

Efficacy Pilot Evaluation Report

University of Central Lancashire's Student Wellbeing Ambassadors Programme

October 2023

Summary

Project Team

The team comprised colleagues from the University of Cambridge, UCLan and TASO.

Project description

In September 2022, TASO commissioned the University of Cambridge to work with two higher education providers, LSE and UCLan, to support evaluations of interventions designed to support disabled students. The aim of this project was to build Type 2 evidence on the interventions and to scope the feasibility of Type 3 evaluation.¹ This report presents the findings from the evaluation conducted with the UCLan.

Intervention being evaluated

This efficacy pilot explored how the Student Wellbeing Ambassadors (SWA) Programme by the University of Central Lancashire contributed to the academic outcomes of students engaging with the Programme as beneficiaries of support or as ambassadors; and looked at the experiences of these groups of students with the Programme.

The SWA Programme aims to improve the on-campus experiences of disabled students by providing them with appropriate tailored support, starting with first building an awareness of what this support would look like, then offering this support to enrolled students, enabling them to navigate campus and academic life more straightforwardly; and equipping ambassadors, who take on the paid support role and receive training, with better disability awareness and employment-relevant skills.

Methodology

To address the first, impact-related aim, the efficacy pilot deployed a propensity score matching approach. Separately for each of the support beneficiaries and the ambassadors, this approach established comparison groups of students with a similar propensity to engage with the Programme, derived based on several personal and course of study characteristics. To address the second, process-related aim, the efficacy pilot deployed a series of interviews, engaging both beneficiaries of the SWA Programme and ambassadors in conversations about the perceived impact of the Programme and their reflections about their engagement experience.

Key findings

Compared to similar disabled students not engaged with the SWA Programme, disabled students who did engage performed as well in terms of their continuation into the

¹ The types of evidence are based on the Office for Students Standards of Evidence found at: <https://www.officeforstudents.org.uk/publications/standards-of-evidence-and-evaluating-impact-of-outreach/>. Type 2 evidence means there is data which suggests that an activity is associated with better outcomes for students (i.e., correlational evidence). Type 3 evidence uses a method which demonstrates that an activity has a 'causal impact' on outcomes for students.

second year of their degree, degree completion, and, for completers, their probability of securing a high (1st class or 2:1) degree classification. Also compared to similar students, students engaged with the SWA Programme as ambassadors were more likely to continue into their second year and more likely to complete their degrees; and performed as well as the comparison group in relation to their probability of securing a high degree classification. In the process evaluation, support beneficiaries and ambassadors both reflected positively on their engagement with the Programme: the former noted increased confidence and access that supported an overall positive university experience, and practical support that enabled them to engage more fully with campus life; the latter highlighting building skills of likely relevance to their future work and increasing their awareness of and empathy for their disabled peers.

Taken together, the results point to the Student Wellbeing Ambassador Programme at UCLan as being a well-established intervention that supports beneficiaries in ways appropriate to their needs. While the quantitative evidence points to similar, but not better, outcomes for the groups of support beneficiaries as for a similar comparison group, this must be interpreted within the context of the Programme's compensatory aims in relation to support for disability. The SWA Programme is primarily a disability support intervention but the evidence about better persistence outcomes for ambassadors, together with their own positive assessments of their experience and skill development, point to positive outcomes emerging from the complexity of working with two groups of students.

The evaluation approach in this efficacy pilot generates the best available evidence in relation to how the Student Wellbeing Ambassadors Programme works for both support beneficiaries and ambassadors. The evaluation faces several limitations, however. Primarily, the quantitative evaluation design cannot definitively avoid self-selection bias even as it creates reasonable comparison groups; and the qualitative design sees views only gathered from students engaged with the Programme, when the perspectives of students choosing not to disclose a disability, as well as those disclosing but then choosing not to engage with the Programme are equally important.

Key conclusions

The substantive and methodological lessons from this efficacy pilot include the need to strengthen the counterfactual in any future evaluation of the SWA Programme, improving the sample sizes available for analysis, including for specific sub-groups of interest, exploring the possibility of selecting outcome measures that are even closer to the Programme's theory of change, and finally but equally importantly, ensuring future process-focused evaluations grapple with the complexity of the Programme by diversifying the group of respondents.

1. Introduction

1.1. Background and rationale for intervention

The Student Wellbeing Ambassadors Programme (SWA) is the flagship disability support initiative at the University of Central Lancashire (UCLan). The intervention looks to provide ongoing and relevant support to disabled students, both before joining the University, and after they have enrolled. The rationale behind this approach, and particularly around the pre-enrolment engagement, is to ensure that offer holders who may still be considering whether to enrol at UCLan are well informed about the types and levels of support they can expect to receive in relation to their disability. Once on campus, disabled students are then supported through the Student Wellbeing Ambassadors, themselves UCLan students employed and trained by the University to provide tailored disability support that sits alongside potential further support provided by staff in the Student Support team.

The current form of the intervention, which originated in 2017, emerged from existing work by UCLan already aiming to support disabled students, with the view to improving their experiences on campus. The intervention was also informed by analysis of trends and patterns in relation to disabled students at UCLan: the University used aggregated intersectional data on social, educational, and other forms of disadvantage and explored practice around the wider higher education sector. Based on these, UCLan identified the opportunity to create peer-to-peer support for students who declared one or more disabilities, with further types of support in place for students with highly specific needs that could not be appropriately addressed by the Programme.

1.2. Intervention aims and objectives

The Student Wellbeing Ambassadors Programme aims to improve the on-campus experiences of disabled students by providing them with appropriate tailored support, starting with first building an awareness of what this support would look like. The intervention aims to achieve this awareness prior to the start of each cohort's first academic year, so that students are aware of the support available upon enrolment.

The pre-enrolment engagement, the Transition Event, specifically aims to provide this information to offer holders at UCLan. The Transition Event is not a recruitment event, in that it does not actively engage in discussions about offers etc. with offer-holders; instead, it is about providing information about the disability support available on campus were offer holders to enrol.

The post-enrolment support is deliberately targeted, to ensure that disabled students engaging with the Programme (the beneficiaries) receive appropriate support. This tailoring aims to improve the experiences of disabled students in relation to the

navigation of the campus and the associated learning experience (physically, psychologically, or both). The ultimate aim of the intervention is to improve the wellbeing of disabled students (by means of the support provided that improves their experience on campus), and therefore to also improve their educational outcomes, specifically around degree progression, completion and degree outcomes. The underlying logic of the intervention is that the support offers a compensatory mechanisms whereby, in its absence, disabled students' potential may not be realised for reasons that rest outside of their control.

The tailoring of support to specific disability needs represents an increasingly common, yet not fully evidenced, aspect of disability support initiatives in the English higher education sector, however the Student Wellbeing Ambassadors Programme is particular in terms of also aiming to support the students engaging with the Programme as ambassadors, alongside the beneficiaries. In this sense, the intervention aims also include improving the academic outcomes of ambassadors, by providing them with the training, transferable skills and experiences that may also support their own academic outcomes, employability and potentially later employment outcomes. Additionally, , the Programme looks to equip ambassadors with improved knowledge about disability, raising awareness and understanding.

1.3. Intervention approach

The Student Wellbeing Ambassadors Programme is a complex intervention, taking in a range of groups of beneficiaries, as outlined below, and including a range of activities.

The intervention takes a two-tiered approach to engaging disabled students to join and thrive at UCLan. The engagement process begins with the Transition Event for offer holders to equip them with comprehensive information about the range of support and facilities available for students with disabilities on campus. This is supported by the Student Wellbeing Ambassador Programme that creates consistent support and care throughout their educational journey at the University.

The Transition Event (viewed as a unique selling point of the SWA Programme by the team behind the Programme) is the starting point of creating awareness of available support, to encourage offer holders to declare disabilities. This grew out of the larger SWA programme initially deployed post-enrolment. The event offers residential and virtual participation options, with workshops and SWA led activities to familiarise offer holders with UCLan systems, processes, disability benefits, campus/city orientation, etc. While an unintended consequence of the Transition Event may be that, once aware of the support available to them, disabled offer-holders may increase their likelihood to enrol at UCLan, this is not a goal for the Transition Event. Instead, the Transition Event

seeks to ensure reasonable adjustments are in place for incoming students as early as possible, as well as creating a sense of community and belonging for these students.

The student support team begins the process by emailing offer holders (with declared disabilities) to ask the nature of disability and what support they might need. This must be supported with proof of disability documentation (a disclosure form), with which they get assigned to the programme and invited to the Transition Event where they are paired with an appropriate ambassador. Ambassadors also follow up with offer holders who do not attend the event and engage parents to support students' transition.

Once students enrol, the second part of the Programme consists of continued support from SWAs throughout students' university life, as needed. Such support is designed according to the requirements of the students and depends on the level of engagement desired by each disabled student. The focus is on empowering the disabled students engaging with the Programme to become more independent and may include further campus/city orientation activities and also activities aimed at making the accessing of class and social clubs and other facilities less complex. While earlier iterations of the intervention saw more light-touch engagement from ambassadors with disabled students, this has expanded to deeper engagement over time, including note-taking facilities, and in particular peer mentoring.

Given the above structure, there are four broad categories of beneficiaries of the Programme:

1. *Offer holders who have declared a disability with a level of need appropriate for the SWA Programme to support: the offer holders*

Prior to enrolment, the SWA Programme engages with offer holders in the Transition Event. The aim of this is to encourage the conversion of offers into enrolments by equipping offer holders with good information about the level of disability support they can expect at UCLan. Since the start of the intervention, increasingly larger numbers of offer holders have engaged with the Transition Event, even as this had to be run online due to pandemic restrictions in place.

2. *Students enrolled at UCLan who have declared a disability with a level of need appropriate for the SWA Programme to support: the beneficiaries*

The primary beneficiaries of the programme are disabled students enrolled at UCLan. Some of them may have benefitted from support while offer-holders, though as not all offer-holders engage with the Transition Event, students may start their UCLan educational journey without full knowledge of the support available. Over the Programme's history, the number of enrolled disabled students has doubled. However, engagement varies across students – some only look for initial support while others

engage more deeply becoming comfortable with asking for support over longer periods and across the different available platforms in an ad hoc manner. The engagement also varies across different time periods of the academic year, peaking at the start and at other key dates in the students' academic and social calendars.

3. *Student Wellbeing Ambassadors: the ambassadors*

Much of the usual support provided as part of the Programme is provided by ambassadors, themselves students at UCLan, who are employed and trained to undertake this role. The expected benefits to the ambassadors are varied and include increased employability post-graduation, skill training (teamwork and people skills), and finally, increased awareness and training on how to support persons with disabilities. To support employability, ambassadors receive a letter confirming their participation that can be added to their CVs.

4. *Parents of disabled offer holders and disabled students: the parents*

A less central but important group of beneficiaries, specifically of the Transition Event, is represented by parents. By creating the support for a smooth transition for disabled students into university life, the Programme also seeks to benefit the parents of disabled offer holders or students, by addressing concerns about their children's experiences at UCLan, equipping them with information (through the Transition Event, which is open to parents) that may support them in either making decisions about enrolling at UCLan or navigating their educational experience after enrolment.

Of the four groups above, the beneficiaries and the ambassadors represent the core groups both in terms of engagement with and by the Programme and specifically in relation to this efficacy pilot, as outlined in the following section.

The Student Wellbeing Ambassadors Programme therefore operates on several levels, aiming to provide support to both disabled students (including prior to them becoming enrolled students) and the ambassadors themselves. As a result, the hypothesised mechanisms of change operate differently for these two core groups of beneficiaries. The final expected outcomes of the intervention are, however, relatively similar, with the overarching aims of the intervention being to improve (through support for beneficiaries or training and employment for the ambassadors) their academic outcomes and, potentially, their employability outcomes thereafter. The full theory of change is included in Annex A.

1.4. Evaluation approach

The aim of this efficacy pilot was to explore how the Student Wellbeing Ambassador Programme may contribute to academic outcomes for both disabled students engaged

with the Programme (the beneficiaries) and the Wellbeing Ambassadors (the ambassadors).

Specifically, the first aim of this efficacy pilot was to evaluate the impact that the SWA Programme has on a range of study-related outcomes, including degree continuation, completion and degree outcomes, and to understand the overall experiences of disabled students receiving support from the SWA Programme.

This reflected the primary focus of impact evaluation conducted by UCLan thus far, which uses data collected on numbers of offer holders with disabilities that enrolled (potentially in part due to their attendance at the Transition event), their continuation and progression through the academic years and educational achievement (graduation).

A second aim of the efficacy pilot was to evaluate the value added to the ambassadors, primarily in terms of their academic outcomes, and consider how this may be explored in terms of increased future employability, skill acquisition, and increased awareness of disabilities.

A third aim related to the exploration of perspectives and perceived impact from the SWA Programme, as outlined by beneficiaries and ambassadors, with a view to understanding why beneficiaries chose to engage with the Programme, their choices in relation to their engagement, and perceived impact by each of these two groups from the SWA Programme.

Finally, the efficacy pilot looked to make recommendations in relation to the research designs that may be deployed in the future to develop robust causal inference in relation to the impact of the SWA Programme on the above, and other related, outcomes.

Therefore, this efficacy pilot consisted of two components:

The first component consisted of an impact evaluation piece taking a quasi-experimental approach using Propensity Score Matching (PSM) to generate a comparison group against which the outcomes of both beneficiaries and, respectively, the ambassadors, may be compared.

