Received 27 July 2022
Revised 9 January 2023
Accepted 17 February 2023

The relevance of nurses' self-concept in the social exchange process: a serial mediation model

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Abstract

Purpose – Drawing on social exchange theory and the expectancy–value model, this study has two objectives. First, it sought to explore the mediating role of nurses' self-concept and affective commitment between perceived organizational support (POS) and three different targets (organization, co-workers and patients) of organizational citizenship behavior (OCB). Second, it aimed to develop a better understanding of how nurses' self-concept and affective commitment mediate the influence of POS on OCB directed toward different targets through sequential mediation.

Design/methodology/approach – A cross-sectional study was conducted with 229 nurses. This sample was representative of the nursing population based on several demographic characteristics. Data analysis was performed using partial least squares analysis.

Findings – The study revealed that nurses' self-concept plays a mediating role between POS and OCB directed toward the organization, co-workers and patients, while affective commitment has a mediating effect between POS and OCB directed toward the organization and co-workers. Finally, the indirect influence of POS on OCB through nurses' self-concept and affective commitment was significant only at the organizational level.

Originality/value – This study contributes to the extant literature by identifying the mediating role of nurses' self-concept among social exchange constructs such as POS, affective commitment and OCB directed toward different targets.

Keywords Social exchange theory, Self-concept, Organizational citizenship behavior, Perceived organizational support, Affective commitment

Paper type Research paper

> (. . .) the Towosi [native magician leader] (. . .) inspires them [the natives] with confidence in success and gives them a powerful impulse to work.
>
> Bronisław Malinowski in *The Primitive Economics of the Trobriand Islanders* (1921)

Introduction

Today, healthcare workers are the foundation of global health security significantly due to the coronavirus health crisis, which has placed great demands, especially on nurses, globally.

Declaration of interest statement: The authors have no competing interests to declare that are relevant to the content of this article. No financing has been received for this research.

Management Decision
Vol. 61 No. 13, 2023
pp. 172-191
Emerald Publishing Limited
0025-1747
DOI 10.1108/MD-07-2022-1015

According to the World Health Organization (World Health Organization, 2020), "nurses are the backbone of any health system," yet there was a global shortage of nurses estimated at 5.9 million in 2018 (World Health Organization, 2020).

One explanation for this universal problem is that the shortage of nurses is attributable, in part, to nurses themselves, who report low professional self-concept and rarely recommend their career to others (Hoeve *et al.*, 2014). Thus, 32% of nursing professionals in the United States are currently considering leaving their patient care positions, claiming that one of the strongest drivers of this wish to abandon the profession is not feeling supported at work (McKinsey, 2022). In contrast, empirical research shows that nurses who report a higher professional self-concept have lower turnover intentions and enhanced commitment, job satisfaction and organizational citizenship behavior (OCB) (Cao *et al.*, 2015; Jeon and Koh, 2017; Li *et al.*, 2021). Self-concept is the "person's self-perceptions that are formed through experience with and interpretations of one's environment" (Marsh and Perry, 2005, p. 72). Although some self-perceptions share similar definitions, such as self-concept, self-efficacy, self-esteem and core self-evaluation (Marsh and Perry, 2005; Kammeyer-Mueller *et al.*, 2009), we consider that self-concept is more appropriate for our research because it refers to a very specific domain and represents one's perception of confidence in a certain area, for instance, a profession (Bong and Skaalvik, 2003). Moreover, nurses' self-concept is a variable designed specifically for the nursing profession (Angel *et al.*, 2012; Xu *et al.*, 2023) and it is a relevant factor in understanding the relational and behavioral outcomes of nurses, since it is closely related to vocational development and professional identity, which are key issues in the nursing field (Hoeve *et al.*, 2014; Randle and Arthur, 2007).

From an organizational perspective, a fundamental goal of any organization is to pursue organizational effectiveness. However, that goal is not readily achievable against a backdrop of workforce shortages, the case, for example, of the nursing profession. As such, an improvement in social exchange outcomes such as affective commitment and OCB can have a positive impact on organizational effectiveness (Malbašic *et al.*, 2018; Organ, 2018). Recent research has shown that organizations with high levels of perceived organizational support (POS) can positively impact affective commitment and OCB in different contexts (Cicellin *et al.*, 2022; Giunchi *et al.*, 2015; Kurtessis *et al.*, 2017; To and Huang, 2022). Moreover, in the field of healthcare services, OCB can be directed toward different recipients, such as the organization, co-workers and patients. In this sense, scholarly understanding of the processes by which the organization can enhance affective commitment and OCB directed at different targets among nurses is far from complete. Previous studies that analyze OCB among nursing professionals usually consider one potential recipient of this discretionary effort, such as solely an organization or patient (Islam *et al.*, 2017; Zhang *et al.*, 2019). From a practitioner's perspective, nurses have to deal with their organization, co-workers and patients in their daily work, to the best of our knowledge, there are no studies that help managers understand how to improve OCB among nurses toward these different targets. In the present study, we attempted to assess how organizations can increase OCB toward the recipients with which nurses deal in their work settings.

From a theoretical point of view, past research based on social exchange theory (SET) considers that OCB is largely explained by POS, and this relationship is partially mediated by affective commitment (Kurtessis *et al.*, 2017). This finding appears to be supported by nurses (Gupta *et al.*, 2016). Nevertheless, the social exchange process through which affective commitment mediates the relationship between POS and the different targets of OCB has not been carefully examined. One purpose of this study, therefore, was to advance the understanding of the mediating effect of affective commitment in the relationship between POS and OCB directed toward different targets.

