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'EQUALITY IN THE ANIMATION WORKFORCE – HOW CLOSE ARE WE TO A GLOBALLY LEVEL PLAYING FIELD AND HOW CAN A NEW SCHOOL OF DIGITAL ARTS CONTRIBUTE TO PROGRESS?

IGUALDADE NA FORÇA DE TRABALHO DA ANIMAÇÃO – QUÃO PRÓXIMOS ESTAMOS DE UMA IGUALDADE DE CONDIÇÕES GLOBAL E COMO UMA NOVA ESCOLA DE ARTES DIGITAIS PODE CONTRIBUIR PARA O PROGRESSO?

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ABSTRACT

This article looks to identify reasons behind a perceived lack of equality within the Animation workforce, if indeed this is still predominant in the Animation industry. It asks whether these gender gaps do still exist, continuing to compare the effect of gender equality issues within the sector and its work force, in relation to wider societal influences and comparisons. It will continue to make suggestion on the role educators should play in the continued promotion of equal opportunities to support all graduates, regardless of gender, ethnicity and social background and specifically how a new school, such as SODA, can lead in discussion to develop collaborative initiatives for continued future change.

Keywords: Gender diversity. Animation employability. Equal opportunities. Diversity in the Animation workforce.

RESUMO

Este artigo busca identificar as razões por trás da percepção de falta de igualdade na força de trabalho da animação, se de fato isso ainda predomina na indústria da animação. Questiona se essas disparidades de gênero ainda existem, continuando a comparar o efeito das questões de igualdade de gênero no setor e em sua força de trabalho, em relação a influências e comparações sociais mais amplas. Continuará a apresentar sugestões sobre o papel que os educadores devem desempenhar na promoção contínua da igualdade de oportunidades para apoiar todos os graduados, independentemente de gênero, etnia e origem social e, especificamente, como uma nova escola, como a SODA, pode liderar discussões para desenvolver iniciativas colaborativas para mudanças futuras contínuas.

Palavras-chave: Diversidade de gênero. Empregabilidade na animação. Igualdade de oportunidades. Diversidade na força de trabalho da animação.



INTRODUCTION

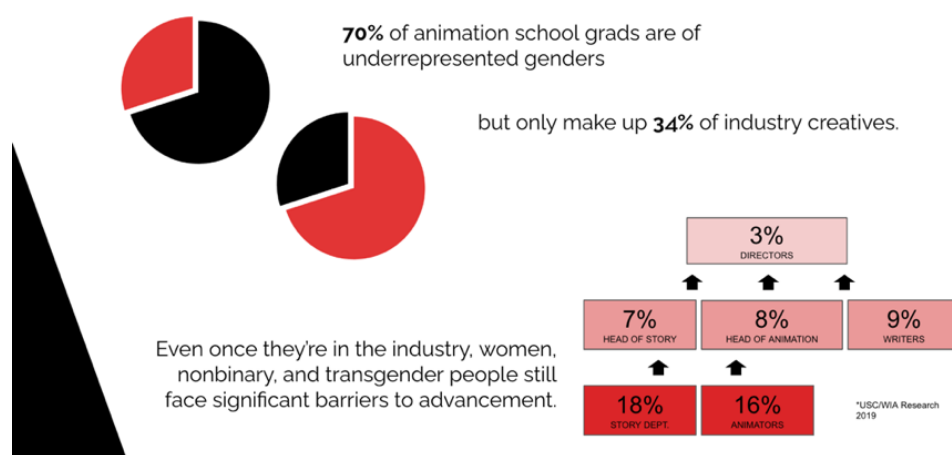
'Women in Animation' is an advocacy group who work in the interest to support and promote the involvement of women in the Animation industries.

Women in Animation (WIA) is a non-profit organization with the purpose of furthering, promoting, and supporting female animators in the art, science and business of animation. We envision a world in which people of all gender identities share fully in the creation, production, and rewards of animation, resulting in richer and more diverse entertainment and media that move our culture forward. (WIA, 2023)

The group seeks to lobby for the achievement of equality within the global sector by 2025, details of which is outlined in their '5050 by 2025' campaign (WIP, 2023). Through their analysis of the Animation sector, the group record the encouraging statistic that 60% of animation students in the US and Europe are women, but on further investigation continue to share the more concerning statistic, that still only 20 – 40% of professional roles across the global animation sector are held by women (fig 1 WIA. (2023)). This article will first consider the statistical information demonstrating this in a variety of regions, both to look at the issue as a whole, and to examine specific geographical areas, where there may be differences in experience and variation in the occurrence and/ or implementation of change. It will also look to identify reasons behind the continuation of this phenomenon, if indeed it appears to still be predominant in the Animation industry. It asks whether these gender gaps do still exist, continuing to compare the effect of gender equality issues within the sector and its work force, in relation to wider societal influences and comparisons. It will continue to make suggestion on the role educators should play in the continued promotion of equal opportunities to support all graduates, regardless of gender, ethnicity and social background and specifically how a new school, such as SODA, can lead in discussion to develop collaborative initiatives for continued future change.



Figure 1 – WIP Stats 2022



Source: WIP Stats (2022, p. 1)

The Council of Europe Gender Equality Policy, outlines that, 'achieving gender equality is central to the fulfilment of the Organisation's mission: safeguarding human rights, upholding democracy and preserving the rule of law. Gender equality means equal rights, visibility, empowerment, responsibility and participation for both women and men in all spheres of public and private life. It also means equal access to and equal distribution of resources between women and men.' (Eurimages' gender equality strategy (2021-2023) It is then, all members of a community's responsibility to uphold the pursuit of gender justice and equal rights for all members, regardless of gender identity, including binary and non-binary identities.

The recognition of politics and governance is critical for gender justice projects because it can be applied to the relationships between women and men - a recognition that power imbalances can prevent women from acting to advance their interests and a recognition that social, economic, and political institutions must be made accountable to women - a project as we shall see that involves rooting out institutionalized patriarchal power systems'. (Mukhopadhyay et al., 2007)

THE FEMALE EXPERIENCE

As a woman, working within the field of Animation, firstly within industry and then within the education sector, positive changes have been clear over the last 30 years with a real acceleration here



in the UK, in the most recent decade. Entering the education sector 20 years ago, it was much more common to work as a female animator in otherwise male teams, teaching to an entirely male student body, within new undergraduate programmes at the time. This too was reflected in experiences in the industry sector, both within studio settings and freelance situations. The imbalance of gender lead to innumerable challenges faced by minority groups in a predominantly patriarchal workforce. As undergraduate provision in Animation has grown, gradually the outlook has improved; provision for both Undergraduate (UG) and Postgraduate (PG) courses in the UK has increased, women are actively encouraged to enrol in Animation and can now see themselves with future careers in this creative discipline.

Anna Mantzaris, is a Swedish animation director and Stop-motion animator working for Passion Pictures in London. She was commissioned to create the animated short, 'Global Women', for the International Women's Day for New Zealand's 2021 campaign with Saatchi & Saatchi, that 'aims to raise awareness of the "Motherhood Penalty" that significantly impacts women in the workplace.' (Mantzaris, 2021)

'The short shows there is almost nothing a woman can do in the workplace that is more career-limiting than having a baby' (Mantzaris, 2021) and focusses on the phenomenon that mothers earn 12.5% less than fathers of the same age and education over the course of their career, approaching this disturbing statistic through humour, to highlight the ludicrousness of this real-world reality. Mantzaris speaks on the subject of the film and on her own experiences in what she perceives to be a gender bias in her industry, in the Creative Review article of the same subject (Fulleylove, 2021). She shares that, during both her undergraduate and post graduate study, she found a usual 50/50 balance, occasionally tipping in favour of female students, but was surprised at the difference she experiences within the industry saying, 'when I'm working, the majority of people I'm working with are men, and it just makes me wonder what happens to all the women that study? It's not like they don't want to work.' She continues, "I don't think there is one single reason but rather a lot of things together, and often hidden obstacles, which makes it more difficult for women to progress to higher positions such as director or lead animator." (Fulleylove, 2021)

This statement is an important one, suggesting that endemic pathways for promotion and industry patterns of behaviour, can create barriers for women to perform to an expected level in lead roles. As primary care givers, expectations established within working patterns, often seen within media companies; the late hours and tight deadlines, can and do increase expectation for employees to work overtime and as such those that do, and perhaps more pertinently have greater capacity to do so, access opportunities and increased potential to rise to lead roles within the creative industries. Animation,



following the same patterns, appears to exhibit similar discrepancies seen in other fields of Media. There are historical examples leading to evidence of a pattern, in some areas, of gender bias and stereotyping of women in the workplace in relation to creative ability, decision making and leadership skills and dedication to the job (willingness to 'give it their all', a perceived measure of performance ability and dedication to the task or company).