The second component consisted of a process evaluation looking to explore experiences in and around the Programme and perceived impact by both beneficiaries and ambassadors, engaging with them by means of a set of qualitative semi-structured interviews, as outlined in the following sections.

2. Methodology

2.1. Research questions and hypotheses

Emerging from the Theory of Change in Annex A, and in further consultation with the delivery team, two sets of working hypotheses about the impact, and experience, of the Student Wellbeing Ambassador Programme were developed.

These working hypotheses guided the full efficacy pilot and each of the two components outlined above and were as follows:

We propose the evaluation design to respond to a series of working hypotheses generated through the development of the theory of change. These are:

- A. Disabled students who engaged with the SWA Programme (or, where possible, experienced a higher level of engagement with the Programme) have better educational outcomes compared to similar students who did not engage with SWA Programme.
- B. Taking on the role of Student Wellbeing Ambassador is associated with better educational outcomes compared to similar students who did not engage as Ambassadors.
- C. Disabled students who engaged with SWA can have a range of experiences, often in relation to their level of need, and each individual case will be different.
- D. Disabled students who engage with the Transition Event may be able to reflect on the extent to which this has motivated their progression into their 1st year (that is, starting their degree at UCLan).
- E. Taking on the role of ambassador is associated with better awareness of disability and better understanding of own skills and abilities.

The above were working research hypotheses, rather than statistical hypotheses, and were derived in collaboration with the delivery team at UCLan in conjunction with the development of the theory of change of the SWA Programme.

The impact and process evaluation approach outlined in what follows further specifies these hypotheses, taking into account practical and ethical methodological considerations.

2.2. Impact evaluation design

To address working hypotheses A, B and D above, this efficacy pilot applied a quantitative quasi-experimental evaluation design in relation to the impact component,

with a view to understanding the effectiveness of the SWA Programme on both beneficiaries' and ambassadors' higher education outcomes.

The design compared outcomes between the students who have engaged with the SWA Programme to a matched group of students who have not engaged, respectively for each of the beneficiaries and ambassador groups. A propensity score matching approach (PSM) was used to create a comparison group, alongside two simpler model specifications (OLS, outlined in full below) that would provide starting estimates for the relationship between engagement with the Programme and a set of educational outcomes.

The aim of the PSM approach was to create comparison groups made up of individuals with the similar propensities to engage with the Programme and, within that, compare between those who had and those who had not engaged. For the beneficiaries analysis, the comparison group included students who had not engaged with the SWA Programme despite being eligible by virtue of them formally disclosing a disability. For the ambassadors analysis, this included all other students at UCLan who could have, but did not, engage as ambassadors. While this is a potentially very large sample, the set of matching variables (outline below in Table 4 and described in Table 5) ensured that students with similar propensities to become ambassadors (by virtue of the estimated propensity score) were included as the comparison group.

While the use of the PSM arguably strengthens the causal inference compared to basic OLS models (which cannot imply causation in the absence of an experimental design), this efficacy pilot must contend with the fact that the level of achieved causal inference robustness is still limited by the self-selection bias which means that, even with when matching on propensity to engage, either beneficiaries or ambassadors may have chosen to engage for a range of unobservable reasons not captured by this analysis. This is particularly the case for ambassadors, whose motivations for engaging with the SWA Programme may be extremely varied, and whose intentions behind engagement may also result in different forms of engagement (the Discussion section of this report engages with this issue and recognizes the limitations of the analysis, particular as it relates to the efficacy pilot's ability to estimate *impact*).

Impact evaluation: sample selection

To undertake the PSM (and precursor analysis), this efficacy pilot relied on a sample of students, as provided by UCLan. With the intervention starting 2016-17, six separate cohorts of students were in principle available for analysis, though as the subsequent section and Table 2 below outline, the different set of outcome measures are not relevant to all of these cohorts (for instance, the course completion, or graduation,

outcome is only relevant to the earlier cohorts given the expected three-year duration of most undergraduate degrees).

Full details of the sample are outlined in Table 1, both at protocol stage and at analysis stage

Table 1: Maximum available sample sizes (at protocol stage and analysis stage)

Sample (across all starting cohorts)	Sample (N)
At protocol stage: full sample provided	
Beneficiaries (disabled students engaged with the Programme as beneficiaries)	613
Ambassadors (disabled or not disabled students engage with the Programme as ambassadors)	248
Disabled students not engaged with the Programme	13,676
Any students not engaged with the Programme	105,941
Total observations available*	120,471
At analysis stage: sample for primary outcome measure of degree outcome (beneficiaries and ambassadors sample slightly decreased due to duplicate records and matching error for a small number of observations)	
Beneficiaries (disabled students engaged with the Programme as beneficiaries)	575
Ambassadors (disabled or not disabled students engage with the Programme as ambassadors)	219
Disabled students not engaged with the Programme	13,676
Any students not engaged with the Programme	105,941
Total observations available*	120,411

*The totals are slightly smaller than the sum of other observations because of <10 students who were identified as both beneficiaries and ambassadors, who were retained in each respective analysis.

At protocol stage, a maximum of 613 beneficiaries across all Programme cohorts were present in the data, constituting the beneficiaries intervention group; for ambassadors, this figure was smaller, at 248 ambassadors, constituting the ambassadors intervention group.

At analysis stage, Table 1 above provides an indication of the maximum available sample size, which is then further reduced given missing data for specific variables, with full details provided below in Tables 5 and 6, and across the results tables in the Findings section below.

Impact evaluation: outcome measures

Using the Theory of Change of the Programme, outcome measures were identified, for the two targeted groups: beneficiaries and ambassadors. While the other two groups (offer holders and parents, as outlined above) are important groups within the logic of the SWA Programme, they are not the focus of this analysis here due to low data availability.

Due to their relevance in terms of the Theory of Change, all three outcomes that were used, respectively for the beneficiaries and ambassadors analysis, were deemed to be primary outcome measures. These are outlined in Table 2 below and are as follows:

Given the focus on student outcomes in terms of both the above targeted groups, the primary outcome measures are the same across the beneficiaries and ambassadors analysis and include three primary outcomes:

- A primary outcome around degree completion within three years, only relevant to three-year courses and to cohorts that had enough time for this completion to be captured (that is, the most recent starting cohort for which this outcome was present was 2019/20; all subsequent cohorts have not been used for the analysis).
- A primary outcome around degree outcome, specifically degree classification, conceptualised as students attaining a ‘good’ degree outcome of a first class or upper second class classification. The same cohort restrictions as above applied to this outcome measure too.
- A primary around continuation into second year. While the cohort restriction is relaxed here (with analysis including starting cohorts up to and including 2020/21, so that data on continuation would be available), this analysis was restricted in terms of the sample of beneficiaries and ambassadors who engaged with the SWA Programme during their first year of studies only.

Table 2: Outcome Measures

Variable	Definition	Data source and form	Maximum valid N available
Degree completion	Successful completion of (three-year) degree within the three years.	Existing data from UCLan One single binary outcome measure (completed vs not completed).	120,411 observations 58,637 with valid data 61,774 observations not* in relevant cohorts

		For cohorts that have had sufficient time to complete a three-year degree, with the most recent cohort in the analysis starting 2019/20 (for completion in 2021/22).	
Degree classification	Classification of the degree.	Existing data UCLan One single binary outcome measure (1 st or upper-second class degree classification vs any other degree classification). For cohorts that have had sufficient time complete their degree; and for students who have completed the degree.	120,411, of which: 37,459 with valid data 82,952 not in relevant cohorts
Continuation	Continuation into second year of the degree	Existing data UCLan One single binary outcome measure (continued vs not into second year of degree). For cohorts where continuation has been potentially captured in the data, with the most recent cohort in the analysis starting 2021/22 (so that continuation is captured in 2022/23 when data was supplied).	120,411, of which 120,411 with valid data

*Note: Relevant cohorts are those where students have had sufficient time (compared to the point of analysis) to complete their degree.

These outcome measures were as per protocol. All this data was provided by the UCLan team from internal data sources (and as reported to the Higher Education Statistics Agency) and therefore no external data sources beyond the UCLan data were used in these analyses.

Impact evaluation: power calculations

Despite the fact that this efficacy pilot did not use a design including randomisation for the impact piece, at protocol, and again at analysis stage, minimum detectable effect sizes (MDES) were calculated, with a view to providing information comparable to that for existing trials. A set of assumptions were made when estimating the MDES (at protocol and analysis stage), which derive from the fact that not all trial considerations hold for the propensity score analysis from which the main results of this efficacy pilot emerge.

Importantly as some of the estimated MDES values fall well within ranges routinely seen in education trials, the estimation of the MDES does not imply a strong causal inference in this efficacy pilot. As discussed previously, and again referenced in the Discussion section, this relates to aspects of self-selection that cannot be wholly addressed by matching approaches.

This caveat notwithstanding, the parameters routinely used in MDES calculations are outlined below for the purposes of clarity. MDES estimates are then provided in Table 3 below. Core assumptions are:

- significance level: 0.05
- statistical power: 0.8
- variance in outcome explained by relevant covariates: 0.5

MDES was first estimated using the parameters above under a balanced trial design (that is, using the further assumption of 50% of sample in intervention group, using the intervention group sample size from Table 1 above for respectively beneficiaries and ambassadors). A further MDES was then estimated, also using a trial design with the above parameters, but using the maximum possible sample size in the comparison group (as per Table 1). Finally, an OLS MDES and a PSM MDES were estimated at analysis stage, using the achieved sample sizes in the analytical sample reported in Tables 7 onwards in the Findings section.

Table 3: Power Calculations

Sample size (total)	Size of treatment group	Size of comparison group	MDES (Cohen's d)
Beneficiaries analysis			
As at protocol, assuming balanced trial design with above parameters			
1,226	613	613	0.113
As at protocol, assuming trial design with above parameters, and maximal total sample			
14,289	613	13,676	0.08
As at analysis, assuming trial design with parameters as per OLS model (2) for degree completion outcome (sig 0.05; power 0.8; explained variance from R squared 0.06) (Table 7 for results)			
2,787	119	2,668	0.251
As at analysis, assuming trial design with parameters as per PSM model for degree completion outcome (sig 0.05; power 0.8; explained variance from pseudo R squared 0.05) (Table 7 for results)			
2,632	119	2,513	0.253
Ambassadors analysis			
Assuming balanced trial design with above parameters			
596	248	248	0.165
Assuming trial design with above parameters, and maximal total sample			
106,189	248	105,941	0.136
Assuming trial design with parameters as per OLS model (2) for degree completion outcome (sig 0.05; power 0.8; explained variance from R squared 0.08) (Table 10 for results)			
21,944	83	21,861	0.299
Assuming trial design with parameters as per PSM model for degree completion outcome (sig 0.05; power 0.8; explained variance from pseudo R squared 0.10) (Table 10 for results)			
15,873	83	15,790	0.299

For beneficiaries, the MDES ranged between a low of 0.08 in the per-protocol maximally available sample (not restricting to undergraduate students or considering missing data) and a high of 0.253 in the PSM model. While the overall sample size for the latter analysis is large, it is the very small number of observations in the intervention group (that is, beneficiaries) that increases the MDES.

Similarly, the pattern for the ambassadors analysis also pointed to relatively small MDES values (though still higher than in the case of the beneficiaries analysis) using the maximum available sample sizes. However, at analysis, both the OLS estimated MDES and the PSM MDES were 0.299, which are high for Education evaluation, and higher than may be potentially expected as an outcome of the Programme.

Considerations around sample size are revisited in the Discussion section, as these affect the strength of the causal inference in this efficacy pilot, together with aspects of the analytical strategy, which follows.

Impact evaluation: analytical strategy

The objective of the analysis in the impact part of this efficacy pilot was to evaluate the effectiveness of the student Wellbeing Ambassador Programme for undergraduate students' degree outcomes (completion, classification, and continuation).

This has included a set of analyses for beneficiaries (that is, disabled students who had engaged with the SWA Programme) and ambassadors (that is, any student employed by the Programme as an ambassador, whether themselves disabled or not). Therefore, this was done by calculating the Average Effect of the Intervention on the Treated (ATT), as reported in tables in the Findings section below.

To generate these impact findings, a first OLS regression model was estimated, comparing the outcomes of treated students with those untreated, once for each of the beneficiaries and ambassadors. This model took the form:

$$y_i = \alpha + \beta_1 \text{intervention}_i + \varepsilon_i$$

Equation 1: OLS model without controls

where y is each respective primary outcome measure, α is the intercept, β_1 is the coefficient of interest for the variable intervention , identifying whether students had engaged with the SWA Programme (this was engagement as beneficiaries for the beneficiaries analysis; and engagement as ambassadors for the ambassadors analysis), and ε_i is the error term.

Second, a further OLS regression model was estimated (Equation 2 below). This included a detailed set of independent variables, including individual background

characteristics and degree characteristics, as outlined in Table 4 below. These same variables were later used for matching purposes, as presented below. The second OLS model estimated was:

$$y_i = \alpha + \beta_1 \text{intervention}_i + \beta_2 X_i + \varepsilon_i$$

Equation 2: OLS model with controls (matching variables)

where y is each respective primary outcome measure, α is the intercept, β_1 is the coefficient of interest for the variable intervention_i , identifying whether students had engaged with the Programme (as above, determined by their beneficiary or ambassador engagement), and X_i is a vector of control variables, the same as the matching variables outlined in Table 4 below. ε_i is the error term.