Finally, although SET has much to say about how reciprocity processes explain OCB toward the target, which initiates a social exchange relationship (e.g. co-worker or organization) (Cropanzano *et al.*, 2017; Lavelle *et al.*, 2015), this theoretical framework is not sufficient to assess the processes by which the organization can help improve OCB toward different targets among nurses. In this vein, past research in the nursing field has shown that professional self-concept can enhance social exchange outcomes such as organizational commitment and OCB (Cao *et al.*, 2015; Jeon and Koh, 2017), or it can be affected by a social exchange-initiating action, such as POS (Cao *et al.*, 2016). However, these studies did not integrate nurses' self-concept as a variable that helps explain the social exchange relationship in a work setting. Considering the call for new research to explain external factors that influence nurses´ self-concept (Xu *et al.*, 2023), and the lack of studies that analyze the mediating role of nurses´ self-concept between POS and social exchange outcomes, this study assumed that nurses´ self-concept is strengthened by POS. Moreover, it also assumed that a higher nurses´ self-concept will result in a relational response, such as affective commitment and will promote OCB towards the organization, co-workers and patients.

With respect to the expected mediating role of nurses´ self-concept, although some scholars have examined the importance of self-concept as a moderator in the social exchange process, such as the effects of POS or leadership on organizational commitment (Johnson and Chang, 2008; Robert and Vandenberghe, 2021), which are based on data gathered from undergraduate students or employees in a variety of different professions, they do not consider professions characterized by low self-concept, such as nursing, and the potential effects of POS on employees' self-perceptions. In their review of organizational support theory, Eisenberger *et al.* (2020) argued that POS may directly encourage the use of employees´ professional skills. Moreover, some studies have shown that a supportive organization positively affects nurses´ self-perceptions (Battistelli *et al.*, 2016; Cao *et al.*, 2016; Liu *et al.*, 2015; Zhou *et al.*, 2021), while nurses´ self-perceptions affect different social exchange behavioral outcomes, such as organizational commitment (Cao *et al.*, 2015), OCB (Jeon and Koh, 2017) and work engagement (Orgambídez *et al.*, 2019).

In short, this study aimed to provide a better understanding of how a supportive organization can foster nurses´ self-concept, which in turn can help to enhance affective commitment and OCB toward different targets, which are related to agents that nurses must deal with in their daily work (i.e. organization, co-workers and patients). To assess these behavioral processes, our research integrates SET and the expectancy–value model, according to which, when nurses feel organizational support, they tend to be more confident in their workplaces and more attached to their organization. Simultaneously, higher self-concept and affective commitment can foster the necessary effort to make informal contributions directed toward different targets, such as the organization, co-workers and patients.

The remainder of the paper is structured as follows. The next section presents the theoretical framework and hypotheses and is followed by the methodology and analysis of the empirical results. Finally, a discussion and concluding remarks are provided.

Theoretical framework

According to Organ (2018), different theories have guided OCB research such as job satisfaction and workplace justice framework. In addition, POS is related to organizational support theory (Eisenberger *et al.*, 2020) to explain how employees form a meaningful explanation of perceived treatment from the organization. Specifically, studies that assess how POS or affective commitment can enhance OCB tend to use SET as a theoretical framework (Chernyak-Hai and Rabenu, 2018; Cropanzano *et al.*, 2017). However, in the case of

nursing professionals, self-concept is an important variable in examining nurses' professional identity and practice (Hoeve *et al.*, 2014; Randle and Arthur, 2007). As mentioned above, this study integrates nurses' self-concept when analyzing how POS can foster nurses' relational and behavioral responses. Therefore, we complement SET with the expectancy–value model to show how the interplay of social exchange and expectancy–value processes explains how organizations can enhance affective commitment and OCB toward different targets among nurses.

SET seeks to understand a relationship in which an employee favors or makes a positive gesture, with the general expectation of some return in the future (Blau, 1964). The need to "reciprocate this gesture or attitude serves as a 'starting mechanism' of social interaction" (Blau, 1964, p. 92). This "starting mechanism" generates unspecified responses distinct from an economic exchange (Blau, 1964). Several reviews and meta-analyses (Chernyak-Hai and Rabenu, 2018; Eisenberger *et al.*, 2020; Kurtessis *et al.*, 2017; Organ, 2018) underlined the suitability of SET as a useful theoretical framework to explain the POS effects on affective commitment and OCB. In this sense, Cropanzano *et al.* (2017) recommend dividing social exchange responses into two sub-families: relational and behavioral. Accordingly, our research assesses how a starting mechanism (i.e. POS) will increase a relational response (i.e. affective commitment), and how this increased relational response will promote a positive behavioral response (i.e. OCB toward different targets). SET has been used to explain numerous workplace relationships, especially those that explain how positive initiating actions, such as POS or trust, can help improve engagement, affective commitment and OCB (Brunetto *et al.*, 2013; Noble-Nkrumah *et al.*, 2022).

The expectancy–value model assumes that individual motivation depends on the valence of the outcomes, the subjective probability of success and the attainment of an incentive (Atkinson, 1957). From this perspective, ability and expectancy beliefs are critical for predicting behavioral outcomes (Wigfield and Eccles, 2000). According to Cowin *et al.* (2008), the connection between self-concept and behavioral outcomes has its roots in the expectancy–value model (Cowin *et al.*, 2008). Recent research shows a clear link between self-concept and behavioral outcomes such as performance (Geng *et al.*, 2022a, b) or employee creativity (Geng *et al.*, 2022a, b).

This study used SET as a theoretical framework to explain how a positive initiating action, such as POS, can enhance positive employee responses, including greater commitment, OCB (Cropanzano *et al.*, 2017) and a sense of competence in a specific domain (Eisenberger *et al.*, 2020). Additionally, we used the expectancy–value model to explain how nurses' self-concept affects relational and behavioral social exchange outcomes (Cowin *et al.*, 2008; Xu *et al.*, 2023), such as OCB and affective commitment. Figure 1 illustrates the theoretical framework that underpins this study.

