

# Organizational Behavior and Nursing Turnover: A Systematic Review of Research Publications

Lawrencia Aggrey-Bluwey <sup>a\*</sup>, Raphael Nyarkotey Obu <sup>b</sup>, Barbara Twum-Antwi <sup>c</sup>  
and Fred Yao Gbagbo <sup>a</sup>

<sup>a</sup> Department of Health Administration and Education, University of Education, Winneba, Ghana.

<sup>b</sup> Nyarkotey University College of Holistic Medicine and Technology, Ashaiman, Ghana.

<sup>c</sup> Zabzugu Health Center, Zabzugu, Ghana.

## Authors' contributions

*This work was carried out in collaboration among all authors. Author LAB conceptualized the study, supervised the data collection and participated in the data analysis. Authors RNO and BTA participated in the data analysis, interpretation and discussion of the results. Author FYG critically reviewed the data analysis and discussion of the results. All authors read and approved the final manuscript.*

## Article Information

### Editor(s):

(1) Dr. Asmaa Fathi Moustafa Hamouda, Jazan University, Saudi Arabia.

### Reviewers:

(1) Mubashir Zafar, University of Hail, KSA.

(2) Krishna Kumar G, JIPMER, India.

Complete Peer review History, details of the editor(s), Reviewers and additional Reviewers are available here: <https://www.sdiarticle5.com/review-history/77646>

**Systematic Review Article**

**Received 30 September 2021**

**Accepted 02 December 2021**

**Published 07 December 2021**

## ABSTRACT

**Background:** The nursing workforce is a very important one as nurses form a vital component of healthcare delivery worldwide. The global nursing shortage is continuously wreaking havoc at all levels of the global health system, with no end in sight. Nursing turnover intensions leading to actual turnover has been established as a major cause of this shortage globally.

**Objectives:** Considering the fact that organizational behavior variables have been established in literature as closely related to nursing turnover, this study sought to present a systematic literature review of empirical literature in the field of organizational behavior and nursing turnover research to chart a path forward.

**Methods:** The study is a systematic review of literature obtain form published papers relating to the research topic. The authors examined the research issues, theoretical and conceptual approaches, methodologies, geographical distribution and key research trends and gaps related to organizational behavior and nursing turnover research globally. Five electronic databases (i.e.,

PubMed, Science Direct, Google Scholar, Wiley and Emerald) were the main search engines used. String such as, Nurses turnover intentions, Nurses turnover behavior, organizational behavior and nursing guided the search. More focused inclusion and exclusion criteria were further applied to screen the search results yield 77 most relevant papers used for the review.

**Results:** Research issues commonly examined in organizational behavior and nursing turnover research are the organizational behavior variables which serve as predictors of nursing turnover (58%). Further, most organizational behavior and nursing turnover papers are atheoretical in nature (44%), employ a quantitative approach to data collection and analyses (96%), are mostly conducted in Asia and Europe (56% and 19%), and focus mostly on the micro level of analyses (38%). From these findings, methodological, contextual, theoretical and operational gaps as well as challenges in the level of analysis and publication outlets. The authors recommend increased funding opportunities for research and publication in this area to whip interest of researchers particularly in developing countries who have funding challenges to research and publish in this area for of global interest.

*Keywords: Behavior; nursing; organization; review; systematic; turnover.*

## 1. INTRODUCTION

The World Health Organization (WHO) reports that nurses and midwives form about 50% of the global sum of healthcare professionals [1]. Globally, Nursing turnover is a major organizational issue which has received significant attention over the last decade due to the vital role of nurses in the healthcare delivery system. A critical review of literature reveals nursing turnover intention rates of between 4% and 68% globally [2]. Studies have further revealed that as of the year 2013, about 33% of nurses reported institutional turnover intentions, while 9% reported professional turnover intentions. The menace of nursing turnover is not only a problem among older practitioners. Studies have reported significant turnover intentions among new/graduate nurses over the past decade [3,4]. The cost of nursing turnover has been reported to between \$22,000 to over \$64,000 per nurse (Jones & Gates 2007). Thus, it is more costly to lose nurses than to retain them.

The State of the World's Nursing (2020) report has projected that in the next decade, there will be a shortfall of 5.7 million nurses globally, unless measures are instituted to employ more nurses. An approximated 27.9 million nurses exist globally, with 4 million of them joining the workforce since 2013. However, a global shortfall of nurses still exists. In Africa, for instance, the nurse-to-patient ratio is less than 10 nurses per 10,000 people [1]. Several dire effects of nursing turnover and its resulting nursing shortage (i.e increased cost, loss of experienced nurses and poor patient health outcomes) have been documented in resent time [5]. Contrary to

general speculation, nursing turnover is not just as a result of maladjustment on the part of nurses but within the nursing context, turnover intentions exist in two folds; an intention to leave the organization, which is termed as institutional turnover intention, and an intention to leave the profession as a whole, termed as professional turnover intention (Yürümezoglu et al, 2019).

In the past, a number of authors have conducted systematic reviews on nursing turnover [6,7]. promoting retention of nurses, factors influencing intention to stay and retention of nurses [8]. Senyo [9] These reviews have examined existing literature on nursing turnover as a whole, its antecedents and means of mitigating turnover and in effect, retaining nurses [10]. A critical review of literature, however, reveals that organizational behavior variables have a significant impact on nursing turnover intentions as well as turnover behaviors [11,12] thus, it is important to examine organizational behavior variables and their role in nurse turnover and retention. Although Putra et al. [13] observed some organizational behavior variables such as organizational commitment and job satisfaction on nursing turnover and retention., there is limited systematic review which focuses on organizational behavior as a whole and its influence on nursing turnover. This systematic literature review, thus, attempts to fill this gap by examining (i) the theoretical and conceptual approaches which have been used to understand organizational behavior and nursing turnover research, (ii) the methodologies used in conducting studies concerning organizational behavior and nursing turnover, (iii) the geographical distribution of empirical studies on organizational behavior and nursing turnover

research, (iv) themes realized from organizational behavior and nursing turnover research (v) levels of analyses in organizational behavior and nursing turnover research. An indebt understanding of these gaps will aid in developing further strategies to curb nursing turnover and in effect, the global nursing shortage, so as to mitigate the negative clinical and organizational effects of nursing turnover. This will be feasible through providing direction for future research into organizational behavior and nursing turnover. This systematic literature review provides an analysis of organizational behavior and nursing turnover research from 2002 to 2021. This is because to the best of the author's knowledge, the organizational behavior and nursing turnover research gained momentum from the year 2002 as evident in Kirschenbaum & Mano-negrin [14].

### 1.1 Research Questions

The study was guided by the underlisted research questions:

1. What are the research issues in organizational behavior and nursing turnover?
2. What are the theoretical and conceptual approaches used for understanding organizational behavior and nursing turnover research?
3. What are the methodologies used in carrying out organizational behavior and nursing turnover research?
4. What is the geographical distribution of organizational behavior and nursing turnover research?
5. What are the key research trends and gaps related to organizational behavior and nursing turnover research?

## 2. METHODS

The study design is a Systematic review of available literature on the topic being examined. The authors purposefully identified, critically selected and appraised multiple research papers in the field of study using various search engines. This was in tangent with similar methods adopted by (Enferm, 2007; Dewey & Drahota, 2016; Antonelli, 2020) to provide an exhaustive bird's eye view of existing literature in order to provide answers to the research questions. The study relied solely on literature from electronic databases obtained from PubMed, Science Direct, Google Scholar, Wiley and Emerald. The literature search was conducted using the search string "organizational behavior" AND nurs\*\* AND "turnover intentions" OR "turnover behavior" OR turnover.

### 2.1 Inclusion and Exclusion Criteria

The criteria for the literature search included articles published between 2002 and 2021, articles published in English language and in indexed peer reviewed journals, articles making use of primary data (either quantitative, qualitative or mixed methods) and articles whose full texts were available online. The search also included articles which had organizational behavior variables and nurse turnover in the title. Organizational behavior variables include but are not limited to job satisfaction, organizational citizenship behavior, organizational commitment, leadership and workplace violence (Robbins et al., 2010). Articles which were published before 2002, in languages other than English and full text unavailable were excluded for the study. A detailed description of the inclusion and exclusion criteria adopted for this study are presented in Table 1.

**Table 1. Inclusion and exclusion criteria**

Criteria	Evaluation Criteria
Inclusion	Articles should be published in peer-reviewed journals
Inclusion	Articles should be published in the English Language
Inclusion	Articles make use of primary data
Inclusion	Articles published between 2002 and 2021
Inclusion	Full text of articles available
Inclusion	Articles with OB variables and Nurse turnover in title
Exclusion	Articles with full text unavailable
Exclusion	Articles published before 2001
Exclusion	Articles which do not have OB and NTI in the title
Exclusion	Articles published in languages other than English

## 2.2 Screening of Papers

The methodological sequence of screening the papers used for the review is illustrated in Figure 1. A total of 21,225 papers were screened using a keyword, title and abstract search. This search reduced the number of papers to 291. Thereafter, a total of 165 duplicate papers were eliminated, which further reduced the number of papers to 126. A subsequent reading of the background and introduction sections was done in order to identify only papers which were relevant to the research topic (organizational behavior and nursing turnover). This phase reduced the paper count to 94 as papers which did not have direct bearing on organizational behavior and nursing turnover but examined turnover amongst other professionals were eliminated. This critical and systematic screening

process yielded 77 which were included in the review.

## 2.3 Data Analysis

Data analysis was done systematically and at various levels taking into cognizance various variables and indicators relevant to provide answers to the research questions. A total of 77 journal publications were used for this systematic literature review. These papers were further categorized into the publication journals, year of publication, theoretical or conceptual framework used, geographical focus, research methodology used, level of analysis and themes. The papers used in this systematic literature review were classified into three general themes (i.e., Predictor, Mediator and Outcome themes) (Table 2).

