REVIEW OF IRISH RESEARCH COUNCIL GENDER STRATEGY AND ACTION PLAN

Review by
Ortus Economic Research
and **Loughborough University**

IRISH RESEARCH COUNCIL
An Chomhairle um Thaighde in Éirinn

Loughborough University

ortus ECONOMIC RESEARCH

Contents

Executive Summary

In 2013, the Irish Research Council (IRC) published its Gender Strategy and Action Plan, a key response to issues related to gender equality. It focused on two main issues: addressing gender equality in research careers, and promoting the inclusion of the sex/gender dimension in research. In 2020, the final year of the current Gender Strategy and Action Plan, the IRC commissioned this review, the objectives or which are: to evaluate the progress made under the current Gender Strategy and Action Plan, to identify areas that require consideration in developing a new Gender Strategy, and to highlight recommendations to ensure the IRC continues to be a leader in addressing gender inequality in research in Ireland.

The review drew on internal IRC data on applications and awards, anonymised samples of applications and content related to the sex/gender dimension, surveys with Irish researchers and international reviewers, focus groups with IRC staff and stakeholders and relevant literature.

Gender Equality in Research Careers

Internal IRC data on applications indicates that it is very successfully providing access to funding for both women and men. In many cases, the application rates for women exceed those for men. There has been some year-on-year fluctuation but across all awards, the proportion of applications received from women has hovered around 50% between 2013 and 2019. The proportion of awards going to women has also been growing steadily between 2014 (47%) and 2019 (54%).

The analysis reveals two ongoing challenges, however. First, the proportion of applications from women at the postdoctoral level has declined steadily from 50% in 2012 to 42% in 2019. Second, a review of the Laureate[1] award found that the proportion of applications from women declines by career stage[2].

The study has identified ongoing challenges that drive inequality, and the IRC is committed to addressing these in any future gender strategy. These include:

- The impact of maternity/parental/adoption leave on research careers, particularly for PhD students who lack employed status and therefore cannot access statutory benefits.

- The need for flexibility in research awards to account for interruptions in research project delivery (due to parental leave, caring responsibilities and other non-gender issues such as illness).

- Developing a funding approach which recognises the non-linear nature of research careers, particularly for women. Targeting of specific groups and changes to how funding calls are designed and administered were seen to be important.

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[1] Technopolis, *Pre-award Process Review of the IRC Laureate Award*, November 2020.

[2] This review has not investigated whether this is generally the case across PI-led awards.

Sex/Gender Dimension in Research

The evidence collected by this review indicates an improvement in the awareness and consideration of the sex/gender dimension within research funding applications, evidenced by the fact that the proportion of applications which provide a full response to relevant questions has increased significantly since the implementation of the Gender Strategy and Action Plan. The evidence also suggests a tentative link between the recognition of the sex/gender dimension in research and success.

While there is evidence that awareness of the sex/gender dimension among applicants has grown in last five years, this is not uniform across subject areas (least progress has been made in Physical Sciences and Engineering) and the pace of progress in understanding and integrating the sex/gender dimension is different between Universities and Institutes of Technology.

There is also evidence of ongoing confusion both within the Irish researcher and broader reviewer communities in relation to the sex/gender dimension, which suggests that further and work is required to ensure that this issue is fully and correctly recognised and considered within IRC funded research. It is also important to recognise that the sex and gender dimension in research is a constantly evolving and complex topic. Further work by the IRC to provide clarity, guidance and training, attuned to different subject areas, is to be encouraged. Such work could be supported by an advisory group or similar, to ensure that suitable expertise from across the relevant disciplines is informing developments in this field.

Gender Proofing

The IRC introduced a process to 'blind' applications and the assessment process to gender in 2014. IRC staff and stakeholders believe that this has made a considerable contribution to an increase in the award rate for women since that date. Survey evidence found that a very large majority of applicants are in favour of gender-blind assessment (83%). There is also encouraging evidence within the reviewer community that assessment processes have improved, with 78% indicating their belief that assessments have become more gender blind in the last five years. Future work to ensure that gender is not indirectly revealed during the assessment process (through, for example, additional requested materials such as CVs, gendered pronouns in references) is to be encouraged.

The IRC has also been successful in creating a better gender balance in its assessment panels: the proportion of panel members who were female has risen steadily from 38% in 2013 to 44% in 2019 (having reached a peak of 49% in 2017). There remain a number of important challenges, however, such as a comparatively small proportion of female panel members for STEM subjects (particularly within Physical Sciences and Engineering) and this is particularly acute for later stage PI-led awards such as Laureate Advanced.

Recommendations

To support the work of the IRC in refreshing its gender strategy, this study has identified fourteen recommendations in response to the ongoing and emerging challenges identified in this report. These are set out in the panel below.

Summary of Recommendations

Recommendation 1: The falling proportion of applications from women for postdoctoral awards should be further investigated and monitored.

Recommendation 2: Monitor and track application and award data broken down into AHSS and STEM closely to identify any disparities, which should then be further investigated recognising that different subject areas tend to have different obstructions to equality.

Recommendation 3: Look to enhance the IRC offer around mid (and potentially also later-stage research careers), particularly in AHSS subject areas where fewer other funders operate in Ireland.

Recommendation 4: Review all IRC awards to ensure that they are designed in ways which support applicants who have not been able to prioritise their research for any reason (e.g. maternity, illness, taking on other responsibilities in their institution such as pastoral care). Consider how awards might be designed to support all points of entry and re-entry into research to ensure that it allows for those taking non-linear routes through their research career.

Recommendation 5: Develop a clear strategy for mid- and late-career awards. Decide precisely who they are targeted at, which career-related challenges are they designed to recognise and overcome (e.g. non-linear research careers) and how each award contributes to equality and diversity.

Recommendation 6: In recognition that the IRC seeks to reach beyond gender when addressing equality and diversity challenges, consideration should be given of how to evolve the IRC strategy to capture broader diversity and intersectionality issues. The IRC should review what data and evidence is needed related to other diversity characteristics and what can currently be evidenced from existing IRC data, and how this evidence might drive a wider equality and diversity strategy.

Recommendation 7: Find ways to provide financial support for postgraduate students during maternity or other leave, as well as using position as funder to encourage universities to be flexible in maternity or other leave periods for research students, rather than requiring alignment with academic terms.

Recommendation 8: Work with Irish Government, other higher education funders and higher education institutions in Ireland to roll out an approach which enhances flexibility in research funding and timetables in order to reduce disadvantage experienced by those who take (voluntary or involuntary) breaks.

Recommendation 9: Convene an advisory group to develop the IRC training, guidance and application requirements in relation to sex/gender dimension.

Recommendation 10: Broaden out the range of examples available to researchers when considering the sex/gender dimension in their research applications.

Recommendation 11: Forms for applicants and reviewers should be revised to improve clarity around how to engage with discussion and evaluation of the sex/gender dimension.[3]

Recommendation 12: To support the applicant, consider the development of a range of additional training or guidance materials.

Recommendation 13: Continue to refine gender-proofing policies and practices to overcome ongoing risks of indirect gender identification.

Recommendation 14: Redouble efforts to recruit female panel members in STEM subjects and for later-stage awards.

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[3] Note – additional sub-recommendations are provided in the main body of the report in relation to Recommendation 11 and Recommendation 12.

1 Introduction

In June 2020, the IRC commissioned Ortus Economic Research and Loughborough University to carry out a review of the IRC Gender Strategy and Action Plan.

The IRC is an associated agency of the Department of Further and Higher Education, Research, Innovation and Science and is under the aegis of the Higher Education Authority (HEA). The IRC's mission is to create and to sustain excellence within, and balance across, the Irish research ecosystem. The IRC supports exceptional researchers in developing their research ideas throughout all career stages, ensuring that their potential is fully realised so that Ireland can reap the full benefit of those ideas and innovations. The IRC fosters and invests in a range of partnerships, both nationally and internationally, to enable the development and transfer of knowledge that underpins social, economic and cultural progress, and to connect researchers and expertise with the wider community.

The IRC was the first research agency in Ireland to publish a Gender Strategy[4] in 2013. The Strategy has two aims:

1   To support gender equality in research careers across all disciplines.

2   To support the integration of the sex/gender dimension in research content.

The IRC's Gender Strategy aims to provide equal outcomes to both men and women so that Ireland can attract and retain the most talented, creative and innovative researchers thereby maximising its collective research intelligence.

Since 2013, the IRC has undertaken four main actions in pursuance of the Gender Strategy objectives. These are:

1   Gender-proofing of assessment processes for evaluation so as to mitigate any gender bias in the assessment of excellence, whether conscious or unconscious.

2   Integration of the sex/gender dimension in research proposals, requiring applicants to indicate if there is such a dimension to their proposed research and how it will be addressed in the conduct of the research.

3   Collaboration with other Irish research funding agencies, including making Athena SWAN accreditation a requirement of funding.

4   Involvement in the European programmes GENDER-NET and GENDER-NET Plus, in the case of the latter co-funding seven transnational research projects focusing on gender equality across a range of disciplines.

As the Gender Strategy and Action Plan was nearing the end of its timeframe (2020), a review of the Gender Strategy and Action Plan was commissioned by the IRC to assess the impact of these gender-related policies and practices to date.

The purpose of this review is therefore to evaluate success of the current Gender Strategy and Action Plan, to identify areas that require consideration in developing a new Gender Strategy, and to detail actions required to ensure the IRC continues to be a leader in addressing gender inequality in research in Ireland.

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[4]   See: research.ie/assets/uploads/2016/06/final-_progress_report_on_gender.pdf.

2 Methodology

The methodology followed for the review consisted of five strands:

1   Analysis of secondary data related to awards, provided by the IRC and drawn from other funders such as UKRI.

2   Analysis of a range of data drawn from samples of IRC grant applications to examine responses related to the inclusion of the sex/gender dimension in research proposals.

3   Online surveys with researchers and reviewers to gather evidence in relation to gender inclusion and the sex/gender dimension in research. Further details of the survey methodology are provided below.

4   Consultation with IRC staff and stakeholders (in remote workshop format) to gather evidence of experience and impact of the Gender Strategy and Action Plan and to identify current and ongoing issues that a future strategy should seek to address.

5   Desk review of relevant research literature and publications related to initiatives that have been implemented to address similar issues in relation to gender diversity and the inclusion of the sex/gender dimension in research.

2.1 Survey Methodology

Three online survey instruments were designed in order to gather evidence from researchers, reviewers and Equality, Diversity & Inclusion (EDI) representatives from higher education and research institutes. Invitations to respond to the surveys were distributed by the IRC to previous applicants (successful and unsuccessful) to IRC funding programmes, to IRC reviewers, and to the IRC's EDI contacts. The researcher and reviewer surveys ran from mid November to mid December 2020; the survey of EDI representatives was extended to late December.

Participation in the survey was voluntary. Table 1 shows the number of responses to the researcher and reviewer surveys, and a breakdown by gender and discipline. Despite efforts to attract responses to the survey of EDI representatives, very few responses were received and analysis is not included in this report. The number of EDI representatives in higher education and research institutes at whom this survey was targeted is, of course, small.

Table 1: **Survey response rates.**

	Researcher Survey	Reviewer Survey
Number of responses	254	185
Female (including transgender women)	66%	32%
Male (including transgender men)	31%	67%
Other / prefer not to say	3%	1%
Total	100%	100%
Arts, Humanities and Social Sciences	48%	51%
Physical Sciences and Engineering	26%	24%
Biological and Medical Sciences	25%	22%
Other / multidisciplinary	1%	4%
Total	100%	100%

We use the terms 'male' and 'female' throughout this report, reflecting their use by the IRC at the time we conducted our review. Survey respondents were asked to self-identify using the categories in Table 1. While this review was being completed, the IRC adopted a new classification using the terms 'woman', 'man', 'gender non-binary', 'other' and 'prefer not to say'[5].

For each survey, the small number of respondents who identified as non-binary, or who preferred not to say, have not been included in the quantitative analysis as to do so would create a disclosure risk. However, qualitative insights provided by this group have been integrated into other sections of the report. Given the growing number of people who identify as non-binary, it will be important for the IRC to continue to monitor application and success rates to ensure equality of opportunity.

Similarly, the small number of respondents who worked across disciplines are excluded from subsequent analysis by discipline. More details of respondents to the researcher and reviewer surveys can be found in the Appendix (sections 7.7.1 and 7.8.1 respectively).

Copies of the questionnaires used in the researcher and reviewer surveys are available on request.

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[5] See: https://research.ie/what-we-do/loveirishresearch/blog/the-irish-research-council-expands-its-gender-categories-to-be-more-inclusive/.

# 3 Supporting Gender Equality in Research Careers

The first objective of the IRC Gender Strategy and Action Plan is focused on supporting gender inclusion in Irish research careers. The Gender Strategy includes a commitment by the IRC to "encourage and implement initiatives which promote equality between women and men at all stages of the researcher career." The initiatives in this strategic objective include supporting national initiatives, raising awareness of the IRC's Gender Strategy, showcasing IRC success stories, investigating and implementing targeted initiatives to support awardees in under-represented research areas, and partnering with other organisations through Gender-NET and Gender-Net Plus.

In this section, evidence gathered from the research community and the literature is presented to support an assessment of the progress made by the IRC through these initiatives. The section commences with an analysis of the IRC's performance in awards and applications across different award categories and career stages. It then reviews evidence of perceptions of ongoing gender imbalances and inequalities among the research community and concludes with a brief review of the IRC's engagement with the Gender-NET Plus partnership.

3.1 Irish Research Council Awards by Gender

This section examines data on IRC awards by gender since 2009. The IRC's Gender Strategy and Action Plan covers the period 2013 to 2020. Earlier data is included for completeness.

Figure 1: **Proportion of all IRC applications and awards that are from/to women.**
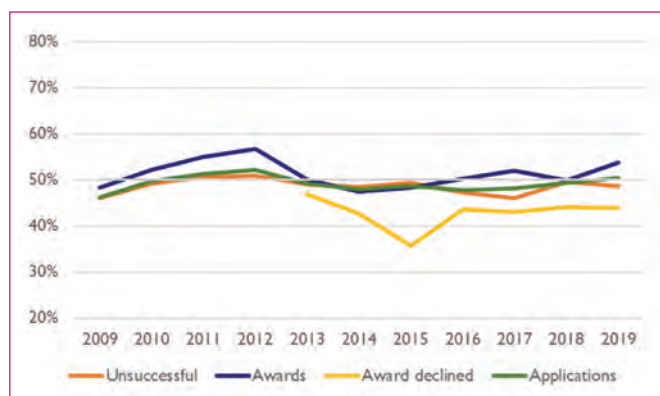
Source: Irish Research Council. Note that applicants were able to specify 'male' or 'female' genders until 2016, since when an 'other' option has been available.

Figure 1 suggests that, when data is aggregated for all IRC funding programmes[6], there is no indication of a notable or ongoing lack of parity in the proportion of all applications submitted by men and women, or in the proportion of all unsuccessful applications or awards made by gender.

- Across all IRC funding programmes, 50% of applications in 2019 were from women. The lowest proportion of applications from women was 46% in 2009; the highest proportion was 52% in 2012.

- 49% of unsuccessful applications (across all funding programmes) in 2019 were made by women. The lowest proportion of unsuccessful applications from women was 46% in 2009 and again in 2017; the highest proportion from women was 51% in 2011 and 2012.

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[6] A list of IRC funding programmes can be found in the Appendix (section 7.1). All listed programmes are included in the analysis in Figure 1.

- 54% of awards made in 2019 were to women. This was the highest proportion of awards that were made to women since 2012 (57%). The lowest proportion of awards to women was 47% in 2014.

- The number of awards that are declined tends to be small (in some years, very small), so proportions by gender vary more. In 2019, 44% of awards declined had been offered to women. The proportion of awards declined that had been offered to women has been below 50% since 2013[7]; it was lowest in 2015 (36%). In other words, men have accounted for a higher proportion of awards declined over this period than women.

3.1.1 Applications by Gender and Career Stage

Figure 2 shows the proportion of applications that were from women, by career stage. Since 2013, around half of applications to postgraduate awards have been from women. There was a slight upturn in 2019, to 54% of applications. This reflects trends in applications to the Government of Ireland Postgraduate Scholarship (see section 3.1.2), as well as the Enterprise Partnership Scheme Postgraduate Scholarship and Employment Based Programme Postgraduate Scholarship. The proportion of applications coming from women was higher in 2019 than at any time since 2014 in all three schemes.

However, the proportion of applications to postdoctorate awards that come from women is slightly lower than half, falling from 50% in 2012 to 43% in 2019. This reflects the picture of applications to the Governnment of Ireland Postdoctoral Fellowship scheme (see section 3.1.3), though it is notable that the Enterprise Partnership Scheme Postdoctoral Fellowship and the MarieSkłodowska-Curie Actions COFUND Collaborative Research Fellowships for a Responsive and Innovative Europe (CAROLINE) scheme saw an upturn in the proportion of applications coming from women in 2019 compared with previous years.

The proportion of applications to later career stage awards that are from women fluctuates. This appears to be a statistical effect, reflecting the number of applications to PI-led awards schemes.

Figure 2: **Proportion of applications that were from women by career stage.**
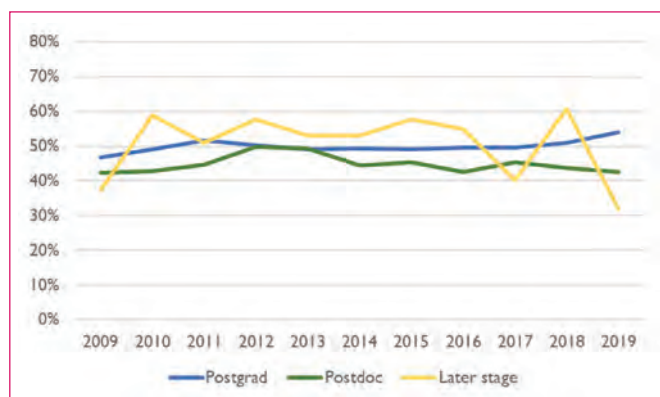
Source: Irish Research Council. Whilst awards data is available for 2013 and 2014, applications data is not available.

Figure 3 shows the proportion of awards that were made to women, by early career stage[8]. Generally, these proportions reflect the share of applications that were made by women. Since 2012, around half of all postgraduate funding awards have been made to women. Again, there was an upturn in 2019, to 58% of awards. Reflecting applications, the proportion of awards made to women was higher in 2019 than at any time since 2014 in all three postgraduate funding schemes.

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7   Earlier data is not shown due to the small number of awards declined between 2009 and 2012.

8   The proportion of later career stage awards that have been made to women is discussed in section 3.1.4.

Slightly fewer than half of all postdoctorate awards have been made to women since 2013. The proportion has remained at 45% of awards since 2015. Again, this reflects the proportion of Governnment of Ireland Postdoctoral Fellowship awards made to women, which was lower in 2019 than at any time since 2013 (see section 3.1.3). Schemes such as the Enterprise Partnership Scheme Postdoctoral Fellowship and CAROLINE, meanwhile, saw the highest proportion of awards go to women in their history.

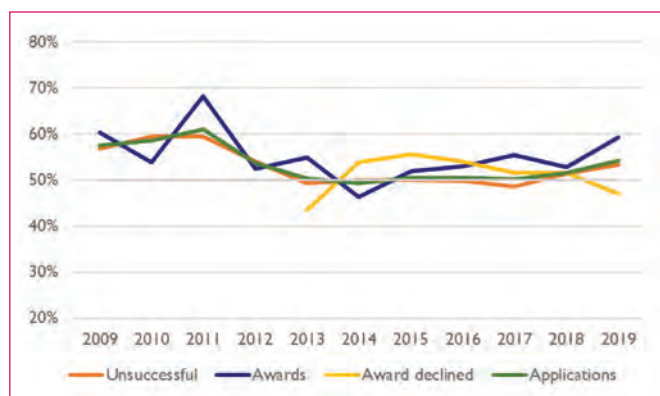Figure 3: **Proportion of awards that were to women by early career stage.**
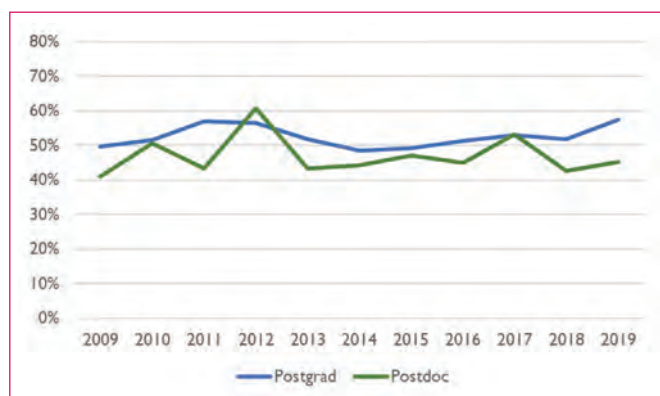
Source: Irish Research Council.

3.1.2 Government of Ireland Postgraduate Scholarship (GOIPG)

Figure 4 shows the proportion of women applying for and being awarded funding from the GOIPG scheme.

Figure 4: **Proportion of GOIPG applications and awards that are from/to women.**
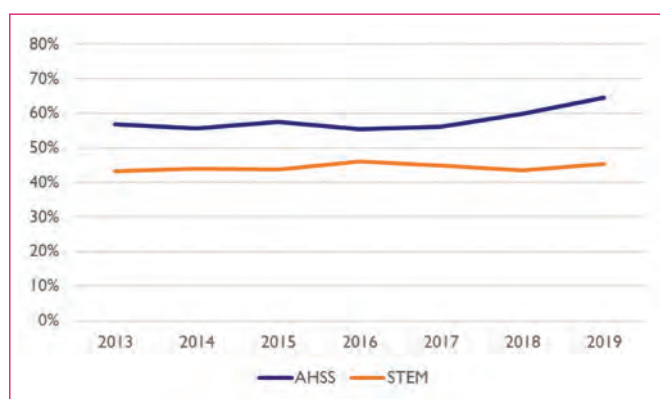

Source: Irish Research Council.

It shows that women are well represented both in terms of applications and awards, as the proportion of applications from women and awards to women largely track each other and are generally above 50% (significantly so in some years in terms of awards). 54% of GOIPG applications in 2019 were from women, and 59% of GOIPG awards made in 2019 were to women. These were the highest proportions since 2013.

Figure 5 shows that the proportion of GOIPG applications that are from women is higher in Arts, Humanities and Social Sciences (AHSS) disciplines than Science, Technology, Engineering and Mathematics (STEM) disciplines. Of course, this reflects gender diversity within the research community, and the relative under-representation of women in STEM subjects compared with AHSS. The subject gap has widened since 2016, primarily because the proportion of applications that are from women has risen more notably in AHSS disciplines during this period. In 2019, 65% of applications in AHSS disciplines were from women, compared with 45% of applications in STEM disciplines.
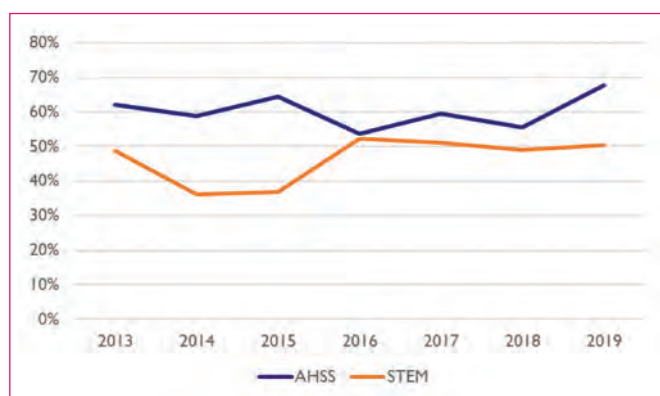
Figure 5: **Proportion of GOIPG applications that are from women, by subject.**

Source: Irish Research Council.

