

Determining the Influence of Formal Postgraduate Education on the Career Commitment of Hospital Pharmacists

SAKEB HUSSAIN^a and IAN BATES^{b,*}

^aSouth Buckinghamshire NHS Trust, Queen Alexandra Road, High Wycombe, Buckinghamshire, HP 11 2TT, UK; ^bSchool of Pharmacy, University of London, 29–39 Brunswick Square, London WC1N 1AX, UK

Aim: To determine the influence of formal postgraduate education on hospital pharmacists career commitment using the Blau Career Commitment Scale.

Design: Postal survey questionnaires sent to hospital pharmacists across England and Wales.

Setting: Questionnaires with prepaid envelopes sent to pharmacists in 153 randomly selected hospital pharmacy departments in the eight NHS regions in England and to Wales.

Outcome measure: Evaluation of the type and nature of formal post graduate qualifications held by hospital pharmacists and its influence on Career Commitment Scores.

Results: 2025 questionnaires were sent to 153 randomly selected hospitals across England and Wales. 905 completed questionnaires were returned representing a 44.7% response. Of the respondents, 67.5% had a post graduate qualification and a further 19%, principally in the grades B to D, were pursuing postgraduate training. The mean career commitment score was 22.2 (range 7–35, SD 5.9). Women tended to have higher career commitment scores ($p < 0.001$). Pursuit or possession of a postgraduate qualification did not significantly affect the career commitment score.

Conclusion: Although women had higher career commitment scores, the differences may not be conceptually significant. Analysis revealed that the place of work, hours worked and if a post graduate qualification was being pursued made statistically

little difference to the overall career commitment score. Pursuit or possession of a postgraduate qualification did not significantly affect the career commitment score. Further research in this group of professionals is required to establish other influences to account for the variance on career commitment.

Keywords: Hospital pharmacy; Postgraduate education; Career commitment; Survey

INTRODUCTION

A number of studies investigating factors associated with pharmacists' job satisfaction have been published over the past three decades. However, there has been little investigation into the factors associated with pharmacists' career commitment. This is significant as career commitment may have considerable implications for employers and patient care. For example, studies have shown that a lack of career commitment is directly linked to employee intentions of leaving

*Corresponding author.

TABLE I Studies which have used Blau's career commitment scale

Author	Study setting	Tool features
Rascati (1989)	250 pharmacy students in the US	Coefficient alpha: 0.84
Ortmeier (1991)	99 4th year pharmacy students in US	Coefficient alpha: 0.84
Fjortoft (1995)	570 BS and PharmD pharmacists	Coefficient alpha: 0.83

their jobs, higher staff turnover and poor health outcomes (Martin, 1982; Weiner, 1986).

Hall (1971) initially defined career commitment as "the strength of one's motivation to work in a chosen career role." Hall conceptually distinguished career commitment from job involvement (commitment to a relatively short term set of tasks) and organisational commitment (commitment to organisational goals). Following from this, Blau (1985) defined career commitment as "one's attitude to one's vocation including a profession." Incorporating a vocational as well as a professional emphasis, this definition offers a broad but limited construct representation. From this definition, Blau developed a career commitment measure that was found to be both valid and reliable. Previous studies (Johnson, 1977; Curtiss, 1978; Epstein, 1988) have found that when pharmacists have been asked if they would choose pharmacy again, between 50 and 65% of pharmacists surveyed reported that they would not or were undecided.

Care needs to be exercised in using an instrument which has been developed in another setting. Existing instruments cannot always be used in their original format because of their conceptual bias, psychometric properties, inapplicability (to pharmacy) or inadequate testing. Therefore, evaluating the psychometric properties of a career commitment instrument is important. Original work by Blau (Blau, 1985; 1989) on the development of the tool were reviewed. The inferences drawn and conclusions reached from his work were examined for its applicability to this current study. Instruments are usually developed by examining a particular population and are usually specific to

individuals or groups with a given characteristic. It was therefore important to examine the applicability of the tool to a hospital pharmacist setting. It was also important to ensure that the Career Commitment Scale be conceptually congruent with the current study's perspective to ensure that validity is maintained.

