

# Impostor feelings and academic decision making: an anchoring vignette approach

Supplementary appendix

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# Appendix B Survey

## B.1 Informed consent

### Letter of Introduction and Informed Consent

Dear Participant

You are invited to participate in an academic research study conducted by Michelle Pleace (supervised by Dr Nicky Nicholls), from the Department of Economics at the University of Pretoria. The purpose of the study is to understand more about how feelings can affect decision making. This survey is completely anonymous. You will be asked to read short hypothetical scenarios and answer questions relating to this story. Our final data and all information will be recorded anonymously for our research, and will be used only for this research. Neither your decision to participate nor your responses will impact your grades in any way.

Please note the following:

- Participation in the research part of this assignment is voluntary and there will be no penalty or loss of benefit if you decide not to take part. If you would like to stop participating at any point, you are free to do this without needing to give us an explanation for your decision.
- The results of the study will be used for academic purposes only. I will provide you with a summary of our findings on request.
- Please contact me (u15269320@tuks.co.za) if you have any questions or comments regarding the study. You are welcome to ask questions before deciding to participate in the study. Also, as a participant, you have the right of access to your data. The survey takes 10-15 minutes to complete. As a token of thanks, participants can win a lucky draw prize which is to the value of R300 for Takealot, Vida e Caffè or data.

By clicking on the right arrow below, you indicate that:

- You have read and understand the information provided above.

- You give your consent to participate in the study on a voluntary basis.

## **B.2 Initial demographic factors**

1. Please choose the option that best describes you
  - Undergraduate student
  - Postgraduate student
2. What year of study are you?
  - First
  - Second
  - Third/Final
3. Which degree are you completing?
  - Honours
  - Masters
  - Doctoral
4. What field does your degree relate to?
  - Economic Management Sciences
  - Economics
  - Education
  - Engineering, Built Environment and Information Technology
  - Health Sciences
  - Humanities
  - Law
  - Mathematics
  - Natural and agricultural sciences
  - Theology and Religion
  - Veterinary Science
5. Do you have a mentor in your field of study?
  - Yes
  - No
  - I'm not sure
6. Do you have a supportive peer group?
  - Yes

- No

7. What gender do you identify with?

- Male
- Female
- Non-binary / third gender
- Prefer not to say

8. What is your ethnicity?

- Asian/Indian
- Black
- Coloured
- White
- Other
- Prefer not to say

### **B.3 Anchoring vignettes to create Self IP (vig)**

1. How comfortable are you in your academic environment?

- Extremely uncomfortable
- Somewhat uncomfortable
- Neither comfortable nor uncomfortable
- Somewhat comfortable
- Extremely comfortable

2. **For undergraduate females only:** Rank the following people with how comfortable they are in their working environment. Please drag any name to the desired position to rank these people.

Maria is an undergraduate student studying your degree. She finds economics-related tasks easy and performs well academically. She feels confident before tests and presentations.

Grace is an undergraduate student studying your degree. She can complete economics-related tasks easily and performs well academically. However, she feels nervous to ask questions in class because she worries that her peers will think that the question is stupid.

Tina is an undergraduate student studying your degree. She worries that she works harder than others to perform well academically, she doesn't feel very happy because she worries that she obtained the mark out of pure luck and doubts whether she can repeat past success.

Carol is an undergraduate student studying your degree and performs well academically, she feels like her success has been a result of some kind of error. She can't accept praise for accomplishments because she feels like she has tricked her peers and lecturers into thinking that she is intelligent. This makes her scared that she cannot live up to other's expectations of her in the future.

Where:

1 is most comfortable

2 is second most comfortable

3 is third most comfortable

4 is fourth most comfortable

3. **For undergraduate males only:** Rank the following people with how comfortable they are in their working environment. Please drag any name to the desired position to rank these people.

Peter is an undergraduate student studying your degree. He finds economics-related tasks easy and performs well academically. He feels confident before tests and presentations.

Robert is an undergraduate student studying your degree. He can complete economics-related tasks easily and performs well academically. However, he feels nervous to ask questions in class because he worries that his peers will think that the question is stupid.

Dennis is an undergraduate student studying your degree. He worries that he works harder than others to perform well academically, he doesn't feel very happy because he worries that he obtained the mark out of pure luck and doubts whether he can repeat past success.

Alfred is an undergraduate student studying your degree and performs well academically, he feels like his success has been a result of some kind of error. He can't accept praise for accomplishments because he feels like he has tricked his peers and lecturers into thinking that he is intelligent. This makes him scared that he cannot live up to other's expectations of him in the future.

Where:

1 is most comfortable

2 is second most comfortable

3 is third most comfortable

4 is fourth most comfortable

4. **For postgraduate males only:** Rank the following people with how comfortable they are in their working environment. Please drag any name to the desired position to rank these people.

Peter is a postgraduate student studying your degree. He finds economics-related tasks easy and performs well academically. He feels confident before tests and presentations.

Robert is a postgraduate student studying your degree. He can complete economics-related tasks easily and performs well academically. However, he feels nervous to ask questions in class because he worries that his peers will think that the question is stupid.

Dennis is a postgraduate student studying your degree. He worries that he works harder than others to perform well academically, he doesn't feel very happy because he worries that he obtained the mark out of pure luck and doubts whether he can repeat past success.

Alfred is a postgraduate student studying your degree and performs well academically, he feels like his success has been a result of some kind of error. He can't accept praise for accomplishments because he feels like he has tricked his peers and lecturers into thinking that he is intelligent. This makes him scared that he cannot live up to other's expectations of him in the future.

Where:

- 1 is most comfortable
- 2 is second most comfortable
- 3 is third most comfortable
- 4 is fourth most comfortable

5. **For postgraduate females only:** Rank the following people with how comfortable they are in their working environment. Please drag a name to the desired position to rank these people.

Maria is a postgraduate student studying your degree. She finds economics-related tasks easy and performs well academically. She feels confident before tests and presentations.

