Shared Pleasure in the Time of COVID 19: The Importance of the Shared Smile for Babies in a World of Masked Faces

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As South Africa prepares for the winter to arrive and with it, the increased risk of COVID-19 infections, the economic toll of a continued lockdown meant that despite this risk, there had to be an easing of the harsh strict lockdown to allow for some salvage and restoration of livelihoods. As parents resume work, domestic helpers in the informal sector doubling up as the nannies also return to work. Part of the relaxing of the lockdown in South Africa is accompanied by the compulsory wearing of face masks in all public places, including places of work, and during the utilization of overcrowded public transport services where social distancing is virtually impossible. As such, the domestic nannies travel amid high-risk environments to enter homes in the leafy suburbs to help with the essential service of childminding. The level of risk to these adults is high as South Africa has a disproportionate burden of respiratory disease (Tuberculosis), immuno suppression (HIV and related infections), and psychosocial adversities. Whatever little protection can be offered, needs to be adhered to as the population braces for the inevitable surge of the Coronavirus infections.

While face masks have clear benefits in reducing transmission of the virus, the impact this has on social engagement remains to be seen. As adults, we adapt. We rely on verbal cues, re-adjust our gestures, and incorporate the mask as part of the new normal. For children, the mask is reframed as their "super-power" to protect themselves and is integrated fairly easily into the routine of wearing it on the playground, at school, and as part of a safer peer interaction.

But what about the babies? The Center for Disease Control (CDC) does not recommend the use of face masks in infants under 2 years of age - however, they make no clear statement on the use of masks by external caregivers providing the care but who themselves are at risk prior to entering the home. The fear and uncertainty around infection is palpable amongst professionals and parents alike. A colleague sent me the following message:

> I return to work soon leaving my four-month-old boy with his lovely responsive nanny. She is choosing to wear a mask in the house. I have explained that the mask mostly protects others from her and that I am happy for her to not wear it in the home, but she feels more comfortable with it on. However, as the primary person interacting with the baby, her entire face except for the eyes is not visible. I am concerned about his development with this "semi blank face" caring for him. Is it enough for him to just see the nanny's eyes and hear her voice? What are your thoughts?

This made me wonder. What does the science and our understanding of what babies need in those early few months tell us? Will the mask cause more harm than benefit to the baby? How do we assess the risk before we can offer advice?

The ability to detect and focus on faces is a fundamental prerequisite for developing social skills. Immediately after birth, babies are attracted to moving objects and show preferences to face-like stimuli over other objects (Johnson, Dziurawiec, Ellis, & Morton, 1991). The attraction for faces continues to develop over the next year of life, with the focus on faces allowing for infants to learn social-environmental cues and interactions with them (Baron-Cohen, 1994; Gliga & Csibra, 2007).

From as early as two months of age, infants demonstrate skills like eye contact and facial expressions as part of social communication (Stern, 2018; Trevarthen & Aitken, 2001). During episodes of mutual gaze, the mother and infant engage in spontaneous facial and vocal communications that may elicit a positive effect on both mother and infant (Lavelli & Fogel, 2005). Such highly arousing, face-to-face interactions allow the infant to be exposed to high levels of social and cognitive information (Feldman, 2007; Schore, 2005).

For the next four to six months, shared smiles with caregivers are considered the high point of face-to-

face interactions (Weinberg & Tronick 1994). Smiles help organize social and emotional exchanges, providing the parent with the feeling that they are in touch with and have "doing well", by their baby (Spitz, 1949; Sroufe & Waters, 1976).

Infant smiles communicate joy and elicit positive emotional responses and interactions with adults (Bowlby, 1982). As in adults and children, infant smiles involving cheek raising along with the raised orbicularis occuli (eyelid muscles) and zygomaticus muscles are called "Duchenne Smiles" which tend to occur during emotionally positive smiles (Bolzani-Dinehart et al., 2005; Ekman, Davidson & Friesen, 1990; Fogel, Hsu, Shapiro, Nelson-Goens, & Secrist, 2006). Infants engage in smiles involving cheek raising when they are being smiled at by their mothers (Messinger, Fogel, & Dickson, 2001).

