

# An exploration of predictors of children's nurses' attitudes, knowledge, confidence and clinical behavioural intentions towards children and young people who self-harm

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**Aims and objectives:** To explore the potential predictors of children's nurses' attitudes, knowledge and confidence towards caring for children and young people admitted to hospital with self-harm.

**Background:** Admissions to paediatric inpatient settings for individuals who have self-harmed are growing. Limited previous research suggests that nurses have mixed attitudes towards people who have self-harmed and potentially lack the confidence to provide effective care. There is a specific paucity of research in this area for children's nurses.

**Design:** A cross-sectional descriptive survey was used to gather data for exploration of variables associated with attitudes, confidence, knowledge and clinical behavioural intentions of 98 registered children's nurses in a single tertiary children's hospital, colocated in a large acute NHS Trust in the UK.

**Methods:** Data were collected over a 4 weeks in 2015, using an online survey tool. The predictive effect of several demographic variables was tested on the outcomes of attitudes, knowledge, confidence and behavioural intentions, which were collected using relevant, previously used outcome measures.

**Results:** Increased experience was found to be associated with improved attitudes relating to negativity. Previous training in caring for children who had self-harmed was found to be associated with improved attitudes around perceived effectiveness of their care. Higher academic qualifications and having undertaken previous training on self-harm were each found to be associated with increased knowledge of self-harm, and increased age was associated with reduced knowledge of self-harm.

**Conclusions:** This study provides an initial exploration of variables associated with attitudes, knowledge, confidence and behaviour intentions of registered children's nurses in relation to caring for CYP who have self-harmed.

**Relevance to clinical practice:** Targeted training on caring for CYP who have self-harmed should be considered as a component of continuing education for registered

children's nurses in the UK to improve the experience and outcomes for this patient group.

#### KEYWORDS

attitudes, children, children's nurse, mental health, paediatric, regression, self-harm, young people

## 1 | BACKGROUND

Globally, one in five people are reported to have experienced a mental health problem during their lifetime (Steel et al., 2014). In the UK, the prevalence of mental health problems has been recognised as being at epidemic proportions, with 9.6% of children and young people aged 5–16 years having a mental health condition (Green, McGinnity, Meltzer, Ford, & Goodman, 2005). Within Europe, the UK has one of the highest rates of self-harm in CYP with a lifetime prevalence of up to 20% (Carroll, Metcalfe, & Gunnell, 2014; Hawton, Rodham, Evans, & Weatherall, 2002).

For the purpose of this paper, the term “self-harm” is defined as “self-poisoning or injury, irrespective of the apparent purpose of the act, and is an expression of personal distress, not an illness, and there are many varied reasons for a person to harm him or herself” (NICE [CG16], 2004, p. 7).

The role of health professionals in the care of CYP in mental health crisis is fundamental. However, the needs of CYP can be diverse and therefore require therapeutic interaction from knowledgeable and confident health professionals. In the UK, the National Institute for Health and Care Excellence (NICE) asserts that all CYP who have self-harmed be admitted to a paediatric ward for assessment (NICE [CG16], 2004). Subsequently, CYP have more hospital presentations for self-harm than any other age group (Rodham, Hawton, & Evans, 2004), resulting in nearly 25,000 annual admissions to paediatric inpatient care in England alone (Health and Social Care Information Centre 2016). As such, CYP admitted to paediatric inpatient settings following self-harm spend significant time being cared for by registered children's nurses who are often the first health professional contact for CYPs following a self-harm episode (Anderson & Standen, 2007). However, CYP have revealed that how a person responds to them when they first disclose self-harm has a bearing on whether they go on to engage with services (Brophy & Holmstrom, 2006). Furthermore, CYP admitted for treatment of self-harm report to often feel they are treated differently from other patients (Manning, Bean et al., 2015; Manning, Latif et al., 2015). Therefore, attitudes, confidence and skills that registered children's nurses have towards CYP with self-harm have the potential to affect the CYPs' experience, engagement with care and outcomes.

