

Using Behaviour Change Theory to Enhance Employability

Abstract

This research investigated whether Behaviour Change Theory (used by governments to influence public behaviour) can be specifically applied to graduate and undergraduate behaviour to enhance employability. In Study 1, graduates were sent an email implicitly containing many of the Behavioural Insight principles which were predicted to prompt graduates into signing up to the University's Graduate Support Package. The number of sign-ups was compared to a control group of graduates who received no 'Behavioural Insight' email. Results showed no increase in sign-up as a function of the intervention email. In Study 2, a cohort of undergraduates, having recently studied on an employability module, were requested to complete an evaluation survey of the module. The survey request was sent via email and participants were randomly assigned to receive the email request either from a known tutor (implicitly representing the Behavioural Insight principle of reciprocity) or from the Careers Centre (control condition). Survey completion rates were higher from the group who received the 'tutor' compared to 'organisation' email. Results from both studies combined suggest that the Behavioural Insight principle of *reciprocity* works best when based on a tangible partnership and is a key factor in nudging action. Therefore reciprocity as a principle, and the underpinning contextual relationship, should both be considered when promoting careers services to students.

General Introduction

The aim of this project was to test whether Behaviour Change Theory (Thaler & Sunstein, 2008) can be applied to undergraduate and graduate behaviour and enhance employability. Behaviour Change or 'Nudge' theory stems from the disciplines of Behavioural Economics and Psychology and uses subtle adjustments in communication to make significant changes in individual and/or group behaviour (Service, Hallsworth, Halpern et al., 2014). The theory claims to be as effective, if not more, than direct instruction, legislation or enforcement.

Indeed, the concept has been taken up by politicians from several countries (e.g., USA, Australia, UK etc.). The Behavioural Insight Team (BIT) was established on behalf of the UK government in 2010 and applies Nudge theory in an attempt to improve policy and services as well as save government money.

The BIT have successfully undertaken a number of projects using behavioural insight (BI) principles and improved public response to matters such as tax payments, giving to charity, fine payment, organ donation, electoral registration, loft insulation etc. The BIT summarises the Nudge principles using the mnemonic 'EAST. This acronym stands for EASY, ATTRACTIVE, SOCIAL and TIMELY. The 'EASY' principle involves harnessing the power of defaults, reducing the hassle factor of taking up a service and simplifying messages. The rationale underpinning the 'Attractive' principle is that we are more likely to do something that our attention is drawn towards and ways of doing this can be use of colour, images or personalisation. The 'SOCIAL' principle states that most people follow a social norm – i.e., take up a particular behaviour if many others are seen to adopt that behaviour. Other aspects of the 'SOCIAL' tenet are making use of social networks to encourage behaviours to spread peer-to-peer plus the power of commitment to others via reciprocity which can serve to 'lock' people in to doing something in advance. Finally the 'TIMELY' doctrine requires a prompt when people are most receptive. Such times can be during a significant life change when habits are broken down. People are also particularly sensitive to immediate loss or gain compared to distant consequences, thus knowing when to introduce any cost or benefit is fundamental. Any successful BI intervention needs to consider all, or at least a proportion of these principles (Service, Hallsworth, Halpern et al., 2014).

Study 1, Introduction

As previously stated, the aim of this current project is to investigate whether BI techniques can be applied in a Higher Education (HE) context and have a positive impact on undergraduate and graduate employability behaviours. A related project on increasing employability in the community was undertaken by Letwin, Halpern & Service et al., (2015)

from the BIT. They piloted an intervention at a Job Centre in Bedford using SMS messaging. The experiment made use of randomised controlled trials and there were three conditions including a control condition. To briefly summarise - in the control condition, job seekers received an automated text informing them of jobs events to attend. Job seekers in the treatment groups were either sent personalised SMS messages from a named job adviser or in some cases (depending on the event) the adviser informing the job seeker that they had booked an appointment specifically for them plus wishing them luck. This intervention utilised two BI sub-principles: 1) personalisation – the adviser providing their name and 2) reciprocity – the adviser doing something for the job seeker i.e., booking an appointment for them and wishing them luck. Attendance at recruitment events following the personalisation intervention increased by 6.9% compared to the control. Following the reciprocity intervention, attendance increased by 16.3% compared to the control. Both interventions using inferential statistics were significant at alpha levels of .05 and .001 respectively (Letwin, Halpern & Service et al., 2015).

