

The impact of workplace placement on students' entrepreneurial attitude

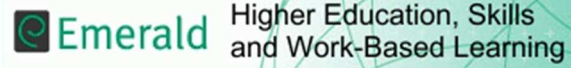
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1

2 Abstract

3 **Purpose:** The aim of the research was to determine the impact of a workplace placement on
4 the student participants' self-reported entrepreneurial attitude (EA)

5 **Design/methodology/Approach:** A review of relevant literature informed questions
6 incorporated in the university's annual feedback questionnaire completed by students (n =
7 461) on return from a work placement of between 44 and 52 weeks.

8 **Findings:** The study has shown that both gender and entrepreneurial legacy influence
9 baseline and post-placement EA ($p < 0.05$). The interaction between EA, social learning,
10 perceived behavioural control (PBC), subjective norms and perceived relational support
11 (PRS) was also considered.

12 **Originality/Value:** This research provides context for further qualitative work in this area,
13 especially the influence of gender and entrepreneurial legacy on reported baseline EA and EA
14 post work placement and will inform pedagogical development in terms of embedding
15 entrepreneurial teaching in future curriculum development at the university.

16

17 Key words

18 Entrepreneurial legacy, entrepreneurial attitude, subjective norms, entrepreneurial bridging,
19 entrepreneurial intention

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3 214
5 22 **1. Introduction**

6
7 23 Although entrepreneurial behaviour is seen as an asset within the sector (Lans *et al.*,
8
9 24 2015), agriculture has been considered as an inflexible, low-tech industry dominated by
10
11 25 family businesses that are mostly focused on doing things better rather than doing new things.
12
13 26 Indeed, entrepreneurship is vital for economic transformation, stimulation of global
14
15 27 development and is a wealth generator at individual, regional, national and international levels
16
17 28 (Obembe *et al.*, 2014). Social and economic constructs mediate entrepreneurial activity.
18
19 29 Social factors that are of influence can be cultural, political, or policy orientated, and
20
21 30 consideration of rural entrepreneurship encompasses innovative activity to meet socio-
22
23 31 economic issues such as food security, population growth, urbanisation, freshwater use, and
24
25 32 effective soil management as well as those social issues affecting rural communities and
26
27 33 places. Korsgaard *et al.*, (2015) differentiate between *entrepreneurship in the rural* i.e. profit-
28
29 34 oriented entrepreneurial activities with limited embeddedness in the wider rural social
30
31 35 community and *rural entrepreneurship* meaning entrepreneurial activities that leverage local
32
33 36 resources to re-connect place with space. An entrepreneurial mindset affords business
34
35 37 operators the ability to take advantage of opportunities and also ensure their businesses
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37 38 remain viable and resilient to regulatory, market or environmental shocks especially important
38
39 39 where businesses are connected to the land.

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45 40 **1. Factors that influence student entrepreneurialism**

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47 41 The term entrepreneurship pertains to the actions of a risk taker, undertaking a creative
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49 42 venture into a new business or reviving an existing business with notions of individuals being
50
51 43 seen as having characteristics of individualism, drive, intuition, being highly motivated,
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53 44 creative, and energetic (Ehrlich, 1986; Hébert and Link, 1988; Obembe *et al.* 2014).
54
55 45 Entrepreneurship has become a key subject in secondary and tertiary education, offering
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3 46 promise for multiple stakeholders (Dahalan et al. 2013; Ishmail et al. 2015; Mat et al. 2015).
4
5 47 Students that come from farming families or families high levels of parental self-employment
6
7 48 iwill have experienced social learning (SL) through their family social context or situation.
8
9 49 Jaskiewicz et al. (2015:30) describe entrepreneurial legacy as “*rhetorically reconstructed*
10
11 50 *narratives of the family's past entrepreneurial behaviour or resilience that motivate and give*
12
13 51 *meaning to entrepreneurship*”. Thus these students have grown up within a narrative of self-
14
15 52 employment, and this may well influence their thinking, attitudes and potentially their
16
17 53 behaviour. Indeed, entrepreneurial legacies, such as those derived from being involved with a
18
19 54 farming business from birth, are “*imprinted in children through active involvement in the*
20
21 55 *family firm and through story telling within large and cohesive families*” (Jaskiewicz et al.
22
23 56 2015). Further, the social aspects of the extended family construct leads to entrepreneurial
24
25 57 bridging that nurtures entrepreneurship in younger generations as multiple generations work
26
27 58 side by side in the family business. Families with an entrepreneurial legacy may also nudge
28
29 59 their children toward educational settings and work experiences that are perceived as being of
30
31 60 high value with regard to the degree of entrepreneurial knowledge and information (EKI)
32
33 61 embedded in the learning experience, especially if previous generations of the family have
34
35 62 attended the same establishment. There is therefore, in these families, a focus on context
36
37 63 specific learning i.e. that the learning is related to the operations within the family business in
38
39 64 terms of skills accumulation which can enrich the family business. Thus students may
40
41 65 gravitate towards entrepreneurial universities that can provide educational setting and work
42
43 66 setting experiences in the form of industry placements, scholarship opportunities and wider
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45 67 industry related activities. The families in turn will then provide the social and relational
46
47 68 support and financial capital to underpin the next generation’s entrepreneurial activity.
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54 69 Ambad and Damit (2016) conclude that three factors influence entrepreneurial intention:
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56 70 entrepreneurial attitude (EA) the greater the students’ attitude to entrepreneurship, the greater
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3 71 the entrepreneurial intention; perceived behavioural control (PBC) the easier the student
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5 72 thought it would be to become an entrepreneur the more motivated they were to be
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7 73 entrepreneurial themselves; and perceived relational support (PRS) in that the greater the
8
9 74 support from people around them e.g. parents, family, friends, network, the greater the
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11 75 student's intention to be entrepreneurial. Camelo-Ordaz *et al.*, (2016) consider entrepreneurial
12
13 76 self-efficacy, a concept derived from Social Learning Theory (SLT), whilst others have
14
15 77 described this characteristic as entrepreneurial orientation (EO), see Ishmail *et al.*, (2015).
16
17 78 Self-efficacy reflects an individual's perception of, and their degree of personal confidence in,
18
19 79 their own skills, abilities and competence, the ability in individuals to recognise opportunities,
20
21 80 and fear of failure (Camelo-Ordaz *et al.*, 2016; Kickul *et al.*, 2008; Bandura 1989). Gender is
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23 81 a mediating factor (Camelo-Ordaz *et al.* 2016; Langowitz and Minniti 2007) and EA has been
24
25 82 shown to be weaker in females (Karimi *et al.* 2013), but other studies have not found a gender
26
27 83 influence more generally in perceptions of entrepreneurship (Obeme *et al.* 2014). Therefore
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29 84 the student's transition between entrepreneurial attitude to entrepreneurial intention to
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31 85 exhibiting entrepreneurial behaviour is mediated by a number of interactions (see Figure 1)
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33 86 and factors such as EKI and SL play a role.
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39 **Take in Figure 1**

