**Written evidence submitted by Dr Julie Moote & Professor Louise Archer, UCL (BYC007)**

**Executive Summary**

1. This submission presents analyses from the ASPIRES 2 project’s national surveys of 13,421 Year 11 students (age 15/16 years old) and 7,326 Year 13 students (age 17/18). It details our findings on young people’s views of STEM and the factors shaping student choices of post-16 STEM, including their science career and education aspirations, to inform the Committee’s understanding of this area.
2. Specifically, this written evidence addresses the Committee’s call for evidence on: what constitutes good quality work experience; what young people expect to get from it, and how differences between young people (eg. socioeconomic background, ethnicity, gender) affect the work experience opportunities they have.
3. Key findings are:

* **Many students have positive views on work experience and underlined the value of these placements.** Year 11 students reported that the experiences allowed them opportunities to work hands on in the field, identify careers they did not want to pursue, develop confidence and make professional contacts. Year 13 students held similar positive views, with 90% reporting work experience as worthwhile.
* **However, students often reported dissatisfaction with the work experience provided** and complained that placements were often not well connected to their aspirations. Our research shows that students from socially advantaged backgrounds were relatively more satisfied, suggesting that they are more likely to access relevant/higher quality work experience.
* **Not enough students are participating in work experience placements:** Only 44.8% had participated in work experience by Year 11. The pattern of low participation seems to continue in Year 13 according to our survey results and the findings were also mirrored in our qualitative data.
* **Work experience participation is patterned by social inequalities and inequities.** Our research shows that gender, ethnicity and cultural capital[[1]](#endnote-1) can all impact whether a student receives careers education support and participates in work experience, with the students who arguably would benefit most (e.g. those from disadvantaged/ underserved communities) receiving less, and least relevant/helpful, work experience.
* **Schools could usefully do more to facilitate work placements.** Responsibility is placed on families using their connections translating into placements influenced by family social capital. **This self-referral system may contribute to the patterned nature of work experience provision and participation.**

1. Our key recommendations are:

* Urgent attention and support is needed to be given to acknowledging and redressing inequalities in work experience provision and participation.
* An intersectional approach is beneficial, in order to understand patterns and challenges to equitable work experience by gender, ethnicity and social class.
* School leaders should monitor and review access to and availability of opportunities and develop appropriate action plans to ensure equity.
* Care needs to be taken with respect to ‘opt-in’ and self-referral schemes to ensure they do not contribute to further reinforcement of patterns of unequal participation in work experience.
* Teachers should be at the heart of this long-term approach, especially when schools have the primary responsibility to provide work experience support.
* The government should consider its role in resourcing and supporting students to access and participate in high quality work experience – particularly in the case of underserved communities.

**Introduction – the ASPIRES 2 research project**

1. The ASPIRES 2 project is the second phase of a major national longitudinal research project, funded by the Economic and Social Research Council (REF: ES/L002841/1), investigating young people’s science aspirations and career choices age 10-19. ASPIRES 2 is the second phase of the study, extending the tracking of the cohort from 14-19.
2. Findings from the first phase of the study, focusing on children from age 10-14, can be found via the following link: [www.bit.ly/ASPIRESReport](http://www.bit.ly/ASPIRESReport)
3. ASPIRES 2 commenced in February 2014 and will complete in 2019. It has been based at the UCL Institute of Education since March 2017.
4. The project is led by Professor Louise Archer (UCL, Principal Investigator) and the project team comprises: Dr. Julie Moote (UCL, Research Associate), Prof. Becky Francis (UCL, Co-investigator), Dr. Jennifer DeWitt (UCL, Co-investigator), Prof. Jonathan Osborne (Stanford, USA), Ms. Emily MacLeod (UCL, Research Officer), and Ms. Rebekah Hayes (Communications Officer).
5. The project involves large national surveys of the student cohort (over 40,000 survey responses to date) and in-depth longitudinal interviews with a tracked subsample of students and parents. This submission of evidence is based on findings from the most recent surveys of 13,000+ Year 11 students (age 15/16, GCSE year) and 7,000+ Year 13 students (age 17/18) and interview data, which covered students’ views of careers education and work experience.

