

RESEARCH ARTICLE

Impact of the use of the Red Lotus Critical Health Promotion Model as a pedagogical framework on health promotion graduates' professional practice: A mixed methods study

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Abstract

Issue Addressed: The Red Lotus Critical Health Promotion Model (RLCHPM) is designed to support critical health promotion practice. This study investigated the impact of the use of the RLCHPM as a pedagogical framework for competency-based university curricula on the practice of graduates from health promotion programs from an Australian regional university.

Methods: A mixed methods study was undertaken, including an online survey of all 195 graduates from 2008 to 2016, followed by semi-structured interviews with a subset of respondents.

Results: There were 95 survey respondents and 10 interviewees. More than half of the survey respondents reported that the model impacted health promotion programs they are involved in, however, less than a quarter felt it impacted workplace policies. The impact was significantly higher for those with higher levels of knowledge about, confidence in using, and perception of utility of the RLCHPM, and stronger alignment of their practice with critical health promotion values and principles. Graduates' embodiment of the model's values and principles in practice enhanced the impact of the model. Factors that limited the impact included participants' implicit use of components of the model without explicit reference to the model, and the incongruence between participants' professional practice ideals and those of their workplace context.

Conclusions: The use of the RLCHPM as a pedagogical framework for university health promotion programs positively impacted graduates' practice within the Australian context.

So What?: The RLCHPM could be used as a pedagogical framework in universities to develop competency-based critical health promotion curricula to enable graduates to progress critical health promotion practice.

KEYWORDS

competency, framework, health promotion education, model, pedagogy, teaching

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1 | INTRODUCTION

1.1 | Background

The purpose of higher education professional degree programs is to prepare graduates to meet current and future workforce needs. Professional competencies are the foundation of professional programs, and are used to develop competency-based curricula¹⁻³ including in health promotion.⁴⁻⁷ Training health promotion graduates involves developing health promotion specific competencies, including knowledge, skills, and attitudes necessary for professional health promotion practice.⁸ Health promotion competency frameworks have been developed at the national level, including in Australia,⁹ and at the international level by the International Union for Health Promotion and Education (IUHPE) to “promote quality assurance, competence and mobility in Health Promotion practice, education and training globally.”¹⁰ Since 2013, IUHPE has accredited university health promotion programs and practitioners that address IUHPE Core Competencies and Professional Standards across nine domains encompassing knowledge, ethical values, strategies, communication and leadership skills, and the phases of the health promotion cycle.¹⁰ The IUHPE competencies have primarily been used to inform the design of curricula in health promotion programs.¹¹

Since 2008, the Red Lotus Critical Health Promotion Model (RLCHPM) has been used as the pedagogical framework to teach and assess health promotion competencies in courses within undergraduate and postgraduate health promotion degree programs at a regional Australian university. The RLCHPM,¹² first published as the Red Lotus Health Promotion Model,¹³ is designed to support critical health promotion practice, and is used in health promotion teaching, research and practice in multiple countries.¹⁴⁻¹⁸ Critical health promotion¹⁹ refers to “a social justice approach to health promotion that is underpinned by a system of values and related principles that supports the reflective process of overtly identifying and challenging dominant social structures and discourses that privilege the interests of the powerful and contribute to health and wellbeing inequities.”¹² p. xix Critical health promotion is transformative, and transformative approaches are required to achieve the United Nations Sustainable Development Goals and reduce health inequity.²⁰

The RLCHPM was the first health promotion model to explicitly incorporate a system of values and principles that is applied across the phases of the health promotion cycle and used as a heuristic to support critical reflection on practice,^{13,21} which is largely absent from health promotion models and competency frameworks.²² Prior to the publication of the RLCHPM, health promotion models focused on the knowledge and skills required for the technical aspects of health promotion practice.²³ The RLCHPM builds on models that address either the determinants of health (eg, the Butterfly Model of Health for an Ecosystem Context²⁴) or the health promotion cycle (eg, Precede-Proceed Model²⁵).

The RLCHPM^{12,13,16} uses the red lotus plant to represent the components of critical health promotion practice (Figure 1). The tuber and roots are the foundation of the plant and represent the values and principles system which is the core of critical health promotion practice. The stem growing from the tuber and roots to the flower represents the process of critical reflection. The flower includes the pod representing people's holistic health and wellbeing status, the stamens representing people's characteristics that contribute to health and wellbeing, and the first petal layer representing the environmental determinants of health and wellbeing. The next four petal layers of the flower represent the four phases of the health promotion cycle: community assessment, planning, implementation, and evaluation. The leaves of the plant represent the sustainability of health promotion outcomes.

