


## RESEARCH ARTICLE

# Understanding nursing students' perceptions of the general practice environment and their priorities for employment settings

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## Abstract

**Aim:** To explore final year nursing students' perceptions of the general practice environment and their priorities when choosing a workplace.

**Design:** Online survey, reported following the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines.

**Methods:** The validated Profession Scale from the Scale on Community Care Perceptions (SCOPE) tool was used to identify characteristics within the general practice environment and the importance of these in choosing a workplace. To explore the factor structure, exploratory factor analysis was undertaken which was used to revise the survey language and flow before widespread dissemination.

**Results:** Three hundred and fifty-five responses were received. Factor analysis revealed three factors: Provision of care, Employment conditions and Nature of work. Respondents exposed to general practice in the Bachelor of Nursing program or who had a general practice clinical placement had significantly different perceptions across all factors. Although wages, advancement opportunities, work pressures and the physical nature of work were perceived as important in choosing a workplace, they were seen as only moderately present in general practice.

## KEYWORDS

attitudes, employment setting, general practice, nursing education, perceptions, primary care, undergraduate nursing student, work environment, workforce development

## 1 | INTRODUCTION

Nursing students who graduate from an accredited Bachelor of Nursing (BN) program are qualified to work as Registered Nurses (RNs). New graduate nurses have a wide range of career opportunities across diverse clinical settings, from hospitals settings, such as emergency, intensive care, medical wards or operating theatres

to community-based, primary healthcare (PHC) services, such as community not-for-profit organizations, public health services, aged care and general practice (Schwartz, 2019). Transition to Practice Programs are designed to assist new graduate nurses to "acculturate to their new profession" (Schwartz, 2019, p. 45). However, most Australian Transition to Practice Programs are offered in hospitals, which is where most new graduate nurses seek employment (Maso

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et al., 2019; Schwartz, 2019). In contrast, few undergraduate nursing students express interest in pursuing a career in PHC (Bloomfield et al., 2018; Bloomfield et al., 2015).

Palese et al. (2016) report that work environments that allow skill consolidation, the development of supportive team relationships, and offer a diversity of patients, positively influence students' career choices. Nursing students' experiences during their education, including the program theoretical content, the expertise of educators and clinical placement experiences also influence their career interests (Calma et al., 2019; Calma et al., 2022; Chai et al., 2019; Hunt et al., 2020). Current evidence suggests that nursing students' perceptions of PHC settings are diverse. While some students perceive PHC nurses as having limited clinical skills and making little impact on health outcomes, others view the role of PHC nurse as having a unique level of professional autonomy that requires a high level of competence and skill (Calma et al., 2021a; van Iersel et al., 2018b).

## 2 | BACKGROUND

Within the PHC sector, general practices deliver comprehensive, coordinated and patient-centred care for individuals in the community, across the lifespan (Royal Australian College of General Practitioners, 2018). General practices are usually the initial contact people have with the health system (Royal Australian College of General Practitioners, 2020). In Australia, around 90% of the population present to general practice each year (Royal Australian College of General Practitioners, 2020). General practices are mostly operated and owned by General Practitioners as a small business or as part of a larger network of corporations in Australia and other countries, such as the United Kingdom (UK) and New Zealand (NZ) (Cowling et al., 2017; Goodyear-Smith & Kassai, 2015; McInnes et al., 2019).

General practices are typically staffed by multidisciplinary health professionals, with General Practice Nurses (GPNs) being the largest non-physician workforce (Innes, 2019). While nurses employed in general practice can be nurse practitioners (Masters prepared) or enrolled nurses (Diploma prepared), most are registered nurses (Baccalaureate prepared or equivalent) (Australian Primary Health Care Nurses Association, 2019; Halcomb et al., 2020). The role and responsibilities of GPNs are diverse. GPNs may undertake clinical activities, such as health assessments, screening, patient education, acute care and coordination of chronic conditions (Halcomb et al., 2017; Heywood & Laurence, 2018; Matthys et al., 2019). The current GPN workforce faces increasing demands in continuing to meet the increasingly complex care needs of the community with a workforce that is aging and faced with critical shortages (Heywood & Laurence, 2018; Innes, 2019). In Australia, some 60% of GPNs are aged 45 years or over (Halcomb et al., 2020). While previous studies have explored workplace factors that influence the transition of acute care nurses to general

practice (Ashley et al., 2017), and the impact of job satisfaction and retention of GPNs (Halcomb & Ashley, 2019; Halcomb & Bird, 2020), little attention has been given to the perceptions of undergraduate nursing students about general practice. To address this gap, a study exploring the final-year nursing students' preparedness for and perceptions about employment in general practice was undertaken. Data on students' confidence, interest and intention to work in general practice have been reported elsewhere (Calma et al., 2022). This paper seeks to explore the views of final-year nursing students about the general practice environment and understand the factors that they consider most important when choosing an employment setting.

