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Impact bias in student evaluations of higher education

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In the context of higher education, this study examines the extent to which affective evaluations of the student experience are influenced by the point at which they are made (i.e. before the experience begins, whilst it is happening and after it has ended). It adopts a between-groups quantitative analysis of the affective evaluations made by 360 future, current and past postgraduate students of a UK business school. The study validates the proposition that affective forecasts and memories of the student experience are considerably inflated in prospect and retrospect; a finding that implies a significant impact bias. It is concluded that the impact bias may have important implications for influencing the effectiveness of student decision-making, the timing and comparability of student course evaluations, and understanding the nature and effects of word-of-mouth communication regarding the student experience.

Keywords: student attitudes; student evaluation; student expectations; student experience; students' perceptions

Introduction

In recent years, the student experience has become a topic of growing interest and importance in higher education (HE). Accordingly, student evaluations of courses and institutions are now commonplace, with results feeding into various metrics, performance indicators and rankings of institutional excellence. The increased focus on the student experience in HE has been accompanied by significant academic research on the matter. This work is largely characterised by a focus on what students think about aspects of their education experience and the services their university provides (Brookes 2003; Bryant 2006). By contrast, others argue that what is required are studies that are considerate of the affective nature of the student experience (Beard, Clegg, and Smith 2007), and the relationship between this and student expectations (Miller, Bender, and Schuh 2005).

These latter perspectives lead towards the literature on affective forecasting. Here, evidence has begun to accumulate for a phenomenon called the impact bias. This refers to a tendency for people to overestimate the intensity and duration of their emotional reactions to future and past events. It has been demonstrated in a wide range of contexts (e.g. politics, health and sport; see Wilson and Gilbert 2003), and may have important implications for understanding and shaping the experience of students in HE.

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The contribution of the current study lies in its examination of the existence, nature and extent of the impact bias in an HE context. We extend the current literature by comparing students' forecasts, perceptions and memories of their affective experience whilst undertaking an HE course. This differs from existing work on student evaluations of HE in two ways: First, it is concerned with how students feel during (and about) their HE experience (i.e. affective evaluation), rather than what they think about certain aspects of it (i.e. cognitive judgements, such as satisfaction). Second, our study moves beyond previous research by demonstrating the difficulties students may have in forecasting and remembering their feelings, and considering the implications of this for the effectiveness of student decision-making, the timing and comparability of course evaluations, and the nature and impact of word-of-mouth communication about the HE experience.

Our paper begins with a review of the extant literature regarding: (i) subjective well-being (SWB), cognition and affect in evaluations of the HE student experience; (ii) the impact bias in affective evaluations; and (iii) the nature and measurement of the impact bias in an HE context. Six hypotheses are formulated and tested via a study of 360 post-graduates at a major UK business school. These respondents comprise three groups of students: prospective (i.e. those about to start a small number of content-related MSc courses), current (i.e. those undertaking the courses, and specifically at the time the teaching ends and a dissertation is in progress) and past (i.e. alumni from the last five years of the courses concerned). This approach allows for a comparison of forecasted (n = 115), perceived (n = 70) and remembered (n = 175) affective experience. Following a presentation of results, we conclude with a discussion of the HE management implications that might be associated with the impact bias in student evaluations of their affective experience.

SWB, cognition and affect in evaluations of the HE student experience

Concepts such as happiness, satisfaction and well-being are sometimes assumed to be one and the same (Easterlin 2003). However, for our paper it is necessary to define and examine the relationship between these concepts more closely. A salient study, in this respect, is that of Diener, Scollon, and Lucas (2003), who 'review the components that make up the domain of subjective well-being' (191), and present them in a conceptual hierarchy with various levels of specificity (see Figure 1). In so doing, they identify SWB as a superordinate construct determined by four conceptually related but empirically separable components: 'positive affect, negative affect, [life] satisfaction, and domain satisfaction' (Diener, Scollon, and Lucas 2003, 191). The first two components (positive and negative affect) relate to emotional responses to life events, the aggregated outcome of which is termed 'affective well-being' (Diener, Scollon, and Lucas 2003, 195). The third and fourth components (life and domain satisfaction) refer to the largely cognitive judgements people make about their life and aspects of it. Each component contains further sub-categories of discrete emotions (e.g. happiness and worry) with respect to affect (positive or negative), and specific criteria (e.g. fulfilment and meaning) with regard to satisfaction (life or domain-specific).

With respect to Figure 1, academic studies of the HE experience have tended to focus on measuring domain satisfaction, and in particular the level and determinants of students' satisfaction with their teaching, learning and wider university experience (see Duarte, Raposo, and Alves 2012). Some have also examined the 'life satisfaction' of students (Chow 2005; Bedggood and Donovan 2012), and others the relationship
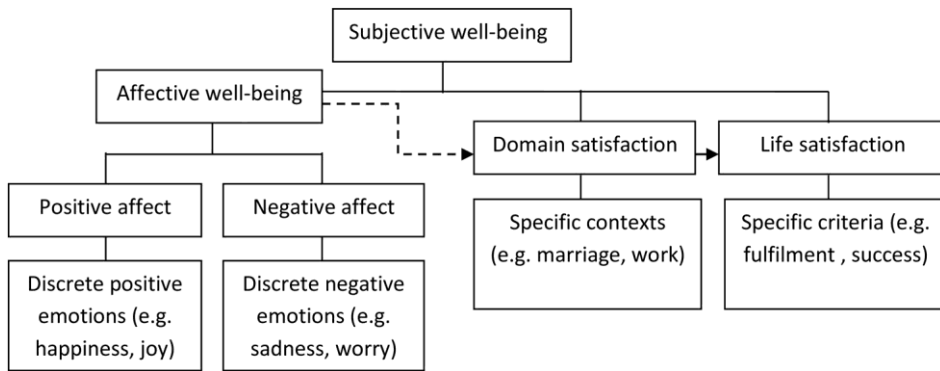
Figure 1.   Conceptualising the relationships between happiness, affect, satisfaction and well-being (Adapted from Diener, Scollon, and Lucas 2003, 192).

between expectations and perceptions of university experiences or services (Booth 1997; Oldfield and Baron 2000; Sander et al. 2000; Voss, Gruber, and Szmigin 2007; Nicholson et al. 2013; Wilson et al. 2013).