However, registered nurses in general have expressed a lack of confidence in their ability to work with this often stigmatised patient group (McAllister, Creedy, Moyle, & Farrugia, 2002). Previous studies have shown that nurses' attitudes and behaviours towards patients

### What does this paper contribute to the wider global clinical community?

- This paper is the first to explore children's nurses' attitudes, confidence and knowledge of self-harm in children and young people.
- The findings indicate the value of degree-level education and nurse experience as they appear to be associated with improved knowledge and attitudes, respectively.
- The findings indicate that training around self-harm might be effective in improving children's nurses' attitudes and feelings of being effective at caring for young people who have self-harmed and that future training should be tailored to children's nurses' needs.

with mental health problems can be discriminatory and stigmatising and have negative impact on the patient's well-being (Karman, Kool, Poslawsky, & van Meijel, 2015; Ross & Goldner, 2009). Friedman et al. (2006) found in an exploration of 117 Emergency Department (ED) staff that negative attitudes towards people who self-harm were associated with the length of time working in ED. Additionally, McCann, Clark, McConnachie, and Harvey (2007) examined ED nurses' attitudes towards, and triage and care decisions with, patients who self-harm. They used a modified version of the Suicide Opinion Questionnaire and a nonprobability sample of 43 emergency department nurses from a large Australian hospital. Analysis revealed that most nurses had received no educational preparation to care for patients with self-harm, over 20% claimed that either the department had no practice guidelines for deliberate self-harm or they did not know of their existence, and one-third who knew of them had not read them. Their results showed that overall, nurses had sympathetic attitudes towards patients who self-harm, including both professional and lay conceptualisations of deliberate self-harm. There is some evidence that the setting in which nurses work and their level of qualification might influence their attitudes (Karman et al., 2015).

Timson, Priest, and Clark-Carter (2012) found an inverse correlation between staff knowledge and negative attitudes, as staff knowledge increased, staff negativity decreased. Staff working in ED and secondary schools displayed less knowledge, more anxiety and negativity and feeling less effective than those working in child and adolescent mental health services (Timson et al., 2012). Timson et al.

(2012) propose that this lack of knowledge may have contributed to the ED staff's perceived lack of effectiveness in caring for young people who self-harm.

Crawford, Geraghty, Street, and Simonoff (2003) investigated knowledge, attitudes and training needs of a variety of professionals involved in the assessment and management of adolescents who engage in self-harm behaviour. They found that staff who felt more clinically effective felt less negative towards adolescents who had engaged in self-harm behaviour and that 42% of participants wanted further training.

Cleaver (2014) explored the attitudes of emergency care staff towards CYP (aged 12–18 years) who self-harm to understand the basis for the attitudes that existed. They employed a mixed-methods study using a triangulation convergent design, collecting data using a survey as well as semistructured interviews. A total of 155 children's nurses, doctors and ambulance personnel participated in the study. Their findings showed that participants held more positive attitudes towards CYP that self-harmed than other CYP, but there was ambivalence and ambiguity in attitudes held. This study concluded that CYP age appeared to be an influential factor in shaping practitioners' attitudes (Cleaver, 2014).

Furthermore, Anderson, Standen, and Noon (2005) explored the range of perceptions held by nurses and doctors practising in an A&E department and child and adolescent community services towards young people who have been admitted following an episode of self-harm. The analysis illustrated that nurses and doctors perceived self-harm behaviour as a powerful form of communication and that "establishing effective communication with people who self-harm is recognised as an essential part of preventing further self-harm and suicide" (Anderson et al., 2005, p. 318). However, the study did not indicate the factors that influenced professional perceptions.

Collectively, research pertaining to the knowledge and confidence of registered nurses caring for CYP admitted with self-harm is limited. However, there is some indication that factors, such as training and education level, receipt of specific training in the care of CYP with self-harm and clinical area, may be influential. However, there is a paucity of research exploring the predictors of children's nurses' attitudes, knowledge, behavioural intention or confidence in caring for CYP who have self-harmed. This information could be vital to inform and develop relevant, tailored future training, and therefore, further research is warranted that explores predictors.

## 1.1 | Aims and hypotheses

Our aim was to determine whether nurses' attitudes, knowledge and confidence towards self-harm in CYP were associated with age; gender; education level; agenda for change clinical banding level; current clinical area; years of experience in current role; previous training on self-harm; or previous involvement with a CYP.

