

## Research Article

# The Psychosocial Considerations for Behaviour Change, Mental Health, and Work-Related Satisfaction in Preregistration Nurses, during Coronavirus Pandemic

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The mental health of healthcare workers was affected by physical and psychological challenges during the pandemic. The aim was to study how psychosocial considerations can help manage behaviour change, mental health, and work satisfaction of nurse trainees in the UK during the COVID-19 pandemic in 2021. This cross-sectional study involved ninety-nine students. Participants' anxiety, fear of the coronavirus, and perceived work satisfaction were measured by GAD-7, FCV19S, and COM-B scales and assessed using descriptive, correlational, and linear regression analysis. The significant zero-order correlations between job satisfaction and fear, anxiety, and psychosocial considerations were significant. They indicated moderate strength that allowed for further inferential development to find the best predictors of job satisfaction. The findings suggested that 50% of trainees showed anxiety above the suggested  $\geq 8$  cut-off on GAD-7, and 48% scored high for fear on FCV19S. There was a significant effect between year groups ( $F(2, 99) = 4.25, p = 0.02, \eta^2 = 0.081$ ), with a Tukey post hoc test showing a significant difference between training years 1 and 2 with a  $p = 0.015$ . A significant linear regression found that psychosocial variables in behaviour change ( $p \leq 0.001$ ) and anxiety ( $p = 0.011$ ) were significant factors in job satisfaction, explaining 53.4% of the variance. *Conclusion.* Satisfaction was associated with higher levels of psychosocial considerations and low levels of anxiety and fear, which adds to previous literature on job satisfaction in nurse education. Future implications must examine ways to alleviate mental health effects and support policies and curricula to address this need.

## 1. Introduction

The novel coronavirus disease 2019 (COVID-19) pandemic is an exceptional time for healthcare professionals at the forefront of the healthcare system, facing the significant physical and psychological burden of a known contagion that can cause severe illness in some [1]. Considerable efforts are being made to understand the biological underpinnings of COVID-19 to develop interventions and vaccines to tackle the pandemic, along with social actions such as social distancing, working from home, lockdowns, and face coverings [2]. While this is a crucial step, other aspects of healthcare delivery need urgent priority. Changes to the clinical guidance to protect the public have impacted how healthcare professionals communicate with patients and how

healthcare is delivered [3]. Maintaining healthcare professionals' well-being and mental health during increased pressure is much needed [4]. This is particularly true given that the WHO has outlined a series of mental health and psychosocial considerations specifically aimed at healthcare professionals [3].

Healthcare workers have been exposed to various stressors, including managing clinical situations, dealing with patient and family demands, and coping with illness and life-threatening conditions [5]. Specific COVID-19 work-related stressors have been linked to nurse-patient ratios, increased patient numbers and dependency, staff absence and sickness, lack of personal protective equipment (PPE) and resources, moral injury due to competing decisions, and dealing with worried family members [6].

During the COVID-19 pandemic, healthcare workers have experienced work overload, resulting in increased mental health symptoms, including psychological symptoms, posttraumatic stress, and compassion fatigue [7]. A systematic review of COVID-19 studies detected medium-high levels of anxiety, depression, concern, and insomnia among healthcare workers and found that mental health and mental functions were compromised [8].

Furthermore, the psychosocial fear of COVID-19 has negatively impacted the psychological well-being and mental health of healthcare professionals [9]. In addition, workers have lost their usual coping mechanisms, such as socialising with friends and family, due to restrictions [10]. Also, risk factors such as gender and cultural issues may put healthcare workers, particularly female nurses, at greater risk due to the additional stress of being the primary caregiver for children, and domestic responsibilities placed on them by society have contributed to the greater risk faced by female nurses [11].

Experts recommend that a comprehensive examination be conducted to assess the effects of COVID-19 on the mental well-being of healthcare workers [3]. Despite the availability of gathered data, there is a need to analyse them within the context of psychosocial considerations to facilitate successful behavioural adaptation among healthcare personnel while minimising negative impacts on their well-being. The present study is a step toward addressing this gap and understanding the mental health and psychosocial considerations necessary to contribute to a resilient workforce. Additionally, the present study contributes to the literature by focusing on trainee healthcare workers. Furthermore, comprehensive, evidence-based knowledge is essential for all healthcare workers and the government to support and prepare a workforce during pandemics.

