DARLENE MCLENNAN: Good afternoon, everybody and welcome. It's Darlene McLennan here and on behalf of ADCET, ATEND and the National Centre for Student Equity in Higher Education I would like to warmly welcome you to this webinar. I wish to start by first acknowledging and paying my respects to the Aboriginal and Torres Strait Islanders peoples, the traditional owners of the Australian lands, the eldest living culture in the world. I would also like to pay my respects to the elders, past, present and emerging and to any Aboriginal people present online here today. I respectfully acknowledge that this week National Reconciliation Week is a significant week of celebration for Aboriginal and Torres Strait Islanders people. With anniversaries highlighting 50 years since the 1967 referendum and 25 years since the Mabo decision. National Reconciliation Week celebrates achievements in the journey towards reconciliation. I would also like to welcome Sue Trinidad, the director of the National Centre with us today who will be introducing our speakers. Thanks, Sue.

SUE TRINIDAD: Thank you, Darlene and Jane and the ADCET team for hosting this webinar. The National Centre for Student Equity in Higher Education have funded to date 34 research projects of which Dr. Ian Li and Dr. David Carroll 's project is one of these. And we have been very fortunate to be able to support such wonderful research and the full report can be found on our website which is at ncsehe.edu.au which you have been given a copy of as well with your registration. So you are welcome to come and have a look at other research projects that are there as well. And this is one of the reports that will be released in the forthcoming publication Informing Policy and Practice 3 and this will be launched at the STARS conference in Adelaide at the beginning of July. So we will have that on our website as well. This research undertaken by Ian and David has confirmed that equity students are generally well supported in their university study and they will take you through some of that evidence. But they will also talk to you about the challenges that are remaining for particular students such as non-English speaking students and those with a disability. So we welcome this opportunity for David and Ian to further promote this very important research because it's helping us to better understand the ongoing needs for helping students at university, particularly those that are looking at drop-out and those that need extra support and implementation of policy changes. So I’ll hand over to you now, Ian and David, to take people through their presentation.

IAN LI: Thank you Sue and thank you to the ADCET team as well for this opportunity for a webinar for us to present our research further to a wider audience. So I will start the presentation on this report that was funded by the National Centre for Student Equity in Higher Education and this is on student satisfaction and academic outcomes of disadvantaged students in Australian Higher Education.

(pause)