The general understanding is that: 'you have to be available 24/7, including nights, [and] cannot contest overnight working' (BBC employee cited in House of Lords Select Committee, 2015). Because mothers are likely to struggle with these demands the widespread conclusion is that women are less well suited for screen sector work. Preferring men over women is therefore not seen as fundamentally problematic but as 'reasonable' or 'understandable' sexism (Wing-Fai et al., 2015): it is 'more 'rational' to hire a man, because he would be less likely to leave or to take time off'. Relatedly, Wing-Fai et al. (2015) also found decision makers saying that women's parenting responsibilities compromised their creative energies and will to succeed – in the words of a commissioning editor 'the hunger isn't there anymore'. CAMEo (2018)

It should also be noted that the beliefs held, or practices implemented were not exclusive to the male workforce, since there are examples of women who, having risen through the system, had adopted similar attitudes. Whether this was perceived to be necessary to sustain promotion within the status quo of a patriarchally lead industry or whether these women simply agreed with these beliefs is unclear. Mukhopadhyay et al refer to this in their 2007 paper 'Gender Justice, citizenship, and development' saying, 'Oppressed women themselves may not propose a version of gender justice that challenges male privilege because they have been socialized into acceptance of their situation this used to be called a problem of 'false consciousnesses''. (Mukhopadhyay et al., 2007). Women also exhibit a level of acceptance where these expectations and social 'norms' had been accepted as unchangeable.

One point I would like to see is the industry, including women, changing attitudes around motherhood. I often hear female colleagues and friends expressing that they couldn't be directors or executive producers because they will not have the time to be a mother, even sometimes rebuking themselves for wanting to have both a family and a high-level career. We need to dispel this fear of being labelled as "bad" mothers for pursuing a career or working long hours. For decades, men have been doing just that and rarely faced such accusations. Men need to be involved in the family just as much as women, and to help their partners to develop professionally. (Zajackowski, 2020)



The Creative Review article continues, 'Despite these hurdles, Mantzaris does feel as though it's getting better, partly because of the fact these conversations are happening in the open. "It's definitely more acceptable to talk about and question things these days compared to a few years ago when you would be labelled as complaining or whiny, but there is still a long way to go. Just go to any production company and see how many female vs male directors there are." (Fulleylove, 2021)

Wing-Fai and collaborators testified earlier to this phenomenon, in their 2015 journal article focusing on the predominance of freelancing in the film and television industries, suggesting its contribution to the persistence of gender inequalities within this area. They mention that,

In this way, maternity and caring responsibilities become individualized and privatized 'problems' for women to deal with on their own. This is paralleled more broadly by the ethic of 'getting on with it', not 'moaning' or 'whinging' – in case this made one seem difficult. In these ways, women in the industry were silenced and had to become 'responsibilized' entrepreneurial subjects who took on and carried all the costs, risks and challenges of being working parents alone. (Wing-Fai et al., 2015)

It is important to realise this phenomenon is long lived, created within a predominantly male dominated industry of many previous decades.

Evidence from the film and TV sector comprehensively documents an industry culture in which gendered perceptions, gender bias, gender discrimination and gendered bullying are still widespread. Women are perceived to be more capable of caring, nurturing and communicating (Hesmondhalgh & Baker, 2015) and more suited to work on less serious topics such as children's programmes and quiz shows (O'Brien, 2014) and in production management and coordination. (Global Media Monitoring Project, 2015) Women were perceived less suitable for senior and management roles (O'Brien, 2014) (CAMEo, 2018)

Mantzaris talks to this subject some six years later reporting that this phenomenon, in her experience, is lesser in more recent years, however she still highlights a clear discrepancy in the gender balance in lead roles.

The most recent report (Fig 2, UK Screen Alliance, 2019) focussed specifically on inclusion and diversity in the UK Animation industry "Inclusion and diversity in the UK's VFX, Animation and Post-production sectors" states the following:

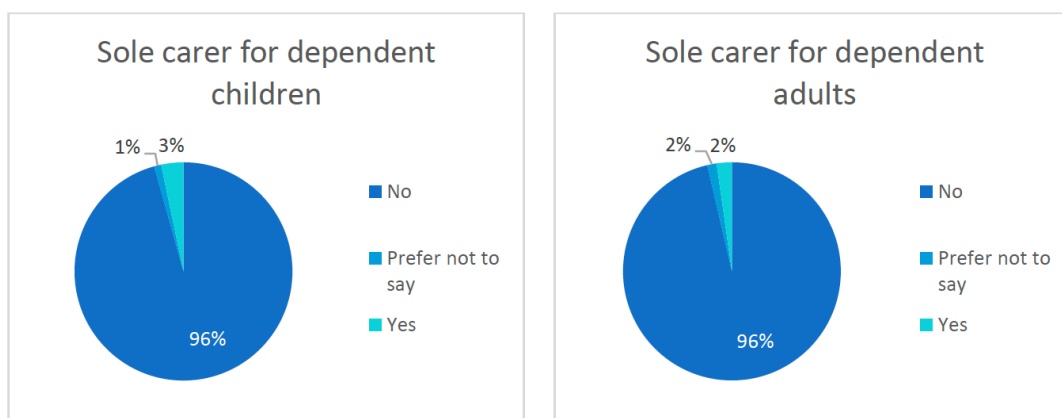
Caring responsibilities for dependent children or elderly relatives can make a severe impact on social mobility and on the potential for promotion. We found that 3% of the



workforce were the sole carer for dependent children and 2% were the sole carer for dependent adults. 0.5% of our sample declared as having sole caring responsibilities for both dependent children and dependent adults.

The sole carers for the elderly were just as likely to be male as female. However, most sole carers for dependent children were women. 5% of the female workforce in our sample identified as sole carers for dependent children. (*UK Screen Alliance, 2019*)

Figure 2 – Sole carer stats across Animation, VFX, post-production UK stats 2019



Source: The Animation Workforce, UK Screen Alliance, 2019

THE SHAPE OF CHANGE

The climate in Animation is changing dramatically. Data is moving quickly from the WIA disturbing statistics in 2015 that reported women globally holding only 20% of all roles in Animation. (Wolf, 2015) This climbed to 39% in 2019, showing an encouraging trend. Data shows that representation in senior roles had also increased; the number of female executives in Animation reaching 50% by 2019, 'although only 3% of animation film directors were women, while women of colour made up only 1%. All types of roles available in the industry were affected, including tech, finance, FX artists, generalists, CGI, and composers.' (Zajackowski, 2020)

Writing for Shots online editorial in 2020, Julietta Zajackowski is an EP (Executive Producer) at Final Frontier, a leading Animation Production studio in China. In her article 'Drawing Closer: The Progression of Women in Animation', she describes herself as a Latin- American woman who has had to deal with her 'fair share of discrimination over the years'. Although she recognises how fortunate she is to have developed her career to the extent she has, she goes on to say that,



Almost all of the directors I have worked with have been men. As one of Final Frontier's female directors, Yukai Du, explained to me, "I have often found myself as the only woman on the entire animation team [so I feel] I need to work extra hard to prove what I can do. Sometimes when I have meetings with clients who don't know my work, I am often mistaken for a Producer or Project Manager. (Zajackowski, 2020)

Funded by the National Lottery, in partnership with BFI (British Film Institute) and supported by the Work Foundation group, the Annual Screenskills assessment 2019 (a survey of all screen-based industries in the UK) highlights a snapshot of contemporary views on best practice in the workplace. Workers identified 'best practice' as flexible working, fairer recruitment practices and transparency. The report recognises the impact that these practices could potentially have on the improvement to diversity and inclusivity data gathered, if implemented into common practice (Annual Screenskills Assessment, 2019). The survey is provided to professionals working within industries to capture live data sets, directly from the contemporary workforce. It should be noted that the survey captures only those present in work on the day it is shared, and it is likely freelance members, of which there are large numbers in the sector, attested to by the survey itself, would not be able to participate, if not working on that particular day.

