ASIA LIFE SCIENCES - The Asian International Journal of Life Sciences

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Deadlines for submission of manuscripts. First issue-01 July; Second issue-01 January.

Subscription Prices. •Foreign: Institutional - US$1000; Individual - US$800 (including Volumes 1-27, 1992-2018 + 17 Supplements). •Local: Institutional - PhP10,000; Individual - PhP8000 (including Volumes 1-27, 1992-2018 + 17 Supplements). Prepayment of order/back order is required. All issues are to be sent by air mail. Back orders will have an additional packing-handling and postage cost.

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Website: http://emtpub.com/journals/ALS/

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677 Reviewers - Asia Life Sciences Supplement 17, Number 1, 2018

679 Board of Editors - Asia Life Sciences Supplement 17, Number 1, 2018
Asia Life Sciences has an Impact Factor of 0.180

The papers published in Asia Life Sciences are indexed/covered by SCOPUS, Elsevier B.V., Radarweg 29, 1043 NX, Amsterdam, The Netherlands; CABI, Wallingford, Oxon, UK; China National Knowledge Infrastructure (CNKI), 66 Xixiaokou Avenue, Haidian District, Beijing, China; J-Gate, Informatics Publishing Limited, No. 194, RV Road, Basavanagudi, Bangalore-560004, Karnataka, India and EBSCO Publishing, Inc., 10 Estes Street, Ipswich, Massachusetts, 01938-0682, USA.

Asia Life Sciences is a recipient of the Journal Accreditation Award of the Commission on Higher Education (CHED), Republic of the Philippines (2010-2016).

Actual Date of Publication: Asia Life Sciences Supplement 17, Number 1, 2018 - 18 December 2018

Printed on acid-free papers
Asia Life Sciences has an Impact Factor of 0.180

The papers published in Asia Life Sciences are indexed/covered by SCOPUS, Elsevier B.V., Radarweg 29, 1043 NX, Amsterdam, The Netherlands; CABI, Wallingford, Oxon, UK; China National Knowledge Infrastructure (CNKI), 66 Xixiaokou Avenue, Haidian District, Beijing, China; J-Gate, Informatics Publishing Limited, No. 194, RV Road, Basavanagudi, Bangalore-560004, Karnataka, India and EBSCO Publishing, Inc., 10 Estes Street, Ipswich, Massachusetts, 01938-0682, USA.

Asia Life Sciences is a recipient of the Journal Accreditation Award of the Commission on Higher Education (CHED), Republic of the Philippines (2010-2016).

Actual Date of Publication: Asia Life Sciences Supplement 17, Number 1, 2018 - 18 December 2018

Printed on acid-free papers
Effects of Diabetes Self-Control Program utilizing Transtheoretical Model (TTM) on HbA1c of patients suffering from diabetes in South Korea: Focused on Public Health Program

MI-YOUNG KWAK¹, EUN-JEONG HWANG²* and IN-OK SIM³

The purpose of this study was to investigate the effect of diabetes self-control program utilizing the Transtheoretical Model (TTM) on the degree of HbA1c regulation in patients suffered diabetes. A non-equivalent control group pretest-posttest design was used. The data in this study utilized secondary data acquired through 2011 Public Health Programs. The participants were 414 diabetic patients (experimental group 224, control group 190). The diabetes self-control program was conducted for 6 months and follow-up was provided 12 months later. The data were analyzed using a t-test, and ANOVA with SPSS/WIN 21.0. In result of this study, the HbA1c value of experimental group and control group was found no difference in the pre-test. However, for the experimental group, a significant reduction was found for HbA1c value after 3 months and 6 months as compared to the control group (p<0.05). In Conclusion, these study findings indicate that the diabetes self-control program utilizing the Transtheoretical Model (TTM) is effective and can be recommended as an intervention for patients with diabetes. However, the long-term interventions for diabetes should be studied continuously.

Keywords: diabetes, Transtheoretical Model, HbA1c, Quality of Life, South Korea

¹Center for Public Healthcare, National Medical Center, 60 Seongbukro 28-gil, Seongbuk-gu, Seoul 04564, South Korea
²Department of Nursing, Sehan University, 1113 Noksaek-ro, Samho-eup, Yeongam-gun, Jeollanam-do 58447, South Korea.
³Red Cross College of Nursing, Chung-Ang University, 84 Heukseok-ro Dongjak-gu, Seoul 06974, South Korea

*Corresponding author: e-mail address: eejhhh@naver.com Telephone:82-10-5305-1581

Received 11 November 2018; Accepted 18 November 2018
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Influence of workplace bullying on job stress and turn-over intention among dental hygienists

SUN-JU KIM

This study aimed to investigate the influence of workplace bullying on job stress and turn-over intention among dental hygienists. Data collected from self-report questionnaires completed by 224 dental hygienists employed at medical institutions were analyzed. Bullying related to interpersonal relationships showed the highest score. Stress related to interpersonal relationships showed the highest score. For levels of workplace bullying and job stress by general characteristics, dental hygienists who were older, had more work experience, were unmarried, worked in a large-scale workplace, and were temporarily employed showed higher scores. For turn-over intention, dental hygienists who had more work experience, were older, were married, worked in a small-scale workplace, and were temporarily employed showed higher scores. Workplace bullying was positively correlated with job stress and turn-over intention, and job stress was correlated with turn-over intention. Preventive education and intervention programs focused on reducing workplace bullying must be developed and implemented.