Figure 6 shows that the proportion of GOIPG awards made to women has also tended to be higher in AHSS disciplines than in STEM disciplines, though the gap narrowed in 2016. Since then, the subject gap has widened again, as the proportion of awards that are made to women in AHSS disciplines has risen to previous levels.

Figure 6: **Proportion of GOIPG awards that are to women, by subject.**

Source: Irish Research Council.

Figure 6 shows that 68% of awards in AHSS disciplines were made to women in 2019, compared with 50% of awards in STEM disciplines. Notably, while the proportion of STEM applications that are from women is below 50% each year, the proportion of STEM awards made to women has been around 50% since 2016. Success rates have been higher for female researchers compared with male researchers during this period (see the Appendix, section 7.6.1).

3.1.3 Governnment of Ireland Postdoctoral Fellowship (GOIPD)

Figure 7 shows the proportion of women applying for and being awarded funding from the GOIPD scheme. Until 2013, when the IRC Gender Strategy and Action Plan was introduced, the proportion of awards being given to women was erratic from one year to the next, then settled to around or above the proportion of applications from women. However, since 2014, the proportion of applications coming from women has declined and has remained below 50%, suggesting that women have been under-represented among GOIPD applicants since then. They have also been under-represented among recipients of GOIPD awards – except in 2017, though it is not clear why this year was an exception. 42% of GOIPD applications in 2019 were from women. This is the same proportion as in 2016, and is the lowest proportion of applications that were from women since 2013. 42% of GOIPD awards made in 2019 were to women; again, this was the lowest proportion since 2013.
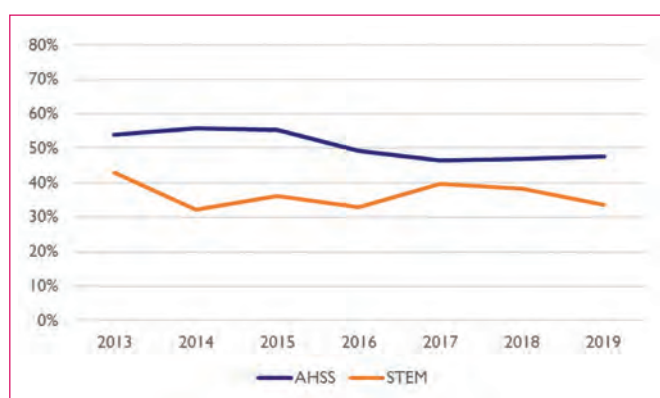
Figure 7: **Proportion of GOIPD applications and awards that are from/to women.**
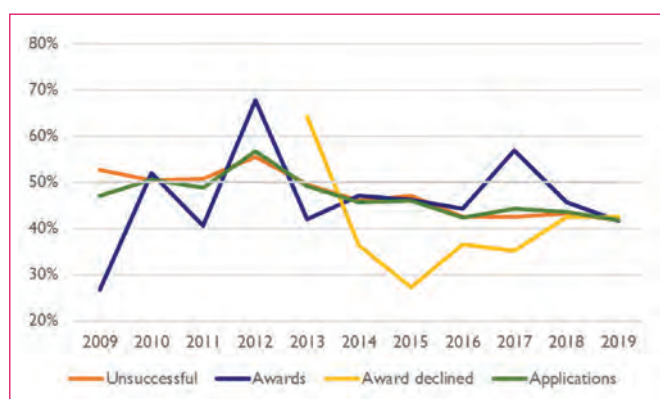
Source: Irish Research Council

Figure 8 shows that the proportion of GOIPD applications that are from women is higher in AHSS disciplines than in STEM disciplines, though both have been below 50% since 2016.

Figure 8: **Proportion of GOIPD applications that are from women, by subject.**

Source: Irish Research Council.

This subject gap is to be expected, as it reflects gender diversity among the wider research community and the relative under-representation of women in STEM subjects compared with AHSS. The gap has widened since 2017, as the proportion of applications that are from women has fallen in STEM disciplines since then. In 2019, 48% of applications in AHSS disciplines were from women, compared with 34% of applications in STEM disciplines.

Figure 9 shows that the proportion of awards made to women was broadly similar in AHSS and STEM disciplines between 2014 and 2017. Notably, the proportion of awards made to women rose above 50% in both AHSS and STEM disciplines in 2017, though the reason for this is unclear. Since then, there has been some divergence between the disciplines as the proportions of awards made to women have fluctuated. The reasons for these fluctuations are similarly unclear.

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Figure 9: **Proportion of GOIPD awards that are to women, by subject.**
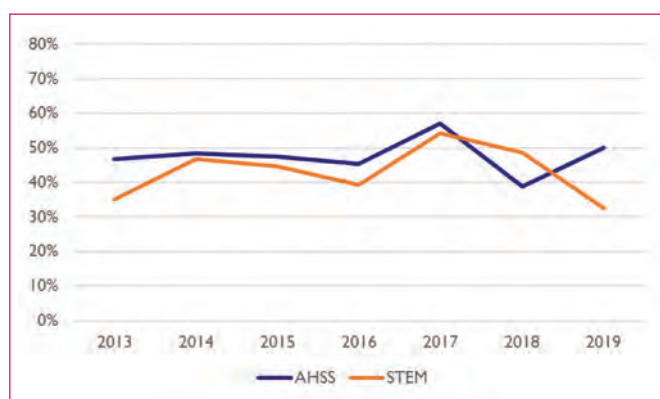
Source: Irish Research Council.

3.1.4 PI-Led Awards

The IRC has offered a number of PI-Led funding programmes since the introduction of the Gender Strategy and Action Plan. These include Research Project Grants in 2013. 53% of applications for Research Project Grants were from women, and 53% of awards were made to women (awards were made across 2013 and 2014). Subsequent PI-Led programmes include New Horizons and Research for Policy and Society in 2015 and 2016, which were combined as the COALESCE Research Fund in 2018. Analysis of the underlying data shows that 61% of applications to the COALESCE Research Fund in 2018 were made by women. This was a slightly higher proportion than applications to its predecesor schemes (58% in 2015 and 55% in 2016). 54% of COALESCE awards in 2018 were made to women, a similar proportion to its predecessor schemes in 2016 (55%) and higher than in 2015 (43%).

PI-Led awards also include the Laureate Programme in 2017 and 2019. The 2017 programme included two types of award, Starting and Consolidator. A total of 258 applications were received. The 2019 programme offered an Advanced award, for which 140 applications were received. A review of the Laureate award programme[9] concluded that 36% of applicants for any Laureate award were female, while 35% of awardees were female. The report concludes that "at the level of individual Laureate award types, there are… no significant difference in gender ratio between applicants and awardees". The report also indicates, however, that the proportion of applications received from women declines by career stage, with the Starting award attracting 41% of applications from women, the Consolidator attracting 39% from women and the Advanced attracting 29% from women. This apparent gender imbalance closely reflects the gender distribution of the overall research system in Ireland.

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[9] Technopolis, *Pre-award Process Review of the IRC Laureate Award*, November 2020.

3.2 Perceptions of Gender Equality within the Irish Research Community

3.2.1 Gender Imbalances in Research

According to the European Commission[10], the overall ratio of female to male researchers in Ireland is 35:65, with women even less well represented in the most senior researcher positions. 67% of respondents to the researcher survey thought there was a gender imbalance in their field of research: 59% thought there was an imbalance in favour of men, and 8% thought there was an imbalance in favour of women. 19% of respondents thought there was no gender imbalance; the remaining 14% were unsure.

Figure 10: **Researcher survey: Proportion of respondents who thought there was a gender imbalance in their field of research.**
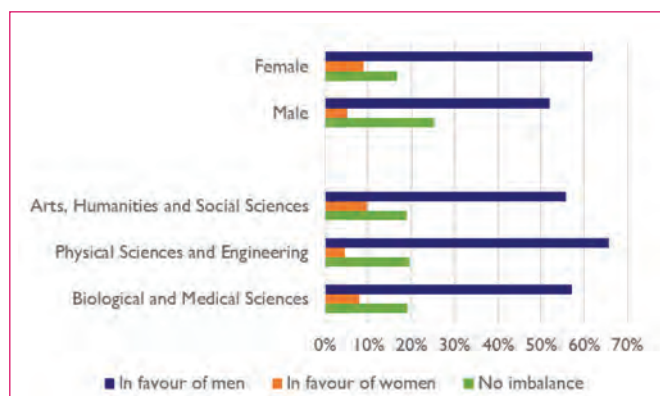
Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University).

Among those who identified a gender imbalance in their field of research, 58% said they were aware of actions being taken to address this imbalance. Women were less likely to say so than men (52% compared with 71%). Researchers in AHSS disciplines (44%) were less likely to say so than researchers in Biological and Medical Sciences (BioMed) disciplines (61%) or Physical Sciences and Engineering (PSEng) disciplines (77%). Most commonly, Athena SWAN was identified as one way in which gender imbalances were being addressed. Respondents identified various initiatives to encourage and support women in STEM disciplines.

79% of respondents surveyed said that, thinking more widely and beyond their own field, they felt that the research community has issues in relation to gender equality, compared with 9% who felt there were no issues (the remaining 12% did not know). Women were more likely than men to say they felt that there were issues with gender equality in the research community (85% compared with 67%). Researchers in AHSS disciplines (83%) or in BioMed disciplines (84%) were more likely to say they felt there were issues with gender equality than researchers in PSEng disciplines (67%).

Many respondents commented on the gender imbalance in senior positions in particular; a large number of respondents thought this led to implicit bias, with male researchers seen as greater authorities than females, and favoured more. Many respondents also commented on the relative precarity of many less senior researcher positions, which disenfranchises female researchers who have or want to start a family. Similarly, expectations of researcher mobility were also felt to disproportionately affect women.

These findings were supported by evidence drawn from the focus group sessions, where the consensus was that while progress in addressing gender inequalities in research careers was clearly being made, issues remain – particularly associated with the most senior research positions. It was also accepted that one of the causes of such an outcome was the reduced representation of women in grant awards that are aimed at later career stages and that this trend can be observed through the different stages of grants from early career onwards.

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[10] European Commission, *She Figures 2018*, March 2019.

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A large number of survey respondents suggested that blinding assessments would be one change they would make to the research funding system to improve gender equality (it should be noted that the IRC introduced gender blinding in 2014). Others suggested quotas might be appropriate (including some who thought quotas would be necessary if blinding assessments did not lead to change). Many respondents commented that the funding system needs to respond better to researchers' family lives. Some thought funding for part-time research positions should be increased. Others thought that the application process should better compensate for some researchers' career breaks. A number of respondents suggested that because gender imbalances are particularly evident at more senior levels, applications should be blind to researcher status as well as gender. Some respondents noted that inequality is not limited to gender and suggested more attention should be given to issues related to intersectionality.

3.2.2 Awareness of IRC Gender Strategy and Action Plan

Fewer than half of survey respondents (47%) said they were aware that the IRC has a Gender Strategy and Action Plan. There was no difference by gender. Researchers from AHSS disciplines (53%) were more likely to be aware of the Gender Strategy and Action Plan than researchers from BioMed disciplines (43%) or from PSEng disciplines (40%).

Similarly, 52% of respondents to the reviewer survey said they were "somewhat aware" of the 2013 IRC Gender Strategy and Action Plan, and 9% said they were "highly aware" of it. However, 39% said they were "not at all aware" of it. Female reviewers (43%) were more likely to say they were not at all aware of the Gender Strategy and Action Plan than male reviewers (37%). Reviewers from PSEng disciplines (43%) and BioMed disciplines (44%) were more likely to say they were not at all aware of the Gender Strategy and Action Plan than reviewers from AHSS disciplines (35%).

3.2.3 Supporting Gender Equality in Research Careers

The reviewer survey found that 59% of respondents had received information or training from the IRC related to the issue of supporting gender equality in research careers. Women were less likely to report having done so than men (45% compared with 64%). Reviewers from AHSS disciplines (62%) and PSEng disciplines (64%) were more likely to report having done so than those from BioMed disciplines (47%).

Among reviewers who had received information or training from the IRC, 60% said it was effective in helping them assess applications with respect to supporting gender equality in research careers, and 8% said it was very effective. 28% said it was only somewhat effective, and 4% said it was not at all effective (primarily because respondents were already familiar with the issues).

Some respondents thought the information provided by the IRC would be better delivered in a different format, such as a short video or online seminar. Some thought more specific examples should be included. Many respondents commented that although the materials relate to gender-blind evaluation of applications, the gender of applicants is often apparent in the application or accompanying letters of recommendation, and that further training is required for applicants and referees.

Reviewers were mixed in their opinions of the impact that the IRC's work related to gender equality has had on their role as an assessor. Many respondents thought the IRC's policies were examples of good practice in this area and thought attempts to make funding decisions gender blind were laudable. Many respondents felt they had a greater understanding of issues relating to gender, which they were able to better take into account when reviewing applications. Other respondents felt that the IRC's work on gender equality added nothing to their existing understanding.

Asked what the IRC could do in order to achieve the objectives of the Gender Strategy, a number of respondents thought more could be done to raise awareness of it. Some respondents thought that regularly sharing data on gender equality in IRC funding awards would be useful. Many respondents suggested researchers and especially referees should be reminded of the need for gender blindness in their funding applications, with training provided to support this as appropriate.

3.2.4 Improvements in Gender Equality

29% of respondents to the reviewer survey said they thought there had been a significant improvement in gender equality in research careers in their disciplinary area in the last five years, and a further 55% said they thought there had been some improvement; 13% of respondents thought there had been no improvement.

Women were notably less likely to think there had been a significant improvement in gender equality in research careers in their disciplinary area in the last five years than men (17% compared with 34%). While they were more likely to think there had been some improvement than men (60% compared with 53%), they were also more likely to think there had been no improvement (19% compared with 10%).

Figure 11: **Reviewer survey: whether respondents believe there have been improvements in gender equality in research careers in their disciplinary area in the last five years.**
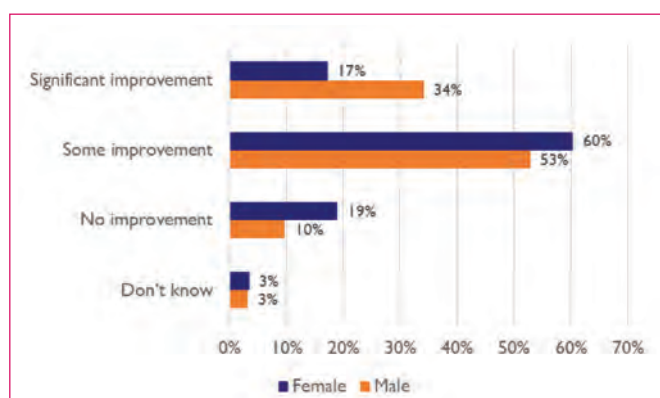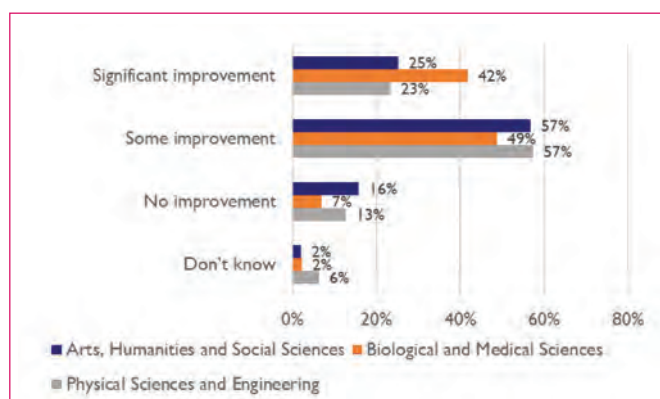

Source: IRC Reviewer Survey 2021 (Ortus Economic Research & Loughborough University).

Reviewers from BioMed disciplines were notably more likely to think there had been a significant improvement in gender equality in research careers in their disciplinary area in the last five years than reviewers from other disciplines. Although reviewers from PSEng disciplines or AHSS disciplines were more likely to think there had been some improvement, they were also more likely to think there had been no change.

Reviewers had a slightly less positive view of improvements in gender equality in research careers across all disciplinary areas, though many were unsure. Only 16% of respondents said they thought there had been a significant improvement in gender equality in research careers in all disciplinary areas in the last five years (compared with 29% who thought there had been a significant improvement in their own discipline), and a further 55% said they thought there had been some improvement. 7% of respondents thought there had been no improvement. 20% of respondents did not know (compared with 3% who did not know whether there had been an improvement in their own discipline). Of course, it should be borne in mind that all reviewers are located outside of Ireland and their attitudes may well be reflective of practices and culture within their location.

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Figure 12: **Reviewer survey: whether respondents believe there have been improvements in gender equality in research careers in their disciplinary area in the last five years.**

Source: IRC Reviewer Survey 2021 (Ortus Economic Research & Loughborough University).

The focus groups provided evidence to indicate that the Gender Strategy is producing tangible, positive results. For example, focus group attendees were able to identify examples involving individuals that have received support, in the form of research funding, over an extended period and which has had a demonstrable impact on their research careers. There was also a sense that the profile of institutions and departments has begun to change over recent years when compared to the profile from before the Gender Strategy was published. Focus group attendees expressed the view that the Gender Strategy had achieved an acceleration in the pace of change in addressing gender inequalities in research careers.

3.2.5 Barriers to Gender Equality in Research Careers

The key barriers to achieving gender equality in research careers cited by respondents to the reviewer survey often related to the uneven division of caring responsibilities (including childcare and elder care) by gender, and the negative impacts on women's research careers. Some respondents linked this to the temporary nature of many research positions, which impacts on researchers'– particularly women researchers' – ability to manage their careers alongside family life.

Some respondents commented that this is a wider societal issue, and not related solely to research. Nevertheless, respondents felt that gender equality in childcare support would improve gender equality in career opportunities in research. Improved support for care-givers (including support for women returning to their careers after maternity leave), and increased availability of childcare provision were felt to be needed. Respondents also suggested that parental leave should be factored into assessments of funding applications, promotion decisions, etc.

As well as caring responsibilities, respondents also commented on how the division of academic work negatively affects women's research careers. There was a perception among respondents that the responsibilities of roles such as pastoral care fall unevenly on women but are overlooked on assessment of funding applications in favour of metrics such as research income or papers.

The issue of maternity leave was seen as a significant challenge and of concern in the focus group discussions. A key point raised was that students were particularly impacted as they are not employees and are therefore not eligible for statutory maternity support. IRC funding that focuses on early career researchers should consider the impact that taking periods of leave would have on recipients and look at ways in which this can be addressed. The view on current arrangements, that allow a scholarship or a grant to be paused while someone is on leave, is that while it is cost neutral to the IRC it does leave the recipient in limbo. A suggestion was made to provide payment to a recipient while they are on leave and to help them get back up and running after the leave. Another maternity related issue raised was the issue of semesters and fees for students taking leave (including maternity or sick leave). The view was that there needs to be flexibility around this as leave very rarely coincides neatly with semesters.

The focus group discussion also revealed that staff also experience issues around maternity leave regarding difficulties relating to funding for projects and eligibility for maternity leave.

The role of funders was seen as key to pushing for support for those taking leave as they have the money and therefore the power to influence. At the time of conducting the research for this report, it was noted that SFI and the HRB have implemented policies in respect of provisions for maternity and parental leave and it focus group participants were keen to see the IRC follow suit. For example, SFI allows its award holders to "apply for a supplemental discretionary allowance to support their SFI funded award when either a Principal Investigator (PI) or a team member funded on an SFI award takes a period of maternity or adoptive leave"[11]. By way of further example, for post-graduate students or employees who do not qualify for maternity, paternity and adoptive leave or for paid sick leave because they do not satisfy the Pay-related social insurance (PRSI) contribution conditions, the HRB will provide the salary or stipend amount for the duration of the statutory entitlement[12]. Since the research was completed, the IRC has introduced a significantly expanded policy[13], addressing more categories of leave (e.g. adoptive) and which incorporates postgraduate research students.

Some respondents pointed to the entrenched hierarchical structures which are dominated by men in some disciplines, and a relative lack of good female role models (though some respondents noted that rather than gender, the lack of role models was more acute in relation to other protected characteristics such as ethnicity and disability). Respondents commented that this was reflected in gender imbalances in undergraduate cohorts, and even in choices and attitudes in the school system, which perpetuate the imbalance in research careers. This imbalance is also believed to perpetuate implicit biases: for example, if a field is male-dominated, peer review is inevitably dominated by men; work cultures which have been driven in the past by a lack of inclusivity in terms of what behaviours are rewarded, are perpetuated.

Many respondents said that unconscious biases, and lack of acceptance of unconscious biases, were key barriers to achieving gender equality in research careers. Uneven attitudes to gender equality internationally were also identified as a barrier, with some respondents noting that leading researchers from some countries which have taken very little action to address gender inequalities can have a disproportionate influence on publication, funding, and careers in some disciplines. In addition, there was perceived to be a lack of recognition of issues relating to gender inequality in many institutions, and sometimes a resistance to formalising EDI procedures when respondents felt this was necessary to effect change.

Some respondents identified time as a key barrier to achieving gender equality in research careers. Turnover is perceived to be very slow, especially at senior levels, meaning opportunities for promotion are limited and career trajectories are long. In turn, this means change is slow.

An important point emerging from the focus groups was that the IRC should consider how it can address other issues which lead to inequality or disadvantage within Irish research careers when refreshing its Strategy. For example, the case can be made for enabling a more flexible approach to funding so that individuals who face other challenges (such as mental or physical health issues) during their funding period can be supported to complete their research. This was considered to be particularly important in the wake of the Covid-19 crisis and its impact on the research community.

Other gender-related issues identified by the focus group discussions include addressing issues related to networking. Within the PhD community, for example, focus group attendees commented that women often feel less confident talking in groups and attending meetings alone, which can impact their ability to network and form connections. It was suggested that the IRC might consider organising or sponsoring networking opportunities for women, potentially at a national level.

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[11] See https://www.sfi.ie/funding/sfi-policies-and-guidance/gender/.

[12] See https://www.hrb.ie/funding/funding-schemes/before-you-apply/all-grant-policies/payment-of-social-benefits/.

[13] https://research.ie/assets/uploads/2017/05/IRC-Policy-on-Leave-for-Parents-and-Carers_Nov2021.pdf.

3.2.6 Changing the Research Funding System to Improve Gender Equality in Research Careers

An important contextual consideration with respect to adjusting the funding system relates to the "Matthew effect" (i.e. success breeds success). The literature[14] identifies that within research funding, this influences the decisions of both the funders and applicants. Funders were seen to evaluate applicants who have previously been awarded funding more positively than those who have not been awarded funding. Applicants who had previous success in winning funding were more likely to apply again than those who had been unsuccessful. In order to address these impacts, the research suggests that funders should consider removing information on previous awards and success when applications are evaluated. Another solution proposed is to investigate whether providing smaller awards to more researchers would have an impact on these levels of inequality.

A small number of respondents to the reviewer survey thought that there was little the research funding system can do to improve gender equality in research careers – or little it can do in isolation – because gender inequalities are a wider systemic, societal issue. In particular, some respondents thought that efforts to improve gender equality needed to start much earlier, to address the gender-biased attitudes towards certain disciplines that become entrenched early in life.

Many reviewers, on the other hand, had suggestions as to how the funding system might help improve gender equality in research careers. There was some support for quotas. Some respondents favoured setting a minimum percentage of each gender to be shortlisted for funding (or perhaps, for certain funding programmes), or awarded funding. Some respondents thought that quotas should extend to the make-up of review panels. Some respondents thought that in very competitive funding programmes, where it is impossible to distinguish between applications on merit, then gender quotas might be used to decide awards.