Perceived organizational support

POS explains employees' global beliefs about how companies value their contributions and care for them (Eisenberger *et al.*, 1986). Employees who feel supported by their organization perform better in some areas related to their work and increase their affective commitment to the organization (Kurtessis *et al.*, 2017). In addition, POS can be especially rewarding for employees requiring emotional support, social approval, or esteem and can foster employees' feelings of competence (Eisenberger *et al.*, 2020). This is especially relevant in the nursing profession, which might suffer from low self-concept (Hoeve *et al.*, 2014). For example, differential professional status compared with physicians and participation in decision-making (Durand *et al.*, 2022) can increase the need to perceive the support of their organizations. POS is clearly important for nursing professionals because it helps improve positive behavioral outcomes such as engagement, well-being and affective commitment (Brunetto *et al.*, 2013).

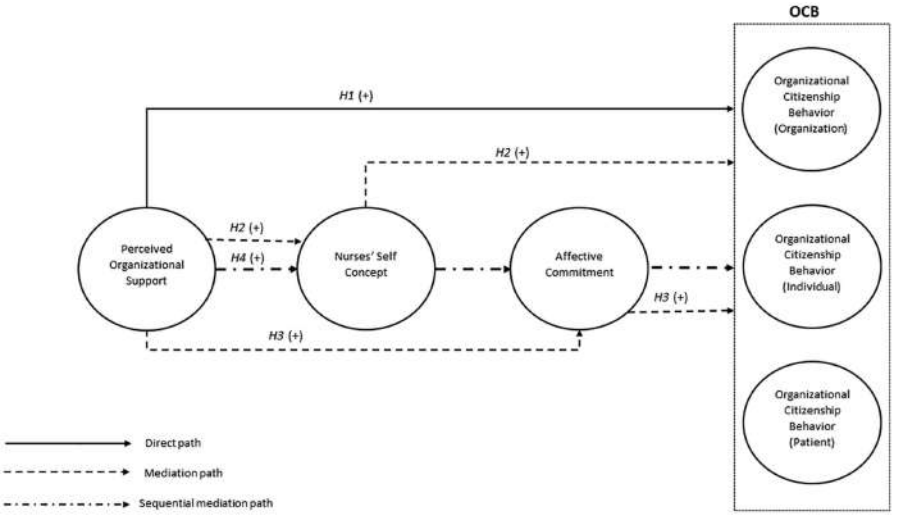

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Figure 1.
Hypothesized model

Organizational citizenship behavior

OCB is defined as behavior that is discretionary, not explicitly rewarded and that can contribute to organizational effectiveness by enhancing the social and psychological context contributing to task performance (Organ, 1997). Williams and Anderson (1991) classify OCB as behavior that immediately benefits specific individuals or co-workers within the organization (OCBI) and that directly benefits the organization (OCBO). According to Lavelle *et al.* (2015), the distinction between OCBI and OCBO is relevant because the relationships between the social exchange variables directed toward the same target are stronger (i.e. a nurse who feels organizational support would show better OCBO than OCBI).

Recent studies suggest that OCB directed toward patients (OCBP) is also a relevant domain within nurses' OCB and is defined as discretionary, helpful and caring behavior toward patients (Zhang *et al.*, 2019). This kind of service behavior is part of employees' organizational role and is related to their extra-role behavior (Bettencourt and Brown, 1997; Zhang *et al.*, 2019). It should be understood as a customer orientation among nurses, referring to the desire to provide excellent service to patients (Chang and Chang, 2010).

In the case of nursing professionals, previous research shows that nurses who feel supported by the organization present a better level of OCB (Gupta *et al.*, 2016), particularly OCBO (Lavelle *et al.*, 2009). Although some studies have tested the POS effects on different levels of citizenship behavior, including OCBO and OCBI (Kurtessis *et al.*, 2017), it remains unclear how POS can affect the three different OCB targets, especially OCBP, given that nurses have to deal with their organization, co-workers and patients. Therefore, we expect that nurses who feel supported by their organization reciprocate this gesture by performing discretionary informal contributions toward their organizations, co-workers and the patients they serve.

H1. A direct positive relationship exists between POS and (a) OCBO, (b) OCBI and (c) OCBP.

The mediating role of nurses' self-concept

Self-concept stands for a general evaluation of an individual as a person, which is formed through experience with and interpretation of the individual's environment (Marsh and Perry, 2005). According to Angel *et al.* (2012), nurses' self-concept comprises the following four dimensions: staff relations, knowledge, leadership and care. It is especially relevant to consider low self-concept in the nursing profession, as it helps shed light on the effects of burnout, attrition and job satisfaction (Cao *et al.*, 2016; Hoeve *et al.*, 2014).

To provide a richer explanation of the mediating effect of nurses' self-concept between POS and OCB, we drew on SET and the expectancy–value model. In reference to SET, in their theoretical review, Eisenberger *et al.* (2020) argued that the relationship between POS and behavioral outcomes can be mediated by performance-reward expectancies, which are clearly related to nurses´self-concept (Xu *et al.*, 2023). In this context, we expect that positive initiating actions taken by the organization, such as providing support or taking care of nurses, will enhance nurses' self-concept. Additionally, empirical evidence points to the positive effect of POS on nurses' self-concept (Cao *et al.*, 2016). With regard to the expectancy–value model, studies performed among students and elite swimmers show that self-concept has a positive effect on subsequent performance (Geng *et al.*, 2022a, b; Marsh and Perry, 2005). In this sense, OCB was theoretically developed to measure a qualitative performance, which represents "more discretionary forms of contribution" (Organ, 2018, p. 296). Furthermore, in a study performed in Korea, Jeon and Koh (2017) found a positive effect of nurses' self-concept on their overall OCB. Recent research shows that nurses´self-concept positively affects professional quality, academic performance and patient safety attitudes (Xu *et al.*, 2023). In conclusion, these arguments suggest that nurses' self-concept mediates the relationship between POS and OCB directed toward different targets. Hence, we hypothesize as follows:

H2. Nurses´ self-concept mediates the influence of POS on (a) OCBO, (b) OCBI and (c) OCBP.