Keywords: dental hygienist, job stress, turn-over intention, workplace bullying

1Department of Dental Hygiene, Cheongju University, Daesung-ro 289, Cheonwon-gu, Cheongju-si, South Korea. e-mail addresses: sjkim@cju.ac.kr, passerby12@naver.com Telephone: 82-10-9242-6780.
Stressors, coping strategies and stress responses of nursing students according to dropout intentions

MI-WON KIM¹, JEONG-MO PARK²* and CHUNG-SOOK KIM²

The objective of the study was to identify the level of college life stressors, coping strategies and stress reactions of nursing students according to dropout intentions. The data were collected from 194 nursing students on March 2017. Participants completed the survey containing measures on college life stressors, copings, stress responses and dropout intentions. Students with dropout intentions had more college life stressors and more stress responses compared to students without dropout intentions. Students with dropout intentions used more social support, problem solving, avoidance coping strategies compared to students without dropout intentions. Fatigue and frustration were high among the stress responses. Every subcategory of stress responses showed significant differences between students with dropout intentions and without dropout intentions. The result calls for counseling and guidance on academic studies to be provided for nursing students from the early course of their studies to adjust stress responses.

Key words: stressor, coping strategies, stress response, dropout

¹Department of Nursing, Sang-Myung University, 31 Sangmyungdae-gil, Dongnam-gu, Cheonan-si, Chungcheongnam-do 31066, South Korea
²Department of Nursing, Kyung-In Women’s University, 63 Gyeyangsan-ro, Gyeyang-gu, Incheon 21041, South Korea
*Corresponding author: Jeong-Mo Park, e-mail address: jmpark@kiwu.ac.kr

Received 11 November 2018; Accepted 18 November 2018
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Exploring the most appropriate two-letter code of RIASEC for nursing students

MI-WON KIM¹*, JEONG-MO PARK² and YOON-JU LEE³

The aim of the study was to find an appropriate code of Holland’s RIASEC (Realistic, Investigative, Artistic, Social, Enterprising, Conventional) type (two-letter code) for nursing students. Holland’s test was conducted to find their vocational personality. Students’ major satisfaction and academic achievement were examined in order to verify their major competence. The data were collected from June 2015 to June 2016. The study subjects were 3 nursing college students in the 3rd year and 4rd grader, and a total of 720 student’s data were analyzed. The results showed that the codes with the high satisfaction with nursing were ER, SC, SE, EC, IE and SA while the codes with the low satisfaction were AI, CA, AS, RI, CS, RS, CI and CR. The codes with high academic achievement were IE, CS, IC, EC, SC, ER, CE and IS while the codes with low academic achievement were RS, IA, EI and CI. In conclusion, ER is the most appropriate code for nursing because it has high satisfaction with major and academic achievement. The most unsuitable code was RS.

Keywords: Holland theory, RIASEC (Realistic, Investigative, Artistic, Social, Enterprising, Conventional), nursing students

¹Department of Nursing, Sang-Myung University, 31 Sangmyeongdae-gil, Dongnam-gu, Cheonan 31066, Korea
²Department of Nursing, Kyung-In Women’s University, Incheon, Korea e-mail: jmpark@kiwu.ac.kr
³Department of Nursing Science, Pusan National University, Pusan, Korea e-mail: lyj@pusan.ac.kr
*Corresponding author: e-mail - kmw@smu.ac.kr  Telephone 010-5036-1642

Received 11 November 2018; Accepted 18 November 2018
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Effects of pre-practicum preparation program on nursing students

CHANG-KWAN LEE1* and SUNGKYUNG HONG2

The purpose of this research was to verify the effects of pre-practicum preparation program developed for nursing students before clinical practice on self-efficacy and critical thinking disposition. The research was conducted from August 31 to December 14, 2017 involving a total of 62 sophomore nursing students where 32 students composed the experiment group and 30 students as the control group. The differences of the self-efficacy scores between experimental and control groups were insignificant after the intervention. The differences of critical thinking disposition scores between experimental and control groups were showing significant differences after the intervention. Thus, pre-practicum preparation program from this study enhances critical thinking disposition of nursing students before practicum and could be utilized as a preparatory program for efficient clinical practicum.

Keywords: practicum, nursing students, pre-practicum preparation program, self-efficacy, critical thinking disposition

1Department of Nursing, Korean Christian University, 47, 24-gil, Kachisan-ro, Gangseo-gu, Seoul 07661, South Korea
2Department of Nursing, Dongnam Health University, 50 Cheoncheon-ro 74-gil, Jangan-gu, Suwon 16328, South Korea. e-mail address: redbib@hanmail.net
*Corresponding author: e-mail address - jejuslee@hanmail.net Telephone: 82-2-2600-2546

Received 11 November 2018; Accepted 18 November 2018
©Rushing Water Publishers Ltd. 2018
Printed in the Philippines
Development and effects of post-operative care simulation program for nursing students

CHUNG-SOOK KIM

This study was conducted to develop and identify the effects of post-operative care simulation program using a human patient simulator for nursing students. The participants in this study were 79 nursing students enrolled in a simulation course. The post-simulation achievement score of the overall PO (Program Outcomes), PO sub-variables (knowledge acquisition, performance skills, communication skills and clinical reasoning skills) and self-confidence were significantly higher than those of the pre-simulation. The learning satisfaction after simulation experience was relatively high. There were significant positive correlations among the achievement of PO, self-confidence and learning satisfaction. In conclusion, the simulation was verified to be an effective teaching method. To enhance the achievement of PO, it is necessary to strategize so as to reinforce students’ self-confidence as well as learning satisfaction.

