some of the more promising strategies would require cooperation from government and adaptive public policy. For example, at the neighborhood level, local leaders might work to allow staggered and monitored playground access with hand sanitizer availability. Streets might be closed so that children and teens can play in a social distanced fashion in their community. With close cooperation, these strategies could be easily adapted to meet the constraints and needs of lockdown/stay-at-home orders versus periods of social distancing.

Where outdoor school infrastructure is available, teacher- or trainer-led group physical activities can be conducted safely, as individual physical distancing can be maintained. A complementary possibility, in particular where such facilities are not available, is dissemination of exercise activities via live video conference calls (eg, Zoom, Skype) in which teachers or trainers could lead group activities. Although such activities are offered to adults, often via their work or membership in health clubs, there is less information about opportunities for children and adolescents.

Relatedly, education and health departments might work together with academia and industry to develop guided exercise media tailored to motivate youth at home. At the same time, it would be important to provide resources to educate parents and guardians about the developmental importance of play as well as the mental health benefits of regular activity. This information can be disseminated through a range of modalities, including online courses and question and answer sessions, as well as through reading materials. More practically, we must work to provide proven strategies, tailored for a range of different living situations, that help caretakers to actively engage youths at home. Another useful tool for combating sedentary activity at home comes from technological advances in recent years. This has led to a proliferation of digital exercise equipment such as active-play video games and devices (eg, Xbox Kinect, Wii, Mirror) that allow for engaging indoor exercise activities. For example, a recent review of randomized clinical trials (N = 6, N = 206) indicated that active-play video games are effective in improving physical activity among adolescents, and are potentially more acceptable and sustainable than other conventional exercise approaches.<sup>6</sup> These options also include the possibility of cooperative/competitive engagement with peers. Likewise, the popularity of activity monitors (eg, Apple

Watch, Fitbit, Jawbone) may allow remote monitoring of daily physical activity and identification of individuals requiring additional support. For example, youths and parents might use these devices to monitor daily activity with respect to guidelines, and adjust habits or seek help from resources or providers in cases in which there is low output.

Although COVID-19 quarantine and social distancing—related inactivity poses a significant mental health risk to developing children and adolescents, there are numerous promising strategies to combat sedentary behavior. This will involve working together with policy makers, as well as supporting, educating, and empowering teachers, parents, and of course the youths themselves. Using such physical activity interventions may flatten the mental health curve in the face of expected swelling of the COVID-19—related mental health problems.

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## The Need for a Clinically Useful Schema of Social Communication



### To the Editor:

The recent *Translations* article by Bishop *et al.*<sup>1</sup> draws much-needed attention to social communication (SC) in autism spectrum disorder (ASD) and to the need in autism research for treatment-sensitive measures of this key domain. In this context, the authors define SC ability as “the appropriate use and modulation of verbal and nonverbal behaviors during interactions with others”<sup>1</sup>(p. 555). “Appropriate” is defined relative to normative behaviors for developmental age and language level based on parent report. This stirred us to share our concern that clinicians, too, need ways to assess SC. Historically, observation of a patient’s SC has not been part of the routine psychiatric mental status examination (MSE); clinicians lack even a common basic vocabulary for describing this vital domain. The DSM-5<sup>2</sup> does not explicitly define SC or distinguish it from social interaction (SI) or language, important terms also used in the criteria for ASD. All three terms are used interchangeably and inconsistently across the literature. Here we offer a definition of SC, distinguish it from SI and language, and propose a schema, or conceptual model, for observing and documenting an impression of a patient’s SC.

We define SC as the intentional exchange of messages between two or more individuals (messengers) that convey feelings, thoughts, or other information. The exchange involves each individual both initiating messages to the partner and responding to messages from the partner. The messages can be nonverbal (involving body language, eye contact, facial expressions, gestures, and nonword vocalizations) or verbal (involving spoken language) or both. The neurotypical human infant is born with the capacity for nonverbal initiating and responding to caretakers and becomes an effective nonverbal messenger within weeks of birth. In the second year of life, the neurotypical infant begins to use language as a tool for SC, but nonverbal SC remains the bedrock of human “intersubjectivity” throughout life.<sup>3</sup>

The terms “language” and “SC” refer to distinct constructs. SC is a meaning system between individuals; it