The mediating role of affective commitment

Meyer and Allen (1991) divided organizational commitment into the following three dimensions: normative, continuance and affective. According to a meta-analysis by Kurtessis *et al.* (2017), the relationship between POS and affective commitment is stronger than that between POS and organizational commitment. Affective commitment is a concept that defines employees' emotional attachment to and identification with the organization and their involvement in it (Meyer and Allen, 1991).

Past empirical research has shown the positive effect of POS on affective commitment (Battistelli *et al.*, 2016; Cicellin *et al.*, 2022) and the mediating effect of affective commitment in the relationship between POS and OCB among nurses (Gupta *et al.*, 2016). However, few studies have examined the link between affective commitment and OCB toward co-workers and patients among nurses. Based on previous research conducted with frontline hotel employees that considers how employee attitudes directed to the organization can affect OCB toward the organization, co-workers and customers (Buil *et al.*, 2016) and a recent study performed among flight attendants that shows a mediating effect of affective commitment in the relationship between POS and OCBP (Le-Hoang Long *et al.*, 2022), we expect a mediating effect of affective commitment in the relationship between POS and the three OCB targets. In other words, organizational support may contribute to a relational response such as the affective commitment of nurses, which, in turn, will improve behavioral responses such as OCB directed toward their organization, co-workers and patients in their units. Therefore, we hypothesize as follows:

H3. Affective commitment mediates the influence of POS on (a) OCBO, (b) OCBI and (c) OCBP.

Sequential mediation of affective commitment and nurses' self-concept

Meyer *et al.* (2004) related a social foci commitment, for example, the nurses' service to the patient or the community (Karanikola *et al.*, 2018), with affective commitment rather than with the other dimensions of organizational commitment. Considering that caring behavior is related to nurses' self-concept (Angel *et al.*, 2012), we expect a positive relationship between nurses' self-concept and affective commitment. Furthermore, following previous hypothesis, we expect POS to enhance affective commitment and nurses' self-concept. Finally, only one study (Jeon and Koh, 2017) reported the mediating role of organizational commitment between nurses' self-concept and overall OCB. Accordingly, the mediating role of affective commitment between nurses' self-concept and OCB targeted at different recipients (organizations, co-workers and patients) is poorly understood.

In light of the aforementioned studies, we expected POS to indirectly influence different OCB targets through sequential mediation via nurses' self-concept and affective commitment. When nurses perceive that their organizations attach importance to their role and allow them to develop a social foci commitment, they feel more confident in their workplace, and their self-concept increases. Additionally, in line with SET (Eisenberger *et al.*, 2020) and the expectancy–value model (Geng *et al.*, 2022a; Wigfield and Eccles, 2000), this should result in greater attachment and identification with the organization to which they belong, and an increase in informal forms of contribution directed toward the organization, co-workers and patients. Thus, it is proposed that

H4. There is sequential mediation through nurses' self-concept and affective commitment in the relationship between (a) OCBO, (b) OCBI and (c) OCBP.

Methodology

We performed our study with data from a sample of nurses because nursing is a profession that might be affected by low self-concept. In addition, we considered that in the healthcare sector nursing care is the primary determinant factor to explain overall patient satisfaction because nurses spend more time with patients than other healthcare workers (Butler *et al.*, 2018). Therefore, the OCB performed by nursing toward different targets, especially patients, will be particularly important to explain patient satisfaction. The survey research design was selected because it is suitable for data related to the subjective state of respondents, such as attitudes, perceptions, or beliefs (Vogt *et al.*, 2012). Online surveys were distributed among nurses by nursing managers in three hospitals located in Buenos Aires. Two hospitals were medium sized (144 and 200 beds, respectively), while the third was a large hospital (534 beds). We initially collected 234 surveys completed by nursing professionals between May and November, 2019. However, after discarding incoherent responses, we considered 229 valid surveys. Of these, 80.79% were female respondents, 64.19% were aged 35 years or older, over 27% worked more than 50 h per week, and 72.93% had a university education. This sample is representative of the nursing population in Argentina (Ministerio de Salud (MSAL), 2022).

The original English questionnaire was translated into Spanish, using the protocol recommended by Brislin (1980). Two students with bilingual master's degrees were invited to translate the survey. Then, a third student, bilingual in Spanish and English, compared the two Spanish versions of the questionnaire and translated them again from Spanish into English without referring to the original English version. Next, a bilingual professor made a backward translation into Spanish. Finally, three registered nurses examined their understanding of the resulting Spanish version and survey duration. The three nurses provided useful feedback that allowed the application of a few changes in the questionnaire to be more understandable and to avoid complex syntax (Podsakoff *et al.*, 2003); thus, the authors built the final Spanish questionnaire considering a time consumption of 5–7 min.

Assessment of common method bias

Given that the data used in this study were obtained from a one-time survey and that the predictor and criterion variables cannot be measured in other contexts, we opted to implement a number of recommendations to reduce and assess common method bias (Podsakoff *et al.*, 2003). First, we ensured that the respondents were anonymous and that their responses would be treated confidentially to reduce dishonest responses. Second, we avoided the use of complex syntax in the questionnaire and eliminated double-barreled questions. Third, our statistical procedures included performing exploratory factor analysis in SPSS 26.0, which revealed 12 factors that explained 67.97% of the total variance, with the largest factor accounting for 21.53% of this variability. We then performed a Harman test using SPSS 26.0, which also suggested that common method bias was not a problem in this study. Finally, we performed a full collinearity test based on the variance inflation factors (VIF) (Kock and Lynn, 2012) in SmartPLS 3.3.9, and the values were below the threshold of 3 (Hair *et al.*, 2019a). Thus, there was no indication of common method bias.

Measurement instruments

To measure the variables included in our study, respondents indicated the extent of their agreement with each statement on a 7-point Likert-type scale (1 = strongly disagree, 7 = strongly agree; see the Appendix).

