WOMEN AND SPINOUTS AT THE ROYAL COLLEGE OF ART

An exploratory study into inclusive innovation practices

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Introduction

This research has been funded by Oxford Brookes University (OBU). It extends the findings of a larger project funded by the Engineering and Physical Sciences Research Council (EPSRC) that investigates the underrepresentation of women in university spinouts, in which the Royal College of Art (RCA) has been identified as having a considerably higher proportion of spinouts founded by women than any other institution in the UK.

Therefore, OBU was interested in learning more about the innovation culture at the RCA and how that culture may support more inclusive and diverse commercialisation opportunities for women and minorities.

This study aims to:

1 Understand what support is available to students, alumni and staff looking to pursue academic entrepreneurship.

2 Understand policies and practices that create an inclusive innovation culture for postgraduate and academic entrepreneurs.

3 Assess the extent to which innovation, entrepreneurship and inclusivity are embedded into institutional policies and practices.

4 Create a set of recommendations for universities to encourage more inclusive innovation.

Spinouts (or spin-offs) are defined as registered companies set up to exploit Intellectual Property that has originated from within a Higher Education Provider such as a university.

Institutions may also provide:

initial capital through equity shares

board representatives

facilities such as laboratory space

incubator support

Find out more:

www.hesa.ac.uk/data-and-analysis/business-community/ip-and-startups

Spinouts at the RCA - what we already know

In 2019, research conducted as part of the EPSRC funded Women and Spinouts project found that:

Royal College of Art

43%

of the RCA's 28 active spin-outs were founded or co-founded by a woman[1]

The RCA's incubator InnovationRCA has a **female director** and a gender-balanced team[2]

The RCA operates a spinout model that varies from most other UK institutions. Rather than focusing on IP developed by staff the institution and its incubator, InnovationRCA, nurture **student and graduate entrepreneurs** and invests in their start-up companies by way of a profit share agreement[3]. In this way, the RCA retains part ownership of the IP and these student or graduate led companies are technically registered as university spinout companies rather than independent start-ups.

The RCA was ranked as having '**the highest number of student spin-outs with university ownership in recent years in the UK**' by the Higher Education Funding Council for England[4]

7.9%

In 2017 the institution had a mean gender pay gap of half the national average (7.9% vs. 15.5%) and a median pay gap of 0%[5]

The **Equity Investment into UK Spinouts** report, published by Beauhurst and Parkways Advisors in 2020 also highlighted that the RCA has the '**largest number of active spinouts**' of all UK universities and ranked them third - after Oxford and Cambridge - in terms of the number of deals secured by university spinouts[6].

[1] Griffiths, H. and Humbert, A.L. (2019) **Gender and university spinouts in the UK: geography, governance and growth**, Oxford: Oxford Brookes University Centre for Diversity Policy Research and Practice

[2] RCA (2020) **About Innovation RCA**

[3] RCA (2021) **Patent Support Programme**

[4] RCA (2016) **Government makes public budget commitment to New Royal College of Art campus**

[5] RCA (2018) **Gender Pay Gap Report 2017**

[6] Parkwalk & Beauhurst (2020) **Equity Investment into UK Spinouts**, London: Beauhurst

Research design

This small, exploratory study has been designed to shine light on practices at the RCA which may result in a higher than average proportion of women founding spinout companies. To do so, we have chosen to speak to those for whom these initiatives have had the most impact - women spinout founders themselves.

The sample of RCA alumni spinout founders was sourced through InnovationRCA's webpages and contacted directly to take part in the study. Designed as a small, exploratory study only we used purposive sampling to select a diverse range of founders, in terms of both ethnicity and design background. Participants were all RCA alumni but still working with the InnovationRCA incubator. All participants were women whose ages ranged from 25 to 31 with only one disclosing a disability.

As the study was carried out during the Covid-19 lockdown period, all interviews were conducted via Zoom and participants agreed for each interview to be recorded for transcribing purposes. Data was transcribed verbatim by the research team with all transcripts uploaded to NVivo12 for data analysis. The analysis of the interview data was inductive but informed by indicative findings from the desk research.

The research was approved by the University Research Ethics Committee at Oxford Brookes University and conducted in accordance with the principles of research ethics laid out by the ESRC.