The personalisation and reciprocity sub-principles used within the above experiment are part of the larger EAST framework. Personalisation is located under the category of ATTRACTIVE - that is one's own name or a familiar name within an individual's social sphere will automatically attract attention. Similarly, reciprocity falls under the SOCIAL category in that a good deed automatically elicits an obligation to return the favour. Reciprocity is also proposed to close the gap between intention and action

The aim of this current research is to apply the template from the BIT's 'Job Centre' experiment to a HE context. That is, the same BI sub-principles will be adopted to facilitate a continued relationship between the University of Essex and its past students for the purpose of increasing successful graduate outcomes. More specifically, this project plans to use an existing and mutually respected relationship between departments and recent graduates as a basis for communication and apply BI techniques in order to encourage graduates without work to sign up to university graduate support package.

The method will involve an email being sent to graduates from self-selected departments/schools across the university. The email will be personalised in that it will address each graduate by name and congratulate them on their degree (including the specific band awarded) plus be signed by the head of department/school. Furthermore the email will encourage graduates to visit an electronically linked careers support package to further their employability.

The intervention email is predicted to increase participation with the careers support package as it: 1) Uses the ATTRACTIVE principle by personalising the email via names and making reference to the student's specific degree band attained. 2) Uses the SOCIAL principle in that: a) the head of department has taken the time to send an email wishing the graduate luck thus the request to visit the careers support package web page is predicted to be fulfilled due to a sense of reciprocity in response to the 'good luck' wish and b) the words in the email - 'join many of your peers and visit the Class of 2016 Support Package' is predicted to make visiting this page a social norm (i.e., this is what everyone is doing), which is another technique to nudge people into undertaking an action. 3) Used the EASY principle in that the email is simple in providing reason for and easy access to graduate support for those who need it. 4) Uses the TIMELY principle as people are more receptive to behaviour change when habits are already disrupted by a major life event (i.e., transition from a student to graduate identity).

Thus it was hypothesised that there would be greater sign up for careers support from the graduate group who received the intervention email compared to the control group who received no email intervention.

Method

Participants

Participants were 2016 graduates from the University of Essex who studied in departments/schools that agreed to be part of the project. Seven out of fifteen departments/schools agreed to participate in the project and send personalised emails to their recently graduated students. These were History, Law, Psychology, Computer Science,

Sociology, Mathematics and Philosophy. Departments/schools that declined to be part of the project were Biology, Government, Literature, Business, Health & Human Science, Economics, Language & Linguistics and Acting.

Materials

Materials consisted of an email which was personalised in that it addressed each graduate by name and congratulated them on their degree (including the specific band awarded) plus was signed by the head of department. Furthermore the email encouraged graduates to relate their experiences to-date via an electronically linked university alumni group plus join many of their peers and visit an electronically linked careers support package to assist with their employability. With regard to research ethics, the email included a footnote stating that by signing up to the support package, graduates were agreeing that information submitted may be used for research purposes plus contact details of the principle investigator were given if further information was needed (please see Appendix A).

Procedure

Heads of departments and schools were approached and the nature and aims of the research project were explained. The seven departments/schools that agreed to be part of the project were assigned to the experimental group. The remaining eight departments/schools that declined were assigned to the control group. In August 2016, the email was distributed to the experimental group graduates' personal addresses using Mail Merge by the University's External Relations team.

Results

This study adopted a between subjects design with the grouping variable being the receipt of the intervention email or not. The dependent variable was the number of graduates who signed up to the graduate support package (please see Table 1).

Table 1. Frequency of Sign-ups to the Graduate Support Package for the Email and Non-Email Groups

	Sign-Ups	No Sign-Ups	Total
Email Group	351	464	815
Non-Email Group	498	722	1220
Total	849	1186	2035

A Chi Square test of independence was performed on the data and yielded a non-significant result [$\chi^2 = 1.015$, $df = 1$, $p = .314$] demonstrating that sign-up to the graduate support package was not influenced by the BI intervention email.