*1.1. Theories of Behaviour Change.* Education and clinical practitioners may use behaviour change models in healthcare settings such as the National Health Service (NHS) to investigate what helps healthcare workers provide patient care while safeguarding their well-being [3]. Supporting staff to adapt to changing clinical standards and environments requires understanding behaviour change facilitators. This will enable healthcare facilities to identify psychosocial aspects to help healthcare workers adjust to the new requirements resulting from the COVID-19 pandemic.

Before exploring one particular behaviour change model in depth, it is essential to understand a few crucial variables in such models. Self-efficacy, the belief that one can take action, is a key variable in most behaviour change theories [12]. Intention, the person's ideas about the object or need for change, may mediate attitude-behaviour change [13]. Emotion is another major factor in behaviour modification [14].

The COM-B [15] behaviour change model offers three essential components: capability (C), opportunity (O), and motivation (M). To change behaviour (B), the healthcare worker must believe they have the psychological and physical capacity, knowledge, skills, and resilience to do so.

They must also have the opportunity, regarding the resources and social environment, for behaviour change, such as access to personal protective equipment and the availability of information and support. Lastly, they need the motivation to carry out the required change in behaviour, including individual factors such as intentions, cognitions, emotions, and propensity for anxiety and fear [15].

*1.2. Theories of Emotion.* Understanding the determinants of behaviour is essential. One determinant in the literature is emotion, which can help understand behaviour change [14]. Emotion is a feeling with psychological and physical components that influence thought and behaviour. There are several dominant psychological theories of emotion (for an excellent review, see [16]). The author finds Lazarus's theory [17] helpful in understanding the psychosocial aspects, including fear of COVID-19 and anxiety.

Lazarus's theory of emotion [17] suggests that thought must come before any emotion or physiological arousal. Labelling and appraising an event is crucial in determining the resulting emotion. If we believe we have the resources and skills to overcome a threat or danger, we will feel less at risk and threatened. However, if we lack the necessary resources and skills, we may experience fear and negative emotions. Various factors, including culture, religion, and personal beliefs, influence our appraisals. We label our emotional state based on our cognitive evaluations, which can result in feelings of fear, anger, anxiety, and more. Persistent fear can become problematic and lead to psychopathologies such as anxiety and depression [7, 8].

Regarding emotion, the COM-B model provides an understanding of the determinants of behaviour and manages psychosocial considerations. The model can help identify what interventions need to be supported to facilitate change, reduce staff stress, and increase healthcare workers' well-being. The current study examines the psychosocial considerations needed to manage behaviour change for healthcare workers to adapt to pandemic conditions.

This project investigates the relationship between psychosocial considerations for managing behaviour change for well-being and job satisfaction. By June 2021, England had seen two major waves of COVID-19. The first wave transpired during the spring of 2020, while the subsequent wave spanned from fall 2020 to spring 2021 within the present study research period. The North West region saw significant repercussions due to the COVID-19 pandemic. The highest COVID-19 case rates were reported within the North West, 27,103 per 100,000 people [18].

The following objectives determine satisfaction, well-being, and the link with psychosocial aspects:

- (1) Investigate the levels of anxiety and fear of COVID-19
- (2) Examine how psychosocial factors, anxiety, fear of COVID-19, and satisfaction vary by year of training
- (3) Identify the relationship and predictors of job satisfaction

## 2. Materials and Methods

For this study, the STROBE, an observational study checklist, served as a guide for reporting.

**2.1. Study Design.** The design was observational and cross-sectional, and data were collected at one point. A priori sample size for a one-way ANOVA Family F test using G\*Power 3.1.9.7 [19] calculated that there was an 80% chance of correctly rejecting the null hypothesis of no difference between test scores with a maximum of three groups, with a medium effect size of  $f=0.32$  required a sample of 99 participants. The sample size calculation for the difference between two independent means indicated a sample of <99 for similar parameters. Data collection was completed in March 2021 after being open for approximately four months to accommodate different cohort placement circuits. Ninety-nine preregistration nurses in the North West region of England were recruited in a convenience sample within a population of approximately 1221 student nurses. The recruitment process used an electronic link to the Jisc Online Surveys tool, which contained a participant information sheet, consent form, and questionnaire. All responses had no identifiable information and were anonymous and voluntary.

