

**Can Applied Entrepreneurship Education
Enhance Job Satisfaction and Financial
Performance?
An Empirical Investigation within the
Australian Pharmacy Profession.**

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CAN APPLIED ENTREPRENEURSHIP EDUCATION ENHANCE JOB SATISFACTION AND FINANCIAL PERFORMANCE? AN EMPIRICAL INVESTIGATION WITHIN THE AUSTRALIAN PHARMACY PROFESSION.

ABSTRACT

This research investigated a small-scale example of an applied entrepreneurship education program, the Pharmacist Advice Program. 25 New South Wales pharmacists who had undertaken the program were compared to 23 who had not. Non parametric statistical techniques were employed to test the related propositions that pharmacists who learned and applied the entrepreneurship taught in the program (program 'users') would experience increased job satisfaction and better sales/profit performance than 'non-users'. Results support the proposition that entrepreneurship education enhanced job satisfaction. The quantitative analysis on sales/profit performance data was less conclusive but a majority of users believed the applied entrepreneurial learning of the Pharmacist Advice Program led to improvement. The study makes a positive contribution to substantive knowledge in the pharmacy industry and formal theoretical investigation of the field of entrepreneurship education.

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Pharmacy, is a 'dual market' industry. A pharmacist must combine retailing with provision of professional services. On the retail side, there is growing competition from non pharmacy retailers with many manufacturers selling their goods through non pharmacy outlets. On the other side of the business, successive Australian governments have gradually reduced prescription margins available to the pharmacy from the National Health Scheme. Moves towards increasing industry deregulation may soon allow ownership of pharmacies by non pharmacists such as supermarkets, chain stores and other retailers. To avoid this, the retail pharmacy industry needs to demonstrate a community benefit of the existing pharmacist-only ownership restrictions by changing their focus to a more professional and patient orientated approach, whilst simultaneously improving business skills. So, many pharmacists are belatedly recognising the need to better blend the retail and professional services sides of their businesses by seeking to become more entrepreneurial. But, until the advent of the Pharmacist Advice Program, most had not had any structured education in entrepreneurship. This set of circumstances provided the opportunity for empirical investigation of some propositions at the heart of the developing field of entrepreneurial pedagogy.

LITERATURE REVIEW

The Literature of Entrepreneurship Pedagogy

This literature is too extensive to review under the constraints imposed on this paper but the upshot of it is that empirical tests of key propositions are in short supply and badly needed as demonstrations of the efficacy of entrepreneurship education programs.

The Pharmacy-Specific Literature In Australia

The need for pharmacists to develop their professional service has been voiced for fifteen years. Shepherd (1986) concluded services such as verbal or written health related information could become a part of pharmacies' marketing differentiation. Lurey (1987) called for aggressive marketing strategies, while Smith & Garner (1987) found that pharmacists could make a significant contribution to health care by providing clinical services. Patient counseling and pharmacist intervention can offer demonstrated advantages to the community. Oddis (1988) and in a separate study Hepler (1990) both concluded that true cost savings to the community in terms of improved patient outcomes, better compliance and reduced incidence of adverse reactions can be achieved by pharmacists monitoring patients more effectively. This was supported by Bloom (1990) who found that pharmacy services improved patient care and reduced costs, however there were limits and physical barriers to the provision of such services.

Some studies suggest there is also value to the pharmacist in patient counseling. Meade (1992) concluded that 91% of pharmacists think good patient counseling helps them compete in the market place. An anecdotal American report (Smith 1991) concludes that patient counseling is one of the best marketing tools available to community pharmacists, while Crawford (1992) argued that the provision of more pharmaceutical services was vital for the survival of the profession. Hirsch, Gagnon & Camp (1990) found that physicians and patients wanted personalized services in relation to medications. Whitehead, Atkin, Krass, Salole & Benrimoj (1997) in an Australian qualitative study asserted that there were financial benefits for pharmacists who provide patients with drug information. A study by Merrilees & Miller (1997) commissioned by the Pharmacy Board of NSW looked at the client pharmacist interface. They concluded that Forward Dispensing pharmacies out performed other forms of dispensing pharmacies in terms of both the quantity of counseling advice given and meeting their patients' needs. However, prior to this research, no *quantitative* study has been specifically addressed to Penna's call for research into organizational models in community pharmacy (Penna 1987).

