



Can COVID-19 Pandemic Invent Redesigned Electric Microcars To Be Parked Inside Workplaces As Mask-Vacation Pods?

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Abstract

Non-physiological in-mask microclimates may require mask-vacation pods as safe-spaces for workers to break away from masks during COVID-19 pandemic.

My Opinion

While awaiting development of definitive vaccines and effective therapeutics, the containment of COVID-19 pandemic warrants universal mask use because the benefits of herd protection induced by mask use can only be reaped if a minimum percentage in general population embraces mask use wherein the required minimum percentage varies according to the quality of masks (Chen, Chughtai, & MacIntyre, 2017). In due course, it may also get deciphered whether historically prevalent non-COVID-19 surgical site infections along with other historically prevalent non-COVID-19 healthcare-associated infections are dwindling away during COVID-19 pandemic due to SARS-CoV-2 lethality forcing mask-wearing universally as good tight-fits appropriately sealing mouths and noses of not only those working at healthcare institutions but also those visiting them as patients and their families (Vincent, & Edwards, 2016). However, hot and humid in-mask microclimates which have been theorized to possess investigational "therapeutic" effect against SARS-CoV-2 may be uncomfortable for the mask-wearers themselves secondary to the induced thermal stress interfering with trans-nasal physiology of human beings (Gupta, 2011; Gupta, 2020a; Gupta, 2020b; Li, Tokura, Guo, Wong, Wong, Chung, & Newton, 2005).

Sometimes, this natural and physiological intolerance to hot and humid microclimates may be mistaken as medical and pathological intolerance to mini-enclosures like masks. Although those who are intractably intolerant to masks may decide to work virtually and stay away from public arenas altogether, this may not be feasible for everyone during COVID-19 pandemic. Moreover, it has not been investigated yet whether masks can be safely

impregnated with hygroscopic and coolant materials to counter, contain and resolve hot and humid in-mask microclimates (Roberge, Kim, & Coca, 2012; Yi, Fengzhi, & Qingyong, 2005; Zhang, Yang, Borayek, Qu, Nandakumar, Zhang, Ding, & Tan, 2020). Similarly, full face shields plus masks covering only mouths have not been explored yet to see if they adequately (a) limit generation of floating micro-droplets from noses, (b) improve users' acceptance by ensuring ambient microclimates for noses, and (c) contain exposure risk due to full face shields loosely protecting noses (Perencevich, Diekema, & Edmond, 2020).

In the interim, development of mask-vacation pods may be necessary for the new normal workplaces because masked workers may need intermittent "vacation" from masks, drawing an analogy from "sedation vacation" as warranted to reestablish physiological condition among critically ill patients. Although it may be better for workers if they have easy access to outdoors like balconies, terraces, patios and gardens at workplaces, it may not always be feasible especially for those working indoors in high-rise buildings. Therefore, as similar to napping pods at workplaces reenergizing workers during napping-break periods (Alger, Brager, & Capaldi, 2019), mask-vacation pods can be developed as one-person seating capacity standalone enclosures. Mask-vacation pods may have to be glassed for transparent professionalism, soundproofed for private conversations and negatively-pressured for infection control with thermodynamically-sterilized microbicidal air. Before changeover of their occupants, mask-vacation pods will require automated cleansing of their used environments.

The fastest scenario for rapid realization of mask-vacation pods evolving as one of the most valuable products due to COVID-19 pandemic will be single-seated well-enclosed conceptually-designed electric-microcars which can be personally owned by desk-bound workers who can drive them right up to their personal work-desks so as to park there temporarily for their daytime work and even permanently if they are not planning to work at any other secondary worksites. These conceptualized

electric-microcars can be fitted with Thermodynamic Sterilizing Systems (TSS), a technology developed, patented and exclusively marketed by Airfree - Produtos Electrnicos, Lda., Lisboa, Portugal, in their floors for inletting pathogen-free air after first TSS treatment as well as in their roofs for ejecting pathogen-free air after second TSS treatment.   

Until personally-owned redesigned electric-microcars are allowed to be parked inside workplaces as mask-vacation pods with well-equipped personal workstations, workers may have to be provided access to makeshift public-use mask-vacation pods as time-limited safe-spaces to break away from masks during their breather-break periods for the sake of workers™ physiological health (Yang, Li, Shen, Zhang, Huang, Feng, Yang, & Ma, 2018). Essentially, it may be important to complement universal mask use with mandated provision for mask-vacation pods at workplaces during COVID-19 pandemic.

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