However, few studies have specifically sought to investigate the affective experience of HE students, despite the efforts of Beard, Clegg, and Smith (2007) to stimulate this. One notable exception is the work of Trigwell, Ellis, and Han (2012), in which student learning approaches (surface vs. deep) are correlated with the valence of their emotional experience (i.e. negative vs. positive). Specifically, their work identifies that students experiencing positive emotions, such as hope and pride, are more likely to adopt a deeper approach to learning and achieve higher performance outcomes. By contrast, those who more strongly experience negative emotions, such as anger, boredom, anxiety and shame, are more likely to adopt surface learning approaches and achieve relatively lower performance outcomes. Most recently, Chong and Ahmed (2015) have also examined the moderating influence of students' feelings about their performance outcomes on their subsequent perceptions of the university service quality experience. In this study, however, affective responses to a discrete element of the student experience were considered only to the extent that they were then used as information in the subsequent construction of cognitive judgements. This illustrates the importance of affective well-being, not only as a component of SWB in its own right, but also as one determinant of the other component of SWB: life/domain satisfaction. As Diener, Scollon, and Lucas (2003, 197) note, 'people use their affective well-being as [one piece of] information when judging their life satisfaction'.

Acknowledging the importance of affective well-being and responding to calls for a greater focus on this topic within the HE literature (Beard, Clegg, and Smith 2007), our paper is concerned with how students conceive of their affective experience, both generally (i.e. how they 'feel') and with respect to their programme of study (i.e. how they 'feel about' their educational experiences at university). However, in order to develop a holistic appreciation of affective experience, and how it may inform cognitive judgements and future behaviour, it is necessary to study how emotion is experienced in the three faculties of mind: imagination, perception and memory (Gilbert 2007). As Diener, Scollon, and Lucas (2003) note, affective well-being is not simply the product of emotion as it is experienced in the moment, but rather the memories that people have of their emotional experience. In support of this, they draw attention to

research which suggests behaviour is better predicted by memory for emotions, rather than current emotional experience (Wirtz et al. 2003). In an HE context, affective memory may thus shape the subjective well-being, attitudes, decisions and behaviours of existing students and alumni. Furthermore, it is necessary to examine how people imagine they will feel in the future, as many important decisions are made on this basis (Wilson, Meyers, and Gilbert 2003), including those made by prospective and current HE students. However, both 'affective forecasts' and 'affective memories' may be subject to a significant impact bias.

Impact bias in affective evaluations

Impact bias refers to a human tendency to overestimate emotional responses to events and experiences. It is demonstrated primarily in the social psychology literature on affective forecasting and is manifest in two forms; an intensity bias and a durability bias (see Ubel, Loewenstein, and Jepson 2005). Populations as diverse as sports fans and medical patients have been found to overestimate how they will feel, and for how long, on learning the outcome of football games and medical tests, respectively; and to do so for both positive and negative affective experiences (for a review, see Wilson and Gilbert 2003). Furthermore, the impact bias has been found to occur in both prospect and retrospect. Thus, people tend to overestimate how intense and per-sistent their emotional experience will be in the future, but also how intense and persist-ent it was in the past (Wilson, Meyers, and Gilbert 2003).

A seminal demonstration of the positive and negative impact bias, in both prospect and retrospect, was provided by Wilson, Meyers, and Gilbert (2003). At the point at which a recount was called in the US presidential election of 2000, supporters of the two candidates (George Bush and Al Gore) were asked to predict how they would feel in the event of victory or defeat for their preferred candidate. When the result was declared in favour of Bush (four weeks later) his supporters were found to have overestimated how happy they would feel at that point. Similarly, supporters of Gore had overestimated the negative feelings they would experience at the moment of defeat. Having validated the impact bias in prospect, however, the authors went on to demonstrate that the same voters had almost returned to their pre-election levels of overestimation when asked to remember how they thought they had felt on the day the result was declared (four weeks earlier). The same pattern of results was then observed in a laboratory study in which participants were required to predict and remember how good/bad they would feel after performing well or poorly in a test of social aptitude (Wilson, Meyers, and Gilbert 2003).

Theoretical explanations for the impact bias converge on the idea that it is the product of a focusing illusion and/or a failure to anticipate how quickly and fully we will adapt to unfolding events (Ubel, Loewenstein, and Jepson 2005). Within this context, the most prominent and influential explanation relates to focalism; the ten-dency to think too much about the event or experience in question, and too little about contextual factors that are likely to occupy attention and thus temper the intensity and duration of emotional response to the focal event (see Wilson et al. 2000; Wilson and Gilbert 2005). For example, the emotional high experienced by football fans in the immediate aftermath of a much anticipated victory might be tempered by all manner of everyday factors related to family, work, health, weather, etc. Failure to anticipate the moderating influence of context on emotional experience is thus considered to be one of the main reasons for the impact bias (Wilson et al. 2000).

