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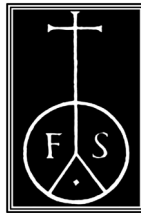
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MITIGATING THE EFFECTS OF GENDER IN L2 MOTIVATION AND LEARNING THROUGH THE USE OF ELECTRONIC PORTFOLIOS

FLORDELIS GONZÁLEZ MUJICO* · DAVID LASAGABASTER**

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ABSTRACT · Motivation and self-regulation are considered key variables in the successful attainment of a foreign language, within which learner self-concept is a pivotal factor. As a transportable identity, gender is always present and permeates the development of any self-concept dimension. In L2 learning, improvement of the self-concept appears to be more propitious among female students, suggesting practitioners challenge gender intensification in the classroom. The integration of technology as an education skill may be the key to countervailing these effects. While male students' positive attitudes towards using technology in the classroom may benefit L2 learning, female students' interest in technology remains underdeveloped. This study explores whether possible selves underpinned by digital technology can serve to mitigate gender bias in L2 acquisition, motivation and self-regulation, while fostering digital literacy in the L2 classroom. To achieve these aims, a 6-week mixed-methods intervention study based on possible selves through electronic portfolios was conducted on 205 international undergraduate students learning English at a British university. A questionnaire was designed to collect data on students' pre-post scores on L2 motivation and self-regulated learning, while proficiency gains were examined based on students' summative assessments. The qualitative data came from 13 semi-guided focus questions inquiring after the reflections of students on possible selves through ePortfolios. The findings of this study conclude that increased gender equality was correlational to the degree of ePortfolio implementation.

KEYWORDS · Electronic portfolios, Gender, L2 acquisition, Motivation, Self-regulation, English language teaching.

I. INTRODUCTION

DÖRNYEI'S (2005) L2 Motivational Self System (L2MSS) draws attention to the importance of one's self-concept in understanding motivational dispositions through the study of possible selves. Henry (2009) exhorts that gender be included as a key variable in future research conducted within the self-system paradigm as it is central to the learner's self-concept. As a transportable identity, gender is always present in the development of self-concepts and may be somewhat consistent with gender stereotypes. For instance, studies continue to report (e.g., Ryan 2009a) higher L2 motivation among females, while males hold more positive attitudes towards using technology in the classroom (e.g., Plumm 2008). Linking technology

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to the curriculum in a way that allows students to develop an understanding of the interrelationship between self-concept, learner aims, progress and development may allow educators to mitigate these differences.

Pedagogical advances in web technologies have recommended the implementation of electronic portfolios (ePortfolios) to represent learners' digital identity of the 21st century (Meyer, Abrami, Wade, Aslan & Deault 2010) in transitional phases, as is the case of gender as a transportable identity. This context led this study to design an ePortfolio digital platform that can adapt to the conceptual framework of possible selves. The hypothesis being that such a platform would serve to mitigate gender bias in L2 acquisition, motivation and self-regulation, while fostering digital literacy in the classroom. Inasmuch as the effects of gender have been investigated over the years, general clarification is still required in the fields of L2 acquisition (Csizér & Dörnyei 2005) and educational technology (Plumm 2008).

To achieve these outcomes, this study aims to examine whether possible selves based on ePortfolios can serve to mitigate gender variability in L2 acquisition, motivation and self-regulation in an English for academic purposes (EAP) course. Both quantitative and qualitative data were collected from 205 students undertaking an undergraduate EAP course at a British university through a questionnaire and focus group interviews. Before this study presents its methodology and findings, the next section will provide a brief literature review of extant research that has examined the influence of gender in the fields of L2 acquisition and pedagogical technology, specifically in relation to possible selves and ePortfolios.

II. LITERATURE REVIEW

The construal and activation of possible selves can shed light on how individuals are moved from the present towards the future when conceptualising their as-yet unrealised potential, forming an explicit link between the current self-system and self-guided behaviour (Dörnyei & Ushioda 2009). Within the theoretical framework of the L2MSS, the ideal L2 self and the ought-to L2 self represent future self-guides that are both personally and socially desirable for learners. Dörnyei (2009) ascribes the L2 Ideal-self as having a definite guiding function in setting to-be-reached standards, as it represents all the attributes that a learner would like to possess as an L2 speaker. The second component, the ought-to L2 self, represents the feared self and it also regulates behaviour by guiding the individual away from something (ibid).

Knox (2006) argues that gender roles have a crucial impact on the construal of possible selves that females and males develop. In this study, males were more prone to formulate an ideal self that positioned them as independent of and superior to others, whereas females were more inclined to develop future selves that were characterised by interpersonal qualities, incorporating the views of others. This tendency among female learners to favour an integrative self-concept was subsequently corroborated in L2 studies conducted by Henry and colleagues (2011a, 2011b; Henry & Cliffordson 2013). Reporting favourable gender differences for women in 17 studies, while only four did not, these authors identified female interpersonal L2 learning qualities as beneficial to the elaboration of future self-guides, and consequently to the development of possible selves. Upon which,

Henry (2011b) urges practitioners to challenge gender intensification in the L2 classroom, specifically in relation to male learners when developing L2 possible selves.

Several studies have evinced that men do not do as well as women on some indicators of motivation. Male students have been found to weaken their Ideal L2 self-concepts over time, while girls strengthen it, scoring higher on Ideal L2 selves and intended learning effort (Henry & Cliffordson 2013; Ryan 2009a, 2009b). A trend also observed among Chinese students, and of interest, since the vast majority of the participants in our study were Chinese learners. Chinese females scored significantly higher on Ideal L2 selves, while Chinese males reported higher scores on the ought-to self dimension, inferring a greater susceptibility to prescribed external obligations (You, Dörnyei & Csizér 2016; You & Dörnyei 2016).