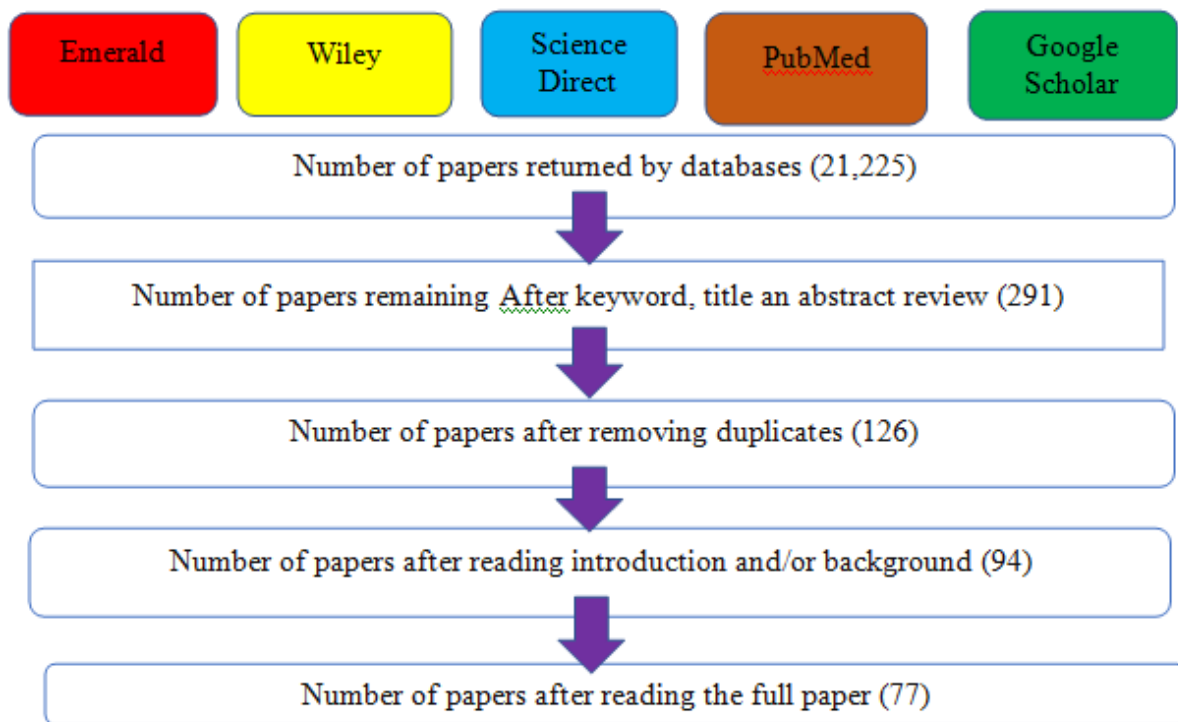


Fig. 1. Methodological sequence of screening the papers reviewed

Table 2. Classification of organizational behavior and nursing turnover research themes

Themes	Subthemes
Predictors	organizational justice, leadership, job stress, job satisfaction, organizational commitment, professional commitment
Mediators	organizational justice, supervisory feedback, appraisal fairness, psychological need satisfaction
Outcomes	career advancement, patient outcomes, productivity, emotional intelligence

The Predictor theme captured studies which focused on organizational behavior variables which served as predictors of nursing turnover. These included subthemes such as organizational justice, leadership, job stress, job satisfaction, organizational commitment, professional commitment. The Mediator themes focused on studies which examined organizational behavior variables which served as mediators of nursing turnover. The subthemes under the mediator theme include organizational justice, supervisory feedback, appraisal fairness, psychological need satisfaction. Whilst the Outcome theme captured articles which focused on organizational behavior variables which serve as outcomes or end results of nursing turnover. The subthemes under the outcome theme include career advancement, patient outcomes, productivity, emotional intelligence. It is important, however, to note, that some papers captured more than one theme.

The year of publication, outlets of the publications and theoretical classifications were another level of analysis which was done according to the specific period within which the articles were published. The authors focused between the 2002-2021 when organizational behavior as a determinant of nursing turnover research began taking center stage; and 2021. With regards to the publication outlets, the papers are classified according to the respective journals which published these articles. These journals are peer reviewed and found on the databases employed for this study. The theoretical approach classification was done based on the theory, conceptual framework or models used in the respective articles.

With regards to the methodology used in organizational behavior and nursing turnover research, the papers were classified into quantitative qualitative and mixed methods studies. Quantitative studies were identified as

those which collected and analyzed numerical data to answer specific research questions or test hypotheses. The qualitative studies were identified as those papers which made use of indebt interviews, focus group discussions and observations as data collection procedures, while mixed methods studies were identified as those papers which made use of a combination of numerical and qualitative studies.

Concerning the geographical focus, the papers were classified according to the specific continent on which the study was conducted (e.g., Asia, Europe, North America, South America, Africa, Australia and Cross-continental). The term "Cross-Continental" was used to describe studies which were conducted in more than one continent.

The level of analysis classification in this study refers to the stage at which the study was conducted, it's focus, and target sample. In line with Boateng, (2016), these levels were labelled as micro, meta, macro and meso levels. The micro level classification refers to studies which focused on individuals within the organization, meso level refers to organizations as a while, groups or teams, macro level studies focused on countries, while meta level refers to studies which were beyond country level (Barbour, 2017; Boateng 2016). A further level of analysis (general level), refers to studies which sought to provide information that is applicable at all levels

### 3. RESULTS

An initial total of 27,286 papers were retrieved from the electronic databases, after which 21,225 were subsequently obtained after applying the inclusion and exclusion criteria (Table 3).

Further screening using the inclusion and exclusion criteria yielded 77 papers which were used for the review. (Table 4)

**Table 3. Search results from databases**

<b>Journal database</b>	<b>Number of papers obtained from the database</b>	<b>Number of papers removed after screening with inclusion criteria</b>	<b>Number of papers remaining</b>
Emerald	2032	1266	766
PubMed	190	54	136
Science Direct	2264	1134	1130
Wiley	6,400	1242	5158
Google Scholar	16,400	2365	14035
<b>Total</b>	<b>27,286</b>	<b>6,061</b>	<b>21, 225</b>

**Table 4. Over view of the papers used in the review**

<b>Title of paper</b>	<b>Journal of Publication</b>	<b>Year of publication</b>	<b>Authors</b>	<b>Citation (APA Format)</b>
Past work experience, present opportunities and turnover decisions; the case of Israel's medical sector employees	Personnel Review	2002	Alan Kirschenbaum and Rita Mano-Negrin	Kirschenbaum & Mano-negrin,[14]
Understanding hospital employee job stress and turnover intentions in a practical setting the moderating role of locus of control	Journal of Management Development	2005	Chou-KChi-Sheng Chien, Chieh-Peng Linang Chiu and Ching Yun Hsiao	Chiu et al. [15]
Turnover intentions Do leadership behaviors and satisfaction with the leader matter?	Team Performance Management	2010	Janelle E. Wells and Jon Welty Peachey	Wells & Peachey, [16]
Predicting absenteeism and turnover intentions by past absenteeism and work attitudes An empirical examination of female employees in long term nursing care facilities	Career Development International	2007	Aaron Cohen and Ronit Golan	Golan & Cohen, (2007)
Intention to leave nursing The importance of interpersonal work context, work-home interference, and job satisfaction beyond the effect of occupational commitment	Career Development International	2009	Beatrice I.J.M. van der Heijden, Karen van Dam and Hans Martin Hasselhorn	Heijden et al., [17]
Nursing staff turnover: does leadership matter?	Leadership in Health Services	2007	Stina Sellgren, Goran Ekvall and Goran Tomson	Sellgren et al., [18]
Do types of organizational culture matter in nurse job satisfaction and turnover intention?	Leadership in Health Services	2009	Jae San Park and Tae Hyun Kim	Park & Kim, [19]
Jordanian nurses' job satisfaction and intention to quit	Leadership in Health Services	2012	Ahmad H. Abu Raddaha, Jafar Alasad, Zainab F. Albikawi, Khulood S. Batarseh, Eman A. Realat, Asia A. Saleh and Erika S. Froelicher	Raddaha et al., (2012)
Professional development, target-specific satisfaction, and older nurse retention	Career Development International	2013	Marjorie Armstrong-Stassen and Karen Stassen	Armstrong-stassen & Stassen, [20]

The impact of employee perceptions of training on organizational commitment and turnover intention an empirical study of nurses in Jordanian hospitals	European Journal of Training and Development	2019	AdnSaleh Abdalhameed and Tamimian M. Rawashdeh	Rawashdeh & Tamimian, [21]
Protecting healthcare through organizational support to reduce turnover intention	International Journal of Human Rights In Healthcare	2018	Talat Islam, Ghulam Ali and Ishfaq Ahmed	Islam et al. [22]
Perception of ethical climate and turnover intention among nursing staff: does organizational cynicism mediate?	International Journal of Human Rights In Healthcare	2017	Yasin Munir, Muhammad Mudasar Ghafoor and Amran M.D. Rasli	Munir et al. [23]
Psychological contract fulfilment, engagement and nurse professional turnover intention	International Journal of Manpower	2019	Cathy Sheehan, Tse Leng Tham, Peter Holland, and Brian Cooper	Sheehan et al. [24]
Investigation of nurses' intention to leave: a study of a sample of UK nurses	Journal of Health Organization and Management	2014	Andrew Robson and Fiona Robson	Robson & Robson, [25]
Leader empowering behaviour: relationships with nurse and patient outcomes	Leadership in Health Services	2020	Karen Cziraki, Carol Wong, Michael Kerr and Joan Finegan	Cziraki et al. [26]
Transformational leadership and social identity as predictors of team climate, perceived quality of care, burnout and turnover intention among nurses	Personnel Review	2016	Cindy Cheng, Timothy Bartram, Leila Karimi and Sandra Leggat	Cheng et al., [27]
Paternalistic Leadership, Organizational Cynicism, and Intention to Quit One's Job in Nursing	Hospital Topics	2019	Cuma Sungur, Özlem Özer, Meltem Saygili & Özgür Uğurluoğlu	Sungur et al. [28]
Nurses' Fatigue, Job Stress, Organizational Culture, and Turnover Intention: A Culture–Work–Health Model	Western Journal of Nursing Research	2019	Eunsook Lee and Insil Jang	Lee & Jang, [29]
Relationship between ethical work climate and nurses' perception of organizational support, commitment, job satisfaction and turnover intent	Nursing Ethics	2015	Ebtsam Aly and Abou Hashish	Aly & Hashish, [30]

Workplace violence, job satisfaction, burnout, perceived organisational support and their effects on turnover intention among Chinese nurses in tertiary hospitals: a cross-sectional study	BMJ Open	2018	Wenhui Liu, Shihong Zhao, Lei Shi, Zhong Zhang, Xinyan Liu, Li Li, Xiaojian Duan, Guoqiang Li, Fengge Lou, Xiaoli Jia, Lihua Fan, Tao Sun, Xin N	Liu et al. [31]
Organizational politics, nurses' stress, burnout levels, turnover intention and job satisfaction	International Nursing Review	2016	L.J. Labrague, McEnroe-Petitte, D. Gloe, K. Tsaras, D.L. Arteché and F. Maldia	Labrague et al. [32]
Leadership behaviours, organizational culture and intention to stay amongst Jordanian nurses	International Nursing Review	2017	R.F. Abu Al Rub, & M.A. Nasrallah	Abu Al Rub & Nasarallah, (2017)
Impact of leader-member-exchange and team member-exchange on nurses' job satisfaction and turnover intention	International Nursing Review	2018	M.-H. Kim & Y.-J. Yi	Kim [33]
A Comparison of Organizational Climate and Nurses' Intention to Leave Among Excellence Awarded Hospitals and Other Hospitals in 2013	Iran Red Crescent Med J	2015	Maryam Mohamadzadeh Nojehdehi, Mansoureh Ashgholi Farahani, Forough Rafii, Nasser Bahrani	Nojehdehi et al. [34]
Effects of Nursing Organizational Culture and Job Stress on Korean Infection Control Nurses' Turnover Intention	American Journal of Infection Control	2020	Jeong Sil Choi, Kyung Mi Kim	Sil & Kim [35]
The role of job satisfaction, work engagement, self-efficacy and agentic capacities on nurses' turnover intention and patient satisfaction	Applied Nursing Research	2017	Silvia De Simone, Anna Planta, Gianfranco Cicotto	Simone et al. [36]
Communication satisfaction and job satisfaction among critical care nurses and their impact on burnout and intention to leave: A questionnaire study	Intensive & Critical Care Nursing	2018	P. Vermeir, S. Blot, S. Degroote, D. Vandijck, A. Mariman, T. Vanacker, R. Peleman, R. Verhaeghe and D. Vogelaers	Vermeir et al. [37]