Based on the limited and conflicting findings from previous research, it is difficult to make strong hypotheses about the influencing variables of nurses' attitudes, knowledge, behavioural intention and confidence towards CYP who have self-harmed. Due to this, the current study is

largely exploratory in nature. However, based on the previous literature, the following tentative hypotheses can be proposed:

Hypothesis 1: Increased years of experience in current role are associated with increased negative attitudes towards CYP who have self-harmed

Hypothesis 2: Higher level of educational qualification is associated with increased positive attitudes towards CYP who have self-harmed

## 2 | METHODS

### 2.1 | Design

The study used a cross-sectional descriptive survey design. The study forms part of a larger project and was conducted at a single tertiary children's hospital, colocated in a large acute NHS Trust. Further detail about the study design (Manning, Bean et al., 2015; Manning, Latif et al., 2015), intervention development (Latif, Carter, Rychwalska-Brown, Wharrad, & Manning, 2017) and outcomes of the intervention (Manning et al., 2017) from the larger study can be gained from the cited outputs. Ethical approval was received from East Midlands Research Ethics Committee (REC ref: Derby 15/EM/0236), along with research governance clearance from the local National Health Service (NHS) Trust.

### 2.2 | Sampling and recruitment

Purposive sampling was undertaken with all registered children's nurses ( $n = 251$ ) working within a tertiary children's hospital in the East Midlands area. A self-selected sample of nurses was recruited from the following four clinical areas: paediatric critical care; specialties; medical; and surgical.

### 2.3 | Data collection

Data were collected using the Bristol Online Survey. Registered children's nurses in the target settings were emailed an information sheet and invited to complete the questionnaire which was made available for 4 weeks. The questionnaire included items on demographics, characteristics and outcome variables. The items relating to demographics and characteristics were collected as potential predictor variables and were as follows: age; gender; education level; agenda for change clinical banding level; current clinical area; previous training on self-harm; previous involvement with a CYP who had self-harmed; and time in current job. All potential predictor variables were categorical.

The outcomes collected were attitudes towards self-harm in CYP, self-efficacy of caring for CYP who have self-harmed, knowledge of self-harm in CYP and behavioural intentions with regard caring for CYP who have self-harmed. As previously outlined by (Manning et al., 2017), these outcomes were collected using the following instruments:

### 2.3.1 | Attitudes towards self-harm in CYP

This was measured using a 13-item self-report scale (Crawford et al., 2003). The scale was developed using a principal component analysis which produced three factors with eigenvalues  $>1.5$ . The factors are “effectiveness” (sense of personal effectiveness in managing self-harm), “negativity” (negativity expressed towards patients who have self-harmed or their family) and “worry” (concern about being blamed or feeling personally responsible for patients who have self-harmed). Each individual item is rated on a Likert scale from 0–3 with higher scores indicating more positive attitudes. Internal consistency was not reported (Crawford et al., 2003). No analysis of internal consistency has been reported for this scale.

### 2.3.2 | Knowledge of self-harm in CYP

This was measured through an adapted 12-item, self-report questionnaire (Crawford et al., 2003). Each item was rated as *true*, *false* or *don't know*. Responses were recoded as *correct* or *incorrect* (*don't know* was recoded as *incorrect*) and scored as 1 and 0, respectively, and higher scores indicate increased knowledge. No reliability or validity testing was reported (Crawford et al., 2003).

### 2.3.3 | Self-efficacy for working with CYP who have self-harmed

This was measured through an adapted version of the Self-Efficacy Towards Helping (SETH) scale (Schwarzer, 1993). This is a 10-item self-report scale yielding a total score of self-efficacy with higher scores indicating increased self-efficacy. No reliability or validity testing was reported (Schwarzer, 1993).

### 2.3.4 | Clinical behavioural intention

This was measured by the Continuing Professional Development Reaction Questionnaire (Légaré et al., 2014) which is a 12-item, self-report questionnaire yielding five constructs relating to clinical behavioural intention. The five constructs are as follows: intention; beliefs about capabilities; beliefs about consequences; social influences; and moral norm. Cronbach's alpha for the five constructs was within the acceptable range and varied from 0.77–0.85, suggesting good internal consistency of the items within each of the constructs.

