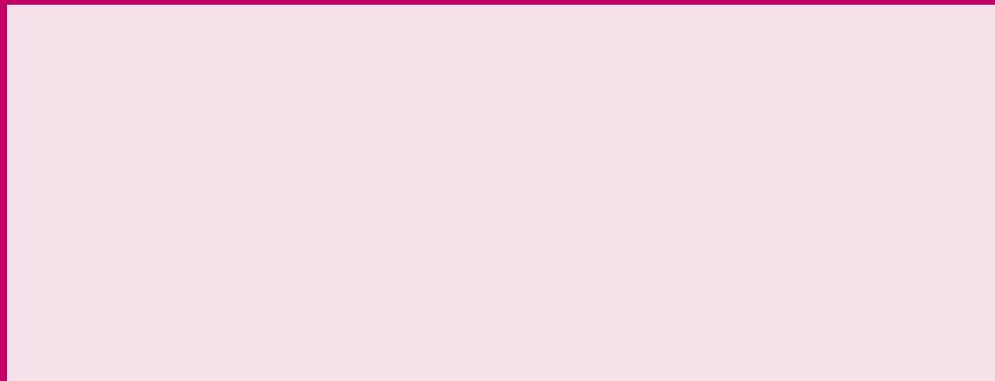


Evaluation of Train the Trainers Unconscious Bias Training (Phase II)



Author

Dr Joseph Sweetman, University of Exeter
info@ecu.ac.uk

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Executive summary

Background

This report documents an evaluation of an “unconscious bias” (UB)¹ training programme conducted across three universities between May 2015 and April 2016. These training programmes followed an initial “train the trainers” UB training programme conducted by Equality Challenge Unit between November 2013 and June 2014.

The evaluation was conducted independently by a researcher at the University of Exeter. A simple pre-post training design was employed to assess pre-post differences in equality and diversity related perceptions, attitudes, and motivations. These outcomes measures included unconscious bias, explicit stereotypes, measures of prejudice, perceived “diversity climate” (organisational culture of equality and diversity), knowledge of unconscious bias, efficacy (i.e., ability) to perform pro-equality actions, tendency to engage in pro-equality activism, and willingness to engage in pro-equality and diversity behaviour. One hundred and twenty three staff members attended training. Out of these, sixty four (52%) participated in the evaluation.

Findings

Analysis indicates statistically significant differences in seven out of the (total) thirty two outcome measures (21% of outcomes measures). In regard to our key (confirmatory) outcome measures, our UB knowledge measure demonstrated a significant increase post-training. One out of fourteen (7%) of our stereotype measures showed a significant decrease post-training. None (out of three) of our prejudice measures showed a significant difference post-training.

Finally, three out of five measures (60%) of our pro-equality motivation/action tendencies demonstrated a significant increase post-training. More specifically, there was less explicit gender stereotyping of women, perceived increases in knowledge regarding unconscious bias and equality and diversity, greater efficacy to perform pro-equality and diversity behaviours, greater levels of professional-personal activism tendencies relating to prejudice and discrimination. In addition, our ancillary outcome

¹ There is good evidence to suggest that people are often aware of the stereotypes and attitudes that are measured by indirect techniques such as the implicit association test (e.g., Hahn, Judd, Hirsh, & Blair, 2014). However, they may lack awareness of (a) the origin of such attitudes and stereotypes (as may also be the case with self-reported measures) and (b) the way in which indirectly assessed (but not self-reported) attitudes influence other psychological processes outside of conscious awareness (see Gawronski, Hofmann, & Wilbur, 2006).

measures showed increases in embeddedness and harmony social values. However, there were no statistically significant differences on the other twenty five outcome measures; most importantly, this includes implicit gender stereotyping (unconscious bias), various measures of prejudice, and willingness to carry out pro-equality and diversity behaviours. Only increases in knowledge of UB and efficacy to perform pro-equality and diversity behaviours remained statistically significant after correction for multiple statistical tests.

Conclusions and recommendations

The evaluation suggests that ECU-inspired unconscious bias training is associated with increases in knowledge and awareness around unconscious bias and perceived efficacy (i.e., ability) to perform pro-equality and diversity behaviours. This evidence suggests that UB training is meeting institutions' key objectives of increasing awareness of UB, recognition of the impact that UB can have on decisions and behaviour, and identify strategies for managing UB. There is also some evidence (not correcting for multiple testing) that training is associated with reductions in gender stereotyping, and increases in equality-related activism tendencies. But such training may not be an effective way of reducing unconscious bias, and, presumably, its influence on discrimination. This message is important as institutions conducting UB training need to know the potential limits of relatively short, one-off UB training and need to examine more sustained efforts if they have broader objectives of reducing UB, stereotypes, prejudice, and discrimination within their organisations. That said, the (non-experimental) design of this evaluation makes it difficult to offer firm conclusions on the causal effects of such programmes.

Four recommendations follow:

- = ECU-inspired UB training should be continued as a means of increasing awareness and knowledge around UB and efficacy to perform pro-equality and diversity behaviours (and a possible means of reducing gender stereotyping, and increasing equality-related efficacy and activism tendencies).
- = In order to address wider objectives of reducing UB and other forms of prejudice, training programmes would do well to adopt sustained, theoretically and empirically grounded techniques

to impact on UB, other forms of prejudice, and pro-equality behaviour – see Discussion and Recommendations section of the main report.

- = There is a need for large, well-powered (i.e., a large enough number of participants to detect small effects) randomised control trials (RCTs)/field experiments of unconscious bias training programmes in order to properly assess the causal effects of training on unconscious bias and other equality and diversity outcomes – most importantly, “actual” behaviours (e.g., assessment, recruitment, etc).