Revisiting the impact of job satisfaction and organizational commitment on nurse turnover intention: An individual differences analysis	International Journal of Nursing Studies	2011	Sara De Gieter, Joeri Hofmans and Roland Pepermans	Gieter et al. (2011)
The Effects of Authentic Leadership, Organizational Identification, and Occupational Coping Self-efficacy on New Graduate Nurses' Job Turnover Intentions in Canada	Nursing Outlook	2016	Fatmah Fallatah, Heather K.S. Laschinger, Arthur Labatt and Emily A. Read	Fallatah et al. [38]
Investigating the relationship between organizational justice, job satisfaction, and intention to leave the nursing profession: A cross-sectional study	Journal of advanced nursing	2020	Hosein Zahednezhad, Mohammad Ali Hoseini, Abbas Ebadi, Pouya Farokhnezhad Afshar and Reza Ghanei Gheshlagh	Zahednezhad et al. [39]
Effects of role stress on nurses' turnover intentions: The mediating effects of organizational commitment and burnout	Japan journal of nursing science	2014	Sang-Sook HAN , Jeong-Won Han, Young-Suk AN and So-Hee Lim	Han et al. (2014)
Impact of resilience and job involvement on turnover intention of new graduate nurses using structural equation modeling	Japan journal of nursing science	2018	Mi Yu and Haeyoung Lee	Yu & Lee, (2018)
Organizational Silence Among Nurses: The Impact on Organizational Cynicism and Intention to Leave Work	Journal of Nursing Research	2016	Esra Çaylak & Serap Altuntas	Çaylak & Altuntas [40]
Nursing Work Environment, Turnover Intention, Job Burnout, and Quality of Care: The Moderating Role of Job Satisfaction	Journal of nursing scholarship	2019	Sulaiman Dawood Al Sabei, Leodoro J. Labrague, Amy Miner Ross, Suja Karkada, Alaa Albashayreh, Fatma Al Masroori, & Nasra Al Hashmi	Al Sabei et al., (2019)
Workplace violence against nurses in Korea and its impact on professional quality of life and turnover intention	Journal of Nursing Management	2017	Seung-Hye Choi and Haeyoung Lee	Choi & Lee [41]

Violence-prevention climate in the turnover intention of nurses experiencing workplace violence and work frustration	Journal of nursing management	2018	Yuan-Ping Chang, De-Chih Lee and Hsiu-Hung Wang	Chang & Lee, [42]
Perceived career opportunities, commitment to the supervisor, social isolation: Their effects on nurses' well-being and turnover	Journal of nursing management	2018	Tiphaine Huyghebaert, Nicolas Gillet, Ophéline Audusseau and Evelyne Fouquereau	Huyghebaert et al. [43]
Relationship of Workplace Incivility, Stress, and Burnout on Nurses' Turnover Intentions and Psychological Empowerment	Journal of nursing administration	2013	Olubunmi Oyeleye, Patricia Hanson, Nancy O'Connor and Deborah Dunn	Oyeleye et al. [44]
The Effect of Nurse-Physician Collaboration on Job Satisfaction, Team Commitment, and Turnover Intention in Nurses	Research in nursing and health	2016	Maura Galletta, Igor Portoghese, Mauro Giovanni Carta, Ernesto D'Aloja and Marcello Campagna	Galletta et al. [45]
Quality of nursing work life and turnover intention among nurses of tertiary care hospitals in Riyadh: a cross-sectional survey	BMC Nursing	2018	Bayan Kaddourah, Amani K. Abu-Shaheen and Mohamad Al-Tannir	Kaddourah et al., (2018)
Abusive supervision and turnover intention: Mediating effects of psychological empowerment of nurses	International journal of nursing sciences	2019	Dongmei Lyu, Lingling Ji, Qiulan Zheng , Bo Yu and Yuying Fan	Lyu et al. [46]
A cross-sectional study on nurse turnover intention and influencing factors in Jiangsu Province, China	International journal of nursing sciences	2018	Hongying Chen, Guohong Li, Mengting Li, Lei Lyu and Tiantian Zhang	Chen et al. [47]
Current turnover intention among nurse managers, directors, and executives	Nursing Outlook	2021	Deborah Hughes Warden, Ronda G. Hughes, Janice C. Probst, David N. Warden and Swann Arp Adams	Warden et al. [48]

Factors influencing turnover intention among registered nurses in Samar Philippines	Applied nursing research	2018	Leodoro J. Labrague, Donna Gloeb , Denise M. McEnroe , Kostas Konstantinosd and Paolo Colet	Labrague et al. [49]
Mediating role of work engagement in the relationship between job resources and personal resources with turnover intention among female nurses	Applied nursing research	2016	Samira Shahpouri, Kourosh Namdari and Ahmad Abedi,	Shahpouri et al. [2]
Occupational stress, distributive justice and turnover intention among public hospital nurses in China: A cross-sectional study	Applied nursing research	2021	Tianan Yang, Xuan Jin, Hubin Shi, Yexin Liu, Yuangeng Guo, Yongchuang Gao, Jianwei Deng	Yang et al. [50]
Organizational commitment and turnover intention among rural nurses in the Philippines: Implications for nursing management	International journal of nursing sciences	2018	Leodoro J. Labrague, Denise M. McEnroe e Petite, Konstantinos Tsaras, Jonas P. Cruz, Paolo C. Colet and Donna S. Gloe	Labrague et al. [32]
Paediatric nurses' satisfaction with organisational communication, job satisfaction, and intention to stay: A structural equation modelling analysis	Collegian	2021	Gemma Doleman, Di Twigga, Sara Bayes and Paola Chivers	Doleman et al., (2021)
Related Factors of Turnover Intention Among Pediatric Nurses in Mainland China: A Structural Equation Modeling Analysis	Journal of Pediatric nursing	2020	Yuanyuan Yang and Jianjun Chen	Yang & Chen, (2020)
Revisiting the impact of job satisfaction and organizational commitment on nurse turnover intention: An individual differences analysis	International journal of nursing studies	2011	Sara De Gieter, Joeri Hofmans and Roland Pepermans	Gieter et al., (2011)
Subjectivity About Turnover Intention Among Male Nurses in South Korea: A Q-Methodological Study	Asian Nursing Research	2018	Ick-Jee Kim and Hyung-Wha Shim	Kim & Shim [51]

The effects of authentic leadership, organizational identification, and occupational coping self-efficacy on new graduate nurses' job turnover intentions in Canada	Nursing Outlook	2017	Fatmah Fallatah, Heather K.S. Laschinger and Emily A. Read	Fallatah et al., (2017)
The impact of work support and organizational career growth on nurse turnover intention in China	International journal of nursing sciences	2015	Yang Yang, Yan-Hui Liu, Jing-Ying Liu and Hong-Fu Zhang	Yang et al., (2015)
The influence of psychological capital, authentic leadership in preceptors, and structural empowerment on new graduate nurse burnout and turnover intent	Applied Nursing Research	2019	Patricia A. Dwyer, Susan M. Hunter Revell, Kristen A. Sethares and Brian J. Ayotte	Dwyer et al. [52]
The relationship between workplace violence, job satisfaction and turnover intention in emergency nurses	International emergency nursing	2019	Na Li, Lichuan Zhangb, Guangqing Xiaoc, Jie Chend and Qian Lu	Li et al. [53]
The role of workplace bullying in the relationship between occupational burnout and turnover intentions of clinical nurses	Applied nursing research	2021	H. Shu-Tai Shen, Shu-Ching Ma, Shu-Liu Guo, Ching-Chiu Kao, Jui-Chen Tsai, Min-Huey Chung and Huang Hui-Chuan	Shen et al., (2021)
Turnover Rates and Factors Influencing Turnover of Korean Acute Care Hospital Nurses: A Retrospective Study Based on Survival Analysis	Asian Nursing Research	2020	Bohyun Park and Yukyung Ko	Park & Ko, [54]
Staying in nursing: what factors determine whether nurses intend to remain employed?	Journal of advanced nursing	2012	Matthew R. Carter & Ann E. Tourangeau	Carter & Tourangeau [55]
Job and career satisfaction and turnover intentions of newly graduated nurses	Journal of nursing management	2012	Heather K. Spence Laschinger	Laschinger, (2012)
Beyond the tradition: test of an integrative conceptual model on nurse turnover	International nursing review	2013	A. Battistelli, I. Portoghese, M. Galletta and S. Pohl	Battistelli et al., (2013)

Job satisfaction and leaving intentions of Slovak and Czech nurses	International nursing review	2013	E. Gurková, M.S Soósová, S. Haroková, K. Žiaková, R. Šerfelová & M. Zamboriová	Gurková et al., (2013)
The impact of workplace relationships on engagement, well-being, commitment and turnover for nurses in Australia and the USA	Journal of advanced nursing	2013	Yvonne Brunetto, Matthew Xerri, Art Shriberg, Rod Farr-Wharton, Kate Shacklock, Stefanie Newman & Joy Dienger	Brunetto et al. [56]
Retention, burnout and the future of nursing	Jornal of advanced nursing	2013	Yvonne Brunetto and Stephen Teo	Brunetto & Teo, [56]
Home nurses' turnover intentions: the impact of informal supervisory feedback and self-efficacy	Journal of advanced nursing	2015	Thomas Van Waeyenberg, Adeliën Decramer & Frederik Anseel	Waeyenberg et al., (2015)
The effects of work factors on nurses' job satisfaction, quality of care and turnover intentions in oncology	Journal of advanced nursing	2018	Nicolas Gillet, Evelyne Fouquereau, Helene Coillot, Baptiste Cougot, Leïla Moret, Sophie Dupont, Franck Bonnetain and Philippe Colombat	Gillet et al., (2018)
Job satisfaction, job stress and nurses' turnover intentions: The moderating roles of on-the-job and off-the-job embeddedness	Journal of advanced nursing	2018	Ulrike Fasbender, Beatrice I. J. M. Van der Heijden and Sophie Grimshaw	Fasbender et al., (2019)
Predicting nurses' organizational and professional turnover intentions	Japan journal of nursing science	2019	Havva Arslan Yürümezoglu, Gülseren Kocaman and Semra Mert Haydar	Yürümezoglu et al., (2019)

Effects of organisational justice, work engagement and nurses' perception of care quality on turnover intention among newly licensed registered nurses: A structural equation modelling approach	Journal of clinical nursing	2020	Ting Cao, Xiuxiu Huang, Limin Wang, Bei Li, Xu Dong, Han Lu, Qiaoqin Wan and Shaomei Shang	Cao et al., (2020)
Workplace violence and turnover intentions among nurses: The moderating roles of invulnerability and organisational Support – A cross-sectional study	Journal of clinical nursing	2021	Huseyin Cakal, Saeed Keshavarzi, Ali Ruhani and Golnoosh Dakhil-Abbasi	Cakal et al., (2021)
Job satisfaction and leaving intentions of midwives: analysis of a multinational cross-sectional survey	Journal of nursing management	2016	Darja Jarosova, Elena Gurkova, Alvisa Palese, Gloria, Katarina Ziakova, Mi Sook Song, Jongwon Lee, Raul Cordeiro, Sally Wai-Chi Chan, Beata Babiarczyk, Malgorzata Frasz and Daniela Nedvedova	Jarosova et al., (2016)
Nursing turnover intentions: The role of leader emotional intelligence and team culture	Journal of nursing management	2020	Nauman Majeed and Samia Jamshed	Majeed & Jamshed, [57]
Distributed leadership as a predictor of employee engagement, job satisfaction and turnover intention in UK nursing staff	Journal of nursing management	2021	Shimei Joylynn, Louise Thomson, Rachel Houghton, Louise Bramley, Sarah Davis and Joanne Cooper	Joylynn et al. [58]
Organisational support and turnover intentions: A moderated mediation approach	Nursing open	2021	Saeed Pahlevan Sharif, Ester Ellen Trees Bolt, Ashraf Sadat Ahadzadeh, Jason James Turner and Hamid Sharif Nia	Pahlevan et al. [59]