## 2.4 | Analysis

Data analysis and reporting aligned to the approach outlined by Venero-Fernández et al. (2013). Data were initially entered into an electronic database, cleaned and checked for obvious errors or implausible values. All data were processed with SPSS version 22.0 (SPSS Inc., Chicago, IL, USA). The demographics and characteristics of the sample were initially summarised using frequencies and percentages for categorical variables, and mean and standard deviation

(if normally distributed) or median and interquartile range (if not normally distributed) for continuous variables. The outcome variables (attitudes, self-efficacy, knowledge and behavioural intention) were checked for normality and kurtosis. The univariate association with each potential predictor variable (age; education; years in current job; clinical area of work; previous involvement in the care of a CYP who has self-harmed; and previous training in caring for CYP who have self-harmed) was then explored by computing mean differences and 95% confidence intervals through the use of independent *t*-tests or one-way ANOVAs as appropriate (i.e., predictor variables with two factors = *t*-tests; predictor variables with more than two factors = one-way ANOVA and post hoc Tukey's test) and regression coefficients through the use of simple linear regression for continuous predictor variables (i.e., age).

## 3 | RESULTS

### 3.1 | Sample characteristics

Table 1 shows the sample characteristics. Overall, 98 participants were recruited from a pool of 251 registered children's nurses (response rate = 39%). The mean age of participants was 33 years ( $SD = 10$ ), and the majority were female ( $n = 93, 95\%$ ). The highest educational level varied from diploma to master's level, with degree-level education being the most commonly reported ( $n = 44, 45\%$ ). The participants had various years of postqualification practice (range [years] = 1–38). The majority of participants reported previous involvement in the care of a CYP who had self-harmed ( $n = 94, 96\%$ ). However, approximately three quarters of the sample (75%,  $n = 73$ ) stated that they had never received previous training in caring for CYP who have self-harmed.

### 3.2 | Analyses of potential predictor variables on outcome variables

#### 3.2.1 | Attitudes

As shown in Table 2, the mean scores of negative attitudes in participants who had been in current job  $\leq 5$  years were lower than those who were  $> 5$  years in current job. This was a statistically significant difference (MD: 1.19; CI: 0.27, 2.12;  $p = .01$ ) and infers that an increased number of years in the current job were associated with decreased negative attitudes.

Analysis also showed (Table 2) a statistically significant difference in the means of attitudinal effectiveness between participants who had attended previous training and those who had not (MD: 1.16; CI: 0.16, 2.31;  $p = .04$ ). This suggests that attending previous training is associated with improved attitudinal effectiveness.

There were no statistically significant differences observed when comparing the means of worry (related to attitudes) with the variables: clinical area of work; education; previous training; and time in current job (Table 2). Furthermore, it was evident from simple linear regression (Table 3) that there was no association between worry and participant age.

**TABLE 1** Sample demographics and characteristics

Demographics and characteristics	
Mean age in years (SD)	33.2 (10.0)
Gender; n (%)	
Male	1 (1)
Female	93 (95)
Not specified	4 (4)
Median <sup>a</sup> years in current job (IQR)	3 (5.0)
Highest educational level; n (%)	
Diploma	24 (24)
Degree	44 (45)
Postgraduate certificate	7 (7)
Masters	21 (22)
Not specified	2 (2)
Agenda for change banding; n (%)	
Band 5	52 (53)
Band 6	20 (20)
Band 7	22 (23)
Band 8a	1 (1)
Not specified	3 (3)
Previous training for caring for CYP with self-harm; n (%)	
Yes	17 (17)
No	73 (75)
Don't know/can't remember	8 (8)
Clinical area; n (%)	
Critical care	20 (20)
Specialities	27 (28)
Medical	27 (28)
Surgical	23 (24)
Time in current Job; n (%)	
Five years or less	67 (69)
Six years or more	30 (31)

IQR, Interquartile range.

<sup>a</sup>Median calculated due to non-normal distribution.

### 3.2.2 | Knowledge

Analysis of knowledge scores showed a statistically significant difference between factors of predictor variables relating to level of education, receipt of previous training and age.

Using ANOVA (shown in Table 2), the mean knowledge scores of participants educated to diploma level were compared with participants who had obtained a degree (MD: 1.74; CI: 0.12, 3.37), a postgraduate certificate (MD: 0.37; CI: -2.38, 3.11) and master's degree (MD: 1.51; CI: -0.40, 3.42). A statistically significant mean difference in knowledge scores was observed between those educated to diploma level and those educated to degree level ( $p = .03$ ), suggesting that being educated to degree level is associated with improved knowledge.