Grace is a postgraduate student studying your degree. She can complete economics-related tasks easily and performs well academically. However, she feels nervous to ask questions in class because she worries that her peers will think that the question is stupid.

Tina is a postgraduate student studying your degree. She worries that she works harder than others to perform well academically, she doesn't feel very happy because she worries that she obtained the mark out of pure luck and doubts whether she can repeat past success.

Carol is a postgraduate student studying your degree and performs well academically, she feels like her success has been a result of some kind of error. She can't accept praise for accomplishments because she feels like she has tricked her peers and lecturers into thinking that she is intelligent. This makes her scared that she cannot live up to other's expectations of her in the future.

Where:

- 1 is most comfortable
- 2 is second most comfortable
- 3 is third most comfortable
- 4 is fourth most comfortable

6. Please include yourself when ranking how comfortable people are with their working

environment. Please drag and drop the name into the corresponding box. Please only put one name in each box.

Most comfortable

Second most comfortable

Third most comfortable

Fourth most comfortable

Least comfortable

7. Which option best describes you?

- More comfortable than all four people.
- More comfortable than three people (one person is more comfortable than you).
- More comfortable than two people (two people are more comfortable than you)
- More comfortable than one person (three people are more comfortable than you)
- All four people are more comfortable than you

#### **B.4 Vignettes relating to the *other opt in (IP)* variable**

##### **B.4.1 Undergraduate students: Vignette with low levels of impostor feelings**

[Maria/Peter] is a [first/second/third]-year student studying your degree. Although at times [she/he] feels stressed, [she/he] works hard to feel confident before tests and presentations. [She/He] has completed [her/his] dissertation, however [she/he] failed one of [her/his] course work modules and need to write a supplementary exam. [He/She] decides to take another module. [He/She] prepares well before the exam but fails the module and needs to write a supplementary exam.

What do you think [Maria/Peter] should do? (first and second year students only)

- Continue with the degree in your field of study
- Switch to another degree

[Maria/Peter] wonders whether [she/he] should consider a postgraduate degree in your field of study. What do you think [Maria/Peter] should do? (third year students only)

- Postgraduate in anything except your field of study.
- Postgraduate in your field of study.

- Leave academia and find a job specific to your degree.
- Leave academia and find an interesting job whether or not it is in your field of study.

#### **B.4.2 Undergraduate students: Vignette with moderate levels of impostor feelings**

[Monica/Dennis] is a [first/second/third]-year student studying your degree. [Monica/Dennis] worries that [she/he] is not as competent as [her/his] peers as [she/he] must work hard to complete [her/his] modules and sometimes feels demotivated to study. Most of [her/his] peers seem to work less hours and obtain better grades or they don't suffer from demotivation. [She/He] decides to take an elective module, because [she/he] finds the subject matter interesting. Even though [Monica/Dennis] tried [her/his] best in the module, [she/he] fails the module. Since [Monica/Dennis] failed the module, [she/he] feels like an intellectual fraud and doubts whether [she/he] will complete [her/his] degree in your field of study.

What do you think [Monica/Dennis] should do? (first and second year students only)

- Continue with the degree in your field of study
- Switch to another degree

[Monica/Dennis] wonders whether [she/he] should consider a postgraduate degree in your field of study. What do you think [Monica/Dennis] should do? (third year students only)

- Postgraduate in anything except your field of study.
- Postgraduate in your field of study.
- Leave academia and find a job specific to your degree.
- Leave academia and find an interesting job whether or not it is in your field of study.

#### **B.4.3 Postgraduate students: Vignette with low levels of impostor feelings**

[Maria/Peter] is a master's student and has a dream of publishing an academic article in a top-rated journal. Although at times [she/he] feels stressed, [she/he] works hard to

feel confident before tests and presentations. [She/He] have completed [her/his] dissertation, however [she/he] failed one of [her/his] course work modules and need to write a supplementary exam.

What do you think [Maria/Peter] should do?

- Continue to [her/his] PhD
- Leave academia and find a job specific to your degree.
- Leave academia and find an interesting job whether or not it is in your field of study.

#### **B.4.4 Postgraduate students: Vignette with moderate levels of impostor feelings**

[Monica/Dennis] is a master's student that has completed [her/his] course work and only needs to complete [her/his] dissertation. [Monica/Dennis] worries that [she/he] is not as competent as [her/his] peers as [she/he] must work hard to complete [her/his] modules and sometimes feels demotivated by the inconclusive results of [her/his] dissertation. Most of [her/his] peers seem to work less hours and obtain better grades or they don't suffer from demotivation. While writing [her/his] dissertation, [she/he] decide to take an extra module because [she/he] find the subject matter interesting. Even though [Monica/Dennis] tried [her/his] best in the elective module, [she/he] fails the module. Since [Monica/Dennis] failed the module, [she/he] feels like an intellectual fraud and doubt whether [she/he] can get a PhD.

What do you think [Monica/Dennis] should do?

- Continue to [her/his] PhD
- Leave academia and find a job specific to your degree.
- Leave academia and find an interesting job whether or not it is in your field of study.

## **B.5 Vignettes relating to the *other opt in* variable**

### **B.5.1 Undergraduate students: Vignette with low levels of impostor feelings and no support system**

[Maria/Peter] is thinking about the pros and cons of a degree in your field of study since [she/he] needs to write a supplementary exam. None of [her/his] friends are studying and cannot support them while completing a degree. [Maria/Peter] does not feel comfortable approaching any of [her/his] lecturers for advice.

Given this extra information about [Maria/Peter]. What do you think [Maria/Peter] should do? (first and second year students)

- Continue with the degree in your field of study
- Switch to another degree

Given this extra information about [Maria/Peter]. What do you think [Maria/Peter] should do? (third year students only)

- Postgraduate in anything except your field of study.
- Postgraduate in your field of study.
- Leave academia and find a job specific to your degree.
- Leave academia and find an interesting job whether or not it is in your field of study.