Perceived Fairness of Performance Appraisal, Promotion Opportunity and Nurses Turnover Intention: The Role of Organizational Commitment	Asian social science	2015	Mohammad Rabiul Basher Rubel& Daisy Mui Hung Kee	Rabiul & Kee, (2015)
Stabilizing and destabilizing forces in the nursing work environment: A qualitative study on turnover intention	International journal of nursing studies	2011	Sandy Pin-pin Choi, Samantha Mei-che Pang, Kin Cheung and Thomas Kwok-shing Wong	Choi et al. [60]
A qualitative study of experienced nurses' voluntary turnover: learning from their perspectives	Journal of clinical nursing	2016	Dana Hayward, Vicky Bungay, Angela C Wolff and Valerie MacDonald	Hayward et al. [61]
The Relationship Between Organizational Justice And Turnover Intention Of Hospital Nurses In Iran	Mater Sociomed	2016	Sogand Tourani, Omid Khosravizadeh, Amir Omrani, Mobin Sokhanvar, Edris Kakemam, and Behnam Najaf	Tourani et al. [62]

### 3.1 Distribution by Journal of Publication (Publication Outlets)

A total of 37 journal publication outlets were included in this study. The distribution of articles obtained per these outlets include: American Journal of Infection Control (1 article), Applied Nursing Research (6 articles), Asian Nursing Research (2 articles), Asian social science (1 article), BMC Nursing (1 article), BMJ Open (1 article), Career Development International (3 articles), Collegian (1 article), European Journal of Training and Development (1 article), Hospital Topics (1 article), Intensive & Critical Care Nursing (1 article), International emergency nursing (1 article), International Journal Of Human Rights In Healthcare (2 articles), International Journal of Manpower (1 article), International journal of nursing sciences (4 articles), International Journal of Nursing Studies (3 articles), International Nursing Review (5 articles), Iran Red Crescent Med J (1 article), Japan journal of nursing science (3 articles), Journal of nursing management (1 article), Journal of advanced nursing (7 articles), Journal of clinical nursing (3 articles), Journal of Health Organization and Management (1 article), Journal of Management Development (1 article), Journal of nursing administration (1 article), Journal of Nursing Management (6 articles), Journal of Nursing Research (1 article), Journal of nursing scholarship (1 article), Journal of Pediatric nursing (1 article), Leadership in Health Services (4 articles), Mater SocioMed (1 article), Nursing Ethics (1 article), Nursing open (1 article), Nursing Outlook (3 articles), Personnel Review (2 articles), Research in nursing and health (1 article), Team Performance Management (1 article), Western Journal of Nursing Research (1 article). It is important to note, however, that these were not the only papers on organizational behavior and nursing turnover research which were published in these journals. However, it is these papers which fit the inclusion criteria for this systematic review. The Journal of Advanced Nursing had the highest number of articles (9.09%), followed by the Journal of Nursing Management and Applied nursing research which had 7.79% each. The remaining journals had less than 7% each.

### 3.2 Distribution by Year of Publication

The distribution of journal articles by year of publication showed a fluctuation but growing trend of publications from the year 2002. This growing trend peaked in the year 2018 and saw

a sharp decrease in 2019. The trend has since been on a decrease till the year 2021. The years 2002, 2005 and 2010 saw 1 article each, while 2007 and 2009 had 2 articles each. The first spike in publications was observed in the year 2013 where the article count shot up to 6 from 3 articles in 2012. Afterwards, there was a decline in publications in the year 2014 (2 articles), with the second spike in publications occurring in 2016 where 9 articles were recorded, followed by 2018 which recorded 14 articles (Fig. 2).

### 3.3 Distribution by Geographical Location

This section examines the geographical location, precisely, the specific continent on which the studies were conducted. The distribution of articles based on their geographical focus revealed a large chunk of the publications focused on Asia (43 articles) representing 55.8% of the papers. This was followed by Europe which had 15 articles (19.5%) and North America (9 papers, 11.7%). Papers which focused on more than one continent were classified as Trans Continental, and carried 6.5% of the articles (5 papers). Australia and Africa had the least number of papers indicating 5.2% (4 papers) and 1.3% (1 paper) respectively (Fig. 3).

### 3.4 Distribution by Research Methodology

With regards to the research methodology employed in the articles used in this systematic literature review, studies which employed the quantitative approach formed the majority (74%). Out of this number, 25 papers indicating 32.5% made use of Structural Equation Modelling. The remaining quantitative papers used regression analysis, ANOVA, T tests, Correlation matrixes and other non-parametric tests as statistical tools. This was followed by the Qualitative approach which had 2 papers and the Mixed Methods Approach which saw 1 paper. It is important to note that none of the articles employed the experimental approach. Also, 100% of the papers had an explicitly defined research methodology, thus, none of the papers was classified as "no methodology" (Fig. 4).

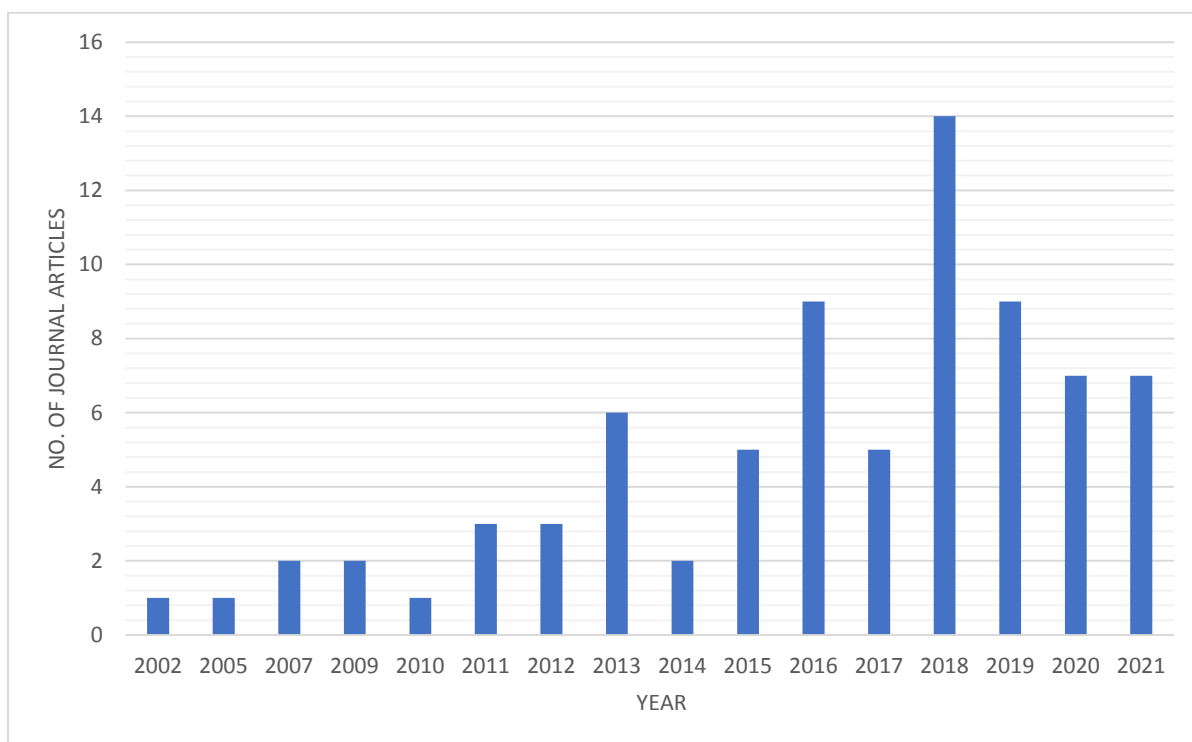
### 3.5 Level of Analysis

Findings in this section present the level at which the issues in the papers used for this review were analyzed. Results revealed that majority of the papers (29 papers, 37.7%) were analyzed at the micro level. The micro level of analysis

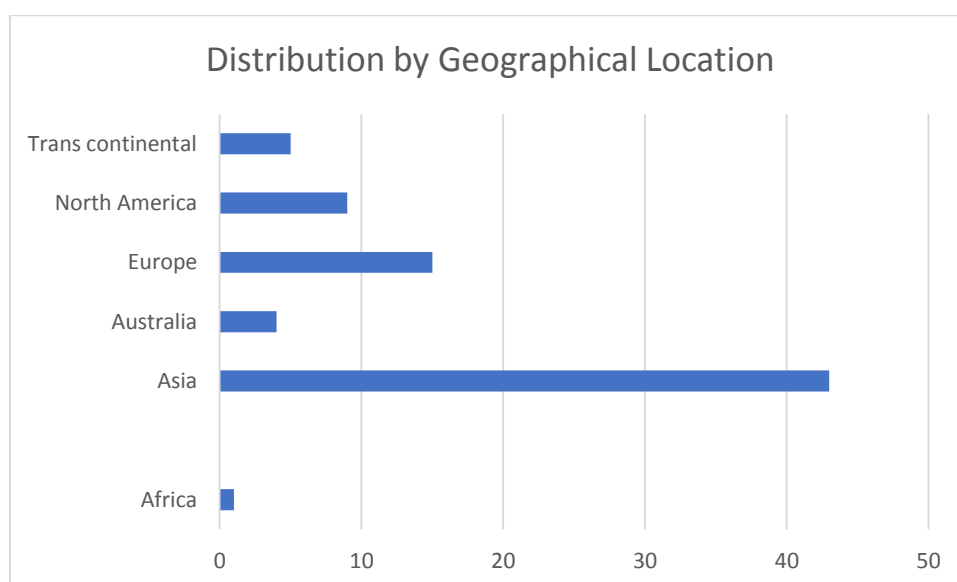


indicated that the papers focused on individuals within the organization. This was followed by papers which were analyzed at a general level (24 papers, 31.2%). The general level indicates that these papers did not only focus on individual, organizational or countrywide levels of analysis (Senyo et al., 2018). These (general) papers cut across all these