As shown in Table 2, the mean scores of knowledge on those who had attended previous training (mean = 8.47) were higher than those who had not attended any training (mean = 6.78). This

difference was statistically significant (MD: 1.69; CI: 0.37, 3.01;  $p = .01$ ), suggesting that involvement in previous training is associated with increased knowledge.

A regression model (results shown in Table 3) with age as the predictor variable showed a statistically significant association between age and knowledge score (regression coefficient:  $-.08$ ; CI:  $-0.13, -0.02$ ;  $p = .01$ ). Specifically, this analysis suggests that increased age is associated with decreased knowledge.

### 3.2.3 | Self-efficacy

Analysis revealed that none of the predictor variables demonstrated statistically significant differences in means between groups (clinical area of work, level of education, previous training or time in current job as shown in Table 2) or in the regression model (age shown in Table 3) for the outcome of self-efficacy.

### 3.2.4 | Behavioural Intention

For the behavioural intention outcome, none of the predictor variables demonstrated statistically significant differences (shown in Tables 2 and 3). However, the mean scores of beliefs about capability showed a borderline statistical significant difference between those who had attended previous training and those who had not (MD: 0.52; CI:  $-0.03, 1.06$ ;  $p = .06$ ). This suggests that having engaged in training on self-harm in young people may be associated with increased self-belief in capability.

## 4 | DISCUSSION

This study is the first to provide an initial exploration into the potential predictors of attitudes, knowledge, confidence and behaviour intentions of children's nurses in relation to caring for young people who have self-harmed. With regard to attitudes of children's nurses towards self-harm, this study found that an increased number of years in any one role were associated with improved attitudes relating to negativity of self-harm in young people. Additionally, improved attitudes towards effectiveness of care were associated with having had previous training in self-harm. Increased knowledge of self-harm was associated with level of education, with statistically significant increases in knowledge score observed for those educated to degree level as opposed to diploma level. Having undertaken previous training was also associated with increased knowledge score. Borderline statistically significant improvements in beliefs about their own capability were associated with nurses having had previous training in self-harm in young people.

The findings are promising in that they give specific indications that children's nurses' knowledge, attitudes and beliefs in ability towards self-harm in CYP can be improved through engaging in training. This is encouraging as the evidence suggests that the attitudes of hospital staff towards individuals who self-harm are largely negative (Saunders, Hawton, Fortune, & Farrell, 2012).

**TABLE 2** Associations between potential predictor variables and outcome variables (using independent t-tests and one-way ANOVAs as appropriate)

Outcome	Variable	Mean (SD)	Mean difference (95% CI)	p value
Negativity Attitude scale (Crawford et al., 2003)	<i>Clinical area of work</i>			
	Critical care	14.75 (1.94)		.25
	Specialities	13.67 (2.49)	−1.10 (−2.70, 0.60) <sup>b</sup>	
	Medical	14.56 (2.10)	−0.20 (−1.90, 1.49) <sup>b</sup>	
	Surgical	14.19 (2.18)	−0.89 (−2.61, 0.85) <sup>b</sup>	
	<i>Education</i>			
	Diploma	14.04 (2.68)		.98
	Degree	14.23 (1.92)	0.19 (−1.28, 1.65) <sup>a</sup>	
	Postgraduate certificate	14.43 (2.10)	0.38 (−2.10, 2.87) <sup>a</sup>	
	Masters	14.19 (2.17)	0.20 (−1.50, 1.92) <sup>a</sup>	
	<i>Previous training</i>			
	Yes	14.90 (2.33)	0.80 (−0.36, 1.97)	.17
	No	14.10 (2.14)		
<i>Time in current job</i>				
≤5 years	13.80 (1.98)	1.19 (0.27, 2.12)	.01	
>5 years	15.00 (2.39)			
Effectiveness Attitude scale (Crawford et al., 2003)	<i>Clinical area of work</i>			
	Critical care	10.15 (1.87)		.25
	Specialities	10.41 (2.22)	0.26 (−1.40, 1.93) <sup>b</sup>	
	Medical	11.04 (2.49)	0.89 (−0.78, 2.56) <sup>b</sup>	
	Surgical	9.83 (1.89)	−0.32 (−2.05, 0.39) <sup>b</sup>	
	<i>Education</i>			
	Diploma	9.63 (1.88)		.20
	Degree	10.79 (2.17)	1.18 (−0.25, 2.59) <sup>a</sup>	
	Postgraduate certificate	10.43 (2.44)	0.80 (−1.60, 3.20) <sup>a</sup>	
	Masters	10.29 (2.24)	0.67 (−1.00, 2.33) <sup>a</sup>	
	<i>Previous training</i>			
	Yes	11.35 (1.69)	1.16 (0.16, 2.31)	.04
	No	10.19 (2.23)		
<i>Time in current job</i>				
≤5 years	10.42 (2.28)	0.05 (−0.90, 1.00)	.92	
>5 years	10.37 (1.96)			
Worry Attitude scale (Crawford et al., 2003)	<i>Clinical area of work</i>			
	Critical care	5.56 (0.99)		.96
	Specialities	5.56 (1.48)	0.01 (−1.04, 1.06) <sup>b</sup>	
	Medical	5.59 (1.53)	0.40 (−1.01, 1.10) <sup>b</sup>	
	Surgical	5.39 (1.35)	−0.16 (−1.25, 0.93) <sup>b</sup>	
	<i>Education</i>			
	Diploma	5.79 (1.14)		.60
	Degree	5.48 (1.27)	−0.31 (−1.21, 0.58) <sup>a</sup>	
	Postgraduate certificate	5.00 (2.38)	−0.79 (−2.31, 0.73) <sup>a</sup>	
	Masters	5.57 (1.33)	−0.22 (−1.28, 0.84) <sup>a</sup>	
	<i>Previous training</i>			
	Yes	5.94 (1.34)	0.43 (−0.29, 1.16)	.24
	No	5.51 (1.36)		
<i>Time in current job</i>				