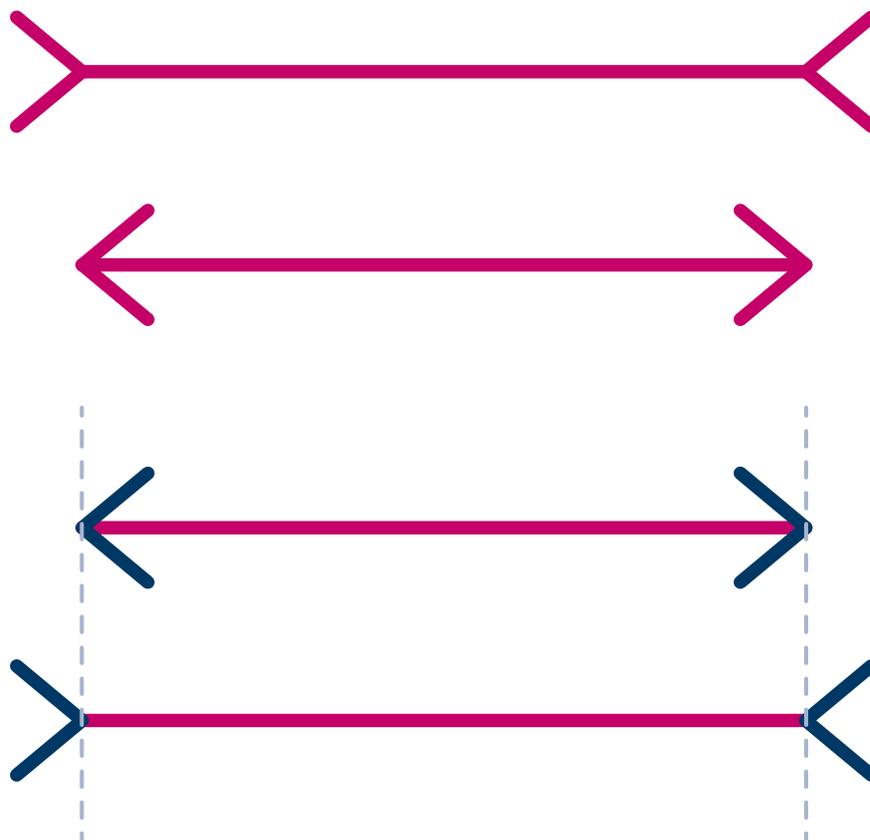
RCTs need to employ longitudinal designs in order to examine the long-term effects of training and how these vary as a function of what participants do after training.

Background

As in other areas of society (for a review, see Sidanius & Pratto, 1999), social inequality within higher education (HE) is well documented (Equality Challenge Unit, 2014). The social psychology literature suggests that group-based inequality and oppression are maintained by prejudice, stereotypes, ideology and both individual and institutional discrimination (Sidanius & Pratto, 1999). Equality and diversity training is one common way in which universities, and other organisations outside of higher education, attempt to tackle social inequality and discrimination. It is estimated that over \$8 billion is spent on equality and diversity training each year in the US (Hansen, 2003). However, a recent systematic review of prejudice reduction interventions indicates that there is little, if any, evidence supporting current equality and diversity training (see Paluck & Green, 2009; see also Kalev, Dobbin, and Kelly, 2006).

Even less is known about the effects of recently developed training programmes around “unconscious bias” (UB). Such training programmes are based on psychological research which proposes that many of the processes that determine the way that we see, evaluate, and act towards others (e.g., towards members of minority groups) may be automatic: that is, uncontrolled (people may not be able to stop such processes after they are initiated); efficient (such processes are “fast” and require little in the way of mental resources); unintentional (people may not deliberately initiate such processes); and unaware (people may not be consciously aware of these processes).

Figure 1, taken from research on vision, demonstrates an example of an automatic process. The top two lines appear to be of differing lengths, but examination of the two identical lines in the bottom half of the figure demonstrate that the lines are, in fact, of equivalent length. Despite knowing that the lines are equivalent, one has no way of stopping this effortless and unintended perceptual process, and one remains unaware of the perceptual processes that produce this illusion. One can think about automatic social cognition (perceiving, evaluating, and acting towards others) in much the same way. Stereotypes, attitudes, and other social knowledge can automatically affect one’s perceptions, judgements, and actions despite one’s deliberative efforts and explicit beliefs (for a meta-analysis, see Greenwald, Poehlman, Uhlmann, and Banaji, 2009).

Figure 1: Müller-Lyer illusion

Taken together, the possible role of UB in maintaining social inequality within HE and the paucity of research on the effectiveness of equality and diversity training, particularly around UB, calls for efforts to answer two key questions: 1) how can training around UB be engendered in HE institutions and 2) what effect, once implemented, does UB training have in HE settings. The current evaluation programme aims to address both of these key questions. The present report details Phase II of the evaluation and examines UB training conducted at UK universities between May 2015 and April 2016 following the train the trainers UB training programme conducted by ECU between November 2013 and June 2014. Phase II of the evaluation examines the impact of UB training on UB knowledge, equality-related perceptions, attitudes, and behavioural tendencies.

One hundred and forty HE staff from over 70 different HE institutes took part in the Phase I train the trainers programme. A total of thirty one (22%) of staff undergoing training participated in Phase I of the evaluation (see Phase I report).

Three universities took part in Phase II of the evaluation with a total of 61 staff completing all of the evaluation measures. The evaluation was conducted independently by Dr. Joseph Sweetman at the University of Exeter. While Phase I of the evaluation aimed to provide a description of the attitudes, intentions and behaviours of HE staff going through the UB train the trainers programme, Phase II examined pre- and post-training differences in a number of widely used equality-related measures from the social psychology literature. This provides the best known evidence as to the impact of UB training programmes within HE.

While the social psychological literature is replete with potential “moderators” or additional variables that might impact the relationship between some “context” (e.g., training) and prejudice (e.g., Hewstone, Rubin, & Willis, 2002), it was deemed prudent, in the first instance, to examine the overall association between training and measures of UB awareness, stereotypes, prejudice, and pro-equality motivations/action tendencies (see Box 1. for our Confirmatory hypotheses².)