The literature provides some information as to the factors which may be related to commitment and withdrawal intentions using Blau's Career Commitment Scale (Gaither, 1994). The impact of formal education on pharmacists' career commitment has not been fully explored and, in some cases, the results have been conflicting. Studies have shown that career commitment decreases from student years to professional practice which is an area of concern for the pharmacy profession (Noel, 1982; Kirk, 1984). Fjortoft (1995) found significant differences between BS and PharmD pharmacists' career commitment, with PharmD pharmacists having significantly higher career commitment scores. With respect to the hypothesis that individuals with more formal education would be expected to display more career related knowledge acquisition behaviours (with an accompanied increase in career commitment), one study (Wolfgang, 1983) found that as anticipated, career commitment was positively associated with educational level.

Some studies in the pharmacy setting have employed the use of the Blau's career commitment scale as shown in Table I. The validity of the career commitment scale has been reported previously (Wolfgang, 1983; Kong, 1985).

The aim of this study was to determine the influence of formal postgraduate education on hospital pharmacists' career commitment and to

TABLE II Response frequencies to the career commitment scale $n = 905$

Likert rating	Strongly disagree (%)	Disagree (%)	Neither agree/disagree (%)	Agree (%)	Strongly agree (%)
(1) If I could go into a different profession which paid the same, I would probably do so	7.9	16.1	23.8	33.8	18.4
(2) I definitely want to continue in my present pharmacy career	3.0	10.1	27.8	42.3	16.8
(3) If I had all the money I needed without working, I would still work in pharmacy	27.9	26.5	22.0	21.3	2.3
(4) I like the pharmacy profession too well to give it up	9.6	30.0	26.8	29.2	4.3
(5) I am disappointed that I ever entered the pharmacy profession	2.7	8.2	18.0	37.4	33.7
(6) If I could do it all over again, I would choose to work in the pharmacy profession	8.2	24.9	25.3	31.3	10.3
(7) For me, this is the ideal profession for a life's work	11.0	24.4	35.5	23.8	5.3
(8) I spend a significant amount of my personal time reading pharmacy related journals or books	10.0	19.6	26.4	31.7	12.3

explore the use of the Career Commitment tool in a UK hospital pharmacy setting.

METHOD

Blau's Career Commitment Scale consists of eight items which are responded to on a five point Likert scale (strongly agree to strongly disagree). The item scores are summed to create a final score (range 8–40). The items were drawn from a pool of measures based on previous research that examined professional commitment (Price, 1981), occupational commitment (Downing, 1978) and career orientation (Liden, 1980). The eight item measure used in this study is shown in Table II.

Piloting the Instrument

To fit the UK model of pharmacy practice (the original tool by Blau was administered to nurses in the United States), it was necessary to evaluate Blau's Commitment Scale and to examine its appropriateness to the current study. The instrument was piloted at a teaching hospital by administering on two occasions to a group of pharmacists with a four-week interval. It was felt that a four-week period was an adequate interval for two reasons. Firstly, duplication of responses at the second administration based upon memory would be small and secondly, the four-week period is too short a time to allow changes in career commitment to occur, thus affecting the responses on the second administration. The reliability of the tool and wording were examined during this pilot work.

Sampling

A national study would allow greater generalisation of the results to the hospital population as a whole. Identification of, and access to, the population of interest was the first consideration.

As there is no readily available list of hospital pharmacists in each of the hospital groups which could be contacted (called "trusts" in the UK), a list of all chief pharmacists was obtained (Chemist and Druggist Directory and the IHSM Health and Social Services Year Book). The entire list of pharmacy departments in England and Wales were grouped into NHS (National Health Service) regions of which there are eight namely, Anglia and Oxford, North Thames, Northern and Yorkshire, North West, West Midlands, South Thames, South and West and Trent. Teaching hospitals within regions were listed separately. All teaching hospitals (hospitals associated with medical schools) were included in the sample. Cluster sampling, using random numbers, of approximately 50% of the remaining hospitals in each region was conducted. In total 153 hospitals were randomly selected in this way. Each pharmacy was contacted to ascertain the number of permanent pharmacists excluding locum and pre-registration pharmacists. An appropriate number of questionnaires, with covering letter and pre-paid envelopes, were then sent to each head of department in July 1999.