(Continues)

TABLE 2 (Continued)

Outcome	Variable	Mean (SD)	Mean difference (95% CI)	p value
	≤5 years	5.37 (1.32)	0.53 (−0.05, 1.20)	.07
	≤5 years	5.90 (1.32)		
Knowledge Knowledge scale (Crawford et al., 2003)	<i>Clinical area of work</i>			
	Critical care	7.35 (2.39)		
	Specialities	6.52 (2.38)	−0.83 (−2.76, 1.09) <sup>b</sup>	.10
	Medical	7.89 (2.42)	0.54 (−1.39, 2.47) <sup>b</sup>	
	Surgical	6.35 (2.81)	−1.00 (−3.00, 0.99) <sup>b</sup>	
	<i>Education</i>			
	Diploma	5.92 (2.39)		
	Degree	7.66 (2.42)	1.74 (0.12, 3.37) <sup>a</sup>	.03
	Postgraduate certificate	6.29 (1.11)	0.37 (−2.38, 3.11) <sup>a</sup>	
	Masters	7.43 (2.82)	1.51 (−0.40, 3.42) <sup>a</sup>	
	<i>Previous training</i>			
	Yes	8.47 (1.91)		
	No	6.78 (2.58)	1.69 (0.37, 3.01)	.01
<i>Time in current job</i>				
≤5 years	29.01 (3.63)	−0.19 (−1.31, 0.92)	.72	
>5 years	28.47 (3.60)			
Self-efficacy SETH scale (Schwarzer, 1993)	<i>Clinical area of work</i>			
	Critical care	29.10 (3.61)		
	Specialities	28.96 (3.24)	−0.14 (−2.83, 2.56) <sup>b</sup>	.84
	Medical	29.85 (3.06)	0.75 (−1.95, 3.45) <sup>b</sup>	
	Surgical	27.30 (4.12)	−1.79 (−4.59, 1.0) <sup>b</sup>	
	<i>Education</i>			
	Diploma	28.3 (4.28)		
	Degree	28.75 (3.32)	0.42 (−2.0, 2.83) <sup>a</sup>	.49
	Postgraduate certificate	28.57 (3.87)	0.24 (−3.86, 4.33) <sup>a</sup>	
	Masters	29.95 (3.43)	1.62 (−1.22, 4.47) <sup>a</sup>	
	<i>Previous training</i>			
	Yes	30.00 (3.25)	1.33 (−0.63, 3.30)	.19
	No	28.70 (3.76)		
<i>Time in current job</i>				
≤5 years	29.09 (3.63)	−0.44 (−2.20, 0.96)	.58	
>5 years	28.47 (3.61)			
Belief in capability Continuing Professional Development Reaction Questionnaire (Légaré et al., 2014)	<i>Clinical area of work</i>			
	Critical care	5.02 (1.28)		
	Specialities	4.96 (0.83)	−0.04 (−0.83, 0.75) <sup>b</sup>	.38
	Medical	5.29 (1.08)	0.28 (−0.51, 1.07) <sup>b</sup>	
	Surgical	5.40 (0.89)	0.39 (−0.43, 1.20) <sup>b</sup>	
	<i>Education</i>			
	Diploma	5.00 (1.00)		
	Degree	5.25 (0.99)	0.25 (−0.43, 0.93) <sup>a</sup>	.50
	Postgraduate certificate	5.62 (0.52)	0.62 (−0.54, 1.77) <sup>a</sup>	
	Masters	5.09 (1.02)	0.09 (−0.71, 0.89) <sup>a</sup>	
	<i>Previous training</i>			
	Yes	5.59 (1.15)	0.52 (−0.03, 1.06)	.06