This decision reflects two important facts. First, while basic research on prejudice and bias has attempted to demonstrate complex moderations and processes associated with prejudice and a host of psychological and contextual variables, applied research outside the lab has found little support for prejudice reduction based on these more “theoretically-elaborated” approaches (see Paluck & Green, 2009). For example, from among the psychological interventions, cooperative learning interventions have the best “real-world” evidence for prejudice reduction but there is a paucity of research regarding moderations of, and mechanisms through which, cooperative learning impacts various outcomes. Second, UB training is often given to members of staff in general, or to senior management in general. As such, UB training within HE is not at the stage where it can be “tailored” to particular psychological and contextual variables. We are, in the first instance, simply interested in the “on average” impact of training. That said, some exploratory analyses are reported later in order to examine some of the more complex but (potentially) theoretically relevant qualifications of the main findings.

² I use the term hypotheses loosely here. Strictly speaking these are not hypotheses, they are predictions, as they do not involve any explanation.

Box 1. Confirmatory hypotheses

Awareness raising hypothesis: If UB training increases knowledge of UB, its impact, and ways of mitigating UB, then we should expect training to be associated with higher levels of our measure of UB knowledge.

Stereotype reduction hypothesis: If UB training decreases stereotyping, then we should expect training to be associated with lower levels of explicit and/or implicit gender stereotyping, and/or changes in stereotypes of other minority groups (e.g., Muslims, BME, LGBT, disabled, etc.)

Prejudice reduction hypothesis: If UB training decreases prejudice, then we should expect training to be associated with lower levels of symbolic racism, and/or modern sexism, and/or SDO.

Pro-equality motivation/action hypothesis: If UB training increases pro-equality motivation/action, then we should expect training to be associated with higher levels of pro-equality efficacy, and/or collective/individual pro-equality behavioural tendencies, and/or motivation to control prejudice.

Method

Participants and Details of Training

The training was conducted in a higher education setting among one hundred and twenty three higher education staff members across the 3 centres participating in Phase II.

A total of 100 staff (Centre 1 = 45 staff, Centre 2 = 34 staff, and Centre 3 = 21 staff) completed the pre-training (Time 1) measures an average of 4.63 (median = 4) days before training. Out of these 64 (%) went on to complete the post-training measures (Centre 1 = 32 staff, Centre 2 = 20 staff, and Centre 3 = 12 staff) an average of 10 (median = 7) days following training. These staff attended one of a number of interactive UB training workshops over the course of twelve months.

The workshops lasted between 2-3 hours and introduced participants to the nature of UB, how it affects decision making, and ways of reducing it (see ECU, 2013). The objectives of training at each centre included increasing awareness of UB, recognition of the impact that UB can have on decisions and behaviour, and identify strategies for managing UB.

Of the 64 staff that completed pre- and post-training measures, 37 were female and 13 male³; age: $M = 38.55$, $SD = 10.90$; 70.3% of the sample reported their ethnicity as "White British/Irish/other"; 48.4% reported their religious belief as "No religion;" 70.3% reported their sexual orientation as "Heterosexual;" and 67.2% reported having "No disability;" 75% were Professional service/support staff; and 42.2% were at an "intermediate" pay grade; for full details of sociodemographics, see Appendix 1). Twenty seven (42%) of participants had completed mandatory equality and diversity training, the modal time since their last training was over two years. Only two (1.6%) had previously undergone some form of UB training.

Design of Evaluation and Details of Outcome Measures

A repeated measures (pre-post training comparison) design was employed to assess differences after training on various equality-related attitudes, beliefs, motivations and behavioural tendencies. Centres emailed participants an invitation email containing information about the evaluation and a link to complete the evaluation measures. The participants were also provided with

³ Nine participants did not provide data on their gender; twenty participants failed to provide data on their age; thirteen did not to provide data on their religion; twelve did not to provide data on their ethnicity; thirteen did not to provide data on their sexual orientation; fourteen did not to provide data on any disability.

a unique evaluation ID number. This was employed to link data across Time 1 (pre-) and Time 2 (post-training). The independent research team did not have access to any other identifying information. Centres did not have access to individual level data. Therefore, neither the research team nor university centre participating in the evaluation were able to identify individual level data. Those giving their informed consent were able to complete the outcome measures online.

The outcome measures were all widely employed measures of equality and diversity related perceptions, attitudes, motivations and action: stereotypes, unconscious bias, prejudice, diversity climate, knowledge regarding UB, social values, pro-equality motivations, perceived efficacy (i.e., ability), and behaviour. In other words, the measures have all been empirically shown to predict various behaviours towards members of minority groups (e.g., discrimination, non-verbal unfriendliness, levels of social inequality in society, support for discriminatory political policies, etc.) The measures⁴ were as follows:

- = Unconscious bias: a (career-family) gender stereotyping implicit-association test (IAT), adapted from Greenwald, McGee, and Schwartz, 1998, was employed to measure unconscious gender bias. Greater scores (*D*) represent greater gender bias – stronger associations of female with family and male with career compared to female with career and male with family.
- = Gender stereotypes: explicit measures of career-family gender stereotype were taken by asking participants to rate how typical each word (e.g., “family”, “career”, etc) was of women and men on a 7 point scale 1 (*not at all typical of [wo]men*) to 7 (*very typical of [wo]men*). The words were taken directly from the career-family gender stereotyping IAT. Difference scores (family minus career) were computed for men and women. Higher scores indicate greater endorsement of family (vs. career) stereotypes.
- = Pro-equality action: participants rated their willingness (1 = *very unwilling* to 7 = *very willing*) to perform eight “collective” pro-equality behaviours (e.g., “raise awareness of unconscious bias,” “volunteer for an equality and diversity role.”) adapted from Sweetman, Spears, Livingstone, and Manstead (2013).

⁴ All measures demonstrated good scale reliability.