Using the RLCHPM as the pedagogical framework to teach and assess health promotion competencies enabled faculty to organise the constructive alignment of learning outcomes, learning experiences and assessment to ensure curriculum cohesiveness within health promotion courses and across health promotion programs. The structure of the RLCHPM provided the framework for the organisation of learning, with different components of the model framing the content and authentic assessment for each course. For example, the course on community assessment and planning addressed the knowledge and skills required to assess community strengths, assets, and needs using a holistic, salutogenic paradigm; identify and analyse priority health and wellbeing issues using ecological science; engage with equity-based priority populations using participatory and empowering processes; and collaboratively develop evidence-based and ethical health promotion plans.

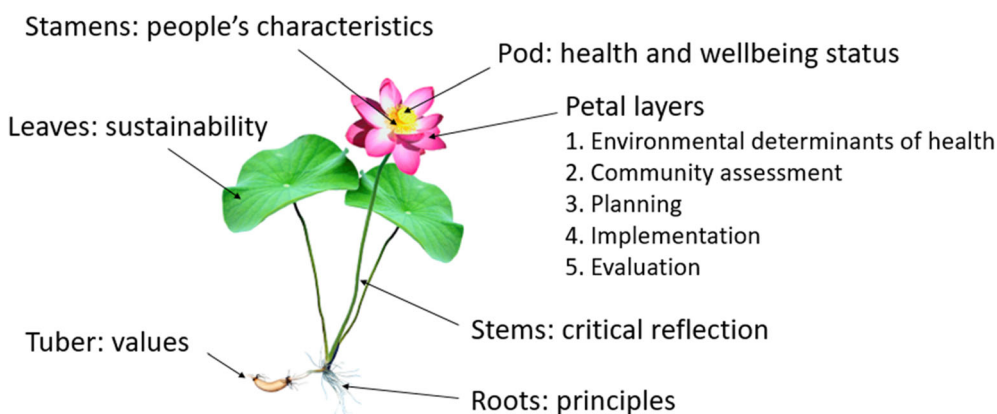


FIGURE 1 Red Lotus Critical Health Promotion Model

To date, there has been no research on the impact of the use of the RLCHPM as a pedagogical framework on health promotion practice. The aim of this research project was to determine the impact of the RLCHPM as a pedagogical framework for tertiary education programs on the health promotion practice of University of the Sunshine Coast graduates working in health promotion roles or using health promotion competencies in their work.

2 | METHODS

2.1 | Study design

Constructivist epistemology guided this research project, based on the belief that “reality” is socially constructed.²⁶ The methodology was fully mixed, sequential, equal status, mixed methods²⁷ utilising survey and interview methods. The Standards for Reporting Qualitative Research are used to report the qualitative component of the study.²⁸

2.2 | Researcher characteristics and reflexivity

The researchers for this study were also the developers of the model that was the subject of this research, the program leaders for the health promotion programs that used the model as the pedagogical framework, and the instructors for many of the courses in these programs. The researchers therefore had taught the graduates that were the participants in the research. Interaction between the researchers and the participants was limited to the email invitation to participate in the study. Although we were the developers of the model, we were genuinely interested in the impact of the model on graduates' preparedness for professional practice. The development of predetermined research questions and the use of an independent third party to conduct the interviews minimised the possibility that we may only identify more favourable results. The researchers analysed the data and interpreted findings together, and employed a continuous process of reflection and questioning to ensure authenticity of findings.

2.3 | Participants and recruitment procedure

The study population comprised all graduates from University of the Sunshine Coast health promotion programs from 2008 (the first year that graduates studied the RLCHPM) to 2016. In early 2018, all graduates (census sample) were contacted via email, with a brief description of the study, the Project Information Sheet and a link to the online survey. On the landing page, participants actively consented to participate by clicking the consent button, before proceeding to the self-administered questionnaire. At the end of the questionnaire, participants were invited to participate in a semi-structured interview via phone or Skype. Those that agreed provided their contact details which were stored in a separate file only available to the research assistant and not the researchers.

2.4 | Data collection instruments

2.4.1 | Questionnaire

The questionnaire was developed by the researchers and included some items adapted from previous evaluation studies.¹¹ The questionnaire was pilot tested with two peer academics with expertise in health promotion and questionnaire design, and two graduates of the program with limited experience in health promotion practice. Cognitive interviews with pilot testers provided feedback on instrument structure and item construction, which was used to make revisions to the questionnaire. Demographic items included age, degree completed, and years since graduation. The questionnaire included items about participants' current employment and their involvement in health promotion activities, based on the IUHPE Competency Standards.¹⁰ Those that had not worked in health promotion exited the survey at that point, and continuing participants were asked about the nature of their health promotion work.

Participants then rated their knowledge about and confidence in their ability to use the RLCHPM generally, and the values and principles specifically, on four point scales from not at all knowledgeable or confident (=1), to a little knowledgeable or confident (=2), somewhat knowledgeable or confident (=3), or very knowledgeable or confident (=4). Mean scores were calculated for each of the knowledge and confidence variables. Frequencies of responses and the mean score for each variable are presented in the results. To enhance the statistical power of inferential analyses, knowledge and confidence variables were dichotomised by combining responses for not at all and a little (not knowledgeable or confident) and somewhat or very (knowledgeable or confident).