Response and Non Responders

One of the main problems with postal surveys is the difficulty in achieving a high response rate. A further potential problem is that the responders may be, in some way, different to the non-responders and will not be representative. Steps taken to help improve response included explaining the purpose of code numbers on questionnaires, providing self addressed envelopes and explaining the value of the study.

The demographic profile of the late responders (analogous to non-responders) was similar overall to the responding population as a whole. It was for this reason follow up posting was not done. Furthermore, the response of 44.7% (905 returned questionnaires) was large enough for

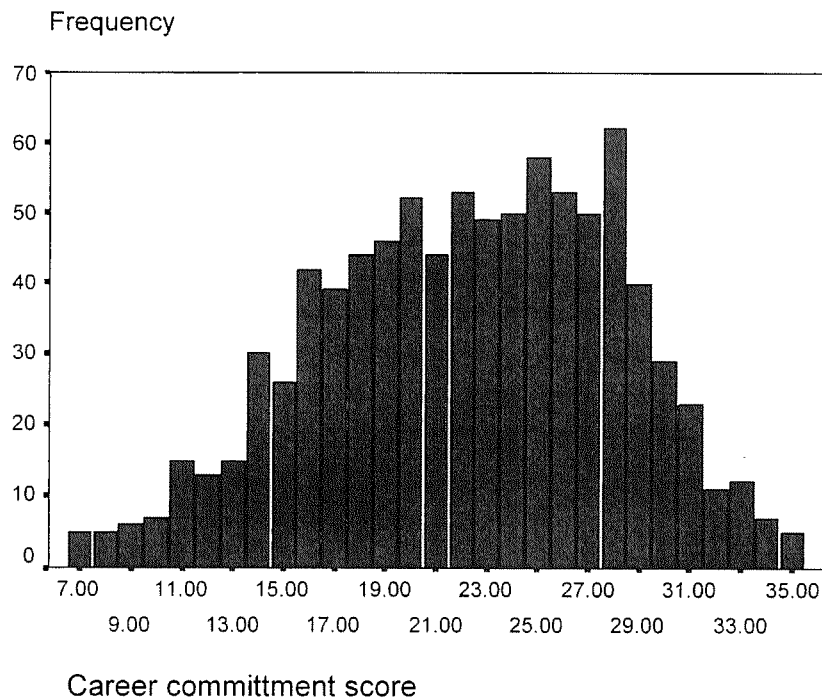


FIGURE 1 Frequency distribution of career Commitment Score.

inferences to be drawn and valid statistical tests to be conducted.

Validity and Reliability

To examine the possibility of response bias, the demographic make up of the responders was compared to that reported from other studies to aid sample validation. In particular age, ethnicity, qualifications held, gender and working patterns of the sample was compared to that reported by other studies.

RESULTS

Pilot Work

The pilot group was made up of 12 pharmacists of varying ages and grades (B–F). The Career

Commitment scale was administered twice at a four weekly interval. The scale scores were similar for each pharmacist on the two occasions. The test–retest reliability was evaluated using the Spearman ρ correlation coefficient, $\rho = 0.97$ indicating good reliability.

Main Results

Of the 2025 questionnaires posted, 905 completed questionnaires were returned, which is an overall response of 44.7%. Men accounted for 25.3% of the sample. White pharmacists made up 90.7% of the respondents, followed by Asian (4.9%) and Chinese (1.7%). The average age for males was 36.9 years (range 22–59) and that for women was 34.1 (range 22–58). The Pharmacists in the grades¹ B, C, D and E (or equivalent) accounted for 89.2% of the respondents and the F,

¹Hospital pharmacy grades in the UK begin with A/B for newly registered pharmacists, through D which is considered as the beginning of speciality, E/F are principal grades, G/H are higher management grades.

