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The effect of work integrated learning in highlighting the complexity of work: A pilot study of work self-efficacy

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This pilot study aims to examine the effect of work integrated learning (WIL) on work self-efficacy (WSE) for undergraduate students from the Queensland University of Technology. A WSE instrument was used to examine the seven subscales of WSE. These were; learning, problem solving, pressure, role expectations, teamwork, sensitivity and work politics. The results of this pilot study revealed that, overall the WSE scores were highest when the students' did not participate in the WIL unit (comparison group) in comparison to the WIL group. The current paper suggests that WSE scores were changed as a result of WIL participation. These findings open a new path for future studies allowing them to explore the relationship between WIL and the specific subscales of WSE.

Keywords: Work self-efficacy; undergraduate psychology students; work placements; work self-efficacy inventory (WSEi); work politics; work-integrated learning

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Work-integrated learning (WIL) is a curriculum element that enables university students to undertake and learn through a work-related project or placement as part of their study (Eames & Coll, 2010; McNamara *et al.*, 2012). WIL programs result in improved generic skills (Freudenberg, Brimble, & Cameron, 2011) as well as increased hope and greater confidence that students will achieve their goals (Purdie, Ward, McAdie, King, & Drysdale, 2013). Students gain knowledge and skills, and learn about workplace culture, that can ultimately assist in reducing the post-university transition stress often associated with entering a work setting (A. Bates & Bates, 2013; Brown, 2010).

WORK SELF-EFFICACY (WSE)

WIL appears to facilitate WSE (M. Bates, Thompson, & Bates, 2013). Raelin *et al.*, (2011) suggested that a positive relationship exists between WSE and performance in an organisational setting. A study conducted by Raelin and colleagues (2011) exploring the effect of cooperative education on three dimensions (work, career and academic) of self-efficacy change, found that the WSE of university students was improved by WIL. Similar results were found in another study by Bates, Thompson & Bates (2013). However, in this second study, some of the sub components of WSE (i.e. learning, teamwork and sensitivity) were not improved by WIL involvement.

A South African study examining this relationship indicated different results (Junqueira & Matoti, 2013). Using an instrument that measured teacher self-efficacy (as opposed to the WSE measure used in the studies above), Junquera & Matoti (2013) examined self-efficacy beliefs of pre-service teachers before and after a six-month period of WIL. Students showed high self-efficacy beliefs before the WIL placement but their ratings decreased (although not significantly), after the WIL experience (Junqueira & Matoti, 2013).

This pilot study examines certain characteristics of a single WIL offering within an undergraduate psychology degree at an Australian university. The WIL unit is a single semester class taken by students in their final year of study. This unit is an elective and the students were required to attend placement in an organisation of their choice for a minimum of 50 hours across a semester and complete on-campus workshops to support their placement. This project will compare WSE between students who completed the WIL unit and a sample of students who did not complete the WIL unit. As part of a larger study, the aim of the current pilot study is to investigate the effect on student WSE as a result of participation in the WIL unit.

METHOD

Participants

Participants were two groups of undergraduate students from the Queensland University of Technology (QUT). The WIL group consisted of 21 participants enrolled in a WIL unit (PYB207 Psychology in the Community). The comparison group consisted of 7 participants in their final year of study who were not enrolled in the WIL subject. The majority of participants in the WIL group were female (62%; $M = 23$ years old, $SD = 3.20$) and had previous working experiences (86% previous employment; 21% psychology-related employment; 79% volunteer experience; 43% psychology-related volunteer experiences). Most of them were enrolled in a single degree (i.e. Bachelor of Behavioural Science (PY45); $n = 12$, 85%). Similarly, most participants in the comparison group were female students (71%; $M = 21$, $SD = 3.40$) and were also enrolled in the Bachelor of Behavioural Science.

The comparison group reported less previous employment (57%) when compared with the WIL group. However, it was more likely to be in a psychology-related area (29% psychology-related employment; 57% volunteer experience; 57% psychology-related volunteer experiences). The comparison group participants were recruited from PYB350 Advanced Statistical Analysis (a non-WIL subject). No incentives were given, participation was voluntary and the anonymity of responses was assured. This research had been approved by QUT Human Research Ethics Committee (reference number: 1300000300).