### **B.5.2 Undergraduate students: Vignette with low levels of impostor feelings and a support system**

Let's pretend that [Maria/Peter] has a different support system: [Maria/Peter] tells [her/his] academic friends about writing a supplementary exam and [she/he] respond encouragingly as it will give them a chance to understand the work better. [She/He] speaks to a nice lecturer about having to write the supplementary exam and the lecturer explains that the degree is difficult but [she/he] is intelligent enough to complete the degree.

Given this support system, what do you advise [Maria/Peter] to do? (first and second year students)

- Continue with the degree in your field of study
- Switch to another degree

Given this this support system, what do you think [Maria/Peter] should do? (third year students only)

- Postgraduate in anything except your field of study.
- Postgraduate in your field of study.
- Leave academia and find a job specific to your degree.
- Leave academia and find an interesting job whether or not it is in your field of study.

### **B.5.3 Undergraduate students: Vignette with moderate levels of impostor feelings and no support system**

[Monica/Dennis] does not know whether [she/he] should continue with [her/his] degree in your field of study since [she/he] failed the elective module. [Monica/Dennis] does not feel comfortable approaching any of [her/his] lecturers for advice. None of [her/his] friends are at university, so [her/his] friends do not understand the pressure of academia and cannot be a support system to them. Therefore, [she/he] cannot ask for advice or rely on friends throughout [her/his] degree. Given this extra information about [Monica/Dennis].

What do you think [Monica/Dennis] should do? (first and second year students)

- Continue with the degree in your field of study
- Switch to another degree

Given this extra information about [Monica/Dennis]. What do you think [Monica/Dennis] should do? (third year students only)

- Postgraduate in anything except your field of study.
- Postgraduate in your field of study.
- Leave academia and find a job specific to your degree.

- Leave academia and find an interesting job whether or not it is in your field of study.

#### **B.5.4 Undergraduate students: Vignette with moderate levels of impostor feelings and a support system**

Now imagine, that [Monica/Dennis] had a different social network: [Monica/Dennis] tells a lecturer that [she/he] failed this lecturer responds encouragingly and motivates them to continue with [her/his] degree in your field of study. [She/He] speaks to [her/his] academic friends and explain how disheartened [she/he] is, [her/his] friends explain that a degree will be difficult but [she/he] ensure that [Monica/Dennis] is intelligent enough to complete the degree and [she/he] will support [her/his] through this period in [her/his] studies.

Given this social network, what do you think [Monica/Dennis] should do? (first and second year students)

- Continue with the degree in your field of study
- Switch to another degree

Given this social network, what do you think [Monica/Dennis] should do? (third year students only)

- Postgraduate in anything except your field of study.
- Postgraduate in your field of study.
- Leave academia and find a job specific to your degree.
- Leave academia and find an interesting job whether or not it is in your field of study.

#### **B.5.5 Postgraduate students: Vignette with low levels of impostor feelings and no support system**

[Maria/Peter] is thinking about the pros and cons of doing PhD since [she/he] needs to write a supplementary exam. None of [her/his] friends are studying and cannot support them while doing PhD. [Maria/Peter] does not feel comfortable approaching any of [her/his] lecturers for advice.

What do you think [Maria/Peter] should do?

- Continue to [her/his] PhD
- Leave academia and find a job specific to your degree.
- Leave academia and find an interesting job whether or not it is in your field of study.

#### **B.5.6 Postgraduate students: Vignette with low levels of impostor feelings and a support system**

Let's pretend that [Maria/Peter] has a different support system: [Maria/Peter] tell [her/his] academic friends about writing a supplementary exam and [she/he] respond encouragingly as it will give them a chance to understand the work better. [She/He] also speak to [her/his] supervisor about having to write the supplementary and the supervisor explains that the degree is difficult but [she/he] are intelligent enough to complete the degree.

Given this social network that Maria/Peter] has, what do you think [Maria/Peter] should do?

- Continue to [her/his] PhD
- Leave academia and find a job specific to your degree.
- Leave academia and find an interesting job whether or not it is in your field of study.

#### **B.5.7 Postgraduate students: Vignette with moderate levels of impostor feelings and no support system**

[Monica/Dennis] does not know whether [she/he] should continue to PhD since she failed. [Monica/Dennis] does not feel comfortable approaching any of [her/his] lecturers for advice. None of [her/his] friends are academics, so [she/he] do not understand the pressures of academia and cannot be a support system to them. Therefore, she cannot ask for advice or rely on them throughout [her/his] PhD. Given the extra information about [Monica/Dennis], what do you think [Monica/Dennis] should do?

- Continue to [her/his] PhD

- Leave academia and find a job specific to your degree.
- Leave academia and find an interesting job whether or not it is in your field of study.

### **B.5.8 Postgraduate students: Vignette with moderate levels of impostor feelings and a support system**

Now imagine, that [Monica/Dennis] had a different social network: [Monica/Dennis] tells [her/his] supervisor that she failed, [her/his] supervisor responds encouragingly and motivates [her/his] to still start [her/his] PhD next year. [She/He] also speaks to [her/his] academic friends and explain how disheartened [she/he] is, [her/his] friends explain that a degree will be difficult but [she/he] ensure that [Monica/Dennis] is intelligent enough to complete the degree and [she/he] will support [her/his] through this period in [her/his] studies. Given the different social network that [Monica/Dennis] has, what do you think [Monica/Dennis] should do?

- Continue to [her/his] PhD
- Leave academia and find a job specific to your degree.
- Leave academia and find an interesting job whether or not it is in your field of study.