Any attempt to mitigate gender bias in the construal and activation of L2 possible selves must provide learners with effective future self-guides that include an imagery component, a repertoire of appropriate plans, scripts and self-regulatory strategies (Dörnyei 2009). To achieve this, Hadfield and Dörnyei (2013) propose three stages: imaging identity, mapping the journey and keeping the vision alive. To begin with, learners need to visualise an L2 identity before setting goals and self-regulation strategies. During this initial stage, learners undertake a plausible analysis and initiation of an the ideal L2 self. The second phase comprises activation of the desired the ideal L2 self through realistic strategies and plans. The third and final phase entails keeping the vision alive through ongoing reflection and evaluation of phases one and two.

Amalgamating these three stages within Barrett's (2000) five-stage ePortfolio development process would provide learners with an L2 digital possible selves' conceptual framework (Appendix I), which fosters gender parity through self-expression, technology and pedagogical relevance. The first and second phases of the ePortfolio development process (i.e. defining the portfolio and the working portfolio) can serve as a parallel interface to the first and second phases, respectively, of Hadfield and Dörnyei's (2013) future self-guides, i.e. imaging identity and mapping the journey. The final three phases of the ePortfolio development process (i.e. the reflective, connected and presentation portfolio) can offer an interface for the sustainability, evaluation and execution of Hadfield and Dörnyei's (2013) future self-guides, i.e. keeping the vision alive.

To our knowledge, the elaboration and actuation of L2 possible selves through ePortfolios has not been examined. Although an exploration of ePortfolios in higher education has proliferated over the past decade, it has been significantly underexplored in the context of L2 learning. Various studies (e.g. Abrami, Wade Pillay, Aslan, Bures & Bentley 2008; Abrami, Venkatesh, Meyer, Wade 2013; Meyer *et al.* 2010; Upitis Abrami & Patteson 2010) have provided important confirmatory evidence of the positive impact of ePortfolios on students' learning skills, self-regulation strategies and goal setting strategies when used regularly and integrated into pedagogical practice. While other studies have confirmed their ability to foster gender parity. Although studies (e.g., Mims-Word 2012; Plumm 2008; Vekiri & Chronaki 2008) have posited a gender gap in the motivation to use technology in the classroom favouring males, these differences were less apparent in higher education, particularly when computer usage was interpreted as valuable to stu-

dents' learning and employed as a medium of self-expression (e.g. Wuetherick & Dickinson 2015).

Integrating ePortfolios within curricular assessment proved highly successful for students undertaking short programmes in a study by Herman and Kirkup (2008). Although men were found to be more likely to adopt a technology despite its level of difficulty, women were more influenced by the social expectations of those they are with, so if they are in a group with others who expect them to adopt a technology they will do so too. Thereby, postulating a group situation, as is applied in this study, as the most conducive to accepting and learning to use ePortfolios, regardless of gender.

This brief review of the literature underscores the areas of gender intensification that demand further analysis within L2 learning and technology, while guidance to countervail these differences through L2 possible selves and ePortfolios are also presented. Therefore, the question remains as to whether these recommendations could lead to gender parity in motivational dispositions, self-guided behaviour and proficiency gains among L2 students.

To further investigate the role of gender within the construction of L2 possible selves and the employment of technology in the L2 classroom, this study entertained the following research question: Can L2 possible selves underpinned by ePortfolios, henceforth digital L2 selves, serve to mitigate gender variance in L2 motivation, self-regulation and proficiency gains?

III. METHODOLOGY

In order to test the aforementioned research question, a mixed-methods design employing questionnaires and focus group interviews was employed. Because «questionnaire surveys usually provide a rather 'thin' description of the target phenomena» (Dörnyei 2007, 115), both quantitative and qualitative data were gathered to provide a broader picture of the issues under investigation. This allowed for the identification of significant statistical trends in the quantitative data, the possible causes of which were pursued through interviews with a smaller number of participants (Dörnyei & Ushioda 2011).

Sample

A convenience sample of 205 international undergraduate students undertaking an EAP course at a British university agreed to participate in this study. The majority of participants were aged between 20 and 25 (93%) and were of Chinese nationality (97%), with an average IELTS level 5 across the board in all skills (reading, writing, listening and speaking). Gender representation for the entire sample was comprised of 77 male students (38%) and 128 female students (62%). The majority of participants (91%) did not speak an additional language to their L1 aside from English.

In order to increase the validity of the experiment, a control group was included. The experimental group comprised 120 students (58%) as compared to 85 students (42%) in the control group. The gender ratio was 76 female to 44 male experimental participants, in contrast to 52 female and 33 male control participants. Groups were fairly homogeneous in regard to age, nationality and L2 background.

To avoid major bias, subjects were randomly assigned to groups and respective teachers by a third party and not allowed to choose in which group they would be, i.e. experimental or control. Subsequently, classes were distributed into an experimental group made up of ten groups and ten teachers, and a control group composed of seven groups and seven teachers. All 17 teachers had previous experience teaching English as an L2, with the majority of teachers having taught English for over five years. Most teachers (80%) had previous experience imparting EAP courses at the host university.