Key words: nursing education, students, patient simulation, post-operative care simulation program

1Department of Nursing, Kyung-In Women’s University, Incheon, 21041, South Korea
e-mail: kstella@kiwu.ac.kr
Effects of infant development attachment massage*

MI-NA LEE1

The purpose of this research was to verify the effects of infant development attachment massage. And to inquire the effects of infant development attachment massage on attachment security between infant and infant-teacher and the happiness of infant-teacher. The subjects were 20 infants from M and C nursery schools in K city. Each 10 infants were randomly assigned to the experimental and control groups. The infant development attachment massage accomplished twice a week for 30 minutes in total of 24 sessions for the experimental group and it has formed with the infant development attachment massage curriculum standards of Professional Leader Corporation. The infant development attachment massage carries out the sensory of tactile which included hands and arms massage, feet and legs massage, belly, back, face and chest massages. The result of the study is that the attachment security and happiness of infants and teachers were improved. That means, infant development massage is very effective on the body, emotion and social development that the programs consisting of developmental acceleration and supports, and understanding the physical development and giving comfort to touch infant’s body and mind. Through the study, infants formed emotional communion and intimacy in the education environment, it gets very positive effect which allows the infants to have consistent and persistent request. It suggests that could be used more widely in the infant nursery education.

Keywords: infant-teacher, infant development attachment massage, attachment security, happiness

1Adjunct Professor, 61027 Department of Integrated Arts Therapy, Graduate School, Kwangshin University, 37 Yangsantaekjiso-ro, Buk-gu, Gwangju, Korea e-mail: lmn4780@naver.com

Automatic scoring of oral examination in clinical performance*

BEESUNG KAM¹

Faculty leniency and variances in the grading of clinical performance through oral examinations are a major concern. This paper introduces automatic scoring of clinical performance that promotes equity, provides comparable results and enables accurate analysis. Forty-two sets of student data were selected from Pusan National University, School of Medicine, South Korea and distributed into three groups: schema comprehension scores, overall satisfaction of performance scores and automated written scores of assessment. The correlation coefficient of the manual versus automatic score was found to have an accuracy of 0.87. A reasonable benchmark for performance can be established for further redistribution of examinations for self-assessment.

Keywords: clinical performance, automation of written assessment

¹Department of Medical Education, Pusan National University, School of Medicine, 20 Geumo-no, Mulgeum-eup, Yangsan 50612, South Korea  e-mail address:beesung@pusan.ac.kr

*This work was supported by a 2018 Clinical Research grant from Pusan National University Hospital, South Korea.
Construction of a Structural Equation Model on the exhaustion of the families of senile dementia elderly using LISREL

KYUNG-BOCK JOO¹, SUN-HEE BAE¹ and YOUNG-SUN PARK¹*

This paper is a descriptive, causal relationship structural analysis designed to analyze the determinant factors related to the exhaustion of the families of the elderly with dementia, set hypothetical models, and test model fit index and proposed hypotheses. To identify the factors that can account for the variables that are influential to the exhaustion of the families of the elderly with dementia, this study constructed a model based on advanced research and literature review and set role conflict, stress, self-esteem, family members’ support and coping ability as exogenous variables and caregiving burden and depression as endogenous variables. The total number of variables was 13. As a result, the higher the role of conflict or stress was, the higher the caregiving burden was; the higher the stress, role conflict, caregiving burden, and low self-esteem; the more severe the depression was, and the higher the family members’ support, the lower the depression was. It was also found that the higher the caregiving burden, depression, stress and role conflict, the higher the exhaustion was, and the higher the coping ability was, the lower the exhaustion was. Based on these findings, what is most important is to intervene in stress in order to reduce the exhaustion of the families of senile dementia elderly. It is urgent to develop nursing intervention program that can reduce caregiving burden, role conflict and depression and lower appropriate coping ability.

Keywords: dementia, caregiver, caregiving burden, depression, stress, coping ability, role conflict, self-esteem, senile dementia, Structural Equation Model, LISREL

¹College of Nursing, Kyungbok University, 154 Sinpyeong-ro, Sinbuk-myeon, Pocheon-si, Gyeonggi-do 11138, South Korea
*Corresponding author: e-mail address - yspark@kbu.ac.kr Telephone: 82-10-4399-7122

Received 11 November 2018; Accepted 21 November 2018
©Rushing Water Publishers Ltd. 2018 Printed in the Philippines
Effect of practicums in nursing homes for the elderly on nursing student’s awareness, attitude and nursing behaviors to the elderly

YOUNG RAN CHIN\textsuperscript{1} and SA SAENG HYEON\textsuperscript{2*}

The purpose of this study was to identify the effect of practicums in nursing homes on the ability of nursing students to care for the elderly. This research is a pre-experimental study, utilizing a one-group pretest-posttest design. The subjects were 151 nursing students of South Korea in their third and fourth years who were engaged in a structured 5-day nursing practicum.

Researchers, the professors of three nursing colleges, and the president and the nursing manager of the nursing home had developed the practicum program based on previous research on the experiences of nursing students after a practicum at nursing homes and factors affecting such practicum.