	M	E	N	R
Age	25	29	31	27
School	School of Communication	School of Design	School of Design	School of Design
Programme of study	MA Information Experience Design	MA Global Innovation Design	MA Service Design	MA Textiles
Gender	Woman	Woman	Woman	Woman
Ethnicity	White British	Finish	South Asian/Indian	Chinese

Table 1: Demographics of research participants

Dyson Building, RCA

RCA FACTS

1837 The Royal College of Art was founded in 1837.

28 Based around four schools, it offers 28 postgraduate programmes in art and design disciplines, integrating also some STEAM (Science, Technology, Engineering, Art and Mathematics) subjects into the syllabus.[7]

No.1 It has been ranked as the number one Arts and Design university in 2021 by the QS World for the 6th consecutive year.[8]

2645 In the academic year 2019/2020, across all subjects 2645 students were enrolled at the RCA, of which over 68% (1.805) were female.[9]

In its 2018/2019 Equality report the RCA describes itself as a '**diverse international community of artists designers and thinkers who are expected to test the boundaries of their practice and discipline**'.[10]

[7] **QS World University Rankings for Art & Design 2021 | Top Universities**

[8] **QS World University Rankings for Art & Design 2021 | Top Universities**

[9] HESA (2021) **Who's studying in HE?**

[10] RCA (n.d.) **RCA Equality Report 2018/19**

Equality, Diversity and Inclusion at the RCA:

The RCA is committed to creating an environment of mutual respect, where differences are valued and respected and where innovation, creativity and diversity can flourish. Positive working relationships – whether between staff and staff, staff and students, or students and students – are central to this. Mutual respect is facilitated by the promotion of values of dignity, courtesy and respect, alongside a zero tolerance of bullying and harassment.[11]

RCA core value statement

Besides emphasising diversity and innovation in its core value statement the RCA recognises in its 2018/2019 Equality report that *'equality of opportunity and promotion of diversity are not only ethically fundamental, they are crucial to its academic, social and commercial success.'*[12] Interestingly, however, the RCA have not signed up to Athena Swan or the Race Equality Charter but in 2018/19 two thirds of students are women (66%) and almost half (49%[13]) are 'BME'. In the same period, over half of all staff[14] (55%) were women but only 13% of academic staff were 'BME' - although both these figures are higher than the national average.[15] When it comes to innovation, as of January 2021, InnovationRCA reported that almost a third (31%) of founders were women and over a quarter (26%) were 'BAME'[16].

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[11] RCA (n.d.) **College Strategic Plan 2016/21**

[12] RCA (n.d.) **RCA Equality Report 2018/19**

[13] This figure hides intersectional inequalities in access to education as only 20% of UK students are 'BME' compared to 85% of those from 'overseas'. See **RCA Equality Report 2018/2019** for more in-depth analysis.

[14] Figures not disaggregated by academic/non-academic roles.

[15] Advance HE (2020) **Equality and Higher education: staff statistical report 2020**

[16] The authors are aware of the issues in using the terminology BME or BAME to discuss equality, diversity and inclusion and are citing the contents of these reports verbatim.

Findings

The following findings integrate knowledge acquired from desk research on the RCA and quotes lifted directly from interviews with RCA alumni spinout founders. The format of this section has been designed so that the voices of participants are foregrounded but we have offered interpretation of quotes where relevant. To preserve authenticity, the quotes have been left virtually untouched with only minor utterances removed. As such, some may not be grammatically correct and instead represent the diverse backgrounds of participants and their experience.

RCA EXCEPTIONALISM

REPUTATION

As noted above, the QS World University Rankings has consistently rated the RCA as the number one Arts and Design university in the world since 2015 and attracts applicants from across the world looking for the prestige and connections that an RCA qualification promises them. The institution considers itself 'the world's most influential postgraduate art and design school'[17], something that was not lost on the interviewees:

> 'RCA is the greatest and the best platform in the world, so I had no reason to not apply.' [R]

Prospective students can apply to study at the RCA as they would any other higher education institution (HEI) but they can also be 'head hunted' and invited to apply, as was the case for one interviewee:

> 'I was offered a position to do my masters at the RCA [...] and it being the world's best arts university kind of seemed like a no-brainer.' [M]

'PHENOMENAL' STUDENTS

> 'The students at RCA are absolutely phenomenal and fantastic [...] When you're going to a university that is marketed as the best design university in the world, you just tend to be surrounded by incredibly ambitious and clever and open-minded people. [...] And I think that really nurtures a good kind of peer support environment.' [E]

The reputation of the RCA means it attracts some of the most talented and ambitious designers stemming from a wide range of backgrounds from across the world. The RCA is a postgraduate only college meaning that many students already have established careers and reputations of their own, including our participants whose experiences ranged from working in Silicon Valley to disaster management.