To test POS, the study used the eight-item short-form version of the 36 original items "that had been found to load highly on the main factor and that seemed applicable to a wide array of organizations" (Eisenberger *et al.*, 1997, p. 814) (e.g. "My organization cares about my opinions"). To measure affective commitment, this study used four items adapted from Meyer and Allen's Affective Commitment Scale (Meyer *et al.*, 1993) (e.g. "I would be very happy to spend the rest of my career with this organization"). Nurses' self-concept was measured using the Nurses' Self-Concept Instrument Measure, developed by Angel *et al.* (2012). It included 14 items within the four dimensions of care, knowledge, leadership, and staff relations (e.g. knowledge dimension: "I find new nursing knowledge stimulating.").

OCBO and OCBI were measured using four items designed to assess each dimensions proposed by Saks (2006). Responses include statements such as "Attend functions that are not required but that help the organizational image" (OCBO) in response to a respondent's willingness to perform a particular behavior and "Willingly give your time to help others who have work-related problems" (OCBI) in response to the likelihood of a respondent performing a particular behavior. Finally, OCBP was measured using three items from Zhang *et al.* (2019) (e.g. "I can help patients to solve problems beyond what is expected or required of the nursing work contents.").

Data analysis

To test the hypotheses, we employed partial least squares structural equation modeling (PLS-SEM) with SMART-PLS 3.3.9. We opted to employ this method based on the following considerations: First, compared to traditional covariance-based structural equation modeling, this methodology is particularly appropriate when the study focuses on prediction and theory development rather than on strong theory confirmation (Hair *et al.*, 2016). Second, PLS-SEM is especially suitable for performing mediation analyses (Hair *et al.*, 2019b), and third, it is specifically suited for the analysis of models with formative and higher-order constructs (Hair *et al.*, 2019b). Indeed, in the case of higher-order constructs, this theoretical model incorporates both first-order latent and second-order (multidimensional) variables. To estimate the multidimensional construct of nurseśself-concept, we implemented a disjoint two-stage process, as outlined by Sarstedt *et al.* (2019). This process requires estimating the construct scores of the first-order construct without the second-order

construct present. We used the first-order construct scores obtained in the first stage as formative indicators for the higher-order latent variable (i.e. knowledge, leadership, staff relations and care) in the second stage for the analysis of the multidimensional construct. Our theoretical model combines constructs compatible with composite reflective models (mode A) (i.e. POS, affective commitment and OCB) and a composite formative construct (mode B) (i.e. nurses' self-concept). Table 1 summarizes the measurement models for the constructs included in our study.

Results

Measurement model evaluation

As discussed, this study employed a two-stage approach to estimate the second-order model. In the first stage, we assessed the validity and reliability of all mode A first-order constructs. As suggested by Hair *et al.* (2019a), we deleted items with values < 0.708. The internal consistency reliability of the constructs was assessed using Cronbach's alpha (Cα), composite reliability (CR) and Dijkstra–Henseler's ρA, which presented a threshold value > 0.7 (Hair *et al.*, 2016). To determine the convergent validity of each construct, we evaluated the average variance extracted (AVE), which must be > 0.5 (Hair *et al.*, 2016).

In the second stage, the assessment of the final measurement model, we evaluated nurses' self-concept as a second-order construct (reflective-formative type) following the disjoint two-stage approach (Sarstedt *et al.*, 2019). Thus, we assessed that the collinearity between dimensions was not greater than 3 (Hair *et al.*, 2019a) and that the outer weights for all dimensions were significant (Hair *et al.*, 2016). Table 2 presents the estimation and validation of the first-order (factor loadings, ρA, Cronbach's alpha and CR) and second-order latent variables (weights and VIF). Table 3 reports the discriminant validity results when testing the reflective constructs using the heterotrait–monotrait (HTMT) ratio of correlations approach. This evidence shows that discriminant validity was not a problem in this study because all HTMT ratios were <0.85 (Hair *et al.*, 2016).

Structural model evaluation

To assess the significance of path coefficients, bootstrapping was performed with 10,000 subsamples. For the statistical significance of the hypotheses, the value of the path

Table 1.
First and second order latent variables measurement

First-order latent variables	First-orde measurement model	Second-order latent variables	Second-orde measurement model
Perceived Organizational Support (POS)	Composite type A	n/a	n/a
Care	Composite type A	Nurses' Self Concept	Composite type
Knowledge	Composite type A	Instrument	B
Leadership	Composite type A		
Staff Relations	Composite type A		
Affective Commitment	Composite type A	n/a	n/a
Organizational Citizenship Behavior toward Individuals (OCBI)	Composite type A	n/a	n/a
Organizational Citizenship Behavior toward Organization (OCBO)	Composite type A	n/a	n/a
Organizational Citizenship Behavior toward Patient (OCBP)	Composite type A	n/a	n/a

Source(s): Authors own creation

Construct	Items	Standardized loading/Weight	Cronbach	rho_A	CR	AVE	VIF
POS	POS1	0.841	0.941	0.943	0.953	0.773	n/a
	POS2	0.908					
	POS3	0.919					
	POS5	0.872					
	POS7	0.891					
	POS8	0.841					
Nurses´Self-Concept	Care	0.352*	n/a	n/a	n/a	n/a	0.430
	Knowledge	0.451*					1.276
	Leadership	0.238*					1.187
	Staff	0.439*					1.071
Affective Commitment	AC1	0.796	0.753	0.762	0.858	0.669	n/a
	AC2	0.802					
	AC4	0.854					
OCBO	OCBO1	0.751	0.800	0.801	0.869	0.625	n/a
	OCBO2	0.826					
	OCBO3	0.819					
	OCBO4	0.763					
OCBI	OCBI1	0.834	0.772	0.774	0.868	0.687	n/a
	OCBI2	0.800					
	OCBI4	0.852					
OCBP	OCBP1	0.837	0.790	0.805	0.876	0.703	n/a
	OCBP2	0.811					
	OCBP3	0.866					