Okay. The background behind this research is, stems from a couple of changes that have come through in the Australian Higher Education landscape in the past decade and that's from the Bradley review of Australian Higher Education that was conducted in 2008, as well as the move to a demand driven system for Australian Higher Education in 2012. In particular, the Bradley review focused on the need for greater support for disadvantaged individuals in higher education and one of the key outcomes that the Bradley review suggested that we focus on, would be for increased rates of access and participation to higher education by equity group members. There has been some research in the recent past that has actually looked at the socioeconomic outcomes of disadvantaged individuals through university study. A couple of those research papers, one by Coates and Edwards and one by Li et al in 2015 have shown that the labour market performance of University students has found evidence of positive outcomes, in particular that they are doing comparably well to their privileged counterparts when they finish their university study and go into the labour market. So from that perspective, that has achieved the primary aim of increasing access and participation to higher education in terms of translation of those outcomes into positive labour market outcomes which will help them in life. However, those research papers as well as other research by Lim in 2015 and Li and Dockery in 2015 together with statistics from the Department of Education and Training shows that completion rates for disadvantaged groups were lower compared to non-disadvantaged groups. So what the research in those areas have indicated is that there seems to be a selection process in university where perhaps better and able students are completing their higher education. So the question then would be what sort of factors are behind non-completion of higher education for disadvantaged students and what sort of policies can be implemented to address that? As such, it is of value to look into reasons contributing to non-completion of university study and one of the gaps in the literature that was identified was to look at whether student satisfaction was actually a driver of non-completion for disadvantaged students. Therefore, my co-author David Carroll and I, embarked on this research study to look at whether student satisfaction or student experience differ for disadvantaged students. In addition, we were also interested in wanting to have a look at whether student satisfaction influences academic outcomes and in particular this research study that we did looked at three outcomes. Whether student satisfaction influenced drop-out from university study, whether student satisfaction influenced the risk of drop-out from university study, and we will explain what risk of drop-out means later on, and whether student satisfaction influenced academic scores. So, I will go through some of the literature in this area across the world. So the literature looking at student satisfaction issues spans several decades and it was in the 1970s that this literature started to emerge. That was primarily due to issues with student dissatisfaction in many countries including in the U.S., where interest in this research area actually started, but more recently the rationale for actually looking at student satisfaction relates to quality assurance in universities. Many countries are systematically collecting data on student satisfaction, and one of the ways in which this data has been used is to construct rankings of university experience. So for example, in Australia, the Good Universities Guide is published every year and one of the key outcomes that is looked at in the Good Universities Guide is what students think about their educational experience. Similarly for the U.K., the Times Higher Education Student Experience ranking is also published annually. So what determines student satisfaction? A U.K. study by Lenton in 2015 found that student satisfaction differed by field of study, resourcing levels such as staff to student ratios was also an important determinant of student satisfaction. Interestingly, broader measures of resourcing such as the total expenditure in the university or how much their academic staff were paid were not influential factors in determining student satisfaction. A Turkish study by Zineldin in 2011 found that the quality of university infrastructure was important as well as the academic environment which the students are in. That was also an important determinant of student experience. Soria et al found that for U.S. university students, students from a more disadvantaged socioeconomic status background had lower levels of student satisfaction. The rationale behind that was that they had lower senses of belonging as well as issues in integrating into the academic environment. Social integration was also found to be more challenging for students from disadvantaged backgrounds including for low socioeconomic status groups, for minority ethnicities and for foreign students as well as for students with disabilities. So moving on to separate literature that looked at what were the factors that determined drop-out at university, this is a rather established literature as well, and Bean in 1980, Bean and Tinto were two of the seminal studies that actually sparked off interest in this research area and they found that students' background including socioeconomic status, place of residence as well as other organisational factors were important determinants of drop-out. And academic and social integration also impacted substantially on whether a student would drop out or not. What was integral to this literature as well as to our research study was the distinction between academic failure and non-academic drop-out. Tinto highlighted the need for attention to be paid to this aspect. That sometimes students did not drop out because they failed but rather because of other factors such as perhaps financial issues or other social issues that made them drop out. So attention needs to be paid to this, because that really influences the type of policy measures you would take to address that. It was also highlighted that students who put their studies on hold or students who transferred to other institutions should also be distinguished from students who dropped out and did not continue their studies at a later stage. Hoffman highlighted the need to look at links to engagement with faculty and other students. And Wilcoxson and Leveson found that conflicting work commitments, which could be indicative of financial needs were also important determinants of university drop-out. Another important issue for researchers to consider in this area is that there are different types of reasons that influence drop-out at different stages of academic study. A smaller literature looks at student experience and whether that has any impact on drop-out. The limited number of studies done in this area has found student experience to be quite an important influence on degree completion. There is a last literature as well on the determinants of academic performance normally measured by academic marks in courses. Again, there is a smaller literature that actually looks at how student satisfaction interacts with academic performance. But the studies that have been done in this area have found that student satisfaction exerts a positive influence on academic performance such as test scores.

(pause)

So, moving on to the data that we use for this study, we use data from two ways, the 2013 and 2014 waves of the university experience survey that’s conducted for Australian institutions of higher education. It's a national survey that looks at student experience for commencing and later year undergraduate students studying onshore in Australia. It covers both public and private universities. And it's administered as a stratified random sample with strata defined on the basis of institution and subject area. The survey sample frame draws on the Commonwealth Government's Higher Education Information Management System and students are invited to participate via email, followed by multiple email reminders and one hard copy letter. The administration of the survey is entirely online with participation incentivised by prize draws at each university. The response rate for these two waves of the university experience survey is around 30 per cent. We restricted the sample to Australian domestic students and our working sample was about 193,000 students.