However, focalism does not imply that people are incapable of considering non-focal events and the moderating influence of context on their future/past feelings. Rather, it is the case that they often do not take these things into account. Specifically, Wilson et al. (2000) propose that the impact bias occurs because people place greater emphasis on information that is easily accessible (e.g. that relating to the focal event) than that which is not (e.g. that relating to all manner of contextual factors that may or may not arise). Indeed, when people are directed to consider the broader context in which a future event will impact on their emotions, their tendency towards overestimation is considerably reduced (Wilson et al. 2000).

In addition to focalism, the impact bias for negative experiences may also occur on the basis of a second, simultaneous, non-conscious mechanism called immune neglect. This relates to the notion that people are unaware that negative experiences will activate an assortment of defence mechanisms and coping strategies that will enable them to rationalise and reconstrue the events in question (see Gilbert et al. 1998).

The impact bias is also likely to be moderated by time. Specifically, it might be expected to be larger for events and experiences in the distant future/past. This may be the result of a waning psychological immune system (in the case of negative experiences) and/or a heightened degree of focalism (for both positive and negative experiences; see Wilson et al. 2000). Furthermore, people do not appear to learn from their affective experience and continue to exhibit inaccurate forecasts of future emotions (both positive and negative), despite the fact that these have been shown to be overestimations in the past (Meyvis, Ratner, and Levav 2010).

The only notable challenge to the impact bias thesis is from Levine et al. (2012). They raise the possibility that the impact bias may be a product of a 'procedural artefact', whereby forecasters are often asked to think specifically about the impact of an event on their feelings (e.g. 'how will you feel following the outcome of an event?'), while experiencers are asked to consider their feelings more generally (e.g. 'how do you feel at this point in time?'). However, Wilson and Gilbert (2013) provide a robust rebuttal of this argument on both theoretical and methodological grounds. Specifically, they cite a series of studies in which the attention of all participants has been drawn to the event in question at each stage of evaluation, and/or great care has been taken to ensure the apparent impact bias is not due to respondents' confusion as to the meaning of the questions they were asked (Wilson, Meyers, and Gilbert 2003; Wilson et al. 2004).

Examining impact bias in an HE context

Academic research suggests that students generally conceive of their university experience to be positive (Brookes 2003; Chow 2005). Moreover, results of the UK's most recent Postgraduate Taught Experience Survey (PTES) mirror those of the UK National Student Survey (of undergraduates) in suggesting that more than 80% of students regard their overall experience positively, with just 9% reporting a negative view (Soilemetzidis, Bennett, and Leman 2014). Given the dominance of positive valence in studies and surveys of the student experience, it should be possible to demonstrate how the impact bias influences student evaluations from a 'mean perspective' (i.e. to predict that the mean intensity of positive affect in the moment will be significantly lower than the mean intensity of forecasted and remembered affect). This is because the impact bias does not refer to a change of valence in affective forecasts and memories, but rather a change in the intensity of these (see Wilson, Meyers, and Gilbert

2003). Good experiences are imagined to be better and bad experiences are imagined to be worse, in prospect and retrospect. Thus, the valence of affective experience in the moment should dictate the nature of any corresponding impact bias. In short, if the mean affective evaluation of the experience in the moment is positive, then mean forecasted and mean remembered affective evaluations may be expected to be even more positive. Similarly, if the mean affective evaluation of the experience is negative, then mean forecasted and mean remembered affective evaluations may be expected to be even more negative.

The adoption of the mean perspective is particularly useful in an HE context, as it allows for the impact bias to be considered and discussed within the existing paradigm of student evaluation research, much of which appears to be based on the mean analysis of evaluation scores (e.g. the UK PTES). However, it is important to acknowledge that, for experiences that are deemed positive by some but negative by others, the aggregate impact bias is the product of overestimation in two opposing directions (e.g. happiness and unhappiness). Thus, there is a theoretical possibility that the impact bias may be entirely masked in situations where it occurs for positive and negative evaluations in equal measure. In the HE context, therefore, we recommend that the impact bias should be analysed first from the mean perspective, and then for positive and negative evaluations separately, wherever the number of cases in which positive and negative evaluations are made is sufficient to warrant a separate, statistical analysis. It is against this background that we formulate the research objectives and hypotheses for the current study, as will be outlined below.

Research objectives and hypotheses

The impact bias has been examined for (i) emotional reactions to a specific event (e.g. the outcome of an election; see Wilson, Meyers, and Gilbert 2003) and (ii) the emotions felt during an extended experience (e.g. living in a sunnier climate; see Ubel, Loewenstein, and Jepson 2005). The emotion studied in these instances is 'happiness' – this has traditionally been used as a proxy for the wider construct of affective well-being in the social psychology literature (Diener, Scollon, and Lucas 2003). In an HE context, research has tended to examine how positively or negatively students feel (or in many cases, think) about their extended experience and specific aspects of it, rather than exploring generic affective states. (Oldfield and Baron 2000; Brookes 2003).

As our study examines the impact bias in an HE context, it is important to consider both happiness in general and attitudes towards the educational experience in particular. The former facilitates clear replication of the impact bias in HE, in a manner previously revealed in other contexts (i.e. by way of happiness as a global affective judgement). The latter may reveal impact bias using an approach more meaningful to HE researchers, institutions and those tasked with understanding and shaping the student experience. The explicit requirement for future, past and current students to make affective judgements about particular aspects of their course also minimises ambiguity as to the nature of the evaluative task in each group (see Levine et al. 2012; Wilson and Gilbert 2013).