(Continues)

**TABLE 2** (Continued)

Outcome	Variable	Mean (SD)	Mean difference (95% CI)	p value
	No	5.07 (0.99)		
	<i>Time in current job</i>			
	≤5 years	5.12 (1.05)	0.18 (−0.26, 0.63)	.47
	>5 years	5.30 (0.95)		
Social influence	<i>Clinical area of work</i>			
Continuing Professional Development Reaction Questionnaire (Légaré et al., 2014)	Critical care	4.83 (1.49)		
	Specialities	5.48 (1.13)	0.66 (−0.29, 1.60) <sup>b</sup>	.12
	Medical	5.17 (1.17)	0.34 (−0.60, 1.28) <sup>b</sup>	
	Surgical	5.68 (1.12)	0.85 (−0.13, 1.83) <sup>b</sup>	
	<i>Education</i>			
	Diploma	5.07 (1.45)		
	Degree	5.39 (1.15)	0.32 (−0.51, 1.15) <sup>a</sup>	.27
	Postgraduate certificate	6.04 (0.80)	0.98 (−0.42, 2.38) <sup>a</sup>	
	Masters	5.12 (1.29)	0.05 (−0.92, 1.02) <sup>a</sup>	
	<i>Previous training</i>			
	Yes	5.56 (1.19)	0.37 (−0.32, 1.04)	.29
	No	5.19 (1.28)		
	<i>Time in current job</i>			
	≤5 years	5.20 (1.29)	0.29 (−0.25, 0.84)	.28
	>5 years	5.49 (1.16)		

<sup>a</sup>Contrast with diploma level of education.

<sup>b</sup>Contrast with critical care.

Bold text indicates a statistically significant difference with a *p*-value less than 0.05.

It was found that increased experience may be associated with improved attitudes towards self-harm. This is in contrast to the previous literature reporting either no association between nurses' experience and attitudes towards self-harm (McAllister et al., 2002; Wheatley & Austin-Payne, 2009) or that nurses' attitudes became more negative following increased exposure to young people who self-harm (Dickinson, Wright, & Harrison, 2009). Despite this, our findings could be explained by analyses undertaken by McCann, Clark, McConnachie, and Harvey (2006), McCann et al. (2007), who found that older or more experienced adult nurses were more sympathetic towards those who had self-harmed.

No variables were associated with confidence (self-efficacy) in caring for this population. Children's nurses' confidence in caring for this population is relatively low, and as such, it was anticipated that there may be factors that predict confidence scores. However, the lack of statistically significant predictors may be a result of the adapted outcome measure used in this study—the self-efficacy towards helping scale, which may have lacked specificity for this particular issue. Alternatively, there may be no association between any of the characteristics analysed and confidence. Nevertheless, considering the paucity of research in this area and the substantial numbers of CYP who have self-harmed who are being cared for by children's nurses, it is important that an adequate tool is developed to measure confidence of providing care to this population. This would allow for a thorough assessment of the confidence of the children's nursing population to determine whether further training is required.

There was a significant difference in mean knowledge scores between those educated to degree level and those educated to diploma level, with those with a degree demonstrating increased knowledge. This may be linked to contemporary nurse education in the UK aligning to a graduate profession (delivered at both degree and master's levels). Subsequently, the content of these programmes has shifted towards a more integrated focus to equip graduate registered children's nurses to support the holistic needs of children and their families. Therefore, greater focus within these programmes is placed on supporting the emotional health and well-being, as well as the physical health needs of CYP.