(pause)

So, the type of information that’s contained in the University Experience Survey is data on demographics as well as university study items for individual students. In addition, the students also reported whether they had seriously considered leaving university in the survey year that they were surveyed in. And the main focus of the University Experience Survey is on aspects of the higher education student experience and there are five dimensions that are measured. The first dimension is whether they were engaged with learning at their institution. The second dimension is their satisfaction with the quality of teaching they have experienced. The third dimension is satisfaction with the learning resources provided by their institution. Fourth dimension is the satisfaction with the support that they received at their institution and the fifth and last dimension is the satisfaction with the skills development they experienced through their studies. In addition to these five aspects there was also an overall educational experience measure that’s derived from one of the items in the second measure which is the satisfaction with the quality of teaching. So a sixth measure of overall educational experience was also available from this data set. Now, we were interested in academic performance of the university students as well, which wasn't available in the University Experience Survey. As such, we had to look to supplementary data sources which would contain the information that we want and link it back to the University Experience Survey. So, we firstly source data from the higher education statistics collection, and we made a request to the Department of Education and Training, and in particular the information that we wanted was on socioeconomic status of the students, residential home post code, which would allow us to define our measure of regional or remoteness. And we also wanted information on the retention status of the students in higher education degrees. The advantage as well of actually getting this data from the higher education statistics collection was that we could also be able to track where the students who left university went on to higher education in another Australian institution, which is information that wouldn't have been available if we made this request to the universities. We were also able to get some data linkage to university academic records, in particular we made requests for weighted average marks in, to the heads of planning and statistics or equivalent in all 40 universities who participated in the University Experience Survey. So 13 universities responded and gave us approval and data to actually link weighted average marks back to the University Experience Survey. And so for university marks we were able to have data for 13 universities.

(pause)

The equity group definitions that we use is based on firstly the Bradley review, which actually stated the equity groups that should be focused on and we also used the official definitions that were available in the Higher Education Information Management System. So briefly speaking, the equity groups are Aboriginal and Torres Strait Islander students, students from non-English speaking backgrounds, students with disability, women in STEM fields of study, low socioeconomic students, students from regional and remote Australia, and students who are the first in their family to complete higher education. For students who are first in their family to complete higher education, this is based on the highest educational attainment of students’ first and/or second parent/guardian. In the University Experience Survey Students are classified as being first in their family if neither of their parent or guardians completed a graduate or postgraduate degree. The limitation to our study is that because of how parental education was recorded in the Higher Education Information Management System we were only able to define this equity group for commencing students and so all of our subsequent data analysis which looked at later year students did not include this particular equity group due to the inavailability of data.

(pause)