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42 88 A multiplicity of research questions arise that are worthy of consideration, An area of
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44 89 interest for this research was to determine the student self-reported baseline EA and then the
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46 90 impact of a workplace placement on the student participants' self-reported EA. Work
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48 91 placements, sometimes called "sandwich years" have featured as a part of the higher
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50 92 education learning experience for some decades (Orrell, 2004). Little (2000) highlight that
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52 93 with a work placement as part of a wider curriculum framework, specific learning outcomes
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54 94 can be mapped against the experience in terms of skills development such as personal and
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56 95 social skills, problem solving, organisation skills and communication. Little and Harvey
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3 96 (2006) in their work on the role and value of work placements conclude that a work
4
5 97 placement offers opportunity for personal development i.e. increasing confidence and
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7 98 interpersonal skills, better organisational, team work and time-management skills; more self-
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9 99 awareness and more self-criticality and also opportunity to increase subject knowledge.
10
11 100 However the Little and Harvey (2006) study highlights specifically that a work placement had
12
13 101 helped to inform student's future intentions and career plans at the end of their programme,
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15 102 which is a focus too of the empirical study described in this paper, As such work placement
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17 103 experience is situated and also an opportunity to "learn in context" (Brown et al. 1989; by
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19 104 Crebert et al. 2004). The international work critiqued in this paper has been undertaken in the
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21 105 UK (see also the work of Gomez et al. 2004); Malaysia (e.g. Ishmail et al. 2015; Ambad and
22
23 106 Damit, 2016 among others), the US and Australia. Thus it can be argued that work placement
24
25 107 can contribute to both EKI and SL (see Figure 1). Figure 1 has been drawn together to
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27 108 demonstrate the overall relationship within the entrepreneurial behavioural model proposed
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29 109 by the authors. This research just considers the first element the dynamic between SL, EKI
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31 110 and EA.
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36 111 The baseline level of student EA may be influenced by either the learning
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38 112 opportunities afforded at the land-based university in the preceding study years before their
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40 113 placement, their individual personal characteristics and/or the family context where in the past
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42 114 entrepreneurial characteristics have been evidenced. The work placement can also provide
43
44 115 alternative social networks and access to capital and informational resources that will also
45
46 116 provide a springboard for the student's future career. The student body approach to work
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48 117 placement will be differentiated. Whilst some students may be influenced by either
49
50 118 entrepreneurial legacy and/or entrepreneurial bridging others conversely may not. This will
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52 119 affect, both them as individuals and also as a collective group in terms of their development
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54 120 within the education setting and the way they personally interact with the learning experience
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3 121 and the subject studied and the associated placement opportunities on offer could influence
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5 122 the change in EA. The interaction between EA, PBC or PRS is unclear as well as the
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7 123 influence of additional factors such as fear of failure, risk tolerance or risk aversion in terms
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9 124 of future employment (Camelo-Ordaz et al. 2016; Ismail et al. 2015). The experience and
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11 125 knowledge gained during their work placement year may therefore influence EA in either a
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13 126 positive or a negative way. The main aim of the research was to consider the research
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15 127 question: **Does undertaking a work placement influence student entrepreneurial**
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17 128 **attitudes (EA)?**

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21 129 Thus this research has been designed to consider four hypotheses:

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23 130 **H1** Gender influences baseline student EA.

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25 131 **H2** Gender influences the increase in student EA during work placement.

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27 132 **H3** Undertaking a work placement during a university course increases student EA.

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29 133 **H4** There is a difference in baseline student EA in line with course studied.

30
31 134 The paper is constructed as follows: firstly literature is used to provide context, secondly the
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33 135 methodology is explained; the results are analysed and discussed and finally conclusions
34
35 136 drawn.

36 37 38 137 **3. Method**

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40 138 The methodology used for this research was an intrinsic case study approach within
41
42 139 the boundaries of issues of student work placement and self-reported EA. The data was
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44 140 collected in October 2016 at Harper Adams University, which is a specialist university for the
45
46 141 land-based sector. Annually a multi-method survey approach is used to collect both
47
48 142 qualitative and quantitative post work placement data in order to capture feedback from the
49
50 143 students themselves relating to preparation for and support on placement. This data forms part
51
52 144 of the course monitoring approach used in the university and students are actively encouraged
53
54 145 to complete survey.

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2
3 146 The sample population comprised of a group of students who had recently returned
4
5 147 from a 44-52 week compulsory placement period (n=461) and were returning to their final
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7 148 year of study. Table 1 shows the profile of the survey population. The numbers surveyed on
8
9 149 the Agriculture courses are subdivided by undergraduate BSc Honours degree course (four
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11 150 year including placement in the third year) or by FdSc Foundation degree course, a three year
12
13 151 course with the placement in the second year of study. Specific questions relating to EA were
14
15 152 included in the survey. The survey was completed anonymously and, in the instances where
16
17 153 some respondents chose to not answer a given question, actual respondent frequencies of
18
19 154 completion are shown in the results section to overcome differences in reporting frequency
20
21 155 compared to the whole sample data set. Questions relating to EA before and after placement
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23 156 used a ten point scale where 1 = being no EA and 10 = being a high level of EA and the
24
25 157 intention to start their own business or develop an existing business when the student leaves
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27 158 University and commences work.

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32 159 **Take in Table 1**

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34 160 The responses were part of a formal process of feedback and reflection following the
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36 161 work placement. A limitation of the study is that the students may have responded as a matter
37
38 162 of routine amongst a series of questions. As the students know, albeit that the work placement
39
40 163 receives a simple pass/fail mark that the completion of the questionnaire forms part of their
41
42 164 formal obligations to the university and this may have led to some response bias. However the
43
44 165 research has been carried out to provide context and to frame further research in this area with
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46 166 regard to students' EA. Although the sampling method was convenience sampling, the
47
48 167 researchers feel that as long as the results are interpreted within this in mind then the
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50 168 conclusions drawn in the paper have validity. Descriptive analysis of the data was undertaken
51
52 169 using the calculation of a mean score for each factor. This gives statistical significance of
53
54 170 90% confidence with +/- 5% accuracy (West, 1999). [Inferential statistical analysis](#)

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3 171 (independent samples t-test) was used to consider statistical significance and is reported at
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5 172 ($p < 0.05$).
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9 174 4. Results

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11 175 The response rate was 98.7%. The reason for this high response level is that all
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13 176 students were required to complete the survey on their return from placement. The
14
15 177 respondents were asked to give an indication of their gender and 2.4% declined to identify
16
17 178 their gender for the survey ($n=444$). Of those who reported gender for the whole survey there
18
19 179 was an even split of males to females (49.5:50.5). Respondents did not answer all questions
20
21 180 so gender response is subsequently reported by question. Student views on the impact of
22
23 181 placement on their entrepreneurial attitudes were collated via the following question:
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25