Measures

This study is the pilot for a larger study. The data presented in this paper relates to WSE measured by the Work Self-Efficacy Inventory (WSEi) (Raelin *et al.*, 2011). This scale has been used in previous WIL research (i.e. Bates, Thompson and Bates, 2013; Raelin *et al.*, 2011). The WSEi has 30 items, each designed to measure the different dimensions of WSE. These were learning, problem solving, pressure, role expectations, teamwork, sensitivity and work politics (Raelin *et al.*, 2011). Answers were recorded on a five-point Likert scale from 1 “not at all” to 5 “completely”. Table 1 contains the Cronbach’s Alpha Coefficients for the WSE subscales. Two items removed were “Function well at work even when faced with personal difficulties” and “Listen effectively to gain information” from the “Pressure” and “Sensitivity” subscales, respectively in order to increase the reliability of the scale. The Cronbach’s alpha coefficients for the full WSE were .94 at both points in time which is comparable to values reported by Raelin *et al.*, (.94; 2011) and Bates, Thompson and Bates (.95; 2013).

TABLE 1. Cronbach’s Alpha Coefficients for Work Self-Efficacy factors at start of semester (all participants) and at end of semester

WSE Factor	Time 1	Time 2
Learning	.65	.68
Problem Solving	.86	.86
Pressure	.51	.84
Role Expectations	.85	.88
Team Work	.83	.75
Sensitivity	.63	.64
Work Politics	.73	.76

Procedure

Participants in both groups were recruited during class through verbal invitation of the chief investigator. WIL students were recruited to complete two questionnaires during semester two, 2013. The first questionnaire was completed at the start of their placement (Time 1) and the second at the conclusion of their placement (Time 2). The non-WIL students (PYB350) were invited to partake in the study in another third year psychology lecture at the start of the same semester (Time 1 - Comparison). There were 28 students enrolled in the WIL unit in comparison to 139 students in the non-WIL unit. However, response rates were unable to be generated as class attendance was not mandatory and institutional policy prevented the monitoring of student presence.

RESULTS

The results were analysed using the statistical package SPSS for Windows, Version 21.0. Statistical descriptives were conducted in order to compare students' experiences between the comparison group and the WIL group at Time 1 and the WIL group's pre-placement and post-placement scores.

Figure 1 presents students' WSE as a result of WIL experiences. While the sample size was too small to conduct analyses of statistical differences, a visual inspection was undertaken. Figure 1 suggests that students' self-efficacy scores were higher for those not undertaking the WIL unit (comparison group; $M = 3.98$, $SD = 0.51$) compared to the Time 1 scores for the WIL students ($M = 3.83$, $SD = 0.58$). The WIL group's self-efficacy appeared to slightly decrease at Time 2 ($M = 3.68$, $SD = 0.53$).

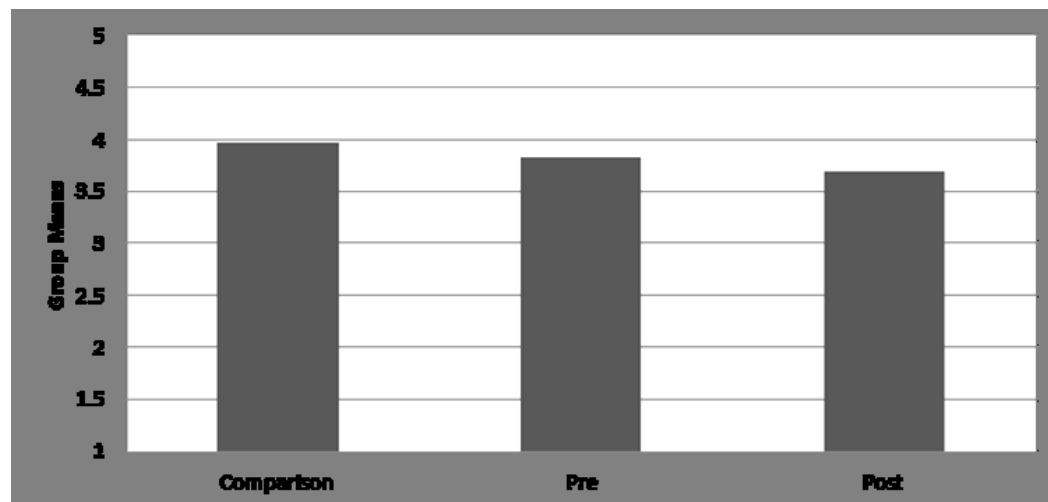


FIGURE 1. Work Self-Efficacy Means of the comparison, pre-Work-Integrated Learning and post-Work-Integrated Learning groups

Table 2 contains descriptive statistics of the different subscales within the WSEi (Raelin *et al.*, 2011). Overall, most subscale scores of the WSEi were similar between the comparison and placement groups' pre-WIL scores. However, the comparison group scored noticeably higher than the WIL group's pre-placement scores on the "problem solving" and "work politics" subscales. In contrast, scores for "role expectations" were lower in the comparison group compared to the WIL group's pre-WIL scores.