Okay. Moving on to methods, the key outcome variables that we wanted to look at in this study are the following: firstly we wanted to look at measures of student satisfaction, we also wanted to look at actual drop-out, students who were at risk of drop-out and weighted average marks. And I will define all of this subsequently. So for student satisfaction, this was based on the six measures of satisfaction that I went through earlier and they were included in the analyses as dichotomous variables where a value of 1 indicates satisfaction in each of these measures and 0, otherwise. For drop out we defined these as well as a dichotomous variable taking on the value of 1 if a student did not reenrol in Australian higher education the year after responding to the University Experience Survey and did not successfully complete their course requirements by the end of the survey year, 0 otherwise. Students who were at risk of drop-out, this was defined again as a dichotomous variable which takes on the value of 1 if a student responded ‘yes’ to a question asking whether they seriously considered leaving their university the year that the survey was administered, this takes on the value of 0 if they responded ‘no’. For our measure of academic performance this was based on WAM or weighted average marks. This is a continuous variable measuring the student's WAM calculated from the beginning of their current course through to the end of the year in which they responded to the University Experience Survey. It was standardised to account for different grading schemes in each university. So the rationale behind this is that when we got the data, different universities had different ways of grading. So for example in certain universities weighted average marks was based on a scale of 0 to 100. Whereas for other universities it could be for a range of 0 to 7 or some other differences. So, rather than standardise the scale, we standardised the WAM variable by normalising the WAM variable, in specifically the individual student WAMs were expressed in standard deviations to the mean within their institution in a given year where the mean is a value of 0 and the standard deviation is a value of 1. The estimating equations that we used for models relating to student satisfaction being at risk of leaving university and dropping out from university we estimated binary logistic regression models which takes on that form on the screen. Okay. The symbol E with a subscript i denotes a vector containing the binary coded equity group indicators. And the symbol X with the subscript i is a vector containing the binary coded control variables. We control for sex, age group, attendance mode, attendance type, combined degree and study area. And for the retention model we included binary coded indicators for considering leaving university and the quality of their overall educational experience. We estimated that clustered standard errors based on the university attended and the rationale for this is that different universities have their own specific culture and environment and so we predicted or hypothesised that there would be some effect of being at a certain university. So that's the reason why we estimated clustered standard errors. For our model of looking at weighted average marks we used linear regression models where Yi is the standardised weighted average mark for student i. Ei is the error term. And Ei and Xi are as previously defined in our binary logistic regression models. And again, we clustered for standard errors at a university level. Looking at the results now. So, in this first slide, these are the results for the student satisfaction model. On this slide, this shows the results for commencing students. So, as highlighted in our literature review earlier, there are differences for the reasons for leaving university according to stage of study and that is the reason why for our analysis we have separated the estimations to the stage of the students' study as well. On this slide we have shown the average marginal effects for the student satisfaction model which makes it a little bit easier to interpret the effect size from the binary logistic regression models. So, as mentioned, we have controlled for gender, age group, attendance mode, attendance type, combined degree and study areas. However, we have only presented the results for the equity groups on this slide and the next few slides, because these are the variables of interest to us. So, for student satisfaction for commencing students, for most of the study, so sorry, for most of the equity groups that we are looking at, there firstly wasn't much statistically significant effects. Or that the statistically significant effects tended to be of a very, very small magnitude. This tells us that the equity group students did not have a statistically different self-assessed measure of satisfaction compared to their privileged counterparts. I will highlight a couple of the results that are quite different. For Aboriginal and Torres Strait Islander students, they were 4 per cent more likely to indicate that they were more satisfied with the level of student support they got at their university. This was statistically significant at the 5 per cent level. For women in STEM, they were 3 per cent more likely to indicate that they were satisfied with their levels of learner engagement, 1 per cent more for learning resources, and 2 per cent more for student support. For first in family students they were 1 per cent less likely to be satisfied with their levels of learner engagement, and 1.5 per cent more likely to be satisfied with their measures of student support and likewise for skills development. But the two equity groups which tended to have lower levels of satisfaction was non-English speaking background students as well as students with disabilities, as indicated by the amount of variables with statistically significant effects indicated by the asterisk, as well as the negative sign in front of the estimates which shows that they had lower levels of satisfaction. And from the results that we got, it appears that these lower levels of satisfaction was actually across a lot of the different dimensions of student satisfaction that we looked at. So, for non-English speaking background students they were 2 per cent less likely to be satisfied with learner engagement, almost 4 per cent less likely to be satisfied with teaching quality, 3 per cent less satisfied with learning resources, and 6 per cent less satisfied with their overall education experience. And we can see similar results for students with disability, in particular they were not satisfied, less satisfied with teaching quality, learning resources, skills development and their overall educational experience. The positive, however, is that they were 5.5 per cent more likely to be satisfied with the levels of student support. Going on now to the average marginal effects for student satisfaction models in later-year students. There are less statistically significant effects for the equity groups in this model. However, for students with disability, again, they were shown to have less levels of student satisfaction across teaching quality, learning resources, skills development and overall educational experience. They were more likely to be satisfied with their levels of student support, similar to commencing-year students. So the summary of the results from our student satisfaction models is that there are positive findings in the sense that many equity groups had similar levels of student satisfaction with their privileged counterparts. However, there is room for improvement in addressing student satisfaction issues for non-English speaking students and students with disability. There were more stronger effects that we observed in commencing-year students. So policies to address student satisfaction issues might be more effective for students in earlier stages of their study. The next model that we looked at was the models of students at risk of drop-out. Again, we estimated this model separately for commencing students and later-year students. I will talk about the results for commencing students first. So, for Aboriginal and Torres Strait Islander students, they were 6 per cent more likely to report that they were at risk of drop-out. So, just quickly mentioning what "at risk" means again. That's when a student reports they have seriously considered leaving their university in the survey year. So Aboriginal and Torres Strait Islander students were 6 per cent more likely to report considering leaving university study. Non-English speaking background students were 3 per cent less likely to report being at risk. Students with disability were 5 per cent more likely to report being at risk. There wasn't any statistically significant effect for women in STEM. There was one for low socioeconomic status students, but this was of a very small magnitude. For students from regional and remote areas, they were 2 per cent more likely to report being at risk. And first in family students were also 2 per cent more likely to be at risk. Going on now to the results for later-year students, Aboriginal and Torres Strait Islander students were still more likely to report being at risk, even though there was a small drop from 6 per cent in commencing year to 5 per cent now in later-year students. Non-English speaking background students did not have a statistically significant effect of reporting being at risk. For students with disability, though, this has increased from 5 per cent for commencing students to 7 per cent now for later-year students. Again, there wasn't any statistically significant effects for women in STEM. For low socioeconomic status students, there was a small, 1 per cent, increased likelihood of reporting being at risk. The effect was the same for regional and remote students, at 2 per cent increased probability of being at risk of drop-out.