## 3 | METHODS

### 3.1 | Design

Data were collected between March and June 2019 using a cross-sectional online survey using SurveyMonkey© (2018). The STROBE guidelines were used as reporting guidelines (Appendix S1).

### 3.2 | Sample and setting

All nursing students in their final year of the BN program at five universities in New South Wales, Australia were eligible to participate. As these students were nearest to transitioning into the RN role, it was anticipated that they would have concerns and insight into their career plans (McCann et al., 2010; Newton & McKenna, 2007). Universities were approached to participate if they offered an undergraduate BN program. Institutions were purposively selected to give a diversity of metropolitan and rural locations. To comply with individual University policies about access to students, the survey was either disseminated by a contact person in the School of Nursing via direct email or promoted on the e-learning platform. An information sheet was the opening screen of the survey. This provided details about the study aim, benefits and risks to participation and confidentiality and use of data.

### 3.3 | Data collection

The survey comprised six sections combining both validated tools, modified for use in general practice, and investigator-developed items. The validated tools were modified by replacing references to the setting in the original tool with references to general practice.

Section one and two investigated respondents' experience of PHC and general practice nursing as part of their BN program, and their experiences of general practice nursing. Section three explored respondents' confidence and interest about general practice employment using the modified 9-item Confidence

and Interest in Critical Care Nursing tool (Halcomb et al., 2012). Using the modified Profession Scale from (van Iersel et al., 2018b) SCOPE tool, Section four explored the expectations of the general practice work environment and the factors considered most important when choosing an employment setting. Section five explored the intention to seek general practice employment using the modified Attitudes, Subjective Norms, Perceived Behavioural Control and Intention to Pursue a Career in Mental Health Nursing scale (Wilbourn et al., 2018). The final section collected demographic information about the respondent and their educational characteristics.

This paper presents findings from Section four of the survey, which comprised the modified 17-item Profession Scale for use in general practice, a subscale of the Scale on Community Care Perceptions (SCOPE) (van Iersel et al., 2018a). The structure and construct validity of the SCOPE and its subscales were previously reported in a community nursing setting (van Iersel et al., 2018a). The Profession Scale was modified by revising the wording to reflect a focus on general practice and adding two additional items, "Hours of work" and "Wages," following examination of the literature and expert consultation (Halcomb & Ashley, 2017). These new items and the 16 existing items were rated on a 10-point Likert scale ranging from 1 ("very little")–10 ("a lot"). The final existing item, "work environment" was rated on a 10-point scale from 1 ("poor environment")–10 ("good environment"). Given the difference in rating scales, this item was not included in the factor analysis. Finally, the 19 items from the modified Profession Scale were also used to measure the level of importance of each item when choosing an employment setting. Items were rated on a 5-point Likert scale ranging from 1 ("not important")–5 ("very important").

### 3.4 | Data analysis

Data were imported from SurveyMonkey© (2018) into SPSS version 25 (IBM Analytics, 2018) before being checked and cleaned. The data were then summarized using descriptive statistics. To determine the factor structure, an exploratory factor analysis method was adopted using Principal Components Analysis with Varimax Rotation (Field, 2018). To ensure the adequacy of the sample size for factor analysis, the Kaiser-Meyer-Olkin index was used (Field, 2018). Bartlett's test of sphericity was used to evaluate the correlation between variables (IBM Corporation, 2016). To gauge the substantive importance of variables to the extracted factors, variables with factor loadings of >0.40 were retained (Field, 2018). The mean total score for each factor and the mean score for the overall modified Profession Scale were calculated by adding the scores for each item and then dividing these by the number of items in the factor/scale. The association between demographic characteristics and respondents' perceptions of the general practice environment was evaluated using a 2-tailed *t* test. "Age" was dichotomized at the mean (28 years). Statistical significance was demonstrated with a *p*-value of < .05.

TABLE 1 Respondent characteristics

Characteristic	<i>n</i>	%
Current place of residence		
Urban	247	69.6
Rural	108	30.4
Country where majority of pre-university was completed		
Australia	232	65.4
Other	123	34.6
Enrolment status		
Domestic	265	74.6
International	88	24.8
Missing	2	0.6
Exposure to general practice nursing within BN		
Yes	218	61.4
No	137	38.6
Work experience in general practice		
No	178	50.1
Yes	177	49.9
Clinical placement in general practice		
No	234	65.9
Yes	121	34.1
Receiving care from a GPN currently or in the past		
Yes	209	58.9
No	146	41.1

### 3.5 | Validity and reliability

To establish face validity, the survey was reviewed by two final-year nursing students and two RNs who recently graduated with a BN and three nurse academics who had expertise in PHC education and research. These reviewers provided feedback which was used to revise the survey language and flow before widespread dissemination.

The complete SCOPE tool has been reported to have a Cronbach's alpha of 0.892 (van Iersel et al., 2018a). Additionally, the Professions Scale has been reported to have a Cronbach's alpha of 0.799 (van Iersel et al., 2018a). Both demonstrate good internal consistency.