**Evidence**

1. The survey data reported in this submission was collected from students in Year 11 (age 15/16 years) in the academic years 2014/15 and was completed by 13,421[[2]](#endnote-2) Year 11 students who were recruited from 340 secondary schools in England (296 state schools and 44 independent). This sample represented all regions of the country and was roughly proportional to the overall national distribution of schools in England as measured by attainment and proportion of students eligible for free school meals. A similar survey was administered to a national cohort of Year 13 students in Autumn 2016 and 7,326 students remained in the sample for analysis. Students from 265 schools completed the survey (237 state-maintained schools; 28 independent schools), which was roughly proportional to the overall national distribution of schools in England by region, school type, attainment and free school meals provision (as a measure of socioeconomic status).
2. The reported interview data pertains to ***132 interviews***, which were conducted with 70 students and 62 parents (all of whom had been previously tracked since students were at primary school, age 10/11), conducted while the students were in Year 11 (age 15/16 years).
3. Students were asked questions about: (1) aspirations; (2) attitudes toward school science; (3) images of scientists; (4) self-concept in science; (5) participation in science-related activities; (6) parental attitudes to science; (7) peer attitudes; (8) subject preferences; **(9) careers education and work experience**.
4. In particular, we asked: **which groups of students are reporting careers advice and work experience and how satisfied are students with the current provision?** We focus the presentation of findings below on work experience.

**Key findings**

1. **Students have positive views on work experience and underlined the value of these placements.**
   * Year 11 students reported that the experiences allowed them opportunities to work hands on in the field, identify careers they did not want to pursue, develop confidence and make professional contacts.
   * Of the Y13 survey students who went on placement in Y12 or Y13, almost 90% reported that it was a worthwhile experience.
2. **However, Students reported dissatisfaction with the work experience provided** and complained that placements were often not well connected to their aspirations.
   * Our research shows that students from socially advantaged backgrounds may be more satisfied.
   * Results from Y11 interviews showed that work experience was organised more often by parents and families than by schools, meaning that students from socially advantaged families were more likely to be able to arrange ‘quality’ work experiences and placements.
3. **Not enough students are participating in work experience placements:** only 44.8% had participated in work experience by Year 11. This was mirrored in our qualitative data and this pattern of low participation seems to continue according to our Year 13 survey results.
   * These findings contrast with studies conducted before the 2011 reforms, which showed that the majority of teenagers in England participated in work experience.
4. **Work experience participation is patterned according to social inequalities and inequities.** Our research shows that gender, ethnicity and cultural capital can all impact whether a student receives careers education support and work experience provision.
5. **Gender:** Relatively fewer female students reported participating in work experience (43.8% compared to 46% of boys).
   * From our interviews, girls were more likely to report dissatisfaction with careers advisors and work experience placements.
   * Analyses from our Year 13 survey also suggest that girls are less happy with the careers guidance provided and less likely to report that the support informed what they want to do in the future.
6. **Ethnicity:** Relatively moreWhite students (45.7%) reported work experience (Black=41.3%, Asian=41.6%, Chinese= 36.1%, Middle Eastern=38.5%).
7. **Cultural capital:** Relatively more students from advantaged social backgrounds (with very high levels of cultural capital) reported receiving career education (66/9%) than students from less advantaged backgrounds (with very low cultural capital) (52.9%). While not statistically significant, students in the medium cultural capital group reported more work experience (46.6%) than the very low cultural capital group (40.8%).
   * Our interview data suggests that students from advantaged backgrounds were more likely to report placements organised by their parents and were less likely to report negative experiences.
8. **Post-16 plans:** Students intending on pursuing Apprenticeships (10.8% of the Y11 sample) were relatively more likely to report work experience (54.3%) while students pursuing A-levels were less likely (43.3%).

* Less than half of students intending to pursue full-time work (48%) reported work experience.
* Students aspiring to science (42.7%) and law (41.6%) were the least likely to have had work experience.
* Those aspiring to careers in the trades (56.2%), teaching (55.8%) or business (50.3%) were the most likely.