26
27 182 *'Please rank your entrepreneurial attitudes before **and** after the placement based on a scale*
28
29 183 *of 1 to 10 (1 being no entrepreneurial attitude and 10 being you have a high level of*
30
31 184 *entrepreneurial attitude and you intend to start your own business or develop an existing*
32
33 185 *business when you leave Harper Adams and start work).*
34
35

36 186 The weighted mean scores for the respondents to this question ($n=455$) for this
37
38 187 question has been analysed by whole survey and by gender (Table 3) in order to test and gain
39
40 188 further understanding of hypothesis: **H1: Gender influences baseline student EA.**

41
42 189 Male students showed a greater EA pre-placement than females (score 5.66 and 4.61
43
44 190 respectively). However, it is interesting to note, that whilst the weighted mean post placement
45
46 191 for females is less than that of the males (6.99 compared with 7.68), the females show a
47
48 192 greater *overall difference* in EA post placement with a weighted mean difference of 2.38
49
50 193 compared to the whole survey sample (2.19). The results demonstrate (Table 2) that for the
51
52 194 weighted mean average the male students were more likely to intend to start their own
53
54 195 business or develop an existing business before placement than females concurring with
55
56 196 Ambad and Damit, (2016), and Karimi et al. (2013). [Using the independent samples t-test](#)
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3 197 demonstrated there was a statistically significant difference at $p < 0.05$ with regards to gender
4
5 198 and that males had a higher baseline EA than females. This proves H1 in the context of this
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7 199 university. This study has also shown that gender influences baseline weighted mean student
8
9 200 EA with females having a lower baseline weighted mean EA (H1), that gender too influences
10
11 201 the difference in weighted mean EA before and after placement with females increasing more
12
13 202 in weighted mean EA during a placement activity agreeing with Karimi et al. (2013) and
14
15 203 others. There is also a difference in weighted mean baseline EA in line with courses studied
16
17 204 as well as the proportion of increased weighted mean EA on different courses (H4).

20 205 **Take in Table 2**

22 206 The research also tested: **H2: Gender influences the increase in student EA during**
23 207 **work placement.**

24 208 As previously described, the data in Table 2 demonstrates that increase in weighted
25 209 mean average for females (2.38) was greater than males (2.02) thus proving H2. The
26 210 difference in weighted mean before placement (1.05) between males and females narrowed
27 211 after placement to (0.69). Using the independent samples t-test to analyse the increase in EA
28 212 during work placement showed there was a statistically significant difference at $p < 0.05$ with
29 213 regards to gender with work placement having a greater positive influence on females than
30 214 males, but this in part could be due to males having a higher baseline EA. Karimi et al. (2013)
31 215 considered the gender relationship was nuanced and that whilst gender did not influence PBC
32 216 and EI, gender did affect firstly EA, which was weaker for females, concluding that
33 217 subjective norm (SN) was a stronger predictor of EI for female students than for male. SN is
34 218 the perceived social pressure, in this case for female students, to perform or not perform a
35 219 specific behaviour (Ajzen, 1991) in this instance, entrepreneurial behaviour. Thus it could be
36 220 suggested that the activities and experiences associated with a work placement may overcome
37 221 previous social learning that has led females to perceive that they should not engage in

222 entrepreneurial behaviour and this impacts their EA. This is worthy of more qualitative
223 research.

224 The third hypothesis tested in this study is **H3: Undertaking a work placement**
225 **during a university course increases student EA.** This hypothesis has also been proven in
226 this study as previously described. The results show that undertaking a work placement does
227 influence EA with an overall weighted mean EA before placement of 5.10 and after
228 placement of 7.29. This clearly demonstrates that undertaking a work placement as a learning
229 opportunity whilst at university increases weighted mean student EA (H3). *Using the*
230 *independent samples t-test demonstrated there was a statistically significant difference at*
231 *p<0.05 with regards to gender and that females experienced a higher increase in EA as a*
232 *result of placement.*

233 The fourth hypothesis tested was **H4: There is a difference in baseline student EA**
234 **in line with course studied.** The weighted mean before and after placement for individual
235 courses has been collated (Table 3). The courses have been ranked by weighted mean before
236 and after placement and by weighted mean difference and standard deviation difference.

237 **Take in Table 3**

238 Students studying on the Agricultural suite of courses showed a greater EA pre-
239 placement than other courses although, there were differences between those on the BSc
240 Agriculture course and FdSc Agriculture course where the weighted mean EA for the FdSc
241 students was lower than BSc students (5.28 compared to 5.81) as shown in Table 3. However,
242 the impact of the placement period for the FdSc students showed a greater weighted mean
243 difference in EA post placement than BSc Agriculture students (2.38 compared with 2.25
244 respectively).

245 Students on the Animal Behaviour, Welfare courses showed least EA pre placement,
246 but the weighted mean *difference* in EA post placement (2.29) highlighted the influence of the

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3 247 placement experience. The students on the Agriculture BSc course, Vet Physiotherapy, Rural
4
5 248 Estate Management and Engineering showed the greatest EA before placement. The Business,
6
7 249 Agri-food and Agribusiness course and the Agriculture FdSc showed the greatest increase in
8
9 250 EA during placement. The Food related courses showed the least increase in EA during
10
11 251 placement so further investigations into the types of placement activities would be of value to
12
13 252 see if there was a particular influence. The weighted mean EA *difference overall* for each
14
15 253 course (Table 2) shows that females reported a greater overall *difference* to EA post
16
17 254 placement (2.38) than males and above the average of the whole survey (2.19). On a course
18
19 255 level, students on the Agriculture FdSc course and Business, Agrifood and Agribusiness
20
21 256 courses showed greater weighted mean difference EA scores (2.38 and 2.37 respectively) than
22
23 257 students on the other courses and Food related courses specifically showed that placement had
24
25 258 the least reported impact on EA (1.76). Descriptive analysis of EA for all students on
26
27 259 agricultural courses shows a shift in EA before and after placement with a generally uniform
28
29 260 cohort before placement of students albeit with some tails that show heightened and
30
31 261 conversely lesser EA (Figure 2).