After the subjects had finished their nursing practicum in a nursing home, they showed a statistically significant higher general awareness of the elderly (paired \( t = -7.47, p < 0.001 \)), an improved attitude towards geriatric nursing (paired-\( t = -10.93, p < 0.001 \)), and more desirable nursing intervention behaviors (paired-\( t = -9.41, p < 0.001 \)) than before the study. Based on this research outcomes, nursing homes can be considered a useful location for practical training for those pursuing careers in gerontological nursing as well as in improving care-giving skills toward the elderly.

\textit{Keywords:} nursing students, nursing homes, clinical placements, learning environment

\textsuperscript{1}Department of Nursing, Chungwoon University, 25 Daehak-gil, Hongseong-eup, Hongseong-gun, Chung Nam 32244, South Korea  e-mail address: chinyr@chungwoon.ac.kr

\textsuperscript{2}Korea Nazarene University, 48 Wolbong-Ro, Seobuk-Gu, Cheonan City, Chung Nam 331-718, South Korea

\textsuperscript{*}Corresponding author: e-mail address - sshyun@kornu.ac.kr  Telephone: 82-041-570-4158

Received 11 November 2018; Accepted 21 November 2018
©Rushing Water Publishers Ltd. 2018
Printed in the Philippines
Effects of Anger Management Program (AMP) on breast cancer patients

YEON GYUNG BAK1*

The purpose of this study was to examine Anger Management Program (AMP) based on Rational Emotion Behavior Therapy (REBT) for breast cancer patients and to verify the program’s effectiveness on state-trait anger expression, depression and the way of coping. Fifty breast cancer clinic outpatients (23 in the experimental group and 27 in the control group) participated in the study. The experimental group received 8 sessions, scheduled once a week, with each session lasting for one and half hours. Data were collected at baseline after 8 weeks and 12 weeks. Effects of AMP, there were significant interactions with groups (between experimental and control groups) by time (baseline, after 8 weeks & 12 weeks) in anger-suppression (F=27.60, \( p<0.001 \)), anger-expression (F=4.68, \( p<0.001 \)), anger-control (F=17.89, \( p<0.001 \)), depression (F=29.57, \( p<0.001 \)), and the way of coping (F=5.73, \( p=0.004 \)). The AMP could be an effective state-trait anger expression, depression and the way of coping. Consequently, AMP was a nursing intervention as a method of improving anger control, decrease depression and improving the way of coping for breast cancer patients. It implies that breast cancer patients need effective anger control and health promoting behaviors.

Keywords: Anger Management Program (AMP), Rational Emotion Behavior Therapy (REBT), anger, depression, The Way of Coping, breast cancer

1Department of Nursing, Dongju College, 16, 55th-gil, Sari-ro, Saha-Gu, Pusan 49318, South Korea
e-mail address: nursebak@Gmail.com
Postpartum depression from the perspectives of married immigrant women in Korea: A qualitative study

MIYOUNG KIM 1, HYUN SUK LIM2 and SEUNG EUN CHUNG3*

The aim of the study was to explore postpartum depression (PPD) among immigrant women in Korea. Ten participants from Vietnam, China and Cambodia, who self-reported as having experienced PPD, were recruited by purposive sampling. Data were collected from semi-structured interviews and subsequently analyzed using the constant comparative method. Two main themes were identified as emotional expressions of and strategies to postpartum depression. The first theme constituted extreme sorrow, animosity towards others, general despondence and insecurity in the absence of their spouses. In the second theme, coping strategies included postpartum care from mothers, expression of their repressed emotions, refreshing home-cooked meals and perseverance. Postpartum depression among immigrant women requires a thorough contextual deliberation of the lack of support system, insufficient understanding of child rearing, economic pressure and acculturation.

Keywords: postpartum depression, emigrants, immigrants, women, culture, experiences

1Department of Nursing Science, Ewha Womans University, 52 Ewhayeodae-gil, Seodaemun-gu, Seoul 03760, South Korea
2Department of Nursing, Howon University, Gunsan-si, Jeonbuk 54058, South Korea
3Department of Nursing, Korea National University of Transportation, 61 Daehak-ro, Jeungpyeong-gun, Chungbuk 27909, South Korea
*Corresponding author: e-mail address: sechung@ut.ac.kr Telephone: 82-10-5435-2385
The purpose of this study was to help elderly citizens understand the culture and aging of the elderly and to investigate the characteristics of elderly through interviews and observation. The qualitative experience of the elderly and qualitative findings of the local community resulted in the recognition of the perceptions of and problems with dementia, and family members. The study aimed to provide basic data for the elderly to better understand the role of dementia and improve their lives by conducting quality studies related to dementia, as perceived by the elderly.

**Keywords:** dementia, quality study, senior citizens, family, dementia experience

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1Assistant Professor, Department of Nursing, Jesus University, Jeonju, South Korea

 e-mail: medicms@jesus.ac.kr
Nutrition intake and nutritional condition: Focus on elderly Koreans living in Chicago, Illinois, USA

MUYEONG SEAK YANG¹ and HEE KYUNG KIM²*

The purpose of this study was to collect data about the elderly and provide information about the actual phenomenon of the elderly, who are living in an apartment complex in Chicago, Illinois, USA and to assist the elderly and provide for their cultural uniqueness. The selection of health care habits, diet and nutrition intake and the exercise of focus interviews on realistic phenomena, the importance of diet, and the impact on the health of the meal were derived. The study aimed to provide basic data for developing programs for improving nutrition and promoting health care for older adults.