## 4 | RESULTS

### 4.1 | Respondent demographics

One hundred and thirty-nine responses were excluded due to incomplete data (*n* = 106; 21.5%) or absent demographic data (*n* = 33; 6.7%), leaving 355 responses included in the analysis. The mean age of respondents was 28 years (Range 18–58, *SD* = 8.2) and the majority were identified as female (*n* = 329, 92.7%). Nearly, a quarter of respondents were enrolled as international students (*n* = 88, 27.8%),

and 65.9% reported never having a general practice clinical placement within their BN program ( $n = 234$ ) (Table 1).

## 4.2 | Factor structure of the modified profession scale

The Kaiser-Meyer-Olkin index of 0.901, indicates "marvellous" sampling adequacy (Hutcheson & Sofroniou, 1999). The data were deemed suitable for factor analysis as Bartlett's test of sphericity was 3,100.421 ( $p = .000$ ) (Field, 2018).

Factor analysis revealed a three-factor solution, accounting for 57.33% of the total variance. These factors were labelled Factor 1 "Provision of care" (11 items), Factor 2 "Employment conditions" (three items) and Factor 3 "Nature of work" (four items) (Table 2). The

Cronbach's alpha scores were Factor 1:  $\alpha = .896$ , Factor 2:  $\alpha = .768$ , Factor 3:  $\alpha = .662$  and Total scale:  $\alpha = .906$ , indicating good internal consistency (Ursachi, Horodnic, & Zait, 2015).

## 4.3 | Perception of the general practice work environment

The overall mean score for the modified Profession Scale was 7.53. The three factors, "Provision of care", "Employment conditions" and "Nature of work" had a mean score of 8.01 ( $SD = 1.36$ ), 7.02 ( $SD = 1.81$ ) and 6.61 ( $SD = 1.57$ ), respectively (Table 2). The highest mean scores for individual items indicated the characteristics that respondents felt would be present "a lot" in general practice. These items were "elderly patients" (Mean 8.70  $SD$  1.60), "individual

	Factor 1	Factor 2	Factor 3	Communalities	Presence in general practice Mean (SD)
Factor 1: Provision of care (Mean = 8.01, $SD = 1.36$ , $\alpha = 0.896$ )					
Contact with Family/ Carers	0.777	0.026	0.036	0.606	8.25 (1.81)
Health improvements for patients	0.742	0.222	0.16	0.625	8.12 (1.75)
Enthusiastic colleagues	0.698	0.433	-0.091	0.683	7.43 (2.00)
Variety of caregiving	0.692	0.267	0.197	0.588	7.76 (2.20)
Collaboration with colleagues	0.681	0.258	0.109	0.542	8.29 (1.91)
Individual responsibility	0.671	0.141	0.217	0.517	8.39 (1.78)
Enjoyable relationships with patients	0.66	0.079	0.034	0.443	7.97 (1.90)
Collaboration with other disciplines	0.651	0.279	0.136	0.520	8.09 (2.04)
Freedom of action (Autonomy)	0.609	0.16	0.056	0.400	7.45 (2.07)
Technical nursing skills needed	0.573	0.394	0.355	0.610	7.67 (2.16)
Elderly patients	0.482	-0.412	0.434	0.591	8.70 (1.60)
Factor 2: Employment conditions (Mean = 7.02, $SD$ 1.81, $\alpha = 0.768$ )					
Wages	0.374	0.739	0.039	0.688	6.75 (2.13)
Hours of work	0.156	0.684	0.334	0.603	7.35 (1.88)
Opportunities for advancement	0.55	0.618	0.126	0.700	6.97 (2.50)
Factor 3: Nature of work (Mean = 6.61, $SD = 1.57$ , $\alpha = 0.662$ )					
Work pressures	0.251	0.135	0.747	0.640	6.98 (2.12)
Physically demanding work	0.152	0.316	0.744	0.676	6.15 (2.33)
Complex patient care needs	0.553	0.003	0.598	0.664	7.43 (2.30)
Low-status work	-0.12	0.002	0.457	0.223	5.88 (2.15)

TABLE 2 Factor analysis

Note: Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. ^ Rotation converged in 6 iterations.

The different colours delineate distinguish the variables between the three different factors.

responsibility" (Mean 8.39, *SD* 1.78), "collaboration with colleagues" (Mean 8.29, *SD* 1.91) and "contact with family/carers" (Mean 8.25 *SD* 1.81) (Table 2). Conversely, the lowest mean scores for individual items indicated characteristics that respondents expected to be the least present in general practice. These items were "opportunities for advancement" (Mean 6.97, *SD* 2.50), "wages" (Mean 6.75, *SD* 2.13), "physically demanding work" (Mean 6.15, *SD* 2.33) and "low status of work" (Mean 5.88, *SD* 2.15).