Discussion

Study 1 aimed to ascertain whether principles within the EAST framework of Behaviour Change Theory would influence graduate inclination to sign-up to an employability support package. Study 1 embedded the elements of personalisation, social norms, reciprocity, ease and timeliness within an intervention email sent to graduates from their former heads of departments/schools. A Chi Square test of independence revealed that sign-ups between the intervention group (who received the BI email) and the control group (who received no BI email) were comparable. That is, sign-up to the support package did not increase as a function of receiving the intervention email. As such the experimental hypothesis cannot be accepted. The findings are inconsistent with Behaviour Change Theory. Four principles within the EAST framework were inherent within the intervention email (personalisation, social norms, ease & timeliness) yet it was unsuccessful in nudging graduates into taking up the employability support on offer. Specific reasons as to why the BI principles had no effect on behaviour are difficult to identify. However, Service et al. (2015) stress that understanding the context of the behaviour is vital and building, testing and adapting interventions help with

this process of refining understanding and pinpointing how to operationalise the principles so that they trigger the desired behaviour change.

Study 2, Introduction

Given the null findings from Study 1, a secondary study was conducted which focused particularly on the 'reciprocity' sub-principle of Behaviour Change Theory. A convenience sample of Year 1 Literature students, who had taken an employability module as part of their degree, was emailed a survey with a request to provide feedback on the module. Fifty percent of the students were randomly selected to receive the survey completion request via email from their Employability Tutors, whom which they had built up a positive relationship. The remaining fifty percent of Literature students received a less personal email signed off by the Careers Centre at the University. Based on the reciprocity sub-principle within the EAST framework, it would be predicted that students receiving the survey completion email from known and supportive tutors would comply with the request to a greater extent than students who received the request from an organisation (Careers Centre). Thus for Study 2 the hypothesis is that survey completion rates will be higher for the group who received the request from a known and respected source compared to the group who received the request from an unknown source.

Method

Participants

Participants were Year 1 Literature undergraduates from the University of Essex who responded to a survey based on a compulsory credit bearing module taken in the spring term of 2017. Twenty five participants from the Literature Department responded out of a possible cohort of 108. There was a gender distribution of 15 females and 10 males and a mean (standard deviation) age of 20.86 (2.81). Each participant received a £5 Amazon voucher after activating the survey (whether completed or not).

Materials

Materials consisted of two versions of an email requesting participants to complete a questionnaire on an employability module that they had just studied for. Version A addressed the participant by their first name and was sent from, plus signed off by the tutor who had taught them on the employability module (see Appendix B). Version B addressed the participant as 'Student' and was sent from, plus signed off by the 'Employability and Careers Centre' (see Appendix C).

Procedure

Participants were contacted via their university email and invited to take part in a survey on their experience of an employability module recently studied. Fifty percent of the participants were randomly selected to receive the Version A (from a known Tutor) email. The remaining fifty percent of participants received the Version B (from an organisation). Participants activated the survey by clicking on an electronic link in the email. Before starting the survey, participants had opportunity to give their consent (or not) for their anonymised data to be used for research purposes. Also participants were informed that the decision to undertake the survey (or not) would have no impact on their academic outcome.

Results

This study adopted a between subjects design with the grouping variable being the version of the email received (known source vs. unknown source). The dependent variable was the number of students who responded to the request and completed the survey. The number of participants who responded to the survey request for each condition (known source vs. unknown source) is reported in Table 2.

Table 2. Observed and Expected Frequency (Percentage) of Completed Surveys per Known vs. Unknown Source Email

	Observed Frequency (%)	Expected Frequency (%)
Email from Unknown Source	5 (20%)	12.5 (50%)
Email from Known Source	20 (80%)	12.5 (50%)
Total	25 (100%)	25 (100%)

A Chi Square Goodness of Fit test was performed on the data and yielded a statistically significant result [$\chi^2 = 9.00$, $df = 1$, $p = .003$] demonstrating that completion of the survey was associated with receipt of the email from a known source.

Discussion

Study 2 aimed to ascertain whether the 'reciprocity' sub-principle of Behaviour Change Theory would influence student behaviour with regard to completion of an online module evaluation survey. Study 2 operationalised the reciprocity principle by requesting students to complete the survey via receipt of an email from a known or unknown source. A Chi Square test revealed that the students who received the 'known source' email were more likely to complete the survey compared to the students who received the 'unknown source' email. Thus the hypothesis that survey completion rates will be higher for the group who received the request from a known and respected tutor compared to the group who received the request from a detached organisation can be accepted.