32 262 **Take in Figure 2**

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37 263 Analysis of the standard deviation in EA before and after placement (Table 3) shows a
38
39 264 convergence of EA after placement for some courses (Agriculture; Business, Agrifood,
40
41 265 Agribusiness; and Countryside, Environment and Geography) and to a lesser extent Vet
42
43 266 Physiotherapy. For other courses (Engineering and Food) there is a greater divergence in EA
44
45 267 after placement, but most noticeably for Rural Estate Management and Animal Behaviour and
46
47 268 Welfare. There is a difference in the profile of students on the BSc Agriculture course before
48
49 269 and after placement in terms of EA and standard deviation which suggests a multiple
50
51 270 grouping of students in terms of EA initially, but this is much more uniform after placement
52
53 271 (Figure 3). Students on the FdSc Agriculture course show greater uniformity as a cohort in
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3 272 terms of EA both before and after placement although there is a recognizable tail on both
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5 273 Agricultural courses that show a lag in reported EA (Figure 4).
6

7
8 **274 Take in Figures 3 and 4**

9
10 275 In order to explore the influence of entrepreneurial legacy on EA the respondents
11
12 276 were asked to consider their own background and identify whether they came from a
13
14 277 background of family business/self-employment and this is shown in Table 4. The
15
16 278 respondents who answered this question (n = 449) reported that two thirds (65.3%) came from
17
18 279 a background of family business and/or self-employment. There was a slight gender influence
19
20 280 with males coming from this background (67%) and females (64.7%). There was however a
21
22 281 greater bias towards a family background of self-employment in terms of Business, Agrifood
23
24 282 and Agribusiness courses (77.8%) Agricultural courses (77.2%) with little difference between
25
26 283 the BSc and the FdSc courses); Food related courses (76.9%) and Rural Estate Management
27
28 284 (68.4%). This compared with students on the Engineering, Vet Physiotherapy, Animal
29
30 285 Behaviour and Welfare, and Countryside, Environment and Geography courses that reported
31
32 286 a lesser background in self-employment (57.5%, 53.8%; 40.6 %and 37.8% respectively).
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36 **287 Take in Table 4**

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38 288 Those respondents who answered that they came from a background of family
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40 289 business/self-employment, were subsequently asked whether it had shaped their views on
41
42 290 themselves starting a business or developing a business, although they were not asked to
43
44 291 identify quantitatively whether this was a positive or negative perception. Family background
45
46 292 of business or self-employment was a strong influence on shaping the views of respondents
47
48 293 who answered this question (n = 286) on whether they would themselves start or develop an
49
50 294 aspect of the business on all courses, with the exception of the students on the Food related
51
52 295 courses (Table 5). Overall 80.8% of respondents (n=231) reported that a background of
53
54 296 family business/self- employment had shaped their views on starting a business or developing
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297 an existing business themselves in the future, highlighting the role of entrepreneurial legacy
298 in guiding students views on starting a business or develop an existing business. There was a
299 slight gender influence with males being more influenced by entrepreneurial legacy (83.9%)
300 compared with females (77.5%). There was a differentiation of entrepreneurial legacy by
301 course studied with influence highlighted by Agricultural programmes (90.9% for the FdSc
302 course and 88.1% for the BSc course); and the Business, Agrifood and Agribusiness course
303 (87%)

304 **Take in Table 5**

305
306 Before placement, there are two distinct cohorts on the engineering course with
307 regard to reporting of EA (Figure 5) suggesting that there is sub-group of engineering
308 respondents who report pre-placement EA whereas there is a second group that initially have
309 reported low levels of EA. This shows the value of the placement in shifting entrepreneurial
310 perceptions in students on the engineering course is mixed. Within the overall number of
311 Engineering students in the study (n=41), 57.5% of these students stated that they came from
312 a family background of family business or self employment (n=23) and of these students
313 79.2% (n=19) stated that this background had influenced their EA. This suggests that there
314 may be two distinct cohorts on the engineering course with regard to EA.

315 Within the overall number of Animal Behaviour, Welfare students that responded in
316 this study (n=64), 40.6% of these students stated that they came from a family background of
317 family business or self employment (n=26) and of these students 76.9% (n=10) stated that this
318 family background had influenced their EA. It can be shown through this study that both
319 before and after placement there is a greater differentiation of students with regard to EA on
320 the Animal Behaviour, Welfare studies course compared with the Agriculture related course
321 (Figure 6). However with a weighted mean shift of EA difference before and after placement
322 of 2.29 there is a clear demonstration of the influence of the placement work period for

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3 323 students on the Animal Behaviour, Welfare studies course. The data implies that with regard
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5 324 to reported EA, as with the engineering course, there may be multiple sub-populations within
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7 325 the cohort of students.
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10 326 **Take in Figures 5 and 6**

11 327 The number of students who responded that their background of family business
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13 328 influenced their EA on the Veterinary Physiotherapy course (n=5) from a small overall
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15 329 population in the study of 14); and Countryside, Environment and Geography course (n = 9
16
17 330 from a sample size in the study of 37) limited any further interpretation with regard to the
18
19 331 impact of entrepreneurial legacy. There is a weighted mean shift of EA between before and
20
21 332 after placement of 2.28 for the Vet Physiotherapy course and a weighted mean shift of EA
22
23 333 between before and after placement of 2.08 for the Countryside, Environment and Geography
24
25 334 course again demonstrating the reported influence of the placement work period for students
26
27 335 on these two courses.
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31 336 The Rural Estate Management students in the study (n=56), reported that 68.4% came
32
33 337 from a background of family business or self employment (n=39) and of these students 71.1%
34
35 338 (n=27) stated that this background had influenced their EA. The weighted mean average of
36
37 339 EA before placement was 5.39 and after placement increased to 7.32 (Figure 7). There were
38
39 340 twenty-six food students in the overall study, which makes interpretation of the trends with
40
41 341 regard to student EA limiting. However weighted mean difference in EA before and after
42
43 342 placement was lowest in this group at 1.76 (Figure 8). Whilst 76.9% of these students
44
45 343 reported that they came from a family background of family business or self employment
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47 344 (n=20), of these students 60% (n=12) stated that this background had influenced their EA.
48
49 345 Using the independent samples t-test to analyse the influence of family background on
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51 346 baseline EA demonstrated that those students from a background of family business had a
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53 347 higher baseline EA and a higher EA after placement which was statistically significant at
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348 $p < 0.05$. However the change in EA before and after placement between those students who
349 had a background of family self-employment and those students who did not, showed no
350 statistically significant difference at $p < 0.05$. All these factors are worthy of further study.

351 **Take in Figures 7 and 8 and further qualitative analysis**

352 **5. Discussion**

353 The main aim of the research was to consider the research question: **Does undertaking a**
354 **work placement influence student entrepreneurial attitudes (EA).**

355 A review of relevant literature informed questions incorporated in the university's annual
356 feedback questionnaire completed by students ($n = 461$) on return from a work placement of
357 between 44 and 52 weeks. The responses were reviewed and analysed in order to give an
358 insight into the EA of students before and after placement, by cohort and also the influence of
359 gender. Previous literature has highlighted that a work placement provides a situational and
360 context driven learning experience and can aid personal development, provide opportunity to
361 develop subject knowledge and also help to inform future intentions and career plans (Little,
362 2000; Crebert et al. 2004; Orrell, 2004; Little and Harvey, 2006).