We also measured their willingness to perform two “individual” pro-equality behaviours (i.e., “Report an incident of prejudice or discrimination to the appropriate authority;” “Personally confront anybody behaving in a prejudice or discriminatory fashion.”). In addition, we measured personal-professional activism tendencies with an adapted version of the personal-professional activism subscale of the Gender Role Journey Scale (O’Neil, Egan, Owen, and Murry, 1993). Participants rated their agreement with seven items (e.g., “I intend to take some actions in my personal life to reduce prejudice and discrimination,” “I intend to take responsibility for changing restrictive prejudiced and discriminatory practices” on a 6 point scale (1 = *strongly disagree* to 6 = *strongly agree*).

- = Pro-equality efficacy: participants were asked to rate “how certain you are that you can do the things listed below. Rate your degree of confidence by using the scale provided:” for each of the collective (e.g., “volunteer for an equality and diversity role.”) and individual (i.e., “report an incident of prejudice or discrimination to the appropriate authority”) pro-equality behaviours. Responses were measured with a 7 point scale (1 = *cannot do at all*, 4 = *moderately can do*, 7 = *highly certain can do*) adapted from Bandura (2006).
- = Pro-equality motivation: participants’ motivation to respond without prejudice was measured using an adapted version of the internal and external motivation to respond without prejudice scale (Plant & Devine, 1998). Participants rated their agreement with ten items (five internal and five external) on a 9 point scale (1 = *strongly disagree* to 9 = *strongly agree*).
- = Prejudice: beliefs, values, and ideologies constituting prejudice were measured with the symbolic racism scale (Henry & Sears, 2002), the modern sexism scale (Swim, Aikin, Hall, & Hunte, 1995), and social dominance orientation scale (Sidanius & Pratto, 1999) – see published scales for details of response scales.
- = Social values: egalitarian, embeddedness (conservatism), harmony, hierarchy, intellectual autonomy, and affective autonomy values were examined with measures adapted from Schwartz (1999). Participants rated the importance of each value “as a guiding principle of my life” on a 8 point scale (1 = *opposed to my values* to 8 = *of supreme importance*).

- = Diversity climate: perceptions of the organisational equality and diversity culture were measured with an adapted version of the diversity perceptions scale (Barack, Cherin, & Berkman, 1998). Participants rated their agreement with seven items on a 7 point scale (1 = *strongly disagree* to 7 = *strongly agree*).
- = Bias knowledge: understanding of the nature of bias, how it affects decision making, and ways of reducing it were measured using a 7 point scale (1 = *not at all* to 7 = *absolutely*). Participants rated five items (e.g., "I understand how psychological processes result in unconscious bias," "I am aware of strategies to reduce unconscious bias.") adapted from Devine, Forscher, Austin, and Cox, (2012).
- = Stereotype content: Warmth and competence are two "universal" dimensions (i.e., types of characteristics) across which people perceive both individuals and groups to differ. Warmth reflects friendliness and cooperation, whereas competence reflects ability and attainment. We examined the degree to which women, blacks, Muslims, elderly, disabled, and Lesbian and Gay people were seen as warm and competent. Participants rated the extent to which they saw each of the groups as "friendly," "sincere," "capable," and "competent" on a 5 point scale (1 = *not at all* to 5 = *extremely*). Items were taken from Fiske, Cuddy, and Glick, (2002).

Participants completed the gender stereotyping IAT prior to the explicit measures. The pre-training (Time 1) measures took approximately 30 minutes for participants to complete, with the post-training measure taking approximately 20 minutes to complete. In addition to the main psychological measures, participants also filled in a number of other descriptive items regarding their roles, institutions, and demographics (see Appendix 1 for details).

Findings

Pre-post analysis of all outcome measures

The data met assumptions for regression-based analyses. Multilevel linear modelling was conducted to test differences in pre- and post-training outcome measures⁵. This allows us to statistically account for the nesting of participants within different centres (R script available from the author). In other words, we can adjust for the differences across centre (e.g., trainer characteristics).

As can be seen in Table 1⁶, analysis indicated statistically significant differences in seven out of the (total) thirty two outcome measures (21% of all outcome measures)⁷. All of these differences represented improvements in equality and diversity measures post training. Specifically, participants reported lower levels of explicit gender stereotyping after undergoing training. However, implicit measures of gender stereotyping (UB) did not differ statistically pre- and post-training. Participants reported greater levels of professional-personal activism tendencies around prejudice and discrimination.

In addition, participants reported greater efficacy to undertake both individual and collective pro-equality action after undergoing training. However, levels of individual and collective pro-equality action tendencies did not differ statistically following training. Levels of both embeddedness and harmony values statistically increased post-training. Finally, participants reported increases in knowledge regarding unconscious bias and equality and diversity. There were no statistically significant differences on the other twenty five outcome measures (79% of all outcome measures). See Table 2 in Appendix one for a table detailing all the significant and non- significant findings.

5 Due to our small sample size for level 3 of the model I conducted mixed ANOVA models for comparisons purposes. Results from the mixed ANOVA model did not differ significantly from the multi-level models.

6 Degrees of freedom vary due to missing data on some measures.

7 This reduces to two out of thirty two (6%) when applying a conservative Bonferroni correction ($p = .05/\text{no. of tests}$) for multiple tests.

Table 1: Statistically significant pre-post training means for outcome measures. *indicates statistically significant differences at $p < 0.05$, not corrected for multiple tests; outcome measures in **bold** remain statistically significant after correction for multiple tests.

Outcome measure	Pre Mean [95% CI]	Post Mean [95% CI]	t (df)	p (2-tailed)
Explicit gender stereotyping*	1.16 [.78, 1.55]	.76 [.31, 1.21]	-3.04 (56)	0.004
Pro-equality action (pro-per activism)*	3.89 [3.56, 4.23]	4.20 [3.81, 4.59]	2.91 (53)	0.010
Pro-equality efficacy (individual)*	5.01 [4.56, 5.46]	5.63 [5.09, 6.17]	3.76 (52)	< 0.001
Pro-equality efficacy (collective)*	4.48 [4.07, 4.88]	5.04 [4.54, 5.55]	3.31 (52)	0.002
Social value (embeddedness)*	6.76 [6.36, 7.17]	6.97 [6.52, 7.41]	2.04 (54)	0.05
Social value (harmony)*	6.99 [6.58, 7.40]	7.34 [6.88, 7.79]	3.17 (54)	0.003
Bias knowledge*	4.63 [4.26, 5.00]	5.85 [5.42, 6.28]	9.58 (56)	< 0.001

Pre-post analysis on criterion outcome measures (confirmatory analyses)

For completeness we have reported pre-post analysis for all outcome measures taken, however, this may paint an unnecessarily negative picture (only 21% of all outcome measures show pre-post differences) of the differences associated with training as it takes into consideration the ancillary and exploratory outcome measures (e.g., both diversity climate scales, five social values measures).