As development progresses, infants alternate their attention and smiles from their caregivers to objects in the environment (Rochat, 2001). These smiles progress when they use gestures, vocal stimuli, and eye contact to attract their caregivers to their own actions and their environment (Messinger & Fogel, 1998). While young infants observe and mimic the facial expressions of their mothers, the mothers in turn monitor and emphasize their infant's emotional expressions allowing babies to almost "fine-tune" their expressions (Gergely & Watson, 1999; Holodynski & Friedlmeier, 2006). This interactional exchange allows for the enhancement of their emotional displays and by inference their social development.

Young infants' social expectations and sense of self-efficacy are formed within their interactions with their caregivers. In a study of contingent smiles between 4-month old babies interacting with their mothers, Mcquaid, Bibok, and Carpendale (2009) showed that mothers' contingent smiles during an interactive engagement accounted for unique variance in infant social bids during a still-face phase beyond that which could be accounted for simply by the frequency of mother and infant smiles during the interactive phase. In face-to-face interactions, infants are more likely to smile when they are gazing at their mothers and when their mothers are also smiling back at them (Messinger et al., 2001; Weinberg & Tronick 1994). In a Brazilian cohort of mothers and young infants, there was a strong association between mothers' behaviors and their babies' smiles, emphasizing the importance of affective interactions in early development (Mendes et al., 2014).

The simultaneous sharing of a smile with synchronized direct gaze contact between mother and infant is hypothesized to be a marker of high-intensity positive affectivity and is referred to as a "Shared Pleasure (SP)" moment (Puura et al., 2002; Puura et al., 2019). SP is interesting in that it has been shown to correlate with attachment security (Mäntymaa et al., 2015), is highly malleable in the first year of life (Varpula, 2014), and maybe a possible marker of adequate parent-infant interaction (Puura et al., 2019). Its absence has been associated with maternal mental illness (Lachman et al., 2019; Varpula, 2014). Based on findings from Puura et al. (2019) in Finland, dyads who were best able to read each other's positive cues and respond to them, were more likely to experience mutual positive affects.

So if babies aren't able to see their caregivers' smiles how do they mimic it? How do they engage in the highly arousing, positive affective interaction if they are essentially faced with a blank screen? If we know babies need to engage face-to-face with their caregivers in the first few months of life, what happens when the caregiver needs to wear a mask?

For the Still Face Experiment, Tronick (2003) hypothesized that face-to-face interactions are co-created by an ongoing moment-to-moment dynamic process that generates unique interactive exchanges between the infant and its mother. The infants first engage in a normal interaction followed by a phase in which they have to cope with a stressful interaction—the "still face" (SF) where the mother freezes and becomes vocally and gesturally unresponsive. In response to this manipulation, infants typically react with less eye contact, express negative affect, and may lose postural control. Following the SF there is a reunion episode, where the positive affect recovers but not fully to the observed initial baseline level.

A review by Mesman, IJzendoorn, & Bakermans-Kranenburg (2009) suggested that the SF effect may also be due to the break-in typical social interaction. The responsiveness of the parent plays an important role in affect regulation, and the type of stress expressed by infants appears to be related to the breakdown in the expected communication within that dyad (Melinder, Forbes, Tronick, Fikke, & Gredebäck, 2010). This suggests that when infants expect a specific relational response from the mother or caregiver (such as a playful smile or expression) and this expected connection is not present (or interrupted in this case by the presence of a masked barrier), it could theoretically result in increased stress reactions. Melinder et al. (2010) further showed that the SF manipulation is perceived as a more dramatic experience for infants who relate to their mothers than for infants who relate to a stranger. Many South African infants are co-reared by a nanny employed as a domestic worker in the family home—as such the presence of the nanny in this situation is less that of a stranger and more closely resembles that of the primary caregiver. Does this mean the baby is more likely to protest and experience this new masked interaction as a stressful response to their normal expected interactions?