363 **The research explored and tested the four hypotheses that were all proven:**

- 364 • **H1** Gender influences baseline student EA.
- 365 • **H2** Gender influences the increase in student EA during work placement.
- 366 • **H3** Undertaking a work placement during a university course increases student EA.
- 367 • **H4** There is a difference in baseline student EA in line with programme studied.

368 Students studying on the Agricultural suite of courses showed a greater reported EA pre-
369 placement than other courses, potentially greater entrepreneurial legacy (Jaskiewicz et al.
370 2015) and potentially increased confidence in both PBC and PRS with an average background
371 of self-employment of 77.1%. Students on the Animal Behaviour Welfare related courses
372 showed the least EA before placement, however, the weighted mean *difference* in EA post

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3 373 placement (2.29) was similar to Agriculture All (2.30) suggesting a similar influence from the
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5 374 placement experience even though baseline EA and potentially the level of entrepreneurial
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7 375 legacy (40.6%) was different. Therefore undertaking a placement activity has been shown to
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10 376 increase reported EA across all courses. The small sub-populations made detailed analytical
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12 377 analysis difficult. Two important findings are that:

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14 378 • Female students show lower baseline reported EA but the overall difference in
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16 379 reported EA post placement was greater ($p < 0.05$) and
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18 380 • There was a difference noted between courses in student self-reported EA before
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20 381 and after placement but further work is required with a larger dataset to quantify
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22 382 these differences more objectively and/or see if the results are repeatable with a
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24 383 second student cohort.

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27 384 Further research could be undertaken to consider the value of work placement to the student
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29 385 from a wider pedagogic framing in terms of the learned or lived experience of the work
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31 386 placement and its impact on EA. The influence of placement on female students overall is
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33 387 worthy of further qualitative study as to the exact nature of the factors that influence lower
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35 388 baseline EA. There are some factors identified in the literature, but an exploratory study
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37 389 would highlight their interaction more clearly how they interact especially how experience
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39 390 influences attitudinal response both before and after a work placement. Further research on
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41 391 the type, commonalities and differences of workplace experience by course would also be of
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43 392 value. This suggests that a wider exploration of pedagogic framing of the “lived learning
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45 393 experience” would be of value when considering the development of entrepreneurial attitude.
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47 394 It would also be good to see how much pre-course work experience had been undertaken and
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49 395 whether this influenced baseline EA. This in part may be influenced by entrepreneurial legacy
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51 396 and that work experience before university in the family business or alternatively work
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53 397 experience in the industry in which students seek to have a career has already increased
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3 398 baseline EA. This might go some way to explained why on some courses such as animal
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5 399 behaviour and geography baseline EA is lower. The specific findings for females and the
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7 400 impact of work placement on EA should be specifically considered in terms of encouraging
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9 401 female education opportunities. Internationally, where female education opportunities may be
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11 402 more limited than in the country in which the study took place, pedagogic development for
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13 403 women who can access learning via a life-long learning work based programme should also
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15 404 be considered.
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406 **6. Conclusion**

407 Entrepreneurship is vital for economic growth and entrepreneurial behavior post education
408 amongst students has been the central element of this work. The aim of the research was to
409 determine the impact of a workplace placement on the statistically more likely to report
410 higher EA than females ($p < 0.05$). However, a work placement during a university course may
411 overcome social pressure, social learning and the boundaries created by subjective norms
412 prior to university for females, as in this study they report they are more likely to intend to
413 start their own business or develop an existing business after the experience of work
414 placement. The increase in reported EA after placement was greater for females and was
415 influenced by the course of study. The influence of entrepreneurial legacy in terms of self-
416 reported EA has also been shown.

417 Further, this study does show that the process of adapting to cultural expectations and
418 organisational pressures during a work placement (see Crebert et al. 2004), does change the
419 student's personal outlook and their attitudes towards their career destination influenced by
420 entrepreneurial legacy. This research also shows that the student body is not homogenous and
421 not only gender, but also previous experience, especially the social legacy of family context
422 and whether for example the student is from a family with a self-employed background, will

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3 423 influence both baseline and future EA. This means that how the work placement is designed,
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5 424 implemented and mediated by the university, the student themselves and the learning
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7 425 experience provided via the employer will play an important part in the overall experience
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9 426 derived and the difference in baseline and completion levels of personal development and
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11 427 self-reflection on future career intentions.

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14 428 This study was undertaken in the UK, but has potentially wider applicability in an
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16 429 international context with universities that undertake a placement period, with the caveats
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18 430 outlined with regard to the student family background and how this might influence this
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20 431 specific grouping of students. This study provides context for further qualitative and
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22 432 quantitative work in this area to explore more fully the influence of entrepreneurial legacy on
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24 433 EA in terms of both PBC and PRS. This work will also inform pedagogical development in
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26 434 terms of embedding entrepreneurial teaching in future curriculum development at the
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28 435 university.

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550 **Table 1. Survey Profile**

Course of study	Number	%
Agriculture (All)	140	30.37
Agriculture- BSc	79	17.14
Agriculture- FdSc	61	13.23
Business, Agrifood, Agribusiness.	73	15.84
Rural Estate Management	66	14.32
Animal Behaviour, Welfare	64	13.88
Engineering	41	8.89
Countryside, Environment, Geography	37	8.03
Food related	26	5.64
Vet Physiotherapy	14	3.04
Whole Survey Total	461	

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*Note the number is the number of respondents to the survey, not the number studying on the course.

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Table 2. Gender profile and difference in weighted mean EA before and after work placement

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Gender profile	Number of respondents	% Number of respondents	Weighted mean EA before placement	Weighted mean EA after placement	Weighted mean difference
Whole Survey	445	100	5.10	7.29	2.19
Females	217	47.69	4.61	6.99	2.38
Males	214	47.03	5.66	7.68	2.02

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*The whole survey includes those who reported as female (n=217); male (n=214) and those who preferred not to say (n=14)

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568 **Table 3. Course profile and difference in weighted mean EA before and after work**
 569 **placement**

Profile and related course	Number surveyed	Number of respondents	% Number of overall respondents	Weighted mean EA before placement	Weighted mean EA after placement	Weighted mean difference	SD difference
Whole Survey	461	445	100	5.10 (SD 1.95)	7.29 (SD 1.87)	2.19	0.08
Agriculture (All students)	140	139	31.24	5.58 (SD 1.85)	7.88 (SD 1.48)	2.30	0.37
Agriculture- BSc	79	78	17.53	5.81	8.06	2.25	
Agriculture- FdSc	61	61	13.71	5.28	7.66	2.38	
Business, Agrifood, Agribusiness	73	73	16.40	5.12 (SD 2.00)	7.49 (1.76)	2.37	0.24
Rural Estate Management	66	56	12.58	5.39 (SD 1.99)	7.32 (2.34)	1.93	-0.35
Animal Behaviour, Welfare	64	64	14.38	3.91 (SD 1.93)	6.20 (2.30)	2.29	-0.37
Engineering	41	37	8.31	5.38 (SD 1.67)	7.32 (SD 1.82)	1.94	-0.15
Countryside, Environment, Geography	37	36	8.09	4.53 (SD 2.20)	6.61 (SD 1.96)	2.08	0.24
Food	26	26	5.84	5.12 (SD 1.66)	6.88 (SD 1.76)	1.76	-0.10
Vet Physiotherapy	14	14	3.08	5.36 (SD 1.99)	7.64 (SD 1.95)	2.28	0.04