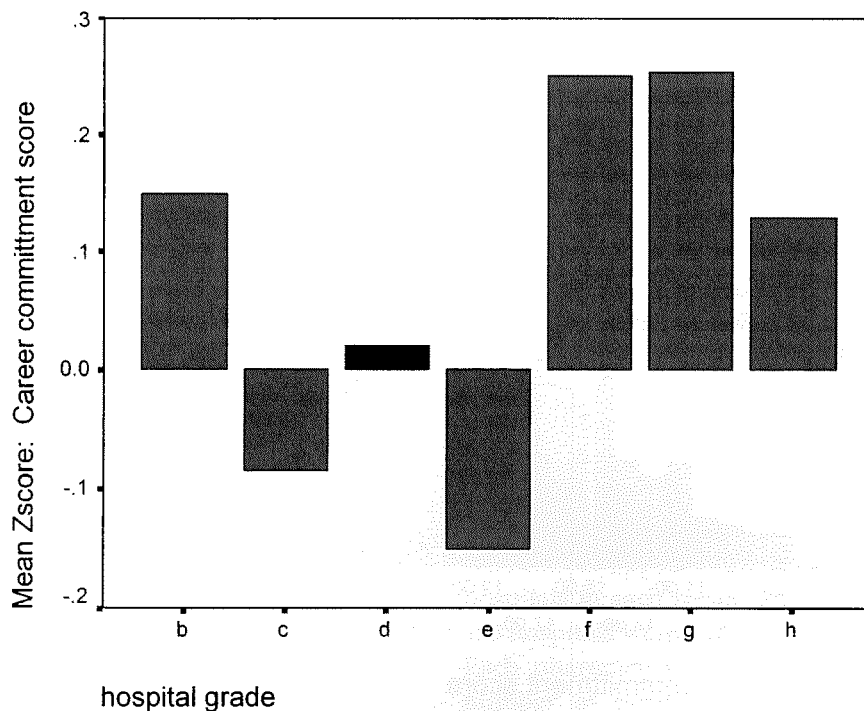


FIGURE 2 Career commitment z scores by hospital grade.

G, H grade pharmacists made up 10.8% of the respondents. Thirty three percent were single, 52% were married and 15% were with a partner. Thirty two percent had taken a career break of greater than 3 months, of which 87% were women. Eighty one percent worked full time (>35 h/week) and 19% part time (<35 h/week). The majority of the respondents had a post-graduate qualification (67.5%), the most common of which was a diploma (32.2%). A Certificate was held by 27.2% and a master's degree by 20.4%. Doctorates were held by 2.4% of the sample.

Factor analysis was conducted on the item set to test for the stability of the career construct and for the presence of any secondary factors. Principal components analysis, with oblique rotation revealed no secondary constructs, although it did highlight the poor performance of item 8, which was subsequently dropped from scaling after internal reliability analysis.

Internal Reliability of Blau's Career Commitment Scale

The internal reliability coefficient (Cronbach alpha) of the career commitment instrument was 0.88 which shows good internal consistency. This figure compares well with coefficient alpha values determined by other authors in different settings (Rascati, 1989; Ortmeier, 1991; Fjortoft, 1995). The seven-item career commitment scores ranged from 7–35 with a sample mean of 22.2 (SD 5.86), with the scale midpoint at 21. The scores displayed an approximate normal distribution as shown in Fig. 1.

Career Commitment Item Scores

Table II shows the item responses for the career commitment scale. Forty one percent of the pharmacists agreed with item 6 ("If I could do it all over again, I would choose to work in the