### 2.2. Measures

**2.2.1. Generalised Anxiety Disorder.** The Generalised Anxiety Disorder (GAD-7; [20]) scale is a self-report symptom inventory that assesses anxiety severity on a seven-item scale and is a validated measure for English-speaking populations [20]. The scale has a four-point rating scale (0–3) and ranges from 0 to 21. The following severity levels correlate with 0–4 as minimal, 5–9 as mild, 10–14 as moderate, and  $\geq 15$  as severe. Based on a recent meta-analysis, the authors have recommended a cut-off of 8 or greater to optimise sensitivity and specificity [21]. A score of  $\geq 8$  represents a cut point for identifying probable cases of generalised anxiety disorder with a sensitivity of 92% and specificity of 76% [22]. Cronbach's alpha calculated for the present sample was 0.93.

**2.2.2. Fear of COVID-19 Scale.** The Fear of COVID-19 Scale (FCV19S; [23]) is reliable and valid in assessing fear of COVID-19. The scale has been validated for use in English in the UK [24]. The seven-item scale was developed to measure the fear of novel coronavirus and understand the fear of COVID-19's association with various mental health outcomes. The scale also includes items for anxiety and depressive symptoms in response to COVID-19. The seven items are as follows: "I am most afraid of COVID-19," "it makes me uncomfortable to think about COVID-19," "my hands become clammy when I think about COVID-19," "I am afraid of losing my life because of COVID-19," "when watching news and stories about COVID-19 on social media, I become nervous or anxious," "I cannot sleep because I'm worrying about getting COVID-19," and "my heart races or palpitates when I think about getting COVID-19" [23 p1541]. The scale has a five-point rating

scale (strongly disagree, disagree, neither agree nor disagree, agree, and strongly agree). The scores range from 7 to 35. A higher score on FCV19S will equate to greater fear related to COVID-19. Cronbach's alpha for the sample was 0.90.

**2.2.3. The Capabilities, Opportunities, and Motivations.** The Capability, Opportunity, Motivation, and Behaviour (COM-B; [25]) Scale was designed to assess perceived capabilities (physical and psychological), opportunities (physical and social), and motivations (reflective and automatic). The six-item scale was developed to measure the perceived capabilities, opportunities, and motivations in accordance with the components of the COM-B model [26]. The scale used a 0–100 visual analogue scale on the first two items for the physical and social opportunities to make every contact count and then a 0–10 scale for the following four items to assess motivation on reflective and automatic aspects and perceived capabilities for physical and psychological aspects. The higher scores indicate higher perceived capability, opportunity, and motivation.

Capability includes the individual's ability to change behaviour and is affected by psychological and physical ability, knowledge, and skills. For example, resilience can help facilitate changes that might be otherwise inhibited by fear or anxiety. Opportunity looks at the individual's environmental and social settings. For example, availability and access to information can help facilitate changes in working practices. Motivation includes goals and decision-making processes and, in turn, is influenced by capability and opportunity. Cronbach's alpha was 0.76.

**2.2.4. Job Satisfaction Scale.** The job satisfaction scale (JSS; [27]) has 16 Likert items on aspects of job-related experiences. The confirmatory analysis of the JSS has been conducted [28], indicating three main factors: intrinsic (job itself) items 2, 6, 8, and 14; extrinsic (working conditions) items 1, 3, 5, 13, and 15; and employee relations (between management, organization, and individual) items 4, 7, 9, 10, 11, and 12. The confirmatory analysis was undertaken on an English-speaking population. Item 16 is excluded from the three main factors for calculation purposes. Participants indicate a response that ranges from "I'm extremely dissatisfied" to "I'm extremely satisfied" using a 7-point scale. Cronbach's alpha was 0.88.

**2.3. Ethical Considerations.** Before commencing the study, the project obtained full ethical approval from the Faculty Research Ethics Committee (FREC), which contained the research protocol for the study (ref no. RESC1020-1045: 2020) at the author's institution. Data were stored electronically, and all data were anonymous, by participant number only, and conducted under the principles of the Declaration of Helsinki, the legal requirements for the UK Data Protection Act [29], and the University's Research Governance requirements. No identifiable information was requested from participants to ensure confidentiality and anonymity.