#### 4.4 | Association between the modified profession scale and demographics

##### 4.4.1 | Provision of care

Items in the "provision of care" factor related to the types of consumers, variety of work and relationships with colleagues (Table 2). Respondents who were exposed to general practice nursing within their BN program ( $p = .000$ ) or who had a general practice clinical placement ( $p = .001$ ) had significantly different perceptions of the characteristics within the factor "Provision of care" than those who did not have this experience (Table 3).

##### 4.4.2 | Employment conditions

The "employment conditions" factor contained items about wages, hours and opportunities. Respondents enrolled on an international visa had significantly different perceptions of characteristics in the "Employment conditions" factor than domestic students ( $p = .018$ ). Similarly, those who had exposure to general practice nursing within the BN program ( $p = .030$ ) had general practice work experience ( $p = .000$ ) or had a general practice clinical placement ( $p = .000$ ) and had significantly different perceptions of the "Employment conditions" factor in general practice than those respondents without this experience.

##### 4.4.3 | Nature of work

Items in the "nature of work" factor were related to work pressures, the physical nature of the work, complexity of care needs and perceived status of the work. Respondents had significantly different perceptions of this factor if they were exposed to general practice nursing within the BN program ( $p = .000$ ), had work experience in general practice ( $p = .000$ ) or had undertaken a general practice clinical placement ( $p = .000$ ).

TABLE 3 Correlations analyses

	Factor 1: Provision of care		Factor 2: Employment conditions		Factor 3: Nature of work	
	Mean ( <i>SD</i> )	<i>p</i> -Value	Mean ( <i>SD</i> )	<i>p</i> -Value	Mean ( <i>SD</i> )	<i>p</i> -Value
Age						
0–28	8.01 (1.39)	.977	7.12 (1.80)	.195	6.57 (1.60)	.532
≥29	8.01 (1.31)		6.87 (1.81)		6.67 (1.51)	
Place of residence						
Urban	7.96 (1.44)	.251	6.97 (1.87)	.368	6.59 (1.59)	.647
Rural	8.13 (1.14)		7.15 (1.65)		6.67 (1.51)	
Enrolment status (Domestic/International)						
Domestic	8.00 (1.31)	.696	6.89 (1.79)	.018*	6.61 (1.54)	.951
International	8.07 (1.46)		7.42 (1.83)		6.62 (1.66)	
Exposure to general practice nursing within BN						
Yes	8.21 (1.19)	.000*	7.19 (1.75)	.030*	6.91 (1.47)	.000*
No	7.68 (1.53)		6.76 (1.88)		6.14 (1.61)	
Work experience in general practice						
Yes	8.14 (1.35)	.064	7.38 (1.75)	.000*	6.91 (1.54)	.000*
No	7.88 (1.36)		6.66 (1.80)		6.32 (1.54)	
Clinical placement in general practice						
Yes	8.33 (1.19)	.001*	7.60 (1.60)	.000*	7.24 (1.36)	.000*
No	7.85 (1.41)		6.73 (1.84)		6.29 (1.57)	
Received Care from a GPN currently or in the past						
Yes	8.10 (1.33)	.141	6.94 (1.81)	.295	6.57 (1.57)	.583
No	7.88 (1.38)		7.14 (1.81)		6.67 (1.57)	

\*Indicates significance.

## 4.5 | Priorities when choosing a place of employment

Respondents considered all 19 items on the modified Profession Scale important to some degree when deciding where to seek future employment (Table 4). Items that were rated as most important when deciding where to seek employment included “work environment” (Mean 4.68, SD 0.54), “collaboration with colleagues” (Mean 4.58, SD 0.64) and “opportunities for advancement” (Mean 4.54, SD 0.69). Items that were deemed to be of least importance were “level of work pressures” (Mean 4.06, SD 0.90), “status of work” (Mean 3.72, SD 1.15) and “patient age group” (elderly patients)(Mean 3.21, SD 1.42).

## 5 | DISCUSSION

This paper describes the final-year nursing students' views on the general practice work environment and their priorities when choosing an employment setting. Explicating these factors can guide policymakers, managers and primary care organizations on how general practice can be presented as an attractive career choice. They may also assist in preparing nursing students to consider general practice employment. Analysis of the modified Profession Scale showed good internal consistency suggesting that the tool is reliable for measuring final year nursing students' views of the general practice environment (Pallant, 2001).

The Profession Scale has previously been used to evaluate “perceptions of community nursing as a profession,” with particular emphasis on understanding clinical placement experiences and changes over time during nursing education ((van Iersel et al., 2018a, b). This study has focussed on validating the scale for use specifically in general practice. Previous factor analysis was undertaken with 1,062 first-semester Dutch nursing students (van Iersel et al., 2018a). This demonstrated a four-factor solution accounting for 50.2% of the total variance. These factors were named “professional development,” “collaboration,” “freedom of action,” and “complexity and workload.” In this study, items from the first three factors were loaded onto the single “provision of care” factor. This factor refers to the nature of the GPNs role, their interaction with others and their skills. All items in the fourth factor and the item “low-status work” from the initial validation were all loaded onto the “nature of work” factor in this study. This factor refers to the complexity of work pressures and the status of work. The factor “employment conditions,” referred to remuneration, hours of work and advancement opportunities. This factor comprised the two items added to the modified scale and the single item “opportunities for advancement.” While the similarities in factor structure and psychometric properties give confidence in the use of the scale in general practice, further research with larger sample sizes is required.