## **B.6 Clance IP survey instrument**

1. I have often succeeded on a test or task even though I was afraid that I would not do well before I undertook the task.
  - Not true at all
  - Rarely
  - Sometimes
  - Often
  - Very true
2. I can give the impression that I'm more competent than I really am.
  - Not true at all
  - Rarely
  - Sometimes

- Often
  - Very true
3. I avoid evaluations if possible and have a dread of others evaluating me.
- Not true at all
  - Rarely
  - Sometimes
  - Often
  - Very true
4. When people praise me for something I've accomplished, I'm afraid I won't be able to live up to their expectations of me in the future.
- Not true at all
  - Rarely
  - Sometimes
  - Often
  - Very true
5. I sometimes think I obtained my present position or gained my present success because I happened to be in the right place at the right time or knew the right people.
- Not true at all
  - Rarely
  - Sometimes
  - Often
  - Very true
6. I'm afraid people important to me may find out that I'm not as capable as they think I am.
- Not true at all
  - Rarely
  - Sometimes
  - Often
  - Very true
7. I tend to remember the incidents in which I have not done my best more than those times I have done my best.
- Not true at all
  - Rarely
  - Sometimes

- Often
- Very true

8. I rarely do a project or task as well as I'd like to do it.

- Not true at all
- Rarely
- Sometimes
- Often
- Very true

9. Sometimes I feel or believe that my success in my life or in my job has been the result of some kind of error.

- Not true at all
- Rarely
- Sometimes
- Often
- Very true

10. It's hard for me to accept compliments or praise about my intelligence or accomplishments.

- Not true at all
- Rarely
- Sometimes
- Often
- Very true

11. At times, I feel my success has been due to some kind of luck.

- Not true at all
- Rarely
- Sometimes
- Often
- Very true

12. I'm disappointed at times in my present accomplishments and think I should have accomplished much more.

- Not true at all
- Rarely
- Sometimes
- Often
- Very true

13. Sometimes I'm afraid others will discover how much knowledge or ability I really lack.

- Not true at all
- Rarely
- Sometimes
- Often
- Very true

14. I'm often afraid that I may fail at a new assignment or undertaking even though I generally do well at what I attempt.

- Not true at all
- Rarely
- Sometimes
- Often
- Very true

15. When I've succeeded at something and received recognition for my accomplishments, I have doubts that I can keep repeating that success.

- Not true at all
- Rarely
- Sometimes
- Often
- Very true

16. If I receive a great deal of praise and recognition for something I've accomplished, I tend to discount the importance of what I've done.

- Not true at all
- Rarely
- Sometimes
- Often
- Very true

17. I often compare my ability to those around me and think they may be more intelligent than I am.

- Not true at all
- Rarely
- Sometimes
- Often
- Very true

18. I often worry about not succeeding with a project or examination, even though others around me have considerable confidence that I will do well.

- Not true at all
- Rarely
- Sometimes
- Often
- Very true

19. If I'm going to receive a promotion or gain recognition of some kind, I hesitate to tell others until it is an accomplished fact.

- Not true at all
- Rarely
- Sometimes
- Often
- Very true

20. I feel bad and discouraged if I'm not "the best" or at least "very special" in situations that involve achievement.

- Not true at all
- Rarely
- Sometimes
- Often
- Very true

### **B.6.1 Scoring for the Clance survey instrument**

According to Clance and Imes (1978), the response 'not true at all' corresponds to value 1, 'rarely' is associated with value 2, 'sometimes' has value 3, 'often' corresponds to value 4 and 'very true' has value 5. All questions should be summed together to obtain a total out of 100. To organise this value into categories of impostor feelings, if a respondent scores 40 or less they have few impostor experiences. A total between 41 and 60 indicates that respondents have moderate IP characteristics, a total between 61 and 80 shows a participant having frequent impostor experiences and a total above 81 shows that individuals have intense IP feelings.

## **B.7 Demographics**

1. Do you know what impostor syndrome is?

- No
- Yes

2. Impostor syndrome is when one is successful by external standards but they have an idea of personal incompetence (Clance & Imes, 1978, p. 1). Can you relate to feeling like you do not belong in your degree because of 'imposter syndrome'?

- No
- Yes

3. **For undergraduate students only:** What are your future plans?

- Continue with my current field of study
- Change degrees
- If I find a job, I will take it

4. Did you have a teacher that made your field of study interesting, causing you to study it?

- No
- Yes

5. **For postgraduate students only:** What are your future plans?

- Study further in my field of study
- Find a job related to my field of study
- Find any job that does not need to be related to my field of study
- Obtain another degree but it is not related to my current field of study

6. Is your family generally supportive of you?

- No
- Yes

7. Is your family supportive of your completing an undergraduate degree?

- No
- Yes

8. Is your family supportive of your continuing with a postgraduate degree?

- No
- Yes

9. What is your parents' level of education?

- Some primary school completed
- Grade 7 completed with some high school grades completed
- Completed high school or secondary school
- An undergraduate degree or diploma or higher certificate
- A postgraduate degree

10. To be successful in your field, do you need to be extremely intelligent and contribute intellectually?

- No
- Yes

11. How old are you?

12. Have you ever failed a module before?

- No
- Yes

## Appendix C Regression results: Logit regressions

### C.1 Do IP feelings, gender and mentors predict studying further for the respondent? (Research questions 3 and 4)

Table C11: Logit estimates: the impact of self IP on self opt into studying further: coefficients

| Dependent variable: self opt in |                    |                     |                     |                     |
|---------------------------------|--------------------|---------------------|---------------------|---------------------|
|                                 | (1)                | (2)                 | (3)                 | (4)                 |
| Self IP (vig)                   | -0.269**<br>(0.11) | -0.251**<br>(0.11)  | -0.481**<br>(0.21)  | -0.430**<br>(0.21)  |
| Postgraduate                    |                    | -1.003**<br>(0.44)  | -1.057**<br>(0.45)  | -1.124**<br>(0.47)  |
| Economics                       |                    | -0.208<br>(0.38)    | -0.203<br>(0.38)    | -0.193<br>(0.39)    |
| Black                           |                    | -0.410<br>(0.23)    | -0.406<br>(0.23)    | -0.303<br>(0.25)    |
| Female                          |                    | 0.027<br>(0.25)     | 0.018<br>(0.25)     | -0.050<br>(0.25)    |
| Age ≥ 22                        |                    | -0.770***<br>(0.24) | -0.768***<br>(0.24) | -0.683***<br>(0.25) |
| Self IP (vig) · Female          |                    |                     | 0.313<br>(0.24)     | 0.301<br>(0.24)     |
| Mentor (self)                   |                    |                     |                     | 0.530*<br>(0.29)    |
| Peer support (self)             |                    |                     |                     | 0.090<br>(0.25)     |
| Failed (self)                   |                    |                     |                     | -0.378<br>(0.25)    |
| Constant                        | 1.134***<br>(0.11) | 1.758***<br>(0.24)  | 1.752***<br>(0.25)  | 1.664***<br>(0.29)  |
| Observations                    | 474                | 474                 | 474                 | 474                 |
| Pseudo R <sup>2</sup>           | 0.012              | 0.074               | 0.077               | 0.089               |

Standard errors clustered at the individual level are in parentheses.