National statistics estimate self-employment is almost twice as high in the screen industries as it is in the wider UK economy, at 28% of the total screen workforce. (2019, p20)

The Annual Screenskills Assessment, 2019 is the most detailed assessment carried out to date for the UK screen skills workforce covering Film and TV, TV content creation, Film and TV production, post-production and distribution, exhibition and TV programming and broadcasting. Breaking down into further areas as High-end TV, Unscripted TV, Children's TV, Animation, VFX and Games. Data was drawn from 2017 records across all sectors and there has only been additional updates in part and/ or independent smaller data analysis carried out for the sector since this date.

The following tables (Fig 3 (2019, p. 25) and Fig 4 (2019, p. 24)) analyse data gathered for the entire workforce captured from a variety of data sources to include the Office for National Statistics, Labour Force Survey and Employer Skills Survey pertaining to the relevant sector definition groups.



Fig 3: Table 1 – Demographic data of the screen industries workforce

	UK Economy	Screen industries
	%	%
Sex		
Male	53	62
Female	47	38
Age		
Under 25	12	12
25-29	12	17
30-39	22	28
40-49	23	23
50 and over	31	20
Ethnicity**		
White	88	90
Mixed	3	3
Asian	6	3
Black African, Caribbean, Black British	3	2
Chinese	1	1
All other	2	1
Health/disability		
Have work limiting health problem/disability	14	10
No work limiting health problem/disability	86	89
Nationality		
UK	89	88
EU27	7	6
Rest of the world	4	6
Total	31,664,206	169,000

Source: *Annual Screenskills Assessment August 2019* (2019, p. 25)



Fig 4: Table 2 – Demographics of the Workforce

Screen industries workforce	UK Economy	Comparison result
Male Workers	Male Workers	Compared to UK workforce
62%	52%	Uneven balance towards male workforce
Workers aged 50>	Workers aged 50>	Compared to UK workforce
20%	31%	Lower proportion of older workers
Workers Aged <40	Workers Aged <40	Compared to UK workforce
57%	46%	Higher proportion of younger workers
White ethnic background	White ethnic background	Compared to UK workforce
90%	88%	More workers with white ethnic background
People with disabilities	People with disabilities	Compared to UK workforce
10%	14%	Fewer people with disabilities
Workers from EU27	Workers from EU27	Compared to UK workforce
6%	7%	Proportionally fewer workers from the EU27
Workers from overseas	Workers from overseas	Compared to UK workforce
6%	4%	Comparatively more workers from overseas

Source: *Annual Screenskills Assessment August 2019 (2019, p. 24)*

It is clear much work was needed to address the diversity ranges exhibited across all sectors of the pipeline groups where gender, ethnicity and disability were falling behind the national averages in all sectors. There is also a clear picture of a lack of parity and opportunity for the older members of workforce across all areas. Disability was underrepresented and it was evident, at this time, the workforce was predominantly focussed on offering opportunity to young, white males as a majority.

The picture was far more positive, when looking in detail at the specific area of Animation providers, revealed in a detailed report into inclusion and diversity in the UK's VFX, Animation and Post-production sectors, created in September 2019, by the UK Screen Alliance in partnership with Animation UK and Access VFX. The report surveyed more than 1,150 workers across the sectors, importantly capturing live data rather than antiquated sets. It gives more accurate and focussed picture of the narrower field (the first of its kind) and reveals that in the UK Animation industry, gender diversity had achieved parity in Animation, with 51% of workers being women (Fig 7, Animation UK stats, 2019) and (Fig 9, on UK stats, 2019). It revealed the continued phenomenon of high numbers of women still in production management, making up 89% of the workforce (Fig 11, on UK stats, 2019). Although this is a hangover from previous years, where it was generally harder for women to progress or break into other areas of



the industry; often encouraged to move into producing rather than creative roles through gender bias and stereotyping, women seem now also to be well represented in senior creative production roles (55%) and creative artist roles (49%). There was still a very clear gender gap within technical support roles where only 14% were held by women. 21.5%, a very high number of workers, identified as LGB+ (more than 10 times the ratio in the UK population), whilst 3% reported their gender as either transgender, non-binary or some other preferred description (Fig 7, Animation UK stats, 2019).

Figure 5*



Figure 6*

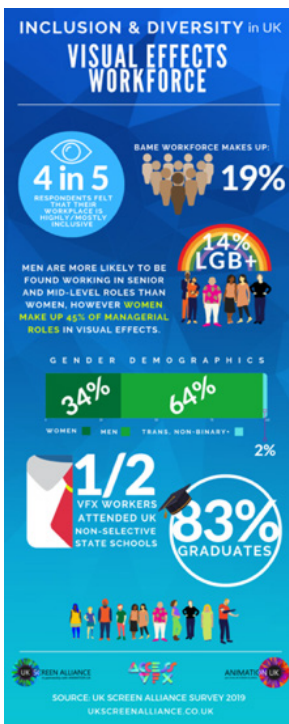


Figure 7*

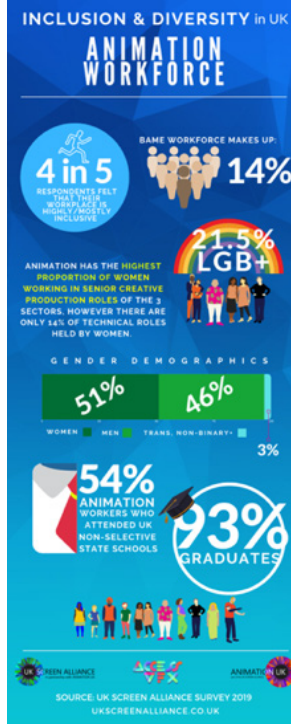
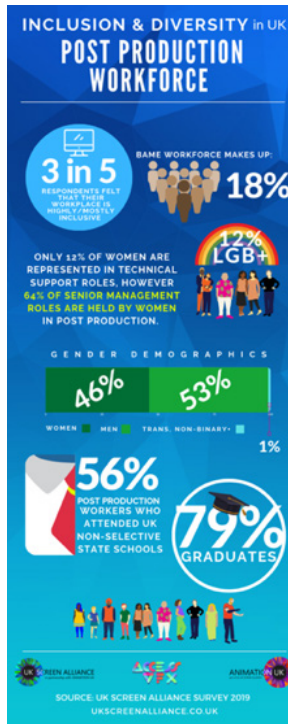


Figure 8*

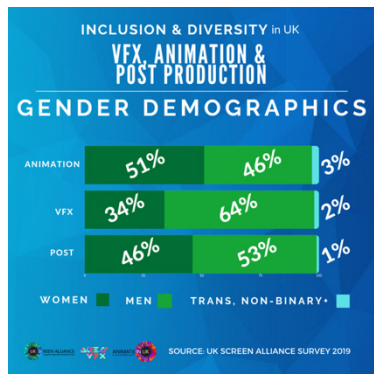


Source: Inclusion and diversity in VFX (Visual Effects), Animation and Post-Production Survey, 2019

- * Figure 5: VFX, Animation & Post-production overview
- * Figure 6: VFX UK stats 2019
- * Figure 7: Animation UK stats 2019
- * Figure 8: Postproduction UK stats 2019



Figure 9 – Gender demographics 2019



Source: The Animation Workforce

Figure 10 – BAME workforce stats 2019



Source: The Animation Workforce

Animation seems then to have significantly addressed historical gender representational issues within groups surveyed (Fig 9, on UK stats, 2019). The high numbers of self-employed freelancers who make up the workforce whose attitudes may not have been reflected in the report, should still be noted as missing from data. It should also be noted that the Screenskills report in 2019 recorded 169,000 Screenskills workers within the whole population (recognising many may not be accounted for). This new survey draws more nuanced data from the survey recognising a total of 18,930 individuals collectively and specifically in Animation, VFX and post-production fields, referred to as an 'estimated population'. Although there is clearly a substantial improvement outlined in this report, the response rate of respondents is low at just 6% when comparing against Screenskills employee data on workforce figures, which is acknowledged by the report (Fig 12, data on valid responses, 2019).