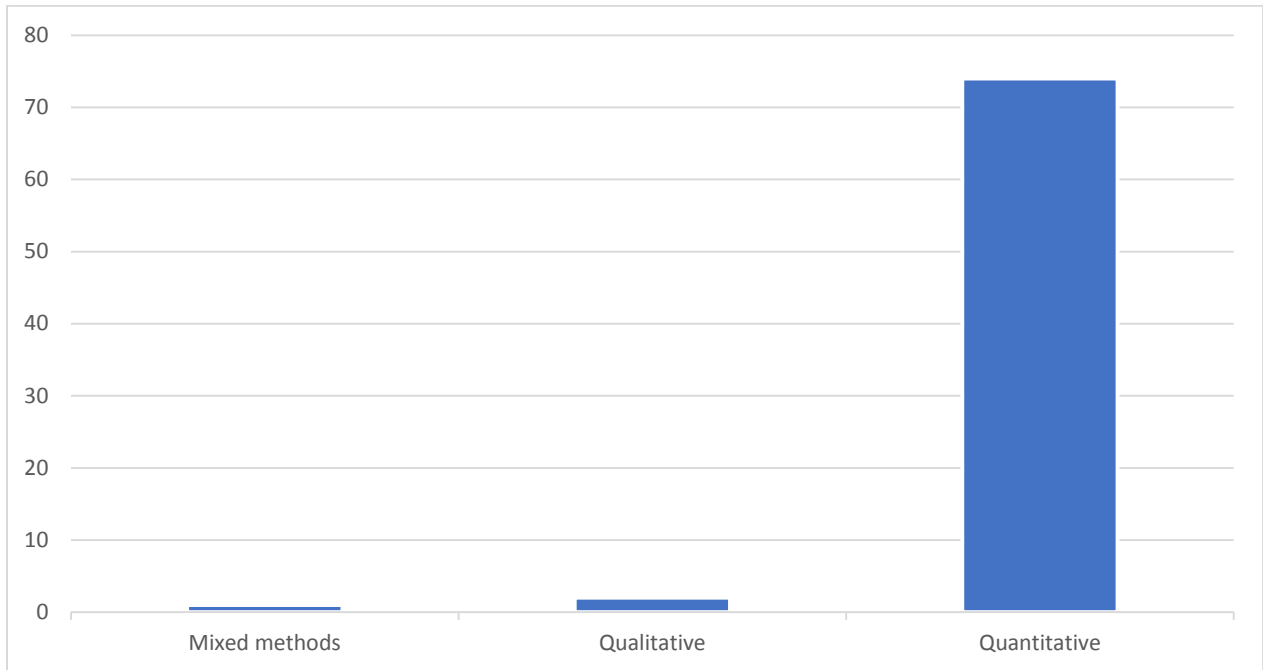
levels on focused on generating knowledge that can be applied across all levels with regards to organizational behavior and nursing turnover. The macro level of analysis, which focused on the country, had 16.9% (13 papers), and lastly, meso which focused on the organization had 14.3% (11 papers) (Fig. 5).



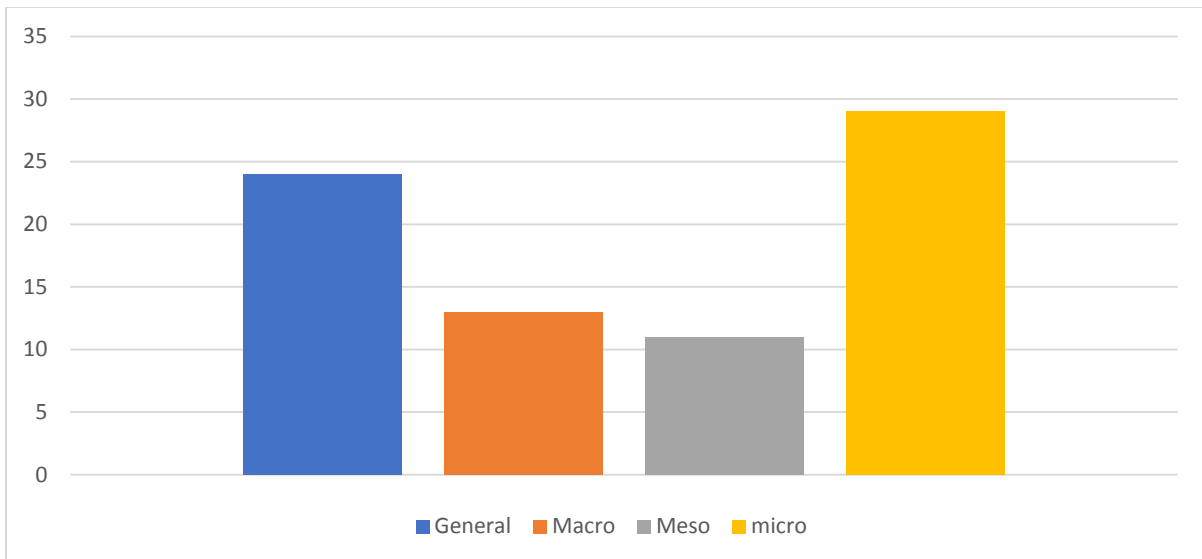
**Fig. 2. Distribution of journal articles by year of publication**



**Fig. 3. Distribution by geographical location**



**Fig. 4. Distribution of articles by research methodology**



**Fig. 5. Distribution of articles by level of analysis**

### 3.6 Distribution by Theoretical Approach

The categorization was done according the theoretical and conceptual approaches which were employed by the papers used for this systematic literature review. As indicated in table 5, the table, majority of the papers were atheoretical (34 papers, 44.2%). That goes to say that no theory, model or framework was used to ground the study. This was followed by Conceptual Model which had 36.4% of the

papers (28 articles). Papers which made use of conceptual models were solely quantitative in nature, and mostly made use of structural equation modelling. Authors of these papers reviewed literature, formulated hypotheses and derived conceptual models afterwards. The social exchange theory had 3.9%, Authentic Leadership Theory 2.6%. the Alexander Model, Blau’s Social Exchange Theory, Conger and Kanungo’s process model of empowerment, Culture-work model, leader-member exchange

theory of voluntary turnover, Organizational theories, Psychological ownership theory, Rosabeth Moss Kanter's Structural Theory of Organizational Behavior and the Social Ecology Model [SEM], Social cognitive theory and Social identity theory had 1.3% each (1 article each) (Table 5).

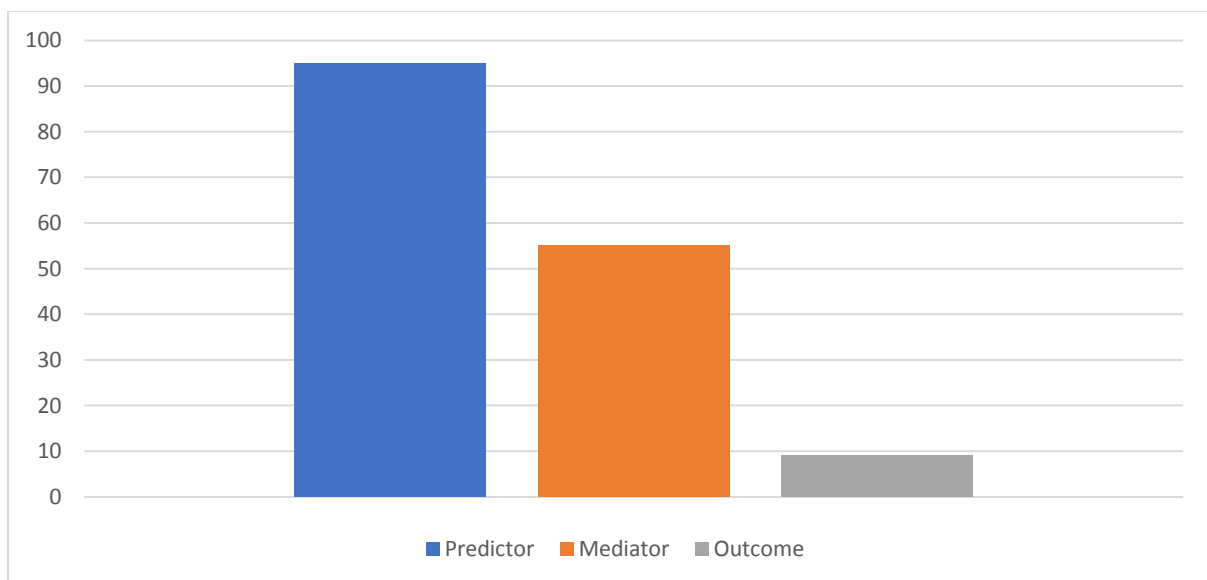
### 3.7 Classification by Research Themes

With regards to the research themes on which the articles used in this review focused, a total of three themes were deduced, namely Predictors, mediators and outcomes. With the Predictor

theme, the papers focused on the organizational behavior variables which served as predictors of nursing turnover (both turnover intentions and turnover behaviors). These category of papers were 95 in number. This was followed by papers which focused on organizational behavior variables which served as mediators of nursing turnover. This category saw 55 articles, followed by the outcome theme which had 9 papers. The outcome theme focused on organizational behavior variables which serve as outcomes of nursing turnover intentions and behaviors. It is important to note, however, that there were some papers which had more than one them. (Fig. 6).

**Table 5. Classification by theoretical approach**

Theoretical Approach	Number of Articles	Percentage
Alexander model	1	1.3%
Atheoretical	34	44.2%
Authentic leadership theory	2	2.6%
Blau's social exchange theory	1	1.3%
Conceptual model	28	36.4%
Conger and Kanungo's process model of empowerment	1	1.3%
Culture-work model	1	1.3%
leader-member exchange theory of voluntary turnover	1	1.3%
Organizational theories	1	1.3%
Psychological ownership theory	1	1.3%
Rosabeth Moss Kanter's Structural Theory of Organizational Behavior (1977, 1993) and the Social Ecology Model [SEM]	1	1.3%
Social cognitive theory	1	1.3%
Social exchange theory	3	3.9%
Social identity theory	1	1.3%
Total	77	100%



**Fig. 6. Classification by research themes**

**Table 6. Mapping of organizational behavior and nursing turnover research themes by geographical distribution**

<b>Geographical location</b>	<b>Studies examining predictors</b>	<b>Studies examining mediators</b>	<b>Studies examining outcomes</b>	<b>Studies examining predictors and mediators</b>	<b>Studies examining predictors and outcomes</b>	<b>Studies examining mediators and outcomes</b>	<b>Studies examining predictors, mediators and outcomes</b>
Africa	-	-	-	(Aly & Hashish, 2015)	-	-	(Cziraki et al., 2020)
Asia	(Cakal et al., 2021), (Fasbender et al., 2019), Park & Ko, (2020), (Shen et al., 2021), (Labrague et al., 2018), (Labrague et al., 2018), (Chen et al., 2018) , (Kaddourah et al., 2018), (Choi & Lee, 2017), (Çaylak & Altuntas, 2016), (Sil & Kim, 2020), (Nojehdehi et al., 2015), (Kim, 2018), (Labrague et al., 2016), (Rawashdeh & Tamimian, 2019) , (Raddaha et al., 2012), (Park & Kim, 2009), (Golan & Cohen, 2007), (Chiu et al., 2005), (Kirschenbaum & Manonegrin, 2002)	(Al Sabei et al., (2019), (Islam et al., 2018)	(Tourani et al., 2016)	(Majeed & Jamshed,2020), (Rabiul & Kee, 2015), Pahlevan et al., (2021), (Cao et al., 2020), (Li et al., 2019), (Yang et al., 2015), (Yang & Chen, 2020), (Yang et al., 2021), (Shahpouri et al., 2016), (Lyu et al., 2019), (Chang & Lee, 2018), (Han et al., 2014), (Zahednezhad et al., 2020), (Abu Al Rub & Nasarallah, 2017), (Liu et al., 2018)	(Yu & Lee, 2018)	-	(Munir et al., 2017), (Lee & Jang, 2019), (Huyghebaert et al., 2018), (Laschinger, 2012) , (Hayward et al., 2016), (Choi et al., 2011)