Participants used a five point scale to indicate the extent to which they agreed with five statements about the RLCHPM's utility, including clarity, ease of use, importance, relevance, and usefulness in practice (1 = strongly disagree, 2 = disagree, 3 = not sure, 4 = agree, 5 = strongly agree). Participants then used the same scale to rate the utility of the model's values and principles. Mean scores were calculated for each variable related to utility. Frequencies of responses and the mean score for each variable are presented in the results. A summary score was created for model utility by summing the responses for clarity, ease of use, importance, relevance, and usefulness in practice, and dividing by 5 to create a final score ranging between 1 and 5, with a higher score indicating higher perception of model utility. Similarly, a summary score was created for the utility of the values and principles in the model, using the same method. For inferential analyses, the utility variables were dichotomised by combining responses for strongly disagree and disagree, and responses for agree and strongly agree.

Participants then rated the extent to which their current or most recent health promotion practice was consistent with the 19 critical health promotion values and principles in the RLCHPM on a five point response scale (1 = strongly traditional, 2 = somewhat traditional, 3 = not sure, 4 = somewhat critical, 5 = strongly critical). Using the published health promotion values and principles in the RLCHPM

ensured content validity.¹³ Frequencies of responses and the mean score for each value and principle are presented in the results. A summary score was created for health promotion values and principles practice by summing the responses for each item and dividing by 19, to create a final score ranging between 1 and 5. A higher score indicated more critical health promotion practice. The practice summary score was used as a continuous variable for inferential analyses.

Participants used a five point scale to indicate the extent of their agreement with statements about the impact of the model on health promotion programs and workplace policies in their workplace, and then the same set of questions about the impact of the values and principles in the model (1 = strongly disagree, 2 = disagree, 3 = not sure, 4 = agree, 5 = strongly agree). Frequencies of responses and the mean score for each variable are presented in the results. For inferential analyses, the impact variables were dichotomised by combining responses for strongly disagree and disagree, and responses for agree and strongly agree.

Within each section of the questionnaire, participants were able to provide comments related to the items in that section. The questionnaire took approximately 20 to 30 min to complete.

Data were downloaded in an Excel file and imported to IBM SPSS Statistics (Version 28) for analysis. Descriptive statistics are reported for all variables and summary scores. To investigate the relationships between the independent variables of age, years since degree completion, type of degree, knowledge, confidence, utility, and practice, and the dependent variables of impact on programs and practice, Pearson's chi-squared tests, *t* tests and Analysis of Variance (ANOVA) tests were used. The threshold for statistical significance of inferential tests was set at $\alpha = .05$.

2.4.2 | Interview

An interview question protocol guided the interview process (supplementary material).²⁹ The protocol was designed by the researchers to elucidate participants' responses from the questionnaire. Participants were asked about their recall of the components of the RLCHPM, how they had used the model, and the impact of the model on their health promotion practice, programs, and workplace policies. Interviews were conducted in mid-2018, and continued until data saturation was reached, which occurred after 10 interviews had been conducted over a period of 2 months.

To enhance trustworthiness and limit desirability response bias from participants, interviews were conducted by an independent interviewer who was not involved in the delivery of teaching of the RLCHPM, and was familiar with the model and the research project. The interview took place at a mutually agreed time and lasted on average between 30 and 60 minutes. Interviews were digitally audio recorded and transcribed by a professional transcription service. Member checking was conducted via the provision of transcripts via e-mail to each participant for their review, amendment and verification. Transcripts were de-identified by the interviewer prior to inclusion in the data set, in preparation for analysis by the authors.

Braun and Clarke's thematic analysis process was used to guide the qualitative data analysis, which consisted of familiarisation, generating initial codes, identifying themes, categorising of data under themes, revising, defining and naming the themes.³⁰ The identification of themes drew on etic codes in reference to the *a priori* concepts in the interview protocol, and emic codes from the words of the participants.

Data from the questionnaire and interviews were analysed concurrently between 2019 and 2021, in accordance with the fully mixed methods methodology.²⁷ Triangulation of quantitative and qualitative data enhanced the trustworthiness and credibility of findings.³¹

3 | RESULTS

3.1 | Participants

The census sample for the survey included 188 graduates, 95 of whom completed the questionnaire (response rate 50.5%, $M_{\text{age}} = 36$ [SD = 8.21]). More than half of the survey participants (53.7%) had completed postgraduate health promotion programs, with most completing the Master of Health Promotion (40%). The remaining participants (46.4%) had completed an undergraduate health promotion program. Almost one third of the participants (32.6%) had completed their degree program 1-2 years prior to the study, 30.5% had completed their program in 3-5 years prior to the study, and the remaining 36.8% had completed their program 6 years or more prior to the study.