Instruments

The quantitative part of the study was based on data collected through a questionnaire that measured gender variance in L2 motivation and self-regulated learning (SRL), while proficiency gains were measured through EAP summative course assessments. Participants filled out a questionnaire that included three sections and 51 items. Participants had to answer closed questions with 6-point Likert scales, ranging from 1 (strongly agree) to 6 (strongly disagree). Fifty-five items assessing motivation and SRL were included in sections one and two. Forty items taken from the L2MSS and scales validated in previous studies (Abrami *et al.* 2013; Asker 2012; Dafei 2007; Dörnyei & Chan 2013; Hung 2015; Iwaniec 2014; Taguchi Magid & Papi 2009; Teng & Zhang 2016; Waller & Papi 2017; You & Dörnyei 2016) measured a total of eight motivational traits: criterion measures (e.g., “I am prepared to invest a lot of time on improving my English”), Ideal L2 self (e.g., “when I think of my future career, I can imagine myself using English”), ought-to self (e.g., “my parents believe that I must study English to be an educated person”), instrumentality promotion (e.g., “I will be able to make a lot of money with a high level of English proficiency”), instrumentality prevention (e.g., “I have to study English; otherwise, I cannot be successful in my future career”), attitudes towards learning English (e.g., “I enjoy learning English”), feared self (e.g., “it will have a negative impact on my life if I do not improve my English”), and English self-concept (e.g., “I am always able to get my ideas across when I write in English”). The internal consistency of these eight subscales reported Cronbach Alpha values that varied between .534 and .822 from pre-test to post-test scores, respectively. Eleven items examined SRL (e.g., “I remember the mistakes my teacher points out to me, and I try not to make them again”, “I set my own learning goals, I decide what to learn”, “I evaluate my own work, I look at my work to see if it is good or needs improvement”), taken from scales validated in prior SRL studies (e.g., Iwaniec 2014). The internal consistency of this subscale reported Cronbach Alpha values that varied between .822 and .886 from pre-test to post-test scores, respectively. Students answered background questions, including age, nationality and age onset of English learning in the final section.

All summative course assessments were included as evaluative tools to determine the effectivity of the intervention on proficiency gains based on gender. Students were evaluated on 16 tasks, assessing all five EAP modules: writing, reading, speaking, listening and research skills. Summative assessments were evaluated in accordance with the official EAP marking criteria established by the university. Tasks were marked by the teacher assigned to that group and moderated by the EAP course director and/or manager before a final grade was awarded.

The intervention was implemented within the research skills module. Students had to produce a research paper that included four sections: Introduction, Methods, Results and Discussion (henceforth, IMRaD). The IMRaD project coursebook consisted of six units, one unit per week. It was imparted as a six 180-minute weekly programme and comprised 11 components: three components on imaging identity, two components on mapping the journey and six components on keeping the vision alive, taken from Hadfield and Dörnyei (2013). To allow for control trials, two versions of the IMRaD coursebook were designed: a version that integrated the aforementioned 11 intervention components into the IMRaD course syllabus for the experimental group, and an additional version that excluded these intervention components for the control group. Although all participants had the same IMRaD formative and summative assessments, experimental participants were asked to upload each completed intervention component to an ePortfolio. These participants had complete ownership of their ePortfolio and could access it as often as desired or required.

The qualitative data came from 13 semi-guided focus questions inquiring after the reflections of students on L2 digital selves. Participants in the experimental group were asked whether the intervention had influenced learner motivation, SRL and L2 learning, in any way. A total of seven focus groups that comprised 30 students, with between four and seven students in each cohort, agreed to participate in the focus group interviews. To preserve participants' anonymity, we have replaced the names by numbers for extracts from the focus group interviews. The research design and questionnaire obtained approval from the Ethics Committee of the School of Education at the host university.

Data Collection and Analysis

A six-week intervention study was conducted during the summer undergraduate EAP programme. A pre-test/post-test, quasi-experimental, comparison group, mixed-methods design was followed. Data collection was conducted on the first day of the EAP course during the student induction (week 1), in which the entire cohort was asked to complete the pre-test questionnaire, and experimental students were also asked to set up an ePortfolio account. On the last day of the course (week 6), all participants again were asked to complete the post-test questionnaire. The IMRaD project module began in week 1 and ended in week 6. Focus group interviews took place towards the end of week 6.

Quantitative data obtained were coded and analysed by means of the SPSS 24 programme. Cohorts showed significant pre-existing differences in terms of most L2 motivation and SRL variables. Participants in the control group displayed higher scores on most aforementioned variables in comparison to the experimental group. A new variable was created to report pre and post intervention scores in order to control for these pre-existing differences (i.e., pre-post difference mean). Nonparametric tests were performed to compare L2 motivation, SRL and proficiency variables, as the test failed normality in some of the cases.

A distinction was made to account for the influence of the degree to which ePortfolios were implemented in the classroom had an effect on gender. Participants who submitted the intervention in its entirety to their ePortfolio (i.e. all 11 intervention components), adhering to task requirements fully and adequately,

were ascribed to the 'ePortfolio complete group'. Learners who did not submit all 11 components to their ePortfolio were ascribed to the 'ePortfolio partial group'. Learners who were not assigned the intervention remained in the 'control group'. As ePortfolio partial and complete participants did not report significant pre-existing differences, variables were compared on both pre-post difference mean scores, followed by a comparison of pre-test and post-test mean scores.

To gauge participants' total proficiency gains from the beginning to the end of the intervention, a grade increase/decrease cumulative was calculated on participants' summative assignments for each academic skill, i.e. writing, reading, speaking and listening. As the IMRaD project was a sole submission, analyses were based on the single final grade awarded.

Qualitative data were a total of 140 minutes, resulting in a corpus made up of 17.041 words. Data were transcribed and analysed using NVivo 10 qualitative analysis software. To test for the effect of gender, the procedure of thematic content analysis and constant comparison was employed, which focused on searching for patterns in the text that ordered the data into categories (Doiz Lasagabaster & Sierra 2014, 121). To this end, discrete ideas expressed by students in each answer (tokens) were identified in relation to the influence of L2 digital selves on motivation, SRL and L2 learning. These ideas were then classified under the general themes of positive and negative comments. Percentages were used as a basis of comparison among themes, categories and subcategories.