Because OLS models are generally likely to provide biased estimates of the causal effects of the Programme, because of neglected heterogeneity stemming from the fact that students self-select into the programme. A partial solution to this problem is to attempt to match participants and non-participants in observational data. The adoption of matching techniques has allowed us to partly consider some of the bias in the OLS regression.

It is worth noting that the direction of the likely bias is not clear: Participation in the SWA Programme as beneficiaries is contingent on students making a disclosure about their disability – some students may not do this and therefore neither engage with the programme, or were considered as disabled in this analysis. Similarly, students may choose whether to engage or not, and how much they would like to engage, even once they have disclosed their disability. For ambassadors, this self-selection bias is potentially even stronger, as the ambassador role is one of several paid opportunities that students may engage with during their studies (not exclusively from the University) and therefore their choice to engage as ambassadors may be motivated by a series of experiences, motivations, or indeed personal characteristics different to those of students who choose not to engage.

To partly address this bias, this efficacy pilot used a Propensity Score Matching (PSM) approach as a third analytical step, to estimate the effects of engaging with the programme (respectively as a beneficiary or an ambassador) on the three outcomes outlined above. PSM models were specified to restrict samples to those observations that showed overlap in the distribution of the matching variables (so, common support).

The inherent quasi-experimental logic of the PSM approach was to match beneficiaries (and respectively ambassadors) with their relevant counterparts who had similar propensities to engage with the SWA Programme (as estimated by the model in one single step, using the matching variables in Table 4).

The PSM models were estimated the STATA routine psmatch2.² In one single step, this routine first estimates the conditional probability (the propensity score, e in Equation 3 below) of being treated (that is, of engaging with the Student Wellbeing Ambassador Programme) based on the set of matching variables outlined in Table 4 below (and encompassed in vector X in Equation 3 below).

Each PSM model was estimated separately for the beneficiaries analysis and the ambassadors analysis.

$$e_i = Pr(Z_i = 1|X_i)$$

Equation 3: The propensity score as the conditional probability of being treated

Where e is the estimated propensity score, Z_i represents intervention participation, and X_i is the vector of matching variables.

Within the same single step as above, psmatch2 uses the estimated propensity score to create a matched comparison group, and for each student in the intervention group (separately for beneficiaries and ambassadors) to find a comparison observation with the closest possible propensity score. Given the large sample size of non-treated observations, no calipers were used (that is, a stricter match on the propensity score was employed). Non-matched students are dropped from the analysis and the analysis undertaken only for observations on common support. This matching approach (via the propensity score) attaches weights to the observations in the comparison group so that the bias (or difference) in their distribution of their observable characteristics (from Table 4 below) compared to the unmatched samples is minimized. To balance the stricter match on the propensity score as outlined just above, the model was run with replacement, that is, the same observation in the comparison group of non-engaged students could act as a match for one or more observations in the intervention group. Given the very large sample of observations in the comparison group relative to that in the intervention group, this did not pose any methodological challenges.

Table 4 Matching Variables

Matching variables included in the calculation of the propensity score	
Small non-material changes compared to protocol are outlined below the table	
Demographic characteristics	Gender (categories: female, male, other)
	Ethnicity (broad categories)
	POLAR (Participation of Local Areas) quintiles

²E. Leuven and B. Sianesi. (2003). "PSMATCH2: Stata module to perform full Mahalanobis and propensity score matching, common support graphing, and covariate imbalance testing". <http://ideas.repec.org/c/boc/bocode/s432001.html>.

	IMD quintiles
Degree specific data	Degree (Undergraduate)
	Degree Subject (broad categories)
	Year of enrolment/graduation (operationalised as
	Mode of study (full time vs part time vs unavailable)
Disability specific information	Disability Status (only for the ambassadors analysis; as for the beneficiaries analysis, the comparison group should only consist of disabled students)

Compared to the protocol stage, there are only slight differences in the matching variables above, emerging from data availability or recoding, as follows. The age variable was not available and therefore not used. Instead, to capture some of the potential variation in student profile, mode of study was used (full time vs part time vs unavailable), as part-time students are in general more likely to be mature and therefore some of the age-related variation would be captured. The gender variable was planned as binary (female=1 vs male=0) but entered in the analysis as a three-category variable (female=1, not female=0, gender refused/not reported=2). All other matching variables were as specified in the protocol.

Sub-group, dosage, compliance, and fidelity analyses

This efficacy pilot did not include, or initially plan, any sub-group analyses, or any compliance analyses.

Exploratory analyses

Although not originally pre-specified in the protocol, a dosage-style analysis was attempted for the beneficiaries analysis only, where instead of the binary intervention participation measure identifying the intervention group, a continuous measure of the extent of engagement with the SWA Programme would have been used instead. This was meant to reflect Working Hypothesis A above, positing that more engagement would be associated with better educational outcomes holding the level of need constant. However, given that this analysis would be undertaken solely within the sample of beneficiaries, and given that this would have resulted in a very small sample size of individuals with all required data (under 50 observations), this analysis was ultimately not undertaken.

Separately, while the main focus of the analysis rests on undergraduate students, it is important to explore how the SWA Programme may have affected graduate students' outcomes too. Given the different nature of graduate courses (shorter and without

degree classifications routinely provided), this exploratory analysis only took in the primary outcome measure of degree completion and is reported as an exploratory analysis in the Findings section below.

2.3. Process evaluation design

Sitting alongside the impact findings from the quantitative component of this efficacy pilot, a qualitative process evaluation was undertaken. The aims of this process evaluation were to understand the experiences of beneficiaries, and respectively ambassadors, around SWA, to explore the perceived impact of participation on their academic outcomes (those relevant to the stage of each respective participant). This process evaluation approach responded in particular to working hypothesis C, D and E above.

An interview study was designed, with data collection carried out by a team at UCLan where beneficiaries and ambassadors were interviewed individually, in a semi-structured manner.

Alongside the interview study, exploratory analysis was undertaken of survey data routinely collected by UCLan in relation to the Transition Event, ongoing SWA Programme support, and from the ambassadors themselves. This survey data emerges from tools used predominantly for feedback purposes and therefore, while including open-ended questions allowing for free input from participants, the closed-ended questions had been designed and data collected prior to the design of the efficacy pilot.

Process evaluation: data collection approach

Given the sensitive nature of information discussed, the interviews were planned and undertaken individually with each respondent. They were conducted by researchers with experience undertaking qualitative data collection, specifically research assistants who were hired for the project from amongst UCLan students and so there will be a comfort level of interaction with a peer.

The research assistants were provided with the interview schedule in advance and guided as to the sensitivities of researching in the field of disabilities. The research assistants scheduled the interviews, provided information as to the interviews including sharing consent forms and participant information sheets (in Annex B) and then went through a series of questions, allowing sufficient space for participants to emphasise aspects they deemed important, to skip questions altogether (with no reason needing to be provided), and to add further points they saw relevant.

The full interview protocol is also included in Annex B, with the focus of the interviews (respectively for beneficiaries and ambassadors) being:

- Aspects of perceived impact from their engagement with SWA
- Reflections on how disability has impacted student's educational trajectories (if relevant), and how engagement with SWA has shaped their thinking around their educational outcomes as they relate (or not) to disability.
- Reflections specifically on engagement with the Transition Event, both in terms of their awareness of support for their disability and in terms of their perceptions of impact on deciding to start their studies at UCLan.

Process evaluation: sample selection

Mirroring the approach for the impact evaluation component of this efficacy pilot, two groups engaged with the SWA Programme were relevant for the interviews: beneficiaries and ambassadors.

The inclusion criteria for the beneficiaries revolved around their prior disclosure of a disability (which would, within the parameters of the SWA Programme, make these students eligible for participation in the Programme) and having engaged with either the Transition Event and/or on-going campus support via the Programme.

The inclusion criteria for the ambassadors consisted of their engagement, completed or ongoing, as an ambassador as part of the SWA Programme.

At protocol, the intended sample was 16 interviewees in each of these groups, aiming to secure participation from students with a variety of backgrounds and individual characteristics. However, also at protocol stage, only 11 ambassadors and a much smaller sample of 5 beneficiaries had been secured. Further efforts to recruit participants did not result in any other students volunteering to take part in the interview study. The implications of this reduced sample size are outlined in the Discussion section.

In relation to the survey data, a total of 46 beneficiaries provided responses that related specifically to the Transition Event and 66 beneficiaries offered open-ended responses to the survey mentioned above, though all of these open-ended answers were relatively short and complemented their answers to closed-ended feedback questions which have been, over time, relevant to the Programme's development but did not immediately address the aims of this efficacy pilot.

Specifically, a series of surveys, starting December 2019, and being administered either regularly or in addition to the regular pattern for ad-hoc feedback, gathered perspectives from engaged beneficiaries. The number of responses per year were very small: 12 in the December 2019 survey, 3 in the May 2020 survey, 24 responses to the regular

2020-2021 survey, 4 in the ad hoc 2021-2022 feedback, 17 in the regular 2021-2022 survey, and finally 6 responses in the 2022-2023 survey.

Process analysis: analytical approach

In relation to the interview study, an inductive qualitative analysis approach was used on transcripts of the interviews that were provided by the UCLan team. This relied on a first step of high-level coding identifying broad themes, and followed by more in-depth analysis, looking with more granularity into the range of perspectives offered by both beneficiaries and ambassadors. For both above analytical stages, the approach allowed for the emergence of codes and themes that went beyond the questions included in the interview protocols.

A similar approach was adopted in relation to the analysis of open-ended questions answered by participants in different elements of the SWA Programme (the Transition Event, the on-going support).

For closed questions, simple descriptive analysis was undertaken. While the feedback surveys asked a number of questions, some of these referred to issues outside the scope of this efficacy pilot. Therefore, only questions of relevance to the aims of the process evaluation were analysed.

2.4. Ethical considerations

The design for this efficacy pilot underwent processes of ethical approval with two separate ethics committees, one at UCLan (on the delivery side), and one at Cambridge (on the evaluation side).

The evaluation was initially designed with the aim to minimise any burden or potential harm on participants, both the beneficiaries and the ambassadors. All beneficiaries were deemed to be potentially vulnerable participants on account of their disabilities, and although ambassadors did not include only disabled students, the same consideration was applied to this group.

From the perspective of new data collection, therefore, there was no contact between the evaluation team and participants in the process evaluation, with all data collection taking place with the support of UCLan staff (including the student research assistants). Informed consent was sought from all beneficiaries and ambassadors invited to interview and the approach to data collection, allowing for in-person, on-campus interviewing, and with any adjustments put in place to ensure a comfortable experience for all interviewees.

From the perspective of the existing data, including the survey data in the process evaluation, and that shared for the purposes of the impact component, confidentiality and anonymity were key considerations, as was the privacy of individuals, both in terms of the minimisation of data shared (only what was relevant for the purposes of the analysis) and the presentation of the data.

3. Findings

3.1. Impact evaluation: findings

Description of data

The background characteristics for the full available sample are outlined below in Table 5. The four groups in this Table are: beneficiaries and respectively ambassadors, all disabled students who have not engaged with the SWA Programme (from which the comparison group for beneficiaries is derived in the PSM models below) and the full sample of students not engaged with the SWA Programme in any way (either as beneficiaries or ambassadors) regardless of their disability status, as the group of students from which the comparison group for the ambassadors will be generated.

The level of balance (that is, similarities, as these are not samples defined through randomisation or any other allocation other than the self-selection into the SWA Programme) is only moderate when looking at differences between these four groups, as follows.

For the gender distribution, beneficiaries are very slightly more likely to be female than disabled students not engaged with the Programme (1.5 percentage points differences). Ambassadors, however, are substantially more likely to be female compared to their relevant comparison group (a difference of 26.7 percentage points).

In relation to ethnicity, the differences in terms of the proportion of White students in the sample are small-medium (2.6 percentage points difference for beneficiaries and the full sample of disabled students; and 6.2 percentage points difference for ambassadors).

Beneficiaries are slightly less likely (3.9 percentage points difference) to be in quintile 1 of the POLAR³ distribution and similarly in decile 1 of the IMD⁴ distribution (4 percentage points). A different pattern is present for ambassadors, who are more likely to be in the bottom, most disadvantaged, POLAR quintile, and conversely less likely to be in the top, least disadvantaged, quintile; though the pattern is reversed for the IMD deciles, suggesting a mix of backgrounds by geography.

In terms of degree characteristics, students engaged with the Programme (whether beneficiaries or ambassadors) are more likely to be studying full-time (by up to 20 percentage points), potentially because of a mechanism whereby part-time students do not live on campus and therefore self-select out of an intervention that is predominantly (in the case of beneficiaries) meant to provide on-campus support.