With respect to employment in any role (not confined to health promotion), more than half of the survey participants (57.9%) were currently employed full time, 15.8% part time, 10.5% on a casual basis, 9.5% were not looking for employment and 6.3% were unemployed and looking for employment. Over half of the participants (56.8%) were currently working in roles involving health promotion activities, and a further third (34.7%) had previously worked in such roles. The majority of participants were currently working (56.8%) or had previously worked (13.7%) in full time positions involving health promotion activities. The 67 participants (70.5%) that were currently or had previously worked in a role involving health promotion activities were involved in activities across all nine domains of the IUHPE competencies, with the highest proportion involved in mediating through partnerships (79.1%), enabling change (74.6%), and advocating for health (67.2%), and the lowest proportion involved in planning (53.7%).

Ten survey participants were interviewed, half of whom had completed the Master of Health Promotion and half had completed an undergraduate program, with graduation dates covering the full range from 2008 to 2016. Eight participants were working in roles involving health promotion activities in non-Government organisations, universities, state, or federal government departments, one participant was undertaking a PhD in health promotion, and one participant was working in another field and looking for work in health promotion.

3.2 | Knowledge and confidence in using the RLCHPM

The majority of survey participants reported being somewhat or very knowledgeable and confident about their ability to use the RLCHPM, and its values and principles (Table 1). There were no significant differences between the mean scores for knowledge of the RLCHPM and knowledge of its values and principles ($P = .373$), or between the mean scores for confidence in using the RLCHPM and confidence in using its values and principles ($P = .560$).

A theme identified from the survey comments and interviews related to the confidence to explicitly apply the model, and a contrasting theme was the confidence to implicitly apply the model. There was also a theme related to the need to refresh knowledge on the model to increase confidence to use it in practice.

“Currently, I would not feel knowledgeable enough to teach the Red Lotus Model without a quick refresher to a group of new practitioners, however feel very confident that I am using and am informed by each component of the model in my daily practice.” Survey participant 10

“I have not exactly referred back to the model during my volunteer work, but realise that I often use the unconscious, saved knowledge of it to help guide me when planning and making decisions with other volunteers in the NGO.” Survey participant 55

3.3 | Utility of the RLCHPM

The majority of survey participants agreed or strongly agreed that the RLCHPM is important, relevant, useful to their practice, clear and understandable, and easy to use, with an overall mean summary score for the five utility variables of 3.75 (SD = 0.81). The majority of participants agreed or strongly agreed that the health promotion values and principles in the RLCHPM are important, relevant and useful to their practice, clear and understandable, and easy to use, with an overall mean summary score for utility of 4.13 (SD = 0.85) (Table 2). The mean summary score for utility of the RLCHPM's values and principles

was significantly higher than the mean summary score for the model more broadly ($M_{\text{difference}} = 0.38$, 95% Confidence Interval (CI) 0.23–0.53, $t(59) = 4.99$, $P < .001$).

Participants described the model as easy to understand, a clear representation of critical health promotion, and a useful reflection tool to guide practice. A theme identified from the survey comments and interviews was the value of the model in preparing graduates to undertake high quality practice across the phases of the health promotion cycle.

“It was a comprehensive and easy to understand model that I used as a guide in all of my work.” Survey participant 81

“I think the other fabulous thing about the course was the heavy-handed technical skills and step-by-step needs analysis, planning, planning for implementation and planning for evaluation. ... I think the Red Lotus Model really gives you that upper hand in terms of always having really structured, planned, evidence based planning and tools for evaluation as well.” Interview participant 9

3.4 | RLCHPM values and principles in practice

Participants reported on the position of their health promotion practice on a continuum from strongly traditional to strongly critical for each value and principle in the RLCHPM. For all 19 values and principles, the majority of participants rated their practice as somewhat or strongly critical (Table 3). Values rated as most critical were holistic health paradigm ($M = 4.02$), ecological science ($M = 4.00$), working with people as an ally ($M = 4.00$), and working with priority populations determined by equity ($M = 3.95$). Values rated as the least critical were evaluating focusing on sustainable changes to determinants of health ($M = 3.38$), strengths-based approach ($M = 3.48$), maximum beneficence ($M = 3.52$), and non-maleficence is a priority consideration ($M = 3.54$). Overall, participants rated the position of their health promotion values and principles in practice as somewhat critical ($M = 3.72$).

Three themes identified from the survey comments and interviews related to the use of the RLCHPM values and principles in participants' practice. These themes were the implicit use of the values

TABLE 1 Survey participants' rating and mean score (SD) for their knowledge and confidence to use the RLCHPM, and its values and principles

	Not at all n (%)	A little n (%)	Somewhat n (%)	Very n (%)	Mean (SD)
Knowledgeable about the RLCHPM (n = 63)	2 (3.2)	16 (25.4)	37 (58.7)	8 (12.7)	2.81 (0.69)
Confident about ability to use the RLCHPM (n = 62)	6 (9.7)	15 (24.2)	30 (48.4)	11 (17.7)	2.74 (0.87)
Knowledgeable about critical HP values and principles (n = 63)	3 (4.8)	21 (33.3)	29 (46.0)	10 (15.9)	2.73 (0.79)
Confident about ability to use critical HP values and principles (n = 63)	3 (4.8)	17 (27.0)	31 (49.2)	12 (19.0)	2.83 (0.79)