The master's courses providing the HE context for our study constitute a multi-episodic student experience of approximately one year. These episodes include semester-based taught courses, exams, reading weeks and a dissertation period. Any one such episode might exert a relatively strong influence on students' attitudes towards their overall experience, if it is ongoing (and thus most easily accessible in mind) at the

point of evaluation (see Schwarz 1998). Against this background, we first set out to replicate the impact bias in terms of a global affective evaluation (i.e. happiness) during an extended HE experience (i.e. a master's degree). For this purpose we formulate the following two hypotheses:

H1. Affective forecasts will be of the same valence as reports of affective experience in the moment (i.e. happy or unhappy), but will be significantly greater in intensity.

H2. Affective memories will be of the same valence as reports of affective experience in the moment (i.e. happy or unhappy), but will be significantly greater in intensity.

We then examine the impact bias with respect to students' affective evaluations of the postgraduate experience, by way of the following hypotheses:

H3. For affective evaluations of the postgraduate experience, forecasts will be of the same valence as reports made in the moment, but will be significantly greater in intensity.

H4. For affective evaluations of the postgraduate experience, memories will be of the same valence as reports made in the moment, but will be significantly greater in intensity.

Finally, we examine the impact bias for a discrete episode within the overall postgraduate experience. The episode chosen is the dissertation period, which remains a primary focus for students when all other aspects of their master's course are complete. The bulk of dissertation work begins (in this instance) in July, when most students collect and analyse data under tutorial supervision. This is defined as the 'doing stage' of the dissertation in the UK PTES 2014, and is identified as the point at which 75–86% of postgraduate students feel positive about their dissertation experience across a variety of indicators (Soilemetzidis, Bennett, and Leman 2014, 37). Thus, the final two hypotheses are formulated as follows:

H5. For affective evaluations of the dissertation experience, forecasts will be of the same valence as reports made in the moment, but will be significantly greater in intensity.

H6. For affective evaluations of the dissertation experience, memories will be of the same valence as reports made in the moment, but will be significantly greater in intensity.

The method by which these hypotheses were tested is described below, prior to the presentation and discussion of results.

Method

Our study, undertaken in 2012, adopts a between-groups design, which is common in impact bias research (Gilbert et al. 1998, 2004). The sample totals 360 participants (male: 34.7%; female: 65.3%) across three groups, incorporating future, current and past MSc students of a small number of business courses at a UK university. One hundred and fifteen prospective students ('forecasters') were surveyed a week before the start of their course, and 10 months before the 'doing stage' (Soilemetzidis, Bennett, and Leman 2014, 37) of their dissertation. Seventy current students ('experiencers') were also surveyed during their course, and specifically at the dissertation 'doing stage' in July. Finally, 175 past students ('rememberers') were surveyed on the basis that they had been alumni for between two and five years.

Participants completed a questionnaire in exchange for a small gift (a non-branded item to the value of approximately £3). We believe it unlikely that this small token of appreciation would have influenced results significantly. In all three sample groups, participants first completed global affective evaluation measures (adapted from Wilson, Meyers, and Gilbert 2003), rating how happy they were in the moment compared to on average (1 = far below average happiness, 5 = average happiness, 9 = far above average happiness). Using the same scale, participants then rated how they thought they would feel (forecasters), how they have been feeling (experiencers) or how they thought they had felt (rememberers) at a given point in time. As explained above, the focal point of evaluation was July, facilitating an examination of affective evaluations of the postgraduate experience and the dissertation experience specifically.

Participants then completed an 11-point multi-item semantic differential scale, measuring their affective evaluations of: (a) the postgraduate experience and (b) the dissertation experience (bad/good, unpleasant/pleasant, unsatisfying/satisfying, unrewarding/rewarding, worthless/valuable, unstimulating/stimulating, unengaging/engaging, discouraging/encouraging). These items were generated from a pilot focus group discussion of how postgraduate and dissertation experiences are affectively evaluated. Students participating in the focus group were in the 'experiencers' cohort, but did not take part in the main survey. To minimise potential common method variance (Podsakoff et al. 2003), the postgraduate experience was rated from −5 to +5, and the dissertation experience from −3 to +3, on each item, with negative numbers indicating negative feelings, 0 being neutral and positive numbers indicating positive feelings. Finally, participants answered a series of profiling questions (e.g. age, sex and region of origin).

In our between-groups design, a problem could be seen to arise if there are significant changes in factors such as teaching personnel, course content, fees, etc. between forecasters, experiencers and rememberers. As forecasters had little knowledge of teaching personnel and were subject to the same course content and fee structure as experiencers (adjusted for inflation), this is less of a concern for revealing prospective impact bias. However, whilst fees also remained constant in real terms between experiencers and rememberers, the degree to which course content changes may have materially altered the experience of these two groups is difficult to identify.

Such a problem could potentially have been addressed by adopting a within-subject research design. However, this approach required the tracking of individual students, posing a threat to participants' anonymity, the subsequent honesty and openness of their responses, and the validity of the study. Furthermore, attrition rates across the three measurement points were likely to be problematic, especially where rememberers are concerned, as the average response rate to alumni surveys at the study institution is below 25%. Thus, a between-groups design was selected on the basis that it would facilitate: (a) an assurance of respondent anonymity, (b) honesty and openness in responses and (c) a sufficient sample of rememberers.

Results

Results are presented for the three dependent variables of: global affective evaluations (to test H1 and H2), affective evaluations of the postgraduate experience (to test H3 and H4) and attitudes towards the dissertation experience (to test H5 and H6). For each dependent variable, and in line with the rationale outlined earlier, results are presented first in relation to all data (to assess impact bias from the mean perspective) and second with respect to positive evaluations only (to assess the positive impact bias). The

frequency of negative evaluations in our study is insufficient to permit a valid statistical analysis of the negative impact bias in isolation. This is unsurprising given the relatively low incidence of negatively valenced student evaluations in previous studies of the student experience (see discussion above). Prior to hypothesis testing, we present an analysis of group profile variables and their relationship with the dependent variables.