There was wider support for targeted funding, though opinions varied on where it should be targeted. A few respondents thought that a portion of funding should generally be reserved for under-represented genders. Others thought this approach should be applied at specific career points, targeting mid-career or post-doctorate female researchers and in particular those who are starting families.

There is evidence from the literature review[15] that while the use of earmarked funds for women has been successful in addressing some of the challenges in the research funding process, it can be a controversial measure (discriminatory against men and labelling women as needing special treatment) and must be managed carefully through visible and transparent communication.

For some survey respondents, this meant changing the nature of funding to better support part-time research, and/or increasing funding flexibility to allow for career breaks, including funding research positions for longer. A few respondents recognised that, given the same total amount of funding, this might mean fewer positions would be available but were still supportive of the idea. Many respondents were in favour of funding that allowed for better maternity provision, or more broadly for funding which allowed for economic support during leave of absence. One respondent suggested that institutions should be compelled to offer the same parenting support options to parents regardless of gender, presumably because this would lead to shared leave and equal impacts on research productivity (and ultimately, to equality of assessment criteria). Other respondents proposed specific funding provision for returning women, including funding targeted not only at women at particular career stages, but more specifically post-pregnancy funding programmes to enable those who have started families to return to their research careers more easily. The literature review found evidence of success in measures taken to counteract the 'motherhood penalty' in research funding[16]. These measures included post award management of research grants with measures such as expanding the eligibility window, funding for replacements, flexible work time allowing grant holders to reduce their working hours or pause for a period of time and mobility grants without restrictions on spending such as childcare.

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[14] See, for example: T Bol, M de Vaan, A van de Rijt, *The Matthew effect in science funding*, Proceedings of the National Academy of Sciences, 2018.

[15] Faber S.T., Pristed Nielsen H., Gemzøe A.S. *Gender Balance Initiatives in Research Funding Barriers and Possible Measures to Increase the Share of Women within Natural Science and Technology*, The VILLUM Foundation (2019).

[16] Faber S.T., Pristed Nielsen H., Gemzøe A.S., op. cit.

Many survey respondents felt that funding decisions should make better allowance for career breaks for parenthood and caring responsibilities. Respondents recognised that slower research output does not imply lower quality research. Respondents suggested that this meant changing the metrics by which funding applications are assessed, so that more weighting is placed on a good scientific proposal than on the track record of the researcher. The literature found evidence that suggests women are more disadvantaged by metrics that focus on the researcher than those that focus on the proposed research[17]. Some survey respondents noted, though, that while it was important to take account of time taken out for childcare or other caring responsibilities, this might not be compatible with gender-blind assessment.

There was wide support among survey respondents for gender blind assessment, and several suggested that this approach should be adopted more widely by other funding organisations. However, respondents suggested that gender blinding of applications needs to be improved. In particular, there were concerns about references (where gendered pronouns were reported to be common). There were also concerns about reviewers' ability to determine an applicants' gender from their published research. Respondents therefore also suggested that additional training is needed about biases when gender is known. Some respondents felt that all academics should continue to address the question of gender equality explicitly, so that awareness of the issues and actions to address them are embedded more widely.

Several survey respondents thought that mentoring should improve to encourage under-represented genders to apply for research funding. Some thought that more mentoring by senior staff of the same gender was needed. Others recognised that this meant addressing gender imbalances at senior levels.

Finally, some respondents thought that more attention should be paid to intersectionality of gender, social class, ethnicity, disability, etc.

The literature review provides some evidence[18, 19], that successful EDI interventions in the research and innovation sector tend to involve collaboration across and within organisations (by establishing internal support networks, for example) and commitment from senior management, and embed EDI awareness and initiatives into organisational culture. Less effective interventions exhibit a lack of clarity around policies or objectives and implementation, and a reliance on the 'business case' for diversity to drive change.

[17] Witteman, H.O., Hendricks, M., Straus, S., Tannenbaum, C. "*Are gender gaps due to evaluations of the applicant or the science? A natural experiment at a national funding agency*" The Lancet Volume 393, Issue 10171 (2019).

[18] Guyan K., Douglas Oloyade, F, E*quality, diversity and inclusion in research and innovation: UK review*, UKRI/AdvanceHE (2019).

[19] Moody J., Aldercotte A., *Equality, diversity and inclusion in research and innovation: International review*, UKRI/AdvanceHE (2019).

3.3 Gender-NET Plus

The IRC is one of 16 partners from 13 countries involved in the Gender-NET Plus programme, which seeks to strengthen transnational collaborations between research programme owners and managers, provide support to the promotion of gender equality through institutional change and instigate the integration of sex and gender analysis into research and funding programmes. It does this through two main strands of work: a co-funded call inviting research integrating a sex/gender dimension in addressing urgent societal challenges, and collaboration and best practice sharing.

The creation and publication of the IRC's Gender Strategy and Action Plan meant that the IRC was seen as a key partner for the Gender-NET Plus programme. The IRC has found being part of the Gender-NET Plus programme to be very beneficial. Not only has the funding call led to the involvement of Irish university partners in seven international projects, but the IRC has played an active role in delivering the programme's work packages and in sharing best practice. For example, the evaluation of the proposals submitted in the transnational call was performed by the IRC, working with the Estonian Research Council (ETAg). This meant that the IRC and ETAg were responsible for ensuring a professional, transparent and fair selection process as outlined in the call documentation. There are also examples of the IRC benefitting from the approach and practices of other Gender-NET Plus partners. For example, a number of publications have been produced, collating the practices and learnings from the 16 research funding organisations participating in Gender-NET Plus. As a result of these shared resources the IRC has called on the approach of the Canadian partner (Canadian Institutes of Health Research) in developing improved guidance for the integration of the sex/gender dimension in research for the 2021 Laureate funding call. The IRC has also made presentations to the Gender-NET Plus partners on its own policy and practice, a recent example being around gender blinding. Additional material in relation to the Gender-NET Plus programme can be found in the Appendix (section 7.2).

4 The Sex/Gender Dimension in Research

The second key objective of the IRC's Gender Strategy and Action Plan is focused on the integration of the sex/gender dimension into research. The key focus of this objective is to ensure that researchers have fully considered whether their research contains a sex/gender dimension and, if so, that they have fully integrated it into the research content. Activities falling under this objective have included requiring applications to indicate whether their research includes a potential sex/gender dimension, facilitating researchers to correctly identify and recognise whether or not there is a potential sex/gender dimension in their proposed research, to provide a range of training and guidance to researchers and assessors and to include a review of the sex/gender dimension in the ongoing monitoring and review process of funded research proposals. Furthermore, the IRC has stated the intention of sharing lessons and best practice through the Gender-NET partnership.

This section provides an analysis and review the IRC Gender Strategy as related to the promotion of the sex/gender dimension in research. In order to obtain a baseline indication of its inclusion in funding proposals prior to the introduction of the Gender Strategy, a selection of 63 applications to the GOIPD and GOIPG schemes from the year 2011/12 were analysed by an expert in gender in research. Of these, 15 were considered not to have a relevant sex/gender dimension. Of the others:

- 6% (n=3/48) included gender as a central topic of research.
- 75% (n=36/48) failed to explicitly articulate any potential sex/gender dimension at all.
- 17% (n=8/48) did so only by virtue of a specific target *author*.
- 6% (n=3/48) did so only by virtue of a specific target *population*.
- Only 2% (n=1/48) alluded to the consideration of sex or gender in the interpretation of findings.

This suggests that prior to the introduction of the strategy, the sex/gender dimension was not regularly included in discussion of research plans, and when it was, was not generally considered in depth.

Following the introduction of the IRC Gender Strategy (starting in 2013/14 for GOIPD and GOIPG applicants and in 2019/20 for Laureate applications), applicants were asked to comment on the sex/gender dimension in their proposals. Specifically, applications for GOIPD and GOIPG schemes were required both to fill in a checklist related to the sex/gender dimension (see the Appendix, section 7.5) and to write a statement of up to 500 words explaining any relevant sex/gender dimension and the way in which it would be taken into consideration in the proposed work. The IRC also provided materials to support this part of the process (see the Appendix, section 7.3). Our analysis of the impact of the Gender Strategy is based on:

1 Analysis of responses to the checklist by GOIPD and GOIPG applicants.
2 Analysis of sex/gender dimension statements from GOIPD and GOIPG applicants.
3 Analysis of relevant questions from the survey of applicants.
4 Analysis of relevant questions from the survey of reviewers.
5 Analysis of the relevant responses from focus groups.

4.1 The Sex/Gender Dimension in Research

The evidence considered indicates that consideration of the sex/gender dimension in research has improved since the introduction of the IRC Gender Strategy, though some challenges remain.

The checklist data for GOIPD and GOIPG applicants in Figure 13 shows that substantial proportions of applications include at least one sex/gender dimension checklist item. Considering the full data (see the Appendix, section 7.5), we see that applicants from BioMed disciplines were more likely to indicate the use of animals or human samples or data, whereas AHSS applicants were most likely to indicate humans as a research focus. We can also see that the proportion of applications identifying such an item is much higher among GOIPD applicants than among GOIPG applicants, which suggests an unequal awareness of these considerations at the two levels.

Figure 13: **Percent of applications selecting at least one checklist item by overall subject area.**
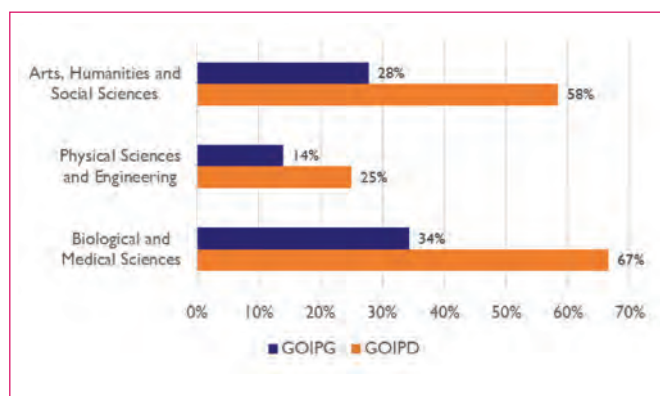
Source: Irish Research Council.

Further, analysis of the sex/gender dimension statements in GOIPD and GOIPG applications indicates that since the introduction of the IRC Gender Strategy, roughly 70–75% of eligible applications in AHSS, 35–40% in BioMed and 10–15% in PSEng indicate a relevant sex/gender dimension in their statements. This has remained fairly steady over the time period 2013/14 to 2018/19. This disciplinary trend is reflected in many places in the data, with researchers and reviewers from AHSS disciplines reporting the most relevance of sex/gender dimension, and having been most likely to have received training, while PSEng researchers and reviewers report the least relevance and training. Analysis of the resources on the sex/gender dimension available from the IRC similarly reflect differences by disciplinary area, with the emphasis on biological and social sciences, and less available guidance for humanities and physical sciences and engineering.

Analysis of the sex/gender dimension statements indicated several aspects of good practice were encouraged by the requirement on applicants to comment:

- Several in which the candidate had made a particular enquiry into relevant sex/gender dimension for the purposes of the statement. Although this did not always result in the discovery of such a dimension, there are indications from the statements that many applicants looked into this where they would not otherwise have done so.

- Several in which candidates had indicated a particular effort to investigate and consider the relevant work by women researchers and by researchers with a gender studies perspective in writing their statements.

- A substantial number of candidates committed to ensuring diverse user/focus groups in their research.

- Many applications indicated an intention to include sex/gender in analysis of data and report on results, even where this dimension was not central to the research.

- Some applications in statistics and data science included consideration of sex/gender bias in datasets.

Nonetheless, there are still comments in the statements as well as survey responses that indicate confusion about the sex/gender dimension of research, or an unwillingness to engage with it:

- Some applications seem to confuse inclusion of a sex/gender dimension with ethics considerations, for instance, claiming there is no such dimension if the human subjects are deceased.
- Some confuse sex/gender dimension with sexuality.
- Some confounded a sex/gender dimension in research with aspects of gender inclusion, for instance, the gender make-up of the research team.
- Some applications did not see a sex/gender dimension as relevant in research that was not in the particular area of gender studies or with a research focus on gender identity.
- Some applications did not identify any sex/gender dimension where it is likely one did exist, for example, in studies of corporate culture.

Persistence of confusion on the sex/gender dimension in research was flagged up also in focus groups. This suggests further work is required in educating applicants, as well as reviewers, supervisors, letter writers and the community more generally, on this topic – work that the IRC is well placed to do. The data available did not permit the evaluation of the effectiveness of existing training on the quality of inclusion of sex/gender dimension in research, but it would be useful also if plans were made to study this in the future. It is notable that there is a large difference by subject area in the extent which applicants had been exposed to this during their education, as shown in Figure 14 below. For example, more than half (52%) of students within AHSS report having been taught about the sex/gender dimension at Masters or undergraduate level, compared to 14% in PSEng and 17% in BioMed.

Figure 14: **Researcher survey: Proportion of respondents taught about aspects of sex/gender dimension in their discipline.**
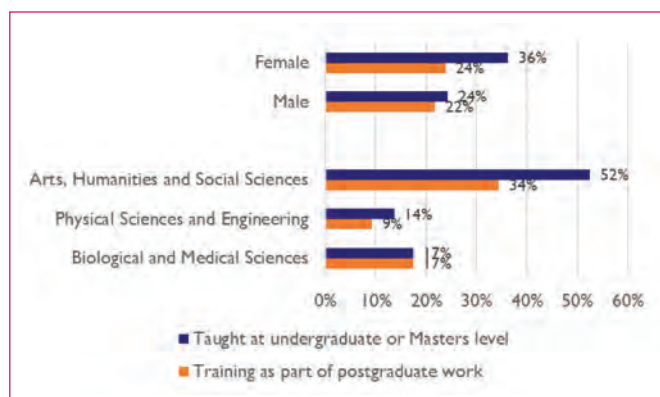
Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University).

There is evidence that good practice in inclusion of the sex/gender dimension in research is taken account of in the reviewing process. In BioMed and in AHSS disciplines over the period 2013/14 to 2018/19 there has been a higher success rate for eligible applications indicating a sex/gender dimension than for those that do not. There is not a clear trend in PSEng. The literature review highlighted the importance of identifying subject areas where there is an especially great need to strengthen the sex/gender dimension in research and innovation content and implement targeted measures with dedicated initiatives in the field[20].

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[20] Gender balance and gender perspectives in research and innovation – Policy for the Research Council of Norway 2013-2017, https://genderedinnovations.stanford.edu/Norway2014Policy.pdf.

From survey analysis, we find that among those reviewers who reported having received information or training from IRC on the sex/gender dimension, most indicated that it was effective or somewhat effective, and most reviewers responding to the survey reported that awareness of the sex/gender dimension in research had increased somewhat or substantially over the past 5 years. 35 respondents to the reviewer survey commented directly on how the IRC requirement and materials on sex/gender dimension in research had made them more aware of how to consider sex or gender in their own research. An additional 12 indicated that the information had helped them to better understand sex/gender dimension in research generally. However, most reviewers reported not having received any information or training. Some also included comments to the effect that the information and training should be increased and advertised and disseminated more widely. Similarly, among applicants, although there were several positive comments about the training material, a substantial proportion (58% in Biomed, 45% in AHSS and 54% in PSEng) did not know if the material was useful or did not recall it. This suggests that more work is needed to ensure applicants and reviewers take note of the materials available.

There is evidence from the literature review[21] on the importance of how the sex/gender concept is defined and how it fits in operationally on the effective implementation of sex/gender dimension interventions. This evidence shows that funders have seen a positive impact by requiring very specific information on the sex/gender dimension in applications, the clear inclusion of sex or gender in the application evaluation process and in the reporting of funded projects. It is also important to ensure sufficient resource allocation to these interventions with issues raised relating to unrealistic expectations for interventions given the budget available, not enough personnel and lack of ring-fenced budget.

4.2 Researchers' Understanding of the Sex/Gender Dimension

The researcher survey asked respondents what they think is meant by "the sex/gender dimension in research", offering a selection of possibilities (as listed in Table 4, Table 5 and Table 6 in the Appendix). The results indicate a range of views, varying by gender, discipline and career stage.

Analysis by discipline reveals considerable differences in understanding of the sex/gender dimension. Respondents from AHSS disciplines, for example are notably more likely to think that the sex/gender dimension means sex or gender related ethical considerations are accounted for in the research plan, or the differential impacts of research outcomes on people of different sexes or genders are considered, than respondents from PSEng or BioMed disciplines. In contrast, they are less likely to think that the sex/gender dimension means including a mix of genders in user focus groups, or research that is focused on biological differences between sexes of humans or other animals.

Analysis by researcher gender shows that around two thirds of women, but fewer men, think the sex/gender dimension means including a mix of genders in user focus groups or considering the relevance of gender to the inclusion in or exclusion of individuals from a group being studied. Smaller proportions of female respondents think the sex/gender dimension means the research will take account of writing by experts in the field from different genders, or that the work incorporates aspects of feminist theory or gender studies, but they are more likely to think so than male respondents. Men, meanwhile, are more likely than women to think the sex/gender dimension means research that is focused on biological differences between sexes of humans or other animals.

Analysis by researcher career stage shows differences in understanding of the sex/gender dimension by career stage (using the IRC funding scheme respondents have applied to as a proxy). For example, the analysis shows that respondents applying for GOIPG and GOIPG were less likely than applicants to other schemes, to correctly identify aspects of the sex/gender dimension (see Table 6, page 54). The exception was the proportion who thought the sex/gender dimension meant the work incorporates aspects of feminist theory or gender studies.

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[21] Arroyo et al (2019), *Integrating the sex/gender dimension in teaching, research content & knowledge and technology transfer: Validating the EFFORTI evaluation framework through three case studies in Europe*, Palmén.

4.3 Relevance of the Sex/Gender Dimension

Respondents to the researcher survey were also asked which parts of their own research the sex/gender dimension is relevant to. Again, the results suggest a range of views, varying by gender, discipline and career stage.

Analysis by discipline indicates respondents from PSEng disciplines generally did not think the sex/gender dimension was relevant to their research (60%), with the largest relevance (identified by 20%) relating to impact of the research. By comparison, among respondents from BioMed disciplines, only 28% felt it was not relevant, with the largest relevance occurring in research design (32%). Among respondents from AHSS disciplines only 9% considered it not to be relevant, with the greatest relevance coming from interpretation of results (51%). This reflects our analysis of sex/gender dimension statements in applications (section 4.1).

Analysis by gender shows that 23% of female respondents think the sex/gender dimension is not relevant to their own research, compared with 40% of male respondents. Accordingly, women were more likely to identify ways in which the sex/gender dimension is relevant than men. In particular, women were notably more likely than men to identify the relevance of the sex/gender dimension in interpreting results, in research design, and in impact.

Analysis by career stage shows that 33% of respondents who had applied for GOIPG or GOIPD funding as a researcher thought that the sex/gender dimension was not relevant to their research, compared with 19% of those who applied to other IRC funding schemes as a researcher. The proportions of each group identifying different aspects of their research where the sex/gender dimension is relevant were broadly similar, though slightly fewer of those who had applied for GOIPG or GOIPD funding though it was relevant in impact or in considering the methodology than those who had applied for other funding. Respondents who had applied for GOIPG or GOIPD funding were notably less likely to think the sex/gender dimension was relevant across their research than respondents who had applied to other funding schemes. This reinforces the finding that early-stage researchers are less likely than other, later-stage researchers, to understand the sex/gender dimension, how it relates to research generally and the implications for their own research specifically.

4.4 Training on the Sex/Gender Dimension

Among respondents to the researcher survey, 33% said they had been taught about aspects of the sex/gender dimension in their discipline at undergraduate or Masters level. Women were more likely to report having received such training than men (36% compared with 24%). Researchers in AHSS disciplines (52%) were more likely to say so than researchers in BioMed (17%) or PSEng disciplines (14%).

In comparison, only 23% of survey respondents said they have had training about the sex/gender dimension in their discipline as part of their postgraduate work. Women were slightly more likely than men to report having received training as part of their postgraduate work (24% compared with 22%). Researchers in AHSS disciplines (34%) were more likely to say so than researchers in BioMed (17%) or PSEng disciplines (9%). Again, this reflects the general disciplinary trend seen in other data.

34% of respondents to the researcher survey said the materials provided by the IRC on sex/gender dimension were useful to them when writing their proposal, and 9% said they were not useful (with respondents in PSEng and BioMed disciplines appearing more likely to say they were not useful than those in AHSS disciplines). However, 51% of respondents did not know, or couldn't recall having seen the materials. Respondents who found the materials useful found them clear and concise in explaining what was meant by sex/gender dimension and why it was important, helping applicants understand how the sex/gender dimension was relevant to their research and how they should reflect this in their application.

Among respondents to the reviewer survey, 50% reported having received information or training from IRC related to the integration of the sex/gender dimension in research. Women were more likely to report having done so than men (57% compared with 48%). Reviewers from AHSS disciplines (60%) were more likely to report having done so than reviewers from PSEng disciplines (45%) and those from BioMed disciplines (37%), reflecting a clear disciplinary trend.

Among reviewers who had received training on the integration of the sex/gender dimension in research from IRC, 49% thought it was effective or very effective in helping them assess applications in this respect. However, 47% thought the training was only somewhat effective, while 3% thought it was not at all effective. Additionally, 58% thought it had added at least somewhat to their understanding of the issues, whereas 41% said they were already very aware of the issues, so the training had no impact on their understanding.

In open text comments, some respondents asked that more specific examples should be included in the materials. Others felt that the sex/gender dimension were not particularly relevant to their discipline, and requested clarification on whether the inclusion of a sex/gender dimension was required or only desired. Some raised the concern that sex/gender dimension statements often disclosed applicant gender and thus compromised gender blinding.

5 Gender Proofing

The third main objective of the IRC Gender Strategy and Action Plan is focused on gender proofing. There is a wealth of evidence which supports the original introduction of this element of the strategy, and its continuation into any new strategy. For example, a key factor that emerges from the literature which affects the success rates of women and men in obtaining grants or being appointed to positions of leadership is that of unconscious gender bias or implicit bias[22]. Another important issue revealed in the literature relates to how excellence is traditionally defined and assessed. For example, in a 2017 report from GendERC reports that "the concept of excellence and the criteria for excellence are socially constructed and not gender neutral"[23], and this affects how proposals from men and women are assessed differently. Further evidence from the literature review supports this, highlighting differences in letters of recommendations. Men were more likely to be described as 'brilliant' and 'risk-takers' with their research as a main focus, and women's likeability and social skills more likely to be covered with less focus on their research.

The IRC's goal is to fund excellent research. There is evidence to suggest that in order to ensure equality in awards, processes for assessing applications should focus on the quality of ideas rather than the individual proposing them. For example, a study looking at the effects of a decision of the Canadian Institute of Health Research to divide its funding into Project programmes (with peer review focused on identifying the best scientific ideas) and Foundation programmes (with review focusing on assessing the scientist) found that in the case of the latter, male PIs were 1.4 times more likely to receive funding than female PIs, and recommends that funders *"focus on assessing the science rather than the scientist"*[24, 25].

The actions that the IRC has implemented under this objective include gender-proofing criteria for assessment processes to reduce implicit gender bias and aiming for balance in the membership of all assessment, advisory and management boards and other committees and groups. The IRC has also committed to publishing annual statistics with sex-disaggregated data. This section of the report identifies key findings with respect to such initiatives, drawing on literature, IRC data, the surveys of reviewers and researchers and the focus group sessions.

5.1 Gender-blinding

The IRC has been gender-blinding funding applications since 2014, meaning that the full name and gender of each applicant is removed[26] before the assessment process commences from applications for programmes run by IRC. However, this is not necessarily the case for co-funding partnerships with other agencies as the IRC does not fully control the process. Notwithstanding this, the IRC initiative should be seen as a major step in addressing gender bias, and the IRC's role in promoting such an initiative is demonstrated by the fact that through their role in Gender-NET Plus, the IRC has made presentations to other partners on their approach to, and impact of, gender blinding procedures.