TABLE 2 Extent of agreement with and mean score (SD) for statements relating to the utility of the RLCHPM and its values and principles

	Strongly disagree (%)	Disagree (%)	Not sure (%)	Agree (%)	Strongly agree (%)	Mean (SD)
RLCHPM is important to my practice (n = 62)	3 (4.8)	8 (12.9)	7 (11.3)	36 (58.1)	8 (12.9)	3.61 (1.03)
RLCHPM is relevant to my practice (n = 62)	3 (4.8)	4 (6.5)	10 (16.1)	36 (58.1)	9 (14.5)	3.71 (0.97)
RLCHPM is useful to my practice (n = 62)	3 (4.8)	9 (14.5)	9 (14.5)	32 (51.6)	9 (14.5)	3.56 (1.07)
RLCHPM is clear and understandable (n = 61)	2 (3.3)	1 (1.6)	4 (6.6)	42 (68.9)	12 (19.7)	4.00 (0.80)
RLCHPM is easy to use (n = 62)	2 (3.2)	1 (1.6)	9 (14.5)	40 (64.5)	10 (16.1)	3.89 (0.81)
HP values and principles are important to my practice (n = 61)	2 (3.3)	3 (4.9)	2 (3.3)	28 (45.9)	26 (42.6)	4.20 (0.96)
HP values and principles are relevant to my practice (n = 61)	2 (3.3)	4 (6.6)	2 (3.3)	29 (47.5)	24 (39.3)	4.13 (0.99)
HP values and principles are useful to my practice (n = 61)	2 (3.3)	5 (8.2)	3 (4.9)	26 (42.6)	25 (41.0)	4.10 (1.04)
HP values and principles are clear and understandable (n = 61)	2 (3.3)	0 (0.0)	4 (6.6)	31 (50.8)	24 (39.3)	4.23 (0.84)
HP values and principles are easy to use (n = 61)	2 (3.3)	0 (0.0)	7 (11.5)	35 (57.4)	17 (27.9)	4.07 (0.83)

TABLE 3 Participants' rating of their health promotion on a continuum from strongly traditional to strongly critical and mean (SD) score

Focus of health promotion value and principle	Strongly traditional n (%)	Somewhat traditional n (%)	Not sure n (%)	Somewhat critical n (%)	Strongly critical n (%)	Mean (SD)
Worldview (n = 58)	4 (6.9)	7 (12.1)	3 (5.2)	24 (41.4)	20 (34.5)	3.84 (1.23)
Epistemology (n = 58)	1 (1.7)	11 (19.0)	2 (3.4)	26 (44.8)	18 (31.0)	3.84 (1.12)
Health paradigm (n = 57)	5 (8.8)	5 (8.8)	2 (3.5)	17 (29.8)	28 (49.1)	4.02 (1.30)
Scientific approach (n = 57)	4 (7.0)	6 (10.5)	3 (5.3)	17 (29.8)	27 (47.4)	4.00 (1.27)
Motivation for health (n = 57)	5 (8.8)	12 (21.1)	2 (3.5)	19 (33.3)	19 (33.3)	3.61 (1.37)
Assumptions about people (n = 57)	5 (8.8)	10 (17.5)	2 (3.5)	25 (43.9)	15 (26.3)	3.61 (1.29)
Who to prioritise working with (n = 57)	4 (7.0)	7 (12.2)	3 (5.3)	17 (29.8)	26 (45.6)	3.95 (1.29)
Approach (n = 56)	9 (16.1)	9 (16.1)	4 (7.1)	14 (25.0)	20 (35.7)	3.48 (1.51)
Health promotion strategies (n = 56)	7 (12.5)	9 (16.1)	2 (3.6)	14 (25.0)	24 (42.9)	3.70 (1.48)
Power (n = 56)	2 (3.6)	8 (14.3)	9 (16.1)	21 (37.5)	16 (28.6)	3.73 (1.14)
Participation (n = 56)	4 (7.1)	13 (23.2)	2 (3.6)	15 (26.8)	22 (39.3)	3.68 (1.39)
Autonomy (n = 56)	2 (3.6)	11 (19.6)	4 (7.1)	23 (41.1)	16 (28.6)	3.71 (1.19)
Beneficence (n = 56)	3 (5.4)	15 (26.8)	5 (8.9)	16 (28.6)	17 (30.4)	3.52 (1.32)
Nonmaleficence (n = 56)	4 (7.1)	15 (26.8)	3 (5.4)	15 (26.8)	19 (33.9)	3.54 (1.39)
Basis for practice (n = 56)	4 (7.1)	9 (16.1)	2 (3.6)	16 (28.6)	25 (44.6)	3.87 (1.34)
Strategy approach (n = 56)	8 (14.3)	9 (16.1)	3 (5.4)	14 (25.0)	22 (39.3)	3.59 (1.50)
Governance and decision-making (n = 56)	5 (8.9)	10 (17.9)	3 (5.4)	16 (28.6)	22 (39.3)	3.71 (1.39)
Professional role (n = 56)	4 (7.1)	7 (12.5)	2 (3.6)	15 (26.8)	28 (50)	4.00 (1.31)
Focus of evaluation (n = 56)	5 (8.9)	16 (28.6)	2 (3.6)	19 (33.9)	14 (25)	3.37 (1.37)

and principles in practice, the embodiment of the values and principles, and the tensions between the practitioners' own professional values and those of the context in which they are working.