Group profiles

There are significant differences between groups in terms of age (χ^2 (6, 360) = 43.595, p < .001), with rememberers being older on average than the other groups (as may be expected). There are also significant differences between groups in terms of gender balance (χ^2 (2, 360) = 33.808, p < .001), with both the forecaster and experiencer groups exhibiting a female majority, while rememberers are more balanced between males and females. There is a significant association between group and region of origin (χ^2 (16, 359) = 80.649, p < .001), such that Asians make up a higher proportion of students in the forecaster and experiencer groups. However, while there are demographic differences between the groups, none of these are significantly correlated with the dependent variables. Thus, any significant between-groups differences in the results below should not be considered to be a product of group demographics.

Global affective evaluations

To control for individual differences in momentary happiness, the current happiness measure was subtracted from the forecasted, experienced or remembered happiness measure (with negative numbers indicating below average happiness and positive numbers indicating above average happiness). This produced a single-item adjusted global affective evaluation indicator (a technique adopted from Wilson, Meyers, and Gilbert 2003). A one-way ANOVA was then conducted to compare the difference between forecasters, experiencers and rememberers on their adjusted global affective evaluations.

Analysis of the impact bias from the mean perspective (all data)

There is a significant effect of evaluation mode (forecasted/experienced/remembered) on happiness, F (2, 339.43) = 6.09, p < .01. There is a significant quadratic trend, F (1, 357) = 10.14, p < .01, indicating that current evaluations of happiness are lower than forecasted and remembered happiness. Planned comparisons reveal that forecasted or remembered happiness is significantly greater than current affective evaluations, t (135.88) = 3.92, p < .01, and that there is no significant difference between forecasters and rememberers. The results support hypotheses 1 and 2, showing forecasted and remembered affect to be significantly more positive than that experienced in the moment by current students (see Figure 2).

Analysis of the positive impact bias (negative evaluations removed)

With the negative responses removed, there is a significant difference between groups (F (2, 196.218) = 12.236, p < .001) on global affective evaluations. Planned contrasts and post hoc tests show a significant difference between forecasters and experiencers
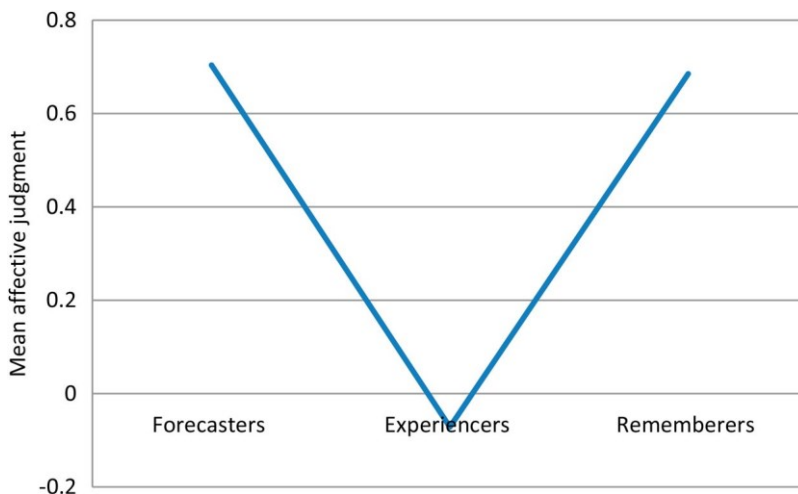
Figure 2.   Global affective forecasts, experiences and memories.

(p < .05) and between experiencers and rememberers (p < .001), with experiencers exhibiting less intense overall happiness than the other groups. There is no significant difference between forecasters and rememberers. The results support hypotheses 1 and 2, showing forecasted and remembered affect to be significantly more positive than that experienced in the moment by current students (see Figure 3).

Affective evaluations of the postgraduate experience

The eight-item semantic differential scale measuring affective evaluations of the postgraduate experience had high inter-item reliability ($\alpha = .97$). The scale was therefore transformed to a single measure. Nineteen outliers were removed. A one-way ANOVA was conducted to examine differences between the mean affective evaluations of forecasters, experiencers and rememberers.

Analysis of the impact bias from the mean perspective (all data)

There is a significant effect of evaluation mode on affective evaluations of the postgraduate experience, $F_{(2, 252.81)} = 20.95$, $p < .01$. There is a significant quadratic trend, $F_{(1, 338)} = 22.60$, $p < .01$, indicating that current students feel less positive about the postgraduate experience than forecasters or rememberers. Planned contrasts reveal that current students feel less positive about the postgraduate experience than forecasters or rememberers, $t_{(94.23)} = 4.85$, $p < .01$, and that forecasters feel more positive about the forthcoming postgraduate experience than rememberers, $t_{(269.40)} = 4.68$, $p < .01$. The results support both hypotheses 3 and 4, such that affective evaluations of the postgraduate experience are significantly more positive in prospect and retrospect than they are in-the-moment (see Figure 4).
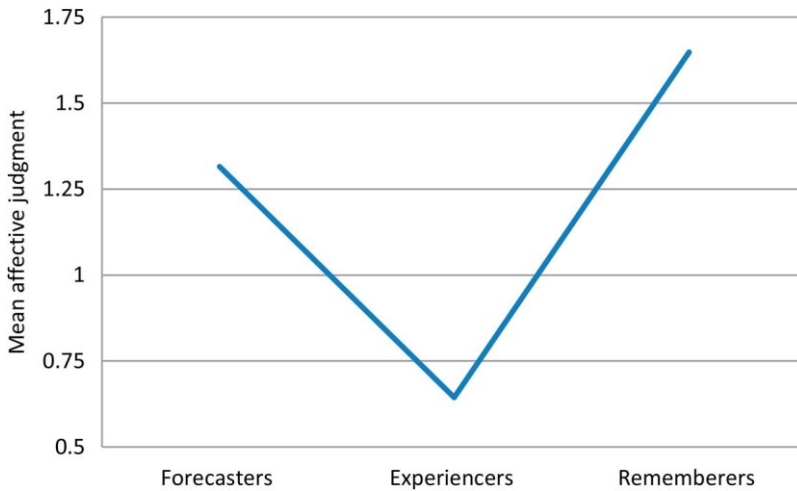
Figure 3. Global affective forecasts, experiences and memories (negative evaluations removed).