³ Participation of local areas, a measure of higher education participation

⁴ Index of Multiple Deprivation

Table 5: Background characteristics of undergraduate student groups, by intervention group, all available data

Background characteristics				
	Beneficiaries (%)	Ambassadors (%)	Full sample of disabled students not engaged with the Programme (%)	Full sample, all students not engaged with the Programme (%)
Demographic characteristics				
Gender				
Female	67.1%	80.4%	65.6%	53.7%
Ethnicity*				
White (UK and Other)	72.2%	51.6%	74.8%	45.4%
Unknown or missing	11.7%	6.4%	8.1%	13.4%
POLAR				
Quintile 1	11.5%	10.5%	15.6%	8.5%
Quintile 5	17.4%	6.9%	15.7%	11.6%
IMD quintiles				
Decile 1	14.8%	15.1%	18.8%	11.3%
Decile 10	5.9%	5.9%	4.8%	3.4%
Degree specific data				
Degree award and subject	Too many categories to present here			
Mode of study				
Full time	87.5%	85.8%	73.6%	69.7%
Graduating year				
2016/17	5.9%	11.4%	9.6%	12.1%
2017/18	8.5%	12.8%	10.6%	12.6%
2018/19	9.9%	17.4%	13.2%	13.2%
2019/20	14.1%	16.9%	17.8%	14.8%
2020/21	20.4%	20.1%	18.6%	16.0%
2021/22	24.9%	16.4%	15.5%	15.8%
2022/23	16.4%	5.0%	14.7%	15.6%
Total N	575	219	13,676	105,941

*Note: An 11-category ethnicity measure was used in the analysis, but proportions are small and therefore for anonymity reasons, the data are not reported here.

Given the above differences between the different groups, the inclusion of control measures in the analysis is essential, and the PSM is particularly warranted. To illustrate how these differences were addressed by the matching on the propensity

score estimated during the application of the PSM approach, Figure 1 below outlines the bias (that is, the aggregate level of difference by each matching variable), separately for the beneficiary and ambassador analysis. Figure 1 suggests that, after matching on the propensity score to be engaged with the Programme, the differences between each respective groups are narrowed in the PSM analysis.

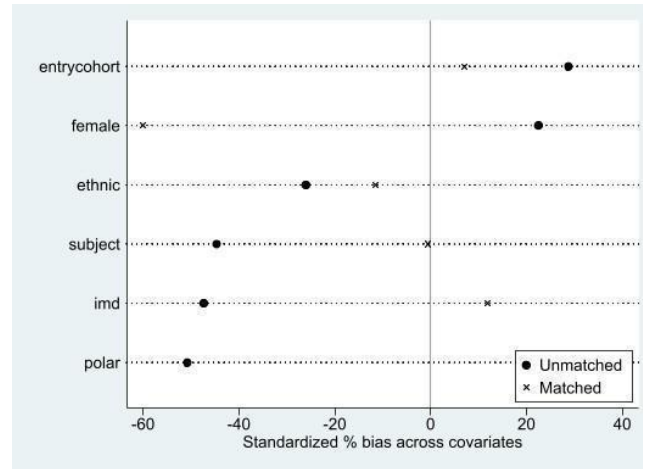
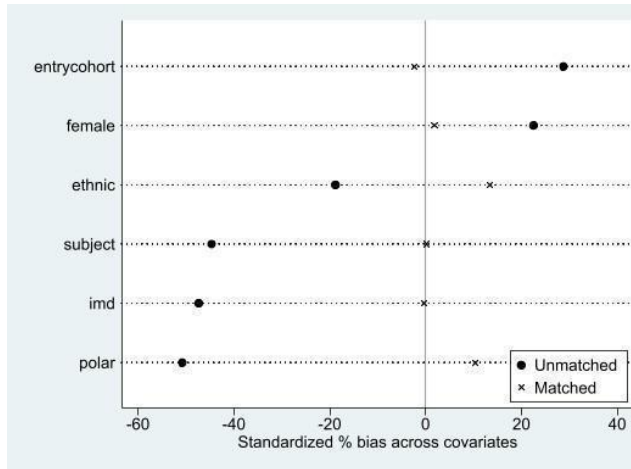
Figure 1: Standardized bias across covariates. All three outcomes

Beneficiaries

Ambassadors

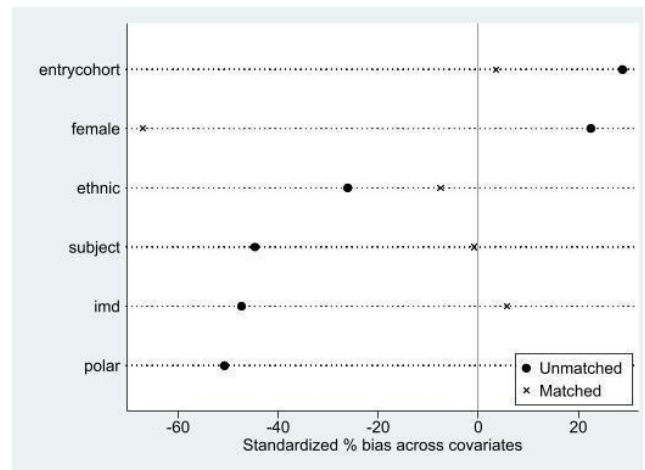
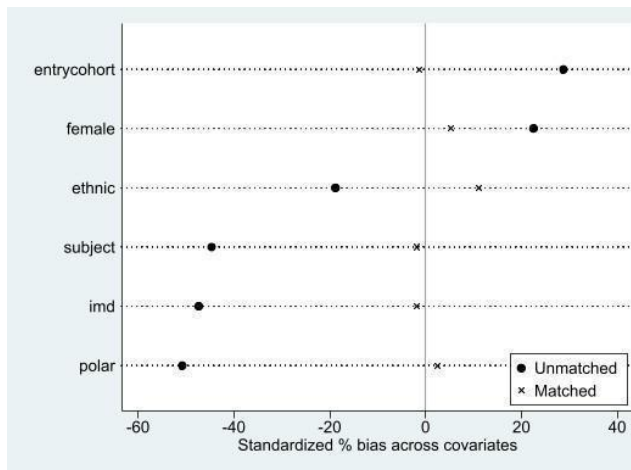
Degree completion outcome

Degree completion outcome



Degree class outcome

Degree class outcome



Continuation outcome

Continuation outcome

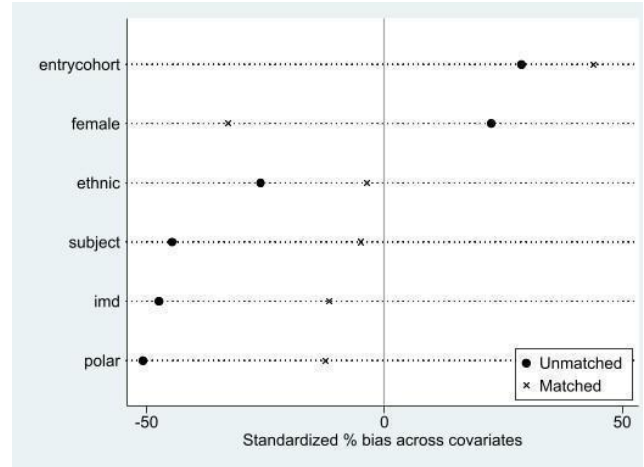
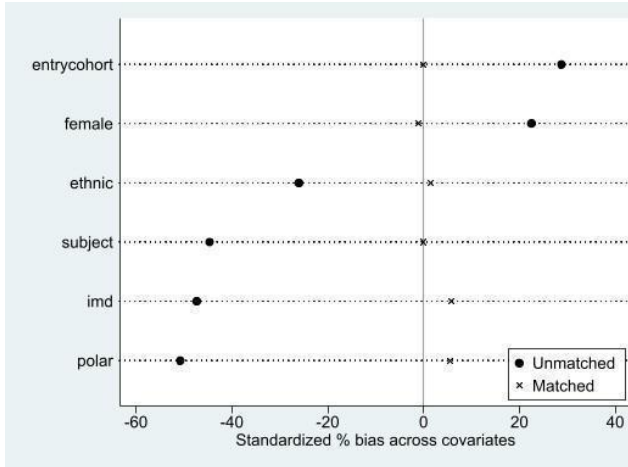


Table 6 below provides a similar descriptive outline to Table 5 above, focusing this time on the outcome measure, and including data for the final analytical samples for the OLS models.

Table 6: Outcome measure, by intervention group, data for observations in analysis (for OLS models)

Background characteristics				
	Beneficiaries (%) (N)*	Ambassadors (%) (N)	Full sample of disabled students not engaged with the Programme (%) (N)	Full sample, all students not engaged with the Programme (%) (N)
Observations in analytical sample for OLS models				
Degree completion Degree completed	78.2% (119)	91.6% (83)	73.8% (2,668)	81.0% (21,861)
Degree classification Achieving first/2:1 class	81.0% (84)	91.6% (71)	70.8% (1,900)	69.0% (17,281)
Continuation Continued into 2 nd year	81.3% (348)	96.9% (132)	80.2% (6,612)	81.5% (46,239)

*N indicates the full sample for which this data is available

For the degree completion outcome, beneficiaries are more likely than non-engaged disabled students to have completed their degree (4.4 percentage points difference), and ambassadors are much more likely to have completed compared to all other non-engaged students (10.6 percentage points difference).

For the degree classification outcome, the pattern above is again replicated, with beneficiaries more likely to have achieved a top degree classification than non-engaged disabled students (10.2 percentage points difference); and ambassadors similarly more likely to have achieved this result (22.6 percentage points difference).

For the continuation outcome, beneficiaries are only slightly more likely to have continued into the second year compared to non-engaged disabled students (1.1 percentage points difference); while ambassadors are much more likely to have continued into their second year (15.4 percentage points difference).

The PSM results reported next draw the matched group from observations with required data but use common support and therefore samples are as indicated below.

Findings: beneficiary analysis

The results of the statistical analysis employing the three-step approach outlined in the Methodology section above are presented in what follows. These results first relate to the beneficiary analysis and go through the three primary outcome measures. For both the beneficiary analysis and the ambassador analysis reported subsequently, the PSM results represent the source of the final conclusion regarding the effects of the SWA Programme on each respective outcome. The OLS results are discussed for completeness and to provide the context as to how a comparison group matched on the propensity to engage with the Programme may have shifted results.

Degree completion

The first set of results relate to the degree completion outcome. Table 7 below illustrates these results for the three different models. None of these models point to a statistically significant effect of participating in the SWA Programme as a beneficiary for the degree completion outcome.

Table 7: Beneficiary analysis, degree completion outcome

Beneficiary analysis	Degree completion		
	(1)	(2)	(3)
	No controls	+Controls	PSM
Coefficient for Intervention (Std. error)	0.044 (0.027)	0.045 (0.041)	0.076 (0.058)
Effect size (Cohen's d) (95% CI)	0.100 (-0.083 0.283)	0.103 (-0.081 0.286)	0.173 (-0.01 0.357)
N intervention	119	119	119
N non-intervention	2,668	2,668	2,513
R-squared	0.00	0.06	0.05

Note: The dependent variable in columns (1)-(3) is the probability of having completed a degree (for cohorts where completion was temporally possible). The treatment variable is whether the student ever engaged with the Student Wellbeing Ambassador Programme as a beneficiary. The control variables are as per Table 4: gender, ethnicity, polar quintile, IMD decile, broad course subject, study mode, cohort. Standard errors are reported in parentheses. Significance levels: +p<0.10, * p<0.05, **p<0.01. Cohen's d calculated using full analytical sample standard deviation of the outcome variable.

Degree classification

For the degree classification outcome, the raw OLS model (1) which does not attempt to control for any potentially confounding student characteristics, suggests a statistically significant (at the 10% level) effect of being a beneficiary of the SWA Programme compared to not on the probability of achieving a good degree outcome (Table 8 below). Once controls are introduced in OLS model (2), though, and also in the final PSM specification, this significance disappears. Therefore, as for the degree completion outcome, this analysis also suggests that, compared to a matched group of students, beneficiaries do not have a higher probability of achieving a good degree.

Table 8 Beneficiary analysis, degree classification outcome

Beneficiary analysis	Degree classification		
	(1)	(2)	(3)
	No controls	+Controls	PSM
Coefficient for Intervention (Std. error)	0.100+ (0.046)	0.059 (0.049)	0.083 (0.068)
Effect size (Cohen's d) (95% CI)	0.22 (0.003 0.441)	0.131 (-0.008 0.349)	0.184 (-0.0352 0.403)
N intervention	84	84	84
N non-intervention	1,900	1,900	1,737
R-squared	0.00	0.09	0.06

Note: The dependent variable in columns (1)-(3) is the probability of having completed a degree with a 1st or 2:1 degree classification (for cohorts where completion was temporally possible). The treatment variable is whether the student ever engaged with the Student Wellbeing Ambassador Programme as a beneficiary. The control variables are as per Table 4: gender, ethnicity, polar quintile, IMD decile, broad course subject, study mode, cohort. Standard errors are reported in parentheses. Significance levels: +p<0.10, *p<0.05, **p<0.01. Cohen's d calculated using full analytical sample standard deviation of the outcome variable.

Continuation into second year

For the continuation into the second year of the degree outcome, the results (Table 9) mirror those above, particularly for the degree completion outcome. None of the models (and in particular the PSM specification in model (3)) point to a statistically significant effect of engaging with the SWA Programme as a beneficiary on the continuation outcome.