This study has demonstrated that exposure to general practice in theoretical and clinical experience during the BN changed respondents' perceptions across all factors. This is consistent with literature that reports that once students have experienced nursing in general

practice through clinical placement, they better appreciate the scope and complexity of the GPN role (McInnes et al., 2015). Additionally, new graduate nurses working in general practice have asserted that more exposure to theory or clinical placement would have better prepared them for the role (McInnes et al., 2019). Both theoretical exposure and clinical placement experiences have been shown to influence students' views and attitudes about particular clinical settings (Chai et al., 2019; Koehler et al., 2016). Theoretical content is necessary to develop undergraduate nursing students' understanding of clinical situations through problem-based learning, and “classroom” discussions give students with the space to reflect and develop critical thinking skills (Arreciado Marañón & Isla Pera, 2015). Additionally, the quality of students' learning experience on clinical placement can increase students' confidence and familiarize them with roles and diverse settings, which can positively influence their subsequent career intention (Hunt et al., 2020; McInnes et al., 2015). Both theoretical and clinical practice training is necessary for the preparation of undergraduate nursing students for the RN role, and in developing their professional identity (Arreciado Marañón & Isla Pera, 2015).

Our study showed that respondents who were enrolled on an international visa had significantly different perceptions of the characteristics within the factor “Employment conditions” compared with respondents who were domestic students. International respondents were found to have diverse cultural backgrounds, and are likely to have experienced a range of exposures and understanding of health systems and clinical settings (John McKitterick et al., 2021). Therefore, it was likely that their perceptions were impacted by personal experiences of and/or exposure to community-based nursing roles in their home countries. Individuals are influenced by their personal experiences of healthcare settings through illness, work or clinical placement exposure, and their overarching beliefs within their cultural groups (Hickey et al., 2012). Future research needs to explore innovative strategies to integrate an international lens in BN programs, and to explore how students' pre-conceived ideas, understandings and personal experiences impact their perceptions of clinical settings as employment options.

There was little discrimination in the scoring of the modified Profession Scale in terms of the presence of characteristics in general practice and the importance of these characteristics in choosing a workplace. Therefore, it was difficult to ascertain the relative importance of individual items. Such challenges in rating scales have been previously reported where respondents may respond in perceived consistency with others' opinions or tend to favour the positive end of the scale regardless of the items (Kreitchmann et al., 2019). In this study, only two items that scored in the top half of the “importance” items were rated in the lower half of the scale of characteristics expected in general practice. Wages and opportunities for advancement were both seen as important when choosing an employment setting but felt to be limited in their presence in general practice. Opportunities for personal and professional growth and good remuneration are factors that have been identified as impacting the career plans of nursing students (Palese et al., 2016).

TABLE 4 Priorities when deciding place of work

	Not important		Slightly important		Moderately important		Important		Very important		Mean	SD
	n	%	n	%	n	%	n	%	n	%		
Work environment	0	0	2	0.6	7	2.0	92	25.9	254	71.5	4.68	0.54
Collaboration with colleagues	1	0.3	2	0.6	18	5.1	102	28.7	232	65.4	4.58	0.64
Opportunities for advancement	1	0.3	5	1.4	18	5.1	109	30.7	222	62.5	4.54	0.69
Health improvements for patients	2	0.6	7	2.0	23	6.5	115	32.4	208	58.6	4.46	0.75
Technical nursing skills needed	1	0.3	7	2.0	26	7.3	118	33.2	203	57.2	4.45	0.74
Collaboration with other disciplines	1	0.3	6	1.7	27	7.6	119	33.5	202	56.9	4.45	0.73
Enthusiastic colleagues	1	0.3	6	1.7	33	9.3	114	32.1	201	56.6	4.43	0.75
Hours of Work	0	0	7	2.0	25	7.0	138	38.9	185	52.1	4.41	0.71
Individual responsibility	0	0	6	1.7	36	10.1	125	35.2	188	53.0	4.39	0.74
Wages	2	0.6	6	1.7	32	9.0	142	40.0	173	48.7	4.35	0.76
Relationships with patients	3	0.8	10	2.8	38	10.7	119	33.5	185	52.1	4.33	0.84
Variety of caregiving/role	2	0.6	11	3.1	36	10.1	144	40.6	162	45.6	4.28	0.81
Freedom of action (autonomy)	2	0.6	10	2.8	44	12.4	157	44.2	142	40.0	4.20	0.80
Complexity of patient care needs	7	2.0	13	3.7	63	17.7	128	36.1	144	40.6	4.10	0.95
Physical nature of work	6	1.7	10	2.8	66	18.6	142	40.0	131	36.9	4.08	0.90
Contact with family/carers	5	1.4	18	5.1	61	17.2	133	37.5	138	38.9	4.07	0.94
Level of work pressures	3	0.8	15	4.2	71	20.0	133	37.5	133	37.5	4.06	0.90
Status of work	22	6.2	29	8.2	81	22.8	119	33.5	104	29.3	3.72	1.15
Patient age group	68	19.2	41	11.5	79	22.3	84	23.7	83	23.4	3.21	1.42