#### 4.1 | Limitations

Despite being the first study to investigate potential predictors of attitudes, confidence and knowledge of self-harm in children's nurses, the study has some limitations. The cross-sectional nature of the study will not permit causality to be identified. It is acknowledged that the study has a small sample size; therefore, generalisability beyond the current setting may be limited and should be done so with caution. Finally, it is typical to control for gender and age in such analyses. However, as mentioned in the methods, the inclusion of age reduced the power of the analysis as a number of participants chose not to disclose their age at data collection. This resulted in a smaller sample, and 93% of the sample were female, so any change in outcome after controlling for the variance generated by gender would likely be inappropriate.

**TABLE 3** Association between age and outcome variables (using simple linear regression)

Outcome	Variable	Regression coefficient (95% CI)	R-squared value	p value
Negativity Attitude scale (Crawford et al., 2003)	Age	0.03 (−0.01, 0.08)	.02	.14
Effectiveness Attitude scale (Crawford et al., 2003)	Age	−0.03 (−0.07, 0.02)	.01	.27
Worry Attitude scale (Crawford et al., 2003)	Age	0.01 (−0.02, 0.04)	.01	.50
Knowledge Knowledge scale (Crawford et al., 2003)	Age	−0.08 (−0.13, −0.02)	.09	<b>.01</b>
Self-efficacy SETH scale (Schwarzer, 1993)	Age	−0.06 (−0.87, 0.07)	.01	.89
Belief in capability Continuing Professional Development Reaction Questionnaire (Légaré et al., 2014)	Age	−0.02 (−0.04, 0.01)	.01	.24
Social influence Continuing Professional Development Reaction Questionnaire (Légaré et al., 2014)	Age	−0.01 (−0.31, 0.25)	.01	.84

Bold text indicates a statistically significant difference with a *p*-value less than 0.05.

## 5 | CONCLUSIONS

The study provides an initial exploration of the factors associated with children's nurses' attitudes, knowledge and confidence of caring for CYP who have self-harmed. The factors found to be associated may be useful when developing and implementing future training on this topic. As such, it is proposed that a systematic review is undertaken to identify and assess the content and effectiveness of training interventions for children's nurses which, when combined with the findings from this study, would likely inform future intervention development in this area.

## 6 | RELEVANCE TO CLINICAL PRACTICE

As in many other countries, UK children's nurses provide care to CYP in mental health crisis without routinely being prepared for this task through specific training. The education and training of the majority of registered children's nurses is at preregistration and undergraduate level (Harrison White & King, 2015). Training involves a minimum of a three-year undergraduate curriculum which combines theory and practice hours and culminates in children's nurses registering with the Nursing and Midwifery Council (UK) (Manning et al., 2017). However, across the UK, the curriculum content and focus can vary according to the higher education institution of study. This includes the delivery of education pertaining to the assessment, care and management of CYP with mental health conditions (Manning et al., 2017). However, the results from this study suggest that receipt of training in the care of CYP who have self-harmed is associated with improved nurses' knowledge, attitudes and clinical behavioural intention.

This study provides additional evidence for the need to deliver relevant and appropriate training to children's nurses to equip them

to care for CYP with self-harm during their training and postqualification. This recommendation could be operationalised in multiple ways. In addition to conventional education and training being used to improve knowledge, such as through lectures, experience and understanding could be gained through placements with mental health teams. This could involve children's nurses shadowing expert mental health professionals undertaking their assessments and delivery of care. Moreover, interprofessional education and simulated learning could also be utilised to enhance the confidence and attitudes of nurses through the acquisition and practising of knowledge and skills in an interdisciplinary and safe environment (Fernando et al., 2017; Kinnair, Anderson, van Diepen, & Poyser, 2014).

Nurses' confidence and knowledge could be improved through relevant and accessible clinical guidelines and protocols which outline best practice approaches to the assessment and management of CYP presenting with self-harm. However, to ensure that proposed interventions are appropriate, it is important that they are undertaken in partnership with expert mental health nurses and teams to offer support and for peer reviewing the training, development and supervision of activities.

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## CONTRIBUTIONS

Overall development, design and data collection: JM, AL and TC; drafted the paper: TC, AL, PC and JM. All authors contributed to editing and approved the final manuscript.

## CONFLICTS OF INTEREST

The authors confirm that there are no conflict of interests.

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