Referring back to Box 1., we see that only some of the outcome measures form part of our key, confirmatory hypothesis testing. In terms of our awareness hypothesis, our single awareness measures demonstrated a significant increase post-training. In regard to our stereotype reduction hypothesis, one out of fourteen (7%) of our stereotype measures showed a significant increase post-training. In regard to our prejudice reduction hypothesis, none out of three showed a significant difference. Finally, we find support for our pro-equality motivation/action hypothesis with three out of five measures (60%) demonstrating a significant increase post-training.

Moderation analysis (exploratory analyses)

As part of exploratory (not planned before the data was collected) analysis separate models with each of the diversity climate measures and an interaction between diversity and time (pre- vs. post test) were added to the models tested above for

each of the other outcome measures (excluding the diversity climate measures). This enabled us to test whether the pre-post test differences were moderated by (i.e., depend upon) perceptions of the organisational equality and diversity culture (Barack, Cherin, & Berkman, 1998). In other words, do any differences in the pre-post test measures depend on the way participants viewed their organisational diversity and equality culture. It could be the case that participants that viewed the diversity culture as more positive might be more receptive to training and, therefore, experience greater changes in their equality-related beliefs and motivations. Findings demonstrated that perceptions of the diversity climate did not statistically moderate any of the pre-post differences across outcome measures ($ps > .05$).

Research has suggested that high internal motivation to control prejudice can lead people to display less prejudice when their potential prejudice is made salient (Fehr & Sassenberg, 2010). Indeed, people high in internal motivation to control prejudice have also been shown to actively work to eliminate any form of prejudice (Plant & Devine, 2009). As such, we examined whether internal motivation to control prejudice would moderate the pre-post differences on our IAT measure and prejudice scales.

Findings demonstrated that ratings of internal motivation to control prejudice did not statistically moderate pre-post differences in the gender-IAT, explicit gender stereotyping, symbolic racism, modern sexism, and social dominance orientation ($ps > .05$). In other words, any pre-post difference did not seem to depend upon the level of (internal) motivation to control prejudice.

Discussion and recommendations

Taken together, these findings imply that the present programme of unconscious bias training may improve self-reported knowledge and awareness around unconscious bias, an elementary step in tackling the undue influence of implicit social cognition in higher education. In addition, such ECU-inspired UB training programmes may improve efficacy to perform pro-equality and diversity behaviours. These key outcome measures were at the heart of the training objectives for the institutions involved. As such, UB training seems to succeed in meeting institutions' key objectives of increasing awareness of UB, recognition of the impact that UB can have on decisions and behaviour, and identify strategies for managing UB.

In relation to the more ambitious (wider) objectives of reducing UB, stereotypes, prejudice and discrimination, there was some tentative evidence (not correcting for multiple tests) that UB training may be associated with decreases in explicit measures of gender-career stereotyping. That is, people were less likely to associate women with family (vs. career) and men with career (vs. family) following training. Interestingly, only measures of gender prejudice/stereotyping showed improvement after training; given that gender was the target for our (implicit) measure of unconscious bias, it may be the case that simply measuring implicit gender stereotypes (i.e., getting participants to complete an IAT) may have increased motivation to respond to explicit measures of sexism in a more non-sexist manner. Future work would do well to examine this possible interpretation of these findings.

Despite these (possible) improvements in self-report (explicit) measures of gender stereotyping, the present training programme may not be an effective way of reducing unconscious bias, and, presumably, its influence on discrimination. Specifically, the failure to find any significant effects on measures of unconscious bias, suggests some important limitations of the present training programme for organisations that may use UB training to meet the (ambitious) objective of reducing UB and other forms of prejudice and stereotyping.

Evidence from the social psychological literature suggests that in order to effectively reduce unconscious bias, training programmes must facilitate the adoption of long-term bias reduction strategies (see Devine, et al., 2012). In other words, one-off training may not

be enough to break the “habitual” biases that, presumably, reflect a lifetime of socialisation. The design of the present evaluation means that it is unable to comment on any long-term changes in unconscious bias or the other outcome measures. It is possible that the adaption of bias reduction strategies (post-training) might lead to a reduction in unconscious bias over the long term – dependent on the effectiveness of the strategies introduced in training. For this reason it seems that ECU-inspired unconscious bias training should be closely tied to the current evidence-base for unconscious bias reduction. For example recent research suggests that counterstereotypical exemplars, evaluative conditioning, and implementation intention strategies to override biases might be the most effective means of reducing UB (see Lai et al., 2014).

The interventions mentioned above are all theoretically-based, this observation raises an important issue regarding current forms of UB training: While the content of the UB training covered theoretical and empirical work from the psychological sciences, the training itself was not theoretically or empirically based. There is a key distinction between training that uses theoretical and empirical knowledge in the content it covers and an intervention that is, itself, based on theory and research.

Research and scholarship have suggested that empirically- and theoretically-based interventions show the best opportunities for evidence-based equality and diversity interventions (see Moss-Racusin, van der Toorn, Dovidio, Brescoll, Graham, & Handelsman, 2010; Paluck & Green, 2009). To make this point clear, cooperative learning (the best evidenced prejudice reduction intervention) doesn’t cover content or information from the science of prejudice and discrimination – i.e., “awareness raising.” Rather, cooperative learning itself is based on theories on contact and social interdependence (see Paluck & Green, 2009). In other words, covering the science of prejudice within training does not make that training based on theory and research. It’s suggested that this easy mistake may limit the effectiveness of training interventions aimed at reducing UB and other forms of prejudice.