Keywords: nutrition state, nutrient intake, senior citizens, Korean elderly, Chicago, Illinois, USA

¹Assistant Professor, PhD, RN, CNM, Department of Nursing, Jesus University, Jeonju 54989, South Korea  e-mail: medicms@jesus.ac.kr
²Professor, PhD, RN, CNM, Department of Nursing, Kongju National University, Gongju 32588, South Korea
*Corresponding author: e-mail - hkkim@kongju.ac.kr

Received 11 November 2018; Accepted 21 November 2018
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Nursing students’ subjective perceptions of open adoption

SUNYOUNG JANG

The purpose of this study was to identify the subjectivity of open adoption perceived by nursing students, describe the characteristics of each type and understand the typology about open adoption. Q methodology was applied for this study. Forty four statements about open adoption were classified by 25 third- and fourth-grade students who were practicing in A College Nursing Department. Collected data were analyzed using QUANL PC program. The results of this study showed that the perception about open adoption by nursing students was classified into three factors. The subjective types were ‘social supportive’, ‘positive’, and ‘crisis coping’. This study provided the basic data on the perception and education about the open adoption of nurses in the clinical practice.

Keywords: open adoption, nursing students, subjectivity, Q methodology,

1Department of Nursing, Hanseo University, Seosan-si, Chungcheongnam-do, South Korea.
   e-mails: sjang@hanseo.ac.kr, arcsunyoung@naver.com  Telephone: 82-10-3451-2250
Subjectiveness of nursing students towards closed adoption

SUNYOUNG JANG¹

The purpose of this study was to review the subjectiveness of nursing students towards closed adoption and describe the characteristics of each type for categorization. Q-methodology was applied for this purpose. Nineteen students enrolled in the third or fourth year of the Department of Nursing Studies at A University were asked to categorize 42 statements on adoption. The collected data were analyzed using QUANL PC Program. The analysis showed that the perception of nursing students towards closed adoption fell into three categories: co-existence of merits and disadvantages, focus on family, and pessimism about the future. This study supplied basic data for identifying the perceptions of nursing students in clinical settings toward closed adoption and for application of the findings to their education.

Keywords: closed adoption, nursing students, subjectiveness, perceptions, Q-methodology

¹Department of Nursing, Hanseo University, Seosan-si, Chungcheongnam-do, South Korea
e-mails: sjang@hanseo.ac.kr, arcsunyoung@naver.com Telephone: 82-10-3451-2250
Factors associated with electronic cigarette use among college students in South Korea

JAe-Woo PARK¹ and BYUNG-DEOG HWANG²*

Awareness of the necessity for smoking cessation has increased globally. This has prompted increased interest in electronic cigarettes (e-cigarettes) as substitutes for regular (tobacco) cigarettes. Accordingly, we examined the e-cigarettes usage among college students, who are particularly susceptible to smoking. We examined the perceptions and usage patterns of e-cigarettes among college students, and investigated factors associated with e-cigarette use. This was a cross-sectional study of students attending 4-year or 2-year colleges in Busan, South Korea. A structured questionnaire designed specifically for this study was distributed to a total of 600 students. Of the 569 returned surveys, two were excluded because of incomplete responses and the remaining 567 surveys (94.5%) were used in the final data analysis. Participants who perceived that e-cigarettes resulted in smoking cessation had 2-fold greater odds of having experience with e-cigarettes compared to individuals who did not perceive this. However, this perception did not influence odds of e-cigarette use. Additionally, participants who perceived e-cigarettes as having “no risk” had roughly 2-fold greater odds of having experience with e-cigarettes; however, it did not influence the odds of e-cigarette use. E-cigarettes are safe in the short-term and may encourage smoking cessation; however, they do not have any special long-term effects. Accordingly, research on the addictiveness of e-cigarettes and health-related issues must continue.

Keywords: electronic cigarettes, college students, perception of electronic cigarettes, effect of smoking cessation, South Korea

¹Doctoral Candidate, Graduate School of HCM Catholic University of Pusan, 417 Rosario Center, 57 Oryundae-ro, Geumjeong-gu, Pusan, Korea e-mail: jawoos486@naver.com Telephone numbers: +82-10-5093-5560, +82-51-510-0618

²Professor, Department of HCM Catholic University of Pusan, 417 Rosario Center, 57 Oryundae-ro, Geumjeong-gu, Pusan, Korea

*Corresponding author: e-mail - suamsam@naver.com Telephone numbers: +82-10-5870-9330, +82-51-510-0618

Received 11 November 2018; Accepted 21 November 2018
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Forensic medical knowledge, experience and interest among nurses in an emergency medical center

EUNMI PARK¹

This study aimed to explore the knowledge, experience, and interest of forensic medicine emergency nurses regarding the administration of accurate first aid based on medical decisions and to preserve decisive physical evidence from the patient. Participants were nurses working in an emergency medical center. A structured questionnaire based on the research tool used by Kim (2007) was utilized to collect data, which were analyzed using SPSS WIN 17.0. Frequencies, percentages, means, and standard deviations were computed. Regarding knowledge of forensic medicine, 71.2% responded that they would cut the patient’s clothing and then administer first aid. Regarding the question on forensic medicine experience, “Have you ever seen a patient related to a crime?”, the average score was 2.56, while that on the question on interest in forensic medicine, “Is it necessary for emergency center workers to have forensic medical knowledge?” was 3.36. This study aimed to provide information on the accurate initial assessment of patients related to a crime, and to assist nurses who work in an emergency medical center to develop appropriate knowledge for preserving criminal evidence from their patients. It may be necessary to place forensic nurses in emergency medical centers to enable them to follow the appropriate process when patients related to a crime are admitted.