"I naturally apply these values and principles." Survey participant 39

"This (values and principles component) was my favourite part of the Model and it opens challenging discussion and personal reflection." Survey participant 32

"I think specifically for me it's that values in practice stuff and how do you embody the values ... in your

TABLE 4 Extent of agreement with and mean score (SD) for statements relating to the impact of the RLCHPM and its values and principles on programs and policies

	Strongly disagree n (%)	Disagree n (%)	Not sure n (%)	Agree n (%)	Strongly agree n (%)	Mean (SD)
RLCHPM has had an impact on the health promotion programs I am involved in (n = 62)	3 (4.8)	14 (22.6)	10 (16.1)	27 (43.5)	8 (12.9)	3.37 (1.12)
RLCHPM has had an impact on the workplace policies of my workplace (n = 61)	8 (12.9)	23 (37.1)	16 (25.8)	12 (19.4)	2 (3.2)	2.62 (1.05)
HP values and principles have had an impact on the health promotion programs I am involved in (n = 61)	2 (3.3)	6 (9.8)	5 (8.2)	26 (42.6)	22 (36.1)	3.98 (1.07)
HP values and principles have had an impact on the workplace policies of my workplace (n = 61)	5 (8.2)	13 (21.3)	21 (34.4)	18 (29.5)	4 (6.6)	3.05 (1.06)

day-to-day work. I think a lot of practitioners are like oh yeah, the values, equity and social justice, but they don't know how to do equity or how to do social justice. I think that was a big part of the Red Lotus Model, was this is how you do sustainability, this is how you do social justice. It really helped me to get my head around how I embody the values of health promotion in everyday work." Interview participant 9

Whilst the RLCHPM provides a guide for quality health promotion practice, there is a tension between participants' own professional practice ideals and their organisational context. This tension results in practitioners feeling constrained and/or conflicted when the more selectively oriented requirements of their work environment are incongruent with their own more critical professional practice ideal.

"Good to know and would love to implement, but zero support from organisations for applying this approach." Survey participant 60

"I believe in and promote modern values, however I am constrained in my practice by organisational values and practices. ... Personal practice aims for strongly critical, (whereas) organisation practice is strongly traditional." Survey participant 16

"My practice is often governed by performance indicators that have been set by national or state priorities, so the opportunity to work in the critical health promotion space is hampered." Survey participant 44

3.5 | Impact of RLCHPM on health promotion programs

The majority of survey participants agreed or strongly agreed that the RLCHPM has had an impact on the health promotion programs they are involved in ($M = 3.39$). The majority of participants also agreed or strongly agreed that the health promotion values and principles in the

RLCHPM have had an impact on the health promotion programs they are involved in ($M = 3.98$) (Table 4). The mean score for impact of the RLCHPM values and principles on health promotion programs was significantly higher than the mean score for impact of the model more broadly ($M_{\text{difference}} = 0.59$, 95% CI 0.37–0.81, $t[60] = 5.34$, $P < .001$).

A theme identified from the survey comments and interviews was the range of levels of use of the RLCHPM, from not at all, through to implicit use, and explicit use.

"I have not directly referred to this Red Lotus model since university although have used components of this model with my work." Survey participant 11

"I haven't set about say designing a program or activity or an intervention where I've gone okay, let's apply every element, use the model as the basis for it but certainly I think I use bits of it in the thinking around needs assessment. Rather than just looking at say data ... (I focus on having) more of that participatory focus and not coming as the expert, or the relationship to try and be more grass roots. ... Even though I might not think okay let's design a Red Lotus, it's certainly very much in the needs assessment level, the planning and implementation. In theory (I use the model in) evaluation yes, although evaluation is still the thing that I'm lacking a lot of in what we're doing. ... So I don't think (I use) the Red Lotus *per se* (in evaluation)." Interview participant 4

For participants that explicitly used the RLCHPM in programs, they did so in conjunction with other models and frameworks.