For the purposes of UB reduction within HE, it seems that “implementation intention” strategies (see Lai et al., 2014) may be the most realistic, theoretically-based intervention available given the limited resources equality and diversity practitioners

are faced with (see Phase 1 report). To explain, an implementation intention is a strategy in the form of an "if-then plan" that can lead to greater goal attainment. Instead of having a general goal (e.g., to lose weight) an implementation intention helps cash this out detailing the when, where and how aspects of goal-directed behaviour. For example, "If it's 6:30 p.m. on a weekday, then I'll go out for a fifty-minute run".

Given the importance of efficacy in social behaviour (Bandura, 2006), the increases in efficacy regarding both individual and collective pro-equality behaviours is an encouraging finding. That said, the failure to find a statistical increase in the related action tendencies may suggest that training needs to do more to engender tendencies to engage in individual and collective pro-equality actions. To speculate, other theoretical factors associated with action tendencies such as feelings of injustice and "politicised collective identity" – the degree to which you see yourself as part of a political group – (Van Zomeren, Postmes, & Spears, 2008) could be targeted by training programmes.

Importantly, we find evidence for an increase in personal-professional activism tendencies which suggests that attempting to engender an identity consistent with taking equality-related political action might be a plausible outcome of a successful training programme. Again, such processes may exceed the time constraints of one-off training and a short-term evaluation. Longitudinal evaluation designs are needed to examine the long-term impact of the current training programme and other possible developments. The literature on prejudice reduction in real-world settings suggests that sustained (over a number of weeks) interventions that are embedded in institutional practices have the best evidence of effectiveness (see Paluck & Green, 2009; see also Devine, et al., 2012; Kalev, Dobbin, and Kelly, 2006).

In addition to the need for longitudinal designs, there are number of other methodological limitations that must be borne in mind when interpreting the evaluation's findings. First, the pre-post test design means that we are unable to make any valid causal inferences about the impact of training. Efforts were made to implement a field-experimental design. However, given the strict resource, time, and organisational pressures faced at the evaluation centres (see Phase I report), we were unable to actualise this ambition. Reflecting this, only three centres from

a possible twenty seven, that expressed an interest at Phase I of the evaluation, took up the invitation to be part of the Phase II evaluation. Given that centres did not have to pay for participation in the evaluation, it would seem that future large, longitudinal, field-experimental evaluations may have to offer financial incentives to ensure greater levels of participation. Related to this, another limitation is the relatively small sample size. The evaluation only had (95%) power to detect medium effect sizes. Taken together, there is a need for well-powered longitudinal randomised control trials (RCTs) of unconscious bias training programmes in order to assess the (potentially small) causal effects of training on unconscious bias and other equality and diversity outcomes. In addition, the only implicit measure employed examined gender stereotypes. As such, there are other categories (e.g., race) and constructs (e.g., attitude) that may be associated with differences across UB training. Implicit measures take some time to complete and, as such, we could only include one implicit measure. We choose to focus on gender since this is the largest (numerical) minority group in HE. But future work would do well to examine other categories and constructs.

One potential criticism of the evaluation is that its participants were all volunteers and that training such people amounts to “preaching to the converted.” It follows that such people would be very high on all pro-equality measures and, as such, it would be impossible for training to have any measurable impact on them. We can dismiss this concern for a number of reasons. First, inspection of the data revealed that mean scores, variance, and skewness on the measures were not consistent with ceiling effects. Indeed, inspection showed that all measures had below 17% of scores in the highest category, indicating no ceiling effect (see Wang, Zhang, McArdle, & Salthouse 2008). As such, the failure to find significant differences pre- and post-training is not consistent with ceiling effects. Moreover, since UB training is usually voluntary within HE, the population we are interested in are, indeed, the kind of people that are willing to undergo UB training in HE. As such, we have no reason to believe that our sample is not representative of this population.

Importantly, future evaluations of training need to go beyond self-reports of prejudice and behavioural tendencies and employ more “objective” behavioural measures. This is important if we are to know whether unconscious bias training programmes have

behavioural effects on the kind of tasks that UB might be affecting within HE – e.g., recruitment, academic assessment, promotions, etc. Future work would do well to examine the representativeness on people attending voluntary UB training and implications this has for the effectiveness of training.

Future training programmes would do well to include longitudinal, RCT evaluations that carefully align outcome measures with the institutional objectives of training. The present evaluation suggests that current UB training may be effective in meeting objectives such as increasing awareness of UB, recognition of the impact that UB can have on decisions and behaviour, and identify strategies for managing UB. As such, we provide some possible measures for organisations to employ in efforts to evaluate UB training on these objectives. However, since our measures were based self-reported knowledge, future evaluations should include objective measures of relevant, UB knowledge relating to the specific objectives of the training. In addition, we would encourage institutions to pursue ambitious (wider) objectives for training such as UB and other prejudice reduction. Again, the present evaluation offers some useful candidate measures for organisations pursuing these more ambitious objectives. Even if such objective are ambitious and ancillary it is informative for evaluations to include such measures to give a fuller picture of the impact of different UB training programmes.

It seems that ECU-inspired, unconscious bias training programmes are associated with a positive impact on knowledge and awareness around unconscious bias and efficacy to perform pro-equality and diversity behaviours. And there is some evidence that they may have some potential to impact broader equality and diversity related perceptions, attitudes, and motivations. However, there remains much work to be done if we are to achieve evidence-based equality and diversity interventions within higher education. I hope that this evaluation is an important starting point for such efforts.

References

Bandura, A. (2006). Guide for constructing self-efficacy scales. In F. Pajares & C. T. Urdan, *Self-efficacy beliefs of adolescents* (Vol. 5). Greenwich, CT: Information Age Publishing.