Analysis of the positive impact bias (negative evaluations removed)

With the negative responses removed, there is a significant difference between groups $(F (2, 331) = 19.641, p < .001)$ in their affective evaluations of the postgraduate experience. Planned contrasts and post hoc tests show a significant difference between all groups $(p < .01)$, with positivity highest in forecasters, then rememberers, followed by experiencers. The results support both hypotheses 3 and 4, such that affective evaluations of the postgraduate experience are significantly more positive in prospect and retrospect than they are in-the-moment (see Figure 5).

Affective evaluations of the dissertation experience

The same eight-item semantic differential scale as above was used to measure affective evaluations of the dissertation experience. The scale had high inter-item reliability (α = .96), and was thus transformed to a single measure. Again, a one-way ANOVA was conducted to examine differences in the mean affective evaluations of forecasters, experiencers and rememberers.

Analysis of the impact bias from the mean perspective (all data)

There is a significant effect of evaluation mode on affective evaluations of the dissertation experience, $F (2, 200.19) = 34.69, p < .01$. There is a significant quadratic trend, $F (1, 356) = 52.48, p < .01$, indicating that current students feel less positive about the dissertation experience than forecasters or rememberers. Planned contrasts reveal that current students feel less positive about the dissertation experience than forecasters or rememberers, $t (89.20) = 6.50, p < .01$, and that forecasters feel more positive about the forthcoming dissertation experience than rememberers, $t (285.98) = 5.65, p < .01$. The results support both hypotheses 5 and 6, such that affective evaluations of the dissertation experience are significantly more positive in prospect and retrospect than they are in-the-moment (see Figure 6).
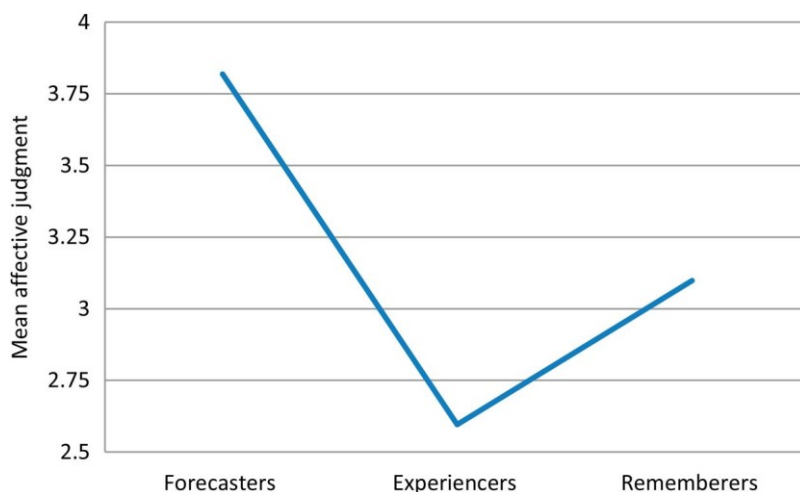
Figure 4.   Forecasts, experiences and memories of affective attitudes towards the overall post-graduate experience.

Analysis of the positive impact bias (negative evaluations removed)

With negative responses removed, there is a significant difference between groups $(F (2, 209.288) = 14.833, p < .001)$ with respect to affective evaluations of the dissertation experience. Planned contrasts and post hoc tests show a significant difference between all groups $(p < .01)$, with positivity highest in forecasters, then rememberers, followed by experiencers. The results support both hypotheses 5 and 6, such that affective evaluations of the dissertation experience are significantly more positive in prospect and retrospect than they are in-the-moment (see Figure 7).

Discussion and implications

Our study validates the prospective and retrospective impact bias in the context of HE. Specifically, in providing support for H1 and H2, the results demonstrate the impact bias in student evaluations of their affective well-being, and provide evidence that students are likely to overestimate the intensity of their emotions (in this case, happiness) during an extended experience (in this case, the duration of a master's degree). Further, we extend the impact bias literature by demonstrating that overestimation can occur not only in relation to global affective states (e.g. happiness), but also with regard to specific affective evaluations of the experiences in question. In providing support for H3, H4, H5 and H6, the results indicate that students are likely to overestimate how positive they will feel (affective forecasts) and previously felt (affective memories) about their postgraduate experience and a discrete element of this (i.e. the dissertation experience).