Key words: forensic medicine, forensic nurse, knowledge, experience, interest, emergency medical centers

¹Doctoral Student, 41944 College of Nursing, Kyungpook National University, 680 Gukchaebosang-ro, Jung-gu, Daegu, South Korea e-mail: levite73@daum.net

Received 11 November 2018; Accepted 21 November 2018
©Rushing Water Publishers Ltd. 2018
Printed in the Philippines
Relationships between family support, career decision-making self-efficacy and career decision-making types in nursing students

CHANG-SUK JUNG\textsuperscript{1} and HYE-KYUNG OH\textsuperscript{2}\textsuperscript{*}

This study was conducted to understand the relationship between family support, career decision self-efficacy, the career decision type of nursing college students. A questionnaire survey was administered to 226 fourth-year students of a four-year nursing college in Daegu, South Korea with items on general characteristics, family support, career decision self-efficacy and career decision type. Hierarchical regression was conducted to examine the effects of the family support of career students on their career decision self-efficacy and type of career decision-making. This study found that family support of nursing college students influenced career decision self-efficacy and career decision type. The major factors were the satisfaction of majoring in nursing, the economic life of the family, and family support. These results suggest that nursing students should improve their satisfaction with their majors and create a mood and atmosphere in which they can obtain support for their emotional wellbeing, such as family support. Mentors/Professors should use personalized career counseling according to the type of career decision. There is a need to raise awareness and develop adaptive measures in clinical settings and to reduce the turnover rate of new nurses.

Keywords: nursing students, family support, career decision-making self-efficacy, career decision-making types

\textsuperscript{1}Department of Nursing, Daegu Haany University, 1 Hanuidae-ro, Gyeongsan-si, Gyeongsangbuk-do, Daegu 38610, South Korea

\textsuperscript{2}Department of Nursing, Daegu University, 33 Seongdang-ro 50-gil, Nam-gu, Daegu 42400, South Korea

\textsuperscript{*}Corresponding author: e-mails - kyungho@daegu.ac.kr, ckdtnrnl@hanmail.net
Telephone: 82-10-9953-2595

Received 11 November 2018; Accepted 21 November 2018
©Rushing Water Publishers Ltd. 2018 Printed in the Philippines
Short international internship experience among nursing students

SUN A. WHANG¹ and JAE HEE JEON²*

This paper provides an in-depth phenomenological description and identification of experiences that the Korean nursing students had during their short international internship. 19 students were selected by means of theoretical sampling and the data was collected from personal, in-depth interviews. 12 theme clusters and 24 themes were identified from 5 categories: (1) Reliable hospital system; (2) Environments where nurses can demonstrate competence as professionals; (3) Hospital environment to work; (4) Motivation for learning, and (5) The frog that came out of the well. These results show that the short internship program of nursing students has proved to be an effective program that can provide motivation and a broad perspective to competence as nursing professionals. Therefore, it is necessary for many nursing students to experience various internship programs.

Keywords: nursing students, international internship, qualitative research, Korean

¹Associate Professor, PhD, RN, Department Nursing, Semyung University, 65 Semyung-ro, Jecheon, Chungbuk, South Korea
²Associate Professor, PhD, RN, ONP, Department Nursing, Gangneung-Wonju National University, 150 Namwon-ro, Heungeop-myeon, Wonju-si, Gangwon-do 26403, South Korea
*Corresponding author: e-mail - anesjjh@naver.com Telephone: 82-33-760-8648
Self-assessment for gynecomastia

SEUNGHOE CHOI¹, SEONGGUN JOE²
and HEESANG YOON³*

This paper focuses on gynecomastia, depending on individual’s food habit or behavior, is one of the modern characteristics in adolescent. This study adduced a statistical model of gynecomastia using factor analysis, regression analysis, logistic regression analysis and discriminant analysis about self-test of mastosis, BMI index, sex hormone index and eating habits of 80 university male students with suspected gynecomastia living in Seoul, Korea. BMI index and male’s physical form are the crucial factors to determine whether persons have gynecomastia or not. Classification rate of persons who seem to have gynecomastia was 71.3% using discriminant analysis. Statistical model shows that if persons got high manhood, male’s physical rates, high obesity rate due to frequent sugar intake, have over 4 cm gap between bust girth and the girth of 3 cm under nipples, they could be considered as gynecomastia adolescents. Proposed statistical model has been used for self- assessment of gynecomastia.