Barak, M. E. M., Cherin, D. A., & Berkman, S. (1998). Organizational and personal dimensions in diversity climate ethnic and gender differences in employee perceptions. *The Journal of Applied Behavioral Science*, 34(1), 82-104.

Devine, P. G., Forscher, P. S., Austin, A. J., & Cox, W. T. L. (2012). Journal of Experimental Social Psychology. *Journal of Experimental Social Psychology*, 48(6), 1267–1278. doi:10.1016/j.jesp.2012.06.003

Equality Challenge Unit. (2013). *Unconscious bias in colleges and higher education. Handbook for trainers.*

Equality Challenge Unit. (2014). *Equality in higher education: statistical report 2014* (pp. 1–310).

Ferreira, R. R., & Abbad, G. (2013). Training needs assessment: where we are and where we should go. *BAR-Brazilian Administration Review*, 10(1), 77-99.

Fehr, J., & Sassenberg, K. (2010). Willing and able: How internal motivation and failure help to overcome prejudice. *Group Processes & Intergroup Relations*, 13(2), 167-181. <https://dx.doi.org/10.1177/1368430209343116>

Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology*, 82(6), 878–902. doi:10.1037//0022-3514.82.6.878

Gawronski, B., Hofmann, W., & Wilbur, C. J. (2006). Are “implicit” attitudes unconscious? *Consciousness and Cognition*, 15(3), 485–499. doi:10.1016/j.concog.2005.11.007

- Glick, P. & Fiske, S. T. (1996). The Ambivalent Sexism Inventory: Differentiating hostile and benevolent sexism. *Journal of Personality and Social Psychology*, 70(3), 491-512.
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. (1998). Measuring individual differences in implicit cognition: the implicit association test. *Journal of Personality and Social Psychology*, 74(6), 1464–1480.
- Greenwald, A. G., Poehlman, T. A., Uhlmann, E. L., & Banaji, M. R. (2009). Understanding and using the Implicit Association Test: III. Meta-analysis of predictive validity. *Journal of Personality and Social Psychology*, 97(1), 17–41. doi:10.1037/a0015575
- Hahn, A., Judd, C. M., Hirsh, H. K., & Blair, I. V. (2014). Awareness of implicit attitudes. *Journal of Experimental Psychology: General*, 143(3), 1369–1392. doi:10.1037/a0035028
- Hansen, F. (2003). Diversity“s business case: Doesn’t add up. *Workforce*, 82, 28–32.
- Henry, P. J., & Sears, D. O. (2002). The symbolic racism 2000 scale. *Political Psychology*, 23(2), 253–283.
- Hewstone, M., Rubin, M., & Willis, H. (2002). Intergroup bias. *Annual review of psychology*, 53(1), 575-604. doi: 10.1146/annurev.psych.53.100901.135109
- Kalev, A., Dobbin, F., & Kelly, E. (2006). Best practices or best guesses? Assessing the efficacy of corporate affirmative action and diversity policies. *American Sociological Review*, 71(4), 589–617. <http://doi.org/10.1177/000312240607100404>
- Lai, C. K., Marini, M., Lehr, S. A., Cerruti, C., Shin, J.-E. L., Joy-Gaba, J. A., Ho, A. K., Teachman, B. A., Wojcik, S. P., Koleva, S. P., Frazier, R. S., Heiphetz, L., Chen, E. E., Turner, R. N., Haidt, J., Kesebir, S., Hawkins, C. B., Schaefer, H. S., Rubichi, S., Sartori, G., Dial, C. M., Sriram, N., Banaji, M. R., & Nosek, B. A. (2014). Reducing implicit racial preferences: I. A comparative investigation of 17 interventions. *Journal of Experimental Psychology: General*. <http://dx.doi.org/10.1037/a0036260>

Moss-Racusin, C. A., van der Toorn, J., Dovidio, J. F., Brescoll, V. L., Graham, M. J., Handelsman, J (2010). Scientific diversity interventions. *Science*. 343, 615-616.

O'Neil, J. M., Egan, J., Owen, S., & McBride, V. (1993). The Gender Role Journey Measure: Scale development and psychometric evaluation. *Sex Roles*, 28, 167-185. doi: 10.1177/0095798406292469

Paluck, E. L., & Green, D. (2009). Prejudice reduction: What works? A review and assessment of research and practice. *Annual Review of Psychology*, 60, 339–367.
doi:10.1146/annurev.psych.60.110707.163607

Plant, E. A., & Devine, P. G. (1998). Internal and external motivation to respond without prejudice. *Journal of Personality and Social Psychology*, 75(3), 811.

Plant, E. A., & Devine, P. G. (2009). The active control of prejudice: unpacking the intentions guiding control efforts. *Journal of Personality and Social Psychology*, 96(3), 640. doi:10.1037/a0012960

Sidanius, J., & Pratto, F. (1999). *Social dominance: An intergroup theory of social hierarchy and oppression*. New York: Cambridge University Press.

Sweetman, J., Spears, R., Livingstone, A. G., & Manstead, A. S. R. (2013). Admiration regulates social hierarchy: Antecedents, dispositions, and effects on intergroup behavior. *Journal of Experimental Social Psychology*, 49(3), 534–542.
doi:10.1016/j.jesp.2012.10.007

Swim, J. K., Aikin, K. J., Hall, W. S., & Hunter, B. A. (1995). Sexism and racism: Old-fashioned and modern prejudices. *Journal of personality and social psychology*, 68(2), 199-214.
<http://dx.doi.org/10.1037/0022-3514.68.2.199>

Van Zomeren, M., Postmes, T., & Spears, R. (2008). Toward an integrative social identity model of collective action: A quantitative research synthesis of three socio-psychological perspectives. *Psychological Bulletin*, 134(4), 504–535.
<http://doi.org/10.1037/0033-2909.134.4.504>

Wang, L., Zhang, Z., McArdle, J. J., & Salthouse, T. A. (2008). Investigating ceiling effects in longitudinal data analysis. *Multivariate behavioral research*, 43(3), 476-496.
doi:10.1080/00273170802285941

Appendix 1

Table 2: Pre-post training means for outcome measures (greater scores indicate higher levels of each outcome; *indicates statistically significant differences at $p < 0.05$, not corrected for multiple tests; outcome measures in **bold** remain statistically significant after correction for multiple tests).