Dissatisfaction with remuneration has been widely reported among nurses working in PHC settings such as general practice (Halcomb & Ashley, 2017; Halcomb & Bird, 2020). Similarly, limitations in advancement opportunities and a lack of a clear career pathway have been reported (Calma et al., 2021b; Halcomb & Ashley, 2019). Brook et al., (2019) check this section as reference out of place. Given the links between career opportunities and sufficient remuneration and job satisfaction, these areas require consideration to promote general practice to new graduate nurses as a viable career opportunity.

## 5.1 | Limitations

This study has some limitations. Respondents may have had more positive or negative views about nursing in general practice than those who chose not to participate. Although respondents were from five geographically dispersed universities, nursing students studying at other institutions may have different perceptions based on the diversity in BN programs across Australia and local clinical placement opportunities in general practice. Finally, the quantitative method of data collection restricted the scope of responses. Follow-up interviews sought to further explore survey findings (Calma et al., 2021a; Calma et al., 2021b).

## 6 | CONCLUSIONS AND IMPLICATIONS

This study revealed that exposure to general practice nursing within theoretical content and clinical placement influences final year nursing students' views of the general practice environment. Despite the importance of wages and opportunities for advancement when choosing an employment setting, respondents generally felt that these would be limited in general practice.

Implications of these findings are two-fold. First, to prepare new graduates to work in diverse clinical settings, universities need to ensure nursing students experience settings, such as general practice, within the BN program. Secondly, policymakers and primary care organizations need to be clear about remuneration and opportunities for nurses in general practice and ensure that these are commensurate with other nursing employment. Re-evaluating nursing students' preparation to work in diverse clinical settings such as general practice, and supporting the current GPN workforce, may improve nursing students' perceptions of general practice work and encourage them to pursue employment in this setting following graduation.

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### CONFLICT OF INTEREST

No conflict of interest has been declared by the author (s).

### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

### ETHICAL APPROVAL

The conduct of this study was approved by the University of Wollongong Human Research Ethics Committee (HREC 2018/556) and participating universities. Respondents could cease the survey at any time.

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### REFERENCES

- Arreciado Marañón, A., & Isla Pera, M. P. (2015). Theory and practice in the construction of professional identity in nursing students: A qualitative study. *Nurse Education Today*, 35(7), 859–863. <https://doi.org/10.1016/j.nedt.2015.03.014>
- Ashley, C., Halcomb, E., Peters, K., & Brown, A. (2017). Exploring why nurses transition from acute care to primary health care employment. *Applied Nursing Research*, 38, 83–87. <https://doi.org/10.1016/j.apnr.2017.09.002>
- Australian Primary Health Care Nurses Association. (2019). *APNA workforce survey 2019*. Australian Primary Health Care Nurses Association. <https://apna.asn.au/files/DAM/2%20Careers/APNA%20Workforce%20Survey/2019WorkforceSurveyDetailedReport.pdf>
- Bloomfield, J. G., Aggar, C., Thomas, T. H. T., & Gordon, C. J. (2018). Factors associated with final year nursing students' desire to work in the primary health care setting: Findings from a national cross-sectional survey. *Nurse Education Today*, 61, 9–14. <https://doi.org/10.1016/j.nedt.2017.10.001>
- Bloomfield, J. G., Gordon, C. J., Williams, A. M., & Aggar, C. (2015). Nursing students' intentions to enter primary health care as a career option: Findings from a national survey. *Collegian*, 22(2), 161–167. <https://doi.org/10.1016/j.collegn.2015.02.001>
- Brook, J., Aitken, L., Webb, R., MacLaren, J., & Salmon, D. (2019). Characteristics of successful interventions to reduce turnover and increase retention of early career nurses: A systematic review. *International Journal of Nursing Studies*, 91, 47–59. <https://doi.org/10.1016/j.ijnurstu.2018.11.003>
- Calma, K. R. B., Halcomb, E., & Stephens, M. (2019). The impact of curriculum on nursing students' attitudes, perceptions and preparedness to work in primary health care: An integrative review. *Nurse Education in Practice*, 39, 1–10. <https://doi.org/10.1016/j.nepr.2019.07.006>
- Calma, K. R. B., Halcomb, E., Williams, A., & McInnes, S. (2021a). Final-year undergraduate nursing students' perceptions of general practice nursing: A qualitative study. *Journal of Clinical Nursing*, 30(7–8), 1144–1153. <https://doi.org/10.1111/jocn.15662>
- Calma, K. R. B., McInnes, S., Halcomb, E., Williams, A., & Batterham, M. (2022). Confidence, interest and intentions of final-year nursing students regarding employment in general practice. *Collegian*, 29(2), 220–227. <https://doi.org/10.1016/j.collegn.2021.08.005>
- Calma, K. R. B., Williams, A., McInnes, S., & Halcomb, E. (2021b). New graduate employment in general practice: Perceptions of final-year nursing students. *Nurse Education in Practice*, 54, 103115. <https://doi.org/10.1016/j.nepr.2021.103115>
- Chai, X., Cheng, C., Mei, J., & Fan, X. (2019). Student nurses' career motivation toward gerontological nursing: A longitudinal study. *Nurse Education Today*, 76, 165–171. <https://doi.org/10.1016/j.nedt.2019.01.028>