(pause)

So the summary of the result from the at risk of drop-out model tells us that all equity groups are at a higher risk of drop-out with the exception of non-English speaking background students. And in particular Aboriginal and Torres Strait Islander students and students with disabilities are more likely to consider leaving university. Students from low socioeconomic status backgrounds, regional or remote areas and firsts in family are also more likely to consider leaving university, although the estimates that we got suggest that this is at a low magnitude.

(pause)

This slide presents the results for the average marginal effects for the models of reasons for considering leaving university. So, for the students who actually reported that they were at risk of leaving university, they also reported the reasons that were behind their decision to consider leaving university. We streamlined those reasons into six broad areas. That is, financial health, health or stress, academic or institution, social and personal, workload and disposition towards their studies. Looking at these reasons would allow us to examine whether any of these reasons were driving factors behind their reasons for being at risk or their decision to consider leaving university. So we estimated logistic models again. For Aboriginal and Torres Strait Islander students, financial health increased their probabilities of considering leaving university, as did social and personal reasons, and workload reasons. But their disposition towards study decreased their consideration of leaving university. For non-English speaking background students, these reasons for considering leaving university were mostly negative, so financial health was not a reason behind their risk of being at risk, neither was health or stress. Workload and disposition towards study were also items that actually reduced their probabilities of considering leaving university. However academic reasons or institutional reasons were reasons that increased their probability of being at risk of drop-out. For students with disability, financial health and health or stress increased their likelihood of being at risk. But disposition towards university study decreased their consideration of being at risk. For women in STEM, social and personal reasons as well as workload issues decreased their consideration of being at risk. For low socioeconomic status students, financial health, health or stress and social and personal reasons increased their likelihood of being at risk of drop-out. For regional or remote students, financial health increased their likelihood of being at risk. But academic and institutional factors as well as their disposition towards study decreased their likelihood of being at risk. And for first in family students, financial health, health or stress and workload issues increased their likelihood of being at risk. Academic and institutional reasons as well as their disposition towards study decreased their likelihood of being at risk. For later-year students, you can see a lot of the statistically significant estimates have actually disappeared. So there were less statistically significant reasons for later year students compared to commencing-year students. The sizeable ones, however, are still for Aboriginal and Torres Strait Islander students where academic or institutional reasons decreased the likelihood of being at risk as well as disposition towards study. But social and personal reasons were still a strong determinant of their likelihood of being at risk.

(pause)

So a summary of the result from the model of reasons for being at risk tells us that financial as well as health reasons seems to keep appearing behind having an increased likelihood of being at risk for equity students. This is with the exception of non-English speaking background students. The positive result from these two models is that disposition towards study seems to be a very influential factor in decreasing equity students' consideration of leaving university. So that's really quite good.