**2.4. Procedure.** The study collected anonymised data using a web-based survey tool (Jisc Online) due to the infeasibility of face-to-face surveys during COVID-19. Short validated measures were used to avoid overburdening participants. At the beginning of the electronic survey, participants were required to provide informed consent by actively ticking a box that indicated that they had read the invitation letter and the participant information sheet. Students were briefed on the duration and commitment. This process ensured that they fully understood the survey before answering any questions. Only students who confirmed they were 18 years or older were granted access to the survey. Participants who did not meet this requirement or did not provide consent were thanked for their time and asked to exit the survey. The inclusion criteria were students from all training fields and years in their three-year degree programme. Exclusion criteria were students on suspended studies or those on an external course outside the mainland UK. The online questionnaire's structure was presented in the following order: demographic questions followed by the four short questionnaires. The response options for demographics for gender were male or female; age was an integer of two numbers; the years of study were year 1, year 2, or year 3; and the training field was adult, mental health, child, or learning disabilities. The four questionnaires were about fear of COVID-19 (FCV19S), anxiety (GAD-7), psychosocial considerations (COM-B), and the job satisfaction scale (JSS) (see the section on measures). At the end of the survey, each participant received signposting to support information and a contact e-mail address. The scales were reviewed and scored using the respective manual, and the raw scores were obtained.

**2.5. Statistical Methods.** The means for the four measures, anxiety, fear, behaviour, and job satisfaction with the year of study, were ascertained. The online setup eliminated missing data. Statistical Package for Social Sciences (SPSS; IBM Statistics for Windows, Version 27.0 [30]) was used for descriptive and inferential statistics. The means and standard deviations were calculated before each analysis and checked for normality. The Shapiro–Wilk *W* test was used to determine whether the underlying distribution was normal and was used in conjunction with a histogram or a Q-Q plot.

For the preplanned one-way between-groups ANOVA, the year of study was identified as the independent variable. Before the analysis, the assumptions of normality were determined with skew and kurtosis <2.0 and 9.0, respectively [31], and the homogeneity of variances was satisfied. The final stage involved a follow-up linear regression analysis, after ascertaining the zero correlations as a precursor to the analysis, to determine the best predictors of job satisfaction.

### 3. Results

Ninety-nine preregistration nurses (5.1% male and 94.9% female; mean age 30 years, SD 10.2, range 18–59) completed the survey.

**3.1. Levels of Anxiety and Fear of COVID-19.** Objective 1 was to ascertain the levels of anxiety and fear of COVID-19. The results indicate that 50% of preregistration nurses showed anxiety above the suggested  $\geq 8$  cut-off [21] for generalised anxiety (Tables 1(a) and 2), and 48% had high fear of COVID-19 levels above the mean (Tables 1(b)), indicating that students positively endorsed fear related to COVID-19.

The students completed the GAD-7 for anxiety, and the scores and severity levels were calculated following the GAD-7 manual. A clinically significant result was determined as any score  $\geq 8$ , starting in the mild category, including scores in the moderate and severe categories. The mean, standard deviation, and confidence interval are presented in Table 2.

Table 2 shows the percentages with minimal, mild, moderate, and severe anxiety scores of 31%, 29%, 20%, and 19%, respectively. The highest anxiety endorsed on the scale, ranked by the highest item means, was related to anxiety from worrying too much about things ( $M = 1.44$ ,  $SD = 1.16$ ) and anxiety from feeling nervous, anxious, or on edge ( $M = 1.39$ ,  $SD = 1.12$ ).

The mean for fear of COVID-19 on the FCV19S was 16.79 ( $SD = 6.19$ ). Table 1(b) shows 48% scoring high for fear with  $M = 21.91$  and  $SD = 4.60$  and 52% scoring low for fear with  $M = 12.15$  and  $SD = 2.90$ . The highest fear endorsed on the scale, ranked by the highest item mean, was fear when “watching news and stories about coronavirus-19 on social media, I become nervous or anxious” ( $M = 2.93$ ,  $SD = 1.31$ ) and “it makes me uncomfortable to think about coronavirus-19” ( $M = 2.80$ ,  $SD = 1.23$ ).

**3.2. Job Satisfaction.** Before examining objectives 2 and 3, the descriptive statistics for each subscale for job satisfaction and psychosocial considerations were ascertained. The mean score on the job satisfaction scale was  $M = 21.35$  and  $SD = 6.18$ . The factor with the highest mean was employee relations ( $M = 23.46$ ,  $SD = 7.00$ ) and extrinsic ( $M = 22.89$ ,  $SD = 6.07$ ), and the lowest factor was intrinsic ( $M = 17.71$ ,  $SD = 5.48$ ). The factor ranking and the means are shown in Table 3(a).