Figure 11 – Animation UK stats 2019 & identified priorities for action

Priorities for action			
	Animation	VFX	Post-Production
Gender balance	●	●	●
Women in creative/operator roles	●	●	●
Women in senior creative roles	●	●	●
Women in senior management	●	●	●
BAME representation overall	●	●	●
BAME in creative/operator roles	●	●	●
BAME in senior management	●	●	●
LGB+ representation & inclusion	●	●	●
Disability representation & inclusion	●	●	●
Socio-economic opportunity	●	●	●
Regional opportunity	●	●	●

Source: Inclusion and diversity in VFX (Visual Effects), Animation and Post-Production Survey (p11)



Figure 12 – Valid responses and engagement 2019

Sector	Estimated population	Valid survey responses	Engagement rate
Animation	1,790	338	19%
VFX	8,140	672	8%
Post Production (excluding VFX)	9,000	145	1.6%
Total	18,930	1,155	6%

Source: Inclusion and diversity in VFX, Animation and Post-Production Survey (p15)

The survey (Animate UK, 2019) also recognises that the response rate in post-production is too small to draw any conclusions and that data from this sub-sector is recommended to be treated as 'indicative only'(Fig 12, data on valid responses, 2019). What is clear is the continued existence of a large gender gap in both the VFX (Visual Effects), and technical support fields in all areas of Animation, VFX and post-production (indicative of), where more work clearly needs to be done. The report refers to the increase in BAME representation saying, "We attribute this in part to more permanent employment models and a strong commercial imperative to discover latent talent in all communities, through the provision of opportunity and collective action to achieve this." (Animate UK, 2019)

The report (Animate UK, 2019) continues to comment on geographic location of respondents and the breakdown of area location. A majority were based in London, where there is a concentration of VFX and post-production studios. Animation respondents were more 'regionally diverse' reflecting the workforce in the many more studios spread across the UK, however importantly the sample size in these regions were too small, other than London, to publish a regional report. This should be taken into account when considering the accuracy of this information. Where more data has been drawn from a potentially more diverse capital city, it should be recognised that regional differences may not be fully exposed within the report's findings. BAME, LBG+ and gender representation may be reflected in different numbers elsewhere in the country and regionally in the UK. It should then be important to recognise that this report, although very well intended, may be missing large parts of the picture, depending on the section of the workforce who responded to it and the region of the country surveyed. A large volume of freelance workers would not have been involved and will be missing from the data in any valuable way. Given that the Screenskills report outlines that 100% of Animation companies involved answered 'yes' to whether they employed freelancers, it would be pertinent to remain sceptical on accuracies for the purpose of research. The survey does give a very good insight into a narrow data set, but should be viewed, in part, as potentially offering a London-centric perspective, although there is a larger spread, if limited in number, of animation companies surveyed in wider regions of the country. Areas such as Manchester and the



North West are mentioned specifically as growth areas, since the BBC move to Media City and resulting growth in the region that has followed.

Key quotes from employees in the report (Animate, 2019) include:

Although it might be more inclusive than other industries there is still not a whole lot of diversity specially in managerial or supervisor positions.

White male senior VFX artist

We have an almost 50/50 split, however this is not across all roles, especially roles in management.

White male junior animator

Too many women in production [management], too many men in creative lead roles.

Mixed ethnicity female senior creative in animation

Women (especially women of colour) are few and far between when it comes to creative roles in the industry. It still feels like a boys' club.

Black female creative artist in animation

I have worked for three large VFX companies in London, the 1st and 3rd are pretty good on being inclusive. The 2nd company I worked for was something of a boys' club, with a large imbalance of middle-aged white males in creative supervisor roles. Generally, these companies still have more males in these roles and more women in production.

White male senior creative artist in VFX

POST COVID A NEW OPPORTUNITY TO EMBRACE CHANGE

The COVID19 pandemic hit in March 2020, dramatically altering the approach to working patterns. During the lockdowns staff who remained on payroll continued to work throughout, in a remote fashion. For an industry that has adopted global working patterns, with larger organisations running offices across the world, a pattern of 24 hr working pipelines has been adopted; one part of the pipeline sleeps on one side of the world, whilst the rest continues on the other, made possible by the huge advancements in technology and communication in more recent years. The Animation, VFX and Post-production industries are adept at running their businesses in this manner. When the pandemic threatened to undermine global businesses, with many workers furloughed (in the UK), and many jobs threatened these industries thrived. In his guest piece in CartoonBrew online magazine, producer, writer and development executive



who has served as vice president of development at Disney Television Animation and produced shows for Warner Bros., Aaron Simpson, argues for why he believed Animation was thriving when others struggled.

The coronavirus has impacted just about every aspect of our lives, and the staggering implications for the entertainment world only continue to mount. The live-action industry has seen upwards of 200,000 jobs lost worldwide and counting. The animation industry, on the other hand, has so far avoided a similar fate, with relatively few layoffs and surging demand for new content. So how did this happen? As I talked with a half-dozen studio bosses around North America, it became clear that the animation industry had been preparing for this disaster for decades without even knowing it. Beginning in the 1960s, animated series have been regularly produced remotely, starting with Japanese studios servicing American series like *The New Adventures of Pinocchio* and *The King Kong Show*. (OP-ED, CARTOONBREW, 2020)

Simpson goes on to discuss the technological experience and processes that lend themselves to remote working and discusses potentially positive outcomes of the 'working from home' adjustments, interestingly many of which are socially focussed on relationship building and communication, another important attribute essential for success in the animation sector. The demand for more content during the pandemic contributed to further growth and even more demand in an already successful market, further driving content needs and providing another boom in production and profitability.

It could be argued that the post-pandemic landscape has changed working practices for the better in some quarters, creating more opportunity for flexible working methods which, when implemented well, can create wider opportunities for caregivers and working parents. This has had a direct and positive influence on working conditions and opportunities for women with individuals reporting they no longer feel as pressured to work the traditional '24/7 hours' of previous eras (Animation, UK, 2023). A push for life/ work balance for support of good mental health and a happier more fulfilled workforce, where wellbeing is placed higher in the list of expectations for companies and individuals, allows women to request flexible patterns of work without fear of reprisal or lack of opportunity. An accidental positive from a global emergency, which could, if we are smart, benefit society for the better and offer opportunities to re-dress some of the mistakes and abuses, historically existent in the sector, that have directly and negatively impacted on minority groups of workers and contributors.

Other areas, those of SFX, Games and Tech fields still seem to be behind in equality, exhibiting a differential in gender equality in all fields and especially in leadership positions. (Fig 13 & 14 data on gender gaps and executive ranks in VFX companies).



Figure 13 – Gender Gaps in VFX Leadership
UK stats 2016 - 2019

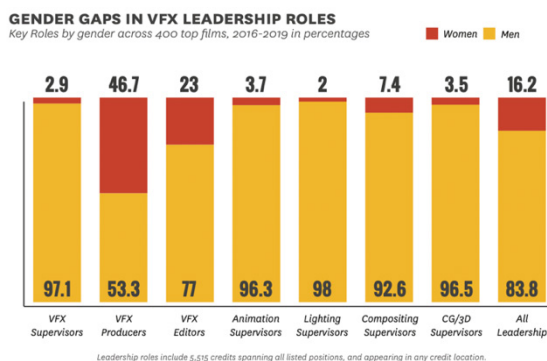
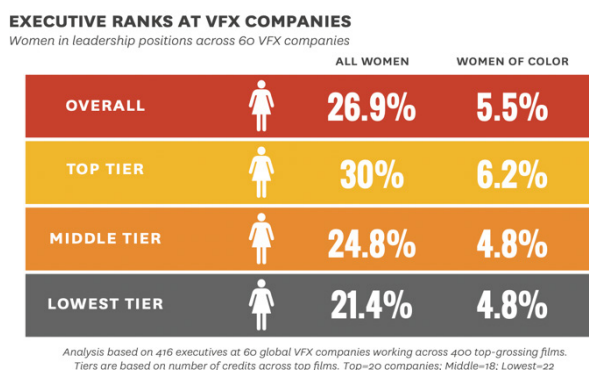