Note(s): * = ($p < 0.05$). Note 2: rho_A = Dijkstra–Henseler's ρA; CR = composite reliability; AVE average variance extracted; VIF = variance inflation factor
Source(s): Authors own creation

Table 2.
Measurement model

HTMT	AC	OCBP	OCBI	OCBO	POS
Affective Commitment (AC)					
OCBP	0.285				
OCBI	0.446	0.552			
OCBO	0.649	0.683	0.739		
POS	0.479	0.278	0.358	0.581	

Note(s): Values below the diagonal represent the HTMT ratios between the latent constructs
Source(s): Authors own creation

Table 3.
Discriminant validity

coefficients was first established using the percentile bootstrap confidence interval, where 1.96 was recognized as the cut-off criterion for *t*-statistics. The variance inflation factor (VIF) of the predictors was lower than the recommended threshold of 3 (Hair *et al.*, 2019a) thus discarding potential collinearity issues. The predictive relevance of the model was analyzed using the coefficient of determination (R2) and confirmed by blindfolding (Q2). Both indicators indicate in-sample predictive power and relevance (Hair *et al.*, 2016; Ringle *et al.*, 2020). Table 4 presents the results of the structural model estimation.

The results of the evaluation of the direct effects (Hypothesis H1) revealed that POS has a positive and significant direct effect on OCBO ($\beta = 0.297$; *t*-value:4.821), while the effects of POS on OCBI ($\beta = 0.120$; *t*-value:1.778) and OCBP ($\beta = 0.101$; *t*-value:1.557) were not significant. Therefore, hypothesis H1a is confirmed, and hypotheses H1b and H1c are rejected.

Structural paths	Original sample (O)	*t*-values
Direct effects		
H1a: POS → OCBO	0.297**	4.821
H1b: POS → OCBI	0.120	1.778
H1c: POS → OCBP	0.101	1.557
Specific indirect effects		
H2a: POS → Nurses´Self Concept → OCBO	0.099**	3.269
H2b: POS → Nurses´Self Concept → OCBI	0.122**	3.112
H2c: POS → Nurses´Self Concept → OCBP	0.116**	2.846
H3a: POS → Affective Commitment → OCBO	0.096**	3.668
H3b: POS → Affective Commitment → OCBI	0.055*	1.961
H3c: POS → Affective Commitment → OCBP	0.021	0.824
H4a: POS → Nurses´Self Concept → Affective Commitment → OCBO	0.019*	2.110
H4b: POS → Nurses´Self Concept → Affective Commitment → OCBI	0.011	1.471
H4c: POS → Nurses´Self Concept → Affective Commitment → OCBP	0.004	0.700
R2 Affective commitment = 0.215; R2 Nurses´ Self Concept Instrument = 0.09; R2 OCB (individual) = 0.294; R2 OCB (organization) = 0.464; R2 OCB (Patient) = 0.208	*Q2 Affective commitment = 0.134; Q2 Nurses´ Self Concept Instrument = 0.034; Q2 OCB (individual) = 0.188; Q2 OCB (organization) = 0.275; Q2 OCB (Patient) = 0.136*	

Table 4.
Results of the estimation of the structural model

Note(s): *$p < 0.01$; **$p < 0.05$
Source(s): Authors own creation

Hypothesis H2 confirmed a positive and significant mediating effect of nurses' self-concept between POS and the three OCB targets of. In our test, hypothesis H2 was confirmed. It shows partial mediation in the case of the relationship between POS and OCBO ($\beta = 0.099$; *t*-value:3.269), full mediation in the positive influence of POS on OCBI ($\beta = 0.122$; *t*-value:3.112) and a positive influence of POS on OCBP ($\beta = 0.116$; *t*-value:2.846).

In the case of the mediating role of affective commitment between POS and OCB directed toward the three targets, the model indicated a positive and significant partial mediation of affective commitment in the influence of POS on OCBO ($\beta = 0.096$; *t*-value: 3.668) and a positive and significant full mediation of affective commitment in the influence of POS on OCBI ($\beta = 0.055$; *t*-value: 1.961). However, the mediation of affective commitment on the influence of POS on OCBP was not significant ($\beta = 0.021$; *t*-value: 0.824).

In addition, the results of the model confirmed the positive and significant sequential mediation (Hypothesis H4) from POS to OCBO through nurses' self-concept and affective commitment ($\beta = 0.019$; *t*-value: 2.110). Nevertheless, Hypothesis H4 is partially rejected because the sequential mediation from POS to OCBI ($\beta = 0.011$; *t*-value: 1.471) and OCBP ($\beta = 0.004$; *t*-value: 0.700) through nurses' self-concept and affective commitment is rejected.

Considering that our theoretical model analyses multiple indirect effects (H2, H3 and H4), we calculated the variance accounted for (VAF) value, as recommended by Henseler (2020), to gain a better understanding of the mediation effect. The VAF value in the relationship between POS and OCBO showed that the direct effect accounted for 58.01% of the total effect, the mediation effect of nurses' self-concept accounted for 19.33% and the mediation effect of affective commitment accounted for 18.75% of the total effect. Sequential mediation accounted for 3.71% of the total effect. Regarding the total effect of POS on OCBI, the direct effect accounted for 38.96% (not significant), the mediation effect of nurses' self-concept accounted for 39.61%, the mediation effect of affective commitment accounted for 17.86%,

and sequential mediation accounted for 3.57% (not significant). Finally, the total effect of POS on OCBP was explained as follows: 41.74% (not significant) by the direct effect, 47.93% by the nurses' self-concept mediation effect, 8.68% (not significant) by the affective commitment mediation effect and 1.65% (not significant) by the sequential mediation.