(pause)

Here we present the average marginal effects for models of drop-out. For the equity variables, equity group variables, you can see there is not a lot of statistically significant effects that have emerged. Or that it tends to be of a very small magnitude as well. So the positive finding for both commencing students and later-year students is that their risk of actual drop-out does not seem to be statistically much higher compared to their non-equity group counterparts. However, interestingly, being at risk of drop-out does seem to increase the actual event of drop-out by quite a bit, especially for commencing students. The measure of overall student experience tells us that the more satisfied students are marginally less likely to actually drop out from university study. So, there are relatively few statistically significant effects on drop-out for members of equity groups. For the commencing sample, non-English speaking background students were less likely to drop out, by 1.5 per cent, while first in family students were more likely to drop out by 1 per cent. For later-year students, students from regional or remote areas were more likely to drop out, by 3.4 per cent. At risk students were more likely to drop out particularly at the early stage of their degrees. Finally we looked at the academic performance of students. Again, we estimated the weighted average mark models by the stage of their studies. The results tell us that the equity group students tended to perform less well compared to non-equity group students on average. And for Aboriginal and Torres Strait islander students in the commencing student sample they performed 0.4 standard deviation units less than the non-Aboriginal and Torres Strait Islander students. For non-English speaking background students they performed about 0.16 standard deviation units less well than English speaking students. For students with disability, they performed about 0.19 less well in terms of standard deviations compared to students without disabilities. Similar sorts of effects were found for low socioeconomic students and first in family students. There is, the results tell us that the equity group students performed less well as well in later years of their study although the effects are smaller than that found for commencing-year students. For students who identified as being at risk this was also found to be a negative influence on their academic performance. And students who had more positive assessment of their student education, sorry, their student experience, this had a positive influence on their weighted average marks. So, the summary of the results from the model of WAM tells us that in the commencing sample all equity groups except women in STEM and regional and/or remote area students performed poorer academically with rather sizable effect sizes ranging from 0.1 to 0.4 standard deviation units below their institutional mean. For the later-year sample, Aboriginal and Torres Strait Islander students, non-English background speaking students, students was disability and low socioeconomic status students were still performing relatively poorer although the effect sizes were actually smaller compared to the commencing sample. And for regional and remote students they actually performed marginally better compared to students in metropolitan areas. Being at risk of drop out is associated with an average WAM below the institutional mean and being satisfied with the overall quality of educational experience is associated with a better than average mean.

(pause)

A brief discussion on the results - what we found was that there were modest effects on student satisfaction for equity group memberships. For students in the later year of their study, this was, these effects on student satisfaction for equity group students was actually even smaller. So, that's a positive finding which tells us that equity group students are generally happy with their student experience at university. However, for students from non-English speaking backgrounds and students with disability they were found to have lower levels of satisfaction across most dimensions and so attention and room for improvement could still be paid to students in these two equity groups. Apart from women in STEM and non-English speaking background students most other equity groups had larger probabilities of being at risk of drop-out, and in particular Aboriginal and Torres Strait Islander students, students with disability and students from regional and remote areas have sizeable increased probabilities of being at risk of drop-out and this was perceived in across stages of study. This tells us that equity policy would have to concentrate on these students to actually encourage and support them in their university study so that they do not consider leaving university. Financial and health reasons were important determinants of being at risk of drop-out. Although encouragingly disposition towards their university study was a positive influence against them being at risk of drop-out. Students from most equity groups performed poorly academically relative to their counterparts, especially for commencing students. This was also a pattern that we saw that more sizeable differences across equity and non-equity groups appear to be in the commencing stage of university study. So, policy efforts to address student satisfaction, at risk of drop-out as well as academic performance would do well to be concentrated for commencing students. So the conclusion is that most equity group students are as satisfied as their privileged counterparts with their university education, although as mentioned earlier non-English speaking background students and students with disability indicated that they were less satisfied across some dimensions of their student experience and so more attention could be paid to these two groups. Most equity group students were also at risk of drop-out with finances and health reasons being identified as the broad reason behind their risk of drop-out. So policy measures to actually promote the retention and reduce the attrition for equity group students would probably also have to come from beyond the higher education sector, particularly in terms of supporting these students in terms of finances as well as their health. There is a strong need to start providing support to equity students from an early stage of study. And support for equity group students will need to combine efforts from beyond higher education particularly in terms of finances and health support. That's the end of my presentation. Again I would like to acknowledge funding support from the National Centre for Student Equity in Higher Education as well as data provision and support from the Department of Education and Training and the data offices of the 13 universities who participated in this study. We have some time for questions now, but if there are any queries, I'm happy to answer them at this email: ian.li@uwa.edu.au. Thank you everyone for listening.