The highest satisfaction endorsed on the scale, ranked by the highest item means, was satisfaction with fellow workers ( $M = 5.02$ ,  $SD = 1.41$ ) and immediate line manager ( $M = 4.89$ ,  $SD = 1.47$ ). The lowest satisfaction endorsed on the scale, ranked by the lowest item means, was the chance of promotion ( $M = 3.46$ ,  $SD = 1.61$ ) and rate of pay ( $M = 2.55$ ,  $SD = 1.67$ ).

**3.3. Psychosocial Considerations (COM-B).** The mean score for the items on the perceived capabilities, opportunities, and motivations for behaviour (COM-B) model was  $M = 13.66$  and  $SD = 5.61$ . The factor ranking and the means are shown in Table 3(b).

The highest item factor with the highest mean was motivations ( $M = 15.67$ ,  $SD = 5.18$ ). The lowest factors by mean were opportunities ( $M = 11.88$ ,  $SD = 5.71$ ) and capabilities ( $M = 13.44$ ,  $SD = 5.91$ ). The results show that opportunities and capabilities were the lowest indicators for behaviour change.

TABLE 1: (a) Mean for anxiety and percentage of scores equal to or greater than 8. (b) Means for fear of COVID-19 scale for high and low fear.

	(a)			
	Mean (SD)	% with score $\geq 8$	CI	<i>p</i> value
Clinical anxiety $\geq 8$	13.59 (4.3)	50	12.4, 14.8	<0.001
	(b)			
	Mean (SD)	% with score	CI	
Fear of COVID-19	High	21.91 (4.60)	48	20.57, 23.26
	Low	12.15 (2.90)	52	11.35, 12.96

Note. SD, standard deviation; %, percentage; *p*, *p* value; CI, confidence interval.

TABLE 2: Mean for anxiety severity cut-offs and percentage with scores.

	Mean (SD)	% with score	CI	<i>p</i> value
Minimal (0–4)	1.29 (1.4)	31	0.8, 1.8	<0.001
Mild (5–9)	6.76 (1.4)	29	6.2, 7.3	<0.001
Moderate (10–14)	11.85 (1.6)	20	11.1, 12.6	<0.001
Severe (15–21)	18.16 (2.4)	19	17.0, 19.3	<0.001

Note. SD, standard deviation; %, percentage; *p*, *p* value; CI, confidence interval.

TABLE 3: (a) Factor ranking for intrinsic, extrinsic, and employee relations for job satisfaction. (b) Factor ranking for capabilities, opportunities, and motivations (COM-B).

	(a)		
	Factor ranking	<i>M</i>	SD
Employee relations	1	23.46	7.00
Extrinsic	2	22.89	6.07
Intrinsic	3	17.71	5.48
Total JSS		21.35	6.18
	(b)		
	Factor ranking	<i>M</i>	SD
Motivations	1	15.67	5.18
Capabilities	2	13.44	5.91
Opportunities	3	11.88	5.71
Total COM-B		13.66	5.61

Note. *M*, mean; SD, standard deviation.

### 3.4. Differences in Anxiety with the Year of Study.

Objective 2 was to examine how psychosocial factors, anxiety, fear of COVID-19, and satisfaction vary by year of training. It was predicted that there would be a difference in the four measures: anxiety, fear, psychosocial considerations (COM-B), and job satisfaction with the year of study. An (one-way) ANOVA was used to assess the effect of the year of study on anxiety, fear, behaviour, and job satisfaction. Before the analysis, normality and assumptions were checked, along with skew and kurtosis (Table 4).