Europe	(Joylynn et al., 2021), (Fasbender et al., 2019), (Gurková et al., 2013), (Battistelli et al., 2013) , (Gieter et al., 2011), (Galletta et al., 2016) , (Gieter et al., 2011) , (Gillet, 2018)	-	-	(Robson & Robson, 2014), (Carter & Tourangeau, 2012), (Gillet et al., 2018)	-	-
North America	(Dwyer et al., 2019), (Armstrong-stassen & Stassen, 2013), (Wells & Peachey, 2010)	(Oyeleye et al., 2013)	(Warden et al., 2021)	(Fallatah et al., 2017), (Fallatah et al., 2016)	(Cziraki et al., 2020)	-
Australia	(Doleman et al., 2021)	(Sheehan et al., 2019)	-	(Cheng et al., 2016), (Brunetto et al., 2013), (Brunetto & Teo, 2013)	-	-
Trans- continen tal	(Vermeir et al., 2018), (Yürümezoglu et al., 2019), (Jarosova et al., 2016)	-	-	(Sungur et al., (2019)	-	(Simone et al., 2017)

### 3.8 Mapping of Organizational Behavior and Nursing Turnover Research Themes by Geographical Distribution

Table 5 presents a mapping of the organizational behavior and nursing turnover research themes with the geographical distribution of the articles. Studies which examined predictors only were mostly situated in Asia, followed by Europe, North America/Trans-continental and Australia. None of the studies in Africa examined predictors only. The studies which examined predictors formed the majority of the papers, followed by studies which examined predictors and mediators, of which majority were also conducted in Asia and least in Africa. Studies conducted in Africa included one study examining predictors and mediators and one study examining predictors, mediators and outcomes. Further, studies examining mediators and out comes formed the least and had only one paper which is in the trans-continental category.

## 4. DISCUSSION

### 4.1 Factors in Organizational Behavior and Nursing Turnover Research

In the organizational behavior and nursing turnover literature, a number of factors have been proven to be related to turnover intentions and ultimately, turnover behavior. These factors have been examined either as predictors, mediators or outcomes, in relation to nursing turnover. These factors are conceptualized and explained in the ensuing sections. Job satisfaction, also termed as work environment satisfaction has largely been indicated in literature as a predictor of nursing turnover intentions. It has been defined as “a pleasurable or positive emotional state resulting from the appraisal of one's job”. It is the extent to which a person has affection towards their job and its main constituents. Job satisfaction has been identified as a major predictor of turnover intentions among nurses. The relationship, however, is an inverse one in the sense that the greater a nurse's job satisfaction, the less likely they are to intend to leave or actually leave their workplace or the profession as a whole [63].

Organizational commitment (OC) is another factor which has been established as affecting turnover amongst nurses. It is defined as an “employee's mental connection with his/her present organization, and is related to their behavioral investment with the organization, and

the coincidence of individual and organizational goals. It is the extent to which a person identifies with and involves themselves with activities within a particular organization. For OC to exist within a nurse, they must first of all believe in and accept the goals and values of the organization. They must also be ready to perform tasks and take responsibility on behalf of the organization and also be willing to stay within the organization OC influences nursing turnover positively, in the sense that the higher the OC of a nurse, the more likely they are to remain in an organization.

Turnover intention and behavior among nurses are also influenced by the Organizational Culture within the facility in which they find themselves. The culture within an organization is reflected in certain elements which bind the members in the organization (Glaser, 1987). These elements include but are not limited to the beliefs of the members, their faith, symbolism used within the organization and its values. These elements have the tendency to affect the behavior of organizational members In an institution with a healthy organizational culture, nurses are less likely to leave their jobs.

Nursing has been reported to be one of the most stressful and challenging jobs globally. The stressful nature of nursing is as a result of the complex nature of the profession, the need for nurses to specialize and handle emergency situations In the nursing turnover literature, Job Stress is also referred to as burnout or nurses' fatigue, and has been defined as a state of emotional exhaustion or a mismatch between a person's coping abilities and the demands of the job Studies have proven that job stress, burnout and/or fatigue have a positive correlation with nursing turnover. The higher the stress, fatigue and burnout levels among nurses, they more likely they are to leave their jobs.

Workplace violence and bullying among nurses is classified under physical or psychological acts which increased the likelihood of a nurse to leave an organization. These acts include but are not limited to verbal abuse, harassment and threatening of nurses. Further, demographic characteristics such as age, gender, educational level, financial and marital status are individual factors which have been examined in the nursing turnover literature as affecting turnover intentions and behavior among nurses. Other factors which have been seen to influence turnover amongst nurses include Leadership. Organizational

cynicism Career opportunities and Workplace relationships.

#### **4.2 Publication Outlets (Journals of Publication)**

Of the 37 publications used in this study, the journals with the highest number of publications were the Journal of Nursing Management. These three journals had 7 articles (9.1%) each on organizational behavior and nurse turnover, followed by the journal of Applied Nursing Research International Nursing Review [64]. and Leadership in Health Services respectively. In as much as the number of publication outlets was significantly large, it can be observed that the number of articles per journal were relatively small, with the highest number of publications in a single journal being seven and a substantial number of the journals having one article each. Even though this phenomenon may be due to the inclusion and exclusion criteria applied in this systematic literature review, the researchers believe that this is representative of a gap in organizational behavior and nursing turnover research in the various journals which needs to be addressed in future research. This is important because of the already established role of organizational behavior variables in nurse turnover intentions and behavior. Additionally, the journals containing the articles were not strictly restricted to nursing journals since it was noted that the concept of organizational behavior and nursing turnover research is multidisciplinary in nature and goes beyond clinical nursing to include other disciplines such as human resource management, human rights, management, leadership and administration.

#### **4.3 Year of Publication**

The emergence of Organizational behavior and nursing turnover research was observed in the year 2002 with one article and the next article published in 2005. Thereafter, articles were published in 2007 and 2009 [65]. respectively, with the first peak in publication occurring in the year 2013 where six articles were recorded. This phenomenon is likely due to the increased rates of turnover among the nursing force and its resultant nursing shortage. The year 2018 saw the highest number of articles [66] after which there has been a decline in number of publications till the year 2021 [67,68]. This trend is suboptimal as the global nurse shortage menace still persists according to the WHO. It is believed that trends emerging from this

systematic literature review will prompt further research into the subject matter.

#### **4.4 Geographical Distribution**

The geographical distribution of the articles used in this systematic literature review was done based on continents. The papers were observed to have been carried out on the following continents; Asia Europe North America Australia and Africa. the trans- continental papers were articles which contained research conducted in more than one continent. Asia had the largest number of articles (43 papers), followed by Europe, North America, Trans Continental, Australia and Africa in that order. It is evident that the growing number of organizational behavior and nursing turnover literature is centered around the Asian continent. Africa, especially, lacks papers in this field of research. This gap needs to be addressed in order to mitigate the negative clinical and economical outcomes of nursing turnover

#### **4.5 Level of Analysis**

Categorization of the articles according to level of analysis was done by examining the focus of the papers, as to whether individual, group, organizational, country or cross-country factors were examined. As presented in Figure 5, the Micro level of Analysis recorded the highest number of papers followed by General level which focused on issues which can be applied across all levels (papers do not focus on a particular level) Macro and Meso in that order.

#### **4.6 Theoretical Approaches**

With regards to the theoretical approaches employed by organizational behavior and nursing turnover research, this review revealed that majority of the studies were atheoretical; as they were conducted without a theoretical underpinning, conceptual framework or a model (Yang Yang et al., 2015; Islam et al., 2018; Sheehan et al., 2018; Liu et al., 2018; Nojehdehi et al., 2015). The authors however believe that organizational behavior and nursing turnover research can benefit from the vast array of organizational, leadership and management theories. Theoretical underpinning in research is important because it guides the researcher some basis to make consistent predictions design research questions and select relevant data for analysis which invariably aid in the overall quality

of the research. Thus, future research in this field must endeavor to employ the appropriate theoretical underpinnings. This systematic literature review further revealed that a large percentage of the papers (36.4%) made use of conceptual models. With the conceptual models, the authors reviewed literature and formulated hypotheses out of the literature. Perceived associations between the variables under study were then presented in a diagrammatic form to represent the conceptual underpinning of the study. These studies were mostly quantitative in nature and mostly made use of structural equation modelling as their statistical tool. Other theories which were used in the articles include Alexander model Authentic leadership theory Blau's social exchange theory Conger and Kanungo's process model of empowerment, Culture-work model, leader-member exchange theory of voluntary turnover, Organizational theories Psychological ownership theory Rosabeth Moss Kanter's Structural Theory of Organizational Behavior (1977, 1993) and the Social Ecology Model [SEM] Social cognitive theory, Social exchange theory and Social identity theory. These theories however had between one to three papers each, indicating the need for more organizational behavior and nursing turnover research with theoretical grounding.

The methodologies used in organizational behavior and nursing turnover were mostly quantitative in nature [69]. these studies made use of numerical data and employed an array of statistical tools in running analyses. Majority of these papers made use of structural equation modeling while correlation and regression analyses, ANOVA, t tests and their non parametric equivalents formed the remaining number of quantitative studies. The predominance of structural equation modelling in organizational behavior and nursing is largely due to the dominance of conceptual frameworks as theoretical underpinnings of these studies. This is because structural equation modelling is useful in testing and evaluating the relationships, together with the direct and indirect causal effects between multiple variables at a single point in time.

The observation that qualitative and mixed methodologies were highly underutilized in organizational behavior and nursing turnover research is an indication that the design of these studies was heavily bias methodologically hence their findings. Out of a total number of seventy

seven(77) papers which were used in this review, only two qualitative and one mixed methods were found. In as much as quantitative enquiries are beneficial in the sense that larger sample sizes can be employed with better generalization of findings, qualitative together with mixed methods approaches also allow for indebt information to be harnessed from the target population. This in-depth information serves as a means on triangulating quantitatively derived information and also serves as a more detailed source of data to aid in instituting remedial actions in dealing with nursing turnover and its associated global nursing shortage. Thus, it is important for further researches to employ more qualitative and mixed methods approaches.

#### 4.7 Research Themes

Three research themes were derived from the articles used for this systematic literature review. The first theme was the Predictor theme. This theme included papers which focused on those factors which lead to nursing turnover. The second theme was the mediator's theme, which included papers which focused on mediators on nursing turnover [70]. The outcome theme focused on papers which examined the outcome of nursing turnover [71]. It was observed, from this review, that the predictor theme dominated organizational behavior and nursing turnover research, followed by the mediator and outcome themes respectfully. This is an indication that more research needs to be conducted to examine the mediating factors and outcomes of nursing turnover. Research in this area as these will help in deriving more evidence-based means of mitigating nursing turnover in various institutions and countries.