*Self IP (vig)* ranges from 0 to 4 relating to the participant's IP level. This variable is standardised. *Postgraduate* is coded 1 for postgraduate participants and 0 otherwise. *Economics* returns 1 for respondents studying an economics degree and 0 otherwise. *Black* is coded 1 for Black participants and 0 otherwise. *Female* returns 1 for female respondents and 0 otherwise. *Age ≥ 22* returns 1 for respondents 22 years old or older and 0 otherwise. *Failed (self)* indicates 1 for a participant that has failed a module and 0 otherwise. *Mentor (self)* returns 1 for respondents that have a mentor in their field of study and 0 otherwise. *Peer support (self)* returns 1 for participants that have a supportive peer group and 0 otherwise.

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01

## C.2 Do IP feelings and support predict respondents' advice for others to study further? (Research question 5)

Table C12: Logit estimates: the impact of IP on other opt into studying further: coefficients

| DVs:                  | other opt<br>in (IP) |                     | other opt in        |                     |                     |                     |
|-----------------------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|                       | (1)                  | (2)                 | (3)                 | (4)                 | (5)                 | (6)                 |
| Other IP              | -2.106***<br>(0.11)  | -1.382***<br>(0.18) | -1.378***<br>(0.18) | -1.872***<br>(0.32) | -1.865***<br>(0.32) | -1.867***<br>(0.32) |
| Support (other)       |                      | 3.452***<br>(0.28)  | 3.451***<br>(0.28)  | 3.475***<br>(0.28)  | 3.478***<br>(0.28)  | 3.481***<br>(0.28)  |
| Postgraduate          |                      |                     | -0.221<br>(0.62)    | -0.224<br>(0.63)    | -0.061<br>(0.64)    | -0.054<br>(0.63)    |
| Economics             |                      |                     | -0.219<br>(0.49)    | -0.229<br>(0.49)    | -0.173<br>(0.49)    | -0.187<br>(0.48)    |
| Black                 |                      |                     | 0.270<br>(0.25)     | 0.273<br>(0.25)     | 0.394<br>(0.26)     | 0.517*<br>(0.28)    |
| Female                |                      |                     | 0.232<br>(0.27)     | -0.210<br>(0.38)    | -0.180<br>(0.38)    | -0.227<br>(0.39)    |
| Age ≥ 22              |                      |                     | -0.583*<br>(0.30)   | -0.586*<br>(0.30)   | -0.420<br>(0.29)    | -0.390<br>(0.29)    |
| Other IP * Female     |                      |                     |                     | 0.707*<br>(0.38)    | 0.699*<br>(0.38)    | 0.701*<br>(0.38)    |
| Self IP (vig)         |                      |                     |                     |                     | -0.054<br>(0.14)    | -0.025<br>(0.14)    |
| Self opt in           |                      |                     |                     |                     | 0.991***<br>(0.30)  | 0.988***<br>(0.30)  |
| Mentor (self)         |                      |                     |                     |                     |                     | -0.124<br>(0.30)    |
| Peer support (self)   |                      |                     |                     |                     |                     | 0.326<br>(0.28)     |
| Failed (self)         |                      |                     |                     |                     |                     | -0.092<br>(0.30)    |
| Constant              |                      | 2.085***<br>(0.20)  | 2.014***<br>(0.31)  | 2.330***<br>(0.38)  | 1.527***<br>(0.49)  | 1.321***<br>(0.51)  |
| Observations          | 948                  | 1896                | 1896                | 1896                | 1896                | 1896                |
| Pseudo R <sup>2</sup> | 0.108                | 0.222               | 0.227               | 0.229               | 0.236               | 0.237               |

Standard errors clustered at the individual level are in parentheses.

Column 1 has a dependent variable *other opt in (IP)*, this vignette has no information relating to the character's support system. Two vignettes were used: 1) the character does not have IP; 2) the character does have IP.

Columns 2 - 6 have a dependent variable *other opt in*, where these vignettes have information relating to the character's support system. Four vignettes were used: 1) the character has no IP and no support system; 2) the character has no IP and has a support system; 3) the character has IP and no support system; 4) the character has IP and a support system.

*Other IP* is coded 1 when the character in the vignette has IP feelings and 0 otherwise. *Support (other)* returns 1 when the character has a support system and 0 otherwise. *Postgraduate* is coded 1 for postgraduate participants and 0 otherwise. *Economics* returns 1 for respondents studying an economics degree and 0 otherwise. *Black* is coded 1 for Black participants and 0 otherwise. *Female* returns 1 for female respondents and 0 otherwise. *Age ≥ 22* returns 1 for respondents 22 years old or older and 0 otherwise. *Self IP (vig)* ranges from 0 to 4 relating to the participant's IP level. *Self opt in* returns 1 when the respondent studies further and 0 otherwise. *Mentor (self)* returns 1 for respondents that have a mentor in their field of study and 0 otherwise. *Peer support (self)* returns 1 for participants that have a supportive peer group and 0 otherwise. *Failed (self)* indicates 1 for a participant that has failed a module and 0 otherwise.

