

How to tackle the childcare–conference conundrum

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Conferences are vital forums for academic researchers. At these meetings, scientists communicate new discoveries, form research collaborations, make contacts with funding agencies, and attract new members to our labs and programs. Even with new technological advances that allow remote communication, resource sharing, and networking, face-to-face interactions are a crucial component for one's career advancement and ongoing education. Early-stage researchers, who benefit significantly from these events, face some notable barriers to attendance. One major challenge is what we call the childcare–conference conundrum: Parent–researchers face a conundrum as they struggle to attend key conferences and further their careers while finding care for the children. Conferences face a conundrum as they assess how to better accommodate mothers and families.

The bottom line is this: Primary caretakers of dependent children face inequitable hurdles to fully attending and participating in conference activities because of responsibilities related to pregnancy, breastfeeding, and caretaking. It's a serious problem because it creates a culture of inequity for parents, with mothers generally experiencing greater disadvantages than fathers because of biological, prejudicial, and often socially driven childcare demands. With solutions seemingly elusive, many women, and occasionally men, make a calculated decision to forego conference attendance and suffer the career consequences.

Research reveals that this “baby penalty” (1) negatively affects women's, but not men's, career mobility, with even larger penalties for women of color. We and others (2) argue that collective and structural ideas for



With childcare accommodations seemingly elusive, many parents make a calculated decision to forego conference attendance and suffer the career consequences. Image courtesy of Dave Cutler (artist).

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²A complete list of the Working Group of Mothers in Science can be found in the Acknowledgments.

addressing the childcare–conference conundrum—going beyond measures that some conferences have taken thus far—could lead to more impactful, efficient, and equitable solutions that help women with children thrive in science.

Diversity and Innovation

There are clear ethical and social-justice concerns when certain groups are excluded from participating fully in science. Further, such exclusion reduces both the creativity and productivity of science as a whole. Studies have suggested that diverse groups of people bring diverse and creative ideas and ways of thinking to the scientific process and practice (3).

Creating barriers for women with children excludes a large proportion of early-career women and in so doing holds back science and discovery. In business, companies with women on their boards perform better (4), and companies that prioritize innovation experience greater financial gains (5) when women are represented in top management positions. Science thrives on innovation; studies such as these suggest that closing the gender gap can enhance that capacity to innovate. Making conference attendance possible and more equitable for parents is an important step toward that goal.

Solving the childcare–conference conundrum will benefit not only primary caretakers, other parents, and scientific innovation and discovery but also the institutions and businesses associated with the conferences. Conference centers and host organizations can benefit directly from concerted efforts to plan more family-friendly events. They're likely to have increased attendance, which yields increased revenue for organizations and conference centers, as well as for the hotels,

send a strong message of support and inclusiveness that could help retain parents, and young researchers who want to become parents, in their academic fields.

Finding Solutions

How might the childcare–conference conundrum be addressed? As academics who have cared for, adopted, birthed, primary parented, or breastfed a baby while pursuing a career in science, we have compiled four concrete suggestions we call CARE (for Childcare, Accommodate families, Resources, Establish social networks). These recommendations are directed toward research societies and conference organizers who are willing to take a leadership role in creating solutions, either incrementally or on a large scale.

Childcare. Supporting childcare, either at home or at the event, would overcome a major hurdle to conference attendance. There are a number of ways to do this, including financial support for individually arranged childcare for smaller conferences or onsite childcare for larger conferences. Onsite facilities, such as those provided by the Society for Neuroscience and the Society for Integrative and Comparative Biology, allow for frequent check-ins from parents and support breastfeeding. Conference organizers can now connect with companies that specialize in professional onsite conference childcare, often with their own liability policies. Providing childcare for dependent children of all ages is an important step, as is ensuring affordability for conferencing parents.