An observation forms a further mapping of the research themes against the geographical distribution of the papers as indicated in Table 5, shows that studies examining predictors only were mostly prevalent in Asia and Europe. This also enforces the indication that more predictor studies need to be conducted in north America, south America, Australia Africa and on a transcontinental level. Studies examining mediators only were scanty across all the continents, together with studies that examined predictors and outcomes, studies examining mediators and outcomes and studies examining predictors, mediators and outcomes. These thematic combinations thus, need more attention, irrespective of geographical distribution. Studies examining predictors and mediators were fairly



well studied in Asia but understudied in Africa, Europe, North America, Australia and trans-continental.

## 5. CONCLUSION

The authors believe that if the identified gaps are adequately addressed and the recommendations taken, the state of organizational behavior and nursing turnover literature will be better in quantity and quality, and this will lead to better solutions at mitigating nursing turnover and nursing shortage globally.

## 6. RECOMMENDATIONS

This systematic literature review has revealed some salient gaps in literature which need to be addressed in future studies. These gaps range from methodological gaps, theoretical gaps, issue gaps, contextual gaps, gaps in level of research analysis and publication outlets. Because previous and current Organizational behavior and nursing turnover research has been skewed more towards quantitative methodology/approaches, it imperative for future researches to employ more qualitative and mixed methods designs to aid in triangulation of information and attaining more in-depth knowledge on the subject matter to inform intervention strategies.

Secondly, more theories must be employed in future research, as majority of the papers are atheoretical. The authors of this review suggest an integration of organizational, management and leadership theories suitable for specific areas of study in this area to drive future researches. In this regard, future studies into the predictors, mediators and outcomes of nursing turnover must be considered for future research, as these studies are lacking in nursing research across all continents.

Contextual gaps were also identified in this review. It was observed that organizational behavior and nursing turnover research were least conducted in Africa, followed by Australia, transcontinental, north America and Europe. Thus, it is important for researchers in these geographical locations, especially in Africa, to consider conducting more organizational behavior and nursing turnover research. With regard to the level of analysis, more studies need to be conducted at the macro and meso levels in order to fill the paucity of literature on these levels. Additionally, expanding the publication

outlets is key as it was observed from the current study that the maximum number of papers in a single journal was seven papers, with majority of the journals recording a single paper each. These observations call for adequate funding opportunities to whip interest in this area of research particularly by researchers in developing countries where funding for research is limited and most researchers are also financially challenged with paying high cost of Article Processing/Publication Cost (APC) to enable them publish their research work in high impact peer review journals for wider public access to contribute to knowledge in this area.

## LIMITATIONS

Despite the rigorous nature of this study and the general reliability of the findings, some limitations were observed. Firstly, the study made use of only electronic databases, and as such, journal publications which are only available in hard copy were not included. Secondly, the study was limited to only five databases (Wiley, PubMed, Science Direct, Google Scholar and Emerald). The authors agree that there are other databases which could equally have peer reviewed articles on organizational behavior and nursing turnover research.

## CONSENT

It is not applicable.

## ETHICAL APPROVAL

It is not applicable.

## AVAILABILITY OF DATA AND MATERIALS

Data for the study can be obtained from the corresponding author upon reasonable request

## ACKNOWLEDGEMENTS

We are grateful to all institutions and individuals who supported the study in diverse ways.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## REFERENCES

1. WHO. Nursing and Midwifery. Retrieved from World Health Organization; 2020.

- Available:<https://www.who.int/news-room/fact-sheets/detail/nursing-and-midwifery>
2. Shahpouri, S, Namdari, K, Abedi A. Mediating role of work engagement in the relationship between job resources and personal resources with turnover intention among female nurses. *Applied Nursing Research*, 2016;30:216–221. Available:<https://doi.org/10.1016/j.apnr.2015.10.008>
  3. Laschinger HKS, Laschinger HKS. Job and career satisfaction and turnover intentions of newly graduated nurses. 2012;472–484. Available:<https://doi.org/10.1111/j.1365-2834.2011.01293.x>
  4. Yu M, Lee H. Impact of resilience and job involvement on turnover intention of new graduate nurses using structural equation modeling; 2018. <https://doi.org/10.1111/jjns.12210>
  5. Gieter S. De, Hofmans, J, Pepermans, R. International Journal of Nursing Studies Revisiting the impact of job satisfaction and organizational commitment on nurse turnover intention: An individual differences analysis. *International Journal of Nursing Studies*. 2011;48(12):1562–1569. Available:<https://doi.org/10.1016/j.ijnurstu.2011.06.007>
  6. Hayes LJ, O'Brien-Pallas L, Duffield, C, Shamian, J, Buchan J, Hughes F, Laschinger, HKS, North N. Nurse turnover: A literature review - An update. *International Journal of Nursing Studies*, 2012;49(7):887–905. Available:<https://doi.org/10.1016/j.ijnurstu.2011.10.001>
  7. Hayes LJ, O'Brien-Pallas L, Duffield C, Shamian J, Buchan, J, Hughes F, Spence Laschinger, HK., North, N, Stone P. W. (2006). Nurse turnover: A literature review. *International Journal of Nursing Studies*, 2006;43(2):237–263. Available:<https://doi.org/10.1016/j.ijnurstu.2005.02.007>
  8. Nei, D., Snyder, LA, Litwiller BJ. Promoting retention of nurses: A meta-Analytic examination of causes of nurse turnover. *Health Care Management Review*, 2015;40(3):237–253. Available:<https://doi.org/10.1097/HMR.000000000000025>
  9. Senyo PK., Addae E, Boateng R. Cloud computing research: A review of research themes, frameworks, methods and future research directions. *International Journal of Information Management* 2018;38(1): 128–139. Available:<https://doi.org/10.1016/j.ijinfomgt.2017.07.007>
  10. Yang Yuanyuan, Chen J. Related Factors of Turnover Intention Among Pediatric Nurses in Mainland China: A Structural Equation Modeling Analysis. *Journal of Pediatric Nursing*, 2020;53:e217–e223. Available:<https://doi.org/10.1016/j.pedn.2020.04.018>
  11. Alhamwan M, Mat NB, Muala I. Al. The Impact of Organizational Factors on Nurses Turnover Intention Behavior at Public Hospitals in Jordan: How Does Leadership, Career Advancement and Pay-Level Influence the Turnover Intention Behavior among Nurses. *Journal of Management and Sustainability*. 2015; 5(2):154–161. Available:<https://doi.org/10.5539/jms.v5n2p154>
  12. Iqbal, F., Nawaz, K., & Younas, W. (2019). Evaluating the Effect of Leadership Behavior and Organizational Contextual Performance on Employee Turnover Intentions. *International Journal of Recent Innovations in Academic Research*. 2019; 3(6):35–47.
  13. Putra AP, Kusnanto K, Yuwono SR. Effects of Job Satisfaction and Organizational Commitment on Nurse Retention: A Systematic Review. *Indonesian Nursing Journal of Education and Clinic (Injec)*, 2020;5(2):197. Available:<https://doi.org/10.24990/injec.v5i2.319>
  14. Kirschenbaum A, Mano-negrin R. Past work experience , present opportunities and turnover decisions The case of Israel ' s medical sector; 1999. Available:<https://doi.org/10.1108/00483480210438744>
  15. Chiu C. Understanding hospital employee job stress and turnover intentions in a practical setting. 2005; 24(10):837–855. Available:<https://doi.org/10.1108/02621710510627019>
  16. Wells JE, Peachey JW. Turnover intentions Do leadership behaviors and satisfaction. 2011;17(1):23–40. Available:<https://doi.org/10.1108/1352759111114693>
  17. Fasbender U, Heijden BIJM. Van Der, Grimshaw S. Job satisfaction , job stress and nurses ' turnover intentions: The

- moderating roles of on - the - job and off - the - job embeddedness. 2019;327–337.  
Available:<https://doi.org/10.1111/jan.13842>
18. Sellgren S, Ekvall, G, Tomson G. Nursing staff turnover: does leadership matter? 2007;20(3):169–183.  
Available:<https://doi.org/10.1108/17511870710764023>
  19. Park B, Ko Y. Turnover Rates and Factors In fl uencing Turnover of Korean Acute Care Hospital Nurses: A Retrospective Study Based on Survival Analysis. *Asian Nursing Research*, 2020;14(5):293–299.  
Available:  
<https://doi.org/10.1016/j.anr.2020.09.001>
  20. Armstrong-stassen M, Stassen K. Professional development , target-specific satisfaction , and older nurse retention. 2013;18(7):673–693.  
Available:<https://doi.org/10.1108/CDI-08-2013-0102>
  21. Rawashdeh, AM. The impact of employee perceptions of training on organizational commitment and turnover intention An empirical study of Nurses in Jordanian Hospitals. 2020;44(2):191–207.  
Available:<https://doi.org/10.1108/EJTD-07-2019-0112>
  22. Islam T, Ali G, Ahmed I. Protecting healthcare through organizational support to reduce turnover intention. 2018;11(1):4–12.  
Available:<https://doi.org/10.1108/IJHRH-03-2017-0012>
  23. Munir Y, Ghafoor MM, Rasli AMD. Perception of ethical climate and turnover intention among nursing staff: does organizational cynicism mediate? 2018;11(5):319–332.  
Available:<https://doi.org/10.1108/IJHRH-07-2017-0028>
  24. Sheehan C, Holland P, Cooper B. Psychological contract fulfilment , engagement and nurse professional turnover intention; 2016.  
Available:<https://doi.org/10.1108/IJM-08-2017-0211>
  25. Robson A, Robson F. Investigation of nurses ' intention to leave: a study of a sample of UK nurses; 2016.  
Available:<https://doi.org/10.1108/JHOM-05-2013-0100>
  26. Cziraki K, Wong C, Kerr M, Finegan J. Leader empowering behaviour: relationships with nurse and patient outcomes. 2020;33(4):397–415.  
Available:<https://doi.org/10.1108/LHS-04-2020-0019>
  27. Cheng C, Bartram T, Karimi L, Leggat S. Transformational leadership and social identity as predictors of team climate , perceived quality of care , burnout and turnover intention among nurses. 2016; (2012).  
Available:<https://doi.org/10.1108/PR-05-2015-0118>
  28. Sungur C, Özer Ö, Saygili M., Uğurluoğlu Ö. Paternalistic Leadership , Organizational Cynicism , and Intention to Quit One ' s Job in Nursing. *Hospital Topics*, 2019;0(0):1–9.  
Available:<https://doi.org/10.1080/00185868.2019.1655509>
  29. Lee E, Jang I. Nurses ' Fatigue , Job Stress , Organizational Culture , and Turnover Intention: A Culture – Work – Health Model; 2019.  
Available:<https://doi.org/10.1177/0193945919839189>
  30. Aly E, Hashish A. Relationship between ethical work climate and nurses ' perception of organizational support , commitment , job satisfaction and turnover intent. 2015;1–16.
  31. Liu W, Zhao, S, Shi, L., Zhang, Z., Liu, X, Li L, Duan, X., Li, G., Lou, F., Jia, X., Fan L, Sun T. Workplace violence , job satisfaction , burnout , perceived organisational support and their effects on turnover intention among Chinese nurses in tertiary hospitals: a cross-sectional study; 2018.  
Available:<https://doi.org/10.1136/bmjopen-2017-019525>
  32. Labrague, LJ, Gloe D, Mcenroe DM, Konstantinos K, Colet P. Factors in fl uencing turnover intention among registered nurses in Samar Philippines. *Applied Nursing Research*. 2018;39(November 2017):200–206.  
Available:<https://doi.org/10.1016/j.apnr.2017.11.027>
  33. Kim I, Shim H. Subjectivity About Turnover Intention Among Male Nurses in South Korea: A Q-Methodological Study. *Asian Nursing Research*. 2018;12(2):113–120.  
Available:<https://doi.org/10.1016/j.anr.2018.04.002>
  34. Kim M. Impact of leader-member-exchange and team- member-exchange on nurses ' job satisfaction and turnover intention. 2018;1–8.  
Available:<https://doi.org/10.1111/inr.12491>