Perhaps timing is key?

As development progresses, emotional expressions increase in complexity and coordination. While in the first few months we recognize the reciprocal dyadic synchronous interactions as key to the infant's imitation of expressions, from around four months of age and beyond, communication changes. Social and emotional competencies become increasingly necessary for further relationships, and the type of maternal interaction at this stage is critical (Feldman, 2007; Little & Carter, 2005).

Early experiences have great potential to shape the trajectory of the developing brain and the long-term development of children. The World Health Organization's Nurturing Care Framework reminds us that in situations of unrelenting psychosocial adversity and stress, responsive and attentive nurturing care may be the key modifiable risk factor to protect babies against the negative effects of adversity.

As restrictions on close face-to-face contact in the time of COVID-19 force us to re-examine our instinctive social behaviours, maybe it is time for us to refocus and adapt how we provide responsive caregiving. Before children even learn to speak, engagement, and affection between them and caregivers are expressed through cuddling, eye contact, gestures, and of course smiles. Part of this responsive caregiving also includes observing and responding to infants' attempts to connect with the

world. Perhaps part of the new normal in a masked world needs to be an increased and more deliberate effort to notice and attentively respond to attempts by the infant to communicate. This would include more focussed and attuned responses to gestures, sounds, movements, and non-verbal interactions to help create and reinforce a mutually enjoyable interaction.

But for the really young infant, there likely can be no substitute for an authentic direct gaze with a synchronized shared smile. Regardless of the context, we all still smile in the same language.

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Helping the Helpers. Relationships During the Pandemic: "Good Morning, Margaret" "Good Morning, Heidi"

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Amid a global pandemic, with increased cases of COVID-19 reported everywhere every day, with rates climbing, with calls out seeking health care workers to come to hospitals and medical centers, with the news reporting outbreaks in every part of the world, and death, the Connecticut Association for Infant Mental Health (CT-AIMH) considered:

What do infant mental health professionals and leaders need during this time?

And thus, begins another day with Zoom meetings galore, masks on when out, 6 feet apart when nearing others, and wondering when it will all end, when will the vaccine come, when will we return to something near normal.

The following suggestion was one that was shared as the CT-AIMH worked to maintain relationships through virtual experiences and opportunities for our members and our Infant Early Childhood Mental Health (IECMH) community.

What do we,

those good infant mental health folks,

do

while we wait,

while we wonder,

and while we listen?

You could try starting your day with," Good morning, (your name)"

and if you can,

place your hand on your heart and add,

"I love you (your name).

To begin our work during these unprecedented times, in March, our Executive Director and Board of Directors posted a *Letter of Hope* to our members on the CT-AIMH website. This letter was followed by a list of categorized resources for use by our professionals in infant and early childhood mental health and set the stage for more 'personal' ways to reach out and relate.

APRIL 2020

In Connecticut, the CT-AIMH Executive Director (ED) presented to the Board of Directors (BOD) the possibility of creating opportunities to meet on a daily basis with our members. "Every day???" "That's too much", said some. Nevertheless, we went ahead and posted an invitation to our members to join us at noon, Monday – Friday (every business day), for 45 minutes, for the entire month of April. We called it: "Help for the Helpers".

Why every day? We wanted to be as available as possible to hold our members during this time when everything about their current way of working was changing. CT-AIMH wanted to hear what the infant mental health workforce was experiencing, to offer ways to cope, to provide a space to share resources, to create manageable professional development opportunities and to provide some time for joy. We knew everyone could not come to every session. We wanted to maintain our relationship with our members by being available as frequently as possible and at a predictable time.

The topics and facilitators were the same for each particular day of the week, but the content and participants varied. For example: Monday's facilitator remained the same for each Monday, and the focus for Monday's group remained the same throughout the month, but attendees were not bound by that. Attendees could choose to attend Monday and Thursday one week, and then Wednesday and Friday the following week.