IV. RESULTS

To examine whether L2 digital selves countervailed gender variance, first, gender differences are presented concerning motivation, SRL and proficiency gains across groups, i.e. a comparative of either male or female scores across all groups in this study. Subsequently, gender variance is outlined within groups independently, i.e. a comparison of male vs. female scores in the same group. This section is divided in three parts. First, quantitative data are presented, followed by qualitative findings, with a final discussion section that explores the significance of the results.

Quantitative Findings

To begin with, gender differences were analysed across groups (FIGURE 1). A Mann-Whitney U Test was first conducted on the two main groups. The independent variables were the type of group (control vs. experimental) and gender (male vs. female). The dependent variables were means difference scores on motivation and SRL variables, calculated from the questionnaire administered prior to commencement (pre-test) and after the intervention was completed (post-test), and mean scores on proficiency variables, calculated from the official summative assessments. No significant differences were reported among males across groups. Females in the experimental group reported significantly higher scores than control females on L2MSS criterion measures ($\zeta = -2.55, p < .01$), and English self ($\zeta = -2.70, p < .00$), with a small effect size ($r = .4$).

To further assess the role of gender across groups, a one-way between groups analysis of variance Kruskal-Wallis Test was conducted in relation to ePortfolio implementation. The independent variables were the type of group (control, ePortfolio partial, ePortfolio complete) and gender (male vs. female). The dependent

variables were motivation and SRL difference mean scores, and mean scores on proficiency variables. ePortfolio complete males ($X^2(2, n = 77) = 7.25, p < .02$) outscored males in the ePortfolio partial ($X^2 = 6.60, p < .03$) and control ($X^2 = 8.42, p < .01$) groups on three L2MSS variables. ePortfolio complete males reported a positive increment on criterion measures ($M = 1.83$), while ePortfolio partial ($M = -1.53$) and control ($M = -0.61$) males registered a decrement. ePortfolio complete males attained an increment in ought-to self ($M = 2.42$) in comparison to ePortfolio partial ($M = -0.94$) and control ($M = 0.61$) males. Attitudes to English also increased among ePortfolio complete males ($M = 1.50$), while they dropped among ePortfolio partial ($M = -2.41$) and control ($M = -0.24$) males.

ePortfolios complete females also outscored ($M = 0.00$) ePortfolio partial ($M = -1.09$) and control ($M = -2.19$) females on L2MSS criterion measures ($X^2(2, n = 128) = 6.97, p < .03$). In contrast, ePortfolio partial females did better ($M = 2.02$) than ePortfolio complete ($M = 1.14$) and control females ($M = -0.02$) on English self ($X^2 = 7.86, p < .02$). Both ePortfolio partial and control females, jointly, exceeded ($M = 6.09$) ePortfolio complete females ($M = 5.83$) on IMRaD scores ($X^2 = 6.05, p < .04$).

A further Independent-Samples Mann-Whitney U Test across ePortfolio experimental groups also identified proficiency as contingent to gender. Oral ($\zeta = -2.00, p < .04$) and writing ($\zeta = -2.07, p < .04$) proficiency proved significant for males, while listening proficiency was significant for females ($\zeta = -2.23, p < .03$), with a medium effect size ($r =$ between .5 and .7). Speaking gains were higher among ePortfolio complete ($M = -1.17$) than ePortfolio partial ($M = -3.69$) males. Writing gains increased among ePortfolio partial males ($M = 2.95$), while it decreased for ePortfolio complete males ($M = -1.17$). Listening gains improved among ePortfolio complete females ($M = 1.95$), while ePortfolio partial females registered a drop ($M = -1.16$).

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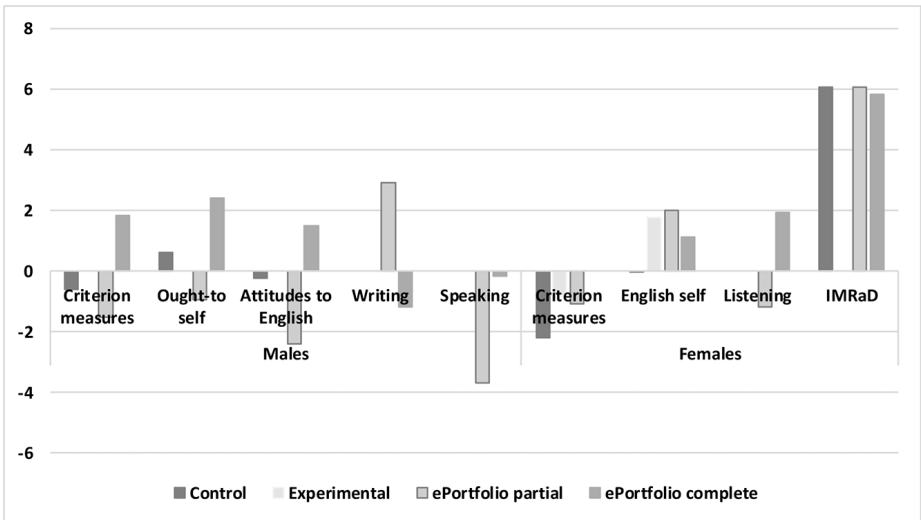


FIG. 1. Significant gender differences across groups on L2 motivation and proficiency gains.

Subsequently, gender variance was examined within groups (FIGURE 2). Individual group Independent-Samples Mann-Whitney U Test analyses revealed significant gender differences for motivation and proficiency. Among control participants, scores on ought-to self ($\zeta = -2.05, p < .04$) were higher among males ($M = .61$) than females ($M = -1.00$), and males ($M = -.24$) also outscored females ($M = -2.21$) on attitudes to English ($\zeta = -2.14, p < .03$), both with a medium effect size ($r = .5$). However, females reported better scores ($M = -.23$) than males ($M = -3.61$) on speaking gains ($\zeta = -2.15, p < .03$) with a small effect size ($r = .46$).