The WIL group pre-placement and post-placement scores were also inspected. Most subscale scores either decreased or stayed the same from pre-WIL to post-WIL. However, the subscale "work politics" was higher post-WIL compared to pre-WIL.

TABLE 2. Descriptive statistics comparing the differences between students' experiences for the comparison group and the work-integrated learning group (pre- and post- placement)

	Comparison Group	Pre-placement	Post-placement
Number of Participants (N)	7	17	16
Work Self-Efficacy Factor	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)
Learning	4.18 (0.67)	4.29 (0.49)	3.97 (0.63)
Problem Solving	3.75 (0.81)	3.33 (0.76)	3.34 (0.66)
Pressure	3.71 (0.45)	3.90 (0.66)	3.63 (0.82)
Role Expectations	4.04 (0.60)	4.20 (0.70)	3.86 (0.69)
Teamwork	4.00 (0.75)	3.95 (0.77)	3.73 (0.67)
Sensitivity	4.43 (0.57)	4.21 (0.65)	3.92 (0.56)
Work Politics	3.89 (0.48)	3.30 (0.77)	3.53 (0.71)
Work Self-Efficacy Scale	3.98 (0.51)	3.83 (0.58)	3.68 (0.53)

DISCUSSION

Although the general patterns in WSE scores were higher in the comparison group than the pre-placement WIL scores, there were some subscales that showed the opposite trend. The subscales 'learning', 'pressure' and 'role expectations' were higher in the WIL group's pre-placement scores, compared to the comparison group. These subscales may have resulted in a different trend to the overall data due to students in the pre-placement WIL group anticipating a heavy workload and an increased sense of responsibility.

Overall the WSE scores were highest when the students' did not participate in the WIL unit. One reason for this may be that a greater proportion of comparison group participants had psychology related employment experience. It was expected that WIL would increase WSE scores; however, the results did not support this prediction and WSE scores appeared to decrease between the pre-placement and post-placement testing. These results do not support the findings of previous studies that used the WSEi (Bates, Thompson and Bates, 2013 & Raelin *et al.*, 2011) but are broadly consistent with Junquera & Matoti (2013).

One explanation for the decrease in WSE post-WIL could be that the WIL students became aware of their lack of knowledge and skills that are related to the workforce. This change may be due to an increase in the students' awareness of the complexity of the workplace or due to unsuccessful experiences in the placement. Becoming aware of areas for development may be a very useful outcome of WIL, even if it results in reductions in WSE. While successful experiences in WIL can enhance WSE, unsuccessful experiences can aid learning by raising awareness about limitations or areas for development and allow planning for future training or practice (Raelin *et al.*, 2011). This improved insight could make students rate their WSE lower due to the realisation about their work inexperience. A second explanation could be that the observed differences in this study are not statistically significant. The decrease in WSE observed in the current experiment was similar to findings of Junquera & Matoti (2013). However, due to a larger sample size, they were able to test for significance and revealed that the difference in WSE scores was non-significant. It is plausible that the differences in WSE scores obtained in the current study were also non-significant and that there is no statistically relevant change between the pre-WIL and post-WIL scores.

While there was also a decreasing trend from the pre-placement to the post-placement WIL group, the subscales 'problem solving' and 'work politics' exhibited conflicting patterns with both subscales resulting in higher scores post-WIL compared to pre-WIL. Similar observations were made by Bates, Thompson and Bates (2013) noticing that not all components of the scale followed the overall WSE scores. It is important to note that the students in the current study were final year students but were completing their first work placement of their degree. Being the first experience of WIL could have possibly made the students realise the level of complexity and responsibility involved in professional work which may have differed to their pre-placement perceptions. The ongoing project, of which this pilot study was part, will consist of a larger sample that will facilitate the drawing of stronger conclusions.

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