Figure 14 – Executive Ranks at VFX Companies



Source: Invisible in Visual Effects: Understanding the Prevalence and Experiences of Women in the Field (Smith, 2021)

INITIATIVES FOR THE FUTURE AND THE SKILLS DEFICIT

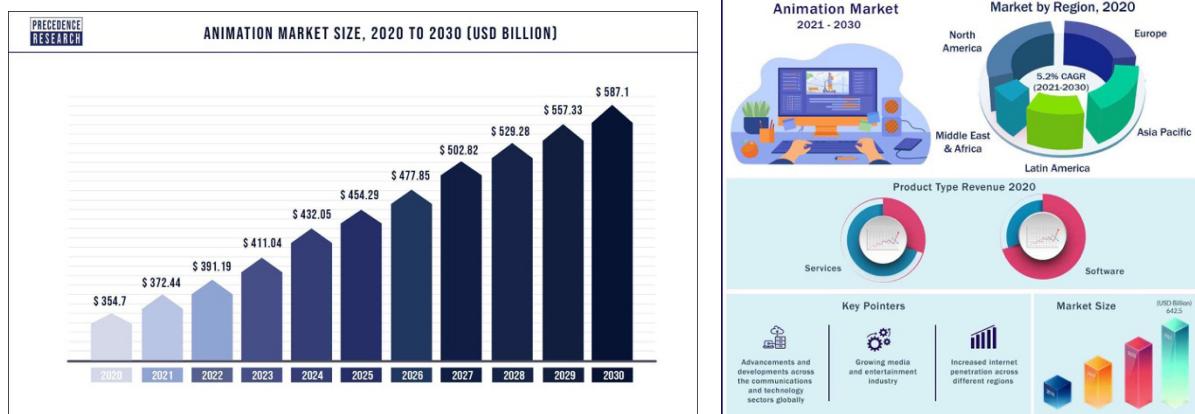
Many organisations and initiatives have been created in the subsequent years to approach these difficult and unacceptable norms within Animation, VFX, Games and the wider Media sector. Animated Women UK (AWUK), founded in 2013, 'positively support(s), represent(s), celebrate(s) and encourage(s) women in the animation and VFX industries in the UK'. They say,

We aim to change the gender landscape by building a vibrant network that facilitates mentoring, knowledge exchange and education resulting in women fulfilling their potential.

The focus on mentorship and education is central to the success of these movements, recognising the need to support and empower unrepresented groups through mentorship by others that 'look like them'. (Ouachtouki, 2023) Education plays a pivotal role in the future success of reaching 50/50 in all areas of Animation, VFX and Games. The Global Animation market is estimated to be worth a staggering 587.1 billion US Dollars by the year 2030 with market share breaking down into regional areas; North America, Europe, Asia Pacific, Latin America and the Middle East and Africa, with North America expected to continue as the largest producer followed by Europe. The fastest growth area is predicted to be Asia Pacific with Latin America and the Middle East and Africa expected to experience moderate growth (Fig 15 & 16 Animation Market Predictions 2020 - 2030, Animation Market 2021).



Figure 15 & 16 – Animation Market Predictions 2020 - 2030



Source: Animation Market (2021)

The animation industry gathered at the annual Annecy Animation Film Festival (the largest festival of its kind and largest gathering of animation professionals in the world) in June 2022. One of the repeated topics for discussion and the most pressing contemporary concern for the industry today was discussed at many of the events held across the week. With demand increasing at a rate never seen or provided for before, there is enormous pressure on the industry to recruit highly skilled digital professionals, in all areas of the pipeline. Within the 2019 ScreenSkills survey and all subsequent annual updates, the main concern expressed by all companies involved was on the inability to recruit suitably skilled, industry-prepared artists, storytellers and technologists in all skillset areas required by industry. A continual need to downgrade job descriptions was reported where employers were being forced to recruit at lower grades to fill the volume of openings, urgently needed to fulfil contracts.

The impact of skills shortages on UK screen businesses with a third of businesses reporting recruitment difficulties in the last 12 months and more serious problems in VFX, animation and games (ScreenSkills, 2023)

Employers reporting most difficulty recruiting operate in VFX (58%), games (50%) and animation (48%) (ScreenSkills, 2019)

This recognised skills deficit and growing gap in the global workforce needed to meet the increasing consumer demand is fuel to educators perfectly positioned in a new School of Digital Arts (SODA). The required discipline specificity is amply provided by an impressive group of highly skilled specialist academics and technicians in the fields discussed here, namely Animation, VFX and post-production, as well as Games Art, Games Design and Filmmaking.



At the 2022 WIA World Summit, held at Annecy International Animation Film festival, a panel of events gathered many decision makers and practitioners, to discuss topics under the title, Gender Justice: A Global Call for Inclusion in Animation.

Discussions took place on the changing face of the Animation global market, in the search for authentic stories and voices, the global skills and workforce shortage and how to approach inclusion and diversity in an ever-changing global Animation community. Topics discussed touched on many aspects, sharing impactful case studies of projects currently live and running in numerous developing countries to contribute positively to the growing demand for a new creative workforce. Each initiative has a commonality; a focused programme of education, designed and aimed at under-represented groups within communities spread across the developing world. Each has a philanthropic purpose, whilst unapologetically recognising it exists to provide skilled workers to an industry. This rewards all stake holders to successfully answer their needs. Each has a number of priorities; to educate, to give participants a voice and an opportunity to control their own agency, to provide opportunities of change and growth to under-represented and otherwise overlooked groups and to locate new and authentic stories, rather than continuing to tell the same ones (by the same people) again. These projects exist for one simple reason; each of the groups running them believe they will contribute to the creation of a better industry, one that recognises equal opportunities for all, realising that inclusivity will not only change the industry for the better, to overturn antiquated forms of order and control, but which will unlock hidden and untapped potential, artistic spirit and new forms and perspectives in storytelling; there are many more ways to approach storytelling in a global community, if supported and enabled.

The Animation industry is at a unique crossroads in its life. It has the capacity, resources and a workforce who want to action change and move away from partisan and outdated approaches to recruitment, business models, talent scouting and inclusivity. By creating inclusive education models in both the developed and developing regions, it is understood that new opportunities to training, supporting, and developing new creative teams will be accessed. The groups in discussion featured Delphine Nicholini, Artistic Producer, Les Femme s'Animent (LFA), Sadjia Ouachtouki, Senior Manager, Global Public Policy, The Walt Disney Company (FIAPF/WIA Delegate Program) and Miles Perkins, EU Business Director, Media & Entertainment, Epic Games.

Each panel member was involved in an initiative or project engaging with socioeconomically challenged or underrepresented groups to encourage and support them to enter the industry. Deepa Joshi, co-CEO of Incessant Rains, a VFX and Animation service provider and IP creator headquartered in Nepal has pioneered an education programme, 'Initiative 1', aimed specifically at increasing women in the workforce through access to educational training. The project has grown from just seven participants to a



plan that intends to reach a thousand graduates by the end of 2023 and is aimed at women who struggle to access education through other means. It is focussed on cultural change, recognising that work with all genders within communities is imperative to enact real change and at the pace the participants; both women and men, are comfortable with. She reported seeing a change in cultural expectations and highlighted this as an essential agency for change (WIA World summit, 2023).

Delphine Nicholini, Artistic Producer, Les Femme s'Animent (LFA) discussed her project 'A Women's Journey' – a mentoring program for women from France and Africa who want to create short, animated films, but are not part of nor have access to the animation industry. It supported sixteen female teams, consisting of one author and one director, to develop a film project from concept to pitch at the 2023 Annecy Festival. Launched in 2021 by La Femme dans cinema, an organization which supports women in French animation.

Sadja Ouachtouki, Senior Manager, Global Public Policy. The Walt Disney Company (FIAPF/WIA Delegate Program) is the sponsor of the 'Inaugural stories by women' Programme established to increase the diversity of voices in international animation. It's stated mission is to support access to international opportunities for women animators from emerging film and animation communities of Africa, Asia Pacific and Latin America who want to tell their authentic stories. The 2022 program supported a group of filmmakers, representing six animated projects to attend the Annecy International Animation Film Festival and pitch to potential future collaborators.