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01

## Appendix D Robustness checks

Table D13: OLS estimates: the impact of self IP on self opt into studying further

|                         | Dependent variable: self opt in |                     |                     |                    |
|-------------------------|---------------------------------|---------------------|---------------------|--------------------|
|                         | (1)                             | (2)                 | (3)                 | (4)                |
| Self IP (vig)           | -0.051**<br>(0.02)              | -0.045**<br>(0.02)  | -0.084**<br>(0.04)  | -0.075*<br>(0.04)  |
| Postgraduate            |                                 | -0.231**<br>(0.10)  | -0.240**<br>(0.10)  | -0.247**<br>(0.10) |
| Economics               |                                 | -0.040<br>(0.08)    | -0.039<br>(0.08)    | -0.034<br>(0.08)   |
| Black                   |                                 | -0.069*<br>(0.04)   | -0.066*<br>(0.04)   | -0.051<br>(0.04)   |
| Female                  |                                 | 0.007<br>(0.04)     | 0.013<br>(0.04)     | 0.001<br>(0.04)    |
| Age ≥ 22                |                                 | -0.140***<br>(0.05) | -0.139***<br>(0.05) | -0.122**<br>(0.05) |
| Self IP (vig) · Female  |                                 |                     | 0.053<br>(0.04)     | 0.050<br>(0.04)    |
| Mentor (self)           |                                 |                     |                     | 0.079*<br>(0.04)   |
| Peer support (self)     |                                 |                     |                     | 0.011<br>(0.04)    |
| Failed (self)           |                                 |                     |                     | -0.074<br>(0.05)   |
| Constant                | 0.753***<br>(0.02)              | 0.853***<br>(0.04)  | 0.844***<br>(0.04)  | 0.833***<br>(0.05) |
| Observations            | 474                             | 474                 | 474                 | 474                |
| Adjusted R <sup>2</sup> | 0.012                           | 0.075               | 0.076               | 0.083              |

Standard errors clustered at the individual level are in parentheses. *Self IP (vig)* ranges from 0 to 4 relating to the participant's IP level and is standardised. *Postgraduate* is coded 1 for postgraduate participants and 0 otherwise. *Economics* returns 1 for respondents studying in economics degree and 0 otherwise. *Black* is coded 1 for Black participants and 0 otherwise. *Female* returns 1 for female respondents and 0 otherwise. *Age ≥ 22* returns 1 for respondents 22 years old or older and 0 otherwise. *Failed (self)* indicates 1 for participant that has failed a module and 0 otherwise. *Mentor (self)* returns 1 for respondents that have a mentor in their field of study and 0 otherwise. *Peer support (self)* returns 1 for participants that have a supportive peer group and 0 otherwise.

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01

Table D14: Logit estimates: the impact of Self IP (Clance) on self opt into studying further: coefficients

|                           | Dependent variable: self opt in |                     |                     |                     |                     |
|---------------------------|---------------------------------|---------------------|---------------------|---------------------|---------------------|
|                           | (1)                             | (2)                 | (3)                 | (4)                 | (5)                 |
| Self IP (Clance)          | -0.172<br>(0.11)                | -0.222*<br>(0.11)   | -0.761***<br>(0.24) | -0.783***<br>(0.25) | -0.766***<br>(0.25) |
| Postgraduate              |                                 | -0.976**<br>(0.45)  | -0.997**<br>(0.47)  | -1.135**<br>(0.49)  | -1.102**<br>(0.49)  |
| Economics                 |                                 | -0.281<br>(0.38)    | -0.208<br>(0.40)    | -0.204<br>(0.41)    | -0.184<br>(0.40)    |
| Black                     |                                 | -0.529**<br>(0.23)  | -0.573**<br>(0.23)  | -0.494**<br>(0.24)  | -0.433*<br>(0.25)   |
| Female                    |                                 | 0.008<br>(0.25)     | -0.029<br>(0.26)    | -0.070<br>(0.26)    | -0.094<br>(0.26)    |
| Age ≥ 22                  |                                 | -0.767***<br>(0.24) | -0.796***<br>(0.24) | -0.760***<br>(0.25) | -0.704***<br>(0.25) |
| Self IP (Clance) · Female |                                 |                     | 0.733***<br>(0.28)  | 0.769***<br>(0.28)  | 0.769***<br>(0.28)  |
| Mentor (self)             |                                 |                     |                     | 0.644**<br>(0.30)   | 0.611**<br>(0.30)   |
| Peer support (self)       |                                 |                     |                     | 0.138<br>(0.25)     | 0.137<br>(0.25)     |
| Failed (self)             |                                 |                     |                     |                     | -0.387<br>(0.26)    |
| Constant                  | 1.123***<br>(0.11)              | 1.835***<br>(0.24)  | 1.878***<br>(0.25)  | 1.660***<br>(0.29)  | 1.731***<br>(0.29)  |
| Observations              | 474                             | 474                 | 474                 | 474                 | 474                 |
| Pseudo R <sup>2</sup>     | 0.005                           | 0.072               | 0.087               | 0.098               | 0.102               |

Standard errors clustered at the individual level are in parentheses. *Self IP (Clance)* relates to the participant's IP level, this variable is standardised. *Postgraduate* is coded 1 for postgraduate participants and 0 otherwise. *Economics* returns 1 for respondents studying in economics degree and 0 otherwise. *Black* is coded 1 for Black participants and 0 otherwise. *Female* returns 1 for female respondents and 0 otherwise. *Age ≥ 22* returns 1 for respondents 22 years old or older and 0 otherwise. *Failed (self)* indicates 1 for participant that has failed a module and 0 otherwise. *Mentor (self)* returns 1 for respondents that have a mentor in their field of study and 0 otherwise. *Peer support (self)* returns 1 for participants that have a supportive peer group and 0 otherwise. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01