Given this demonstration of the impact bias in an HE context, the question arises as to what the implications are for HE management. Specifically, the difficulties that students may have in forecasting and remembering their feelings give rise to management implications in three areas: (i) the effectiveness of student decision-making, (ii) the timing and comparability of course evaluations and (iii) the nature and impact of word-of-mouth communications about the HE experience.
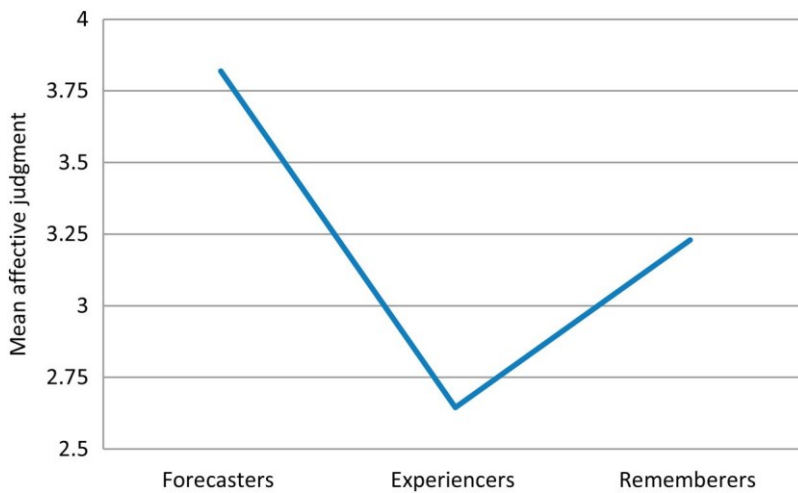
Figure 5.   Forecasts, experiences and memories of affective attitudes towards the overall post-graduate experience (negative evaluations removed).

Influencing the effectiveness of student decision-making

The most documented implication of the impact bias in prospect is that it reduces people's ability to make decisions that will maximise their future happiness (see Wilson and Gilbert 2005). In an HE context this may extend to all of the choices that students make before and during their student experience (e.g. choosing a university, a course, a place to live, elective modules, etc.). The central issue here is the tendency to overestimate in prospect; a notion that suggests experiences are, as a matter of course, unlikely to be as good or as bad as forecasted. For this reason, experimental efforts to address the impact bias have universally focused on altering the estimation of future emotional responses (rather than altering the intensity of affective states in-the-moment). This has been achieved by reducing the degree to which participants engage in focalism – or 'de-focusing' participants – at the point at which they are asked to make affective forecasts (as documented by Sanna and Schwarz 2004; Ubel, Loewenstein, and Jepson 2005).

    Such de-focusing activities might be applied in schools, colleges and universities to improve the emotional utility of key decisions that prospective and current students are regularly required to make. This may be as simple as encouraging students to visualise, in a structured way, the variety of factors (programme-related and otherwise) that might impact their emotional state at a future point in time (e.g. class size, friendships, co-curricular activities, travelling, living arrangements, etc.).

    In this manner, the deployment of de-focusing activities could enhance the support and guidance provided to students ahead of their decision to engage in a particular programme, course or activity. Similarly, de-focusing activities could also be implemented to assist students who are unhappy or dissatisfied with their current situation to more accurately evaluate the relative attractiveness of alternative options (e.g. leaving university, changing courses, etc.). Finally, with regard to aspects of the student experience that are expected to be negative, de-focusing might also be justified on the grounds that diminishing the impact bias may reduce unnecessary worry and anxiety about future situations (see Wilson and Gilbert 2005).
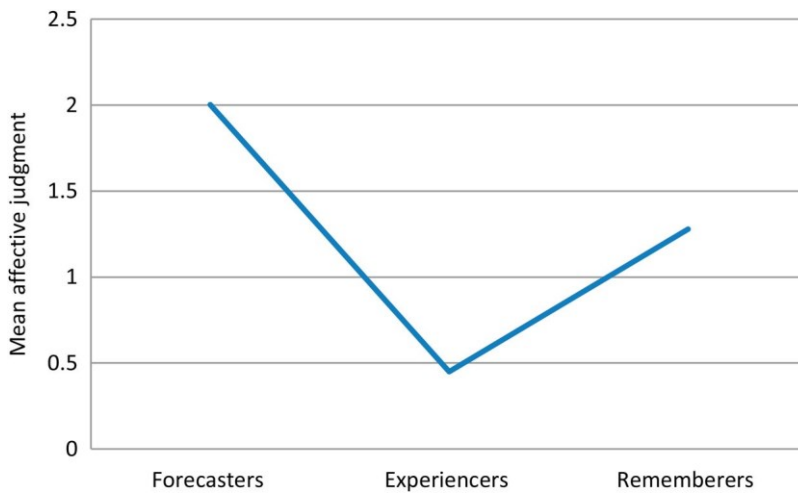
Figure 6.   Forecasts, experiences and memories of affective attitudes towards the dissertation experience.

Timing and comparability of course evaluations

In addition to the implications of the impact bias for student decision-making, HE managers should be aware of it when administering, analysing and interpreting student evaluation surveys, particularly with respect to evaluation timing and comparability. In terms of the former, the impact bias suggests that course evaluations undertaken before a course is finished are likely to differ from those gathered afterwards. If, for example, online course evaluation questionnaires are open for an extended period – overlapping teaching, post-teaching and, possibly, post-assessment – then the results are likely to be from students at different points on the impact bias curve. Even if students are being evaluated purely on the basis of their (domain) satisfaction with course events (rather than their affective response to these events), the impact bias can still indirectly influence such cognitive judgements (of satisfaction) because how people feel, or remember feeling, feeds into how and what they think (see Diener, Scollon, and Lucas 2003; Chong and Ahmed 2015). A cynical perspective might therefore involve capitalising on the impact bias to manipulate the timing of course evaluations to give more positive results, although ultimately this would not lead to long-term institutional gain or improvements in students' experiences and affective well-being. However, this is not to say the timing of evaluation surveys does not matter; indeed the impact bias renders timing especially important around issues of evaluation comparability. Specifically, HE managers and academics should be careful when making comparisons between course evaluation results, without first considering the time elapsed between the event/experience in question and the point at which it is evaluated, and how this may differ between courses or students.