Outcome measure	Pre Mean [95% CI]	Post Mean [95% CI]	<i>t</i> (df)	<i>p</i> (2-tailed)
UB (implicit gender stereotyping)	.31 [.20, .42]	.38 [.23, .52]	1.22 (61)	0.23
Explicit gender stereotyping*	1.16 [.78, 1.55]	.76 [.31, 1.21]	-3.04 (56)	0.004
Pro-equality action (individual)	5.60 [5.19, 6.00]	5.75 [5.29, 6.23]	1.18 (53)	0.24
Pro-equality action (collective)	5.42 [5.05, 5.80]	5.36 [4.94, 5.78]	.63 (53)	0.530
Pro-equality action (pro-per activism)*	3.89 [3.56, 4.23]	4.20 [3.81, 4.59]	2.91 (53)	0.010
Pro-equality efficacy (individual)*	5.01 [4.56, 5.46]	5.63 [5.09, 6.17]	3.76 (52)	< 0.001
Pro-equality efficacy (collective)*	4.48 [4.07, 4.88]	5.04 [4.54, 5.55]	3.31 (52)	0.002
Pro-equality motivation (internal)	7.53 [7.01, 8.04]	7.47 [6.84, 8.10]	.28 (51)	0.78
Pro-equality motivation (external)	3.65 [2.90, 4.40]	3.92 [3.08, 4.75]	1.38 (51)	0.17
Prejudice (symbolic racism)	2.99 [2.83, 3.16]	3.05 [2.83, 3.26]	.75 (47)	0.45
Prejudice (modern sexism)	2.86 [2.54, 3.19]	2.68 [2.31, 3.06]	1.92 (51)	0.06
Prejudice (social dominance orientation)	2.47 [2.05, 2.89]	2.32 [1.83, 2.81]	1.07 (38)	0.29
Social value (egalitarianism)	8.10 [7.76, 8.43]	7.94 [7.55, 8.35]	1.20 (54)	0.24
Social value (embeddedness)*	6.76 [6.36, 7.17]	6.97 [6.52, 7.41]	2.04 (54)	0.05
Social value (affective autonomy)	6.79 [6.39, 7.19]	6.92 [6.46, 7.39]	1.02 (54)	0.31
Social value (intellectual autonomy)	7.42 [7.02, 7.85]	7.53 [7.06, 8.01]	.78 (54)	0.44

Outcome measure	Pre Mean [95% CI]	Post Mean [95% CI]	t (df)	p (2-tailed)
Social value (harmony)*	6.99 [6.58, 7.40]	7.34 [6.88, 7.79]	3.17 (54)	0.003
Diversity climate (values)	4.76 [4.30, 5.21]	4.61 [4.07, 5.16]	.81 (54)	0.42
Diversity climate (action)	5.24 [4.33, 6.15]	5.51 [4.52, 6.49]	1.36 (52)	0.18
Bias knowledge*	4.63 [4.26, 5.00]	5.85 [5.42, 6.28]	9.58 (56)	< 0.001
Warmth (women)	3.64 [3.32, 3.97]	3.66 [3.29, 4.02]	.16 (51)	0.87
Competence (women)	4.10 [3.76, 4.43]	3.93 [3.54, 4.32]	-1.71 (51)	0.09
Warmth (blacks)	3.75 [3.44, 4.07]	3.67 [3.31, 4.03]	.93 (51)	0.36
Competence (blacks)	4.07 [3.71, 4.43]	3.94 [3.53, 4.35]	1.32 (51)	0.19
Warmth (elderly)	3.87 [3.53, 4.22]	3.81 [3.43, 4.19]	.69 (51)	0.49
Competence (elderly)	3.61 [3.30, 3.92]	3.61 [3.24, 3.98]	.01 (51)	0.996
Warmth (disabled)	3.80 [3.44, 4.15]	3.80 [3.41, 4.20]	.06 (51)	0.95
Competence (disabled)	3.79 [3.48, 4.10]	3.70 [3.34, 4.06]	.86 (51)	0.40
Warmth (Muslims)	3.67 [3.40, 3.95]	3.67 [3.36, 3.99]	.02 (51)	0.99
Competence (Muslims)	3.97 [3.67, 4.28]	3.92 [3.57, 4.28]	.52 (51)	0.61
Warmth (Lesbian & Gay)	3.80 [3.49, 4.12]	3.76 [3.41, 4.11]	.56 (51)	0.58
Competence (Lesbian & Gay)	4.01 [3.61, 4.42]	3.97 [3.52, 4.41]	.55 (51)	0.59

Appendix 2: Sample social demographics

Demographic	Number (of participants)	Percentage (of sample)
Ethnicity		
Asian or Asian British: Indian	2	3.1
Black or Black British: Caribbean	1	1.6
Black or Black British: Any other	1	1.6
Mixed: White and Black Caribbean	1	1.6
Mixed: Any other	1	1.6
White British	38	59.4
White Irish	2	3.1
White Other	5	7.8
Religion or Belief		
No religion	31	48.4
Christian	16	25
Hindu	1	1.6
Sikh	1	1.6
Sexual Orientation		
Bisexual	1	1.6
Gay man	3	4.7
Gay women/Lesbian	1	1.6
Heterosexual	45	70.3
Disability		
Yes	6	9.4
No	43	67.2
Position		
Academic staff	7	10.9
Professional services/support	48	75
Grade		
Senior	3	4.7
Intermediate	27	42.2
Junior	25	39

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Equality Challenge Unit

First Floor, Westminster Tower
3 Albert Embankment
London, SE1 7SP
T 020 7438 1010
F 020 7438 1011
E info@ecu.ac.uk
www.ecu.ac.uk

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