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572 **Table 4. Reported background of family business/self- employment**

Profile and related course	Yes	%	No	%
Whole Survey Total	293	65.30	156	34.70
Females	141	64.70	77	35.30
Males	146	67.00	72	33.00
Business, Agrifood, Agribusiness	56	77.80	16	22.20
Agriculture- BSc	61	77.20	18	22.80
Agriculture- FdSc	47	77.00	14	23.00
Food related	20	76.90	6	23.10
Rural Estate Management	39	68.40	18	31.60
Engineering	23	57.50	17	42.50
Vet Physiotherapy	7	53.80	6	46.20
Animal Behaviour, Welfare	26	40.60	38	59.40
Countryside, Environment, Geography	14	37.80	23	62.20

572 *Respondent who did not report gender for this question was n=6

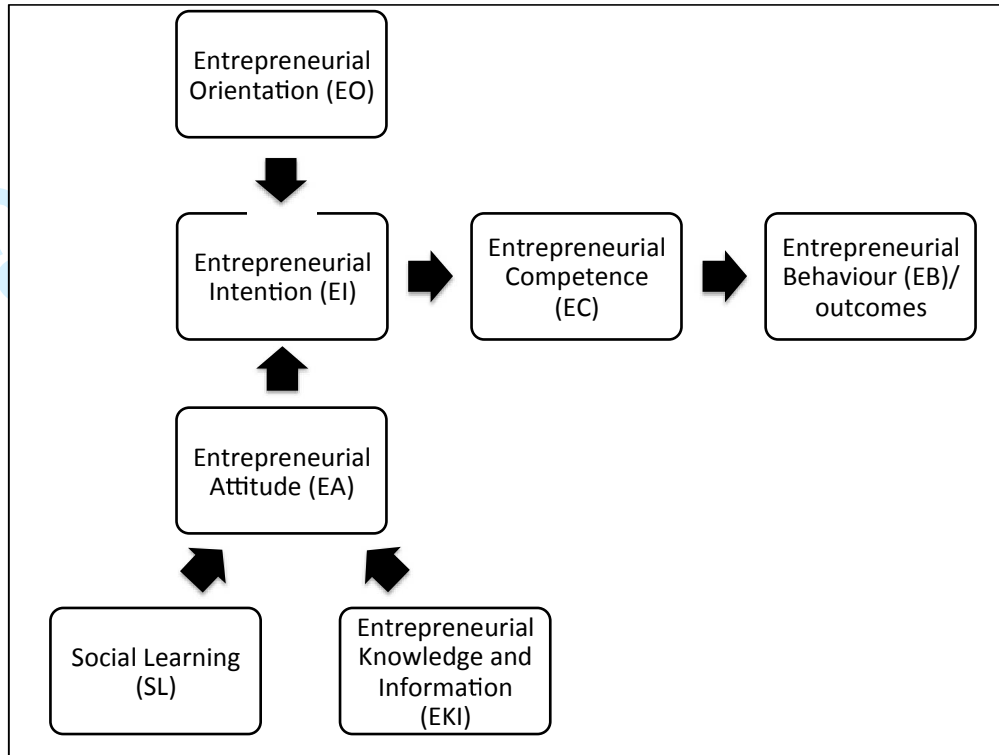
573 **Table 5. Has a background of family business/self- employment shaped your views on**
 574 **yourself starting a business or developing an existing business?**
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Profile and related course	Yes	%	No	%
Whole Survey Total	231	80.80	55	19.20
Females	107	77.50	31	22.50
Males	120	83.90	23	16.10
Agriculture- FdSc	40	90.90	4	9.10
Agriculture- BSc	52	88.10	7	11.90
Business, Agrifood, Agribusiness	47	87.00	7	13.00
Engineering	19	79.20	5	20.80
Animal Behaviour, Welfare	20	76.90	6	23.10
Vet Physiotherapy	5	71.40	2	28.60
Rural Estate Management	27	71.10	11	28.90
Countryside, Environment, Geography	9	64.30	5	35.70
Food related	12	60.00	8	40.00