Interviewees were in awe of the 'phenomenal' people they were working with and unanimously accredited their success to their peers as much as they did to the curriculum or support infrastructures at the college:

> 'I would say the biggest strength was the quality of people that they attracted and so when you are working on a project, you are working alongside people who are really, really talented and so that also elevates your own work [...] Where we really experience the benefits of RCA is from the peers and the talent it attracts to university.' [N]

The student body was described by interviewees as a 'tight knit' [M], 'small community' [N] where 'everyone knew everyone, everyone made a point of socializing, getting to know everyone' [M]. As the interviewees explained, this community became a valuable network of potential collaborators during their time at RCA and well beyond:

> 'It kind of feels like a small community once you get into it and people were like, it's worth it to be part of that network [...] that's what led me to decide to study there.' [N]

'The students at RCA are absolutely phenomenal and fantastic [...] When you're going to a university that is marketed as the best design university in the world, you just tend to be surrounded by incredibly ambitious and clever and open-minded people. [...] And I think that really nurtures a good kind of peer support environment.' [E]

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[17] https://www.rca.ac.uk/study/the-rca-experience/

HIGH PROFILE NETWORK OF ALUMNI

After graduation, the community of design students becomes a network of alumni who join what the RCA describes as 'one of the most concentrated networks of artists and designers globally '[18]. This renowned network sustains and recreates RCA's reputation in a self-perpetuating cycle, as several interviewees cited the alumni as a particularly attractive element of the college:

'Really great alumni and people who had come out of there [...] Like Jony Ive from Apple, he studied at the RCA right[19] - he is the Chancellor. So, like famous designers in almost every discipline have come from the RCA.' [N]

The RCA describe their alumni as an integral part of the community[20] in a college that is 'small enough to know everyone, and large enough to allow individualism'[21]. Graduates are encouraged to stay in touch via events and social media, and all students are entitled to keep their RCA email address after graduating. Alumni also promote the RCA experience through webinars to future students.[22]

As well as benefiting from the credibility of being an RCA student, interviewees felt that this alumni network was always there in the background to support them, their designs and ultimately their companies. One participant described it as meaning that the RCA could '*put us in front of the right people to learn from.*' [M] Another interviewee referred to it as being able to provide the right exposure to discuss and promote your ideas:

'They would introduce me if I asked 'Hey, I want to talk to this person for my research [...] I think they give a lot of exposure - because again of the community and network - they give a lot of exposure to the students to that wider network and experience.' [N]

DESIGN LED PEDAGOGY

Having identified during the initial desk research that spinouts at the RCA are largely founded by students and graduates, there was a necessity to explore the curriculum that results in this innovative drive. One difference to other HEIs is that the RCA only offers

'There is a little bit of a saying that the RCA takes perfectly employable people and makes them unemployable and the reason for that is, the whole education system is about thought leadership and making you a unique thinker in your field.' [N]

postgraduate courses. However, this is not the only differentiating factor; its educational philosophy is also quite distinct compared to most taught postgraduate courses. There is no strict curriculum as such and most courses are project based, or as the RCA describes it: '*our students develop the confidence to tackle global problems through experimental learning: a learning-by-doing model, rather than learning from teachers. It's a method that embeds confidence, founding deep disciplinary knowledge in trial, error and experimentation.*' [23]

All alumni interviewees acknowledged the value of this teaching philosophy and its aim to encourage thought leadership amongst the students:

'I really, really like and appreciate the education model here because we don't have class. It's kind of a research project for two years. So it's kind of like you learn from yourself, your classmates, your lectures or your tutors.' [R]

The interviewee went on to highlight that, for her, this was one of the biggest benefits of studying at the RCA: *'it's not about the skills and knowledge, it's about the things and ways of thinking and creating something like, you know, interdisciplinary.'* [R]

One interviewee described the approach also as '*a culture of innovation and everyone thinks differently*' [N], whereas another underlined that it is in the nature of design and artists '*to do something new or create something new*' [R].

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[18] RCA **RCA (n.d.) Alumni Stories**

[19] Sir Jony Ive received an honorary doctorate from the RCA in 2009 but actually studied Art & Design at Newcastle Polytechnic (now Northumbria University). In 2017 **he was named as the new Chancellor** of the RCA succeeding Sir James Dyson.

[20] RCA (n.d.) **For Alumni**

[21] RCA (n.d.) **The RCA Experience – Alumni Stories**

[22] RCA (n.d.) **For Alumni**

[23] RCA (n.d.) **The RCA Experience - Innovation**

The interviewees further emphasized that the project based curriculum and focus on 'real life' problems result in many opportunities for innovation and entrepreneurship.

'A lot of RCA's curriculum is project based and not really like, written or even lecture based, it's all what you create. And so I think that also creates a lot of opportunities to either turn that into a spinout or a start-up.' [N]

'So, it's a case of developing a tangible solution, which is something that doesn't always happen at university. You create lots of concepts, but this was an opportunity for a concept to turn into a business.' [M]

CROSS-DISCIPLINARY PROJECTS

The RCA views a cross-disciplinary approach as an integral part of its strategy to become '*the world's most influential art and design university*'. The diverse backgrounds of our small group of research participants is a good example of how a cross-disciplinary approach to problem solving can lead to innovative design solutions. We interviewed fashion and textile designers using chemistry and medi-tech engineering to solve passion-driven social problems, and a fintech entrepreneur who describes herself as '*a public policy major, turned marketing assistant, turned UX designer, turned service designer.' [N]*