Within the experimental group, males ($M = .77$) exceeded females ($M = -.97$) on L2MSS feared self ($\zeta = -2.21, p < .02$) and reading gains ($\zeta = -2.65, p < .00$), in which males reported an increment ($M = 2.39$) and females a drop ($M = -1.09$), both with a small to medium effect size ($r =$ between 4 and 5). Females, in contrast, outscored ($M = 6.02$) males ($M = 5.7$) on IMRAD grades ($\zeta = -2.27, p < .02$), with a small effect size ($r = .4$).

Among ePortfolio partial students, males ($M = 2.31$) reported an increment while females ($M = -1.07$) registered a decrement in reading proficiency ($\zeta = -2.30, p < .02$), with a medium effect size ($r = .5$). While females registered higher scores ($M = 6.09$) than males ($M = 5.66$) on IMRAD grades ($\zeta = -2.55, p < .01$), with a medium effect size ($r = .5$). For ePortfolio complete participants, L2MSS attitudes to English proved significant ($\zeta = -2.02, p < .04$), with a large effect size ($r = .8$), with males reporting an improvement ($M = 1.50$) in comparison to females ($M = -1.14$).

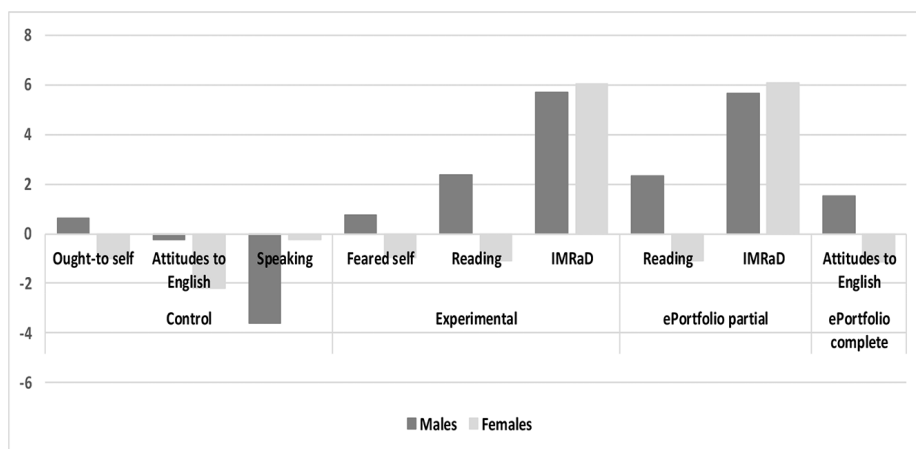


FIG. 2. Significant gender differences within groups on L2 motivation and proficiency gains.

Qualitative Findings

To better understand which aspects of L2 digital selves may have influenced gender variance reported in the quantitative findings of this study, experimental participants' comments on the effects of this framework were classified into three main thematic categories: motivation, SRL and ePortfolios, within which L2 learning was included as a subcategory (see FIGURE 3 and FIGURE 4). In total, the cohort

of interviewees was comprised of 13 male and 17 female experimental students, of which 18 participants comprised the ePortfolio partial group, and 12 participants pertained to the ePortfolio complete group.

Comments made in reference to motivation were the first to be examined and were proportional among students, albeit slightly higher among female learners, and registering more positive tokens. Development, content and usefulness were the aspects students commented on the most, and somewhat higher among female students, particularly in relation to content. Concerning development, the top subcategory for participants, regardless of gender, was that they considered the intervention to have improved L2 learning, particularly in relation to writing ability. An observation that did not corroborate our mixed quantitative findings on proficiency gains. Notwithstanding, participants felt the intervention had a positive effect on their academic performance, underscoring its ability to improve linguistic skills retrospectively, which fostered motivation diachronically. The following quotes illustrate these subcategories in turn:

Yes, we can learn from our mistakes and differences and different presentation and writing parts and improve skills. (*ePortfolio complete, Student 7, male*)

We could practise all the skills of English such as speaking, critical thinking, listening and communicating with the people in English. (*ePortfolio partial, Student 17, female*)

I think we can practise many skills doing this, like presentation or how to write a story. I think it's positive as we are learning in a different way to how we do in our country. (*ePortfolio complete, Student 6, female*)

I can get a gift from [my classmate's] good pronunciation. (*ePortfolio complete, Student 24, female*)

Female students' tokens doubled those of males as regards the motivational benefits of content included in the intervention. Female learners found components that included music enjoyable, different and inspirational. Although comments were generally brief, the element of connoting fun to music was oft-noted. Contrastingly, didacticism, plausibility and self-efficacy issues were identified in two-fold manner by female students as detrimental to motivation. Female students considered L2 digital selves to be excessively didactic, with an overrepresentation of writing tasks. An apprehension to drawing pictures was also noted, with female students considering it a pointless activity (plausibility) that was either too difficult or time-consuming. Likewise, female learners felt some components were too challenging, which compromised self-competence beliefs and threatened their self-image as an English speaker (self-efficacy).