The survey of researchers found that overall, 83% of survey respondents said they were in favour of blind assessments, compared with 4% who were not (the remaining 13% were unsure). Figure 15 shows that women were less likely than men to say they were in favour of blind assessments (81% compared with 88%), and slightly more likely to say they were not in favour (5% compared with 3%). Across the subject areas, researchers in AHSS disciplines (80%) were less likely to say they were in favour of blind assessments than researchers in PSEng (86%) or BioMed disciplines (87%).

[22] See, for example, AdvanceHE, *Unconscious bias in higher education literature review*, 2013.

[23] European Commission, *Final Report Summary – GENDERC*, March 2017.

[24] Witteman H, Hendricks M, Straus S, Tannenbaum C. (2019), *Are gender gaps due to the evaluations of the applicant or the science? A natural experiment at a national funding agency*, The Lancet, February 2019.

[25] Raymond J L, Goodman M B (2019), *Funders should evaluate projects not people*, The Lancet, February 2019.

[26] The name and gender of the applicant are withheld from the reviewer and the applicant and authors of supporting letters are advised to use gender neutral pronouns.

Figure 15: **Research survey: Proportion of respondents in favour of blind assessment.**
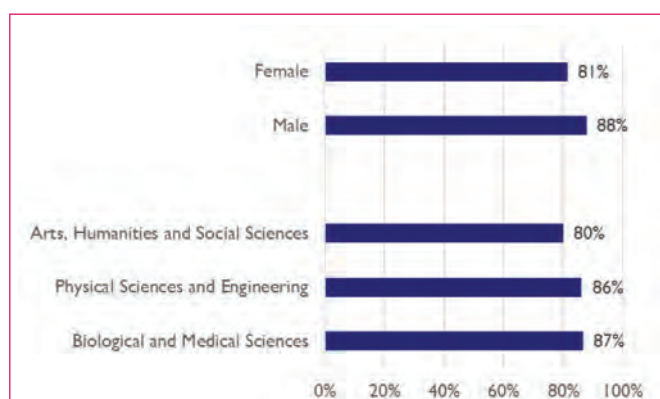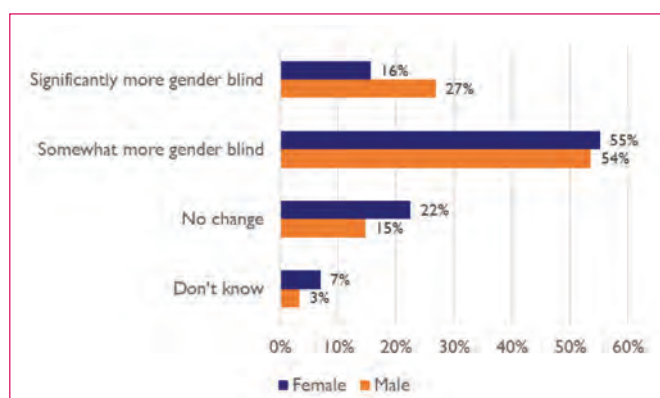

Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University).

Among respondents who were in favour of blind assessments, there were some concerns about the extent to which fully gender-blinding the assessment process was possible. Some respondents felt that the research topic might reveal the gender of the applicant, particularly in fields where the research community is relatively small, while others identified a risk that gender might be revealed through references. Others pointed to gender differences in the use of language. Some respondents who were in favour of blind assessments questioned how this would work in relation to career breaks and maternity leave, which was also a challenge identified by those who were unsure about blind assessments. Respondents who were not in favour of gender blind assessments, on the other hand, tended to believe that it was important to know the gender of the applicant if gender imbalances were to be addressed (implying that they were in favour of positive discrimination towards under-represented genders). This may belie a misunderstanding among respondents about the process employed when gender blinding applications, as while gender references are removed from the assessment process, the gender of an applicant is still recorded as part of that process. Therefore, targeting of awards and gender-blinding of assessments are not incompatible objectives.

There is also encouraging evidence within the reviewer community that assessment processes have become more gender blind. In the reviewer survey, a total of 78% of reviewers believed that assessment procedures have become more gender blind in the last five years (23% stating 'significantly' more gender blind and 55% stating 'somewhat' more gender blind). Almost one in five (18%) thought there had been no change. As Figure 16 shows, women were less likely to think assessment procedures have become significantly more gender blind in the last five years than men, but no more likely to think there had been only some increase. Women were more likely to think there had been no change than men.

Figure 16: **Reviewer survey: whether respondents believe assessment procedures have become more gender blind in the last five years.**

Source: IRC Reviewer Survey 2021 (Ortus Economic Research & Loughborough University).

When these results are examined by subject area as set out in Figure 17, it can be seen that there are some differences in the proportion of reviewers who believe assessment processes have become 'significantly' or 'somewhat' more gender blind across the three subject areas. Perhaps the most important finding here is that almost one quarter (23%) of reviewers in the Biological and Medical Sciences subject area believed there had been no change. Given the importance of other funders to this area of research in Ireland, notably HRB[27], it is clear that a collaborative effort is required, although it is acknowledged that gender-blinding is more challenging for PI-led awards.

Figure 17: **Reviewer survey: whether respondents believe whether respondents believe assessment procedures have become more gender blind in the last five years.**
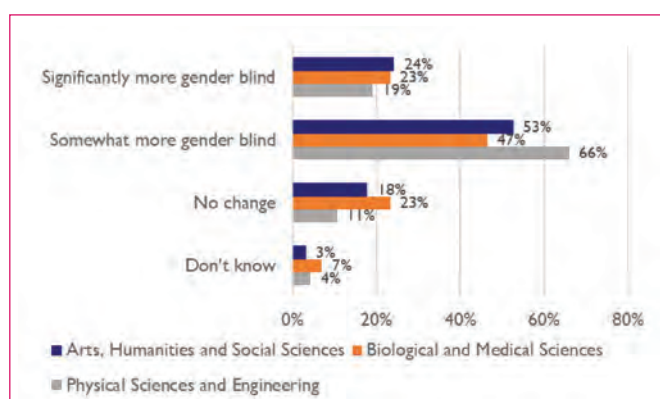
Source: IRC Reviewer Survey 2021 (Ortus Economic Research & Loughborough University).

The researcher survey asked respondents to identify possible solutions to gender imbalances and this evidence is useful in informing decisions about future strategic objectives and actions to achieve them. A large number of respondents suggested that blinding assessments would be one change they would make to the research funding system to improve gender equality. Of course, the IRC implemented this change in 2014, which suggests that researchers have experience of other funders that are not undertaking this practice. Other respondents suggested quotas might be appropriate, including some who thought quotas would be necessary if blinding assessments did not lead to change (other suggestions are reported in section 3.2.1).

The literature also highlights a number of issues to consider in relation to gender blind review processes. Research has suggested that differences in word choice in applications by men and women may impact success rates[28] with reviewers favouring broader language that was typically used by male applicants. Training for reviewers was suggested as a solution to this problem in order to *"to limit their sensitivity to communication style".* Research also suggests that gender blind rules of eligibility can risk disadvantaging parents, such as having an age limit for funding without provisions for family-related breaks[29].

The IRC has already acknowledged that further work is required in the area of gender blinding, focused on refining and improving not just the approach to gender blinding but to introduce other measures which eradicate gender bias in application assessment. For example, when making a presentation to the Gender-NET Plus partnership, the IRC noted that assessors have commented that some applicants' genders can be identified by the use of gendered pronouns. It has also been noted that additional information requested as part of the application process (such as CVs) is not always reviewed for gender identifiers. The focus group evidence also highlights some of the complexities associated with achieving a gender blind assessment process. For example, while the gender of the applicant may be excluded, other content such as track record or references commonly allude to or reveal the gender.

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[27] See https://www.hrb.ie/funding/funding-schemes/before-you-apply/all-grant-policies/gender-in-research-funding/.

[28] Kolev J, Fuentes-Medel Y, Murray F (2019), *Is blinded review enough? How gendered outcomes arise even under anonymous evaluation*. NBER Working Paper No. 25759, April 2019.

[29] Council of the European Union, *Council of the European Union Working Paper Policy Brief – Tackling gender bias in research evaluation*, General Secretariat of the Council, September 2018.

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5.2 Perceptions of Gender Bias in Assessment

One long term goal of any gender equality strategy will be to influence perceptions of those that experience inequality. The researcher and reviewer surveys have investigated whether respondents believe that gender influences award outcomes. The findings indicate that while there is evidence of significant progress being made in addressing inequalities in the research environment, there is still a significant proportion of researchers that believe their gender influences award outcome.

Figure 18: **Researcher survey: Proportion of respondents who thought their gender might have affected the way their application was treated.**
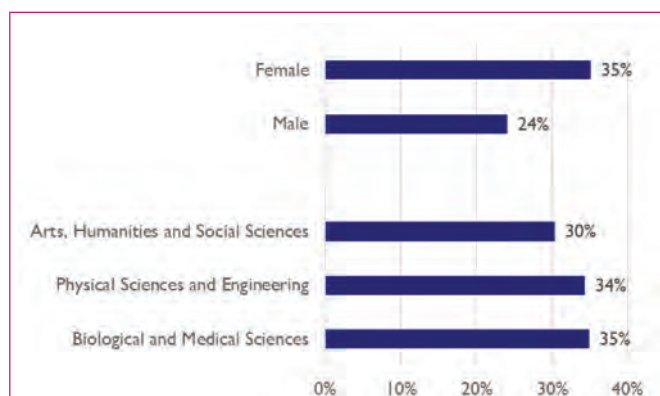
Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University).

The survey found that 31% of respondents to the researcher survey said they thought their gender might have affected the way in which their application was treated. As can be seen in Figure 18 above, women were more likely to think so than men (35% compared with 24%), and researchers from PSEng (34%) and BioMed disciplines (35%) were more likely to think so than those from AHSS disciplines (30%).

A number of respondents pointed to existing gender imbalances in their field when suggesting how they thought their gender might have affected the way their application was treated. Some thought that because their gender was under-represented, their application may have been treated more favourably as funding organisations strive for greater gender balance (conversely, a small number of respondents whose gender was over-represented thought their application may have been treated less favourably for the same reason). Others questioned whether the systemic bias which has led to their gender being under-represented might have meant their application was treated less favourably.

Some female respondents thought that their career history had negatively affected the way their application was treated. In particular, periods of maternity leave (and other caring roles) had impacted on the research output of several female respondents, and some reported that this had counted against their application. Some female respondents felt that having to explain career breaks in their application meant that they could not directly address their research proposal to the same extent as non-carers.

In some cases, respondents – including female, male and non-binary researchers – felt that the gendered nature of their research meant that their own gender would have been a consideration in the treatment of their application. Several respondents thought that even if their application was anonymous, their gender was likely to be assumed based on the subject of their research. Some respondents commented on the difficulty in presenting a gender blind application, because of differences in writing style between genders.
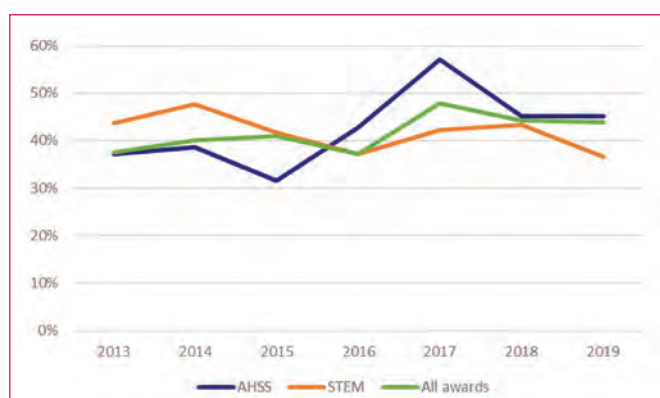
5.3 Gender Balance on Panels

One area in which the Gender Strategy has led to considerable work is around ensuring a good gender balance on assessment panels.

From the literature review, it is clear that achieving a gender balance in evaluators and assessment panels and implementing measures to achieve this balance is an objective being pursued by a wide range of research funders. However, the extent to which this leads to better outcomes is sometimes questioned. For example, research exists that finds that increasing the proportion of female members on funding panels may not lead to a higher share of female grantees, with the key risk being that female evaluators tend to adhere to the established standard norms (GendERC 2017, p. 5)[30]. Changing those norms, as well as the balance on panels, must therefore also be a goal.

An analysis of IRC data indicates that over the period 2013 to 2019, in total 44% of panel members were female and this is consistent across awards within STEM and AHSS subject areas. Figure 19 shows the proportional representation of female panel members from 2013 to 2019, for all awards and by subject area[31]. The analysis shows that since 2013, there has been a steady increase in the proportion of panel members who are female, reaching a peak of 48% in 2017, after which there has been a small decrease. The trends by subject areas suggests that there are ongoing challenges associated with growing representation of women on panels for STEM awards, and this is likely to be constraining the IRC in achieving a 50/50 representation overall.
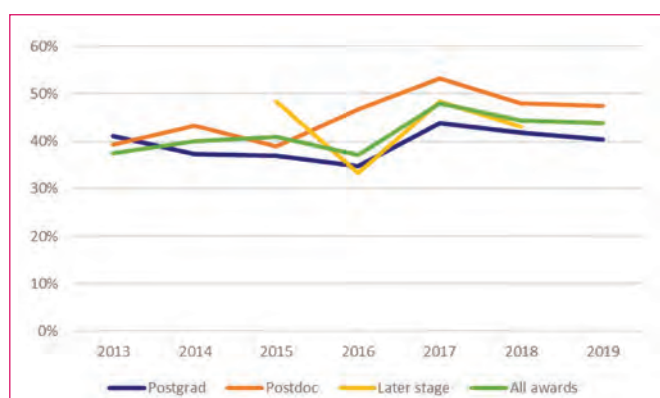
Figure 19: **Panel gender balance – all awards and by subject area.**

Source: Irish Research Council.

Figure 20 presents trend data for the proportion of panel members who are female, split by the career stage to which awards apply.

Figure 20: **Panel gender balance – all awards and by career stage.**

Source: IRC internal data 2013-2019.

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[30] European Commission 2017, op cit.

[31] Note – data for some awards is not split by STEM/AHSS so is presented as a separate, third group.

This shows that significant progress has been made in increasing the proportion of female panel members for postdoctoral awards (although the proportion has dropped back below 50% in 2018 and 2019). The data shows that the overall performance of the IRC in respect of this initiative has been hampered by the performance within postgraduate awards, where the proportion of female panel members reached a peak of 44% in 2017[32].

A recent review of the Laureate programme[33] looked in detail at the gender balance of panels in relation to this award. It concluded that "the overall gender balance of panellists is better than among the applicants and awardees. However, there is a substantial gender imbalance among the panellists in the Physical Science and Engineering domain, and more generally in the Advanced awards panels."

5.4 Targeting Measures and Funding

As noted above, the surveys found that some researchers were in favour of targeting research funding as a mechanism to overcome inequalities. Focus group evidence also supports this idea. While funding is to some extent a 'blunt instrument', it was commented that it is the funding organisation's responsibility to ensure that not only is the destination of the funding assessed in ways that ensure equality, but that it also encourages a pipeline of applications which are free of inequality. It was seen as crucial that there is both broad availability of awards that the application process was designed such that it does not discourage applications from certain individuals or groups.

Furthermore, the view was expressed that research funders occupy an important position within the funding environment (one respondent described this as 'privileged') and that as a result, funders had a duty to impose conditions on the funds in order to address prescient challenges. It was noted that while action at the level of individual research institution was to be very much welcomed, it was also important to recognise that the impacts arising from that action were likely to be highly constrained to that institution alone. Funding councils, on the other hand, have an opportunity to influence the whole ecosystem. The view was that the IRC should therefore not hesitate to target funding at particular cohorts of the research community.

In summary, the feedback from this review suggests that setting targets and quotas across all aspects of the IRC's funding policies and procedures, including the design of individual funds, would assist in addressing ongoing inequalities. It is important to note that the feedback also acknowledged that the IRC has made significant strides in this respect already, and that positive impacts arising from the Gender Strategy and Action Plan were already in evidence. The research community expressed encouragement for the IRC to continue its work and to evolve its strategy to maintain momentum while also implementing additional measures to address more intransigent or subtle issues.

5.5 Additional Considerations

As discussed above, there are a range of measures that are commonly used by policymakers to try to achieve gender equality, such as developing gender equality plans and providing relevant training. There is evidence that suggests in order to achieve major changes more quickly, then more 'disruptive' measures need to be taken, defined as "measures that have the potential to produce significant and bold changes in the status quo in the short to medium term"[34]. These can be temporary special measures addressing gender imbalances which could include quotas for the participation of women or preferential treatment in recruitment, promotion and awards. Disruptive measures can also include ambitious measures addressing formal and informal structures, for example horizontal structures, collaborative leadership and staff participation in policies.

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[32] Data on panel membership for later-stage awards was provided for 2015-2018 inclusive.

[33] Technopolis (2020), op cit.

[34] Gender Action Policy Brief, *Disruptive measures for gender equality in research and innovation*, May 2020.

6 Conclusions and Recommendations

In 2013, the IRC published its Gender Strategy and Action Plan, a key response to issues related to gender equality. It focused on two main issues: addressing gender equality in research careers, and promoting the inclusion of the sex/gender dimension in research. In 2020, the final year of the current Gender Strategy and Action Plan, the IRC commissioned this review, with the objectives to evaluate the progress made under the current Gender Strategy and Action Plan, to identify areas that require consideration in developing a new Gender Strategy, and to highlight recommendations to ensure the IRC continues to be a leader in addressing gender inequality in research in Ireland.

The review has drawn evidence from a number of sources, including primary data from Irish researchers and award reviewers (all based outside of Ireland), focus groups with IRC staff and stakeholders, secondary data analysis of application and awards data and a literature review aimed at both evidence of gender equality and the sex/gender dimension in research challenges as well as solutions.

The analysis presented in this report underpins a number of important conclusions and associated recommendations for consideration by the IRC in planning its future strategy in relation to gender as well as equality and diversity more generally. These are presented below, aligned first to the issue of gender equality and then the issues of including the sex/gender dimension in research, and gender proofing of application processes.

6.1 Gender Equality in Research Careers

The analysis of application and award data indicates that women are accessing research funding across all career stages at rates which compare very well, and in many cases exceed the rates for men. Application and success rates for women have of course fluctuated over the last decade, but the proportion of applications received from women has hovered around 50% over this period. Across all funding programmes, success rates are similar for women and men, suggesting that women are not experiencing disadvantage when applying for IRC funding, overall.

However, when the data are examined across three career stages – postgraduate, postdoctoral and later stage – this reveals a trend which may be a cause for concern: the proportion of GOIPD applications from women has declined steadily from 49% in 2012 to 42% in 2019. The proportion of GOIPD awards that were made to women has fluctuated over this period, but has been below 50% in all years except 2017; 42% of GOIPD awards in 2019 were made to women.

Recommendation 1: The falling proportion of applications from women for postdoctoral awards should be further investigated and monitored.

When funding award rates are analysed, they indicate that there is no evidence of disadvantage for women when applying for IRC funding: the success rates for women in both the GOIPG and GOIPD awards are comparable with and in many years exceed those for men. This can also be said for later career stage awards, though the patterns are more erratic due to comparatively smaller numbers.

The IRC's unique position within the research funding landscape (with funding available for all career stages and across all subject areas) means that it has significant latitude to enhance the offer both across the full breadth of awards but also in subject areas and for groups of researchers that are not within the remit of other Irish funders. Funding must also focus on supporting careers with the emphasis on the individual and the varied career paths that individuals might take.

Recommendation 2: Monitor and track application and award data broken down into AHSS and STEM closely to identify any disparities, which should then be further investigated recognising that different subject areas tend to have different obstructions to equality.

Recommendation 3: Look to enhance the IRC offer around mid (and potentially also later-stage research careers, particularly in AHSS subject areas where fewer other funders operate in Ireland.

The qualitative evidence highlights the significant challenge that faces researchers in relation to maternity/adoption and other forms of leave or absence (e.g. illness). At the postgraduate level, given the non-employed status of students, there is no statutory entitlement to paid leave. At postdoctoral level and beyond, other factors (such as the inflexibility in funding periods and institutional insistence on aligning leave with the academic calendar) mean that funded researchers can experience financial and other challenges. In addition, there must be recognition that researchers that have taken breaks for whatever reason face additional barriers when trying to restart their research careers, caused by discontinuity or a lack of opportunities borne out of the attitudes of others (such as the risk that PhD students avoid women of child-bearing age as supervisors because of the risk to their own research career).

A common criticism of research funding in the literature[35] is that it tends to relate best to a linear career path, from postgraduate through postdoctoral research and on to later stage research projects and funding awards. There is an opportunity for the IRC to break the mould in this respect and to develop targeted responses that help researchers to first, suffer no direct disadvantage from having to take a break from their research and second, to provide opportunities for researchers to re-start their research career. Examples of how other funders have addressed these challenges exist and should be considered. Examples include:

- The London Mathematical Society's (LMS) Grace Chisholm Young Fellowship, which is targeted at a young person that for a period of time has had to take a non-academic role.

- The LMS or the Emmy Noether Fellowships which are designed to support individuals to either re-establish their research programme after returning from a major break associated with caring responsibilities or who require support to maintain their research programme while dealing with significant ongoing caring responsibilities.

- The Royal Society's Dorothy Hodgkin Fellowship, which offers a recognised first step into an independent research career for outstanding postdoctoral scientists and engineers who require a flexible working pattern due to personal circumstances, such as caring responsibilities or health issues.

The surveys and focus groups found that awareness of the Gender Strategy and Action Plan among researchers and reviewers could be improved (50% of researchers and 40% of reviewers were unaware of the initiative). The evidence also indicated that awareness of related training could also be improved. While just under one third of reviewers (29%) believed that there had been a significant improvement in gender equality in the last five years, there was a significant difference in perception between men (34%) and women (17%). Furthermore, 19% of women and 10% of men believed there had been no improvement in gender equality in research careers over the last five years, demonstrating how intransigent and deep seated some of the issues are. Specific ongoing issues identified by the survey and focus group evidence include:

- Maternity leave (which has numerous direct and indirect effects), career breaks, caring responsibilities, imbalance in workload (e.g. pastoral roles), precarity of research positions, expectations of researcher mobility, unconscious bias.

- Ongoing gender imbalance in senior roles (particularly in Biomed, PSEng), perceptions of levels of 'authority'[36].

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[35] See for example, Thornton, M., "The Mirage of Merit: Reconstituting the 'Ideal Academic' and Sato, S. et al, "The leaky pipeline in research grant peer review and funding decisions: challenges and future directions".

[36] Smith, R., "Race, Gender, And Authority in the Workplace: Theory and Research".

Solutions supported or proposed through the surveys and focus groups include extending blind assessments to all programmes (continuing what is already done for early-career awards), targeted funding (focusing on under-represented groups and across career stages), changing the nature of assessments (for example, to ensure they do not disadvantage researchers that have taken career breaks) and structures (for example, to ensure that they appeal to researchers at every stage of their career) and lengthening funding calls (to make them accessible to those returning from maternity leave). Those engaged in the study noted that research funders are uniquely placed to influence equality of opportunity and that this should be done through active shaping rather than passive influencing.

This evidence highlights the need for a refreshed strategy and promotion of both the initiatives and the specific elements that it will involve (e.g. training).

Recommendation 4: Review all IRC awards to ensure that they are designed in ways which support applicants who have not been able to prioritise their research for any reason (e.g. maternity, illness, taking on other responsibilities in their institution such as pastoral care). Consider how awards might be designed to support all points of entry and re-entry into research to ensure that it allows for those taking non-linear routes through their research career.