576 *Respondent who did not report gender for this question was n=4

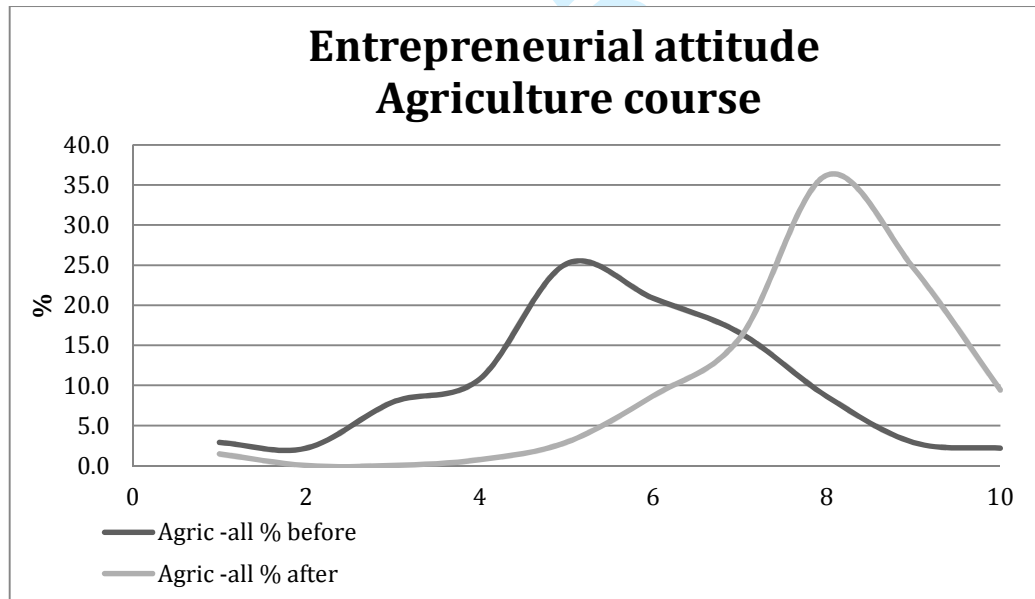
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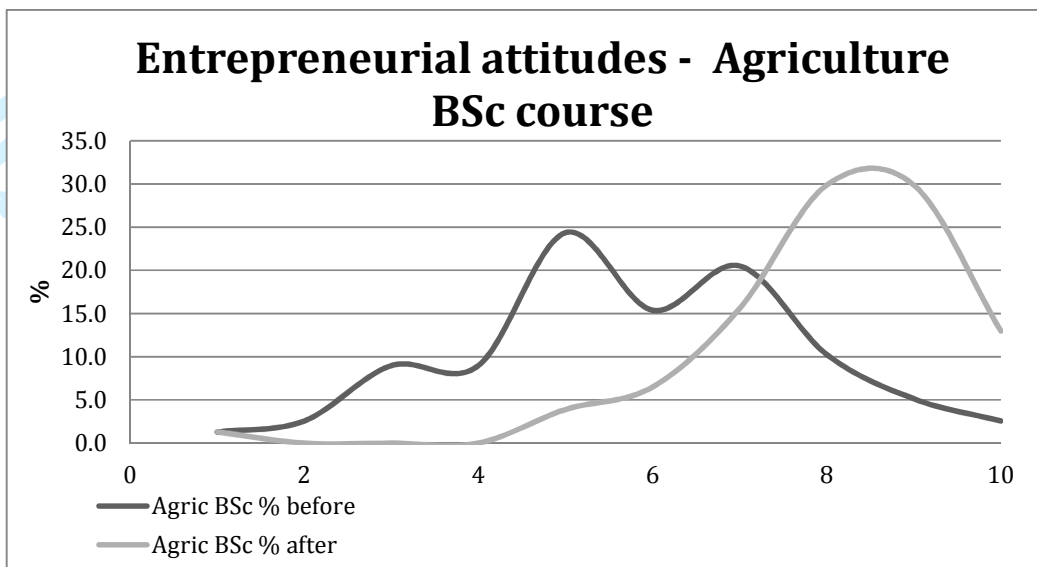
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Figure 1. Entrepreneurial Behaviour Model



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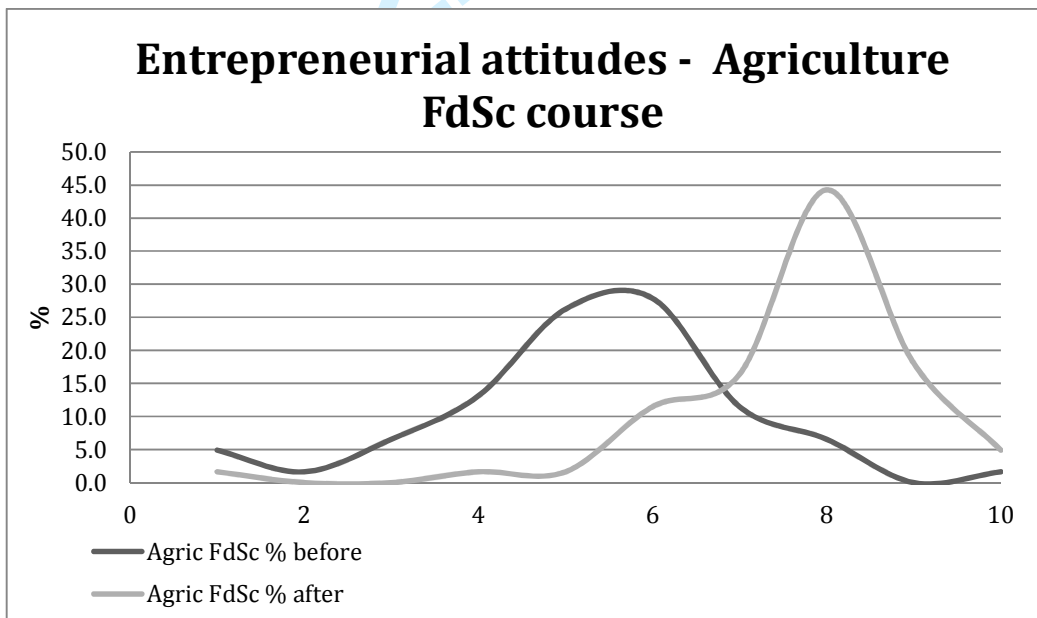
Figure 2. EA of students on all Agricultural courses before and after placement.



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587 **Figure 3.** EA of students on the BSc Agricultural course before and after placement.

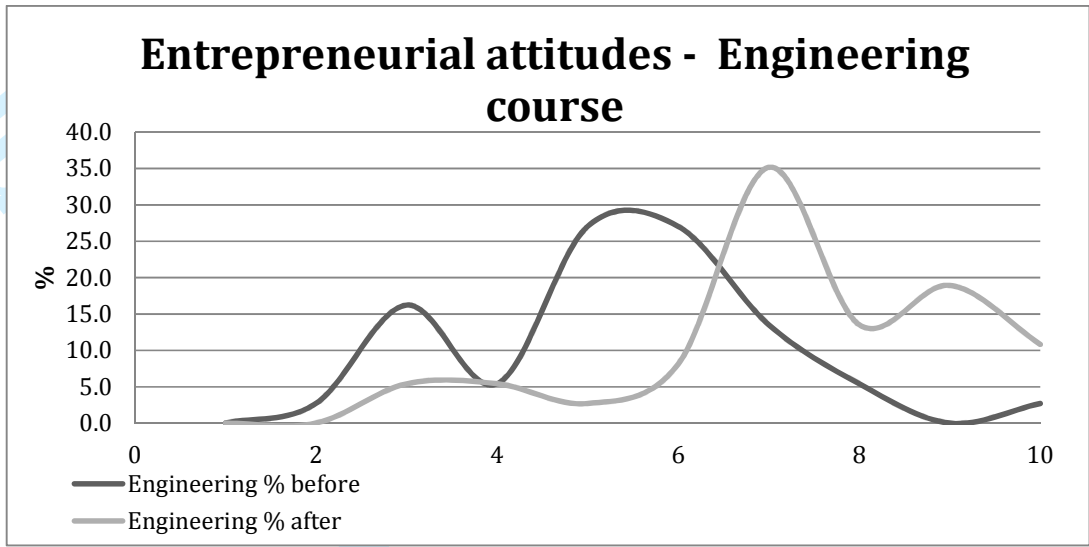
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590 **Figure 4.** EA of students on the FdSc Agricultural course before and after placement.