Table D15: Average marginal effects: the impact of Self IP (Clance) on self opt into studying further: coefficients

| Dependent variable: self opt in                       |                  |                     |                     |                     |
|---|------------------|---------------------|---------------------|---------------------|
|   | (1)              | (2)                 | (3)                 | (4)                 |
| Self IP (Clance)                                      | -0.032<br>(0.02) | -0.038*<br>(0.02)   | -0.039**<br>(0.02)  | -0.035*<br>(0.02)   |
| Postgraduate  |                  | -0.198*<br>(0.10)   | -0.199*<br>(0.10)   | -0.217**<br>(0.11)  |
| Economics   |                  | -0.050<br>(0.07)    | -0.036<br>(0.07)    | -0.031<br>(0.07)    |
| Black   |                  | -0.090**<br>(0.04)  | -0.096**<br>(0.04)  | -0.071*<br>(0.04)   |
| Female  |                  | 0.001<br>(0.04)     | 0.016<br>(0.04)     | 0.006<br>(0.04)     |
| Age ≥ 22  |                  | -0.141***<br>(0.05) | -0.144***<br>(0.05) | -0.124***<br>(0.05) |
| Mentor (self)   |                  |                     |                     | 0.093**<br>(0.04)   |
| Peer support (self)                                   |                  |                     |                     | 0.023<br>(0.04)     |
| Failed (self)   |                  |                     |                     | -0.067<br>(0.05)    |
| Average marginal effect of Self IP (Clance) by gender |                  |                     |                     |                     |
| Male  |                  |                     | -0.125***<br>(0.04) | -0.122***<br>(0.04) |
| Female  |                  |                     | -0.005<br>(0.02)    | 0.000<br>(0.02)     |
| Observations  | 474              | 474                 | 474                 | 474                 |

Standard errors clustered at the individual level are in parentheses. *Self IP (Clance)* ranges from 1 to 4 relating to the participant's IP level, this variable is standardised. *Postgraduate* is coded 1 for postgraduate participants and 0 otherwise. *Economics* returns 1 for respondents studying in economics degree and 0 otherwise. *Black* is coded 1 for Black participants and 0 otherwise. *Female* returns 1 for female respondents and 0 otherwise. *Age ≥ 22* returns 1 for respondents 22 years old or older and 0 otherwise. *Failed (self)* indicates 1 for participant that has failed a module and 0 otherwise. *Mentor (self)* returns 1 for respondents that have a mentor in their field of study and 0 otherwise. *Peer support (self)* returns 1 for participants that have a supportive peer group and 0 otherwise.

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01

Table D16: Logit estimates: the impact of Self IP (def) on self opt into studying further: coefficients

|                       | Dependent variable: self opt in |                     |                    |                    |                    |
|-----------------------|---------------------------------|---------------------|--------------------|--------------------|--------------------|
|                       | (1)                             | (2)                 | (3)                | (4)                | (5)                |
| Self IP (def)         | -0.602***<br>(0.22)             | -0.601***<br>(0.23) | -0.411<br>(0.42)   | -0.483<br>(0.43)   | -0.517<br>(0.43)   |
| Postgraduate          |                                 | -1.009**<br>(0.47)  | -1.035**<br>(0.47) | -1.175**<br>(0.49) | -1.151**<br>(0.49) |
| Economics             |                                 | -0.218<br>(0.39)    | -0.231<br>(0.39)   | -0.227<br>(0.40)   | -0.233<br>(0.40)   |
| Black                 |                                 | -0.526**<br>(0.23)  | -0.519**<br>(0.23) | -0.458*<br>(0.24)  | -0.400*<br>(0.24)  |
| Female                |                                 | -0.052<br>(0.25)    | 0.106<br>(0.38)    | 0.054<br>(0.39)    | 0.056<br>(0.39)    |
| Age ≥ 22              |                                 | -0.716**<br>(0.24)  | -0.702**<br>(0.24) | -0.665**<br>(0.25) | -0.611*<br>(0.25)  |
| Self IP (def)·Female  |                                 |                     | -0.272<br>(0.51)   | -0.239<br>(0.51)   | -0.268<br>(0.51)   |
| Mentor (self)         |                                 |                     |                    | 0.677**<br>(0.29)  | 0.350<br>(0.46)    |
| Peer support (self)   |                                 |                     |                    | 0.077<br>(0.24)    | 0.088<br>(0.24)    |
| Self IP (def)·Mentor  |                                 |                     |                    |                    | 0.457<br>(0.58)    |
| Failed (self)         |                                 |                     |                    |                    | -0.378<br>(0.25)   |
| Constant              | 1.447***<br>(0.17)              | 2.174***<br>(0.29)  | 2.059***<br>(0.35) | 1.909***<br>(0.38) | 1.993***<br>(0.38) |
| Observations          | 474                             | 474                 | 474                | 474                | 474                |
| Pseudo R <sup>2</sup> | 0.015                           | 0.078               | 0.078              | 0.089              | 0.095              |

Standard errors clustered at the individual level are in parentheses. *Self IP (def)* returns 1 for respondents self-diagnosing that they feel like an impostor in their field of study and 0 otherwise. *Postgraduate* is coded 1 for postgraduate participants and 0 otherwise. *Economics* returns 1 for respondents studying in economics degree and 0 otherwise. *Black* is coded 1 for Black participants and 0 otherwise. *Female* returns 1 for female respondents and 0 otherwise. *Age ≥ 22* returns 1 for respondents 22 years old or older and 0 otherwise. *Failed (self)* indicates 1 for participant that has failed a module and 0 otherwise. *Mentor (self)* returns 1 for respondents that have a mentor in their field of study and 0 otherwise. *Peer support (self)* returns 1 for participants that have a supportive peer group and 0 otherwise.