Recommendation 5: Develop a clear strategy for mid- and late-career awards. Decide precisely who they are targeted at, which career-related challenges they are designed to recognise and overcome (e.g. non-linear research careers) and how each award contributes to equality and diversity.

Recommendation 6: In recognition that the IRC seeks to reach beyond gender when addressing equality and diversity challenges, consideration should be given of how to evolve the IRC strategy to capture broader diversity and intersectionality issues. The IRC should review what data and evidence is needed in relation to other diversity characteristics and what can currently be evidenced from existing IRC data, and how this evidence might drive a wider equality and diversity strategy.

Recommendation 7: Find ways to provide financial support for postgraduate students during maternity or other leave, as well as using the IRC's position as a national funder to encourage universities to be flexible in maternity or other leave periods for research students, rather than requiring alignment with academic terms.

Recommendation 8: Work with Irish Government, other higher education funders and higher education institutions in Ireland to roll out an approach which enhances flexibility in research funding and timetables in order to reduce disadvantage experienced by those who take (voluntary or involuntary) breaks.

6.2 Sex/Gender Dimension in Research

The evidence collected by this review indicates an improvement in the awareness and consideration of the sex/gender dimension within research funding applications. This is evidenced by the fact that the proportion of 'N/A' responses to relevant questions fell significantly immediately after the introduction of the Gender Strategy and Action Plan.

The extent to which the sex/gender dimension is recognised and accounted for also appears to have an influence on the outcome of the application to some extent. For example, in BioMed and in AHSS there has, over the period 2013 to 2020, been a higher success rate for eligible applications indicating a sex/gender dimension than for those that do not. The trend in PSEng is less clear.

However, there is also evidence of confusion both within the Irish researcher and broader reviewer communities in relation to the sex/gender dimension, which suggests that further and ongoing work is required to ensure that this issue is fully and correctly recognised and considered within IRC funded research. The sex/gender dimension in research are constantly evolving and complex topics. It was clear from the review of advice to applicants, the review of applications, comments from researchers and reviewers drawn from the surveys and in the focus group discussions that none of these groups had complete clarity on what was meant by the sex/gender dimension. For example, the survey and focus group evidence indicated that:

- Gender inclusion, sex/gender dimension and study ethics are three related things that are commonly confused in discussions and applications.

- There seems to be considerable confusion in PSEng but also more confusion than might be expected in AHSS (e.g. philosophy, business and economics, literature).

For this reason, it would be advisable for the IRC to convene an advisory group on this topic with representatives from across the disciplines, and perhaps also industry, to work on developing broad and current advice/training/information in this area.

As recognition and consideration of the sex/gender dimension grows among the research community, so will the volume and range of examples of how sex or gender should be considered within research design, delivery and results interpretation. The current examples provided by the IRC are largely drawn from the Biomedical research field and therefore may provide limited help to researchers in other subjects.

The surveys and focus groups indicated that there continue to be reviewers/assessors and research applicants that have little or no real understanding what the sex/gender dimension means or its implications for research. However, training is being taken up: one third of undergraduates and one third of postgraduates stated that they had been taught about the sex/gender dimension in the course of their studies or research. In addition, half of reviewers indicated they had received IRC training on sex/gender dimension – half of whom thought the training either effective or very effective (and 47% thought somewhat effective).

Most reviewers thought that awareness of the sex/gender dimension among applicants has grown in last five years (lowest in PSEng), though the pace of progress in understanding and integrating the sex/gender dimension is different between Universities and the Technological University sector. There is therefore an ongoing need to train both researchers and reviewers regarding the inclusion of the sex/gender dimension of research and to address ongoing resistance which continues to be present in some staff. Contributors to the research believed that the IRC could provide a broader set of information and training on the sex/gender dimension, for example a compendium of examples could be produced to address the lack of understanding, to help candidates understand how the sex/gender dimension might relate to their area of research and to provide tools that support the development of appropriate responses.

Recommendation 9: Convene an advisory group to develop the IRC training, guidance and application requirements in relation to sex/gender dimension.

Recommendation 10: Broaden out the range of examples available to researchers when considering the sex/gender dimension in their research applications.

Recommendation 11: Forms for applicants and reviewers should be revised to improve clarity around how to engage with discussion and evaluation of the sex/gender dimension. In particular:

- Ensure that it is clear where sex/gender dimension, gender inclusion and ethics are to be separately considered in the application.

- Reduce the words given for discussion and give more guidance on writing a clear and useful statement.

- Remind applicants not to disclose their own gender within their statements on any of these topics.

- Provide a clear indication of how inclusion of sex/gender dimension is to be brought into the rating of applications.

- Re-word questions so that the aim is clear and applicants must address the issue directly.

- Consider including more closed questions to reduce misinterpretation of what is being asked and set up the correct context for follow-up open-ended questions.

- Use formatting to increase the visibility of the section in order to communicate its importance.

- Improve consistency across checklists.

Recommendation 12: To support the applicant, consider the development of a range of additional training or guidance materials, such as:

- An online resource (e.g. video) that applicants must watch and a question on the application form which asks the applicants to confirm that they have engaged with this.

- A short training module (with questions) that is linked to the application so that the application can only be submitted if the module has been completed.

- Resources to support application writing which make it clear what the sex/gender dimension is and is not referring to and how all disciplines have a role to play.

- A design that permits the evaluation of the effectiveness of this training in improving engagement of applicants with the sex/gender dimension in their proposals.

6.3 Gender Proofing

The IRC introduced a process to 'blind' applications and the assessment process to gender in 2014. IRC staff and stakeholders believe that this has made a considerable contribution to an increase in the award rate for women since that date. Survey evidence found that a very large majority of students are in favour of gender-blind assessment (83%). There is also encouraging evidence within the reviewer community, with 78% indicating their belief that assessments have become more gender blind in the last five years. Future work to ensure that gender is not indirectly revealed during the assessment process (through, for example, additional requested materials such as CVs, gendered pronouns and references) is to be encouraged.

Recommendation 13: Continue to refine gender-proofing policies and practices to overcome ongoing risks of indirect gender identification.

The IRC has also been successful in creating a better gender balance in its assessment panels: the proportion of panel members that were female has risen steadily from 38% in 2013 to 44% in 2019 (having reached a peak of 49% in 2017). There remain a number of important challenges, however, such as a comparatively smaller proportion of female panel members for STEM subjects (particularly within Physical Sciences and Engineering) and this is particularly acute for later stage PI-led awards such as Laureate Advanced.

Recommendation 14: Redouble efforts to recruit female panel members in STEM subjects and for later-stage awards.

7 Appendices

7.1 Appendix A – IRC Funding Programmes

Table 2 shows the IRC funding programmes from 2009 on, which are included in analysis in this report. The IRC's Gender Strategy and Action Plan covers the period 2013 to 2020; earlier data is included for completeness.

Table 2: **IRC funding programmes.**

Career stage	Acronym	Full Name	Years*
Early career awards			
Postgrad	GOIPG	Government of Ireland Postgraduate Scholarship	2013–2019
	EPSPG	Enterprise Partnership Scheme Postgraduate Scholarship	2013–2019 (no 2018)
	EBPPG	Employment-based Programme Postgraduate Scholarship	2013–2019
	–	Postgraduate Scholarships *(became GOIPG)*	2009–2012
	–	EMBARK Scheme	2009–2012
Postdoc	GOIPD	Government of Ireland Postdoctoral Fellowship	2013–2019
	EPSPD	Enterprise Partnership Scheme Postdoctoral Fellowship	2013–2019 (no 2018)
	ELEVATEPD	Elevate Postdoctoral Fellowship	2013–2014
	CAROLINE	Marie Skłodowska-Curie Actions COFUND Collaborative Research Fellowships for a Responsive and Innovative Europe	2017–2019
	–	Postdoctoral Fellowships *(became GOIPD)*	2009–2012
PI-Led awards			
Later stage	RfPS	Research for Policy and Society	2015–2016
	REPRO	New Horizons	2015–2016
	COALESCE	COALESCE Research Fund	2019
	IRCLA	Irish Research Council Laureate Awards Programme	2017, 2019
	–	Research & Senior Research Fellowships	2009–2012
	RPG	Research Project Grants	2013-2014
	–	Research Development Initiative	2009–2012

Note: * This report includes analysis of data from 2009 on. Some programmes may have run before this date.

7.2 Appendix B – Gender-NET Plus

Established in response to ongoing challenges in achieving gender equality and gender mainstreaming in research and innovation, Gender-NET Plus is a partnership programme which aims to strengthen transnational collaborations between research programme owners and managers, provide support to the promotion of gender equality through institutional change and instigate the integration of sex and gender analysis into research and funding programmes. It runs from 2017 to 2022 and is the successor of the Gender-NET programme, which finished in 2016 and which identified the priorities which Gender-NET Plus is now focused on.

The main aims of Gender-NET Plus are to:

• Implement a joint co-funded call for proposals.

• Design and implement transnational actions on the promotion of gender equality through institutional change and the integration of sex and gender analysis into research.

• Update and enlarge the mappings and analyses carried out in GENDER-NET on the promotion of gender equality in research and innovation.

• Carry out a joint assessment of gender differences and bias in access to research grants and define and develop appropriate conditions for promoting equal opportunities in research funding.

• Promote and disseminate key findings.

There are two key strands to the Gender-NET Plus programme: the creation of a co-designed funding call and the dissemination and sharing of best practice. Based around the delivery of seven work packages (outlined below), partners have worked together to create a transnational funding call that was specifically designed to welcome proposals for research that integrates gender in addressing urgent societal challenges. This resulted in 13 projects being awarded funding, seven of which have Irish university partners. Sharing lessons learned and disseminating best practice is an ongoing theme throughout the series of work packages.

Table 3: **Gender-NET Plus Work Packages.**

Work package	Activity
WP1	Consortium coordination and management
WP2	Preparation and launch of the co-funded call
WP3	Evaluation and proposal selection of the co-funded call
WP4	Monitoring of co-funded call
WP5	Communications, dissemination and exploitation of the co-funded projects
WP6	Further joint activities
WP7	Communication and dissemination of the overall project's results

Gender-NET Plus chose to take the United Nations Sustainable Development Goals (SDGs) as a point of departure for this funding call. Researchers were invited to submit applications that addressed and explored interactions and interdependencies explicitly between SDG 5 Gender Equality and one or more of the following SDGs: SDG 3 Good health and well-being, SDG 9 Infrastructure, Industrialization and Innovation, and SDG 13 Climate Action. The call was run in 2018, with the key dates being as follows:

• Pre-proposals were submitted by 1 May 2018.

• The deadline for full proposals was 23 July 2018.

• Panel Meeting took place in Dublin on 4 October 2018.

In order to apply, applicants needed to meet the following requirements:

• A minimum of three partners from three of the eligible countries.

• The maximum duration of the research projects is three years (36 months).

• The total budget requested could not exceed €1 million across all participating partners.

7.3 Appendix C – Information on Sex/Gender Dimension Provided to Applicants by the IRC

Information for applicants was provided through the application guidance document. Analysis of the information provided indicates that most of the examples lean towards biological and social sciences, with less clear advice made available in humanities and physical sciences and engineering.

In the guidance document, guidance was given in terms of several specific pieces of advice and examples:

- Avoid general categories such as "people", "patients" or "users".
- Research on a new breast cancer treatment should include male patients, so as to draw a complete picture.
- Most basic research with animal models focuses on males to the exclusion of females (Zucker *et al.*, 2010; Marts *et al.*, 2004).
- Research on economic migrants cannot limit itself to male points of view if it wants to understand the whole migrant population.
- Systematically taking sex as a central variable and analysing other variables with respect to it (e.g. sex and age, sex and income, sex and mobility, sex and labour).
- Involving gender-balanced end-user groups in the course of the research.
- Publications should use gender-neutral language.
- Specific dissemination actions (publications or events) for sex/gender findings can be considered.

And the guidance document also includes a "Checklist for sex/gender in research content":

- Research ideas phase:
  - If the research involves humans as research objects, has the relevance of biological sex/gender to the research topic been analysed?
  - If the research does not directly involve humans, are the possibly differentiated relations of men and women to the research subject sufficiently clear?
  - Have you reviewed literature and other sources relating to differences in the research field?
- Proposal phase:
  - Does the methodology ensure that (possible) sex/gender differences will be investigated: that sex/gender differentiated data will be collected and analysed throughout the research cycle and will be part of the final publication?
  - Does the proposal explicitly and comprehensively explain how sex/gender issues will be handled (e.g. in a specific work package)?
  - Have possibly differentiated outcomes and impacts of the research on women and men been considered?
- Research phase:
  - Are questionnaires, surveys, focus groups, etc. designed to unravel potentially relevant sex/gender differences in your data?
  - Are the groups involved in the project (e.g. samples, testing groups) gender-balanced? Is data analysed according to the sex variable? Are other relevant variables analysed with respect to sex?

- Dissemination phase:
  - Do analyses present statistics, tables, figures and descriptions that focus on the relevant sex/gender differences that came up in the course of the project?
  - Are institutions, departments and journals that focus on gender included among the target groups for dissemination, along with mainstream research magazines?
  - Have you considered a specific publication or event on sex/gender-related findings?

7.4 Appendix D – Information on Sex/Gender Dimension Provided to Reviewers by the IRC

Information for reviewers was contained in the reviewer guidance as well as through reference to the call guidance for applicants, as above. As with researchers, the examples given relate to social and biological sciences predominantly.

- Assessing The Sex/Gender Dimension Statement.

All applicants to Council schemes are required to complete the sex/gender dimension statement, which is also a requirement for Horizon 2020 proposals, please see Appendix III for further guidance. Question for Assessor: Do you understand the concept of biological sex and social gender as they impact research content?

Please refer to this link which summarises the 'Toolkit Gender in EU-funded Research' for guidance. Please refer to this link for examples of case studies in science, health, engineering and environment. It is suggested that assessors consider whether the proposed research involves any of the following:

- Humans as the research focus.
- Animals as the research focus.
- Human samples (e.g. tissues/cells) and/or data.
- Humans involved as consumers, users, patients, participants or in trials/interviews.
- Research on animals, animal samples and/or data.
- Research outputs with implications for both men and women.
- Research outputs with implications for end users or consumers.

It is suggested that assessors consider the following when appraising the research proposal:

- Has the applicant clearly outlined the consideration that has been given to the relevance of sex and gender in their proposed research?
- If there is a potential sex/gender dimension, has the applicant clearly indicated how these issues will be handled with reference to the points mentioned in the 'checklist for sex/gender in research content' in Appendix III?

7.5 Appendix E – Analysis of the Sex/Gender Dimension in GOIPD/GOIPG Application Forms

7.5.1 Responses to the Sex/Gender Dimension Checklist

The sex/gender dimension checklist included in GOIPD and GOIPG application forms is as follows:

Sex/Gender Dimension

Does your proposed research involve any of the following?

Humans as the research focus

Animals as the research focus

Humans samples and/or data

Humans involved as consumers, users, patients, or in trials

Research on animals, animal samples and/or data

Research outputs with implicatins for the end usrers or consumers

Please provide a statement detailing whether there is potential sex/gender dimension to be considered in carrying out your research. If your research involves any of the above, please indicate how potential sex/gender issues will be handled. In particular, you are asked to reference the points mentioned in the 'checklist for sex/gender in research content' in the Guide for Applicants:

Max 500 words

A summary of responses to the tick list questions by subject area is as follows:

Proportion ticking at least one box.
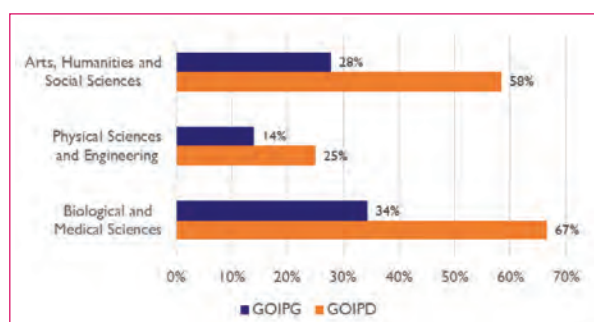
Proportion ticking 'Human Focus'.
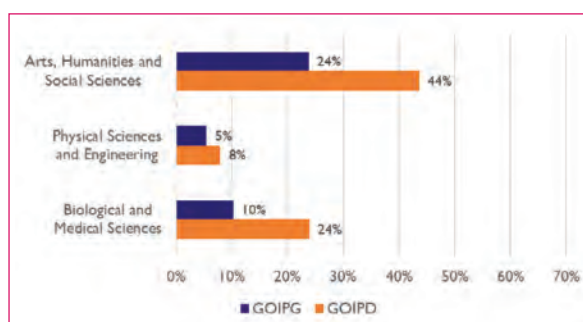
Proportion involving animals (two questions).
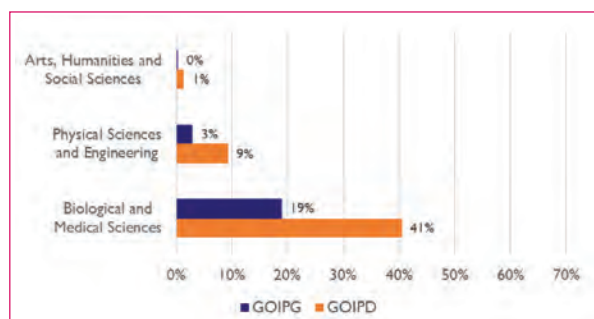
Proportion ticking 'Human Samples and/or data'.
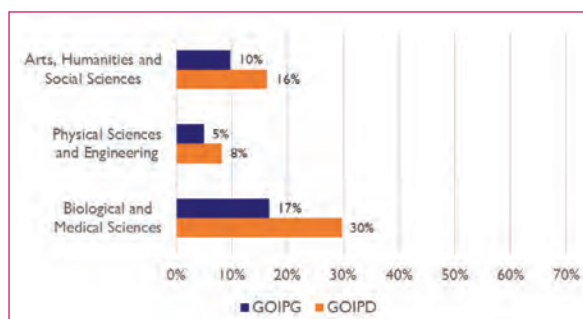
Proportion ticking 'Humans involved as Consumers' Proportion ticking 'relevance to consumers'.
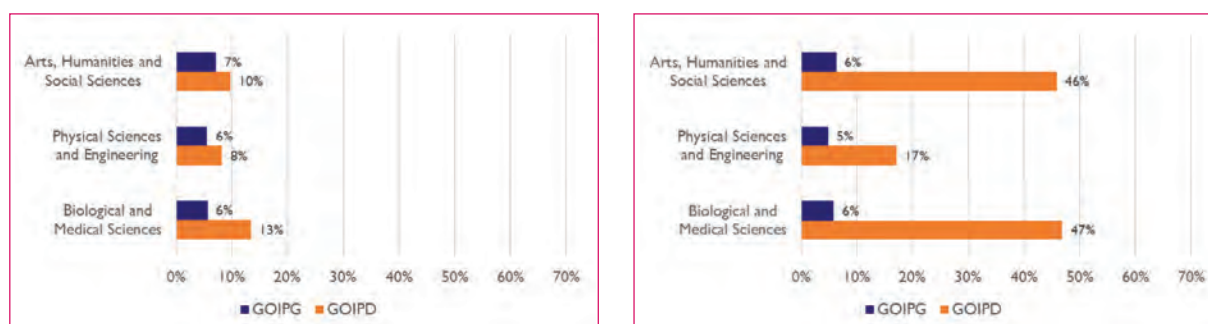
Source: Loughborough University analysis of Irish Research Council applications.

Figure 21: **Proportion providing a Sex/Gender statement of 100 words or fewer, by subject.**
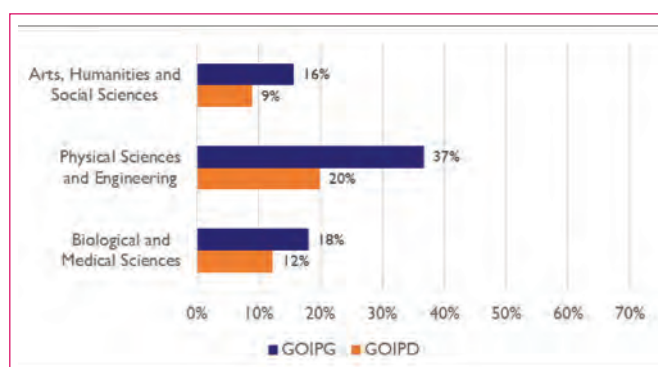
Source: Loughborough University analysis of Irish Research Council applications.

7.5.2 Review of 2011/12 Application Abstracts

A sample of 63 applications to the GOIPD and GOIPG schemes from 2011-2012 were reviewed to estimate engagement of applications with a sex/gender dimension prior to the introduction of the Gender Strategy. A scrutiny of the application abstracts suggests that 76% (n=48) describe research that would most likely have a sex or gender element to consider within the research question and thus within the conduct of the research. But only four of these (8%) allude to this by their target population or comment on interpretation of findings. Of course, sex or gender may have been teased out more within the main applications (which were not reviewed) but was certainly not presented as an important variable within the abstract. This suggests that the sex/gender dimension, if considered, is not done so at a high enough level to be included as a main and pertinent research focus. We can only conclude, therefore, that this is representative of the general attitude and approach to sex or gender within these research applications at this time.

7.5.3 Statistical Analysis of GOIPD and GOIPG Sex/Gender Dimension Statement Data

Overall, 4,457 applications to GOIPD and 10,557 applications to GOIPG were considered from the years 2013-2020. Of these, 4,105 GOIPD and 8,901 GOIPG applications were deemed eligible and sent for review. A full statistical analysis appears in the Appendix (section 7.5).

The length of statements ranged from 0 to 600 words, with a median of 94 and an average of 147 words. Comments from Humanities and Social Sciences tended to be the longest, then Medicine and Biological Sciences, then Engineering and Physical Sciences.

Due to the large number of applications, it was not possible to rate the quality of the Sex/Gender statement for all. For this reason, a sample of sex/gender dimension statements were studied using the following technique:

- First, the number of applications with no words, or with only N/A or "None" indicated were counted and plotted against year and field (see first plot in Figure 22).

- Then all proposals with < 74 words in statement or > 489 words in statement were rated as having indicated either some or no sex/gender dimension.

- Applications which (after standard text cleaning) indicated "No sex/gender dimension" were marked as having no statement. Applications which after standard text cleaning indicated "Sex/gender dimension were important" were marked as having one.

Overall, 2,899 of 4,105 eligible GOIPD applications and 6,525 of 8,901 eligible GOIPG applications were categorised as having either some or no sex/gender dimension indicated. Breaking this down by subject area, 2,528 of 3,299 eligible applications in BioMed topics, 3,759 of 6,542 eligible applications in AHSS topics, and 3,119 of 3,121 eligible applications in PSEng were categorised. We can observe from this that there are considerable differences between disciplines in the proportions of applications that cite a relevant sex/gender dimension, with AHSS most likely to cite one and PSEng least likely to.