EXPERIMENTAL FRAMEWORK.

The Pharmacy Advice Program was used as an example of applied entrepreneurial education. The program is an entrepreneurial education initiative designed to equip practitioners with the ability to apply the innovative principles of 'Forward Dispensing' (fundamentally, minimising the clerical aspects of dispensing and increasing customer contact). This study sought to evaluate the professional and financial benefits of the program. The program was officially launched in April 1997 and has since been strongly promoted as a beneficial way to develop a more entrepreneurial pharmacy as a means to improved job satisfaction and financial performance. It was developed by John Morgan, a Melbourne pharmacist well-versed in the theory and practice of

entrepreneurship education. His credentials include a Master's degree in Entrepreneurship and Innovation from Swinburne University of Technology. The program aimed to enhance entrepreneurial behaviour in pharmacists by training them in John Morgan's innovative forward dispensing model for retail pharmacy. In this innovative dispensing technique, the dispensing pharmacist sits at a counselling desk opposite the seated patient in the retail area of the shop. This allows patient communication during the dispensing process and the pharmacist can counsel the patient on medication use and related matters while the paper work and labelling is completed in the dispensary by a technician.

Thus, to pharmacists, an empirical investigation offers two substantive benefits. First, at the individual level, if program claims are supported, pharmacists will be both professionally and financially rewarded for learning entrepreneurship. Second, there is also a strategic reward: the government may see the value in the current ownership restrictions as generating community benefits through improved pharmaceutical care and patient outcomes – a benefit unlikely to emerge from an 'open retailing' model of dispensing. To scholars of entrepreneurship the Pharmacist Advice Program is a well-defined example of applied entrepreneurship education with clear objectives. For scholars, empirical results from the *substantive* study might make a significant contribution to the development of *formal* theories of entrepreneurial pedagogy.

METHOD

This research utilised experimental methodology using posttest-only control group design. It explored the propositions that pharmacists who learned and applied the Pharmacist Advice Program would have greater job satisfaction (H_1), better sales performance (H_2) and better profit performance (H_3) than pharmacists who did not utilise the program. 'Job satisfaction' was measured by a question positioning respondents' job attitudes on a common scale. 'Profit' was measured in terms of both gross profit and net profit. 'Sales' were measured by total turnover. The data were collected by a questionnaire that primarily utilised Likert 5-point scales and was divided into three sections. The first section defined general characteristic information of the respondent and the pharmacy. The second section differentiated between test and control group respondents' attitudes towards forward dispensing as a source of increased sales and profits. This section also contained the job satisfaction question. The third section was used to measure financial data and various factors which may have impacted on financial performance.

The intervention sample frame comprised the first 38 NSW pharmacies which had implemented the Pharmacist Advice Program. The response rate was 66% (25 out of 38 responded). The control sample frame comprised 100 randomly selected pharmacies from a list of 1,850 pharmacies supplied by the NSW Pharmacy Board. The response rate was much lower than for the test group at 23%. This provided data from two groups of approximately equal size (25 vs. 23).

Data Analysis

The Mann-Whitney U test was used for hypothesis testing. The data was analyzed using the SPSS package.

Demonstrating the similarity of all respondent pharmacies, Table 1 shows no statistically significant difference (at $\alpha < .05$) in the characteristic data between the two groups except for location with the size of the shopping center where the pharmacy was located. However, at the more appropriate $\alpha < .01$ for repeated comparisons there is no significant difference.

Table 1 - Characteristic Comparisons between Test and Control Groups

Variable	U	W	Z	2-Tailed P
Age	215.5	540.5	-1.0732	.2832
Sex	249.5	480.5	-0.4012	.6883
Years registered	209.5	534.5	-1.2088	.2267
Location	172.5	403.5	-2.1126	.0346
Size of premises	165.0	441.0	-1.3589	.1742
Years ownership	235.5	560.5	-0.6172	.5371
Turnover level	191.5	491.5	-1.4260	.1539

The next comparison was to determine whether the experimental group experienced greater job satisfaction than the control group. Job satisfaction was ranked from 1 = highly satisfied to 5 = highly dissatisfied. This explains why the mean rank for the experimental group was much lower than for the control group and therefore the Z value was negative. The 2-tailed P of 0.0002 is highly significant statistically. The Pharmacist Advice implementation group enjoyed a significantly higher level of job satisfaction than the control group. Table 2 shows the results.