This combination of art, design and STEM is a core element of the RCA's postgraduate curriculum. The institution describes the benefits of this interdisciplinary approach as:

'Synthetic thinking, applied in addition to analytic thinking, and it produces new ways of utilising ideas and solutions that result in outcomes that would not arise from mono-disciplinary methods and approaches, or from STEM alone.' [24]

The interviewees acknowledged that working alongside other students from multidisciplinary backgrounds and being in such an open-minded environment enriched their perspectives and sparked them to explore innovative solutions beyond their own subjects:

'That's what the RCA was about, especially on my course. It was about such a cross-disciplinary environment, where you would have musicians developing projects with programmers and you would have physical health specialists working with painters. And it was such a bizarre environment to be in, but it just created such a positive collaborative and innovative space.' [M]

'Even as a textile designer I'm very happy to combine the textile materials [...] with science engineering, to produce something like more functional and systematic which can create the added value to the society.' [R]

COLLABORATIONS AND PARTNERSHIPS

Another key element of the curriculum are the various collaborations or partnerships with other institutions and businesses. In its 2016-2021 strategic plan the university commits to increasing knowledge exchange activities in an effort to become 'a thought leader demonstrating the value of creativity to society and industry'[25], identifying commercialisation of innovation as a key success criteria for HEIs in future. Apart from collaborations, many innovative ideas originate from the design competitions that the university holds, where students and staff are given the opportunity '*to work together through a series of interdisciplinary projects that explore new ideas, approaches and skills*'.[26]

All of the founders interviewed developed their business ideas while working on these problem-solving projects, either through design competitions or as part of their final project:

'It was a design competition and a collaborative one, which was across RCA [...] anyone from any course could apply for this project' [M]

'Through my course at the RCA I worked together with a project partner who is now my co-founder [...] [the tech company] had partnered with the university to get students to work on some of the projects that they had with their innovation hub and so we were one of the students on that brief, and that brief turned into us basically to our company.' [N]

These partnership programmes were also considered one of the factors that attracted students to the RCA:

'The biggest allure for a lot of people who do it, all our projects are not made up, they have real partners and real companies, or you know councils, whoever, to work with and that's part of the allure of our course.' [N]

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[24] RCA (n.d.) **The RCA Experience - Innovation**

[25] RCA (n.d.) **College Strategic Plan 2016/21**

[26] RCA (n.d.) **The RCA Experience – Interdisciplinary Working**

GLOBAL INNOVATION DESIGN

A Joint Master's Programme with Imperial College London

Part of the RCA's collaboration strategy includes partnering with '*world-leading universities in London and abroad in order to maximise the opportunities for cross-disciplinary work*'. Beahurst, a company that specialises in gathering data on high growth UK companies including university spinouts, identify that '*collaboration[s] between universities can also be a stimulus for a new spinout.*' Beahurst highlights Imperial College London, one of the RCA's institutional partners, as the university that '*has produced the most ambitious companies with more than one parent institution.*' [27]

Global Innovation Design is one of two such courses and offers students a two year double Master's with an MSc from Imperial and an MA from the RCA. Global Innovation Design, and its 'sister' programme Innovation Design Engineering, are jointly managed by the School of Design at the RCA and the Dyson School of Design Engineering at Imperial. It has been estimated that between them these courses are '*responsible for 80% of the projects that spinout into InnovationRCA*'.[L] The collaboration between the two universities through the Innovation Design Engineering programme has been going for 40 years

with Global Innovation Design a relatively young course in comparison, set up in 2014 when the Dyson School of Engineering was founded at Imperial.

To understand more about this collaboration and the impact it has on the number of women in RCA spinouts we interviewed one of the Directors of the Global Innovation Design programme, Dr Leila Sheldrick who is based at Imperial. Leila explained that students are recruited from across all disciplines into the programmes, which creates a unique mix of talents from different disciplinary backgrounds:

'We don't really have a prerequisite other than somebody who's good at what they already do and eager to explore the boundaries of that. And so, in any given cohort we can have a real mix of people from marketing backgrounds, people from all sorts of design sculptors, artists, jewellery makers [...] we are interdisciplinary in our intake and then very interdisciplinary in the design of the curriculum and what we, what we asked them to do.' [L]

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[27] Ava Scott for Beahurst (2019) **Top UK Universities by spinouts grants**

Leila describes the syllabus of these courses as 'very much in flux and changes all the time' and 'influenced by what's happening in the world and what new technologies are coming out and what the students are talking about each year.' This fluid structure is part of the creative pedagogy because, as Leila explains, 'we try to embed into the program some uncertainty to strengthen their skills in design and engineering.'