Figure 22: **Proportion of applicants that indicated the sex/gender dimension relevant to their research, by scheme, area, year (all proposals).**
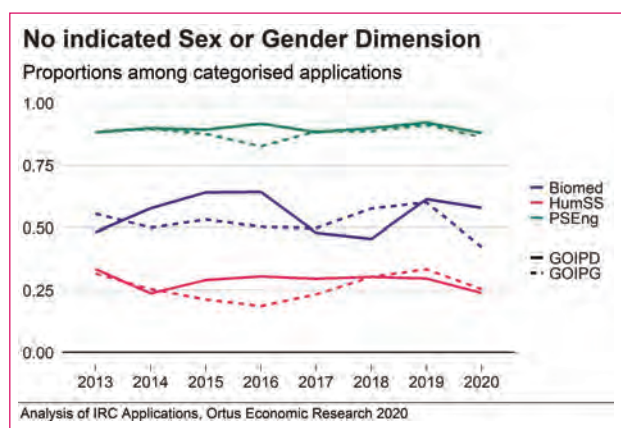
Figure 23: **Proportion with applicants with no comment in sex/gender dimension field, by scheme, area, year (sample of proposals).**
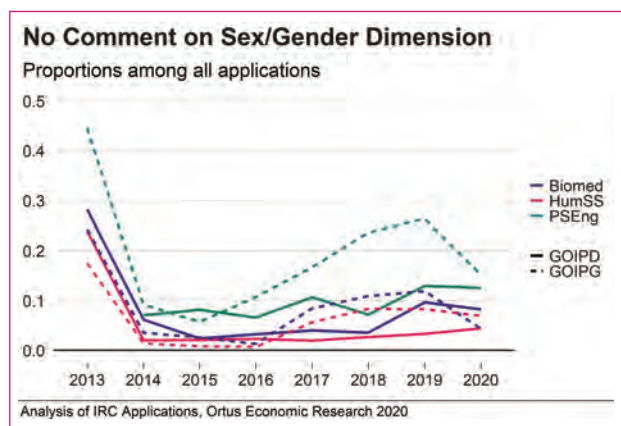
Note that in Figure 24 to Figure 26 below, the data is split by those applicants that indicated that the sex/gender dimension was relevant to their research (in the legend in the figures below, these are indicated by the TRUE category) and those that did not indicate that the sex/gender dimension was relevant to their research (the FALSE category).

For Biomed applications, we can note that for both the GOIPD (solid) and GOIPG (dashed) applications, success rates were higher for those that indicated a sex/gender dimension (dark purple) than for those that did not (light purple). By the same token, in Humanities and Social Sciences, for both GOIPD (solid) and GOIPG (dashed) applications, the success rates were higher for those that included a sex/gender dimension (dark pink) than those that did not (light pink). There is not a clear trend for applications in the areas of Engineering and Physical Sciences.

Figure 24: **Success rates by indication of sex/gender dimension by scheme, area and year – BioMed.**
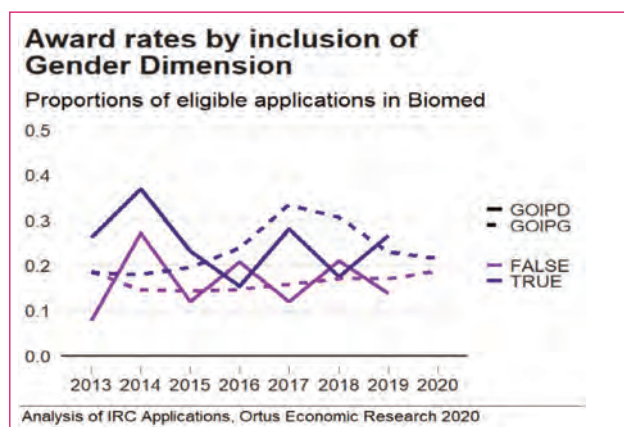
Note: TRUE is where applicants identified the sex/gender dimension as relevant to their research. FALSE is where they did not.

Figure 25: **Success rates by indication of sex/gender dimension by scheme, area and year – AHSS.**
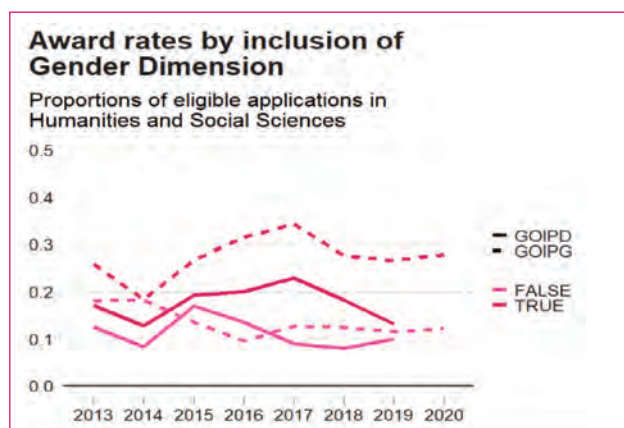
Note: TRUE is where applicants identified the sex/gender dimension as relevant to their research. FALSE is where they did not.

Figure 26: **Success rates by indication of sex/gender dimension by scheme, area and year – PSEng.**
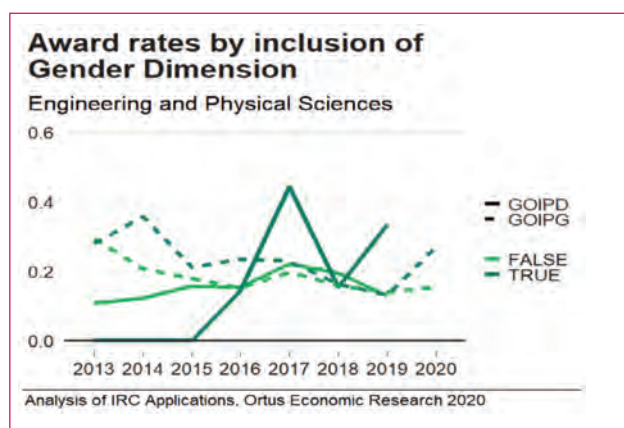
Award rates by inclusion of Gender Dimension
Engineering and Physical Sciences

Analysis of IRC Applications, Ortus Economic Research 2020

Note: TRUE is where applicants identified the sex/gender dimension as relevant to their research. FALSE is where they did not.

7.5.4 Qualitative Analysis of Sex/Gender Dimension Statement Data

Certain specific topics came up frequently in statements, reflecting the advice given to applicants:

- Biological sex-specific research, such as of breast cancer, prostate cancer, post-partum depression, milk production in cows, etc.

- Sex or gender-specific research: eg, of male-exclusive groups or female-exclusive groups (female prostitutes, monks, etc.).

- Diversity in focus groups/survey samples.

- Biological sex in use of animal models or cell lines for health research.

- Statistical/data analysis by sex or gender.

- Gender neutral language.

Some issues with inclusion of sex/gender dimension that arose included:

- Availability of sex diverse cell lines for biological research.

- Conflict between keeping small numbers of animals to be sacrificed with inclusion of both sexes of animals, which would require larger sample size.

- Conflict between issues of participant anonymity and sex or gender analysis.

Many comments talk quite discursively about the field and topic without saying how gender or sex will be taken account of in the research proposed, if at all. For applications where no sex/gender dimension was felt to be relevant, the reasons for this were classified as follows by our gender expert (Witcomb).

1 Viewing the sex/gender dimension as being related to ethical clearance and study design without any awareness of the wider sex or gender implications. This highlights a lack of awareness of what is being asked. The conflation of sex or gender with methodological and ethical issues alone likely reflects subject-specific ways of thinking.

  – *"The study uses secondary data from middle managers and so does not itself involve any primary testing on human participants."*

  – *"The study will recruit both male and female participants and so anyone is eligible to participate. We aim to recruit equal numbers of each and we will treat everyone the same."*

  – *"All of the participants to be studied are deceased and so there is no gender dimension to consider."*

2   Interpreting the sex/gender dimension as a question to do with gender identity inclusion. This highlights the confusion around gender in light of other, visible EDI issues related to gender identity.

   – *"My research is not focused on gender politics or issues around gender identity."*

   – *"Participants will not be excluded on the basis of their gender identity."*

   – *"Participants will all be female and therefore other gender identities (trans, non-binary) and intersex participants will not be recruited."*

   – *"This research project does not investigate any of the current controversial gender issues."*

3   Seeing sex / gender as applicable only to certain subjects, particularly Gender Studies. This shows a real and concerning lack of sex or gender awareness in research, and bias towards what subjects should consider sex / gender.

   – *"My research project is outside the remit of Gender Studies and gender is not a focus."*

   – *"This research is outside of the domain of Gender Studies and the Humanities and so there is no sex / gender dimension."*

   – *"My research is related to films/books/art/philosophy and so has no science dimension"*

4   Conflating the sex/gender dimension within research with EDI issues of gender in research teams. This illustrates another example of misunderstanding of what is being asked and once again suggests limited awareness of or engagement with sex or gender issues in research.

   – *"My Lab has an almost equal number of men and women."*

   – *"I would be joining a team headed by a female Professor."*

5   Completely dismissing the reality of a sex/gender dimension, even in subjects where this would be paramount. These types of responses show an alarming disregard for the issue of sex / gender in research.

   – *"Gender is of limited importance to this research; It is unlikely that a participant's behaviour or experiences will be influenced by their gender."*

   – *"The literature states that there are no differences between the (organ/disease) in men and women."*

   – *"I am studying the functioning of corporate organisations and social influences, so there is no gender influence."*

6   Acknowledging a sex/gender dimension but refusing to include it. These types of responses show an alarming disregard for the issue of sex / gender in research.

   – *"While there may be some relevant gender issues, we have made a conscious decision not to explore these"*

   – *"For practical reason, the research will not include gender as a variable or analyse findings at this level."*

7   Logistically being unable to address the sex/gender dimension but failing to acknowledge any more than this. These research areas may be justified as being beyond the individual researcher's control.

   – *"Cell lines / human tissues are provided anonymously and so there is no way to tell the sex and thus no sex/gender dimension."*

Nevertheless, overall there has been substantial positive progress in the inclusion of the sex/gender dimension. A sample of GOIPD and GOIPG application statements from 2019/20 and 2020/21 were investigated by the same expert, who found that compared to only 2% of applications from 2011/12 engaging well with the sex/gender dimension, 58% of statements from the later application samples did. Furthermore, where the research field may previously have been reported as having no sex/gender dimension (e.g., in the 2011/2012 AHSS data), now full and rich narratives are recorded showing greater engagement with this. Examples by discipline include:

- Literature: Research will add "gender-conscious perceptions" to the review of texts.

- Musicology: Inclusion of analysis of gendered-language.

- Cell Biology: Acknowledgment of paucity of female biological data.

- Medical and Biomedical Engineering: Better age and gender-matched designs and plans for statistical analysis that accounts for gender.

- Biochemistry and Molecular Biology: No sex/gender dimension in the research itself (e.g., fungal) but discussion of the gendered implications of treatments.

- Zoology, Ornithology, Entomology, Behavioural Sciences Biology: Discussion of the gendered epidemiology of animal attacks when researching anti-venom.

7.5.5 GOIPG / GOIPD 2019 & 2020

A sample of 60 eligible applications was studied in detail; 15 from each year and group.

	2019		2020	
	Postgrad Scholars	PostDoc Fellowships	Postgrad Scholars	PostDoc Fellowships
Successful	8	5	6	1
Unsuccessful	7	10	9	14

For Postgrad Scholars 2019:

- Only two could be considered to have no sex/gender dimension by virtue of the field; organic chemistry. Despite this, both make a statement regarding gender equality in research teams and one references Athena Swam in order to offer some comment on gender in research.

- Two state that the biological data being used is from male cells. However, both offer a full acknowledgment of the limitations of this and the general paucity of female biological samples.

- Only one (Literature) does not engage with the question.

- Thus overall **fourteen (93%)** acknowledge and express the sex/gender dimension very well.

For Postgrad Scholars 2020:

- Only on could be considered to have no sex/gender dimension.

- Two refer only to structural equality (e.g., Athena swan, gender ratio of team); one may be appropriate by virtue of the field itself having no sex/gender dimension, but the second is likely missing adequate consideration.

- Four refer only to equality of opportunity of either gender to participate and cite research methodologies as the only comment on sex or gender.

- One considers only males in a particular disease, despite being also very prevalent in women.

- Thus overall **eight (53%)** acknowledge and express the sex/gender dimension very well.

For Postdoctoral Fellows 2019:

- Three answer N/A or No.
- Five state there is no sex/gender dimension, which may be appropriate for the subject, but fail to include any other comment on sex / gender in research.
- One regards sex or gender only in terms of recruiting equal numbers of both sexes.
- Thus overall **6 (40%)** acknowledge and express the sex/gender dimension very well.

For Postdoctoral Fellows 2020:

- Two state N/A with no explanation.
- Three state there is no sex/gender dimension by virtue of the field but fail to include any other comment on sex / gender in research
- Three cite research methodologies in relation to sex or gender which gives an inadequate answer.
- Thus overall **7 (47%)** acknowledge and express the sex/gender dimension very well.

This equates to 58% of the sample, compared to 2% of the 2011/12 sample. Overall, the shift is notable and positive.

Where the research field may previously have been reported as having no sex/gender dimension (e.g., in the 2011/2012 AHSS data), now full and rich narratives are recorded showing greater engagement with this.

Examples include:

- Literature: Research will add "gender-conscious perceptions" to the review of texts.
- Musicology: Inclusion of analysis of gendered language.
- Cell Biology: Acknowledgment of paucity of female biological data.
- Medical and Biomedical Engineering: Better age and sex or gender-matched designs and plans for statistical analysis that accounts for sex or gender.
- Biochemistry and Molecular Biology: No sex/gender dimension in the research itself (e.g., fungal) but discussion of the gendered implications of treatments.
- Zoology, Ornithology, Entomology, Behavioural Sciences Biology: Discussion of the gendered epidemiology of animal attacks when researching anti-venom.

7.6 Appendix F – IRC Award Success Rates by Gender

The analysis in this section focuses on data regarding award success rates (i.e. the proportion of applicants, by gender, to whom awards were made). It starts by presenting a view across all awards before focusing on individual awards[37].

The analysis shows that, across all funding programmes, award success rates by gender have been broadly comparable. 19% of applications from women were successful in 2019, compared with 16% of applications from men. There has been a decline in success rates among both genders; since 2017 (24%) among women, and since 2014 (25%) among men, which may be associated with an increase in the number of applications.

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[37] GOIPG and GOIPD success rates closely reflect those across all postgraduate and all postdoctoral funding programmes respectively.

Figure 27: **Award success rates (all programmes) by gender.**
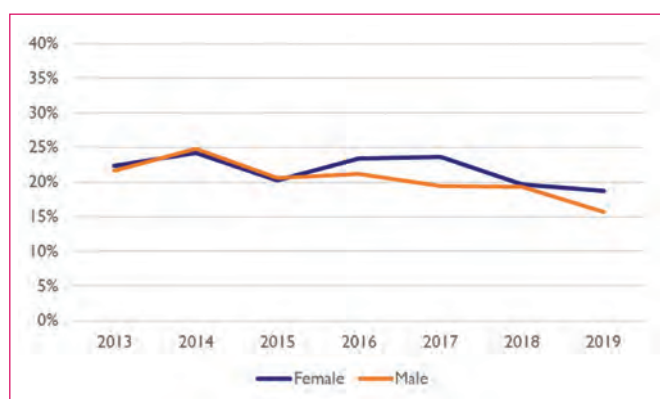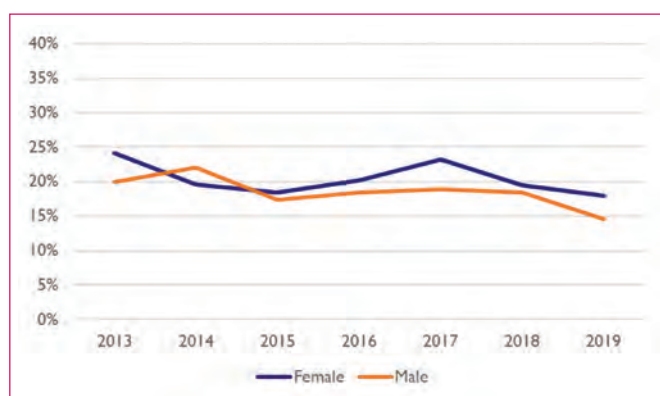

Source: Irish Research Council.

7.6.1 Government of Ireland Postgraduate Scholarship (GOIPG) Award Success Rates

Figure 28 shows that GOIPG award success rates by gender have followed broadly comparable trends. Since 2015, the award rate for women has been slightly above that for men, though the gap varies from 1 to 4 percentage points per year.

The data shows that 18% of GOIPG applications from women were successful in 2019 (down from 23% in 2017), compared with 15% of applications from men (down from 19% in 2017).

Figure 28: **GOIPG award success rates by gender.**

Source: Irish Research Council.

Figure 29 investigates award success rates for GOIPG by gender and subject area.

Figure 29: **GOIPG award success rates by gender and subject area.**

Source: Irish Research Council.

GENDER STRATEGY REPORT
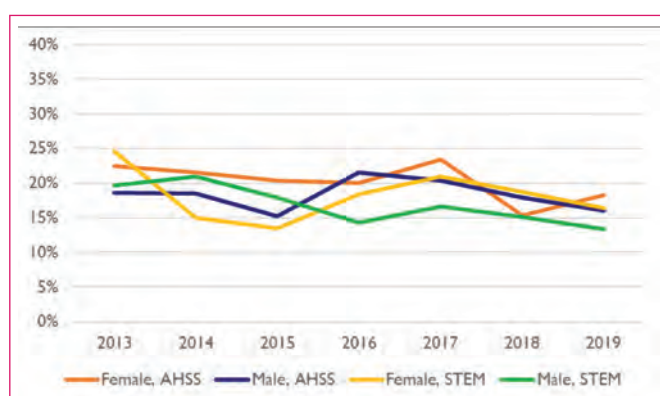
Figure 29 demonstrates that GOIPG application success rates by gender and subject area have followed broadly comparable trends. However, men's application success rates in Science, Technology, Engineering and Mathematics subject areas have been below women's since 2016. Furthermore, men's application success rates in Science, Technology, Engineering and Mathematics subject areas have also been below women's in Arts, Humanities and Social Sciences subject areas since 2016.

7.6.2 Government of Ireland Postdoctoral Fellowship (GOIPD) Award Success Rates

Figure 30 sets out award success data by gender for the GOIPD award. It shows that success rates by gender have been broadly comparable since 2013, with some divergence in 2017 (to a lesser extent, this was also apparent in GOIPG award success rates).

Figure 30: **GOIPD award success rates by gender.**
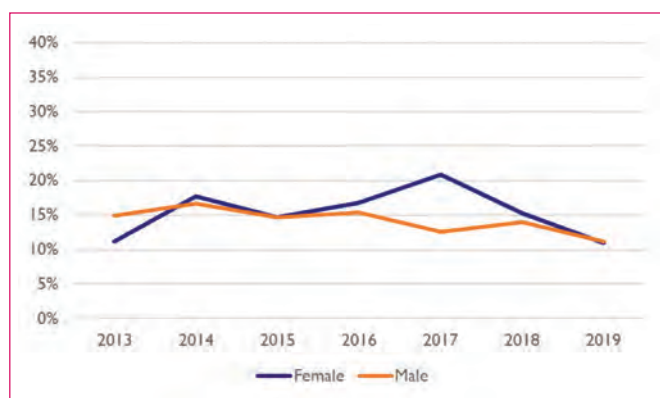
Source: Irish Research Council.

Figure 30 also shows that:

- 11% of GOIPD applications from women led to an award in 2019, the same proportion as applications from men.

- Broadly speaking, there was an upward trend in women's award success rates from 11% in 2013 to a high of 21% in 2017. Women's application success rates have fallen since then.

- Between 2013 and 2016, men's success rates were relatively steady. Men's award success rates have fallen since.

Figure 31 shows GOIPD award success rates by gender and subject area. Note that this chart covers a shorter time period (2013 to 2019) than the previous chart. It shows that:

- Women's GOIPD award success rates in Science, Technology, Engineering and Mathematics subject areas have tended to be higher than for men since 2014, though success rates converged in 2019 (women 11%, men 13%).

- From 2013 to 2016, women's GOIPD award success rates in Arts, Humanities and Social Sciences subject areas were below men's, but there has been some variance since. As in STEM subject areas, women's and men's award success rates in AHSS subject areas converged in 2019 (women 10%, men 9%).

- Women's GOIPD award success rates in STEM subject areas have been higher than for women in AHSS subject areas since 2014. There is a smaller gap between men's GOIPD award success rate by subject area than for women.

Figure 31: **GOIPD award success rates by gender and subject area.**
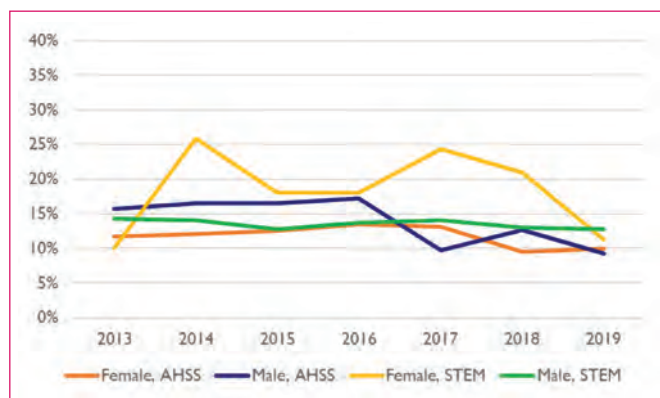
Source: Irish Research Council.

7.6.3 PI-Led Award Success Rates

PI-Led awards include New Horizons and Research for Policy and Society in 2015 and 2016, which were combined as the COALESCE Research Fund in 2018. The number of applications to these schemes (due to them being less frequent than others) means it is difficult to compare trends in success rates by gender.

PI-Led awards also include the Laureate Programme in 2017 and 2019. According to a review of the Laureate Programme[38], 14% of applications were successful in 2017, and 8.4% in 2019. These apparently low success rates are reported to reflect over-subscription to the scheme (review panellists are reported to rate the overall field of applications to be of high quality). While success rates by gender are not presented, the review finds that there is no evidence of any skewed or discriminatory outcomes in the application assessment process.

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[38] Technopolis, *Pre-award Process Review of the IRC Laureate Award*, November 2020.

7.7 Appendix G – Further Analysis of the Researcher Survey

This section presents further analysis of the researcher survey.

7.7.1 Respondent characteristics

A total of 254 survey responses were received from researchers. 66% of respondents identified as female (including transgender women) and 31% identified as male (including transgender men). The small number of respondents (3%) who identified as another gender, or who 'preferred not to say', are excluded from subsequent analysis by gender.

Over half of respondents described their current position as 'postgraduate scholar'. Reflecting this, 42% reported that their highest qualification was a master's degree, and 39% reported that their highest qualification was a PhD. 19% reported that their highest qualification was a first degree. Almost half of respondents (49%) said they were currently undertaking a degree. A similar proportion (47%) were working in an academic position; of these, around half were in non-permanent positions and half in permanent positions. Small numbers of respondents were working outside academia, or not currently working.

Figure 32: **Researcher survey: respondents by current position.**
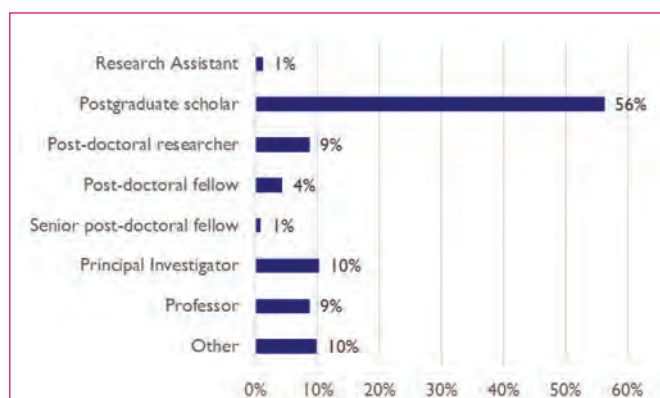
Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University).

Figure 33: **Researcher survey: respondents by current employment.**
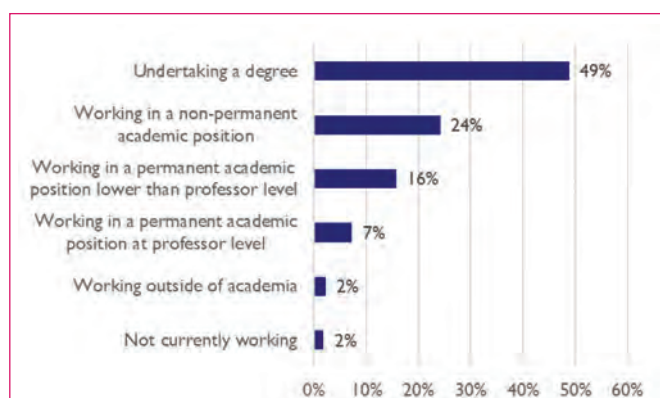
Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University).