In contrast, male participants' comments doubled those of female participants on assessment, namely that L2 digital selves were ungraded and reviewed insufficiently. Male respondents felt that, to some extent, non-graded intervention components felt pointless within the IMRaD project. Similarly, they considered the feedback offered insufficient and felt that it may have stunted participants' development and progress. The following quotes illustrate the aforementioned motivation subcategories in turn:

The song and the debate video were something different because we can show our ideas and express what we think. With the writing it was not something we

could show our ideas like in other activities like the song or debate video. (*ePortfolio complete, Student 14, female*)

Sometimes it took a lot of time to draw the pictures. In my opinion, I would prefer to draw something that looks perfect. I want to make it perfect so it took lots of time and was a lot of extra work for me. (*ePortfolio complete, Student 5, female*)

Because you know for Chinese students this thing is not necessary to do and has no mark or assessment then this is not important and goes to the bottom of my pile. (*ePortfolio complete, Student 13, male*)

Remarks garnered on the conditions that engaged or diverted students from employing SRL strategies were fairly even among interviewees. The only notable difference being that female students registered a higher amount of comments on the SRL benefits of reflection and mapping strategies offered through L2 digital selves. Conversely, lifelong learning was considered to be a positive factor within SRL twice as often among male students. The following quotes illustrate this category accordingly:

If you review the notes you can improve. I reviewed my presentations from week to week because I need to improve and want to get better it was helpful. (*ePortfolio complete, Student 14, female*)

This programme can help you to make your learning more like a system and also some parts will help you more to think about studying life in the future. (*ePortfolio complete, Student 4, male*)

Electronic portfolios were the third, and last, thematic category to be analysed qualitatively. Few gender differences were noted within positive comments offered, albeit more frequent among females, who also rendered more tokens in relation to its negative aspects. Remarks on the negative effects of this aspect included technical issues, plausibility and presentations, which doubled among female interviewees. These learners expressed technical problems uploading their components to their ePortfolio due to software incompatibility with mobile phone operating systems.

Plausibility, a theme previously identified as negative to motivation, was also underscored by females as negative to the digital aspect of L2 possible selves. Some female interviewees questioned the purpose and necessity of ePortfolios, particularly as their colleagues in the control group did not have to complete it, and also because they had difficulties linking the intervention tasks to the IMRaD project. Females also adduced that the duration of the intervention was ineffective, while they expressed greater reticence to upload components they felt less confident completing, particularly when visibly exhibited in ePortfolios, as was the case for presentations, and is conveyed in the comment below:

I found the presentation difficult to watch because I hate listening to my personal voice it's embarrassing. I need to practise more. (*ePortfolio complete, Student 23, female*)

V. DISCUSSION

In order to better understand the influence of L2 digital selves on gender parity, first, it is necessary to review the effects of the intervention as a whole, followed by the impact of ePortfolio implementation. Across groups, i.e. when a gender co-

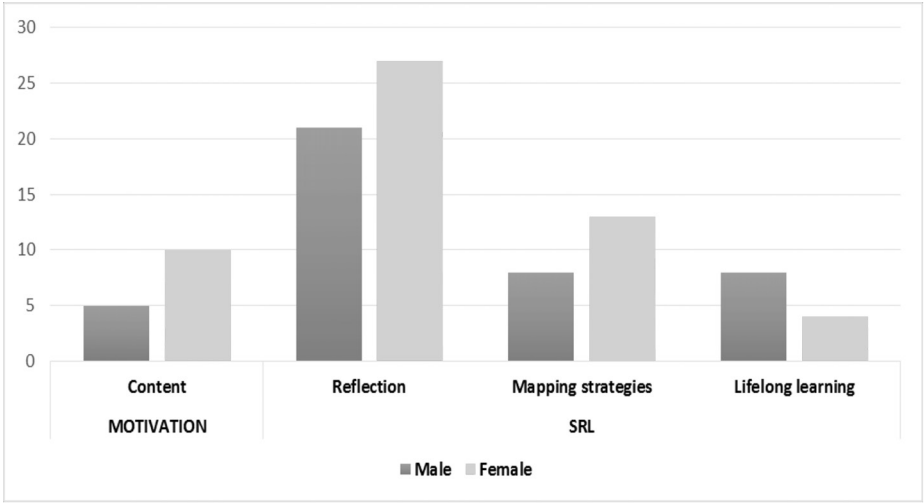


FIG. 3. Qualitative gender differences on the positive aspects of L2 digital selves.

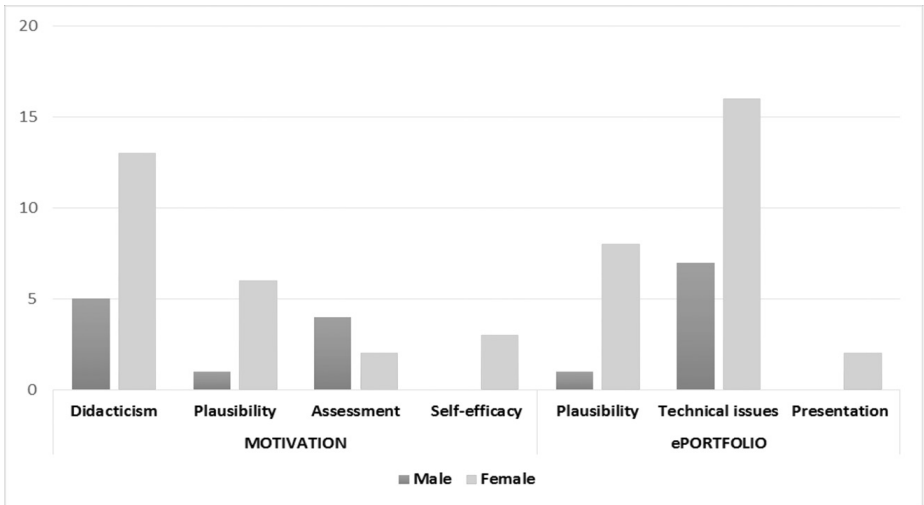


FIG. 4. Qualitative gender differences on the negative aspects of L2 digital selves.

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hort from the control group was compared with its experimental group counterpart, experimental females were the only cohort to report a significant increment on L2MSS criterion measures and English self in comparison to control females (FIGURE 5). This finding supports previous research (e.g., Henry 2009; Henry & Cliffordson 2013; Ryan 2009a, 2009b) on the ability of female learners to excel in an L2MSS context underpinned by future self-guides.