- Cowling, T. E., Laverty, A. A., Harris, M. J., Watt, H. C., Greaves, F., & Majeed, A. (2017). Contract and ownership type of general practices and patient experience in England: Multilevel analysis of a national cross-sectional survey. *Journal of the Royal Society of Medicine*, 110(11), 440–451. <https://doi.org/10.1177/0141076817738499>
- Field, A. P. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). SAGE Publications.
- Goodyear-Smith, F., & Kassai, R. (2015). International primary care snapshots: New Zealand and Japan. *British Journal of General Practice*, 65(632), 142–143. <https://doi.org/10.3399/bjgp15X684109>
- Halcomb, E., & Ashley, C. (2017). Australian primary health care nurses most and least satisfying aspects of work. *Journal of Clinical Nursing*, 26(3–4), 535–545. <https://doi.org/10.1111/jocn.13479>
- Halcomb, E., & Ashley, C. (2019). Are Australian general practice nurses underutilised? An examination of current roles and task satisfaction. *Collegian*, 26(5), 522–527. <https://doi.org/10.1016/j.colegn.2019.02.005>
- Halcomb, E., & Bird, S. (2020). Job satisfaction and career intention of Australian general practice nurses: A cross-sectional survey. *Journal of Nursing Scholarship*, 52(3), 270–280. <https://doi.org/10.1111/jnu.12548>
- Halcomb, E., McInnes, S., Williams, A., Ashley, C., James, S., Fernandez, R., Stephen, C., & Calma, K. (2020). The experiences of primary health-care nurses during the COVID-19 pandemic in Australia. *Journal of Nursing Scholarship*, 52(5), 553–563. <https://doi.org/10.1111/jnu.12589>
- Halcomb, E., Stephens, M., Bryce, J., Foley, E., & Ashley, C. (2017). The development of professional practice standards for Australian general practice nurses. *Journal of Advanced Nursing*, 73(8), 1958–1969. <https://doi.org/10.1111/jan.13274>
- Halcomb, E. J., Salamonson, Y., Raymond, D., & Knox, N. (2012). Graduating nursing students' perceived preparedness for working in critical care areas. *Journal of Advanced Nursing*, 68(10), 2229–2236. <https://doi.org/10.1111/j.1365-2648.2011.05911.x>
- Heywood, T., & Laurence, C. (2018). An overview of the general practice nurse workforce in Australia, 2012–15. *Australian Journal of Primary Health*, 24(3), 227–232. <https://doi.org/10.1071/PY17048>
- Hickey, N., Harrison, L., & Sumsion, J. (2012). Using a socioecological framework to understand the career choices of single- and double-degree nursing students and double-degree graduates. *International Scholarly Research Network*, 2012, 748238–748210. <https://doi.org/10.5402/2012/748238>
- Hunt, G., Verstappen, A., Stewart, L., Kool, B., & Slark, J. (2020). Career interests of undergraduate nursing students: A ten-year longitudinal study. *Nurse Education in Practice*, 43, 102702. <https://doi.org/10.1016/j.nepr.2020.102702>
- Hutcheson, G., & Sofroniou, N. (1999). *The multivariate social scientist*. Sage Publications.
- IBM Analytics. (2018). *Statistical Package for the Social Sciences (SPSS)*. IBM Analytics.
- IBM Corporation. (2016). *KMO and Bartlett's test*. IBM Corporation. <https://www.ibm.com/docs/en/spss-statistics/24.0.0?topic=detection-kmo-bartletts-test>
- Innes, L. (2019). General practice nurse education in Scotland – Now and in the future. *Education for Primary Care*, 30(5), 263–266. <https://doi.org/10.1080/14739879.2019.1626771>
- John McKitterick, D., Peters, M. D. J., Corsini, N., Chiarella, M., & Eckert, M. (2021). International nursing students' and international nursing graduates' experiences of transition to the nursing workforce: A systematic review of qualitative evidence. *Nurse Education in Practice*, 55, 103147. <https://doi.org/10.1016/j.nepr.2021.103147>
- Koehler, A. R., Davies, S., Smith, L. R., Hooks, T., Schanke, H., Loeffler, A., Carr, C., & Ratzlaff, N. (2016). Impact of a stand-alone course in gerontological nursing on undergraduate nursing students' perceptions of working with older adults: A quasi-experimental study. *Nurse Education Today*, 46(1), 17–23. <https://doi.org/10.1016/j.nedt.2016.06.015>
- Kreitchmann, R. S., Abad, F. J., Ponsoda, V., Nieto, M. D., & Morillo, D. (2019). Controlling for response biases in self-report scales: Forced-choice vs. psychometric modeling of Likert items. *Frontiers in Psychology*, 10, 2309. <https://doi.org/10.3389/fpsyg.2019.02309>