"I use elements of the RLHPM, particularly when considering determinants, planning and implementation, but incorporate through the lens of Healthy University frameworks and charters." Survey participant 13

"When I was in community health in Melbourne, I worked in refugee health for an NGO community

health in Melbourne for four years. A big one, aside from using Red Lotus, was New South Wales Capacity Building Framework. That one has actually come up and been in the background for me in a lot of my jobs. The Capacity Building and in that same job, in community health in Melbourne, I used the Health Promoting Health Service Framework of WHO." Interview participant 9

3.6 | Impact of RLCHPM on workplace policy

Less than a quarter of survey participants agreed or strongly agreed that the model had an impact on workplace policies ($M = 2.63$), but more than a third agreed or strongly agreed that the RLCHPM values and principles have had an impact on such policies ($M = 3.05$) (Table 4). The mean score for impact of the RLCHPM values and principles on workplace policies was significantly higher than the mean score for impact of the model more broadly on workplace policies ($M_{\text{difference}} = 0.42$, 95% CI 0.21–0.62, $t(59) = 4.10$, $P < .001$).

Themes identified from the survey comments and interviews were the challenges of implementing the RLCHPM at the workplace level, including scaling up the model's application at the organisational level, and the lack of widespread recognition of the model.

"Use them to guide my practice and underpin smaller scaled HP actions; however at times harder to apply across the organisation when negotiating with decision-makers on larger HP actions." Survey participant 13

"But its utility as a framework and something that I would cite or acknowledge in formal academic or community work, I'm not so sure about that just because end users and beneficiaries won't know what it is, if that makes sense, but they might be more aware of other frameworks which have been promulgated a bit further." Interview participant 1

3.7 | Factors associated with impact of RLCHPM on programs and workplace policies

The final research question for the study was what are the relationships between the dependent variables of impact of the RLCHPM on programs and workplace policies and the independent variables of participants' age, degree completed, years since graduation, knowledge, confidence, perception of utility, and health promotion values and principles in practice?

There were no statistically significant relationships between the impact of the RLCHPM on programs and participants' age ($P = .215$), degree completed ($P = .616$), or years since graduation ($P = .986$). Similarly, there were no statistically significant relationships between the impact of the RLCHPM on workplace policies and participants'

age ($P = .903$), degree completed ($P = .553$), or years since graduation ($P = .069$). It is worth noting that the participants who graduated in the year prior to the study were the only group in which the majority (60%) agreed that the RLCHPM had an impact on workplace policies.

There were statistically significant relationships between the impact of the RLCHPM on programs and workplace policies and participants' knowledgeable, confidence, perceptions of utility, and health promotion values and principles in practice. Participants that were somewhat or very knowledgeable about the RLCHPM were more likely to agree or strongly agree that the RLCHPM had an impact on programs ($\chi^2 = 8.70$, $P = .003$) and workplace policy ($\chi^2 = 9.18$, $P = .002$). Likewise, participants that were somewhat or very confident in using the RLCHPM were more likely to agree or strongly agree that the RLCHPM had an impact on programs ($\chi^2 = 6.70$, $P = .01$) and workplace policy ($\chi^2 = 9.58$, $P = .002$).

With respect to utility, participants were more likely to agree or strongly agree that the RLCHPM had an impact on programs if they also agreed or strongly agreed that the model is important ($\chi^2 = 23.64$, $P < .001$), relevant ($\chi^2 = 19.04$, $P < .001$), useful ($\chi^2 = 27.99$, $P < .001$), clear and understandable ($\chi^2 = 6.59$, $P = .01$), and easy to use ($\chi^2 = 7.55$, $P < .006$). However, the relationships between perceived utility of the model and impact on policies were weaker. Participants were more likely to agree or strongly agree that the RLCHPM had an impact on policy if they agreed or strongly agreed that the model is important ($\chi^2 = 7.31$, $P = .007$), relevant ($\chi^2 = 3.88$, $P = .049$), and useful ($\chi^2 = 7.66$, $P = .006$), but not if it was clear ($P = .212$) or easy to use ($P = .202$). Participants that had a higher utility summary score for the RLCHPM were more likely to agree or strongly agree that the RLCHPM had an impact on programs ($t[20.40] = 5.34$, $P < .001$, Cohen's $d = 0.64$) and workplace policy ($t[43] = 3.18$, $P = .003$, Cohen's $d = 0.80$), with large effect sizes for both associations.³²

Participants that had higher summary scores for health promotion values and principles in practice (indicating more critical practice) were more likely to agree or strongly agree that the RLCHPM had an impact on programs ($t[43] = 2.43$, $P = .019$, Cohen's $d = 1.03$) and workplace policies ($t[36.87] = 3.87$, $P < .001$, Cohen's $d = 1.06$) with large effect sizes for both associations.

4 | DISCUSSION

The aim of the research project was to determine the impact of the Red Lotus Critical Health Promotion Model as a pedagogical framework for university health promotion programs on the health promotion practice of graduates working in health promotion. The study found that the use of the RLCHPM positively impacted graduates' health promotion practice. More than half of the participants reported the model impacted their programs, however less than a quarter felt that it impacted workplace policies. Impact was significantly higher for those with higher levels of knowledge about, confidence in using, and perception of utility of the RLCHPM, and stronger alignment of their practice with critical health promotion values and principles.