Keywords: gynecomastia, factor analysis, logistic regression, discriminant analysis

¹School of Liberal Arts and Science, Korea Aerospace University, Goyang-si, Gyeonggi-do 412-791, Korea. e-mail address: shchoi@kau.ac.kr
²School of Aerospace and Mechanical Engineering, Korea Aerospace University, Goyang-si, Gyeonggi-do 412-791, Korea e-mail address: sgjoe90@nate.com
³Department of Nursing, Seoul Woman’s College of Nursing, 38 Gan hodaro, Sedaemu-Gu, Seoul 03617, Korea

*Corresponding author: e-mail - viva826@snjc.ac.kr Telephone: 82-10-8635-8451

Received 11 November 2018; Accepted 21 November 2018
©Rushing Water Publishers Ltd. 2018
Reliability and validity of the helicopter parenting behavior inventory

J.J. WOO¹, H.Y. AHN²* and H.S. CHOI³

This study was carried out to evaluate the reliability and validity of the Korean version of the Helicopter Parenting Behavior (K-HPB) inventory. Translation and back-translation were performed to develop the K-HPB. Then, the K-HPB was applied to a sample of 172 college students. The content validity index (CVI) was estimated to determine the content validity and exploratory and factor analyses were carried out to determine the construct validity. The correlation between K-HPB and Over Parenting Behavior tool was analyzed to determine the criterion-related validity, and Cronbach’s α was estimated for internal consistency to test reliability. As the result of the factor analysis showed three factors were obtained and the model’s fitness was acceptable. The three factors were proxy decision making, involvement, hovering and explained 65.2% of total variance. Cronbach’s α was found to be 0.75. The reliability and validity of the K-HPB which can objectively determine the degree of helicopter parenting behavior is expected to be useful in research on the parenting of children who are college students.

Key words: helicopter parenting, over parenting, reliability, validity, Helicopter Parenting Behavior (K-HPB) inventory, content validity index

¹Department of Nursing, Gyeongbuk College of Health, 168 Daehak-ro, Gimcheon-si, Gyeongsangbuk-do, South Korea
²Department of Nursing, Eulji University, 771 Beon-gil, Gyeryong-ro, Joong-gu, Daejeon, South Korea
³Department of Nursing, Woosuk University, 443 Samnye-ro, Wanju-gun, Jeollabuk-do, South Korea
*Corresponding author: e-mail - ahanaya@eulji.ac.kr    Telephone: 82-42-259-1715
Postpartum depression and its predicting factors within two-month postpartum in Korean women

HYUN-JUNG JANG 1 and SUKHEE AHN2*

This study was conducted to provide basic data in developing interventions that can prevent and alleviate postpartum depression in advance by examining postpartum depression and its predicting factors in postpartum women. This study used a correlation study design. Data were collected from 130 women who had vaginal delivery within two months postpartum through follow-up e-mails and phone calls. For measurement, Edinburgh Postnatal Depression Scale-Korean, levels of perineal discomfort and fatigue with Visual Analogue Scale, State-Trait Anxiety Inventory, scale of husband support and scale of infant temperament were used, and the general characteristics of postpartum women were collected additionally. Data were analyzed using SPSS WIN 22.0 and Amos 20.0. In the result of goodness-of-fit indexes of postpartum prediction model, all indexes showed goodness-of-fit favorably, and the explanatory power of postpartum depression predicting factors in this model was 69%. Postpartum depression predicting model confirmed that higher perineal discomfort, postpartum anxiety, and body fatigue, and lower husband support were important factors, and nursing interventions that could prevent and alleviate postpartum depression are necessary. This study constructed an integrated structural model that combines the social and psychological factors, which are considered the predisposing factors of postpartum depression, and the newly discovered biological factor, such as perineal discomfort due to episiotomy.

Keywords: postpartum depression, episiotomy, perineal discomfort, anxiety, husband support, body fatigue, infant temperament, Korean women

1Associate Professor, PhD, RN, Department of Nursing, Kkottongnae University, 133 Sangsam-gil Hyundo-myeon, Seowon-gu, Cheongju, Chungbuk 363-707, South Korea  
e-mail: janghj@kkot.ac.kr

2Professor, PhD, RN, WHNP, College of Nursing, Chungnam National University, 266 Munwha-ro, Jung-gu, Daejeon 35015, South Korea

*Corresponding author: e-mails: sukheahn@cnu.ac.kr, ahnsukhee@gmail.com

Received 11 November 2018; Accepted 21 November 2018
©Rushing Water Publishers Ltd. 2018
Printed in the Philippines
Feasibility study for neurofeedback training on knowledge, attitude and practice of nursing students: Focus on mediating effect of attitude based on Knowledge-Attitude-Practice (KAP) model

WANJU PARK¹, MOONJI CHOI¹, SANGJIN KO¹, KYENGJIN KIM¹ and SHINJEONG PARK¹*

The purpose of this study was to identify knowledge and attitudes of nursing students in terms of neurofeedback training (NFT) and to find out what predictive for practice of NFT. Data were collected through 233 participants from a nursing school by self-report questionnaires that were constructed to include scale. The scale was based on the Knowledge-Attitude-Practice (KAP) survey model and developed using 3-step Delphi methodology. The standardized contents of the scale were selected: 3 domains, 7 subgroups, and a total of 57 items. The data were analyzed using a t-test, ANOVA, Scheffé test, Pearson’s correlation coefficients, regression analysis, and a Sobel test. Results of this study showed a significant positive correlation between knowledge, attitude, and practical feasibility of NFT (p<0.001). The attitude toward NFT had a partial mediating effect on the relationship between knowledge and practice (R²=0.43; Z=7.44, p<0.001). In order for nursing students to be able to apply NFT at the field after graduation while they are working as a registered nurse, constant effort should be accomplished in establishing NFT as regular curriculum at university.