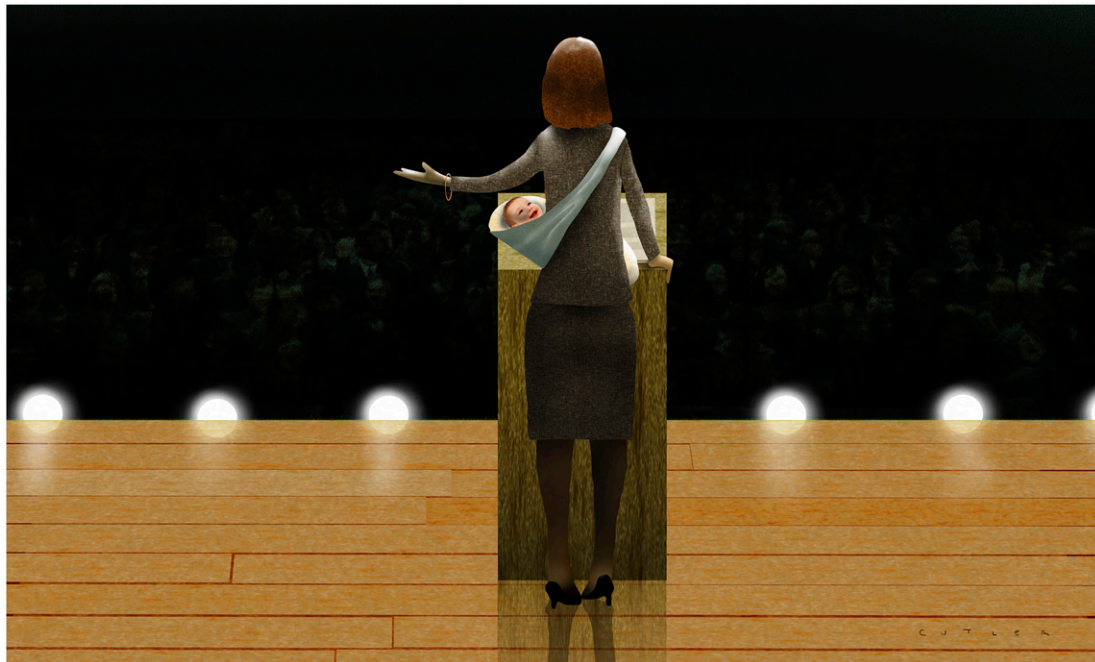
In academia, many parents of young children are students, postdoctoral fellows, or early-career researchers. At these early-career stages, many have limited income. Thus, the price of hiring a childcare service on top of registration, travel, and hotel stay may be prohibitive. These are precisely the sensitive periods when attrition of female researchers is highest. To support parents, organizations can allocate funds as a subsidy or bursary. This could be done in a number of ways, including redistributing the way society funds are used to support these efforts, modestly increasing registration and/or exhibitor fees, or by soliciting donations from registrants and/or exhibitors on their registration form, for which donors would receive a decal advertising their support for parents in science. Furthermore, conference organizers could offer discount registration to parents who can attend only a portion of the conference.

For various reasons, some parents may prefer to bring their own caregivers—a spouse, a grandparent, or nanny from home. Indeed, for parents of very young or special-needs children, the ability to bring along a familiar and trusted loved one can make the difference between attending and staying home. Host organizations can support these caregivers financially and logistically. For example, the Society for Molecular Biology and Evolution, the American Society of Cell Biology, the Genetics Society of America, the American Society of Plant Biologists, the European Society for Evolutionary Biology, and other organizations offer grants to fund travel and housing for a caregiver to attend their annual meeting. These funds are often used at the parent's discretion.

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restaurants, and retailers surrounding the meeting location. In addition, attracting parents—or those wanting to start a family who are worried about future career barriers—during the early stages of their careers can support future conference attendance and enhance engagement with professional societies. With increased participation, especially from women and from members of groups typically not well represented, comes a greater scope of ideas and experiences. This will result in a more robust, productive, and intellectually stimulating meeting for all, even beyond considerations of scientific ideas.

Studies, based in large part on data from the National Science Foundation's survey of earned doctorates (6), suggest that one of the main reasons women leave academia stems from the perception that colleges and universities are unfriendly to the growth and maintenance of a family (7–9). By promoting a parent-friendly environment and culture, professional societies would



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In addition, conferences should allow babywearing in the conference halls, seminar rooms, and poster areas. Babywearing, or the practice of using a baby carrier to keep the baby in close physical contact with their caregiver while the caregiver engages in normal activities, is a popular form of baby transport around the world. It is beneficial for many reasons, including facilitating bonding and easier breastfeeding and easing postpartum depression and anxiety (10).

Conferences should also offer caregivers free access to the conference center, for example, so that they might bring an infant to nurse. While the rare presence of an infant may result in the occasional disturbance during a presentation, the situation is no different from any movie showing or other family-friendly presentation—caregivers can, as necessary, briefly step out to soothe their children and mitigate any disturbance. Minor interruptions are a small price to pay for this step toward inclusion, which benefits mothers in science and, by extension, the academic enterprise.

Accommodate Families. Primary caregivers (particularly single parents, nursing parents, or parents of special-needs children) are often limited when it comes to the number of conferences they can attend. To appeal to parent-registrants, organizations and conference centers should consider family-friendly dates and venues. For example, it is often difficult for parents to find full-time childcare on weekends and around holidays because daycare centers and schools are closed. These times are also considered important family time by many parents. Thus, scheduling conferences should be done with care to balance family needs with other teaching and research obligations.

To accommodate families with attending children, conference advertisements could include family-friendly conference policies, events, resources, and day schedules. Major events, such as opening keynote addresses, closing presidential addresses, and social or networking gatherings, are often scheduled during early-morning or late-evening times, presenting various childcare challenges. Mealtimes can also be sources of stress for parents. Welcoming children at social events, such as society lunches and banquets, can help parents feed their children more easily without removing themselves from conference social activities and potential networking opportunities. To assuage parent-child schedule-juggling challenges, smaller conferences might even consider offering early-registrant parents flexibility in selecting the day or time they give their presentation.