As can be observed from Table 4, year 1 has the smallest numerical mean value for anxiety ( $M = 5.86$ ,  $SD = 6.19$ ) and year 2 has the highest numerical mean value for anxiety ( $M = 9.82$ ,  $SD = 5.84$ ). The ANOVA (independent between groups) yielded a significant effect, with  $F(2, 99) = 4.25$ ,  $p = 0.02$ , and  $\eta^2 = 0.081$ . A Tukey post hoc test revealed that anxiety was statistically significant between year 1 and year 2 (mean difference =  $-3.96$ ,  $p = 0.015$ ). There was no statistically significant difference between years 1 and 3 (mean

difference =  $-3.19$ ,  $p = 0.159$ ) or years 2 and 3 (mean difference =  $0.77$ ,  $p = 0.889$ ). The significant result was between year 1 and year 2, with those in the second year of training showing significantly higher anxiety. Those in year 3 showed higher means for anxiety on the GAD-7 than in year 1, but these were not significant. There were no more significant results for the year of study on fear of COVID-19, psychosocial considerations (COM-B), or job satisfaction.

**3.5. Zero-Order Correlations.** Objective 3 was to examine the relationship and predictors of job satisfaction. The first stage was to analyse the zero-order correlations to ascertain the linear association between job satisfaction, anxiety, fear, and psychosocial considerations before undertaking a linear regression analysis for the best predictors. The correlations between the mean score on job satisfaction with fear, anxiety, and psychosocial considerations were  $r_{fear(99)} = 0.46$ ,  $p < 0.001$ ;  $r_{anxiety(99)} = -0.36$ ,  $p < 0.001$ ; and  $r_{psychosocial\ considerations(99)} = -0.30$ ,  $p = 0.003$  respectively.

The results of the correlations between GAD-7 and fear of COVID-19, job satisfaction, and psychosocial considerations (COM-B) scales are presented in Table 5. Cohen [32] recommended that 0.30 to 0.50 be interpreted as a moderate correlation and that smaller associated *P* values imply a stronger departure from a null hypothesis. The results show that fear of COVID-19 shows a moderate positive correlation with anxiety and job satisfaction, and psychosocial consideration for behaviour change shows a moderate negative correlation with anxiety.

### 3.6. Predictors of Job Satisfaction.

The second stage of objective 3 was to find the best predictors of job satisfaction. The significant zero-order correlations found between job satisfaction, anxiety, fear, and psychosocial considerations (Table 5) allowed for further analysis to find the best predictors for job satisfaction. A linear regression was used to determine the predictors. Three predictor variables were entered into a linear regression as independent variables (Table 6).

The analysis found two significant independent variables of job satisfaction: psychosocial considerations (COM-B) and anxiety; both accounted for 53.4% of the variance for job satisfaction (Table 6). Fear of COVID-19 was nonsignificant as a criterion variable. It is crucial to understand more about psychosocial considerations as these may affect levels of compliance, such as perceived capability, opportunity, and motivation to comply with new clinical guidelines.

TABLE 4: Descriptive statistics for anxiety, fear, and satisfaction with work across the year groups.

	<i>N</i>	<i>M</i>	<i>SD</i>	Skew	Kurtosis
<i>Anxiety (GAD-7)</i>					
Year 1	35	5.86	6.19	1.18	0.45
Year 2	44	9.82	5.84	0.31	-0.53
Year 3	20	9.05	6.74	0.05	-1.20
<i>Fear of COVID-19</i>					
Year 1	35	15.43	5.80	0.72	-0.02
Year 2	44	17.18	5.47	0.66	1.72
Year 3	20	18.30	7.97	0.45	-0.53
<i>COM-B</i>					
Year 1	35	43.63	13.93	-0.81	0.48
Year 2	44	38.25	14.24	-0.58	-0.81
Year 3	20	42.40	11.98	-0.96	0.36
<i>Job satisfaction scale</i>					
Year 1	35	74.34	20.27	-0.31	0.77
Year 2	44	66.34	16.81	0.53	-0.59
Year 3	20	64.15	14.18	-0.07	-0.36

Note. *M*, mean; *N*, number; *SD*, standard deviation.

TABLE 5: Zero-order correlations.

	Fear (FCV19S)	Anxiety (GAD-7)	Psychosocial considerations (COM-B)
Job satisfaction	0.46**	-0.36**	-0.30**
<i>p</i> =	<0.001	<0.001	0.003

Note. \*\*Correlation is significant at the 0.01 level.

TABLE 6: Linear regression for job satisfaction.

Predictor variables	Standardised coefficient beta ( $\beta$ )	<i>t</i>	<i>p</i>	<i>R</i> <sup>2</sup>	Total variance
Psychosocial considerations (COM-B)	0.485	5.46	0.001**	0.227	53.4%
Anxiety (GAD-7)	-0.253	-2.60	0.011*	0.270	

Note.  $\beta$ , unstandardised regression coefficient; *t*, *t*-value; \**p* < 0.05, \*\**p* < 0.001; Adj. *R*<sup>2</sup>, adjusted *R* squared; %, total variance.