The use of the RLCHPM as the pedagogical framework involved the development of health promotion competency-based curricula within health promotion courses and across the health promotion programs to enhance critical health promotion practice. A study by Battel-Kirk and Barry found that the most frequent use of the IUHPE health promotion competencies in Europe was in university health promotion education.¹¹ A recommendation from that study was for more research on the factors that influence the use of health promotion competencies and support their implementation in practice. This study found that using the RLCHPM as a framework for competency-based curricula impacted on the health promotion practice of the university's graduates, with more than half of the participants reporting an impact of the model on health promotion program they are involved in. A thematic finding was that the model prepared graduates to undertake high quality practice. Similarly, the study by Battel-Kirk and Barry found that 30% of participants reported that the health promotion competencies had impacted on their practice.¹¹ The results from both studies suggest there is a gap between health promotion competency-based curricula at university and the impact on practice.

An interesting finding from this study was the range of ways that participants reported using the RLCHPM in their practice. Some participants did not use the model at all and barely recalled learning about it, whilst others used the model explicitly in the health promotion programs they were involved with. The highest level of explicit integration of the RLCHPM in regular daily practice was described by one participant as "embodiment". However, the more common theme was the implicit use of the model without explicit reference to it. Some participants referred to using critical health promotion values and principles more generally, and other referred to undertaking action in relation to the phases in the health promotion cycle, without specifically referring to the RLCHPM. The implicit use of the model relates to the findings by Battel-Kirk and Barry whereby participants reported using the health promotion competencies in general, with some listing specific competency domains.¹¹

A key finding related to the implementation of the RLCHPM in practice was that whilst the model provides a guide for critical health promotion practice, for some, there was incongruence between their professional practice ideals and those of the workplace context. This resulted in practitioners feeling conflicted or constrained in their critical practice when organisational practice was strongly selective or traditional (more consistent with the biomedical-behavioural approach), and/or national or state priorities limited the scope and flexibility of practice. Additionally, lack of organisational support and limited recognition of the model inhibited its application and scaling up at the institutional level. Battel-Kirk and Barry¹¹ and Hicks³³ also found that the lack of organisational support influenced the use of health promotion competencies. Health promotion as a discipline is often invisibilised³⁴ and there is insufficient investment in health promotion systems.²⁰ Barry identified effective advocacy, policy structures, implementation systems, support mechanisms, and workforce capacity as key enablers for transformative health promotion.²⁰ Costello et al. found that an organisational development strategy focused on reorienting health services towards becoming more health promoting had a positive

impact on workforce development processes, organisational processes, and organisational culture.³⁵ The development of a specialised health promotion workforce will enhance organisational engagement with critical health promotion models and competencies.

Based on the findings of this study, we recommend that universities consider the adoption of the RLCHPM as a pedagogical framework for developing health promotion competency-based curricula, and further research to determine the impact of this adoption on health promotion practice. Additionally, we recommend greater organisational support for reorientation towards more critical health promotion practice, including at a minimum, the inclusion of health promotion competencies in the essential requirements for people undertaking health promotion action, or registration as an accredited health promotion practitioner. Although no jurisdiction in Australia provides regulation-based practitioner certification, formal recognition of the requirement for health promotion competencies could lead to preferential employment for those with accreditation as a professional practitioner, higher levels of remuneration, or enhanced promotion opportunities. We also recommend research to identify and address the barriers and enablers of organisational systems and structures for critical health promotion.

Strengths of the study included the census sample of all graduates, a moderately high response rate of over 50%, relatively even representation of graduates from undergraduate and postgraduate programs and years since graduation, and the mixed methods design which provided triangulation of quantitative and qualitative data. Given that the developers of the model were the researchers conducting the evaluation, there was a risk of bias inherent in the research design. The data collection and analysis processes were all designed to minimise the influence of the researchers on the results. A limitation of the study was that graduates who agreed to participate in the study may have been more likely to recall the RLCHPM and/or have stronger opinions about the model than those who did not volunteer. The findings are particular to the respondents and the interpretation of the researchers.

5 | CONCLUSION

The use of the RLCHPM as a pedagogical framework for health promotion programs had an impact on graduates' health promotion programs and workplace policies, particularly for those with higher levels of knowledge about, confidence in using, and perception of utility of the RLCHPM, and stronger alignment of their practice with critical health promotion values and principles. The RLCHPM could be used in other universities to develop competency-based health promotion curricula to enable graduates to progress critical health promotion practice.

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CONFLICT OF INTEREST

Lily O'Hara has no competing interests to declare. Jane Taylor was an Editorial Board member for this Special Issue of the Health Promotion Journal of Australia. To minimise bias, she was excluded from all editorial decision-making related to the acceptance of this article for publication.

ETHICS STATEMENT

The research was approved by the University of the Sunshine Coast Human Research Ethics Committee, approval number A17960.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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