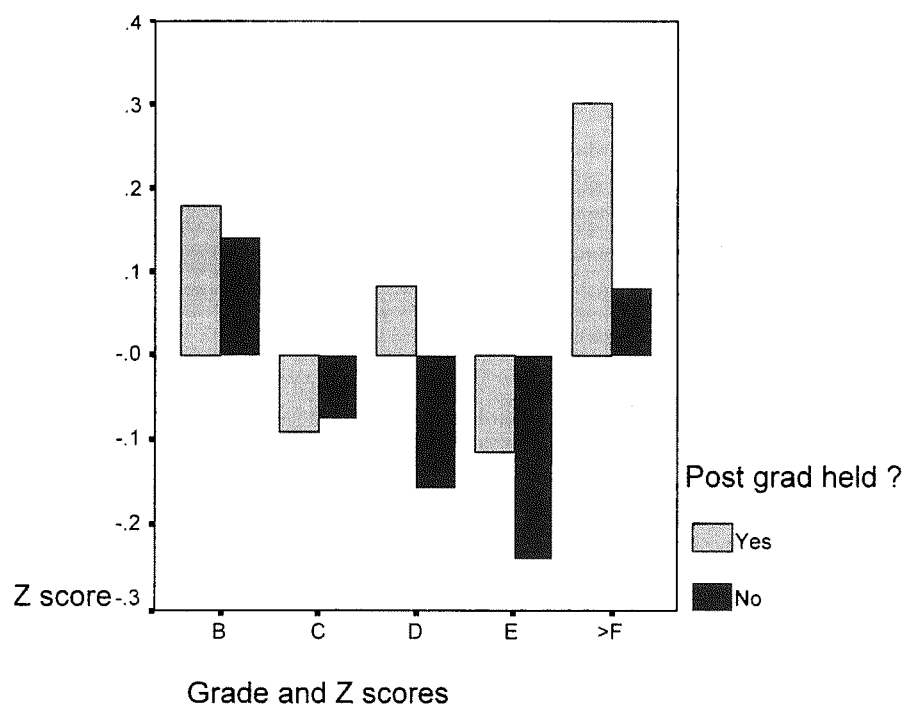


FIGURE 3 Career commitment z scores, hospital grade and postgraduate qualification.

pharmacy profession"). This compares similarly with another study (Reid, 1990) that reported a proportion of 44.7%. In the current study, 52.2% of the respondents agreed that they would go into a different profession if it paid the same (item 1). However, when asked if the respondents wanted to definitely continue in their present pharmacy career (item 2), 59.1% stated that they agreed.

Career Commitment z Scores

For ease of comparison, career commitment scores were linearly transformed to standardised z scores. Figure 2 shows the mean career commitment z scores for the various hospital grades. It can be seen that for the B, E, G and H grades, the z scores are positive. Furthermore, the career commitment z scores of the B and H grades are similar. This could be explained by the observation that as B grade pharmacists are new to the hospital pharmacy profession, career

commitment may be high perhaps due to the lack of exposure to the factors that could adversely affect career commitment. This has also been reported by a previous study (Gaither, 1994) which found the highest career commitment scores in the most junior and most senior pharmacist positions.

Further analysis showed that the possession of a postgraduate qualification, the current pursuit of a qualification, if a career break had been taken or part time against full time employment had no independent significant statistical association with career commitment scores. However, females pharmacists tended to have a higher career commitment scores than males ($t = 4.022, p < 0.001$).

Figure 3 shows the effect of the possession of a postgraduate qualification on the career commitment z score for each grade. For the grades B, D and F (and above), those pharmacists who have a postgraduate qualification tend to have higher scores compared to those who do not. For grades