Resources. In addition to financial resources discussed above, adequate facilities and equipment are additional key resources. For parents of small children, suitable lactation areas are often a point of contention at conferences. Breastfeeding is a physiologically driven supply/demand cycle; thus, disruptions in a breastfeeding or pumping schedule can drive down milk production, meaning that an inability to pump can adversely affect breastfeeding. Failing to nurse/pump at regular intervals can also come at significant health risks for lactating individuals, such as infections (e.g. mastitis, abscesses), not to mention discomfort and pain. Many breastfeeding women will be comfortable breastfeeding their babies in the conference space and during talks; an addition to the society's antiharassment policy should make clear that no one should ask them to leave or make them feel uncomfortable.

People who are pumping will need dedicated space, as will those women who prefer to breastfeed in private. As with childcare, the first step to creating a lactation space is with consultation, i.e., talking with people who have actually pumped or breastfed at conferences. Certified lactation consultants, who have extensive experience working with nursing parents, are also good resources to review planned actions and policies.

At a minimum, we would recommend quick and easy access to an adequate number of nearby rooms or lounge areas, depending on the number of parents requiring such facilities. To anticipate need, meeting registration forms could allow parents to indicate their nursing requirements. Dedicated nursing spaces must provide a clean, private, and comfortable setting to feed a baby and/or pump milk with enough space for the mother, baby, and stroller. Proper signage can help nursing parents identify these rooms and keep them private. A system to reserve lactation rooms in advance as well as designate some for drop-in flexibility would facilitate planning around conference events by the lactating parent. A lactation room should also have a sink so caregivers can avoid cleaning their pumping equipment or bottles in a public restroom.

Providing lockers or cubbies to store pumps within or near the lactation rooms and adequate refrigeration to store expressed milk would literally be a weight off parents' shoulders. Even the lightest pumps, paired with a day's worth of expressed milk, and all related accoutrements, will easily add 10 pounds to a shoulder bag. Add a laptop and other daily conference items, and this quickly becomes untenable for traversing a conference center while networking and hopping from talk to talk. Closed-system hospital-grade pumps, which are sanitary and relatively inexpensive to rent, are becoming more common in dedicated lactation rooms at various workplaces and would reduce the amount of gear mothers have to carry.

Ideally, the resources provided would extend beyond nursing. For babies fed formula, access for caregivers to filtered water and bottle warmers is important. Also important for caregivers is access to clean baby-changing facilities, either in dedicated childcare areas or within restrooms. In the case of the latter, all restrooms must be equipped with changing tables, because changing a diaper is not the sole responsibility of women. In addition, providing a dedicated playroom or space, whenever possible, would allow children to safely expend energy while offering some relief for caregivers (and could offer an opportunity for caregivers to meet and network with other working caregivers).

Establish a Parent/Caregiver Social Network. Social networks can serve as effective tools to support isolated groups. The Pew Research Center (11) reports that 75% of parents use some sort of social media, and mothers especially engage to offer and receive support. Twitter, Facebook, Instagram, LinkedIn, and Slack are all examples of free, popular, public, and/or private social network platforms that conference organizers could use to promote parent self-help via social networking.

A conference-specific parent social network would offer a virtual place for parents to easily find and share pertinent information before, during, and after a conference. It could facilitate kid-friendly meet-ups and activities, babysitting, and childcare swaps. Furthermore, it could help lessen feelings of social isolation and anxiety experienced by so many parents in the workplace. A lack of strong emotional support puts women at greater risk of developing postpartum depression, the most common complication of childbearing (12). Receiving social support postpartum can reduce this risk (13), and the creation of a parent social network can facilitate this.

Sending a Message

When conference organizers consider parental needs, everybody wins. Offering childcare, accommodating families, providing appropriate resources, and establishing a parent social network are all ways that organizations can show they CARE.

A practical way to incorporate these guidelines is by appointing a knowledgeable committee dedicated to this cause. One challenge for this committee will be to identify any unique barriers for their specific conference and attendees and to maintain an inclusive approach to supporting conferencing parents. For example, although we have mostly discussed mothers, transgender and nonbinary people can lactate, breast/chestfeed, and be primary caregivers; policies and advertising language should be inclusive of these groups. We focused on women because women represent the majority of primary caregivers, but spaces should be inclusive of people of all genders. In addition, resources should be accessible to parents with disabilities at the intersection of disability policies (which we encourage conferences to include) and parenting.

Adoption of one, some, or all of these practices would send a strong and positive message that organizations recognize the issues parent-researchers face and that they are working to support an inclusive, family-friendly environment. Using CARE guidelines also helps normalize pregnancy, lactation, and the childcare needs of working parents, especially working mothers. These guidelines may seem burdensome to conference organizers; however, they entail considerations that parents take into account every day while maintaining an active career.

While we have targeted conference participation here, CARE guidelines are applicable to workplace settings in general. Solving the childcare-conference conundrum is a collective task that benefits not only people who parent and work in science but also the greater scientific community by promoting diversity and inclusion and thereby creativity and innovation. It sends the clear message to future generations of researchers that science is a place for everyone, one that takes equity seriously, and one that recognizes the multifaceted roles and responsibilities researchers bring with them to conferences.

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