Within groups, however, significant gender differences were more frequent, and broadly speaking, propitious among male students. When male and female students were compared within the control group, males reported higher L2MSS

ought-to self and attitudes to English, while females reported better speaking proficiency. Similarly, experimental male learners attained higher scores on L2MSS feared self and reading proficiency, while experimental females outscored males on IMRaD grades. Although these mixed findings in L2 learning and motivation do not corroborate the ability of L2 digital selves to counteract gender bias, they do confirm an observable trend among male learners' heightened societal expectations. Regardless of the intervention, male participants outscored females on L2MSS ought-to self and feared self, which corroborates that, as in prior research (e.g., You & Dörnyei 2016), Asian male and female learners respond differently to external obligations (FIGURE 6).

This correlation between external obligation and L2 motivation among male learners was also corroborated qualitatively. Male experimental learners were the only cohort to request that intervention components be graded and be given more teacher feedback. Although the intervention components were not assessed, the fact that the IMRaD module was a summative assignment may have been sufficient to sustain heightened societal expectations among male learners despite the intervention. In addition, contrary to female participants, experimental male learners did not express any reticence to the process of seeing themselves presenting in English and being visible to peers. A function that may have intensified societal expectations, and, in turn, motivation through ought-to selves. These findings (FIGURE 6) suggest that significant gender variance in L2 motivation among Asian participants in this study appears to have been culturally dependent, which calls into question assumptions about the psychology of learning not being culturally-specific (e.g., Little 1999). An eventuality that needs to be taken into account in future interventions that target gender parity.

Upon further scrutiny, however, it would appear that the degree of ePortfolio implementation did have a positive impact on gender parity in two ways. First, across groups and regardless of gender, ePortfolio complete participants were the only cohorts to attain a significant increment on L2MSS criterion measures, compared with their control and ePortfolio partial counterparts. Said otherwise, L2 digital selves served to maintain and increase intended learning effort throughout the EAP course (FIGURE 5). And second, within groups, ePortfolio complete participants were the cohort to report the least gender bias, reporting only one significant difference, with males outscoring females on L2MSS attitudes to English (FIGURE 2). An outcome that may be attributable to the challenging nature of ePortfolios according to the qualitative remarks of experimental female learners. Notwithstanding, these findings would lead us to affirm that the integral implementation of L2 digital selves served to mitigate gender variance to a greater extent than the essential requirement of English within higher education alone (Lasagabaster 2016), which in turn, advocates the benefits of technology within L2 learning.

Having said this, both across and within groups, the intervention did not extend to gender parity in proficiency gains, which continued to report mixed results (FIGURE 7). Despite qualitative observations reporting gender parity in relation to the developmental benefits of L2 digital selves on participants' L2 learning, experimental participants attained inconsistent proficiency gains across the board. ePortfolio complete males outscored partial males on speaking gains, but not on

writing gains. In contrast, ePortfolio complete females outscored partial females on listening gains but not on IMRaD grades. Whereas ePortfolio partial males outscored partial females on reading gains but not on IMRaD grades.

Although it is difficult to ascertain the reasons for this variance, one possible explanation may be found in the qualitative observations made by female students on the insufficient length of the intervention. Restrictions on the length of the course and teaching hours, surely, impeded the effectivity of L2 digital selves and subsequent results. A longer longitudinal intervention study would be able to account for the diachronic role of gender in learner motivation, SRL and proficiency gains, while it would provide a suitable solution to the time constraints experienced. All the same, given that such a brief intervention was able to mitigate gender bias to a certain degree, the praxis of L2 digital selves within EAP programmes or in L2 learning seems to be validated.

The present study is not without some limitations. Perhaps the most significant limitation concerns the low representation of participants who completed and submitted the intervention in its entirety to their electronic portfolio. The fact that the experimental cohort in this study had to be divided in two groups (33 ePortfolio complete group participants and 87 ePortfolio partial group participants) was a limitation. Significant findings reported from such small samples should be interpreted with the caveat of requiring further replication. This outcome was mainly attributed to time constraints during the IMRaD project, which seem to have encroached upon the impartment and submission of intervention components. Notwithstanding, the fact that the degree of implementation had a significant positive effect on gender parity ratifies the amalgamation of L2 digital selves in L2 learning, even though further research is required to validate these findings under the same conditions over a longer period.

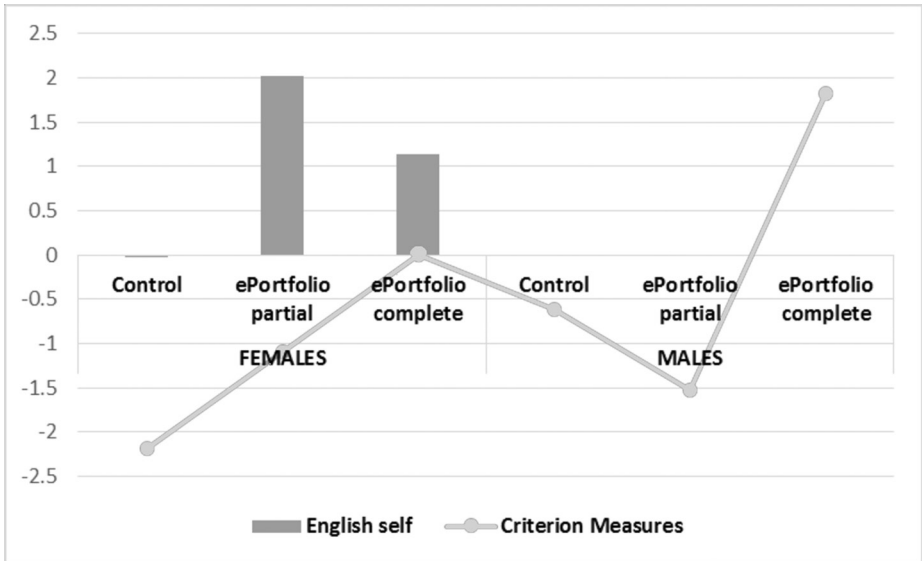


FIG. 5. Significant positive impact of L2 digital possible selves on criterion measures and English self.