DARLENE: Fantastic thank you Ian very much for that informative presentation. Do we have any questions? People can either write their questions in the question pod or they can raise their hand and we can unmute you and you can speak your questions. Ian, we did get a question prior to the presentation which I will start with while people might be writing their questions. I'm unsure if you are able to answer it but from the data available what do we know about what can be considered a threshold level of acceptable performance in terms of student success and satisfaction that aligns with equity representation and institutional performance?

IAN: Yes, thanks for sending this question along Darlene. David and I had a brief discussion on this. David, would you like to take this question?

DAVID: Okay, yeah, I’ll handle this one. I don't think that there's anything that represents a threshold level of acceptable performance. I think that would differ across institutions. Like my university has a level, but it's not based on anything other than an aspirational target. I think that every institution will wish to improve over time. But in the context of our results, it would seem to us that the goals the institutions should be looking for would be to ensure that students from equity groups have at least an equivalent performance to non-equity students

DARLENE: Ok, great, thank you. We have got one. How did you manage the data of those students who met more than one of the criteria’s, i.e. an Aboriginal and Torres Strait Islander with a disability?

DAVID: Basically, of the equity groups that we identified we didn't distil them down to a single variable. So of the equity groups everybody was entered on their individual characteristics. So there was an indicator for Indigenous status, there was an indicator for non-English speaking background, there was an indicator for regional/remote and all of the others and so that was one of the reasons why we chose a multi varied statistical approach, is we could test for the effect of being associated with different equity groups. Controlling for all of the other factors including being members of other equity groups. So that's essentially how we did it.

IAN: Yep, so to add on to David's answer, including all of those measures of various equity groups into the estimating models, so that allows us to separate out the effects of being from a particular equity group. But if an individual and this is quite likely as probably motivated this question, that an individual belongs to more than one equity group, then the effects of being from those various equity groups could be cumulative.

DARLENE: Okay. Great, thank you. Another response was "cool, thanks". Just following on from the threshold performance question, your response suggests that there is no level of threshold performance and it should be relative for the institution as a whole. Do you agree with that, or?

DAVID: I don't think necessarily, it's not really a question of "should", whether it should be or not. I just think that you will find across institutions that it would be. Like, every university would have key performance indicators related to these measures of student experience and so the government doesn't mandate, at the moment at least, a particular level of experience scores to be acceptable. Basically, it runs from, when they report them for instance on the quality indicators for learning and teaching website, the scores are just presented for each individual institution and then it's really up to the readers to evaluate what each of the scores means. So, yeah I think just to summarise, every institution will have set their own threshold levels based on their previous performance and their aspirations for the future. But I think that without knowing intimately what goes on at every university I couldn't tell you what they are.

DARLENE: Yeah, because a participant kind of raised that issue is that the level of institutional performance that may be below threshold. So, also that the level of performance will have some relationship to equity participation levels. I think we probably need to have a discussion with you away from the webinar. Alright, well that's all of the questions we have got. So thank you both for your time and to Sue and NCSEHE for funding this research. And as you know Ian is really happy to continue the conversation through queries at his email. So once again, thank you everybody for joining us and have a great day.

IAN: Thank you Darlene and thanks to the ADCET team again.

DAVID: Thank you to all