**Conclusions and recommendations:**

1. Our data highlights how certain groups are marginalised within current work experience provision in England.
   * Teachers and careers professionals **must also be aware of potential gendered stereotypes** relating to perceptions of ability as they play a role in fostering students’ academic self-concepts, which can mediate career choice.
   * Results showed that students from less advantaged social backgrounds (with lower levels of cultural capital) received less career support and work experience. This is an issue that deserves urgent attention.
   * Most students indicated in interviews that they wanted and felt the need for more support to navigate the careers education system – this was especially the case for those from Black and South Asian backgrounds, who were more likely to report feeling ‘scared’ or ‘unsure’.
   * **The potential for institutional racism, sexism and class bias must be acknowledged** and the present results raise questions around what might be disadvantaging certain groups of students.
   * **More needs to be done to ensure broader and more equitable provision.**
2. Our research shows a complex picture of the interplay between several background factors, which contribute to a pattern of work experience provision that needs to be addressed.
   * Therefore, that **an intersectional approach would be beneficial**, to help further understand the finding that access, provision and uptake are structured/shaped by intersecting identities and inequalities (e.g. ethnicity, class and gender).
3. **Students often reported dissatisfaction with the work experience provided** and complained that placements were often not well connected to their aspirations.
   * Our interview findings also suggest that students from socially advantaged backgrounds may be more satisfied with their placements.
   * **This goes against current national guidelines** that high quality, meaningful work experience opportunities should be provided for *all* students ([DfE, 2015](C:\\Users\\esprague\\Desktop\\32-1204_Mann\\04_Copyedited\\15032-1204-Fullbook.docx" \l "Ref_110_FILE150321204003" \o "(ManLink):Department for Education. (2015). Careers guidance and inspiration in schools: Statutory guidance for governing bodies, school leaders and school staff. London: Department for Education. UserName - DateTime: vge-4/12/2018 8:19:14 AM)).
4. **Schools are not doing enough to facilitate work placements.**
   * Our findings provide reason for concern, showing that less than two thirds of Year 11 students report receiving careers information.
   * Likewise, less than half the sample reported participating in work experience placements.
   * These results suggest that schools may not be meeting the requirement to provide support and placements for *all* students.
5. **Responsibility is placed on families using their connections** with placements influenced by family social capital.
   * These findings have important implications for social mobility as such placements are heavily influenced by family social capital.
   * **This self-referral system may contribute to the patterned nature of work experience provision and participation.**
6. **Schools should be provided with dedicated resourcing** to target, engage and support disadvantaged students.
   * Particular emphasis should be given to ensuring the participation of girls, minority ethnic students, working-class students, students in bottom sets and those who are unsure of their post-16 plans or who plan to leave education post-16.
7. We recommend that schools and organisations involved in delivery should monitor, evaluate and take steps to address inequalities in terms of which students do or do not access and participate in careers education and work experience.

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**References**

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Bourdieu, P. (1984). Distinction: A social critique of the judgement of taste. Cambridge, MA: Harvard University Press.

Department for Education. (2015). *Careers guidance and inspiration in schools: Statutory guidance for governing bodies, school leaders and school staff.* London: Department for Education.

1. The surveys contained a measure of cultural capital which serves as an indication of social advantage and disadvantage (e.g. Bourdieu, 1984) with a scale of -4 through 9, calculated on responses to items about parental education, approximate number of books in the home and frequency of museum visitation. For justification for the scoring methodology, please refer to [Archer et al. (2015](C:\\Users\\esprague\\Desktop\\32-1204_Mann\\04_Copyedited\\15032-1204-Fullbook.docx" \l "Ref_99_FILE150321204003" \o "(ManLink):Archer, L., E. Dawson, J. DeWitt, A. Seakins, and B. Wong. (2015). Science capital: A conceptual, methodological, and empirical argument for extending bourdieusian notions of capital beyond the arts. Journal of Research in Science Teaching 52(7): 2–17. UserName - DateTime: vge-4/12/2018 8:18:25 AM)). [↑](#endnote-ref-1)
2. The Year 11 and Year 13 sample numbers reported are the number of responses remaining after data cleaning i.e. after removal of duplicate and incomplete responses.

   June 2018 [↑](#endnote-ref-2)