Miles Perkins, EU Business Director, Media & Entertainment, Epic Games shared two programs, one of which, the 'Women Creators' program in India and South-East Asia, selects talented women producers and VFX supervisors to participate in a four-week long training and mentoring program. Twenty women were selected and mentored by former fellowship graduates. 'The objective of the program is to inspire and train women creators in the region to adopt virtual production techniques in their workflow and make a community of unreal women creators who can collaborate or make a network of like-minded creators who can create more.' (Perkins, 2022)

The current situation in the Animation sector is certainly a more acceptable read, although there is clearly much more work to be done before we see 50/50 in all fields, disciplines and hierarchies of power. Continued analysis of the data reveals the upward trend continuing with movements such as #MeToo and Black Lives Matter, placing increasing pressure on companies, to demonstrate real commitment to investment in positive change in approaches to recruitment, promotional initiatives, and equal opportunities for all employees. Critically, large content providers such as Disney, Netflix and Triggerfish have felt further pressure to demonstrate greater representation in the voices heard and stories told within mainstream animation production. (Crommett, J.A., Banjee, M., Mack, C., Weigold, J., 2023)



I believe an important step is to bring the voices and experiences of the underrepresented groups into the type of content we create, the stories we tell, and the visuals we produce. For me, creating content that is gender neutral and not heteronormative for children is the most important right now. This will change for sure. Future generations will see gender and gender stereotypes completely differently. (Ouachtouki, 2023)

Where the Animation sector has drawn closer to achieving a 50/50 target in the UK, demonstrating a clear commitment by decision makers, there are still areas for improvement to reach equal representation in directing, technical roles in all fields, VFX, Post-production and Games, whilst the global picture remains with significant gaps in all fields. Until this takes place, 50/50 and a truly level playing field will still be elusive to the working lives of many women in the industry and many more interested in forging careers there. With the widely recognised skills deficit, it is important to view the situation as offering a vast untapped pool of new, ambitious talent; individuals who have new and authentic stories to share and who can help to shape this growing global market. Developing countries, where Animation is starting to make an impact, can learn from the mistakes previously made in earlier established industries. There is an opportunity to start afresh with acquired knowledge and reflection, not afforded to the original, previously built with gender biased models and antiquated societally influenced gender stereotypes, sexism, and racism, endemic within the film industry of the past. Developing countries often have their own gender stereotyping and societal structures that have the capacity to perpetrate the developing models, however, there seem to be many, such as Deepa Joshi at Incessant Rains, who are using initiatives to develop a trained workforce, in addition to providing new access to finances, creative freedom and agency, not previously afforded to women within these societies.

ACTIONS FOR CHANGE

As we adapt to the new reality, let's stay mindful of what we have achieved so far, and keep freeing ourselves of the old prejudices. (Zajackowski, 2020)

Universities have recognised the importance to reach out into the communities that surround them, to offer more opportunities to those from lower socioeconomic backgrounds primarily to provide enabling structures and support for young people, who may not see themselves accessing higher education. Identifying and removing barriers relating to gender (binary and non-binary), race, and socioeconomic status should be prioritised in offering education programs to all underrepresented communities currently reflected in our existing cohorts within the school. Starting with local community, reaching to wider UK



areas and international programmes of change in culturally challenged communities where knowledge of animation is limited and access to education and digital skills are very limited. Here lies an enormous untapped resource of potential talent that could contribute to digital creative workforces of the future, drawn from a wider more diverse representation of people, who in turn will bring new and authentic voices and storytelling to the industry. Key representatives and leaders are recognising the deficit within their workforces and are making changes to address these opportunities, as they present themselves.

Universities too are recognising the same imbalances in their student communities. Gender inequality still exists, both in the workforce and student cohorts, in the same sectors as industry, whilst industry tries to catch up with the positive changes in gender statistics in Animation UG provision. Key areas where the deficit is still highly imbalanced; VFX, Games design, technical fields in all areas including Animation and postproduction fields require positive improvement and growth (Fig 17 & 18 Pipeline to leadership UK 2016 – 19 & VFX respondents data (Smith, 2021)).

Figure 17 – Pipeline to leadership UK 2016 – 19

PIPELINE TO LEADERSHIP FOR WOMEN IN CREATIVE & TECH ROLES
Women's creative and technical credits by department across 400 films, 2016-2019

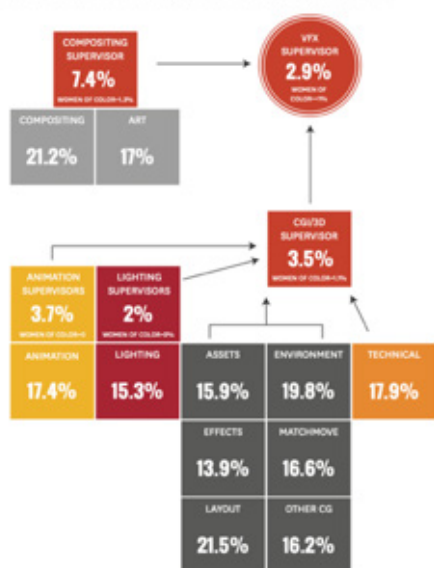
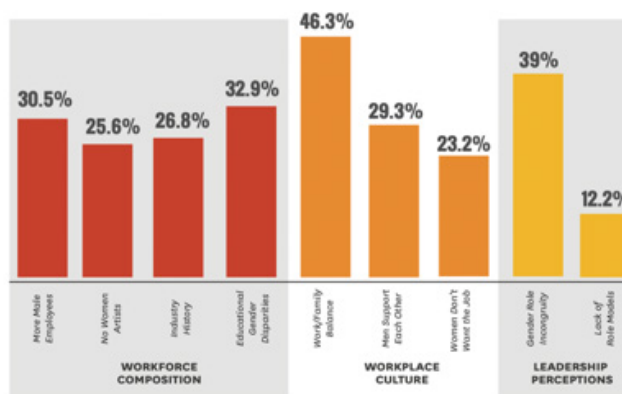


Figure 18 – Interview responses from VFX employees

REASONS FOR THE LACK OF WOMEN IN VFX LEADERSHIP ROLES
Responses from qualitative interviews with 51 women & 31 decision-makers



Sample includes 51 women: 43.1% from underrepresented racial/ethnic groups, 82.4% worked in creative/technical roles, 12.8 average years experience and 31 decision-makers: 61.3% men, 6.1% from underrepresented racial/ethnic groups, average age 44.1 years, 18.6 average years of experience.

Source: Invisible in Visual Effects: Understanding the Prevalence and Experiences of Women in the Field (Smith, 2021)

SODA is, due to its directive to produce graduates who are able “to investigate what it means to be a creative media practitioner now and in the future – studying at the intersection of storytelling, technology and innovation” (MMU, 2022) is perfectly placed to contribute to the development of improved numbers of women succeeding within the school. Highlighting these imbalances should encourage



positive initiatives to specifically target young women to join these cohorts, a success already achieved in Animation UG courses, described earlier in this article. It is important that women see themselves in these fields and that female leaders and academics are visible within the disciplines to change the demographic balance in traditionally male dominated cohorts of student and staff. As it was in previous years in Animation, women are often put off by the male dominated groups still existent in these fields, described earlier as 'boys' clubs' (Animation workforce, 2019).

The illusion that women are often intimidated by technology stems from and has been reinforced through gender stereotyping, unconscious bias, and continued affirmation from an early age at school. Unconscious bias often starts early in children's development at home and is further enhanced and reinforced by schools and colleges, where subject bias towards male cohorts continues to perpetuate. Professor Becky Francis, Director, UCL Institute of Education, Drawing the Future states, "At present research shows that rather than consistently challenging gender stereotypes, in some schools these are unthinkingly exacerbated." (Ruthven et al., 2020)

Positive discrimination may be useful, in the short term, to address imbalances and actively encourage women to see themselves in these fields of practice, whilst focus is placed on reprogramming commonly held and inappropriate bias towards females in these groups. Further, apprenticeships, work placements and work experience will be useful to enhance employability opportunities and form sustainable routes into industry. Partners and stake holders in these areas, interested in creating wider opportunities for women, will work closely with the school to enhance their own equality quotas within their teams. Successful initiatives delivered by AccessVFX and AnimateUK (AnimateUK ,2019) demonstrate the effectiveness of this approach when reaching out into secondary school settings to share skillsets and inform schools of the employability routes available.