35. Nojehdehi, MM., Farahani, MA, Rafii, F. A Comparison of Organizational Climate and Nurses ' Intention to Leave Among Excellence Awarded Hospitals and Other Hospitals in 2015;17(5). Available:[https://doi.org/10.5812/ircmj.17\(5\)2015.19000](https://doi.org/10.5812/ircmj.17(5)2015.19000)
36. Sil J, Rn, C, Mi K, Rn K. Effects of Nursing Organizational Culture and Job Stress on Korean Infection Control Gachon University College of Nursing Kyung Mi Kim , RN , PhD , ICAPN : Correspondence Chungbuk National University Department of Nursing Science Correspondence : AJIC: American Journal of Infection Control; 2020. Available:<https://doi.org/10.1016/j.ajic.2020.04.002>
37. Simone, S. De, Planta, A, Cicotto, G. PT. Applied Nursing Research; 2017. Available:<https://doi.org/10.1016/j.apnr.2017.11.004>
38. Vermeir P., Blot, S., Degroote, S., Vandijck, D, Mariman, A., Vanacker, T, Peleman, R. Intensive & Critical Care Nursing Communication satisfaction and job satisfaction among critical care nurses and their impact on burnout and intention to leave : A questionnaire study. Intensive & Critical Care Nursing; 2 018. Available:<https://doi.org/10.1016/j.iccn.2018.07.001>
39. Fallatah, F., Laschinger, HKS, Read, EA. The effects of authentic leadership , organizational identification , and occupational coping self-efficacy on new graduate nurses ' job turnover intentions in Canada. Nursing Outlook, 2017;65(2):172–183. Available:<https://doi.org/10.1016/j.outlook.2016.11.020>
40. Zahednezhad, H., Ali M., Abbas, H., Farokhnezhad, P, Reza, A, Gheshlagh, G. Investigating the relationship between organizational justice , job satisfaction , and intention to leave the nursing profession : A cross-sectional study. 2020; 1–10. Available:<https://doi.org/10.1111/jan.14717>
41. Çaylak E, Altuntas S. Organizational Silence Among Nurses : The Impact on Organizational Cynicism and Intention to Leave Work. 2016;00(0):1–9. Available:<https://doi.org/10.1097/jnr.000000000000139>
42. Choi S, Lee H. Workplace violence against nurses in Korea and its impact on professional quality of life and turnover intention. 2017;1–11. Available:<https://doi.org/10.1111/jonm.12488>
43. Chang Y, Lee AD. prevention climate in the turnover intention of nurses experiencing workplace violence and work frustration. January. 2018;1–11. Available:<https://doi.org/10.1111/jonm.12621>
44. Huyghebaert T. Perceived career opportunities , commitment to the supervisor , social isolation : Their effects on nurses ' well - being and turnover. January. 2018;1–8. <https://doi.org/10.1111/jonm.12666>
45. Oyeleye O, Connor NO. Relationship of Workplace Incivility , Stress , and Burnout on Nurses ' Turnover Intentions and Psychological Empowerment. 2013; 43(10):536–542. Available:<https://doi.org/10.1097/NNA.0b013e3182a3e8c9>
46. Galletta M., Portoghese, I, Carta, MG, Aloja, ED, Campagna M. The Effect of Nurse-Physician Collaboration on Job Satisfaction , Team Commitment , and Turnover Intention in Nurses; 2016. Available:<https://doi.org/10.1002/nur.21733>
47. Lyu D, Ji L, Zheng Q, Yu B, Fan Y. International Journal of Nursing Sciences Abusive supervision and turnover intention : Mediating effects of psychological empowerment of nurses. 2019; 6: 198–203. Available:<https://doi.org/10.1016/j.ijnss.2018.12.005>
48. Shah, SFA., Ginossar T, Weiss D. “This is a Pakhtun disease”: Pakhtun health journalists' perceptions of the barriers and facilitators to polio vaccine acceptance among the high-risk Pakhtun community in Pakistan. Vaccine, 2019;37(28):3694–3703. Available:<https://doi.org/10.1016/j.vaccine.2019.05.029>
49. Chen, H, Li, G, Li, M, Lyu, L, Zhang T. International Journal of Nursing Sciences A cross-sectional study on nurse turnover intention and in fl uencing factors in Jiangsu Province , China. International Journal of Nursing Sciences. 2018; 5(4):396–402. Available:<https://doi.org/10.1016/j.ijnss.2018.09.012>

50. Warden DH., Hughes, RG, Probst, JC, Warden, DN, Adams SA. Current turnover intention among nurse managers , directors , and executives. *Nursing Outlook*, 2021;0:1–11.  
Available:<https://doi.org/10.1016/j.outlook.2021.04.006>
51. Labrague LJ, Mcenroe, DM, Tsaras K, Cruz JP, Colet PC, Gloe DS. International Journal of Nursing Sciences Organizational commitment and turnover intention among rural nurses in the Philippines: Implications for nursing management. *International Journal of Nursing Sciences*, 2018;5(4):403–408.  
Available:<https://doi.org/10.1016/j.ijnss.2018.09.001>
52. Yang, T, Jin, X, Shi H, Liu Y, Guo Y, Gao, Y, Deng J. Occupational stress , distributive justice and turnover intention among public hospital nurses in China : A cross-sectional study. *Applied Nursing Research*, 2021;61(5):151481.  
Available:<https://doi.org/10.1016/j.apnr.2021.151481>
53. Dwyer PA, Revell SMH., Sethares, KA., Ayotte, BJ. The influence of psychological capital , authentic leadership in preceptors , and structural empowerment on new graduate nurse burnout and turnover. *Applied Nursing Research*, 2019;48(April): 37–44.  
Available:<https://doi.org/10.1016/j.apnr.2019.04.005>
54. Yang, Yang, Liu, Y., Liu, J., & Zhang, H. ScienceDirect The impact of work support and organizational career growth on nurse turnover intention in China. *International Journal of Nursing Sciences*, 2015; 2(2):134–139.  
Available:<https://doi.org/10.1016/j.ijnss.2015.04.006>
55. Li, N., Zhang, L., Xiao, G., Chen, J., & Lu, Q. The relationship between workplace violence , job satisfaction and turnover intention in emergency nurses. 2019; 45(September 2018):50–55.  
Available:<https://doi.org/10.1016/j.ienj.2019.02.001>
56. Park JS, Kim TH. Do types of organizational culture matter in nurse job satisfaction and turnover intention ?; 2006.  
Available:<https://doi.org/10.1108/17511870910928001>
57. Carter MR, Tourangeau AE. Staying in nursing: what factors determine whether nurses intend to remain employed?; 2012.  
Available:<https://doi.org/10.1111/j.1365-2648.2012.05973.x>
58. Brunetto Y, Xerri, M., Shriberg, A., Farrwharton, R, Shacklock, K., Newman, S., & Dienger J. The impact of workplace relationships on engagement, well-being, commitment and turnover for nurses in Australia and the USA; 2013.  
<https://doi.org/10.1111/jan.12165>
59. Majeed, N. Nursing turnover intentions : The role of leader emotional intelligence and team culture. August 2021;229–239.  
<https://doi.org/10.1111/jonm.13144>
60. Joylynn S, Louise Q, Rachel T, Louise H, Davis S, Cooper J. Distributed leadership as a predictor of employee engagement , job satisfaction and turnover intention in UK nursing staff \*. October 2021;1–10.  
<https://doi.org/10.1111/jonm.13321>
61. Pahlevan S, Ester S, Trees E, Ashraf B, Ahadzadeh S, James J, Hamid, T, Nia S. Organisational support and turnover intentions: A moderated mediation approach. December 2020;1–10.  
<https://doi.org/10.1002/nop2.911>
62. Choi, SP., Pang, SM, Cheung, K, Wong, TK. International Journal of Nursing Studies Stabilizing and destabilizing forces in the nursing work environment: A qualitative study on turnover intention. *International Journal of Nursing Studies*, 2021;48(10):1290–1301.  
Available:<https://doi.org/10.1016/j.ijnurstu.2021.03.005>
63. Hayward, D, Bungay, V, Wolff, AC, Macdonald, V. A qualitative study of experienced nurses ' voluntary turnover : learning from their perspectives. 2021;1336–1345.  
Available:<https://doi.org/10.1111/jocn.13210>
64. Tourani S, Khosravizadeh O, Omrani A, Sokhanvar M, Kakemam, E. The relationship between organizational justice and turnover intention of. February. 2016; 205–209.  
<https://doi.org/10.5455/msm.2016.28.205-209>
65. Experiences W, Gurkov E, So, S., Harokov S, Zamboriov, M. Job satisfaction and leaving intentions of Slovak and Czech nurses. 2013;112–121.
66. Africa, L, Bsn MBA., Trepanier, S., Rn, D. NP, Faonl, C. The Role of the Nurse Leader in Reversing the New Graduate Nurse Intent to Leave. *Nurse Leader*, 2021;19(3):239–245.

- Available:<https://doi.org/10.1016/j.mnl.2021.02.013>
67. Hasselhorn, HM. Intention to leave nursing The importance of interpersonal work context , beyond the effect of occupational commitment; 2009.  
Available:<https://doi.org/10.1108/13620430911005681>
68. Lohmann J, Muula, AS., Houlfort N, De Allegri, M. How does performance-based financing affect health workers' intrinsic motivation? A Self-Determination Theory-based mixed-methods study in Malawi. *Social Science and Medicine*, 2018; 208(April):1–8.  
<https://doi.org/10.1016/j.socscimed.2018.04.053>
69. Chamroonsawasdi K, Chottanapund S, Pamungkas, RA, Tunyasitthisundhorn, P, Sornpaisarn B, Numpaisan O. Protection motivation theory to predict intention of healthy eating and sufficient physical activity to prevent Diabetes Mellitus in Thai population: A path analysis. *Diabetes and Metabolic Syndrome: Clinical Research and Reviews*, 2021;15(1):121–127.  
<https://doi.org/10.1016/j.dsx.2020.12.017>
70. Article O, Abualrub RF, Nasrallah MA. Leadership behaviours organizational culture and intention to stay amongst Jordanian nurses. 2017;1–8.  
Available:<https://doi.org/10.1111/inr.12368>
71. Lamptey E, Serwaa D, Appiah ABA. nationwide survey of the potential acceptance and determinants of covid-19 vaccines in Ghana. *Clinical and Experimental Vaccine Research*, 2021;10(2):183–190.  
Available:<https://doi.org/10.7774/CEVR.2021.10.2.183>

© 2021 Aggrey-Bluwey et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

*Peer-review history:*

*The peer review history for this paper can be accessed here:*  
<https://www.sdiarticle5.com/review-history/77646>