The results are consistent with the SOCIAL element of the EAST framework. That is, the results demonstrate that reciprocity (a sub-component of the SOCIAL aspect) was evident in the form of students completing the survey in exchange for receiving support and learning from their tutor. Students had built up a relationship with their tutors characterised by support, trust and familiarity and, as one good turn deserves another, responded positively to their tutor's request at a subsequent point in time. In contrast, students who

received the unknown source email, which did not prime the loyalty aspect of the student/tutor relationship, were less likely to respond positively to the survey completion request.

The personalisation sub-component of the ATTRACTIVE aspect of the EAST framework may also have contributed to the significant results. That is the 'known source' email addressed the student by their first name, whereas the salutation in the 'unknown source' email was a general "Dear Student." It is possible that either reciprocity or personalisation were responsible for instigating the behaviour change as the experimental design did not allow for variable differentiation/isolation. However, the null findings of Study 1, which used a similar method for personalisation (individual name salutation) but had a different contextual relationship for reciprocity (tutor vs. head of department/school) suggests that the success of Study 2 is attributable to the reciprocity rather than personalisation factor.

General Discussion

The current research investigated whether BI principles can work effectively in an HE context with specific reference to employability. Study 1 attempted to include the elements of personalisation, reciprocity, social norms, ease and timeliness inherent within an email sent by departments to recent graduates encouraging them to sign up to an employability support package. The intervention was not successful as sign-ups to the graduate support package were comparable across the intervention and control group. Study 2 included the BI elements of personalisation and a particular focus on reciprocity. An email was used again, but this time sent to students by either known tutors or a more detached source (Careers Centre). The intervention was successful in that students who received the email from their tutors responded more to the request to complete a survey compared to those students who were prompted by an email from the Careers Centre.

One interpretation of the results of Studies 1 and 2 combined is that the reciprocity principle is key in nudging behaviour but tricky to operationalise correctly. What seems

important is the relationship upon which the reciprocity is based. In Study 1, reciprocity relied upon the social connection between the head of department and the graduate. Whilst the graduate may have had utmost respect for a senior member of the University, it is doubtful that the relationship was personable or evoked any form of loyalty, and the null results of Study 1 accord with this explanation. In contrast, the reciprocity principle in Study 2 was based upon a more substantial relationship. Students and tutors in small classes had worked together on a 10 week module and thus had time to build up a rapport and cooperative social bond. This meaningful tie served as a firm basis from which reciprocity could be easily triggered within the experimental manipulation. Letwin, et al. (2015) reported that their reciprocity intervention increased attendance at job events by 16.3 % (a significant increase (and notably more than the 6.9% increase from personalisation). Unfortunately however, the authors did not detail the relationship between the clients and their advisers. As such cross-study comparisons could not be made.

The limitations of this research are twofold: 1) Study 1 did not randomly allocate participants to the experimental and control groups. As such, if any significant findings were found, they could not have been fully attributable to the experimental manipulation (i.e., BI intervention email) as pre-existing participant characteristics may have co-varied with the departmental self-selection recruitment method. That is, graduates from departments who agreed to the experiment may have been more receptive to engage with the employability support package due to previous support and priming from their interested and supportive department. A randomised and controlled experimental design was the original intention of the research, however practical issues such as departmental cooperation, prevented this. 2) The design of Study 2 did not isolate the personalisation and reciprocity factors (both were evident in the experimental condition). As such, the significant increase in survey completion from the experimental group could be a function of either personalisation, or reciprocity, or a combined contribution from the two. The fact that the personalisation and reciprocity

variables were not 'independent' of each other means that causality cannot be discerned precisely.