Leila felt that this focus on problem solving, combined with a very outward facing, socially conscious and dynamic curriculum is what attracts students who are keen to start up their own business:

'I think it's also bedded in the mentality of students who apply, that this is the place I go if I want to get an idea and start a business. And so, I think the fact that the program has a good track record, it also attracts people that want to do those things.[...] I think they see start-ups as being the most impactful route forwards, I think they see it as being the gold standard.'[L]

One of the alumni interviewees who studied Global Innovation Design agreed, saying, 'I wanted to do this degree [Global Innovation Design], so that I have some kind of innovation that I can start my own company with.' [E]

Candidates who apply for Global Innovation Design are shortlisted and interviewed, a process which Leila explains tends to create gender parity every time. During the interview with Leila we discussed whether this might contribute to the higher number of women spinout and start-up founders coming out of the RCA:

'I think part of it is the pipeline, the fact that we'd probably have a better gender balance in the cohort itself in the first place [...] In the main it's people who really want to learn how to augment the skill sets they have. It's artists who want to play with technology, or it's engineers who want to learn how to be more creative [...] Having somebody that understands that the edges of possibility are exciting places to be and to grow yourself into, means that we're predisposed to have, for example, women who aren't scared of a label of leader, which I know is a really gendered word when it comes down to it, because of all these connotations.'

Leila was conscious that this level of gender equality was not necessarily representative of the design industry more widely. As an engineer

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who used to work in the automotive industry, Leila herself had 'never thought too much about being a female in a male environment' until recently when she learnt it was something that many younger students were conscious of. This awareness was starting to change institutional practices from the bottom-up, as Leila explains:

'I have young women constantly telling me how important their representation is. So, it's for them having female members of staff and for me to bring female speakers in to come and see them and for those sorts of things, things that I didn't notice for myself that would have made a difference because I wasn't surrounded by. But the feedback that I'm constantly getting from students as they come through, is how important it was to have seen a female in that role and to be exposed to other females doing those things. And so I think the power of representation is something that's really hit home for me in the last few years, as a way to start to break some of those expectations. And so, yeah we're always trying to put more of that into things now, if we can consciously.'

This reflexivity is a promising sign that the RCA and those working at the institution are becoming more aware of equality, diversity and inclusion issues through listening to students and reflecting on their own experiences. However, this interview extract is also a reminder that it is incredibly hard to recognise change is needed if you have not felt discriminated against yourself.

InnovationRCA

'InnovationRCA provides business coaching and start-up incubation services to RCA students, graduates and staff to help them protect and commercialise pioneering design-led ideas through company formation or licensing. InnovationRCA serves as an enterprise hub with an active community of early-stage start-ups, entrepreneurial fellows, business and industry experts and investors. We have a lively calendar of events to champion our community, and facilitate useful knowledge exchange and introductions.[28]' **InnovationRCA | Our Services**

InnovationRCA is the RCA's business incubator which was set up in 2004 and supports the commercialisation of intellectual property (IP) for students, alumni and staff. As previously mentioned, one reason why the RCA is such a prolific producer of university spinout companies is that it shares the ownership of IP with students and alumni, not just staff members. As well as offering advice around IP ownership, InnovationRCA provides incubation and acceleration services which include coaching and mentoring as well as providing connections to dedicated funding and investment opportunities.

Through our desk research and interviews we learnt that InnovationRCA offer training and development programmes and that places on these programmes are very competitive. We have been unable to establish whether staff members are eligible to apply for these programmes as the majority of InnovationRCAs resources seem designed to support students and graduate entrepreneurs almost exclusively.

Nevertheless, InnovationRCA offers a comprehensive suite of packaged programmes for entrepreneurs at all stages of their venture, from coaching brand new starts-ups through the patent process and business development plan, to accelerator and scale-up programmes for more established businesses.

> InnovationRCA support both **start-up** and **spinout** ventures but typically use the terminology of **start-ups** as a 'catch-all' term, irrespective of whether or not they have part ownership over the IP.

THE START-UP PROGRAMME

All four interviewees in this research had attended InnovationRCA's start-up programme, which they described as 'master classes' for new company founders:

> *'We had like, master classes for basic financial forecasting and marketing and so on [...] They paid for all of the fees that were related to filing a patent [...] there was kind of like a fast track into becoming an entrepreneur and I was having one-on-one mentoring sessions, or like, you know, chats with the innovation RCA people.' [E]*

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[28] RCA (2020) **Innovation RCA – Our services**

'So, basically they'll be like, here are all the fundamentals of starting a company. They help you, they train you to get ready for pitching, so they had a rigorous kind of boot camp where all their mentors listen to your pitch and give you feedback. And then they have some mentors you meet on a monthly cadence or master class workshops' [N]

As well as the practical and developmental elements of this programme, interviewees commented that another distinct benefit of this programme is having access to a high profile network of experts from the design world:

'The tutors are rich, experienced, industrial advisors and can give me one to one advice on my own product [...] Even they help with some networking events, they introduce me and connect me with some angel investors or pitching conferences or some industrial experts to help me grow my business.' [R]