#### 4. Discussion

The present study addresses the lack of understanding about the psychosocial considerations necessary for healthcare workers to adapt their behaviour to manage adverse impacts on their well-being during pandemics.

The first objective was to ascertain the levels of anxiety and fear of COVID-19. The findings show that the level of anxiety above the suggested  $\geq 8$  cut-off [21] for anxiety was shown by half of the sample in the present study. Also, nearly half of the sample had high fear of the novel coronavirus, indicating preregistration nurses had elevated symptoms in response to COVID-19 and its association with various mental health outcomes for depression and anxiety [8].

The second objective was to examine how psychosocial factors, anxiety, fear of COVID-19, and satisfaction vary by year of training. The results show that the year of study for anxiety in year 2 was higher than in the first year of their training. The results show no effect for the year of study for fear of COVID-19, psychosocial considerations, or job satisfaction. Students with higher levels of key psychosocial

abilities had higher levels of job satisfaction. Also, job satisfaction was associated with low anxiety levels and fear of COVID-19.

As for the third objective, the findings support the prediction that psychosocial considerations and anxiety were predictors of job satisfaction. The findings show that psychosocial considerations and anxiety accounted for most of the variance in job satisfaction. The finding supports the association between abilities to manage psychosocial considerations and job satisfaction [33].

Before analysing each finding in the context of the literature, it is essential to acknowledge that due to COVID-19 social restrictions, a scenario of fatigue could arise in study participants. Participants may experience fatigue due to the lack of social interaction and changes in their daily routines, which could affect their motivation and engagement in their programme of study and participation in the present research. This could affect participants' mental health and cognitive abilities, which would account for some of the findings in anxiety and psychosocial aspects.

It is necessary to examine anxiety, fear, psychosocial considerations, and job satisfaction in greater detail in relation to the extant literature.

**4.1. Levels of Anxiety and Fear of COVID-19.** In the present study, it was found that the incidence of anxiety and fear was higher than the previous estimates. According to a meta-analysis of studies on the mental health of healthcare workers during the pandemic, the prevalence of anxiety was 23.2% [34]. Similarly, another meta-analysis found that the pooled mean of FCV19S was 13.11 for fear [35]. The present study suggested that anxiety was prevalent in 50% of the participants, and the mean on FCV19S for fear was 16.79. The meta-analysis on pooled estimates for anxiety included studies during the first wave, while the meta-analysis for fear of COVID-19 was for the first and second waves. The higher levels of anxiety and fear in the present study, which took place during the second wave, may be due to the continuation of COVID-19 and new variants driving new peaks in COVID-19.

The higher levels of fear of COVID-19 and anxiety are consistent with the literature that fear can cause anxiety [36]. Healthcare workers have a high mental and physical burden associated with COVID-19 [37]. The most commonly occurring type of anxiety ranked in the present study by the highest factor was “worrying too much about things.” Worrying about getting COVID-19 was associated with anxiety and stress in a previous study [38], and “feeling nervous, anxious, or on edge” is a common symptom of anxiety [39]. The highest factor of fear of COVID-19 with the highest mean was fear when “watching news and stories about coronavirus-19 on social media” is associated with increased anxiety during the COVID-19 pandemic and mediated by the media vicarious traumatisation [40]. Before examining the predictors of job satisfaction, it is essential to highlight the relationships between anxiety and fear.

**4.2. Relationship between Anxiety, Fear of COVID-19, Satisfaction, and Psychosocial Considerations.** The present study contributes to the literature by increasing the sample’s representativeness by focusing on nurse trainees rather than the qualified health workforce. The positive relationship between anxiety and fear of COVID-19, as found in the present study, has been shown in previous studies around the world [41–48]. Anxiety related to fear of COVID-19 is associated with rumination, which impacts well-being and results in negative emotions [46]. A propensity for anxiety, such as generalised anxiety, has been linked to fears in previous pandemics [49]. The present study suggested that trainee nurses with higher anxiety showed more fear of COVID-19.