In conclusion, this research has shown that Behaviour Change Theory is applicable to employability within an HE context. However, the success of the paradigm used by Letwin et al. (2015) of job centre advisers sending job seekers personalised SMS messages about career activities alongside a wish of good luck was not replicated by heads of department for graduates using email. Reasons for the discrepancy between Letwin et al., (2015) and the current findings are unclear. However, Study 2 findings suggest that the BI principles of personalisation and reciprocity are more effective when based upon a known and trusted relationship between the 'nudger' and 'nudgee (e.g., tutor vs. student). Thus the recommendation for HE employability policy makers is to place emphasis and resources into the building of personable relationships between careers practitioners and under/graduates in order to maximise the take up services on offer.

References

- Letwin, O., Halpern, D., Service, O., Hanes, S., Hallsworth, M., Algate, F., ...& Gallagher, R. (July 2015). Update Report 2013-2015. Retrieved 5 April 2016 from <http://www.behaviouralinsights.co.uk/publications/the-behavioural-insights-team-update-report-2013-2015/>
- Service, O., Hallsworth, M., Halpern, D. Algate, F., Gallagher, R., Nguyen, S., & Kirkman, E, (April 2014). EAST Four simple ways to apply behavioural insights. Retrieved 5 April 2016 from <http://www.behaviouralinsights.co.uk/publications/east-four-simple-ways-to-apply-behavioural-insights/>
- Thaler, R., & Sunstein, C. (2008). Nudge. New Haven: Yale University Press

Appendices

Appendix A





Congratulations!

University of Essex – Department of _____ August 2016

Dear Known As

I am writing to warmly congratulate you on your award of a Degree Subject of study, (Class of degree) from the University of Essex. Very well done indeed!

On behalf of the School of Computer Science & Electronic Engineering, I would like to wish you the very best in your future endeavours. Please do keep in touch and tell us about your new adventures via the [Essex Alumni Group on LinkedIn](#). The staff and students would be interested to read about your journey post-graduation.

If you have yet to find your new path, you may want to join many of your peers and sign up (if you have not already) to the [Class of 2016 Support Package](#)* for inspiration or help!

I look forward to hearing about your successes.

Yours sincerely

[Signature]

Professor _____
Head of School
Department of _____

* By signing up to the Class of 2016 Support Package, you are agreeing that information submitted can be used for the purposes of improvement to student services within the University of Essex and for wider research within Higher Education. Information submitted will be stored securely in a password protected format, treated confidentially, plus anonymised if used for research purposes. Your decision, or not, to sign up to the 'Class of 2016' will not affect your rights to the services offered by Employability and Careers Centre. If you wish to withdraw any data given and/or receive a copy of the results of this research, please contact Dr Helen Standage (histan@essex.ac.uk) within 4 weeks of signing up to the 'Class of 2016'. If you would like to make a complaint about any aspect of this research, please email the [Research Governance and Planning Manager](#).

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The University is top ten for research in the UK and second for student satisfaction in England.

Appendix B

Dear *student name*,

I hope you are enjoying your summer now that your exams and coursework are over. At present, I am working on refining some employability modules for next year's new students. As a student in one of my classes, I would really value your views on this past year's LT700 'Preparing for your Future' module. I understand that you may have already filled in a SAMT form for this module at the end of the spring term, but if you can spare the time to complete the survey (please see link below), I would be very grateful. The survey will take approximately 10 minutes and a £5 Amazon voucher will be emailed to you as a thank you for your time.

Once again, I hope you enjoy your break from studying, and please remember, if you need any support with getting work over the summer, just drop me a line [-----](#)

@essex.ac.uk contact the wider Employability & Careers Centre

<http://www.essex.ac.uk/careers/>.

Very best wishes

SURVEY LINK

Appendix C

Dear LT700 Student,

We hope you are enjoying your summer now that your exams and coursework are over. The University is currently conducting research on teaching employability in Higher Education and is interested in your experience of studying the LT700 'Preparing for your Future' module and would value your views. Though we understand that you may have already filled in a SAMT form for this module at the end of the spring term, if you can spare the time to complete the survey (please see the link below) it will contribute further to our research. The survey will take approximately 10 minutes and a £5 voucher will be emailed to you as a thank you for your time.

Once again, we hope you enjoy your break from studying, and If you require any further information concerning this research at any point, please contact ----- [-----](mailto:-----@essex.ac.uk)
[@essex.ac.uk](mailto:-----@essex.ac.uk)

Best wishes

Employability & Careers Centre

SURVEY LINK