I think reaching out to colleges or kids in secondary school would be great, as I didn't learn about how to get into this industry until quite late. In my experience at school we were often pushed away from any form of art that wasn't fine art, and I think lots of kids would be happy to learn that this is a possible career path for them.

Mid-level creative artist working in Animation

Help children learn about these types of roles that exist. Most people don't know what a Compositor/rigger/ match-mover etc. are.

Senior creative artist in VFX

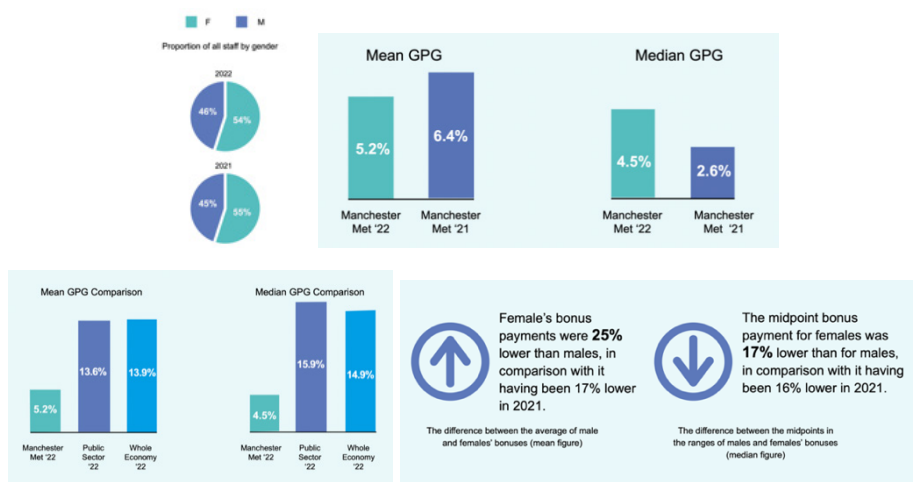
(AccessFX, 2019)



Referring to figure 4 in this article, the Inclusion and diversity in VFX, Animation and Post-Production Survey highlighted that the Animation, VFX and Postproduction sector is highly educated; 83% of VFX, 93% of Animation and 79% of Postproduction employees hold degree qualifications; much higher figures than many other sectors. Changes within education environments could provide larger numbers of qualified women to enter the industries that are now, through social pressure and changing societal expectations, being forced to change their power structures and recruitment strategies that often rely on networking and word of mouth within the same demographic groups; young, white, middle class, well-educated men. Changing the gender balance in education institutions in the first will further increase this pressure to see industry do the same. Miles Perkins commented at the WIA World Summit, 'for true change to manifest and endure it needs to occur within all of us; that we need to look at our own groups, both personal and professional, and ask whether they are diverse. If the answer is no, then this is where change needs to happen, for us all (WIA, 2022).

It should be noted that University academic communities are not immune to similar infrastructures where glass ceilings and gender inequality in leadership roles are often also present. There are clear deficits in gender representation in higher leadership roles, especially at professorial level. The MMU Pay Gaps report 2023 (fig 19 – 21) outlines the following.

Figure 19, 20 & 21 – Female/ Male %, Mean/ Media & Bonus data for Gender Pay Gap



Source: MMU Pay Gap Report (2022)

Although there are improvements within this sector there are still gaps that need to be addressed and closed. The Aurora Women's Leadership Development Programme aligned to the Athena Swan Charter to advocate gender equality across the globe has been initiated across the sector and adopted



by many Higher Education institutions to support women in the workplace and help to address the divide. Adopted in 2017, MMU has benefitted from the scheme supporting 130 women in academic and professional services to access promotion into leadership roles. This figure demonstrates improvement; however, there is still work to be done to date and improvement was very slow to start occurring only in recent years.

The Athena Swan Charter is a framework which is used across the globe to support and transform gender equality within higher education (HE) and research. Established in 2005 to encourage and recognise commitment to advancing the careers of women in science, technology, engineering, maths and medicine (STEMM) employment, the Charter is now being used across the globe to address gender equality more broadly, and not just barriers to progression that affect women. (*Athena Swan charter 2020*)

Figure 22 – Academic and Professional services staff by sex (2022)

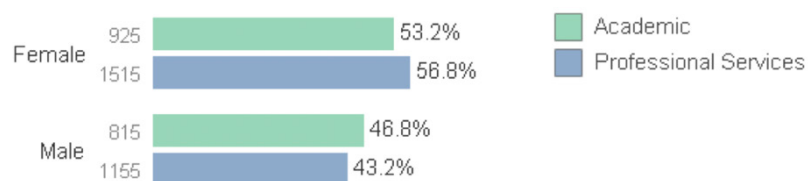


Figure 23 – Academic staff by contract level and sex (2022)

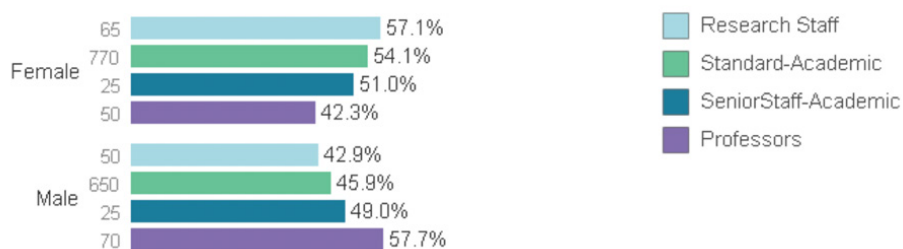
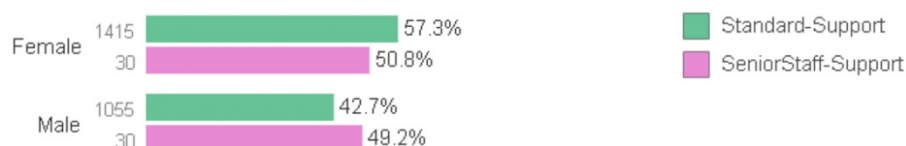


Figure 24 – Professional Services staff by contract level and sex (2022)



Source: MMU Equality, Diversity and Inclusion (EDI) Report 2021-22 Part B



CONCLUSIONS

Through recent years arresting events have shaken the status quo and we are no longer able to turn a blind eye to injustices within our communities, where change is desired by so many. The Animation sector has been forced to recognise that changes occurring in society must be reflected within hierarchies in its organisations and creative content made within them or face becoming antiquated and irrelevant. Never before have we had the capacity to create content independently, as we do now. The democratisation of access to tools, technology and open source knowledge in the West allows many to make their own independent content. Society has a global duty of care to forge new methods of inclusive practice; to offer equal opportunities and access to tools, technology and education, to provide access to work in desirable fields, and provide a fair and equitable system of promotion and opportunities to lead, regardless of gender identity (binary and non-binary). Universities and SODA have a great responsibility in leading by example to support and create new generations of technically proficient, innovative content creators, storytellers and visionaries without bias, who will contribute to the workforce of the future. The school has the ability to help address these failings and create a better future for its graduates, whilst refusing to support and propagate misogynistic hierarchies of old, in order to create an equal playing field for every graduate, irrespective of gender, race or socioeconomic background. There is a focus on achieving 50/50 by 2025 in the Animation, VFX, Games and Post-production sectors that many organisations have signed up to and it is proposed that SODA should actively do the same, both in voice and within its policies of recruitment and support for its employees and student community. SODA refers often to 'Future Storytelling', but what does this term actually mean? The quantity of content generation needed to service the global industries is vast and influence far reaching; ensuring 'Future Storytelling' gives voice to previously excluded, underrepresented and marginalised groups should be a priority for the school, alongside initiatives borne in industry. True innovation is to impact deeply on our communities, both locally and globally, and lead to changes that will benefit society as a whole, to collectively build a more inclusive future for storytelling.

REFERENCES

Animation market (by offerings: Software and services; by product type: 2D animation, 3D animation, motion graphics, stop motion, and other; by industry: Direct, education, media and entertainment, Aerospace and defence, automotive, healthcare, and others) - global market size, share, growth, trends analysis, regional outlook and forecasts 2022 – 2030. 2021. Precedence Research. < <https://www.precedenceresearch.com/animation-market>>. (Accessed 14 Apr. 2023).