Table 2 - Pharmacist Advice Implementation vs. Job Satisfaction

Mann-Whitney U - Wilcoxon Rank Sum W Test

Job Satisfaction by Pharmacist Advice implementation

Mean Rank	Sum of Ranks	Cases	
17.26	431.5	25	Experimental Group
30.93	649.5	23	Control Group
		48	Total

U	W	Z	2-Tailed P
106.5	431.5	-3.7106	.0002

The final area of comparison was of percentage changes in sales and profits. The comparison failed to reveal any statistically significant differences between the two groups. Other factors which may have masked the effect were then examined. Respondents who reported changes in retail environment were removed. This included those who had experienced changes in competition, hours open and floor space. There was still no significant difference between the groups in sales and profits. Then those experimental group pharmacies which had not completely implemented the program in all facets were removed. There was still no significant difference in sales and profits between the groups.

Section 2, question 5 asked pharmacists to rate the relevance of ‘Forward Dispensing’ (its application being the corner stone of the Pharmacist Advice Program as a source of increased sales and profits). The results are shown in Table 3. The rankings for this comparison were 1 = extremely relevant to 4 = irrelevant and 5 = don’t know. The mean rank for the experimental group is much lower than for the control group and therefore the Z value is negative. These results show a highly significant 2-tailed P of 0.0002. It can be concluded that there is a significant difference between the experimental group and the control group in their beliefs about the potential impact of forward dispensing on sales and profits. Interestingly 70.8% of all pharmacists surveyed (control and experimental groups combined) ranked ‘forward dispensing’ as ‘relevant to extremely relevant’ as a source of increased sales and profits. This dropped to 50% for members of the control group. Only 12.5% of all respondents believed it to be irrelevant and they were all from the control group.

Table 3 - Forward dispensing relevance as a source of increased sales and profits

Mann-Whitney U - Wilcoxon Rank Sum W Test			
Forward dispensing relevance by Pharmacist Advice implementation			
Mean Rank	Sum of Ranks	Cases	
16.88	422.0	25	Experimental group
31.88	659.0	23	Control group
		48	Total
U	W	Z	2-Tailed P
97.0	422.0	-3.7710	.0002

DISCUSSION

Pharmacists who acquired and implemented entrepreneurial education, in the form of the Pharmacist Advice Program, experienced greater job satisfaction than those who had no known entrepreneurial education. The study failed to demonstrate marked financial advantages accruing to those who undertook entrepreneurial education but there are still strong grounds for believing that the link may well exist. Analysis of increased sales and profits was inconclusive. In many instances, financial responses were estimations – not actual figures. Profits for most pharmacies prior to the introduction of the GST (when this research was conducted) were often only recorded on an annual basis. The survey was sent out in August when the vast majority of pharmacists did not have the annual profit details. Therefore, the profit data could be of low quality. There are other problems in focusing only on *recent* increases in sales and profits. Many of the treatment group had implemented the Pharmacist Advice Program several years before this research was conducted and the period of greatest increase in sales and profits may have passed, with the firm now settled into more modest growth. Pre-testing and respondent contact showed that most pharmacists are well aware of changes to sales resulting from changes in operational practice but the difficulties of dispassionately measuring such changes were too great for the limited resources available to this study. Future research involving actual financial data and comparative opinion measurement is highly desirable.

At the specific level of substantive theory, this research is extremely relevant to the development of the pharmacy profession in Australia. At the more general level of formal theory, despite the limitations of its small size and single-industry focus, this research does strongly support a link between applied entrepreneurial education and job satisfaction: a relationship hitherto absent from the literature. The lack of evidence for a link between entrepreneurial education and sales/profit performance is understandable given the limits of the project. The study's contribution in this area is its demonstration that future research linking entrepreneurship education to financial performance will require sophisticated project designs and substantial project resources. Overall, the study makes a useful contribution to both the pharmacy profession and the developing field of entrepreneurship education.

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