COMPETITIVE ENVIRONMENT

Not all start-ups will benefit from InnovationRCA support, as each programme is incredibly competitive with only a small number of entrepreneurs and their companies being selected to attend each year. As noted above, many spinout companies emerge from projects or competitions held across the RCA and 'successful' entrepreneurs are whittled down via a series of events, including a short 'boot camp' or 'summer school', which gives them an introduction to the fundamentals of starting a business, as several interviewees explain:

'We did like a two-week boot camp and at the end of it we had a pitching competition and they chose the ones that they wanted to come on to the program.' [E]

'I was invited to a kind of summer school and then we learned together about the skills and knowledge of the business - coaching, financial, things like that, and then we have the pitching. It's very competitive actually, because they selected like 30 onto the program and then they only supported like 8-10 start-ups to grow.' [R]

Cited in an **RCA blog post** for international women's day 2021, Director of InnovationRCA, **Dr Nadia Danhash** is quoted as saying she herself experienced 'prejudice' and 'an awful lot of "mansplaining"'. As such, she understands the type of support women need to navigate what is still a very male dominated sector and is able to use her position to promote change. The current focus is on diversifying the portfolio of investment opportunities to ensure women have equal access to available funding, as Nadia's extract from the blog post explains:

'We're proudly the backers of many women founders - we pretty much back more women founders than any other UK university with 31% of our founders being women [...] Sadly they tend to find it harder than their male counterparts to raise investment from investors at fair valuations[1]. That's one of the reasons why we are keen to launch our own investment fund to back RCA talent irrespective of who that talent is and it's also why we work so hard to build their faith in themselves.'

Students at work working in the Wolfson Printmaking Hall, RCA

All interviewees said how much they had benefited from the programme and support they received through Innovation RCA but one interviewee felt that more credit should be given to the peer network as she would often turn to them for advice, in the first instance:

'All of the things I've been looking for advice for, I then found the answers through my peers. I quite significantly think that the success of InnovationRCA and the company's coming out through it is due to the student body' [E]

In contrast though, another interviewee valued the tailored service offered by the incubator and was grateful to have them on hand, not just in the early stages but for many years into the future as well:

'They always like to meet personally and to refer to the specific needs and requirements in our different stages and they will have their resources or their network to help to meet your needs [...] the minimum support is one year but there's no maximum support.' [R]

This shows that one size does not fit all in terms of how an incubator can support its founders and some will benefit more than others. What does seem to be important though is the ability to connect to various sources of support, whether that be training and development programmes, industry experts, or a network of knowledgeable and like-minded peers.

'I have to say, I think being a female creative is a very demanding position. I have definitely been in situations where I've had to work a lot harder than the people around me.' [M]

INCLUSIVE INNOVATION

So far, this report has documented the various ways in which the RCA supports (women) start-up and spinout founders and how the culture and strategy of the institution supports innovation through bringing together designers from diverse backgrounds together. However, diversity does not necessarily create inclusion and beyond the walls of the RCA, some women interviewed were acutely aware that they were a minority in man's world.

This section draws on the final stages of each interview where we asked participants whether they felt their gender - being a woman - had impacted them on their spinout journey so far. Two of the four interviewees were very vocal about this and were actively working to make changes within the industry, whereas the remaining two interviewees felt that their gender had no detrimental effect on their experience or success. To highlight instances of gender bias in the industry, this section mostly draws on data from the former two interviewees and introduces the voices of the remaining two interviewees toward the end.

CASE STUDY

A BRAVE NEW NORMAL

In 1994, art and design scholars, **Teal Triggs** and **Siân Cook**, founded the **Women's Design + Research Unit (WD+RU)** to raise awareness about women working in design, specifically visual communication and design education. They describe WD+RU as an inclusive, collective organisation that collaborates with designers at any stage of their career, from students to seasoned professionals. These collaborative projects can be self-initiated or by invitation but are always '*underpinned by a core feminist philosophy and approach*' to give a voice to communities that do not always have a platform.

Their latest initiative, 'Brave New Normal', is in collaboration with **Lorna Allan** from **Hidden Women of Design** to explore the challenges womxn face in the design industry and investigate how intergenerational mentoring might benefit the diverse community of graphic designers, both inside and outside the academy. 'Brave New Normal' integrates mentoring expertise from academia, design organisations and collectives, freelancers, and design studios and is currently exploring the potential for intergenerational mentoring as a mechanism to disrupt existing narratives around career lifecyles:

As WD+RU co-founder Teal Triggs explains:

> '*In a world where the new normal is constant change, an urgency exists for the survival of supportive communities. In my own practice, I am exploring the role intergenerational mentoring might bring for professional knowledge-sharing between womxn working in the field of graphic design. Together we can impact and empower change.*'

Prof Teal Triggs (cited in RCA blog for IWD 2021)

This change rests on an underlying determination to 'rebuild the system' and challenge the powers and hierarchies often taken for granted across a career lifecycle. For this research team, that starts with disrupting power relations in the mentor/mentee relationship and reframe mentoring as a collaboration and a 'two way conversation'.