The animation workforce (2023) Animation UK. Available at: <https://www.animationuk.org/subpages/the-animation-workforce/> (Accessed: 09 April 2023).

Annual Screenskills Assessment August 2019. 2019. Available in: < <https://www.screenskills.com/media/2853/2019-08-16-annual-screenskills-assessment.pdf> (Accessed: 15 Apr. 2023).

Athena Swan charter (2020) **Athena Swan Charter** | Advance HE. Available at: <https://www.advance-he.ac.uk/equality-charters/athena-swan-charter> (Accessed: 28 June 2023).

OP-ED, CARTOON BREW. **For the animation industry, the coronavirus crisis has created a big opportunity**. 2020. Available in: < <https://www.cartoonbrew.com/ideas-commentary/for-the-animation-industry-the-coronavirus-crisis-has-created-a-big-opportunity-189911.html> >. (Accessed: 10 May. 2023).

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS **A Union of Equality: Gender Equality Strategy 2020-2025** (2020) Access to **European Union Law**. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0152> (Accessed: 12 April 2023).

Drawing closer: The progression of women in Animation (2020) shots. Available at: <https://www.shots.net/news/view/drawing-closer-the-progression-of-women-in-animation> (Accessed: 21 March 2023).

Eurimages' gender equality strategy (2021-2023): Equal Voices for equal ... Available at: <https://rm.coe.int/3rd-gender-equality-strategy-2021-2023-web-2781-1615-4114-2/1680a13a04> (Accessed: 12 April 2023).

Global study: Gender equality and media regulation. (2022) Available at: https://fojo.se/en/wpcontent/uploads/sites/2/2022/04/Gender_Equality_and_Media_Regulation-lowres.pdf (Accessed: 12 April 2023).

5050 by 2025 (2023) **Women In Animation**. Available at: <https://womeninanimation.org/> (Accessed: 04 March 2023).

Fulleylove, R. (2021) **Animator Anna Mantzaris on the gender bias in her industry**, Creative Review. Available at: <https://www.creativereview.co.uk/anna-mantzaris-global-women-new-zealand-animation/> (Accessed: 12 April 2023).

Animate UK (2019). **Inclusion and Diversity in the UK's VFX, Animation and Post-production Sectors**. [online] Animation UK. Available at: <https://www.animationuk.org/subpages/inclusion-and-diversi->



ty-in-the-uks-vfx-animation-and-post-production-sectors/?section=industry. (Accessed: 02 May 2023).

Katatikarn, J. (2023) **The state of diversity in animation** (2023 guide), Academy of Animated Art. Available at: <https://academyofanimatedart.com/diversity-in-animation/> (Accessed: 09 May 2023).

Li, Y. (2022) **'The transformation of gender representation in Pixar's toy story franchise'**, Proceedings of the 2022 2nd International Conference on Modern Educational Technology and Social Sciences (IC-METSS 2022), pp. 662–669. doi:10.2991/978-2-494069-45-9_80.

Macharia, S. and Mir, J.B. (2022) **Global Study: Gender Equality and Media Regulation**. rep. Kalmar, Sweden: Fojo Media Institute, pp. 1–74.

Mantzaris, A. (2012) **Global women, Anna Mantzaris**. Available at: <https://www.annamantzaris.se/work/globalwomen> (Accessed: 12 April 2023).

Mukhopadhyay, M. and Singh, N. (2007) **'Gender justice as positive rights', in Gender Justice, citizenship, and development**. Ottawa: International Development Research Centre.

News: Diversity charter update report (2021) The Creative Industries. Available at: <https://www.thecreativeindustries.co.uk/site-content/uk-creative-overview-news-and-views-news-diversity-charter-update-report> (Accessed: 15 April 2023).

New UNESCO publication investigates the state of gender equality in the cultural and creative sectors (2021) UNESCO.org. Available at: <https://www.unesco.org/en/articles/new-unesco-publication-investigates-state-gender-equality-cultural-and-creative-sectors> (Accessed: 10 April 2023).

Our mission (2022) Women In Animation. Available at: <https://womeninanimation.org/our-mission/> (Accessed: 09 May 2023).

Ruthven, K., Johnstone, S. and Gestetner, C. (2020) **Gender stereotypes in schools, Lifting Limits**. Available at: <https://liftinglimits.org.uk/stereotypes/gender-stereotypes-in-schools/> (Accessed: 30 June 2023).

Scholarships (2022) **School of Digital Arts (SODA) – Manchester Metropolitan University**. Available at: <https://www.schoolofdigitalarts.mmu.ac.uk/scholarships/> (Accessed: 5 June 2023).

SCREENSKILLS. **New research reveals detailed look at the UK Screen Industries Workforce**. 2023. Available in: <https://www.screenskills.com/press-releases/new-research-reveals-detailed-look-at-the-uk-screen-industries-workforce/>. (Accessed: 12 May 2023).



Smith, S.L. et al. (2019) **Increasing Inclusion in Animation; Investigating opportunities, challenges, and the classroom to the C-Suite Pipeline**, uscannenberg.org. Available at: <https://assets.uscannenberg.org/docs/aai-inclusion-animation-201906.pdf> (Accessed: 15 May 2023).

Smith, S.L. (2021) **Invisible in visual effects - USC annenberg school for communication ..., Invisible in Visual Effects: Understanding the Prevalence and Experiences of Women in the Field**. Available at: [https://assets.uscannenberg.org/docs/aai-study-women-in-visual-effects-2021-11-04.pdf?ct=t\(digest_20220124\)](https://assets.uscannenberg.org/docs/aai-study-women-in-visual-effects-2021-11-04.pdf?ct=t(digest_20220124)) (Accessed: 01 May 2023 & 16 May 2023).

2022 WIA World summit afternoon session (2023) Women In Animation. Available at: <https://womeninanimation.org/wia-world-summit-2022/> (Accessed: 21 April 2023).

Wolf, J. (2015) **WIA addresses gender disparity in animation at Annecy 2015**, Animation World Network. Available at: <https://www.awn.com/news/wia-addresses-gender-disparity-animation-annecy-2015> (Accessed: 21 April 2023).

Women in power in 2023: New data shows progress but wide regional gaps, UN Women – Headquarters. (2023) Available at: <https://www.unwomen.org/en/news-stories/press-release/2023/03/women-in-power-in-2023-new-data-shows-progress-but-wide-regional-gaps> (Accessed: 12 May 2023).

Workforce Diversity in the UK Screen Sector Evidence Review (2018). publication. Leicester : Leicester University.

Yildiz, E. (2023) **Achieving gender equality in the creative industries, Skylark Media**. Available at: <https://www.skylarkmedia.co.uk/blog/achieving-gender-equality-in-the-creative-industries-film-and-video-production/> (Accessed: 12 May 2023).

Zajackowski, J. (2020) **Drawing closer: The progression of women in animation**, Shots. Available at: <https://www.shots.net/news/view/drawing-closer-the-progression-of-women-in-animation> (Accessed: 15 May 2023).

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Figure 17: Graph showing Pipeline to leadership for Women in Creative Industries & Tech Roles UK 2016 – 19 (Invisible in Visual Effects: Understanding the Prevalence and Experiences of Women in the Field (Smith, 2021))

Figure 18: Graph showing Interview responses from VFX employees (Invisible in Visual Effects: Understanding the Prevalence and Experiences of Women in the Field (Smith, 2021))

Figure 19, 20 & 21: Graphs showing Data sets on Female/ Male %, Mean/ Media & Bonus data for MMU (Manchester Metropolitan University) Gender Pay Gap Data. MMU Pay Gap Report (2022)

Figure 22: Graphs showing Data sets on Academic and Professional services staff by sex, MMU Equality, Diversity and Inclusion (EDI) Report 2021-22 Part B

Figure 23: Graphs showing Data sets on Academic staff by contract level and sex, MMU Equality, Diversity and Inclusion (EDI) Report 2021-22 Part B

Figure 24: Graphs showing Data sets on Professional Services staff by contract level and sex, MMU Equality, Diversity and Inclusion (EDI) Report 2021-22 Part B