- Masso, M., Sim, J., Loggie, C., Moroney, T., Halcomb, E., & Thompson, C. (2019). *Topic 1: Fit for purpose / work ready / transition to practice*. Centre for Health Service Development. <https://www.health.gov.au/sites/default/files/documents/2019/12/topic-1-fit-for-purpose-work-ready-transition-to-practice.pdf>
- Matthys, E., Remmen, R., & Van Bogaert, P. (2019). Practice nurse support and task suitability in a general practice: A cross-sectional survey in Belgium. *Journal of Interprofessional Care*, 33(6), 661–669. <https://doi.org/10.1080/13561820.2019.1569602>
- McCann, T. V., Clark, E., & Lu, S. (2010). Bachelor of nursing students career choices: A three-year longitudinal study. *Nurse Education Today*, 30(1), 31–36. <https://doi.org/10.1016/j.nedt.2009.05.014>
- McInnes, S., Halcomb, E., Huckel, K., & Ashley, C. (2019). Experiences of registered nurses in a general practice-based new graduate program: A qualitative study. *Australian Journal of Primary Health*, 25(4), 366–373. <https://doi.org/10.1071/PY19089>
- McInnes, S., Peters, K., Hardy, J., & Halcomb, E. (2015). Clinical placements in Australian general practice: (Part 1) the experiences of pre-registration nursing students. *Nurse Education in Practice*, 15(6), 437–442. <https://doi.org/10.1016/j.nepr.2015.04.003>
- Newton, J. M., & McKenna, L. (2007). The transitional journey through the graduate year: A focus group study. *International Journal of Nursing Studies*, 44(7), 1231–1237. <https://doi.org/10.1016/j.ijnurstu.2006.05.017>
- Palese, A., Falomo, M., Brugnolli, A., Mecugni, D., Marognolli, O., Montalti, S., Tameni, A., Gonella, S., & Dimonte, V. (2016). Nursing student plans for the future after graduation: A multicentre study. *International Nursing Review*, 64(1), 99–108. <https://doi.org/10.1111/inr.12346>
- Pallant, J. (2001). *SPSS survival manual: A step by step guide to data analysis using SPSS for windows (Version 10)* (p. 302). Open University Press.
- Royal Australian College of General Practitioners. (2018). *What is general practice?* Royal Australian College of General Practitioners. <https://www.racgp.org.au/becomingagp/what-is-a-gp/what-is-general-practice/>
- Royal Australian College of General Practitioners. (2020). *General practice: Health of the nation 2020*. Royal Australian College of General Practitioners. <https://www.racgp.org.au/getmedia/c2c12dae-21ed-445f-8e50-530305b0520a/Health-of-the-Nation-2020-WEB.pdf.aspx>
- Schwartz, S. (2019). *Educating the nurse of the future: Report of the independent review of nursing education*. ACT. <https://www.health.gov.au/resources/publications/educating-the-nurse-of-the-future>
- SurveyMonkey©. (2018). *SurveyMonkey*. Momentive. <https://www.surveymonkey.com/>
- Ursachi, G., Horodnic, I. A., & Zait, A. (2015). How reliable are measurement scales? External factors with indirect influence on reliability estimators. *Procedia Economics and Finance*, 20(1), 679–686. [https://doi.org/10.1016/S2212-5671\(15\)00123-9](https://doi.org/10.1016/S2212-5671(15)00123-9)
- van Iersel, M., De Vos, R., Latour, C., Kirschner, P. A., & op Reimer, W. S. (2018a). The Scale on Community care PErceptions (SCOPE) for nursing students: A development and psychometric validation study. *Nurse Education in Practice*, 31, 61–67. <https://doi.org/10.1016/j.nepr.2018.05.002>
- van Iersel, M., Latour, C. H., De Vos, R., Kirschner, P. A., & op Reimer, W. J. S. (2018b). Perceptions of community care and placement preferences in first-year nursing students: A multicentre, cross-sectional study. *Nurse Education Today*, 60, 92–97. <https://doi.org/10.1016/j.nedt.2017.09.016>

Wilbourn, M., Salamonson, Y., Ramjan, L., & Chang, S. (2018). Development and psychometric testing of the attitudes, subjective norms, perceived Behavioural control, and intention to pursue a career in mental health nursing scale. *International Journal of Mental Health Nursing*, 27(1), 72–81. <https://doi.org/10.1111/inm.12295>

#### SUPPORTING INFORMATION

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