The phrase intergenerational mentoring is built on the philosophy that in today's time, where work environments can change frequently, knowledge exchange can happen both ways between the mentor and the mentee.

The researchers held two workshops with design professionals from across the UK to understand the challenges and issues these women faced in progressing their career, and asked these participants how they thought mentoring could support them as they launch and progress their careers in art and design. During the summer and autumn of 2021, the team have been writing up the findings from these workshops and will present the report to the RCA and other stakeholder organisations from across their networks in higher education and industry. They hope the findings will support others to transform their mentoring practices and ultimately address the 'crisis of confidence' they have witnessed in many talented women designers who are facing significant challenges in a post-pandemic workplace.

UNDERREPRESENTATION

The increased presence of so many women role models working in design is encouraging, although these interviewees felt the staff body across the institution could be more diverse which, in turn, may promote more diversity in innovation and spinouts:

'[At InnovationRCA] it is majoritively middle-aged white men and women, who have amazingly credible careers and are very talented at what they do, and the majority of them championing the students that go through it. But [...] I think that would have been a great opportunity to see more projects and more people and of different groups to be inspired by them.' [M]

'Some of our professors you know they were old white men they like their white tall male students and that's there as well' [N]

These young alumni interviewees felt there were opportunities to introduce more intersectional diversity in the role models they encountered at the RCA especially because, as the second extract points out, the tendency to support and promote people who like us.

GENDER BIAS - NO EXCEPTION

All interviewees where asked whether, at any point in their spinout journey, they felt their gender mattered, a question which elicited several stories of gender bias, discrimination and in one case sexual harassment. None of these instances took place at the RCA but these women felt that these experiences were a consequence of being a minority in a (white) male-dominated space.

The majority of examples were instances of micro-aggressions that these women felt belittled their knowledge and experience:

'It's just the kind of opportunities that come your way, you can just tell the difference when they talk to the male counterparts. Like, because also my co-founder is male, we can just see some really interesting things like we talk to somebody and he gets a LinkedIn request, but I don't.' [N]

Although as one founder explained, such micro-aggressions act as barriers to entry to women and anyone else currently underrepresented in design and innovation:

'There are cases where I have to bring in a white middle-aged man to sit in a boardroom with me so the conversation goes to him the whole time, even though it's about negotiating deals and I'm the CEO of the company. [...] I'm frequently disgusted by the treatment that happens to myself but also to other women in industry and that there are so many barriers, that barriers to even accessing becoming a start-up founder to then be presented with these kind of disrespectful situations. No one deserves that - no man or woman no ethnicity no culture should be discriminated for the impact they're trying to have in the world.' (M)

The negotiating arena was noted as one of the main areas where gender mattered and, echoing the findings of the larger study by OBU[29], one interviewee attributed this to the lack of women in the investment space:

'The people who we found in the end who were the most supportive of us and the most supportive of me, are investors who focus specifically on female and underrepresented founders because it felt like X-tech is a little bit of a club and a little bit of a 'broie' club.'

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[29] See **Women and Spinouts: A Case for Action** for all research reports

'Talking to a female investor was extremely rare. Like I could count maybe on my hand how many female investors I actually found to be able to talk to and who are also interested in this area. And in the end, we found one female investor who is on our capital board and she is like our favourite person and she is so helpful.'

As this interviewee goes on to explain, they are only working with this investor because they decided to actively seek out women investors and came across a list of women business angels shared on social media:

'We found a list on Twitter that shared all these female angels in the UK and we were just lucky that they shared that otherwise we would have never found that like it is so difficult to even make your own investors diverse it's like impossible they are all men.' [N]

As suggested in our previous research report, diversity in the investment sector is improving but change is slow. In the report we suggest that HEIs become part of this change by, at the very least, seeking out investors who have signed up to the **Investing in Women Code**.

MASCULINITY VS FEMININITY

Interviewees who did not report gender bias still engaged with the idea that gender matters but that it operates in a more subtle way and not one that is necessarily detrimental to women. These interviewees felt that personality was more important than gender but did recognise that successful entrepreneurs tended to exude masculine rather than feminine characteristics:

'I really don't think it's a question of gender, I think it's a question of personality type. I've got lots of female founder friends, and they are all just as successful and just as ambitious as the men and they are also working in similar fields. And the ones who seem to have problems is because they're more of, you know, a softer personality, or more of like, I guess what we would think of as feminine personality traits and I found exactly the same with men.' (E)

The perspectives of these interviewees is a valuable reminder of how nuanced issues of gender bias are in innovation and design (and more widely) and that we ought to listen to women's individual experiences as well as recognising collective challenges and offering support mechanisms based on shared experience.