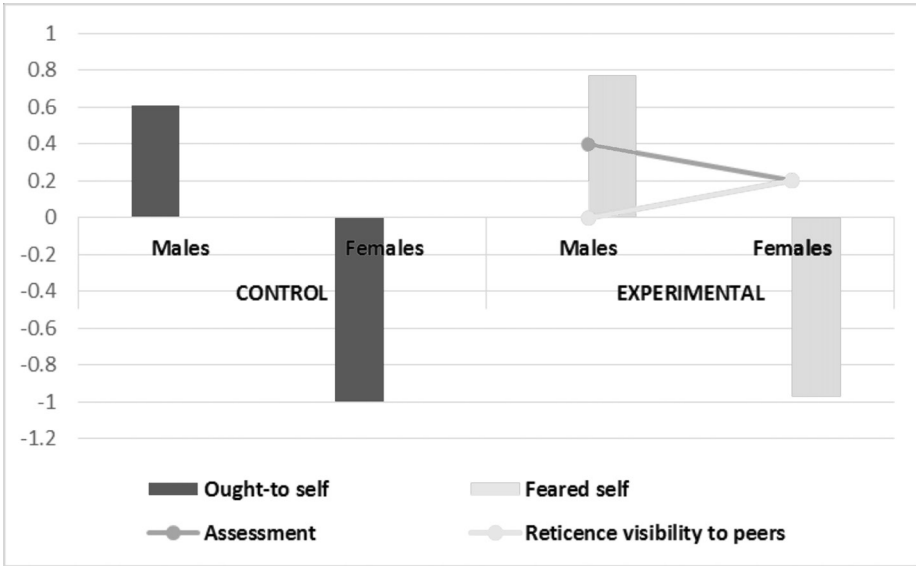


FIG. 6. Asian male and female learners' significant response to external obligations.

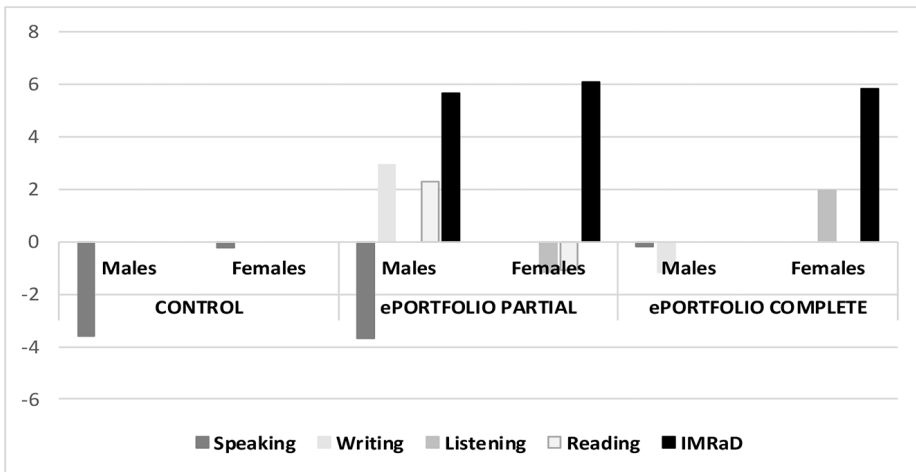


FIG. 7. Significant mixed findings on gender parity vis-à-vis proficiency gains.

CONCLUSION

The main purpose of this study was to examine whether gender bias could be mitigated within L2 motivation, SRL and proficiency gains through the amalgamated theoretical framework of L2 digital selves, i.e. the construal and activation of L2 possible selves through electronic portfolios. Subjects were 205 undergraduate students on a 6-week EAP course at a British university. From the data collected using a mixed-methods approach, clear differences emerged between the contingency of gender across and within groups.

When we look at the data as a whole, we conclude that, to a greater extent, the intervention was effective in countervailing gender variance and incrementing L2 intended learning effort among both male and female participants. These effects, however, did not extend to proficiency gains, which remained inconsistent, or to culturally-dependent motivational conditions grounded on societal expectations that remained significantly gender-based. These observations lead us to resume the discussion on the role of gender, specifically in relation to the correlation between L2 attainment and motivation, and the role of culture in the design of future interventions that intend to address gender parity. Indeed, further replication is needed to validate whether ePortfolios can stimulate gender parity within L2 learning. From a pedagogical perspective, however, through our data we have shown that even a brief intervention based on the conceptual framework of L2 digital selves can have a significant effect on fostering gender parity, which supports its further and continued implementation during the L2 learning process.

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APPENDIX I.
L2 DIGITAL POSSIBLE SELVES' CONCEPTUAL FRAMEWORK

Phase	ePortfolio development process (Barrett, 2000)	Future self-guides (Hadfield & Dörnyei, 2013)
1	Defining the portfolio: context & goals (Purpose, audience, decide, assess)	<i>Imaging identity: plausible analysis and initiation of an Ideal L2 self</i>
2	The working portfolio (collect, interject, design, plan)	<i>Mapping the Journey: activation of the desired Ideal L2 self through realistic strategies and plans</i>
3	The reflective portfolio (select, reflect, direct, develop)	<i>Keeping the vision alive and performance evaluation: ongoing reflection and evaluation of phases one and two</i>
4	The connected portfolio (inspect, perfect, connect, implement, evaluate)	
5	The presentation portfolio (respect, celebrate, present, publish)	

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