48% of respondents said they worked in Arts, Humanities and Social Sciences (AHSS) disciplines, while 51% said they worked in Science, Technology, Engineering, Mathematics and Medicine (STEMM) disciplines: 26% in Physical Sciences and Engineering, and 25% in Biological and Medical Sciences). The remaining others (1%) worked across disciplines; because these were only a small number of respondents, they are excluded from subsequent analysis by discipline.

Figure 34: **Researcher survey: respondents by broad discipline.**
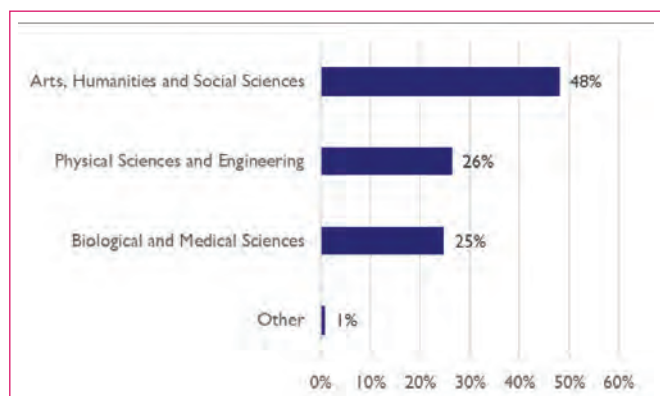
Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University).

7.7.2 Awareness of IRC Gender Strategy and Action Plan

Among survey respondents who were aware of IRC's Gender Strategy and Action Plan, 96% said they knew that it contains the aim to "support gender equality in research careers across all disciplines". there was little difference by gender or discipline. 89% said they knew the Gender Strategy and Action Plan contains the aim to "support the integration of the sex/gender dimension in research content". Again, there was little difference by gender but awareness was higher among researchers from Arts, Humanities and Social Sciences disciplines (95%) than among researchers from Biological and Medical Sciences or Physical Sciences and Engineering disciplines (both 81%).

80% of survey respondents who knew of IRC's Gender Strategy and Action Plan said they were made aware of it directly by IRC. There was little difference by gender, but researchers from Arts, Humanities and Social Sciences disciplines (84%) were more likely to have cited that the IRC made them aware of the Gender Strategy and Action Plan by IRC than researchers from Physical Sciences and Engineering disciplines (77%) or from Biological and Medical Sciences disciplines (70%). Other ways respondents had learned of the Gender Strategy and Action Plan included through peers and colleagues, including communication through peer networks. Some respondents had become aware of the Gender Strategy and Action Plan during the application process.

7.7.3 Gender Imbalances in Research

Women were more likely to identify a gender imbalance then men: 62% of women thought there was a gender imbalance in favour of men in their field of research, compared with 52% of men, and 9% of women thought there was a gender imbalance in favour of women, compared with 5% of men. Men were more likely to believe there was no gender imbalance (25%) than women (17%).

Researchers from Physical Sciences and Engineering disciplines (66%) were more likely to identify a gender imbalance in favour of men in their field than researchers from Biological and Medical Sciences disciplines (57%) or Arts, Humanities and Social Sciences disciplines (56%). Conversely, researchers from Physical Sciences and Engineering disciplines (4%) were less likely to identify a gender imbalance in favour of women in their field than researchers from Biological and Medical Sciences disciplines (8%) or Arts, Humanities and Social Sciences disciplines (10%). The same proportion of researchers from all three subjects (19%) thought there was no imbalance.

Figure 35: **Researcher survey: Proportion of respondents identifying a gender imbalance in their field of research who are aware of actions being taken to address this.**
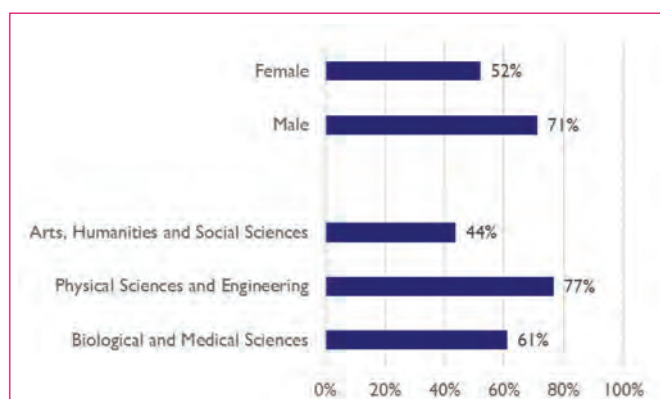
Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University).

Figure 36: **Researcher survey: Proportion of respondents who believe the research community has issues relating to gender equality.**
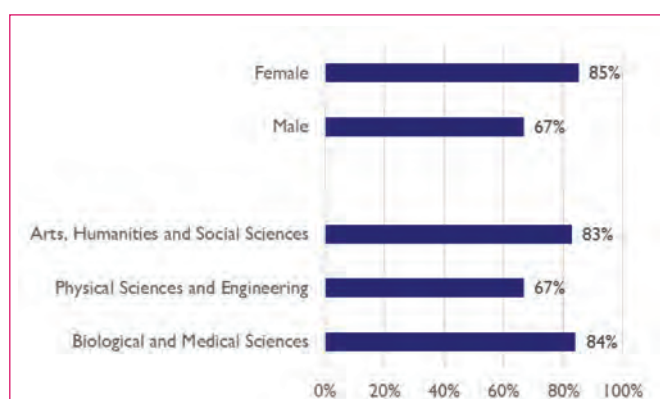
Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University).

7.7.4 The Sex/Gender Dimension

Table 4: **Researcher survey: what respondents think "the sex/gender dimension in research" means, by discipline.**

Response	AHSS	PSE	BMS
Gender related ethical considerations are accounted for in the research plan	79%	51%	60%
Considering the differential impact of research outcomes on people of different genders	74%	46%	63%
Issues of gender or sex are handled sensitively in the research process and reporting	68%	49%	60%
Including a mix of genders in user focus groups	56%	63%	60%
Consideration of the relevance of gender to the inclusion in or exclusion of individuals from a group being studied	71%	41%	51%
Gender or sex of research subjects is part of the research design and is systematically controlled for throughout the research	62%	44%	68%
Considering the gender make up of the research group and groups to which the work will be disseminated	60%	47%	60%
The research will take account of writing by experts in the field from different genders	39%	19%	19%
Considering the gender of individuals who created artefacts or texts studied	41%	10%	21%
The work incorporates aspects of feminist theory or gender studies	35%	14%	12%
Research that is focused on biological differences between sexes of humans or other animals	18%	24%	35%
Gender is the main theoretical focus of analysis	25%	19%	16%
The gender of the researcher needs to be taken into account when assessing and interpreting results	23%	10%	23%
Other	4%	8%	7%

Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University)

Table 5: **Researcher survey: what respondents think "the sex/gender dimension in research" means, by gender.**

Response	Female	Male
Gender related ethical considerations are accounted for in the research plan	69%	68%
Considering the differential impact of research outcomes on people of different genders	65%	65%
Issues of gender or sex are handled sensitively in the research process and reporting	64%	60%
Including a mix of genders in user focus groups	63%	56%
Consideration of the relevance of gender to the inclusion in or exclusion of individuals from a group being studied	63%	49%
Gender or sex of research subjects is part of the research design and is systematically controlled for throughout the research	57%	61%
Considering the gender make up of the research group and groups to which the work will be disseminated	59%	53%
The research will take account of writing by experts in the field from different genders	30%	23%
Considering the gender of individuals who created artefacts or texts studied	29%	25%
The work incorporates aspects of feminist theory or gender studies	29%	17%
Research that is focused on biological differences between sexes of humans or other animals	23%	29%
Gender is the main theoretical focus of analysis	23%	19%
The gender of the researcher needs to be taken into account when assessing and interpreting results	20%	22%
Other	6%	5%

Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University)

Table 6: **Researcher survey: what respondents think "the sex/gender dimension in research" means, by IRC funding scheme applied to as researcher.**

| Response	GOIPG/ GOIPD	Other
Gender related ethical considerations are accounted for in the research plan	67%	83%
Considering the differential impact of research outcomes on people of different genders	63%	77%
Issues of gender or sex are handled sensitively in the research process and reporting	62%	77%
Including a mix of genders in user focus groups	59%	74%
Consideration of the relevance of gender to the inclusion in or exclusion of individuals from a group being studied	59%	60%
Gender or sex of research subjects is part of the research design and is systematically controlled for throughout the research	61%	66%
Considering the gender make up of the research group and groups to which the work will be disseminated	54%	66%
The research will take account of writing by experts in the field from different genders	28%	37%
Considering the gender of individuals who created artefacts or texts studied	26%	40%
The work incorporates aspects of feminist theory or gender studies	27%	20%
Research that is focused on biological differences between sexes of humans or other animals	25%	34%
Gender is the main theoretical focus of analysis	21%	40%
The gender of the researcher needs to be taken into account when assessing and interpreting results	20%	43%
Other	6%	11%

Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University)

Table 7: **Researcher survey: parts of their own research in which the sex/gender dimension is relevant, by discipline.**

Relevance	AHSS	PSE	BMS
In interpreting results	51%	14%	23%
In research design	44%	15%	32%
In impact	35%	20%	25%
In dissemination	26%	15%	23%
In considering the methodology used	32%	7%	14%
All of the above	34%	8%	23%
It is not relevant	9%	61%	28%

Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University)

Table 8: **Researcher survey: parts of their own research in which the sex/gender dimension is relevant, by gender.**

Relevance	Female	Male
In interpreting results	42%	19%
In research design	40%	19%
In impact	35%	13%
In dissemination	26%	17%
In considering the methodology used	24%	13%
All of the above	24%	26%
It is not relevant	23%	40%

Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University)

Table 9: **Researcher survey: parts of their own research in which the sex/gender dimension is relevant, by IRC funding scheme applied to as researcher.**

Relevance	GOIPG/ GOIPD	Other
In interpreting results	34%	33%
In research design	31%	33%
In impact	26%	31%
In dissemination	22%	19%
In considering the methodology used	19%	25%
All of the above	22%	44%
It is not relevant	33%	19%

Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University)

Figure 37: **Researcher survey: Proportion of respondents who found IRC materials on sex/gender dimension useful.**
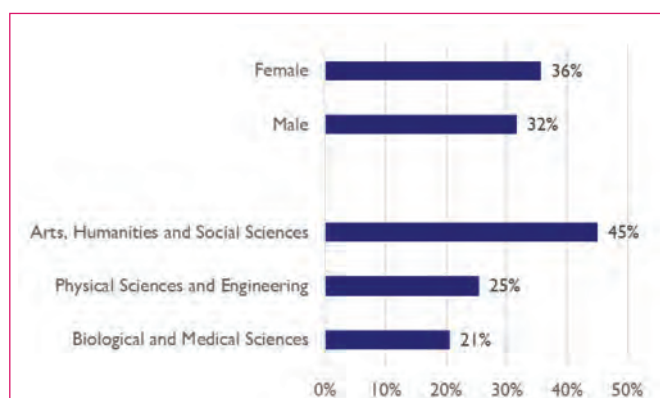
Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University).

7.7.5 Eligibility for Other Funding

46% of survey respondents said that there were funding schemes for which they were eligible, but had not applied. A further 41% did not know whether there were other funding schemes for which they were eligible. Female researchers were less likely to say they had not applied to funding schemes for which they were eligible than male researchers (45% compared with 51%), but more likely to say they did not know whether there were other funding schemes they were eligible for (43% compared with 35%).

Figure 38: **Researcher survey: reasons for not applying for funding for which respondents were eligible, by gender and by career stage.**
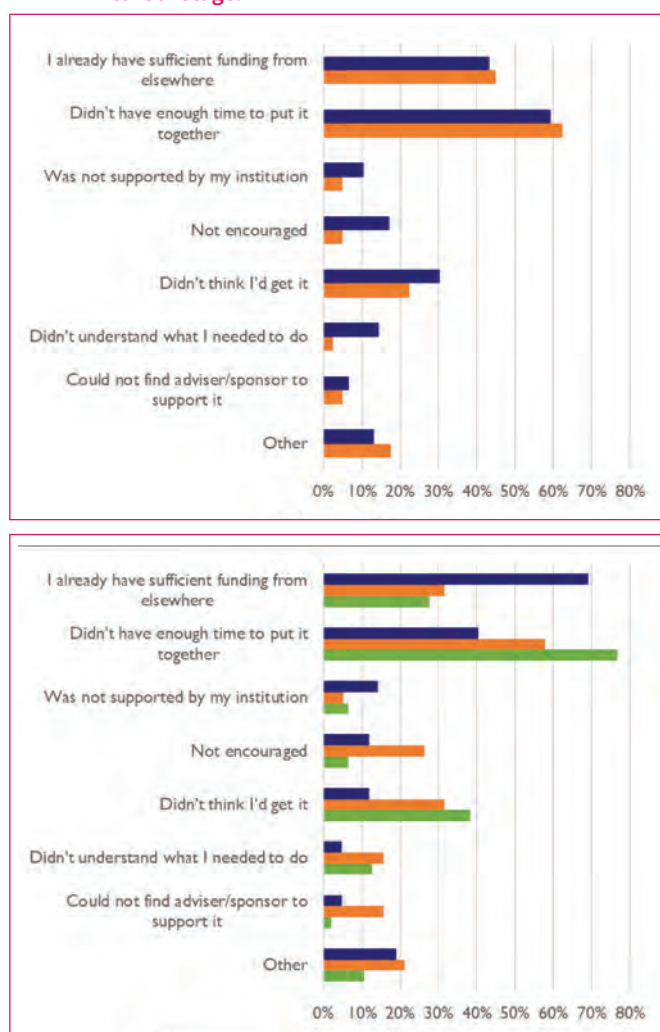
Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University).

Overall, 43% of respondents who did not apply for funding from schemes for which they were eligible said they already had sufficient funding. The most common reason for not applying for funding from schemes for which the researcher was eligible, however, was lack of time (61%). Early career stage researchers were notably more likely than others to say they did not apply for funding for which they were eligible because they already had sufficient funding. The more advanced a respondent's research career, the more likely they were to say they did not apply for funding for which they were eligible due to lack of time.

While other reasons were less common, women were notably more likely than men to say they had not applied to other funding for which they were eligible because they didn't think their application would be successful, because they weren't encouraged to apply, because they didn't understand what they needed to do to apply and because they were not supported by their institution.

Early career researchers were notably more likely than others to say they didn't apply to other funding for which they were eligible because of a lack of support from their institution. Mid career researchers were more likely than others to say they were not encouraged to apply; they were also more likely to say they could not find an adviser or sponsor to support an application. Both mid career and advanced career researchers were more likely than early career researchers to say they had not applied to funding for which they were eligible because they didn't understand what they needed to do to apply, or because they didn't think their application would be successful.

7.7.6 Funding Applied For

Figure 39 shows the proportion of survey respondents who reported that they had applied for IRC research funding, and the proportion who had acted as a supervisor/mentor. By far the most common funding that survey respondents had applied was the Government of Ireland Postgraduate Scholarship Programme. This and the Government of Ireland Postdoctoral Fellowship Programme were the most common funding programmes where survey respondents had acted as supervisors/mentors.

Figure 39: **Researcher survey: respondents by IRC research funding applied for.**
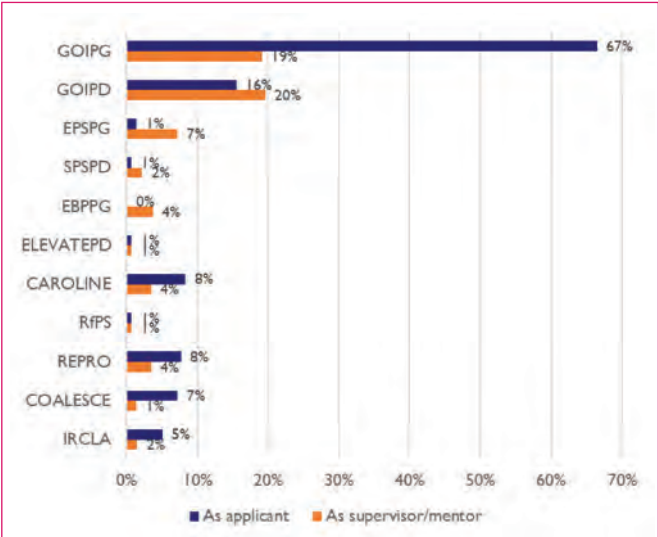
Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University).

Figure 40 shows the proportion of survey respondents who reported that they had applied for IRC research funding. Overall, 64% of respondents had applied to IRC for a postgraduate funding award. Female respondents were more likely to have done so than male respondents. 14% of respondents had applied to IRC for a postdoctoral funding award, and 9% had applied for another funding award. Female respondents were slightly less likely to have done so than males.

Figure 40: **Researcher survey: respondents by IRC research funding applied for as researcher.**
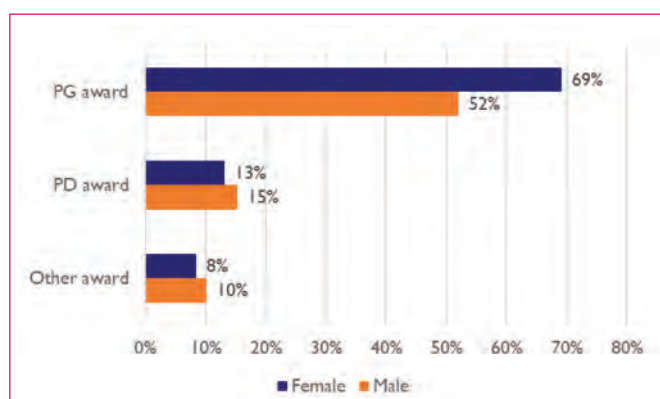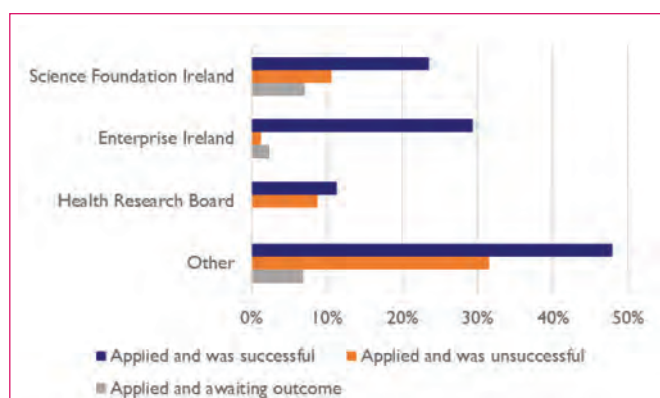

Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University).

Just over half the survey respondents (52%) had applied for IRC research funding only once. A further 24% had applied 2 to 3 times. 16% had applied four or more times, with a small number (3%) applying more than ten times. 8% of survey respondents had not applied for IRC research funding at all.

Of those who had applied for IRC research funding, 76% had most recently applied within the last three years (i.e. 2018, 2019 or 2020). Only 4% had last applied five years ago or more (2015 or earlier). Most commonly, survey respondents' most recent IRC application was to the Government of Ireland Postgraduate Scholarship Programme (72%), followed by the Government of Ireland Postdoctoral Fellowship Programme (13%). 77% said their most recent IRC application was successful, while 13% were awaiting the outcome; 10% had applied unsuccessfully. This appears to indicate a high level of success in applying for funding, compared with the trends in success rates described in section 7.6. This may be because survey respondents were more likely to be successful applicants. Of course, respondents' earlier applications may not have been so successful.

Overall, 55% of survey respondents had applied for funding from other sources, including Science Foundation Ireland (41% of those who had applied for other funding), Enterprise Ireland (33%), the Health Research Board (20%) or other funding (80%). A wide range of other research funding organisations were identified, including organisations based in Ireland (e.g. Environmental Protection Agency, Irish Cancer Society, Wellcome Trust), higher education institutions within Ireland (e.g. NUI scholarships), a number of overseas research institutes and funding organisations (e.g. the UK Arts and Humanities Research Council) and EU-based funding providers (e.g. European Research Council, Horizon 2020).

Figure 41: **Researcher survey: respondents by other research funding applied for.**
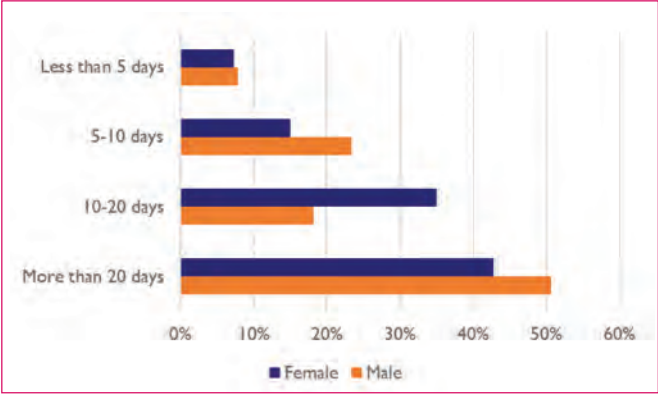

Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University).

Overall, 74% of survey respondents said their most recent funding application was successful (regardless of the funding programme they applied to). 11% were awaiting the outcome of their application; the remaining 16% had applied unsuccessfully.

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45% of respondent said their most recent funding application took more than 20 days to prepare; a further 30% said it took 10–20 days. Women were more likely to have spent more than 10 days preparing their most recent application than men (78% compared with 69%), but less likely to have spent more than 20 days.
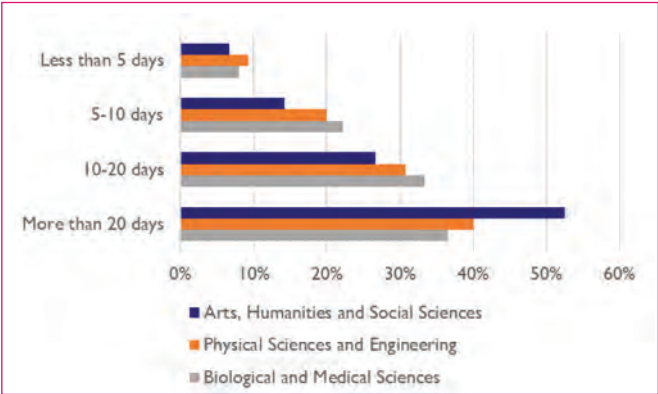
Figure 42: **Researcher survey: respondents by time spent on most recent application and gender.**

Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University).

Researchers from Arts, Humanities and Social Science disciplines were more likely to have spent more than 20 days preparing their most recent funding application than researchers from Physical Sciences and Engineering or from Biological and Medical Sciences disciplines.

Figure 43: **Researcher survey: respondents by time spent on most recent application and discipline.**

Source: IRC Researcher Survey 2021 (Ortus Economic Research & Loughborough University).

The reasons for these differences are not entirely clear. Survey analysis suggests that the more advanced a researcher's career, the less time they spent on their most recent funding application, but the sample is not large enough to examine how this might relate to gender and/or discipline. The time spent is likely to reflect the range of funding programmes that survey respondents applied to most recently, of course, and the differences in their application processes.

7.8 Appendix H – Further Analysis of the Reviewer Survey

This section presents further analysis of the reviewer survey.

7.8.1 Respondent Characteristics

A total of 185 survey responses were received from reviewers. 32% of respondents identified as female (including transgender women) and 67% identified as male (including transgender men). The small number of respondents (1%) who identified as another gender, or who 'preferred not to say', are excluded from subsequent analysis by gender.