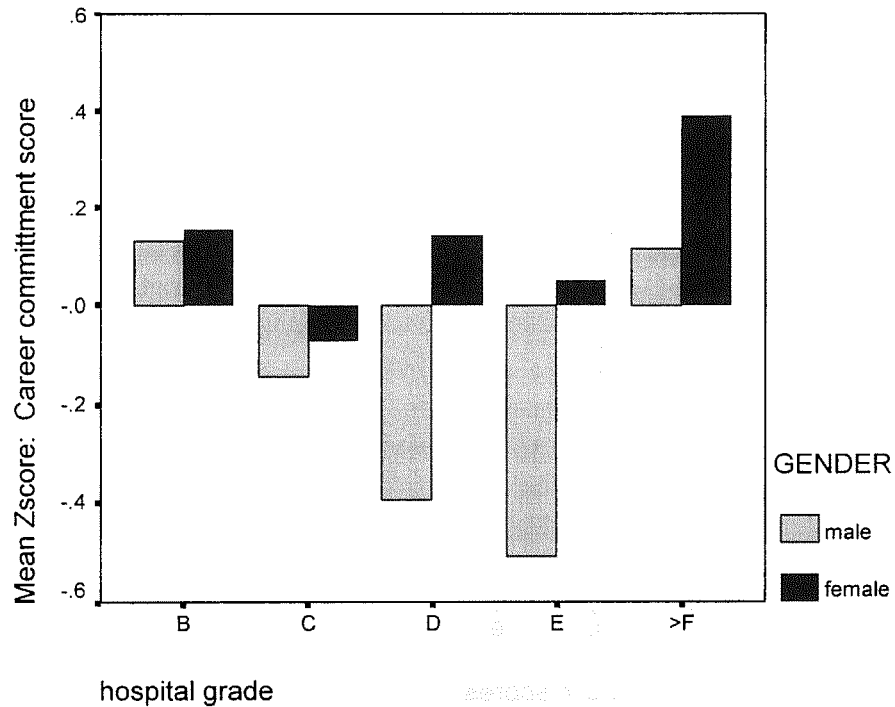


FIGURE 4 Career commitment scores by hospital grade and gender.

C and E, the scores have negative values for both post graduate qualification holders and non-holders. Career commitment scores were highest for the basic grade pharmacists, those who had been in practice the longest and those pharmacists in senior positions (grade F and above). This finding mirrored that reported by Gaither (1994).

Figure 4 compares the career commitment score of men and women; women generally have higher scores compared to men. For men, moving up from C to E grades, there is a progressive fall in the mean score representing a fall in career commitment. However, at grades F and above, the scores for both men and women are positive, with women having higher z scores.

When the effect of working hours is examined for each grade, the part time pharmacists have higher z scores compared to full time staff. A possible reason for this is that as women make up

80% of all part time staff, they generally higher career commitment scores than men.

DISCUSSION

Career commitment is important as it can influence a pharmacist's decision to stay within hospital pharmacy or to move to a different profession or area of practice. Although organisations can influence a pharmacist's satisfaction with their job, addressing career commitment is more problematic because of its vague boundaries and the time span involved (Rajah *et al.*, 2001). However, a lack of career commitment for organisations or indeed the profession is an important issue. Previous studies reported significant personal, economic and social costs associated with a lack of career commitment to the pharmacy profession with an associated

increase in turnover and poor work outcomes (Martin, 1982; Weiner, 1986).

The current study employed the use of Blau's Career commitment scale in the hospital pharmacy setting. The tool has documented validity, and in the current study the reliability coefficient was 0.88 similar to that reported by others (Rascati, 1989; Ortmeier, 1991; Fjortoft, 1995).

The study showed that men's career commitment scores were significantly lower than that for women. Although the differences in scores are statistically significant, the difference may not be conceptually significant. The career commitment scores were similar to that reported by Rascati (1989) and Ortmeier (1991). Further analysis revealed that the place of work (teaching vs. non-teaching hospital), hours worked (part time vs. full time), whether a career break was taken, if currently studying for a post graduate qualification or if a postgraduate qualification was held, made statistically little difference to the overall career commitment score. Although the aim of the current study was to examine career commitment and the possession of post graduate qualifications, the study has demonstrated the need to examine other factors which may be associated with career commitment.

The result that the possession of a post graduate qualification makes little difference to career commitment scores was surprising as previous studies (Wolfgang, 1983; Weiner, 1986) have reported a positive correlation between career commitment scores and postgraduate qualifications held. However, these studies were carried out in the United States and compared Bachelor degree pharmacists with PharmD pharmacists. It was expected that in the current study, individuals with more postgraduate formal education would be expected to display more career related knowledge acquisition behaviours, with an accompanied increase in more career planning and associated career commitment scores. However, this does not seem to be evident. The effect of educational level

alone may not be enough to explain variations in career commitment scores. It is interesting to note that a study of hospital pharmacists career commitment by Gaither (1994) found that just 10% of variance in career commitment scores was explained by personal/background factors, further endorsing the need to identify other factors associated with hospital pharmacists career commitment.

From the factor analysis of the career commitment scale, it was seen that in the current study (as in the studies by Blau) item 8 ("I spend a significant amount of my time reading professional journals") had a poor loading on the extracted factor and was therefore dropped from subsequent scaling. Further validity of the scale has come from examination of item 6 ("If I could chose all over again, I would choose to work in the pharmacy profession"). In the current study, 41.6% of the respondents agreed that they would choose to study pharmacy again.