INSPIRING WOMEN

The women founders in this small research sample were hugely inspiring and we felt privileged to have the opportunities to listen to their experiences and views. They really are the future of design and innovation and in many ways, they themselves are creating the changes they wish to see in the industry and society more widely. These short extracts have been included to illustrate this and to capture the voices of these exciting women entrepreneurs. We thank them wholeheartedly for their contribution to this project and wish these inspiring women well in their current and future ventures as they go on to make a big impact on our world:

'Another thing is to think about in just the whole product and user experience, like thinking about how we portray our visuals, you know from colour of skin to the faces and people that we represent. And how we hire people, you know, the hiring process we are trying to keep it very equal and try to recruit men and female talent. I am also part of some female communities, like tech communities online, that also help me to tap into female talent and things like that so I think it's like all different ways you can do that. [N]

'My work always started from today's problem and create a solution for the better future.' [R]

'I'm very lucky that within my team, my engineer is very much a feminist and could probably even call me out on certain things, which is great. That environment where we can critique, we can all speak openly, there's no sense of hierarchy, we're all there at the same level to get the same job done, that's what's really, really important to us. And in terms of inclusivity we kind of find ways in which we can promote this and support other people in doing so.' [M]

'I've got lots of female founder friends, and they are all just as successful and just as ambitious as the men.' [E]

Recommendations

In many ways, the RCA are an exceptional case but by drawing on the evidence presented in this short report, we endeavour to make several recommendations that translate across the higher education sector.

These recommendations are designed to start a discussion amongst those academics and practitioners in HEIs who want to adopt more inclusive innovation practices and encourage more women and underrepresented groups to consider commercialisation of IP.

There are many recommendations we could make as result of these findings but we have elected to focus on those that we believe are most likely to create a more diverse and inclusive innovation environment and ultimately result in more women-led university spinouts.

Some of these recommendations may appear ambitious but we encourage those working in the field to embrace small incremental changes that are within their control as a way to contribute to more longer-term strategic changes happening within their institution and sector as a whole.

PEDAGOGY & PRACTICE

CREATE MORE OPPORTUNITIES FOR CROSS-DISCIPLINARY PROBLEM SOLVING

One reason the RCA has so many women start-up founders is because they accept students from a wide range of design backgrounds and cross-disciplinary problem solving is a fundamental part of the pedagogical experience.

In other HEIs this relies on breaking down disciplinary silos. For example, a similar outcome could be achieved by encouraging STEM and non-STEM faculty and students to work together to solve research problems or engage in consultancy projects.

REDEFINING SPINOUTS

The RCA are one of only a few HEIs that commercialise student IP and register these companies as spinouts via a (temporary) equity share agreement. Doing so opens up spinout opportunities to a wider and more diverse pool of designers beyond those in faculty positions. More research needs to be done to understand the relationship between the institution/incubator and the spinout founder, but none of the founder interviewees in this project expressed dissatisfaction with this contractual arrangement.

Many HEIs are investing in supporting student entrepreneurship initiatives so there may be scope here to explore whether student IP developed within programmes of study could be eligible for additional support in return for equity agreements and a share in IP ownership – at least during the initial stages of spinout creation. This has the potential to create opportunities to support spinouts beyond STEM disciplines and include more women entrepreneurs and those from other underrepresented backgrounds.

ACKNOWLEDGING GENDER BIAS

Not all women in this small sample felt they had experience gender bias as a spinout founder but those who did described being on the receiving end of overt discrimination and even sexual harassment. The majority of instances amounted to micro-aggressions which, as we explain in a previous report[30] can create an accumulative disadvantage to women over time. The HE sector is working hard to challenge bias in all forms but our final recommendation is simply that those working in HEIs acknowledge that gender bias is still widespread and an ingrained problem in the innovation ecosystem - in ways that are often out of the HEIs control.

We simply recommend that HEIs and particularly those working in innovation, acknowledge the problem of gender bias still exists and consider ways they can support women to manage and overcome this additional barrier to spinout success. We also strongly recommend that research is conducted to understand how racial bias is experienced across the innovation ecosystem including how this intersects with gender.

REPRESENTATION

Evidence from the interviews and case-studies included in this report highlight the importance of role models for women in design. This finding echoes that of the EPSRC 'Women and Spinouts' project for women in STEM spinouts and as such, we recommend that HEIs consider ways to increase the presence and visibility of women in innovation spaces, paying particular attention to how gender intersects with race and other protected characteristics. Examples from these findings include the benefits of working alongside women from diverse social and disciplinary backgrounds; the challenges in finding women investors to collaborate with; the developmental possibilities of intergenerational mentoring between women; and ensuring diverse and representative academic staff across faculties.

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[30] See **Women and Spinouts: A Case for Action** for all research reports

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