

The need to increase financial support for researchers with families

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Standfirst

It can be difficult to balance parental responsibilities with academic life, due to frequent travel, long working hours and fixed term contracts. Prolonged or regular fieldwork can be a particular challenge for geoscientists. Increased financial and institutional support is needed to alleviate the burden often felt by academic parents.

Academia remains male-dominated and based on the “ideal worker” who can work out of hours^{1,2}. Success is measured in terms of research productivity, quantified by number of publications, citations, grant income and international plaudits. These achievements can require a high level of commitment, long working hours, international mobility³, and extensive travel⁴, presenting obstacles to the development of a research intensive career for those who require childcare support⁵. While these challenges are applicable to many academics, field-going scientists – prolific amongst the geosciences – face additional complications associated with extended or frequent fieldwork, necessitating further childcare considerations. As a result, systematic barriers disadvantage those with children, and disproportionately women, who tend to shoulder a greater proportion of the domestic work. This burden leads to lower research outcomes, and thereby an underrepresentation in senior academic positions.

Challenges

While researchers with children at various career stages experience tiredness, stress from juggling multiple (academic and parental) roles, and the lack and/or fragmentation of time⁶, the impact of parental responsibilities is particularly amplified in early career researchers (ECRs). One major reason for this is that career breaks at a pre-tenure stage, which often coincides with child-bearing years, can reduce research and networking opportunities, impacting career development⁷ and long-term salary earnings. While time spent explicitly on parental leave is often considered in grant applications, this is insufficient; being a parent affects the academic career for longer than the first 18 months of the child's life, the maximum time allowance usually considered. The real delay compared to peers without children is several years. Further, reduced working hours when part time or during periods of unemployment are sometimes not taken into account for fellowship applications. This can exclude ECRs from applying for early-career grants, which may be limited to a number of years post-PhD.

Another challenge that both PIs and ECRs researchers with children may face is the fixed term nature of research funding, and increasingly, teaching fellowship and lectureship contracts, and the difficulties of coordinating this with pregnancy and parental leave. For example, post-docs and PIs may find that their grant-based funding is not extended to cover their period of time on parental leave. This is an opportunity cost for ECRs, as work critical to their professional development may be undertaken by another researcher. Additionally, academics often move frequently for these fixed term contracts, within their home country or internationally, resulting in more reliance on formal childcare than an established social or family network.

When not on parental leave, conferences are critical for academic researchers, providing opportunities to form research collaborations, share resources and network⁸, but can be difficult to attend for researchers with young children. While on-site childcare and grant support for ad hoc childcare is becoming more normal for large conferences, they are less often available at smaller conferences, and sources of additional childcare funds are not common. Furthermore, the on-site care is typically during day events or sessions only, reducing the ability to join in evening activities, such as networking events, dinners, and receptions, all vital in conferences.

While these challenges are felt by researchers with children across the sciences, field scientists are particularly impacted by childcare costs and responsibilities, as they can limit the ability to participate in

fieldwork or research cruises. For example, fieldwork might be unfeasible for newer mothers who are still nursing their infant children and pregnancy may also make challenging or prolonged fieldwork impossible or impractical due to health concerns.

For those who can participate in fieldwork, additional medium-term (weeks- or months-long) childcare solutions can be difficult to arrange, as formal childcare is often inflexible and expensive, especially for preschool children. Furthermore, for those with partners, the spouse must absorb the additional share of childcare, especially in circumstances where paid childcare is not possible or practical.. This burden can be even more difficult for researchers who are single parents, the primary care-givers, or do not have family living nearby to help.

Though researchers are not always allowed bring their children into the field (for example, research cruises or work in Antarctica), in some cases, field scientists may be able to take their children with them. While this alleviates the burden of finding additional formal or informal childcare, this is often impractical; the field site may be unsafe or unsuitable, fieldwork can be physically demanding, or the field season may occur during school term time. Furthermore, bringing children in the field may distract the researcher and make fieldwork less productive. Additionally, travel funding for the children might not be available, again placing a financial burden on researchers with children.

Current childcare support by funders

Grant-funding bodies are increasingly aware of these challenges, with a number of initiatives designed to soften the impacts of parenthood on academic careers and funding success, which is encouraging. However, financial support by funders varies considerably. Across the key research grant schemes that scientists in Europe and the US can access, only a few funding bodies offer a family and childcare allowance. For ECRs, the Calsberg Foundation in Denmark, the Horizon2020-Marie Skłodowska-Curie actions, and the Alexander von Humboldt Foundation in Germany offers 100,000 DKK, 6000 € and 3300 € per year, respectively, to use towards childcare. For (female) ECRs, the L'Oréal-UNESCO for Women in Science annually awards 5 Fellowships (£/€ 15,000) to provide flexibility (lab assistance to reduce working hours) and practical support (daily childcare costs) to the fellows over one year. Awards from national funding agencies offer support to varying degrees: the US National Science Foundation allows charging daycare facilities through indirect costs when approved by the awardee institution; Nordic countries, Germany and the UK include

limited childcare support in most grants (typically under £500); while grants from other countries like Spain, Switzerland and France offer no support.

Opportunities to apply for additional ad hoc childcare support are also very limited. Furthermore, institutional guidelines can limit the amount of childcare that can be charged to a grant to an amount equal to just one conference per year. These further limit researchers' abilities to travel, network, and present their own research. Importantly for field-going scientists, this can result in an undue financial or emotional burden during fieldwork.

Recommendations

Accomplished researchers with children may decide that the challenges and compromises when balancing family and research are too great, which could lead to them leaving academia (the so-called 'leaky pipeline') or engaging less with international travel for conferences, fieldwork or collaborative visits to other institutions. This negatively impacts academia as a whole, leading to less diversity and collaboration, which both funding agencies and researcher institutions should find concerning. A key need from funders is increased financial support for childcare during academic travel and field research, generally in excess of what is currently available. Affordable and convenient daily childcare (nursery and after school support) is also a general need for researchers, and increased flexibility in childcare provision from institutions and funding-bodies would also be highly beneficial. For this, we suggest that grant applications include a "need for additional childcare" statement. This document should only be considered by the funding body for successful applications. It should not be shared with the reviewers or funding panel, as it could bias evaluations. Research grant-funding bodies need to also consider how better to support the career development of PIs and researchers on time-limited posts (such as postdocs or research fellows). This should include extending project funding to cover periods of parental leave. Grants should not be withdrawn due to the need for extensions, even if this means that grants extend into a new financial year and cause administrative difficulties, as this explicitly discriminates against women.

Additional steps can also improve equality and accessibility for researchers with children. For example, family home life and a preference to not move due to caring responsibilities should be taken into account when considering why an early-career candidate may wish to remain at an institution for a research

fellowship. When evaluating applications, grant-funding bodies should carefully consider that the ‘opportunity cost’ of career breaks and part-time positions may far exceed the time of actual parental leave taken, and thus offer extra time allowances beyond the immediate period of parental leave. Conference organizers could facilitate on-site childcare (or expand their current resources) and plan conferences to take place during the school term when childcare can be easier and cheaper to arrange.

The availability of childcare and childcare funding is critical in academic success, and funders must develop policies and structures that recognise these challenges and explicitly counter them, in order to promote the best science and the brightest talent. The recommendations offered here will not fully tackle the career and financial cost of childcare, especially as felt by ECRs and field-going scientists. However, they will provide notable steps towards making academic life less stressful for scientists who are parents, ultimately facilitating more equal access and success for researchers

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