CONCLUSION

The study has highlighted the need to further define career commitment of hospital pharmacists and the influence post graduate education has on career commitment. The employment of qualitative methodology to collect data, for example by means of interviews or by carrying out longitudinal surveys, should be endorsed in further research. The Career Commitment Scale could then be used as an additional tool in assessing career commitment. Although questionnaires enable the collection of a large amount of quantitative data it is limited by the fact that response bias is difficult to eliminate. The very fact that the questionnaires were sent out in mid-year, implies that the questionnaires may not have captured potential pharmacist respondents who have taken annual leave to care for child dependants. Furthermore, many of the pharmacists neither agreed

nor disagreed with some of the statements of the career commitment scale. These responses could not be followed up.

Acknowledgements

The authors would like to thank the pharmacists who participated and responded to the postal survey questionnaires. This study was part funded by North Thames Pharmacy Education and Training and the School of Pharmacy, University of London.

References

- Blau, G.J. (1985) "The measurement and prediction of career commitment", *J. Occup. Behav.* **58**, 277-288.
- Blau, G.J. (1989) "Testing the generalisability of a career commitment measure and its impact on employee turnover", *J. Voc. Behav.* **35**, 88-103.
- Curtiss, F.R. (1978) "The importance of education and practice factors in determining stress and strain among young pharmacy practitioners", *Am. J. Pharm. Educ.* **48**, 104-111.
- Downing, P. (1978) *Work Attitudes and Performance Questionnaire* (School of Nursing, University of California, California).
- Epstein, D. (1988) "Inside today's young pharmacists", *Drug Top.* **132**, 42-48.
- Fjortoft, N.F. (1995) "Comparisons of activities and attitudes of Baccalaureate and entry level Doctor of Pharmacy Graduates of the University of Illinois at Chicago", *Ann. Pharmacother.* **29**, 977-982.
- Gaither, C.A. (1994) "Pharmacists and career commitment, career withdrawal intention, and career change", *J. Pharm. Market. Manage.* **8**, 187-205.
- Hall, D. (1971) "A theoretical model of career sub-identity development in organisational settings", *Organ. Behav. Human Perform.* **6**, 50-76.
- Johnson, C.A. (1977) "Levels of job satisfaction among hospital pharmacists", *Am. J. Hosp. Pharm.* **34**, 241.
- Kirk, K.W. (1984) "Texas workforce on women issues. Findings on job stress", *Am. J. Pharm. Educ.* **51**, 39-43.
- Kong, S.X. (1985) "Predictors of organisational and career commitment among Illinois pharmacists", *Am. J. Health-Syst. Pharm.* **52**, 2005-2011.
- Liden, R., (1980). "On the measurement of career orientation". Paper presented at the *Midwest Academy of Management Meeting*, Cincinnati, USA.
- Martin, T.N. (1982) "Commitment predictors of nursing personnel's intention to leave", *Med. Care* **20**, 1147-1153.
- Noel, M.W. (1982) "Job satisfaction among hospital pharmacy personnel", *Am. J. Hosp. Pharm.* **29**, 600-606.
- Ortmeier, B.G. (1991) "Career commitment, career plans and perceived stress: a survey of pharmacy students", *Am. J. Pharm. Educ.* **85**, 138-142.
- Price, J.L. (1981) "A causal model of turnover for nurses", *Acad. Manage. J.* **24**, 543-565.
- Rascati, K.L. (1989) "Career choice, plans and commitment of pharmacy students", *Am. J. Pharm. Educ.* **53**, 234-237.
- Rajah, T., Bates, I., Davies, J.G., Webb, D.G. and Fleming, G. (2001) "An occupational survey of hospital pharmacists in the south of England", *Pharm. J.* **266**, 723-726.
- Reid, L.D. (1990) "Factors associated with pharmacists career commitment", *J. Pharm. Market. Manage.* **5**, 45-67.
- Weiner, Y. (1986) "Relationships between job, organisation and career commitments and work outcomes: an integrative approach", *Organ. Behav. Human Perform.* **26**, 81-96.
- Wolfgang, A.P. (1983) "Career commitment, career plans and job related stress: a follow up study of pharmacy students and pharmacists", *Am. J. Pharm. Educ.* **57**, 25-29.