Table 9 Beneficiary analysis, continuation outcome

Beneficiary analysis	Continuation		
	(1)	(2)	(3)
	No controls	+Controls	PSM
Coefficient for Intervention (Std. error)	0.008 (0.023)	0.030 (0.021)	0.014 (0.032)
Effect size (Cohen's d) (95% CI)	0.02 (-0.009 0.127)	0.08 (-0.03 0.183)	0.035 (-0.073 0.143)
N intervention	348	348	348
N non-intervention	6,612	6,612	6,286
R-squared	0.00	0.13	0.04

Note: The dependent variable in columns (1)-(3) is the probability of having continued into the second year of a degree (for cohorts where completion was temporally possible). The treatment variable is whether the student ever engaged with the Student Wellbeing Ambassador Programme as a beneficiary. The control variables are as per Table 4: gender, ethnicity, polar quintile, IMD decile, broad course subject, study mode, cohort. Standard errors are reported in parentheses. Significance levels: +p<0.10, *p<0.05, **p<0.01. Cohen's d calculated using full analytical sample standard deviation of the outcome variable.

Findings: ambassador analysis

The analyses above were replicated for the ambassador group, to explore the effect of taking up the ambassador role within the SWA Programme on the same set of three primary outcome measures.

Degree completion

For the degree completion outcome, the PSM results (model (3) below) suggest that engagement as ambassador within the SWA Programme has a positive and statistically significant effect on the probability of completing a degree. The effect size is moderate, at 0.276. These results are mirrored in the OLS models (1) and (2) which are not able to match ambassadors to their comparison group counterparts.

Table 10: Ambassador analysis, degree completion outcome

Ambassador analysis	Degree completion		
	(1)	(2)	(3)
	No controls	+Controls	PSM
Coefficient for Intervention (Std. error)	0.105** (0.022)	0.146** (0.042)	0.108* (0.055)
Effect size (Cohen's d) (95% CI)	0.268 (0.052 0.484)	0.373 (0.157 0.588)	0.276 (0.059 0.491)
N intervention	83	83	83
N non-intervention	21,861	21,861	15,790
R-squared	0.00	0.08	0.10

Note: The dependent variable in columns (1)-(3) is the probability of having completed a degree (for cohorts where completion was temporally possible). The treatment variable is whether the student ever engaged with the Student Wellbeing Ambassador Programme as an ambassador. The control variables are as per Table 4: gender, ethnicity, polar quintile, IMD decile, broad course subject, study mode, cohort. Standard errors are reported in parentheses. Significance levels: +p<0.10, *p<0.05, **p<0.01. Cohen's d calculated using full analytical sample standard deviation of the outcome variable.

Degree classification

In relation to the degree classification outcome, the PSM results (model (3) in Table 11 below) point to no statistically significant effect of ambassador role take-up on the probability of attaining a good degree result. The importance of the matching (and also of simply controlling for a range of relevant covariates as in model (2)) is illustrated by the fact that the raw OLS model (1) points to a statistically significant and strong (effect size 0.489) of taking on the role of ambassador on the degree outcome result. This effect – in essence the raw difference between ambassadors and all other students at UCLan – may be hypothesized to have come about precisely because ambassadors self-select into this role as a function of the covariates used in the second specification. As Table 5 above illustrates, gender plays an important role here, amongst other characteristics (including mode of study).

Table 11 Ambassador analysis: degree classification outcome

Ambassador analysis	Degree classification		
	(1)	(2)	(3)
	No controls	+Controls	PSM
Coefficient for Intervention (Std. error)	0.226** (0.039)	0.146 (0.053)	0.071 (0.057)
Effect size (Cohen's d) (95% CI)	0.489 (0.256 0.722)	0.216 (0.083 0.549)	0.154 (-0.079 0.387)
N intervention	71	71	71
N non-intervention	17,281	17,281	11,873
R-squared	0.00	0.08	0.11

Note: The dependent variable in columns (1)-(3) is the probability of having completed a degree with a 1st or 2:1 degree classification (for cohorts where completion was temporally possible). The treatment variable is whether the student ever engaged with the Student Wellbeing Ambassador Programme as a an ambassador. The control variables are as per Table 4: gender, ethnicity, polar quintile, IMD decile, broad course subject, study mode, cohort. Standard errors are reported in parentheses. Significance levels: +p<0.10, *p<0.05, **p<0.01. Cohen's d calculated using full analytical sample standard deviation of the outcome variable.

Degree continuation

Finally for the ambassador analysis, the degree continuation outcome results in Table 12 below point to a statistically significant positive effect of being an ambassador on the SWA Programme on the probability of continuing into the second year of a degree, compared to a group of students matched on their propensity to engage with the Programme. Specifically, model (3) below shows a positive effect statistically significant at the 10% level, with a moderate associated effect size of 0.233. As before, this is a lower estimate than that provided by the raw OLS model (1) and the OLS model that includes the same set of matching variables as simple covariates (in model (2)).

Table 12 Ambassador analysis: continuation outcome

Ambassador analysis	Continuation		
	(1)	(2)	(3)
	No controls	+Controls	PSM
Coefficient for Intervention (Std. error)	0.147** (0.044)	0.166** (0.032)	0.083+ (0.035)
Effect size (Cohen's d) (95% CI)	0.365 (0.184 0.545)	0.458 (0.277 0.638)	0.233 (0.052 0.414)
N intervention	132	132	132
N non-intervention	46,239	46,239	37,076
R-squared	0.00	0.13	0.10

Note: The dependent variable in columns (1)-(3) is the probability of having continued into the second year of a degree (for cohorts where completion was temporally possible). The treatment variable is whether the student ever engaged with the Student Wellbeing Ambassador Programme as an ambassador. The control variables are as per Table 4: gender, ethnicity, polar quintile, IMD decile, broad course subject, study mode, cohort. Standard errors are reported in parentheses. Significance levels: +p<0.10, *p<0.05, **p<0.01. Cohen's d calculated using full analytical sample standard deviation of the outcome variable.

Impact evaluation: exploratory analysis

In addition to the above, pre-specified, analysis which focused exclusively on undergraduate students, exploratory analysis considered the graduate student population. Eligible to take on the role of ambassador and to engage as beneficiaries in the Student Wellbeing Ambassador Programme, graduate students nonetheless take a wider variety of degrees, ranging from certificates, diplomas to masters and beyond. These graduate courses vary in length, making the continuation into second year outcome irrelevant for many of them. These courses are also assessed and classed in different ways, rendering the degree classification outcome similarly irrelevant. As a result, only the completion outcome is included in this exploratory analysis.

The results, emerging from the same analytical approach as for the per-protocol analysis above, are reported in Table 13 below.

For the beneficiary analysis, the results below suggest that there was no statistically significant effect of being a graduate beneficiary in the SWA Programme on the probability of completing the course.

For the ambassador analysis, the results point to a similar pattern and a similar conclusion: when compared to a group of graduate students matched on their propensity to engage, ambassadors within the SWA are no more or no less likely to complete their graduate course.

Table 13 Graduate students analysis: course completion outcome, beneficiary and respectively ambassador analysis

Ambassador analysis	Continuation		
	(1)	(2)	(3)
	No controls	+Controls	PSM
Beneficiary analysis			
Coefficient for Intervention (Std. error)	0.139+ (0.075)	0.161** (0.047)	0.075 (0.081)
Effect size (Cohen's d) (95% CI)	0.298 (0.079 0.518)	0.323 (0.103 0.542)	0.15 (-0.070 0.371)
N intervention	82	82	82
N non-intervention	3,056	3,056	2,168
R-squared	0.07	0.33	0.11
Ambassador analysis			
Coefficient for Intervention (Std. error)	0.263** (0.080)	0.231** (0.06)	0.146 (0.102)
Effect size (Cohen's d) (95% CI)	0.528 (0.222 0.835)	0.464 (0.158 0.880)	0.293 (-0.013 0.599)
N intervention	41	41	41
N non-intervention	32,018	32,018	12,420
R-squared	0.00	0.40	0.10

Impact evaluation: findings summary

Taken as a whole, the results of the impact evaluation component of this efficacy pilot point to a somewhat mixed picture and raise a series of important methodological caveats around strength of causal inference, self-selection, sample size, and potential compensatory mechanisms which will be addressed in the Discussion section.

The key conclusions relate to the fact that the pre-specified analysis finds positive, statistically significant and moderately large effect sizes of engaging with the Student Wellbeing Ambassador Programme as an ambassador in terms of continuation into the second year and degree completion (but not for degree classification). For the beneficiary analysis, the results point to no statistically significant results for any of the three outcome measures. This suggests that beneficiaries of the SWA Programme are as likely as their counterparts matched on their propensity to engage with the Programme to continue into the second year of their degree, complete that degree, or obtain a good degree outcome.

The exploratory analysis finds a similar pattern for graduate students for both the beneficiary and the ambassador analysis, that those students engaged with the SWA Programme are as likely to continue, complete and complete their degree with a good result as their matched comparison group peers.

3.2. Process evaluation findings

Participant profiles

The beneficiaries' sample reflected diversity of year cohort, age, disability, and area of study (Table 14 below). The underlying commonality amongst all of them was regular engagement with SWA support while their awareness and engagement with the Transition Event varied. These characteristics are tabulated below.

Table 13 Profiles of interviewed beneficiaries

Participant	Year of study (current)	Area of study (current)	Disability (self-identified)	Mature student (self-identified) (Y/N)	Attended Transition Event-online or in-person. (Y/N)	International or domestic UK student (I/ D)
2B	3 rd Year U/G	Law	Blind	N	N	I
3B	1 st Year U/G	Physical Education	Blind	N	Y	D

4B	Completed (P/G)	Ceramics (Fine Art)	Back injury & joint pain	Y	N	D
6B	2 nd Year (U/G)	Event Management	Sight impaired	N	N	D
7B	1 st Year (P/G)	Fine Art	Hampered mobility and ability to carry things	Y	N	D

The SWAs sample was a mix of current and past SWAs. Their relevant characteristics are illustrated in Table 11 below.

Table 14 Profiles of interviewed ambassadors

Participant	Current Role	Academic/ Professional status	Area of study (current)
1A	Senior SWA	Graduate	MBA
3A	Inclusive Support Coordination Team	Staff	Psych
4A	Senior SWA	P/G	Law
5A	SWA	Grad	Psych
6A	SWA	Placement	Animation
7A	SWA	3 rd Year (U/G)	Clinical Psychology
8A	SWA	3 rd Year (U/G)	Forensic Science
9A	Inclusive Support Coordination Team	Staff	N/A
10A	SWA	2 nd Yr (U/G)	Medical Science

12A	SWA	3 rd Yr (U/G)	English
13A	SWA	3 rd Yr (U/G)	Forensic Science

Findings: underlying analytical approach

A thematic analysis of the interview transcripts was conducted using the research objectives outlined in the evaluation design, and informed by the theory of change, as a broad framework. This strategy was applied to both sets of interview transcripts – beneficiaries and ambassadors. Overall, the responses from both groups indicated positive views on the programme. Both groups of recipients felt significant value being gained from engaging and working with the programme. The broad themes generated from analyzing the transcripts are outlined below.

Findings: beneficiaries’ experiences of the Transition Event.

Only one of the interviewees attended the Transition Event. The experience was very positive, particularly in creating awareness of the physical campus (the beneficiary self identifies as blind), awareness of available support, and making friends. This beneficiary had received the requisite information from inclusive support helpline. This single respondent’s reflections indicate tiered benefits from the transition event: immediate awareness of support facilities, campus familiarity and making friends. This reinforced increased confidence about enrolling and created a longer-term sense of familiarity and belonging.

The other beneficiaries accounted for their lack of engagement with the following reasons (i) located outside the country, (ii) did not disclose their disabilities in sufficient time (iii) came through clearing (iv) felt it was for, “*younger students who haven’t left home before*” (Participant 7B). There was a general view that lack of awareness about the event was also a reason for not attending as indicated by the beneficiary below:

100% it was definitely beneficial. I mean for that that was that with people who had signed up to inclusive support. But I mean, I think definitely ... just to even open it to other people, like just people who’s kind of feeling nervous kind of oh am I gonna be alright living on my own? Is this gonna be all right? Participant 3.

Survey results about the Transition event

Participants were asked how they felt about starting university prior to the Transition Event. A small number of open-ended responses were offered by participants to the Transition Event in each year it was offered (2018/19 onwards), ranging between three

and sixteen total responses per year. Across all years, the most common answer was that offer holders felt “nervous”, with some mentioning being worried or apprehensive (at least one student per year). There were some extremes in offer holders’ perspectives, with some reporting they were terrified while others highlighting being excited.

Asked the same question about starting university after the Transition Event, responses were consistently more positive. A very small number (under five) offer holders suggested they felt the same, but the vast majority noted they were less anxious, more confident, more comfortable, and also more excited. One particular respondent noted:

I felt much calmer and felt like it would be easier to deal with stress, anxiety and depression with the support I have from the university.

Findings: beneficiaries’ experiences of engagement with the SWA Programme.

All the participating beneficiaries were regular recipients of the support provided by the ambassadors, although the type of support depended on their particular disability. Their reflections indicated that the majority of their support was regular, timetabled support such as accessing classes, but that they also sought ad hoc support as needed. All the beneficiaries ascribed a great value to the support they received; they felt empowered and confident in navigating the whole university experience. Three of the beneficiaries are sight impaired and so for them the most critical support was to get to class in a timely manner and note-taking. For the mobility impaired this involved assistance in the classroom as both were working in studio art that involved carrying heavy materials. By accessing the programme, the beneficiaries were also able to participate in co-curricular aspects of university life like societies and travel away from the university, where they were accompanied by the ambassadors. This created a further sense of belonging at UCLan and eliminated any feelings of isolation that they may have felt and was underpinned by the sense of empowerment that the SWA Programme support provided them:

So it allows us to access my course, any extra-curricular activities I do...societies, volunteering, things like that. And it also allows us to take part in trips off campus. So without that don't think I would be as successful as I am within my course. Participant 6B.