Furthermore, fear of COVID-19 and anxiety seem to affect job satisfaction negatively [50] and are interestingly positively related to depression [46]. It has been recognised that nurses need to maintain their mental health [51], and feeling under stress is key to staff attrition and burnout [52]. This is when resilience and mental health are needed among its workforce [3]. In the present study, fear of COVID-19

was associated with lower job satisfaction, as reported by [53], showing that fear and anxiety increased turnover intention among frontline nurses.

**4.3. Psychosocial Considerations within the COM-B Framework.** The current findings have added insights into the association between psychosocial considerations and their effects on mental health. It extends the literature by using the COM-B model as a framework for understanding a strategy to address these issues. The COM-B model highlights three main levers that can lead to behavioural change and extends our understanding of the complex interplay between psychosocial considerations and mental health impacts in healthcare workers.

Affective responses such as fear motivate individuals to change protective behaviour to mitigate a perceived threat [54]. The COVID-19 pandemic saw a swathe of recommendations to alleviate the impact of the virus on individuals and populations. It has been highlighted that fear and hope influence change in health-focused behaviour to reduce anxiety and increase perceived protection [55]. The COM-B framework indicates that behaviour originates from an interplay between the “capability” to initiate a response, the “opportunity” to activate this response, and the individual’s “motivation” to carry out the task. The negative relationship between anxiety and COM-B suggests that the ability to change behaviour is reduced when anxiety is elevated. The capability to initiate a response is influenced by knowledge and understanding of the nature of the problem. Additionally, individual impairments in reasoning or executive functioning and motivation to engage due to the effects of anxiety and depression can be a barrier to effective change. Intervening in the COM-B triad can improve behaviour change and make it more effective [56].

Several social and individual adverse circumstances can make behaviour change difficult, such as the availability of environmental resources such as PPE and support to deal with the psychological impact of COVID-19 [57]. Motivation to engage in the required behaviour can be thwarted by mental health conditions such as anxiety and depression, a known issue among healthcare workers and trainees during the pandemic [58, 59]. Additionally, addictions such as alcohol and drugs are known barriers that can interfere with attempts to change behaviour and have been highlighted as an issue among healthcare workers [60].

**4.4. Predictors of Job Satisfaction.** The present findings extend our understanding of the association between psychosocial considerations and mental health. It is crucial to understand more about psychosocial variables as these may affect levels of compliance, such as perceived capability, opportunity, and motivation to comply with new clinical guidelines. The two significant predictors of job satisfaction, COM-B (capability, opportunity, motivation) and generalised anxiety, accounted for most of the variance in satisfaction. The potential consequences of not managing psychosocial considerations and mental health will have implications for healthcare workers [61] and patient

outcomes [62], including physical problems, diminished job satisfaction, low quality of care, absenteeism, retention, and satisfaction. These factors may affect compliance with new clinical guidelines issued during pandemics.

**4.5. Limitations.** Although the cross-sectional design and convenience sample were suitable for achieving the proposed objectives, they have causal inference and generalisability limitations. The sample consisted only of trainee nurses, making extending the results to other healthcare workers challenging. The objective self-report measures used in the study are prone to response bias and socially desirable responses. Moreover, there is a risk of breaking down exploratory constructs such as the COM-B model as they could not be directly observed to support the self-reported endorsements. Nevertheless, there were attempts to mitigate these effects by using validated measures that increased the likelihood of reliability and validity.

## 5. Conclusion

The present study has highlighted the crucial role played by the relationship between anxiety, fear of COVID-19, and psychosocial considerations and their effects on job satisfaction. The findings suggest that healthcare workers who have higher psychosocial considerations (COM-B) and lower levels of anxiety and fear tend to have higher job satisfaction. Future research and practice should focus on interventions to support healthcare workers, such as improving the work environment, providing psychosocial support, and running awareness campaigns about COVID-19. By enhancing the psychosocial aspects and well-being of healthcare workers, it is possible to reduce fear and anxiety and increase job satisfaction. This study has contributed to a better understanding of the psychosocial considerations of healthcare workers, which can help enhance their mental health and overall well-being.

## Data Availability

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

## Ethical Approval

The project obtained full ethical approval (ref RESC1020–1045) from the Research Ethics Sub-Committee at the author's institution.

## Disclosure

The author presented preliminary findings at a conference [63].

## Conflicts of Interest

The author declares that there are no conflicts of interest.

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