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01

Table D17: Logit estimates: the impact of Self IP on self opt into studying further: coefficients (alternative definition of support)

| Dependent variable: self opt in |          |          |          |          |
|---------------------------------|----------|----------|----------|----------|
|                                 | (1)      | (2)      | (3)      | (4)      |
| Self IP (vig)                   | -0.269*  | -0.251*  | -0.481*  | -0.448*  |
|                                 | (0.11)   | (0.11)   | (0.21)   | (0.21)   |
| Postgraduate                    |          | -1.003*  | -1.057*  | -1.055*  |
|                                 |          | (0.44)   | (0.45)   | (0.45)   |
| Economics                       |          | -0.208   | -0.203   | -0.210   |
|                                 |          | (0.38)   | (0.38)   | (0.38)   |
| Black                           |          | -0.410   | -0.406   | -0.277   |
|                                 |          | (0.23)   | (0.23)   | (0.24)   |
| Female                          |          | 0.027    | 0.018    | -0.058   |
|                                 |          | (0.25)   | (0.25)   | (0.25)   |
| Age ≥ 22                        |          | -0.770** | -0.768** | -0.685** |
|                                 |          | (0.24)   | (0.24)   | (0.25)   |
| Self IP (vig) · Female          |          |          | 0.313    | 0.332    |
|                                 |          |          | (0.24)   | (0.24)   |
| Support (Peer or Mentor)        |          |          |          | 0.285    |
|                                 |          |          |          | (0.24)   |
| Failed (self)                   |          |          |          | -0.394   |
|                                 |          |          |          | (0.25)   |
| Constant                        | 1.134*** | 1.758*** | 1.752*** | 1.646*** |
|                                 | (0.11)   | (0.24)   | (0.25)   | (0.29)   |
| Observations                    | 474      | 474      | 474      | 474      |
| Pseudo R <sup>2</sup>           | 0.012    | 0.074    | 0.077    | 0.084    |

Standard errors clustered at the individual level are in parentheses. *Self IP (vig)* ranges from 0 to 4 relating to the participant's IP level and is standardised. *Postgraduate* is coded 1 for postgraduate participants and 0 otherwise. *Economics* returns 1 for respondents studying in economics degree and 0 otherwise. *Black* is coded 1 for Black participants and 0 otherwise. *Female* returns 1 for female respondents and 0 otherwise. *Age ≥ 22* returns 1 for respondents 22 years old or older and 0 otherwise. *Failed (self)* indicates 1 for participant that has failed a module and 0 otherwise. *Support (Peer or Mentor)* returns 1 for participants that have a supportive peer group or a mentor in their field of study and 0 otherwise.

Table D18: OLS estimates: the impact of IP on other opt into studying further

|                           | Dependent variable: other opt in |                     |                     |                     |                     |
|---------------------------|----------------------------------|---------------------|---------------------|---------------------|---------------------|
|                           | (1)                              | (2)                 | (3)                 | (4)                 | (5)                 |
| Other IP                  | -0.110***<br>(0.01)              | -0.110***<br>(0.01) | -0.151***<br>(0.02) | -0.151***<br>(0.02) | -0.235***<br>(0.03) |
| Support (other)           | 0.264***<br>(0.02)               | 0.264***<br>(0.02)  | 0.264***<br>(0.02)  | 0.264***<br>(0.02)  | 0.179***<br>(0.02)  |
| Postgraduate              |                                  | -0.027<br>(0.06)    | -0.027<br>(0.06)    | -0.011<br>(0.06)    | -0.010<br>(0.06)    |
| Economics                 |                                  | -0.015<br>(0.04)    | -0.015<br>(0.04)    | -0.011<br>(0.04)    | -0.013<br>(0.04)    |
| Black                     |                                  | 0.024<br>(0.02)     | 0.024<br>(0.02)     | 0.034*<br>(0.02)    | 0.044**<br>(0.02)   |
| Female                    |                                  | 0.018<br>(0.02)     | -0.011<br>(0.02)    | -0.010<br>(0.02)    | -0.013<br>(0.02)    |
| Age ≥ 22                  |                                  | -0.050**<br>(0.03)  | -0.050**<br>(0.03)  | -0.037<br>(0.02)    | -0.035<br>(0.02)    |
| Other IP · Female         |                                  |                     | 0.059**<br>(0.03)   | 0.059**<br>(0.03)   | 0.059**<br>(0.03)   |
| Self IP (vig)             |                                  |                     |                     | -0.005<br>(0.01)    | -0.003<br>(0.01)    |
| Self opt in               |                                  |                     |                     | 0.085***<br>(0.03)  | 0.085***<br>(0.03)  |
| Mentor (self)             |                                  |                     |                     |                     | -0.013<br>(0.02)    |
| Peer support (self)       |                                  |                     |                     |                     | 0.025<br>(0.02)     |
| Other IP · Support(other) |                                  |                     |                     |                     | 0.169***<br>(0.03)  |
| Failed (self)             |                                  |                     |                     |                     | -0.011<br>(0.02)    |
| Constant                  | 0.751***<br>(0.02)               | 0.747***<br>(0.03)  | 0.767***<br>(0.03)  | 0.701***<br>(0.04)  | 0.729***<br>(0.04)  |
| Observations              | 1896                             | 1896                | 1896                | 1896                | 1896                |
| Adj. R <sup>2</sup>       | 0.143                            | 0.150               | 0.152               | 0.161               | 0.174               |

Standard errors clustered at the individual level are in parentheses. *Other IP* is coded 1 when the character in the vignette has IP feelings and 0 otherwise. *Support (other)* returns 1 when the character has a support system and 0 otherwise. *Postgraduate* is coded 1 for postgraduate participants and 0 otherwise. *Economics* returns 1 for respondents studying in economics degree and 0 otherwise. *Black* is coded 1 for Black participants and 0 otherwise. *Female* returns 1 for female respondents and 0 otherwise. *Age ≥ 22* returns 1 for respondents 22 years old or older and 0 otherwise. *Self IP (vig)* ranges from 0 to 4 relating to the participant's IP level. *Self opt in* returns 1 when the respondent studies further and 0 otherwise. *Mentor (self)* returns 1 for respondents that have a mentor in their field of study and 0 otherwise. *Peer support (self)* returns 1 for participants that have a supportive peer group and 0 otherwise. *Failed (self)* indicates 1 for the participant that has failed a module and 0 otherwise.

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01