Discussion

Based on SET and the expectancy–value model, this study hypothesized that the positive effects of POS on the three OCB targets (i.e. organization, co-workers and patients) could be partially explained by the mediating effects of nurses' self-concept and affective commitment. To test this argument, we studied the direct effects of POS on the three OCB targets, the mediating role of nurses' self-concept between POS and the three targets of OCB, the mediating role of affective commitment between POS and the three OCB targets and the sequential mediation of nurses' self-concept and affective commitment between POS and the three OCB targets.

Previous studies support this relationship, based on the positive relationship between POS and OCBO (Lavelle *et al.*, 2009; Kurtessis *et al.*, 2017). In contrast to earlier findings (Kurtessis *et al.*, 2017), however, the relationship between POS and OCBI was not found to be statistically significant at a p-value <0.05. These results are in line with a multi-foci approach (Lavelle *et al.*, 2009, 2015), which concludes that relationships between social exchange variables directed to the same target are stronger. Contrary to our expectations, the relationship between POS and OCBP was not supported by our study. These results show that SET has some difficulties in explaining the OCBP enhancement since there is no expectation of some return in the future.

The most interesting finding was that nurses' self-concept explains how POS affects the three targets of OCB analyzed. Nurses' self-concept mediates the relationship between POS and OCBI. Additionally, in this theoretical model, the enhancement of OCBP can only be understood through the mediating effect of nurses' self-concept. According to the VAF analysis, the mediating effect between POS and the three targets of OCB was better explained by nurses' self-concept than by affective commitment, which is one of the most important constructs for explaining the effect of POS on OCB (Kurtessis *et al.*, 2017). These findings tie with one of the expected contributions, since they integrate nurses´ self-concept to provide a better explanation of how it can be enhanced by a supportive organization (Cao *et al.*, 2016; Eisenberger *et al.*, 2020) and, in turn, positively affect the subsequent performance of nurses (Geng *et al.*, 2022a; Jeon and Koh, 2017). Moreover, nurses´ self-concept helps to understand how organizations can foster OCB toward recipients with which nurses deal in their work settings. As mentioned previously, SET is not sufficient to explain different OCB targets, and the contribution of the expectancy value model is necessary to explain how a higher self-concept can stimulate the necessary effort to perform informal contributions, especially regarding patients without an expected return in the future.

One purpose of this study was to advance the understanding of the mediating effect of affective commitment on the relationship between POS and OCB directed toward different targets. In this regard, the results also show that affective commitment partially mediates the relationship between POS and OCBO and mediates the relationship between POS and OCBI. However, the mediating effect of affective commitment between POS and OCBP was not significant. Regarding OCBO, these findings are consistent with the meta-analysis performed by Kurtessis *et al.* (2017) based on different samples and with the results of Gupta *et al.* (2016) among nurses. However, our study allows us to differentiate the effect of this mediation directed toward the different targets and to show that affective commitment helps explain the positive indirect effects on OCBO and OCBI. However, the results of the current study do not support previous research on flight attendants (Le-Hoang Long *et al.*, 2022).

Finally, the indirect influence of POS on OCB through the sequential mediation of nurses' self-concept and affective commitment was significant only at the organizational level. However, sequential mediation was not significant for co-worker and patient targets. These results are in line with a multifoci approach (Lavelle *et al.*, 2015), as there is partial sequential mediation only when the target is the same, and they indicate that POS indirectly influences OCBO through sequential mediation through nurses' self-concept and affective commitment.

Theoretical implications

We began this article with a quote from Bronislaw Malinowski, whose research contributed to the foundations of social exchange theory (Cropanzano and Mitchell, 2005). In the quote, Malinowski suggested that the leader inspires workers with confidence in success and motivates them to fulfill their tasks. Despite these obvious differences, the present research shows that through supportive leadership, organizations can enhance nurses´ confidence in themselves as professionals, encourage them to foster their attachment to the organization and perform extra-role job duties toward their organization, co-workers and patients assigned to care. Our theoretical contributions can be explained through the combination of SET and the expectancy–value model, because a social exchange initiating action positively affects nurses´ self-concept and helps to generate the necessary value expected by the expectancy–value model, which promotes a better relationship with the recipient of the initiating action and increases effort through enhancing social exchange behavior.

This study offers a number of relevant theoretical contributions to the nursing/management literature. First, the findings of the current study revealed that the mediating role of affective commitment in the relationship between POS and OCB helps partially explain how nurses can go beyond their duties toward co-workers and the organization. This implies that nurses who work in a supportive organization will develop a relational response such as affective commitment, and they will feel the necessity to reciprocate to the organization performing extra-role behaviors directed toward the organization and its workers, since the latter indirectly represents the organization (Eisenberger *et al.*, 2020). Second, the theory and results presented here show that nurses´ self-concept provides a helpful framework for understanding how POS can increase the OCB of nursing professionals toward colleagues and patients. It is necessary to integrate nurses´ self-concepts to explain social exchange relationships in a work setting. Specifically, nurses' self-concept plays the most relevant role in explaining the increase of these behavioral responses towards targets that do not initiate a social exchange relationship, such as patients. Finally, our findings showed that nurses´ self-concept and affective commitment perform sequential mediation only at the organizational level implying that a supportive organization allows nurses to feel more confident and to develop a social foci commitment (Karanikola *et al.*, 2018; Meyer *et al.*, 2004), which increases their attachment to the organization and encourages them to go beyond their stipulated job duties to help the organization.

Managerial implications

As mentioned above, one of the aims of this study was to assess how organizations can increase OCB toward the targets that nurses have to deal with in their daily work (i.e. organization, co-workers and patients). In general, our findings suggest that it is important for managers and human resource (HR) departments to create a supportive environment that fosters nurses´ self-concept, because it will positively affect affective commitment and different targets of OCB, especially those directed at co-workers and patients. Although POS represents an employee's perception of how companies value their contributions and care for them, it is important to consider that employees tend to see the actions of agents in an organization as actions of the organization (Levinson, 1965).