Furthermore, the interviewees articulated the sense of camaraderie and care that they got from the ambassadors in their interactions. Several of the recipients mentioned that the ambassador support had made their experience much easier and more enjoyable, and one student also credited the programme for keeping them from dropping out:

I really struggled at the very beginning and. If inclusive support and the ambassadors. Hadn't have helped, I don't think I could have completed my course. Participant 4B.

Particular attributes of the programme that the students highlighted included that the support provided was tailored to their disability and was easily and flexibly available. Comfortable relationships were forged between the beneficiaries and ambassadors particularly when the same ambassadors and beneficiary were assigned to each other on a longer-term basis. This meant that the beneficiary did not have to explain their needs repeatedly, which was deemed as positive:

f I saw somebody that I'd met before, then they would remember what they'd previously done. And so the whole thing was easier. Participant 4B.

However, there were some areas for improvement also highlighted by the beneficiaries. These were in three broad areas, as follows.

Firstly, respondents mentioned expanding support provision in terms of location and time. Participants 2B and 3B, both blind, outlined a particular limitation of not being able to get support from the ambassador to go off-campus for necessities. Participant 2B had a particular concern, being an international student, and not being able to access food in the evenings off-campus:

At the time was hard for me because ... I just started uni, had no friends but afterwards I made friends and my friends' kind of helped me to buy food. And afterwards I adapted to university life... But I think this rule is a bit disappointing. Because, you know, it restricts us from eating, because imagine if everything on campus is closed, I can't eat anything because they can't bring me anywhere so.

Similar concerns were articulated by Participant 3B who also added that ambassadors' support should also be available in the late evening to help with getting home after activities that finish late.

Secondly, participants articulated two aspects around improving communication: the first was dissemination about the programme more widely across campus. Many of the students found their way to the programme through other departments on campus, or from coincidental awareness of key persons (such as Participant 4B who was guided to inclusive support by her lecturer and a parking attendant). A second aspect around improving communication related to communication between the coordinator and ambassador when providing details of session support. Participant 7B outlined how sometimes the ambassador would come to the wrong location because of lack of information provided by the coordinator that caused delays and stress for the participant.

Finally, participants identified training in personalising ambassador interaction to the person as well as the disability. While all the beneficiary participants praised the way in which ambassador support training is tailored to a student's disability, Participant 2B felt that at times the ambassador support seemed rehearsed and not focused on them as individuals. Both are sight impaired and while they needed ambassador support for access around campus, they did not need the detailed descriptions of surroundings that were constantly provided by the ambassadors (as per their training). Such adherence to training lacked the personalised approach that would make the beneficiaries more comfortable.

Survey results about the experience as a beneficiary

A series of surveys and feedback opportunities were offered to beneficiaries starting December 2019.

Taken chronologically, participants' views start and remain almost exclusively positive. In December 2019, beneficiaries reported that their experience of the SWA Programme had been "very helpful", "very good" or "really positive", with two respondents noting small issues that the start of their support, which had then been addressed. The small number of respondents to the May 2020 survey, during Covid-19 driven lockdown, reported that they received the level of supported they needed: two respondents saw this as enabling them to remain independent and a third suggested that:

I like to have as much support as possible. I don't prefer independent learning.

Respondents to the 2020-201 survey unanimously agreed that the SWA Programme had contributed positively to their overall student experience. Beneficiaries pointed to the support being "vital", "always really helpful" and lowering stress, supporting practically with specific aspects of academic work (for example with technology).

These perspectives were reflected in the December 2020 adhoc feedback exercise from one beneficiary, who noted that the SWA Programme had:

Definitely made a big difference for me during my undergraduate studies. It allowed me to feel independent even though I was taken around campus and to classes, it felt independent as it was the first time moving around without my parents' help. [...] Thanks to the service I did not have to worry about how I will get to my classes or meetings in time, which made a big difference and took the pressure off my shoulders allowing me to just worry about things that any other student does like meeting the deadlines. This, for me, was a first as up until university. [...] I would say the service is essential to our wellbeing, and it makes a big difference as it not only takes the pressure off of me. I would imagine disabled people making us be in control in general. It also helps us get a lot of

information quickly by asking the ambassadors who are more than happy to help or direct you to the right people.

In the 2021-2022 survey, all respondents again provided a unanimous positive response to the question whether the Programme had contributed to their overall experience.: One participant described how Ambassador support allowed them more time with less pain during the day:

As the day goes on my pain increases, by helping me carry materials, tools and books in the morning, the worst pain comes later than it would otherwise. I have more productive time in my university day.

In their 2021-2022 feedback inviting responses by text messages, beneficiaries thanked the SWA Programme team and mentioned how friendly, respectful, and helpful the ambassadors had been.

Finally, in the most recent available survey, 2022-2023 , five of the six respondents offered positive assessments of the impact the Programme had had on their university experience. The neutral assessment of the Programme of the sixth respondent revolved around the punctuality of two specific ambassadors and represents one important, but otherwise isolated voice that points to a not entirely positive experience as a beneficiary.

On the whole, this feedback points to consistently positive experiences, high levels of positive perceived impact by beneficiaries of their engagement with the SWA Programme. Generally, the feedback also illustrated the very wide range of provision tackling a diverse range of needs and addressing these in an appropriate way, supporting beneficiaries to engage in university life on an equal footing with their non-disabled peers.

Findings: ambassadors' experiences of their roles

The ambassadors' responses indicated that they obtained significant value from working in the programme. They highlighted the positive nature of the work: specifically, they saw that the Programme was designed to support them with what they needed to succeed in their jobs, including training, peer mentoring, and refresher courses, and also ad hoc peer support. The ambassadors noted that the content and volume of training aimed to provide them with diverse training opportunities. They also saw the skills acquired through the training as likely to benefit them in the future.

Part of understanding the value ambassadors gained from their work experience also aligned with their initial motivations to join the programme. Their responses highlighted that a key motivation to join the SWA Programme was wanting to help others. This was a recurring theme in all the responses highlighted by the selected quotes below:

I like helping people. I feel like I'm doing something. I'm throwing positive energy and I'm doing something that's useful. Participant 13A

(It is) my passion to help people...it's also the most selfless job one can ever do. Participant 7A

So it gives you a sense of pride of actually helping people. To be honest, I think that's the main reason why I wanted to take the job anyway was to help people. Participant 6A

Some of the participants had previous experience in caring for others, such as Participant 3A:

Used to work with elderly people with dementia. So, knowing they'll [the ambassadors] be helping people with disabilities or other mental health conditions was really attractive to me. Participant 3A.

Given that the ambassadors are also students, the ability to have flexible timings as part of the work structure and being able to adjust their work with their academic commitments was an additional motivation for their interest in the job . Many of them cited that they chose this role above other options for this reason even while acknowledging the need to be on call for ad-hoc support requests in addition to the regular timetabling of support.

A further aspect of the work environment that was highlighted were the people; the prospect of working with peers, meeting new people, and becoming friends with each other created a good and supportive work environment that further motivated them to join. There were numerous articulations of extensive peer and supervisor support as needed both for the purposes of doing their jobs but also for their personal wellbeing within the role.

Ambassadors also highlighted a number of perceived benefits as follows.

Ambassadors identified benefits to their student and future work lives. Respondents outlined the practical and tangible benefits of working in the programme that included being able to earn money while studying and being able to manage their work and study balance. Furthermore, attending classes with some of their beneficiaries and taking notes for them, opened up new ways of learning and possible future academic and career options. Their responses also indicated that working in the SWA Programme had a positive impact on their own academic performance as well.

Ambassadors also identified transferrable skills as a relevant benefit from their role.

These included an improved understanding around disability. The experience of working with disabled persons allowed a deeper understanding of their lived experiences and their practical daily challenges, for example, being able to get around campus. . For

those ambassadors who intended to continue working in the field of care this understanding was considered very useful:

I think it helped hugely because I'm wanting to work in a school as a Pastoral Support Assistance...it did give me an insight into different disabilities, different needs people have, mental health and all of that is great experience. And it's looked highly upon when I'm now applying to work in a school as a support type of person. Participant 5A

Ambassadors also noted practical work skills. These were broadly the skills that were developed in training and through the practice of working. They included verbal and written communication skills (through the particular job requirements of interacting with persons with varied abilities); teamwork (as they learnt how to work in their teams); leadership skills (particularly for those who became supervisors in the programme and had to lead their peers); networking skills as they got to meet other people through work and broaden their network; and increased self-confidence as they learn the other skills and progressed in their jobs.

A further area of reflection and benefit identified by ambassadors was the personal growth they experienced in the process of working with disabled persons. They highlighted how greater awareness and understanding of disabilities also created spaces for self-reflection and empathy towards those who face different challenges from themselves:

About people who have visual impairment, how things like the pavement being blocked means that you have to watch out for these things... something so small that you'd never really consider before, and you're seeing it from their point of view. Participant 5A

Furthermore, the process of making a positive difference in the university life of their beneficiary peers held great value for them and satisfied the key motivation (outlined above) of becoming an ambassador on the SWA Programme. Respondents reflected on the SWA Programme's value to the beneficiaries. They flagged how the process of accessing support on a regular or ad hoc basis was easy and this rendered it more likely to be used.

Ambassadors corroborated the beneficiaries' reflections that the support from SWAs increased beneficiaries' independence on campus, consequently creating confidence in engaging in a fuller university experience, such as co-curricular societies and general socialising. A key strength that they highlighted was the focus of the programme to cater to diverse disability needs and to adjust the type of support offered according to individualised needs. The Transition Event was an important introduction to university life for those offer holders who attended it:

You could really see that confidence growing and all the worries kind of diminishing ... they started to look forward to coming to uni in September.
Participant 4A.

In addition to offering their reflections on their experiences, ambassadors also identified areas for improvement in the SWA Programme some of which overlapped with the beneficiaries' perspectives. These are outlined below.

Like beneficiaries above, ambassadors also identified improving communications as an area for potential improvement. Their points focused on the need to create better awareness about the programme amongst students and staff on campus to attract a wider net of students with disabilities who may not be aware of the support available:

I remember supporting one person ... they hadn't found out about inclusive support until quite late and then they didn't know all the different things we could do. Participant 5A

In addition ambassadors identified that while the student referral programme worked efficiently once the students had disclosed their disabilities to the university, the process of disclosure was sometimes ad hoc, based on serendipity of finding someone (e.g., a lecturer, friend etc.) to guide the prospective beneficiary. Participant 10A also noted that the office location could be better signposted.

The ambassadors echoed the beneficiaries' concerns about improved communication between beneficiary, controller and ambassadors when scheduling a support session, particularly in getting the correct location details so as to avoid any delay and problems for the student requesting the support:

Further, the ambassadors flagged the growth experienced in the programme, in the number of beneficiaries that are being supported for which they identified the need for greater human resources to continue facilitating the support process at the same level- "it's quite a big task is what I'm saying for the small team that we've got. I feel like we try our best with everything that we do, but I just think we could do even more with more resources as far as like staff. Participant 9A.

Participant 9A also identified that resultant outsourcing was impacting the quality of support (particularly for note taking) as it could not be monitored and sometimes the agency staff, '*just aren't turning up*'. Participant 3A identified that more human resources (especially coordinators) and more equipment (such as laptops for note takers) was also needed for the programme but that funding and time was an issue.

Lastly, ambassadors highlighted the benefits and appropriateness of the training they received (as highlighted above). This notwithstanding, they had a number of recommendations in terms of what they would like to see added to their training.

Several of the ambassadors outlined the importance of mentoring training as an area of identified interest from the beneficiaries. Participant 5A outlined that such training would increase the confidence of staff to become mentors. Such training would vary according to the particular needs of the beneficiary. Participant 7A outlined that an extended programme of mentoring training would benefit the SWAs:

The mentoring training, I feel like that is not emphasised enough ... I feel like that training should be part of our everyday activity... I feel like it should be like a two week thing.

First aid training was flagged by two ambassadors (Participant 1A and 5A) as an area of desired training so as to be able to help any of the beneficiaries should a situation occur. Participant 5A recounted instances when their colleagues had to deal with situations requiring first aid support where having the training would have been useful.

Responding ambassadors also recommended more specialised training for wider disabilities. Interviewees flagged that current training prioritised certain disabilities while broadening that set with targeted training would be useful. Furthermore, specialised training was also needed for handling difficult situations rather than as post-incident support.