Nature and impact of word-of-mouth communication

Finally, the findings of this study may have HE marketing implications, particularly for understanding the changing nature of word-of-mouth communication over time. In a social media environment students have many opportunities to review and recommend
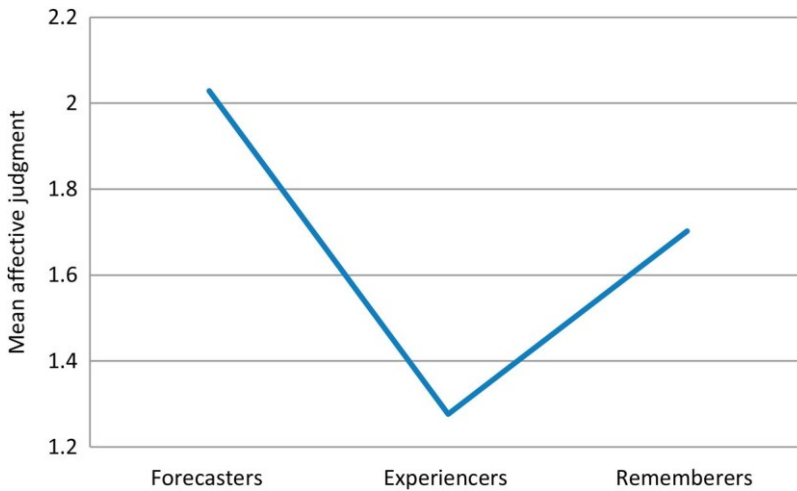
Figure 7.   Forecasts, experiences and memories of affective attitudes towards the dissertation experience (negative evaluations removed).

courses and institutions, both after and during their student experience. The impact bias could radically alter the nature of word-of-mouth communication across these two points in time. Put simply: recommendations that are made after the student experience will be based on, or informed by, more intense feelings (positive or negative) than those made during the experience itself. Thus, bad experiences become very bad, and good experiences become very good, in retrospect. For HE managers, therefore, the effectiveness of positive word-of-mouth activity as a pure recruitment and promotional tool may be most evident when it originates from rememberers. This indicates the benefits of mobilising and engaging alumni for marketing a course through word-of-mouth recommendations. However, should the primary objective be to improve the accuracy of affective forecasting and subsequent decision-making amongst prospective students, then the broader and tempered word-of-mouth reviews of current students could be of value as a de-focusing tool (see above).

Recommendations for further research

We have noted previously that the impact bias appears to be a particularly robust phenomenon that occurs across a very wide range of contexts. As such, the results of the current study may be expected to generalise to other courses, disciplines, institutions and any aspect of the educational experience that students are required to evaluate. However, it would be helpful for further research to engage in replication of the current findings in other HE contexts (e.g. in relation to a wider range of courses, disciplines and student experiences).

Given that the great majority of participants reported positive evaluations in the current study, our analysis is necessarily limited to the positive impact bias. Whilst it may be relatively uncommon for prospective students to anticipate negative emotional experiences during a course they are about to undertake (as evidenced by previous academic research, the UK PTES and our study), it is certainly not out of the question. A specific investigation of the existence, nature and

consequences of the negative impact bias in such cases would constitute a useful extension of our work. Further research may also be undertaken to examine the durability aspect of the impact bias in an HE context; i.e. to explore the expected, perceived and remembered duration for which emotional responses persist in relation to certain aspects of the student experience (e.g. leaving home and beginning university life).

Three further issues for future research may emerge from a broader critical perspective. First, it may be useful to consider the relationship between affective states and academic performance. For example, there is an ongoing debate in the HE sector as to whether student satisfaction, and indeed happiness, is positively correlated with effective learning and intellectual development (see Furedi 2012). Second, in the social psychological tradition of impact bias research it has been assumed that affective scales provide a valid measure of affective experience (Gilbert et al. 1998, 2004; Wilson et al. 2000; Wilson, Meyers, and Gilbert 2003; Meyvis, Ratner, and Levav 2010). However, this raises the question of whether this is the case in the context of HE. As a means of examining the extent to which scale-based evaluations reflect university students' lived experience, further qualitative research is recommended to explore the nature, intensity and stability of their affective expectations, experiences and memory. Finally, our study suggests the need for a wider and more detailed investigation into questionnaire surveys as a suitable means of evaluating students' experiences and feelings. Impact bias, it would seem, presents yet another potential methodological concern regarding such instruments, adding to previously identified issues such as response bias (Richardson 2012) and differing student interpretations of survey questions (Bennett and Kane 2014).

Conclusion

In summary, and in response to calls in the literature for a greater focus on understanding the affective experience of students in the context of their expectations (Miller, Bender, and Schuh 2005; Beard, Clegg, and Smith 2007), our paper validates and extends previous demonstrations of the impact bias in an HE context. There are many definitions of the student experience, but it is difficult to imagine that the relationship between affective forecasts, experience and memory is not consistently a central aspect. We show evidence of the impact bias with regard to postgraduate students' affective evaluations of their general happiness and, also, their postgraduate and dissertation experiences.

The impact bias may have important implications for student decision-making, timing and comparability of course evaluations, and the nature and impact of word-of-mouth communication. Ultimately, it provides an important reminder that as human beings we have a tendency towards overly optimistic (or overly pessimistic) views of the future and the past. An appreciation of the inevitability of this is critical to understanding and managing students throughout their HE journey, and beyond.

Disclosure statement
No potential conflict of interest was reported by the authors.

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