Therefore, the study results can be interpreted as a call to develop organizational policies and practices that include managers and physicians. One of the most important implications of our results is that a supportive organization will foster the perception of self-concept among nurses, which is a key factor in enhancing extra-role performance through co-workers and patients. In this sense, organizations should develop policies and practices that provide more support in critical situations and coach them. For example, the organization should promote collecting nurses´ opinions and discussing their suggestions with managers and physicians and attach more importance to nurses' contributions, since they spend more time than any healthcare worker with patients (Butler *et al.*, 2018) and therefore, the organization should guarantee the quality of the health service.

Additionally, there are a number of relevant recommendations concerning the importance of nurses' self-concept made by Cowin *et al.* (2008) that ought to be considered by organizations regarding how the image of nursing professionals is shaped in a company's communications. For instance, HR employees and physicians should be educated to understand the key role of nursing professionals in the health system and encourage the treatment of nurses as professionals in their field.

Finally, HR departments need to consider the results reported herein and pay special attention to the professional development and well-being of nursing professionals in their organizations. There is a real need to empower nurses because, as the WHO General Director stated, they are "the backbone of any health system" (World Health Organization, 2020). HR departments play a key role in fostering nurses' self-concept by promoting a less formal hierarchy between them, nursing managers, physicians and HR managers. HR business partners should act as mediators in nurse–doctor conflicts, considering the power imbalance between these professions (Fagin and Garelick, 2004). Furthermore, HR and nurse managers can seek to encourage nursing development by implementing good human resource policies, for example, offering opportunities to develop professional and social skills, such as clinical leadership and management skills.

Limitations and future research

This study has several limitations. First, the cross-sectional nature of the data generates limitations that include a potential common method bias. Although we adopted various recommendations to reduce and assess common method bias, a more effective way is to introduce a separation between the measures of the predictor and criterion variables (Podsakoff *et al.*, 2003). Second, our study does not consider the nature of the managerial level in the theoretical model. Future research could explore the managerial and employee levels by adopting a dyadic perspective. Third, this study is limited to one profession (nurses) and to members of the profession working in just one country (Argentina). Therefore, further studies are required to support the relationships explained by our model in other professions associated with low self-concept, such as teachers (Friedman and Farber, 1992). Moreover, this model could generate a broader set of outcomes that could be extended to the analysis of other countries and thus facilitate cross-country comparisons, as Brunetto *et al.* (2013) showed in their comparative study of Australia and the United States. Fourth, recent research has pointed to different outcomes in relation to self-concept as a result of sex differences (Van Veelen and Derks, 2021). Accordingly, future research could also usefully study differences in the effects of SET variables and self-concept, taking the gender gap into consideration. Fifth, although this study argues that nurses´ self-concept is positively affected by POS, future research should analyze the moderating effect of nurses´ self-concept on alternative social exchange relationships when independent variables could not directly affect professional self-concept, such as procedural justice or organizational politics, which tend to be used as starting actions in SET. Sixth, even if nurses´ self-concept is a construct

designed specifically for the nursing profession, future studies should investigate the mediating effect on the relationship between POS and social exchange outcomes (i.e. affective commitment and OCB toward different targets) of other constructs that have overlapping boundaries or close definitions with self-concept, such as core self-evaluation, self-esteem and self-efficacy among nurses. Finally, future research may also need to focus on the understanding of OCB among nurses and include patient surveying in their work, as has been the case in studies measuring other variables (Bassam Mahmoud and Reisel, 2014). Again, it would be interesting to measure these variables and relationships across countries.

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Appendix

Variable	Dimensions	Items	Mean	Standard deviation
Perceived Organizational Support (POS)		My organization cares about my opinions My organization really cares about my well-being My organization strongly considers my goals and values Help is available from my organization when I have a problem My organization would forgive an honest mistake on my part If given the opportunity, my organization would take advantage of me (R) My organization shows concern for me My organization is willing to help me if I need a special favor	4.03	1.89
Nurses´self-concept instrument (NSCI)	Care	I care about my patients needs I am proud of the way I care for my patients I get a lot of enjoyment out of caring for my patients	6.27	1.04
	Knowledge	I am able to master new nursing knowledge I am good at applying my nursing knowledge to patient care I find new nursing knowledge stimulating I like having the knowledge to solve nursing problems	6.56	0.71
	Staff relations	I like working with my colleagues I am able to form good working relationships with my colleagues I am good at helping my colleagues	6.11	1.07
	Leadership	I am/will be a good leader of nurses I enjoy/will enjoy having nursing leadership responsibility I am/will be a respected nurse team leader I like/will like leading a nursing team	5.72	1.44

Table A1. Variables measurement and descriptives

(*continued*)

Variable	Dimensions	Items	Mean	Standard deviation
Affective Commitment (AC)		I would be very happy to spend the rest of my career with this organization	4.29	2.11
		I really feel as if this organization's problems are my own		
		I do not feel a strong sense of "belonging" to my organization (R)		
		I do feel "emotionally attached" to this organization		
Organizational Citizenship Behavior (organization) (OCBO)		Attend functions that are not required but that help the organizational image	5.59	1.49
		Offer ideas to improve the functioning of the organization		
		Take action to protect the organization from potential problems		
		Defend the organization when other employees criticize it		
Organizational Citizenship Behavior (individual) (OCBI)		Willingly give your time to help others who have work-related problems	5.68	1.42
		Adjust your work schedule to accommodate other employees' requests for time off		
		Give up time to help others who have work or non-work problems		
		Assist others with their duties		
Organizational Citizenship Behavior (patient) (OCBP)		I can help patients to solve problems beyond what is expected or required of the nursing work contents	5.98	1.31
		When the patient is in need, I can provide additional services voluntarily		
		Even beyond my job requirements, I take the initiative to meet the needs of the patients		

Source(s): Authors own creation

Table A1.

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