Finally, ambassadors suggested more experiential, individualised, and refresher training. The participants highlighted the value of experiential learning on the job. They highlighted that the design of the training programme would benefit from more experiential training on dealing with specific disabilities. Furthermore, some identified the need for training in individualised interaction with the beneficiary that focused on the person rather than the disability. Participant 6A flagged that the training for the sight impaired was quite, 'old-fashioned' focusing on describing everything in the surrounding environment that some of the beneficiaries did not need. This reinforces the reflections from the beneficiaries highlighted above. Finally, they reflected that while the trainings were often good, refresher courses were needed:

If we keep reinforcing that, I think it's very helpful...because you know, maybe on the day you learn a lot... but then after a week or two a few of the bits might come out of your head. Participant 5A

4. Discussion and recommendations

4.1. Key findings

Taken together, the results of this efficacy pilot point to the Student Wellbeing Ambassador Programme at UCLan as being a well-established intervention that supports beneficiaries in ways appropriate to their needs, even as it does not have a statistically significant effect on degree completion, classification, and respectively continuation outcomes. The results also point to ambassadors who value their

engagement with the SWA Programme, building skills and seeing a positive, moderately large, and statistically significant effect of the Programme on their degree completion and continuation outcomes (specifically for undergraduate students).

The findings from the process evaluation of this efficacy pilot corroborate the expected outputs and the outcomes outlined in the theory of change. The beneficiaries reflected a positive engagement with the programme, with increased confidence and access that supported an overall beneficial university experience for them. All aspects of efficacy of the programme were underpinned by symbiotic requirements of awareness of the programme among potential beneficiaries and their disclosure of their disabilities. The ambassadors outlined many positives from working on the Programme that included skill acquisition and increased awareness and empathy with disabilities. These corroborate the enabling processes of change outlined in the Theory of Change for the SWA Programme. While limited by response rates, the Transition Event looks to be well received with participants' assessments of their own feelings towards starting university consistently more positive after the Transition Event compared to beforehand.

The process evaluation findings also corroborate some of the theory of change outcomes around a better student experience, something the impact evaluation component (discussed below) does not. All the beneficiaries outlined various benefits they derived from engaging with the SWA programme. These included increased access, making it to their classes on time, increased involvement in co-curricular activities and overall confidence building for the beneficiaries; and skill building and competency development around working with others, expanding networks, and personal growth for the ambassadors.

While clearly positive, the process evaluation was only partially able to ascertain how certain aspects of the theory of change, particularly around specific engagement with the learning environment, potentially leading to better outcomes. This was reported by a very small number of survey respondents but not in the interview study. Similarly, aspects around the employability outcomes of the ambassadors were not reflected in what was already a fairly lengthy interview protocol, nor volunteered by the ambassadors themselves. A measure of employability was also not available (generally, not solely applicable to this efficacy pilot or to UCLan) for use in the impact evaluation component.

In conclusion, the findings from the process evaluation suggest that both disabled students and ambassadors value engaging with the SWA Programme as beneficiaries and ambassadors respectively.

These conclusions sit alongside the results from the impact evaluation. Overall, these point to a somewhat mixed picture. Specifically, the analyses find positive, statistically

significant and moderately large effect sizes of engaging with the Student Wellbeing Ambassador Programme as an ambassador in terms of continuation into the second year and degree completion (but not for degree classification). For the beneficiary analysis, the results point to no statistically significant results for any of the three outcome measures. This suggests that beneficiaries of the SWA Programme are as likely as their counterparts matched on their propensity to engage with the Programme to continue into the second year of their degree, complete that degree, or obtain a good degree outcome.

4.2. Methodological reflections and recommendations

The results above raise a series of important methodological issues and caveats. These are addressed in what follows alongside a set of recommendations for future evaluations of the Student Wellbeing Ambassadors Programme and other disability support interventions operating in a similar manner across the sector.

Strengthening the causal inference

As mentioned earlier, one of the core limitations of the impact component of this efficacy pilot rests in the inability of the propensity score matching approach to entirely account for the potential self-selection bias in relation to participation in the intervention. This applies in similar, but not identical ways, to the beneficiaries and respectively the ambassadors, as follows. For beneficiaries, engagement with the SWA Programme is predicated both on the disclosure of disability and that disability falling within the scope of what the Programme can support (that is, not a disability requiring support falling under personal care). Disabled students who do not disclose a disability therefore cannot access the Programme (as they are not known). Even if they have disclosed, disabled students' engagement with the Programme is further contingent on how their needs align with the availability of support from the Programme. This means that both Programme eligibility and level of engagement with the available support are contingent on individual students' choices. The PSM approach does not allow for these choices to be observed because it is not known whether these choices vary systematically by any of the observed information (that is, variables used in the matching). Future evaluations of the SWA Programme focusing on beneficiaries may benefit from the efforts to expand the extent to which students disclose a disability, so that the unknowns are minimized. Such an outcome is likely to be the result of interventions outside of the Programme, around increasing the acceptability of disability, reduction in stigma, and normalization of disclosures.

For ambassadors, the self-selection bias is even higher than for beneficiaries. This is because ambassadors make individual decisions to apply to become ambassadors, and these decisions may be influenced by a range of factors, currently unobserved. While

this represents a limitation of the current analysis, even in the presence of matching via the PSM, it also offers an opportunity to evaluate the impact of the Programme on ambassadors with a causal impact evaluation design.

Such a causal design would require that ambassador roles are over-subscribed. Upon assessment of candidates' suitability for the role, all suitable candidates could then be entered into a randomization process, with individual-level randomization (potentially stratified by a number of relevant characteristics, chief amongst which the disabled status of the candidates) determining whether they are offered the role or not. Such an approach would allow for stronger causal inference in relation to the ambassador analysis. This is because, while the factors affecting initial decisions to apply would remain unobserved, a balanced result of the randomization would, in principle, balance across these unobservables too.

While the above randomization-based design would seem to be compatible with the Programme logic around ambassadors, the same is not the case for beneficiaries, where the intention of the Programme and the University is to provide appropriate support to all students who require it, within Programme parameters. Therefore, randomization-based impact evaluation approaches for this, and similar interventions, could be replaced by alternatives that make use of the intervention timelines to generate counterfactuals.

Specifically, two options may be feasible. First, settings where relevant data is available prior to the start of intervention may be able to use pre-intervention cohort(s) as a 'baseline' and apply a difference-in-differences approach. This would also apply prospectively, when new interventions are being designed: ensuring relevant data exists for cohorts that, by design, had no opportunity to engage with the intervention, would enable such an approach to be undertaken. This could be further bolstered by matching approaches, ensuring that any year-on-year variation in the student make-up, for instance, is accounted for. Second, settings where interventions are being redeveloped or meaningfully changed could engage in this process of change in a staggered and systematic manner, altering essential aspects of the intervention one at a time, and evaluating the impact of that specific aspect rather than the full intervention using the same evaluation design as above. This would not result in evidence around the totality of the intervention; however, evaluating (consecutive) iterations of the intervention being redeveloped in this manner would, over time, provide a comprehensive and fine-grained understanding of which aspects of the intervention are (most) effective.

Finally, it is important to understand that the counterfactual, or answer to the question 'what would have happened in the absence of the support' is further complicated in relation to interventions looking to deploy compensatory mechanisms. The logic of disability support interventions, as well as other interventions like financial support, is to

ensure that factors outside of the control of the individual do not represent barriers to the realisation of their potential – their aim is not to improve their outcomes over and above those of students who do not need the support. This generates a complex set of issues. This efficacy pilot has attempted to address this issue by generating a matched comparison group for the beneficiaries analysis that draws on other disabled students at UCLan who, for whatever reason, choose not to engage with the SWA Programme. Future evaluation around this type of intervention should consider this issue carefully, as it has methodological implications that relate to the interpretation of potentially null results of standard statistical models.

Addressing sample size limitations

A further limitation of the efficacy pilot rests in the relatively small sample of engaged students, whether beneficiaries or ambassadors. This is relevant for two reasons: first because small sample sizes limit the precision of any impact estimate, and second, because they may exacerbate the self-selection bias discussed above, particularly in relation to process evaluation work.

For undergraduate students, the samples in the impact evaluation are moderately large, but larger samples would allow for even better precision in the estimation of effects of the intervention, within any impact evaluation design.

For graduate students, however, sample sizes pose a more important problem. Although the analyses focused on graduate students are exploratory only, and not specified at protocol stage, graduate students remain an important demographic, both within UCLan and the wider sector. Their profiles are different to those of undergraduate students, both in terms of characteristics that are relatively easy to observe (such as age, prior higher education trajectory, duration of course) and characteristics that might be harder to capture (around motivations for graduate study, employment aspirations, etc.) all of which may be associated with their decisions to disclose a disability for the purposes of receiving support, engage with the SWA Programme as beneficiaries, or look to engage with the Programme as ambassadors. As the population of graduate students increases across the sector, future initiatives to support disabled graduate students would benefit from evaluations that specifically engage with the mechanisms of change for this demographic and capture outcomes that are relevant to this group. Such future evaluations may consider how to boost these sample sizes, either by selecting outcomes available for all, not only part, of the sample, or by collecting new data towards that approach.

Addressing sample size issues from the different perspective, a further limitation of this efficacy pilot is that in the process evaluation component was not able to engage with individuals with a wide range of disabilities. Specifically, future evaluations could

consider undertaking qualitative work to explore the perspectives and experience of disabled students whose disabilities are invisible and whose support needs are of a less practical nature. This would further address the earlier-mentioned self-selection bias by avoiding a skewed perspective emerging from qualitative work.

Exploring further outcomes

The above causal evaluation design, and any other evaluation tackling a complex intervention such as the SWA Programme would further benefit from the exploration of different outcome measures. As this efficacy pilot has found, the hypothesised outcomes for ambassadors include educational outcomes, but are not limited to these, and also focus on outcomes around employability and understanding of disability. Therefore, exploring such outcomes would arguably align more closely with the Programme's theory of change. With increasing numbers of higher education providers generating substantial data on employability via Careers Services, exploring synergies between different parts of the institution might provide avenues for existing data to be harnessed for such analyses. Even further, exploring employment outcomes for ambassadors may be possible with the use of administrative data from the Graduate Outcomes survey (a Higher Education Statistics Agency led survey of higher education leavers).

Exploring complex interventions holistically

The Student Wellbeing Ambassadors Programme was first designed as a disability support intervention. This efficacy pilot has also found that it also acts as an effective intervention for the ambassadors employed by the Programme, improving their degree continuation and completion outcomes. Related to this, and corroborated by findings from the process evaluation, such as improved attendance and participation in extra-curricular activity, is the fact that the SWA Programme may in effect be providing a compensatory effect in relation to beneficiaries.

This means that the impact evaluation finding that undergraduate beneficiaries engaged with the SWA Programme are as likely to continue, complete and complete their degree with a good result as their matched comparison group peers, may convey a positive message, instead of one of no discernible effect.

This would build on a hypothesis that, without the support provided by the SWA Programme (which importantly responds to need), disabled students may achieve less well. Therefore, the Programme provides essential support to disabled students which, even though not translating into comparatively better degree outcomes, enables disabled students to engage more fully with their university experience; and at the same time, it positively contributes to the personal and professional development and the

academic outcomes of ambassadors, whose altruistic motivations are rewarded with better degree completion outcomes.

It is very clear, therefore, that the SWA Programme is a complex intervention. This efficacy pilot has gone some way towards addressing this complexity, but future work could go further. For instance, the process evaluation in this efficacy pilot only partially explored the specific engagement with the learning environment by beneficiaries, and respectively perceived employability outcomes for ambassadors. The above recommendations around the identification of further relevant outcome measures, or rather, data for relevant outcome measures, may also be relevant for the process evaluation, whereby the range of issues discussed with engaged students could include some of these wider perceived benefits in an open-ended way. On-going feedback-seeking activities could also be designed to address such points directly, even as feedback opportunities need to remain easy to engage with and not become a data collection burden on participants.

At the same time, future process evaluation work would also benefit from reaching out to non-engaged students, partly to understand their reasons and motivations for not engaging, and partly to explore how they may be encouraged to engage.

Across such work to understand complexity, the role of the theory of change cannot be underestimated. Refining the theory of change in detail, alongside any re-design or re-development of the intervention, is key to securing both robust understandings of the change processes at play and the interplay between the different aspects of the intervention, alongside any potential spill-over effects and the most appropriate impact and process evaluation designs to address this complexity.

5. Conclusion

The aim of this efficacy pilot was to explore how the Student Wellbeing Ambassador Programme contributed to academic outcomes for both disabled students engaged with the Programme (the beneficiaries) and the Wellbeing Ambassadors (the ambassadors), and how students engaged with the Programme experienced it and perceived its impacts. The efficacy pilot also aimed to explore avenues for the improvement of evidence around the effectiveness and mechanisms of such effectiveness of the SWA Programme and other similar disability support interventions in the sector.

The Student Wellbeing Ambassador Programme at UCLan provided appropriate support to beneficiaries, who valued their engagement with the Programme, and highlighted how the need-specific support offered them the opportunity to engage more fully with university life. Beneficiaries were found to be performing as well as a matched comparison group of disabled students not engaged with the Programme. Some of the insights from the process evaluation suggest that the SWA Programme may be in effect acting as compensation for the challenges that disabled students may encounter in navigating campus life were the Programme not to be in place. Future evaluations should explore this aspect in greater detail, to understand the extent to which the tailored support can go beyond equalizing outcomes.