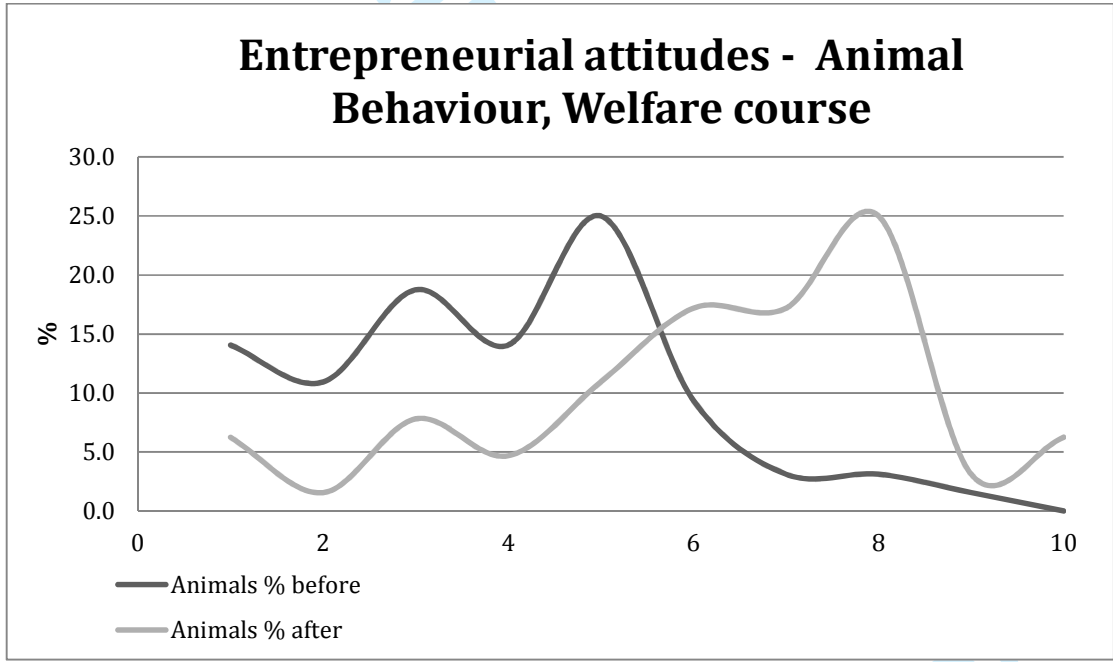
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593 **Figure 5.** EA of students on the BSc Engineering course before and after placement.

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596 **Figure 6.** EA of students on the BSc Animal Behaviour Welfare course before and after placement.

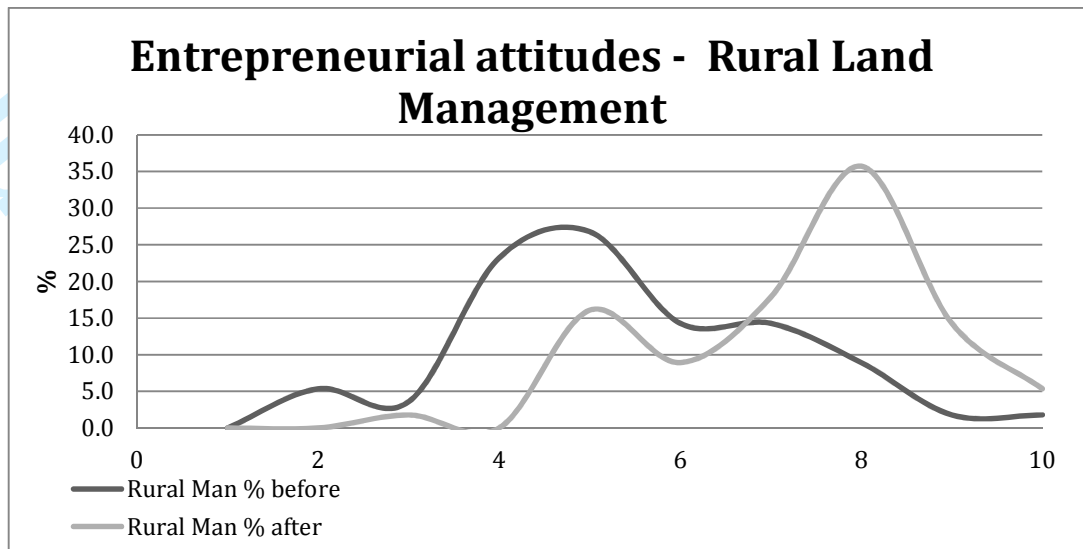
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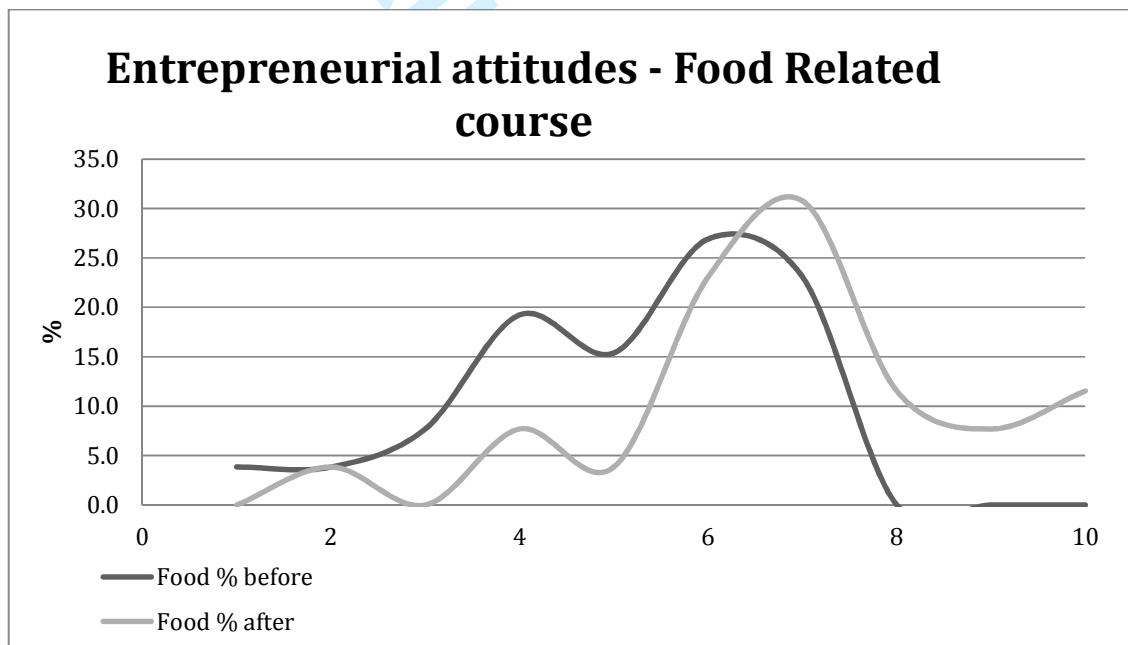
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603 **Figure 7.** EA of students on the BSc Rural Estate Management course before and after
 604 placement.

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607 **Figure 8.** EA of students on the BSc Food related course before and after placement

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