Most respondents (83%) had been a reviewer for the IRC for between one and five years, and 70% had more than five years' experience as a reviewer for another funding agency.

Figure 44: **Reviewer survey: length of time respondent has been a reviewer.**
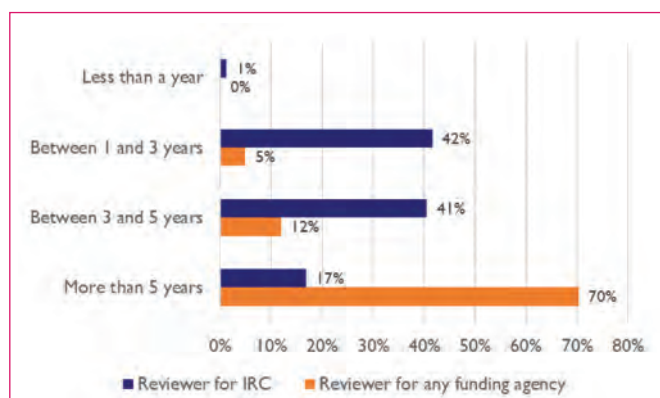
Source: IRC Reviewer Survey 2021 (Ortus Economic Research & Loughborough University).

Around half of respondents (51%) said they worked in Arts, Humanities and Social Sciences disciplines, while a slightly smaller proportion (46%) said they worked in Science, Technology, Engineering, Mathematics and Medicine (STEMM) disciplines: 24% in Physical Sciences and Engineering, and 22% in Biological and Medical Sciences. The remaining others (4%) worked across disciplines; because these were only a small number of respondents, they are excluded from subsequent analysis by discipline.

Figure 45: **Reviewer survey: respondents by broad discipline.**
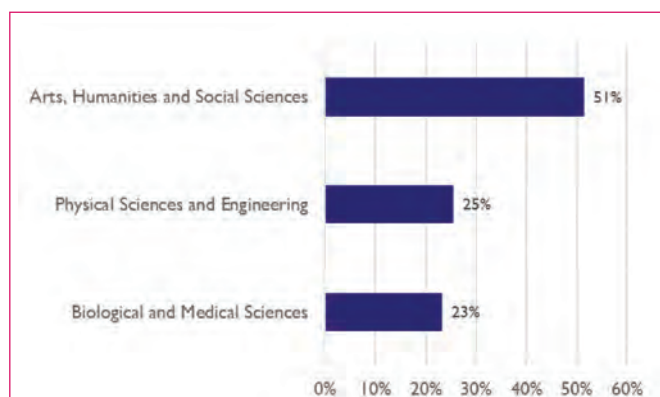
Source: IRC Reviewer Survey 2021 (Ortus Economic Research & Loughborough University).

7.8.2 Awareness of the Need to Promote Gender Equality in Research Careers

45% of respondents thought that within their community, there had been a significant increase in awareness of the need to promote gender equality in research careers in the last five years, and a further 48% thought there had been some increase in awareness. 5% of respondents thought there had been no increase in awareness.

Women were less likely to think there had been a significant increase in awareness of the need to promote gender equality in research careers than men (31% compared with 51%), and more likely to think there had been only some increase (60% compared with 42%). Women and men were equally likely to think there had been no increase in awareness (both 5%).

Figure 46: **Reviewer survey: whether respondents believe there has been an increase in awareness of the need to promote gender equality in research careers in the last five years.**
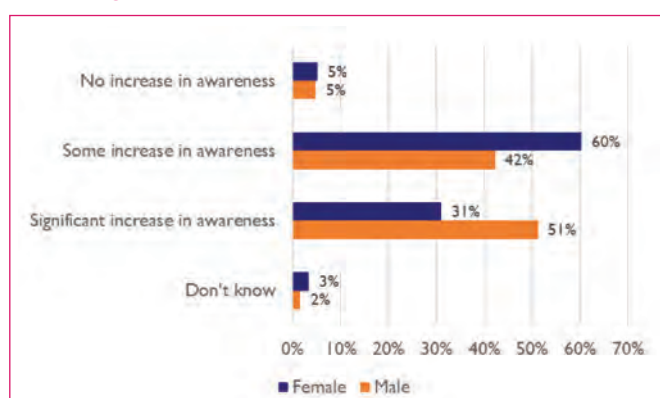
Source: IRC Reviewer Survey 2021 (Ortus Economic Research & Loughborough University).

Reviewers from Arts, Humanities and Social Sciences disciplines were less likely to think there had been a significant increase in awareness of the need to promote gender equality in research careers in the last five years than reviewers from other disciplines, and more likely to think there had been only some increase in awareness. There was little difference in the proportion of reviewers by discipline who thought there had been no increase.

Figure 47: **Reviewer survey: whether respondents believe there has been an increase in awareness of the need to promote gender equality in research careers in the last five years.**
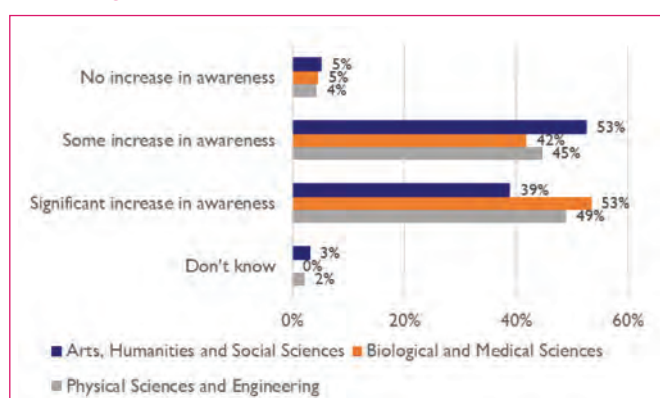
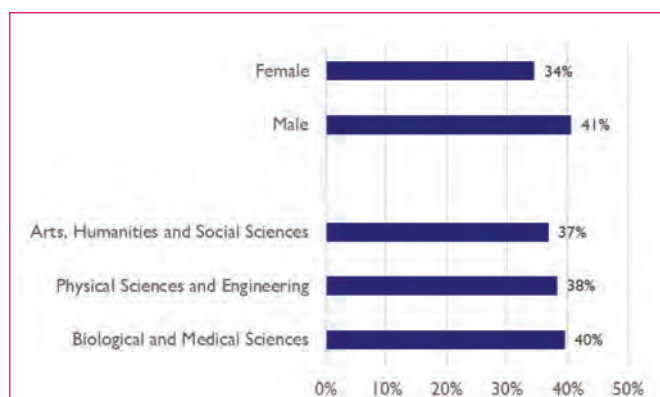Source: IRC Reviewer Survey 2021 (Ortus Economic Research & Loughborough University).

7.8.3 The Sex/Gender Dimension

Figure 48: **Reviewer survey: Proportion of respondents who had received information or training from IRC on the integration of the sex/gender dimension in research.**
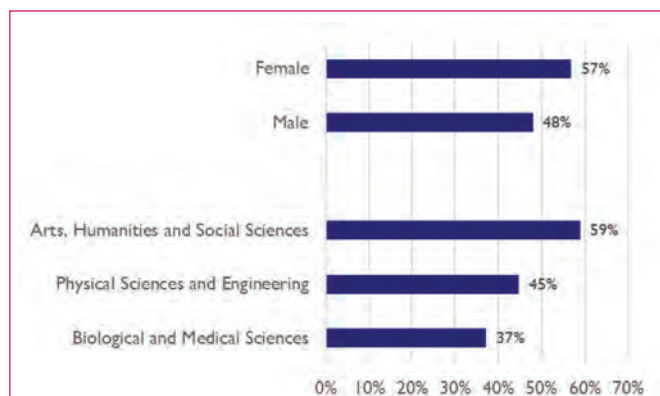
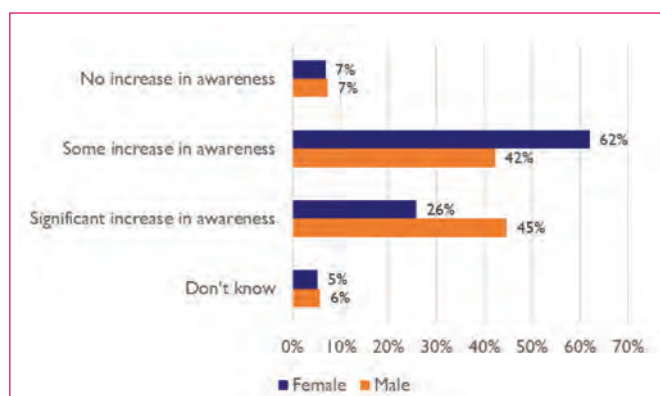Source: IRC Reviewer Survey 2021 (Ortus Economic Research & Loughborough University).

Figure 49: **Reviewer survey: Awareness of other initiatives to support the integration of the sex/gender dimension in research content.**

Source: IRC Reviewer Survey 2021 (Ortus Economic Research & Loughborough University).

38% of respondents to the reviewer survey thought that within their community, there had been a significant increase in awareness of the need to consider the sex/gender dimension in research in the last five years, and a further 49% thought there had been some increase in awareness. Only 7% of respondents thought there had been no increase in awareness.
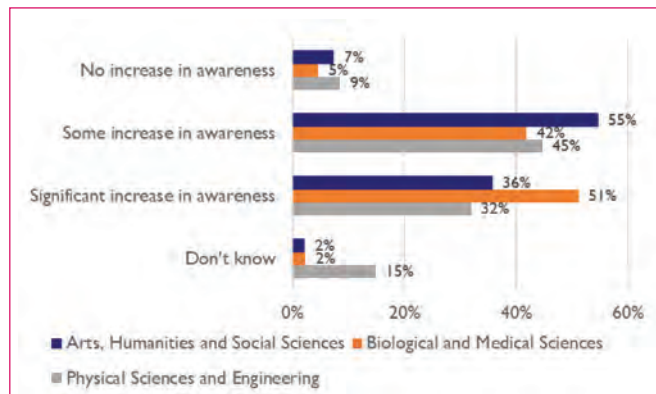
Figure 50: **Reviewer survey: whether respondents believe there has been an increase in awareness of the need to consider the sex/gender dimension in research in the last five years.**

Source: IRC Reviewer Survey 2021 (Ortus Economic Research & Loughborough University).

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Women were less likely to think there had been a significant increase in awareness of the need to consider the sex/gender dimension in research than men (26% compared with 45%), and more likely to think there had been only some increase (62% compared with 42%). Women and men were equally likely to think there had been no increase in awareness (both 7%). Reviewers from Biological and Medical Sciences disciplines were more likely to think there had been a significant increase in awareness of the need to consider the sex/gender dimension in research in the last five years than reviewers from other disciplines.

Figure 51: **Reviewer survey: whether respondents believe there has been an increase in awareness of the need to consider the sex/gender dimension in research in the last five years.**

Source: IRC Reviewer Survey 2021 (Ortus Economic Research & Loughborough University).

### 7.8.4 Reviewing for Other Funding Organisations

91% of respondents said they had reviewed applications on behalf of other research funding organisations in addition to IRC in the last five years. 27% of respondents had reviewed applications for another research funding organisation in Ireland; the majority said they had reviewed applications for one other organisations in addition to IRC). 91% of respondents had reviewed applications for another research funding organisation elsewhere in the world; the majority had reviewed applications for 2 or more organisations outside Ireland).

7.8.5 Improvements in Gender Equality

Women were less likely to think there had been a significant improvement in gender equality in research careers across all disciplinary areas in the last five years than men (9% compared with 20%). While they were more likely to think there had been some improvement than men (62% compared with 50%), they were also more likely to think there had been no improvement (12% compared with 5%).

Figure 52: **Reviewer survey: whether respondents believe there have been improvements in gender equality in research careers across all disciplinary areas in the last five years.**
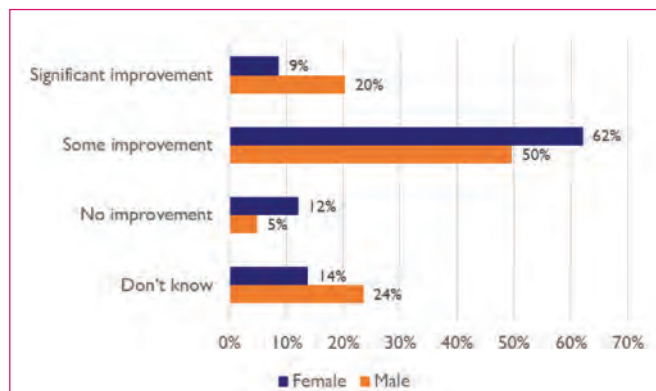
Source: IRC Reviewer Survey 2021 (Ortus Economic Research & Loughborough University).

Reviewers from Biological and Medical Sciences disciplines were more likely to think there had been a some improvement in gender equality in research careers across disciplinary areas in the last five years than reviewers from other disciplines, though there was little difference in the proportion of reviewers by discipline who thought there had been significant improvement. Reviewers from Arts, Humanities and Social Sciences disciplines were more likely to think there had been no improvement than reviewers from other disciplines.

Figure 53: **Reviewer survey: whether respondents believe there have been improvements in gender equality in research careers across all disciplinary areas in the last five years.**
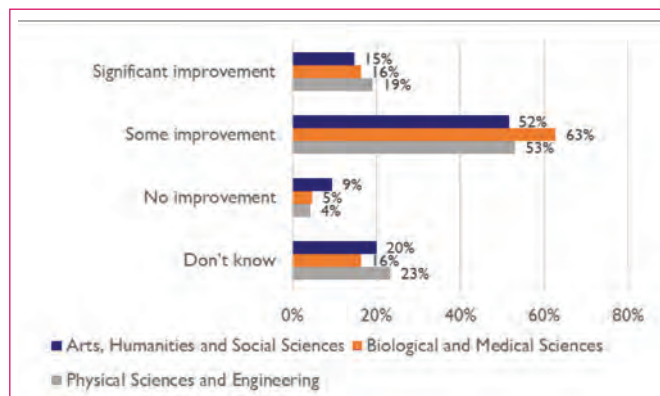
Source: IRC Reviewer Survey 2021 (Ortus Economic Research & Loughborough University).

7.9 Appendix I – Other Initiatives That Relate to the Sex/Gender Dimension in Research

Asked about awareness of other initiatives to support the integration of the sex/gender dimension in research content besides the IRC Gender Strategy and Action Plan, 30% of respondents to the reviewer survey said they were aware of one or more, with female reviewers were less likely to say they were than male reviewers (34% compared with 41%). There was little difference by subject. Respondents identified a wide range of initiatives, with many commenting that it was common for research funding organisations to have such initiatives in place, though many of the examples cited related to gender inclusion rather than sex/gender dimension.

Among those who were aware of other initiatives to support the integration of the sex/gender dimension in research content, 67% thought they included examples of good practice and 33% thought they did not. Many respondents thought that the inclusion of a mandatory application form question on sex/gender dimension was good practice.

The following initiatives were identified by the research team:

- UK BEIS: Newton Fund and Global Challenges Research Fund:
  https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/908561/ Review_of_Approaches_to_Gender_Equality_report.pdf

- Norwegian Research Council:
  https://www.forskningsradet.no/contentassets/37de500d0e6141baaf7ff65ec48df32d/policy-for-gender-balance-and-gender-perspectives-pdf

- EU Marie Curie Actions:
  https://ec.europa.eu/research/mariecurieactions/gallery/understanding-gender-dimension-msca-projects_en

- The Gender Summit (linked to US NSF):
  https://www.gender-summit.com/

- Stanford University, Gendered Innovations:
  https://genderedinnovations.stanford.edu/

- Canadian research funders:
  https://www.nserc-crsng.gc.ca/_doc/EDI/Guide_for_Applicants_EN.pdf

  https://www.sshrc-crsh.gc.ca/about-au_sujet/publications/drr/2018-2019/gba_plus-acs_plus-eng.aspx

  https://www.cmhc-schl.gc.ca/en/housing-observer-online/2020-housing-observer/2020-funding-now-available-housing-related-research

- Swedish Research Councils:
  https://www.vr.se/english/applying-for-funding/requirements-terms-and-conditions/considering-sex-and-gender-perspectives—in-your-research.html

Respondents to the reviewer survey were asked to briefly describe other initiatives to support the integration of the sex/gender dimension in research content that they were aware of, beside the IRC Gender Strategy and Action Plan. Several initiatives were mentioned, though it seemed some were more relevant to gender inclusion than to sex/gender dimension: Athena Swan, Newton Fund, H2020, NERC, Norwegian Research Council, EU Marie Sklordowska Curie, ESRC, AHRC in UK, Deutsche Forschungsgemeinschaft criteria, Diversity and Inclusion program of NSF, British Academy, Dutch Heart Foundation, Leverhulme, Wellcome, UKRI, SSHRC and NSERC in Canada, Wenner-Gren Foundation for Anthropological Research, Swedish Research Council, NIH specific calls for minorities, Toolkit Gender in EU research, Research sponsored by Canada Mortgage and Housing Corporation. Many respondents identified initiatives within their own institution, including some who said equality, diversity and inclusion training was mandatory.

7.10 Appendix J – Other Strategies to Address Gender Inequalities

Respondents to the researcher survey were asked if they were aware of similar strategies to address gender inequalities besides the IRC's Gender Strategy and Action Plan. Other similar strategies identified by respondents to the researcher survey included:

- Science Foundation Ireland Gender Strategy.
- Environmental Protection Agency Research Strategy.
- European Research Council Gender Equality Plan.
- AHRC Commitment to Equality and Diversity.
- UKRI Equality and Diversity Strategy.

Several respondents commented that most research funding organisations have some form of strategy in place which aims to address gender inequalities in research.

Among respondents to the reviewer survey who said they were aware of other initiatives to address gender equality in research careers beside the IRC Gender Strategy and Action Plan, a number thought they included examples of good practice. Examples of good practice identified included Athena SWAN. Many respondents thought gender-blind assessment was good practice. Some respondents suggested that it was good practice to ensure that the evaluation process relied on a good balance of genders and ages. Some respondents thought it was good practice to try to recognise and address unconscious bias. A small number of respondents thought it was good practice to have research positions that were only open to women. A small number thought that quotas for gender representation were good practice.
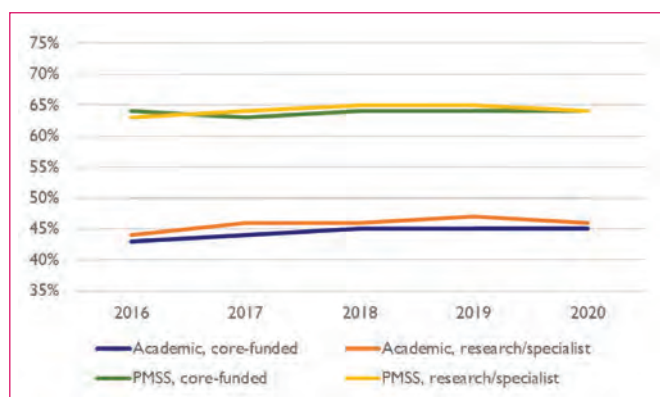
7.11 Appendix K – Gender diversity in Higher Education

This section examines data related to gender representation in staff across higher education in Ireland.

7.11.1 Universities

In universities, the proportion of all staff who are female has risen from 53% in 2016 to 55% in 2020, as shown in Figure 54.

Figure 54: **Proportion of university staff who are female.**

Source: Higher Education Authority. Note: PMSS = Professional, Management and Support Staff.
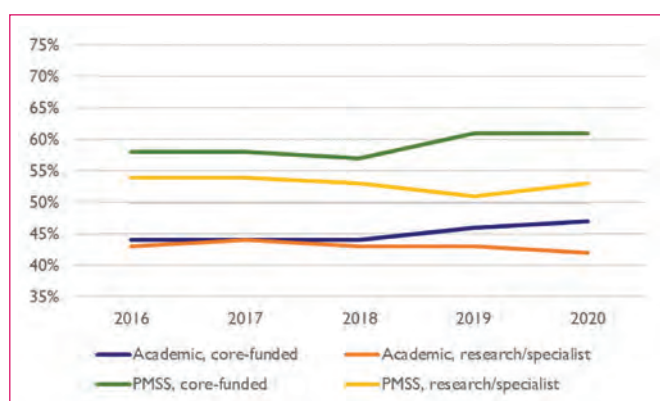
Figure 54 also highlights the following findings:

- The proportion of core-funded[39] academic staff in universities who are female has risen from 43% in 2016 to 45% in 2020.

- The proportion of research/specialist[40] academic staff in universities who are female has risen from 44% in 2016 to 46% in 2020; the proportion peaked at 47% in 2019.

- The proportion of core-funded professional, managerial and support staff in universities who are female fell from 64% in 2016 to 63% in 2017, but has since risen again to 64% in 2020.

- The proportion of research/specialist professional, managerial and support staff in universities who are female rose from 63% in 2016 to 65% in 2018, but fell to 64% in 2020.

7.11.2 Institutes of Technology

In Institutes of Technology, the proportion of all staff who are female has risen from 49% in 2016 to 51% in 2020, as shown in Figure 55.

Figure 55: **Proportion of Institute of Technology staff who are female.**

Source: Higher Education Authority. Note: PMSS = Professional, Management and Support Staff.

Figure 55 also highlights the following:

- The proportion of core-funded academic staff in Institutes of Technology who are female has risen from 44% in 2016 to 47% in 2020, with all of this increase happening since 2018.

- The proportion of research/specialist academic staff in Institutes of Technology who are female rose from 43% in 2016 to 44% in 2017, but has since fallen to 42% in 2020.

- The proportion of core-funded professional, managerial and support staff in Institutes of Technology who are female fell from 58% in 2016 to 61% in 2017, with a notable increase between 2018 and 2019.

- The proportion of research/specialist professional, managerial and support staff in Institutes of Technology who are female fell from 54% in 2016 to 51% in 2019, but has risen again to 53% in 2020.

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[39] Includes posts funded from the core grant allocated to universities, institutes of technology and other colleges by the Higher Education Authority.

[40] Includes non-core grant funded research and specialist posts; these may include posts funded from both Exchequer and Non-Exchequer resources.

7.11.3 Colleges

Figure 56 shows that in Irish colleges, the proportion of all Higher Education staff who are female has risen from 67% in 2016 to 68% in 2020. There are relatively few Higher Education staff in colleges; almost all are core-funded by the Higher Education Authority (numbers of research/specialist staff are too small to report). The data also indicates the following:

- The proportion of core-funded academic Higher Education staff in colleges who are female rose from 64% in 2016 to 65% in 2017, before falling to 62% in 2018; the proportion has since risen again to 64% in 2020.

- The proportion of core-funded professional, managerial and support Higher Education staff in colleges who are female fell from 70% in 2016 to 68% in 2017, but has since risen again to 70% in 2020.

Figure 56: **Proportion of Higher Education staff in colleges who are female.**
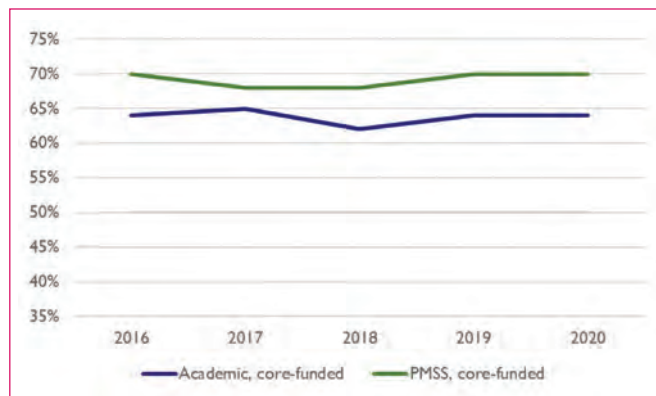
Source: Higher Education Authority. Note that PMSS = Professional, Management and Support Staff.

GENDER STRATEGY REPORT

Notes

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