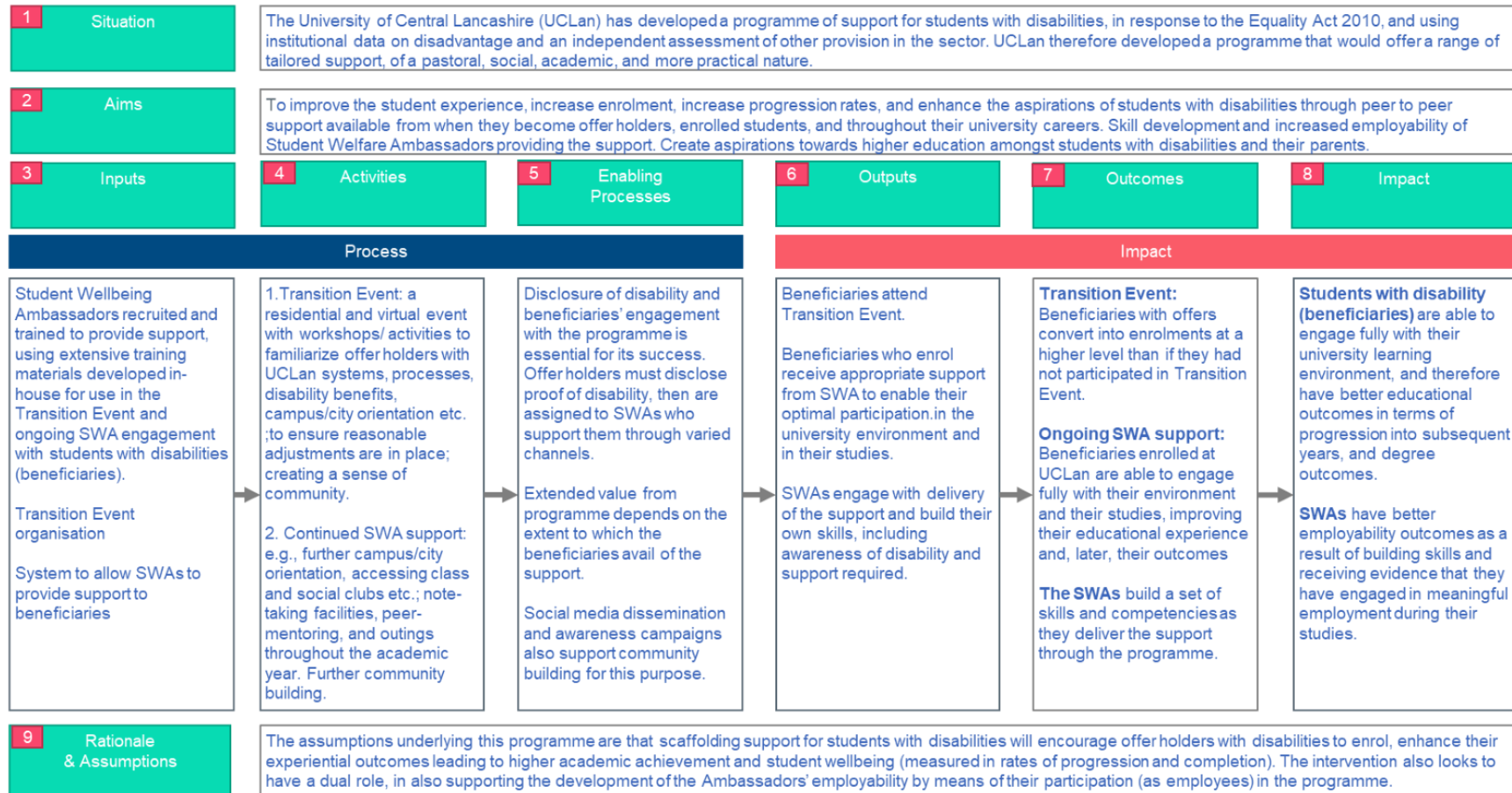
For ambassadors, students trained and paid to provide the support overseen by the Programme, the process evaluation findings pointed to positive outcomes from their engagement with the Programme, in terms of increased skills. Even more, the impact evaluation reported a moderately large, positive, and statistically significant effect on their degree completion and continuation outcomes. This suggests that the Student Wellbeing Ambassador Programme operates as a complex, dual initiative, supporting both beneficiaries and ambassadors alike. Future evaluation should explore how the Programme supports the development of other outcomes for beneficiaries, but especially for ambassadors, around employability, employment, and others.

In addition to the findings of the impact evaluation component, the process evaluation highlighted the various benefits reported by both beneficiaries and ambassadors. Such benefits included increased access, improved attendance due to practical support, greater involvement in co-curricular activities, and overall confidence building for beneficiaries. Ambassadors reported gaining skills in working with others, expanded their networks, and some experienced personal growth. Future evaluations should engage with the disabled students choosing not to engage with the Programme and may be able to implement causal evaluation designs to, at a minimum, improve the strength of the causal evidence around the impact of the Programme for ambassadors.

Taken together, these findings and methodological reflections offer food for thought about how well-designed complex disability support interventions may work to provide needs-relevant support and have wider impacts. Future evaluations, drawing on

detailed theories of change, should explore the interplay between the different aspects of such interventions, to generate evidence in support of the sector's ongoing efforts to improve outcomes for disabled students and the whole student population.

Annex A Theory of change



Annex B Process evaluation data collection details

Interview Schedule

Good morning/ afternoon. My name is XXXX and I am a Research Assistant on this study evaluating the Student Wellbeing Ambassador Programme at the University of Central Lancashire. First, thank you so much for agreeing to participate in this study. This interview will last for approximately 30 minutes and will be based on a series of questions that I have here. Your responses will be completely anonymised and confidential and will only be viewed by the research team. They will also be stored completely confidentially with the organisations partnering in this study. Finally, I would like to repeat that your participation is completely voluntary, and you can opt out at any time of the interview and ask us to not use any or all your responses in our research.

For all interviewees

1. Can we start with your name, year of study and what you are studying?
2. Can I also ask what gender, if any, you identify with?
3. Where did you grow up?
4. What ethnicity do you most identify with?
5. What type of school did you attend before coming to UCLan?
6. Can you give an indication of your current academic standing in terms of grades?

For beneficiaries

7. Can I ask what type of disability you declared in your application?
8. What type of support did you have prior to coming to UCLan?
9. Please describe what, if any, challenges you have faced in navigating university life at UCLan (academic, personal, social...)
10. **[For all]** Did you attend the Transition Event for Offer Holders prior to joining UCLan? Online or in person?

If 'No'

- a. Can you outline why you did not attend the Transition Event?
- b. Do you think it would have made a difference to your initial experience of settling into UCLan?
- c. What activity/ facility would you like included in the Transition Programme that would have persuaded you to attend?

If 'Yes'

- d. What value did you get from the Transition Event?
- e. To what extent do you think attending the Transition Event was instrumental in you accepting your offer to UCLan?
- f. What additional activity/ facility would you like added to the Transition Event?

11. **[For all]** Do you regularly engage with the SWA programme?

If 'No'

- a. Can you outline why you choose not to engage with the programme?
- b. What activity/ facility would you like the SWA programme to provide that would encourage you to engage with the programme?

If 'Yes'

- c. Can you outline how you engage with the programme?
- d. Which aspects of the programme do you utilise the most?
- e. How has the SWA Programme facilitated your education at UCLAN-
 - i. In terms of grades?
 - ii. In terms of progression?
 - iii. In other ways of helping you to study (please explain)?
- f. How has the SWA programme facilitated learning to navigate the campus and systems at UCLan?
- g. How has the SWA programme facilitated learning about social activities, and the social aspect in general of life at UCLan?
- h. What aspect of the programme do you feel gives you the most value?
- i. What other activities/ facilities would you like included in the programme?

For Student Wellbeing Ambassadors

12. What motivated you to apply to be an SWA?
13. In what way has participating as an SWA added to your understanding of disabilities?
14. Can you outline what value being an SWA gives you?
 - a. In terms of skills acquisition?
 - b. In terms of your educational attainments?
 - c. In terms of personal growth?
15. What would you like to be added to your training for becoming SWAs?
16. What additional facilities would add value to the programme for
 - a. SWAs?
 - b. Beneficiaries?

Participant information sheet

THE STUDY: UNIVERSITY OF CENTRAL LANCASHIRE STUDENT WELLBEING AMBASSADOR (SWA) PROGRAMME EVALUATION PROJECT

Participant Information

We would like to invite you to take part in an evaluation exercise. If you agree, we will ask your opinion in a one on one in person interview on the impact of the SWA programme on your student experience at University of Central Lancashire and evaluate areas for improvement.

The Study

The study involves evaluating the SWA programme's affective impact on student experience. We aim to understand the impact that the programme has on the academic, social, and pastoral experience of UCLan students with declared disabilities ('beneficiaries') as well as the Ambassadors themselves. We also want to assess why beneficiaries choose to engage/not engage with the programme, the extent and type of engagement that engaged beneficiaries choose to do with the programme and why they make those choices. Finally, we want to understand what value engaged and non-engaged beneficiaries and the Ambassadors themselves place on the programme's potential in advancing their future employability.

To this end we envisage researching three groups of UCLan students:

1. Students with declared disabilities who engaged with the SWA programme
2. Students with declared disabilities who did not engage with the SWA programme
3. Student Wellbeing Ambassadors

The programme evaluation study is a collaboration between the University of Central Lancashire, the University of Cambridge and The Centre for Transforming Access and Student Outcomes in Higher Education (TASO). The study is led by Dr. Sonia Ilie at the University of Cambridge and Mr. Matthew Stanton at University of Central Lancashire and Ms. Helen Lawson at TASO and funded by TASO.

Your Involvement

Your opinion of the SWA programme/ experience of engaging and working with the SWA Programme at UCLAN will be a valuable contribution towards conducting the evaluation, measuring its impact, and seeing how the programme can be made more meaningful for students. If you agree to participate, we will ask you to participate in a one-on-one interview the focus of which is:

- To assess why beneficiaries choose to engage/not engage with the SWA programme
- To assess the level and type of engagement the beneficiaries do with the SWA programme
- The extent to which the SWA programme played a role in the beneficiaries accepting their offers from UCLan.
- The extent to which the SWA programme has supported the learning experience at UCLan of the beneficiaries.

- The extent to which the SWA programme has supported the social experiences at UCLan of the beneficiaries
- The extent to which the SWA programme supported beneficiaries in learning how to navigate the campus and systems at UCLan
- The extent to which the Ambassadors feel that the programme has provided awareness and knowledge to them about the nature and experiences of disabilities.
- The extent to which the Ambassadors and beneficiaries feel that their learning through the SWA programme will contribute to their future employability and career decisions.

The interview will last approximately 30 minutes.

The Research Methods: Online/Paper Survey and Individual Interviews

The interviews will be conducted with participants who have confirmed their willingness. On completion of the research, a summary of the anonymized data will be securely exported to the University of Cambridge server networks for analysis by the research team. The data will be password protected and will be stored according to University of Cambridge guidelines for 12 months following completion of the study, and then destroyed. The findings of the study will be disseminated via an evaluation report to TASO. We will use the information you provide for research purposes only, in accordance with GDPR policy.

Confidentiality

We will not disclose your identity or information that would identify you to anyone outside of the project without your permission. We will protect the confidentiality of all your responses and discussion comments. Confidentiality will be respected subject to legal constraints and professional guidelines. Your responses and discussion comments will be identified by a username, rather than your given name or your email. We will destroy all information that identifies you at the end of the study. The de-identified information we collect as part of this research may be shared with others for research purposes only. We shall make every effort to prevent breaches of confidence, such as interception of data sent via the internet or identification of respondents from occupational details. We shall use secure electronic systems to store data in accordance with data and collect occupational information in broad categories.

Your rights as a research participant

Participation in the research is voluntary, and we do not believe there are any risks associated with it. We will not provide payment for your involvement. You may decline to participate, decline to answer particular questions, and/or withdraw from the research at any time without reason. If you choose to withdraw from the study, contributions up to that point will be used, but may be erased on request. The University of Central Lancashire, the University of Cambridge and TASO will use the information you give us for research purposes only. The research has ethical approval from the University of Central Lancashire, the University of Cambridge and TASO.

Next steps

Thank you for considering taking part in this study. If you are happy to proceed, please email me your confirmation at [EMAIL OF RESEARCH ASSISTANT AT UCLAN]. If you have any questions or have a

concern about any aspect of this project, please do not hesitate to contact me, [RESEARCH ASSISTANT AT UCLAN], email XXXXX), or the [RELEVANT PROJECT LEAD AT UCLAN] (email: XXXXXX).

Annex C Impact table

Outcome	Sample size	Effect size (95% confidence interval)	Estimated 'real world' effect	Evaluation security (1 = not at all secure 5 = very secure)	Type of evidence
Beneficiary: completion	2,632	Cohen's d 0.173 (-0.01; 0.357)	No difference in outcome between those who did and didn't receive intervention is detected	3.6	2/3
Beneficiary: classification	1,821	Cohen's d 0.184 (-0.0352; 0.403)		3.6	2/3
Beneficiary: continuation	6,634	Cohen's d 0.035 (-0.073; 0.143)		3.8	2/3
Ambassador: completion	15,873	Cohen's d 0.276 (0.059; 0.491)	There are statistically significant and moderately large effect sizes of engaging with the Student Wellbeing Ambassador Programme as an ambassador in terms of continuation into the second year and degree completion (but not for degree classification)	3.6	2/3
Ambassador: classification	11,944	Cohen's d 0.154 (-0.079 0.387)		3.6	2/3
Ambassador: continuation	37,208	Cohen's d 0.233 (0.052;0.414)		3.6	2/3