Key words: Knowledge, Attitude, Practice, Neurofeedback, Nursing

¹College of Nursing, Kyungpook National University, 680 Gukchaebosang-ro, Jung-gu, Daegu 4194, South Korea
*Corresponding author: Shinjeong Park, 21 Joyanggongwon-gil, Yeongcheon-si 38853, Gyeongsangbuk-do, South Korea. e-mail: chocho0129@naver.com Telephone: 82-054-331-6770

Received 11 November 2018; Accepted 21 November 2018
©Rushing Water Publishers Ltd. 2018
Symptoms of physical and mental health associated with smartphone usage

YOUNGSOON CHOI¹ and CHUNGUK HEO²*

This study investigated the correlation between variables, the characteristics of physical symptoms and mental symptoms according to the use of smartphones were identified, a descriptive correlation study to identify the characteristics related to smartphone usage. Results confirm the correlation between physical symptoms and mental health perceptions, the physical symptoms were statistically significant correlations with areas of depression, anxiety, impulsivity and aggression as sub-domains of mental health and overall mental health. Perceptions of many physical symptoms lead to the worse mental health and also to more serious depression, higher anxiety, stronger impulsiveness and aggression as the sub-domains of mental health.

This study led to having understood about the characteristics related to smartphone users about the problems of physical and mental awareness symptoms and mental health, and each variable correlation was examined in detail. The findings from this are expected to be applied to improve the physical symptoms and mental symptoms.

Keywords: smartphone usage, physical awareness symptoms, mental health

¹Associate Professor, PhD, RN, Department of Nursing, Kangwon National University, Samcheok 25949, Republic of Korea  e-mails – ysc615@kangwon.ac.kr, ysc615@hanmail.net
²Professor, PhD, Department of Tourism, Kangwon National University, Samcheok 25949, Republic of Korea
*Corresponding author: e-mail – cuheo@hanmail.net
Effect of role ambiguity, emotional labor and positive psychological capital on occupational stress in nursing assistants

JIHYE JANG¹ and YOUNGSOON CHOI²*

This study is a descriptive correlation study dealing with role ambiguity, emotional labor, positive psychological capital, and occupational stress, and to determine the factors affecting the correlation of these variables. As a result, there was a statistically significant difference in role ambiguity according to age and marital status. Likewise, there was a statistically significant difference in positive psychological capital according to age and marital status, whereas occupational stress showed statistically significant difference according to age and region. Based on the above results, we examined role ambiguity, emotional labor and positive psychological capital that affect occupational stress of nursing assistants. The results of this study suggest that it is necessary to establish a systematic education and management plan for occupational stress, which can improve positive psychological capital, reduce role ambiguity and emotional labor among nursing assistants.

Keywords: role ambiguity, emotional labor, positive psychological capital, occupational stress, nursing assistants

¹ Visiting Professor, RN, Department of Nursing, Gangneung Yeongdong University, 357 Gongiero, Gangneung, Republic of Korea  e-mail: gogh0049@gmail.com
² Associate Professor, PhD, RN, Department of Nursing, Kangwon National University, Samcheok 25949, Republic of Korea  e-mail – ysc615@hanmail.net
*Corresponding author: e-mail – ysc615@kangwon.ac.kr
Social support moderates the relationship between academic stress and depression in nursing students

JIHYE LEE¹ and MOONHEE GANG²*

This study investigated the relationship between academic stress and depression in nursing students, as moderated by social support. Two hundred sixty one nursing students participated from October to November 2017. Academic stress, depression and social support were measured with self-report questionnaires. Multiple regression analysis and the Johnson-Neyman method were used in PROCESS to examine the moderating effect of social support on the relationship between academic stress and depression. Academic stress, social support and their interaction explained 16.1% of variance in nursing students’ depression. Social support can alleviate the influence of academic stress on depression in nursing students. To prevent depression, it is necessary to continuously monitor their level of social support and to develop strategies to improve the social support of nursing students.

Keywords: nursing students, academic stress, depression, social support

¹Department of Nursing University of Ulsan, 93 Daehakro, Nam-gu, Ulsan 44610, South Korea
²266 Munwharo, Jung-gu, Daejeon 35015, South Korea.
*Corresponding author: e-mails - jllulu@naver.com, mhgang@cnu.ac.kr
Telephone: 82-42-580-8332
Effect of learning using the reflective writing in undergraduate nursing students

EUN KO¹ and HYE YOUNG KIM²*

The purpose of this study was to identify the effect of learning using the reflective writing in undergraduate nursing students. We tried to identify that learning using the reflective writing improves the metacognition, self-directed learning, and academic self-efficacy of undergraduate nursing students. A non-equivalent control group with pre- post- tests was designed. The participants in this study were 129 students who were enrolled in a medical-surgical nursing course at two national universities. The experimental group consisted of 64 juniors in 2017 and the control group 65 juniors in 2017. Collected data were analyzed using Chi-square, independent t-test and ANCOVA with the SPSS 24.0 for Window Program. There were significant increases in self-directed learning in the experimental group who participated in learning using the reflective writing compared to the control group who did not (F=6.07, p=0.015). However, there were no significant differences in metacognition and academic self-efficacy between the experimental and control groups. Further exploration is needed to develop and utilize learning using the reflective writing for diverse courses, depending on nursing educational goals and environments and apply the learning using the reflective writing longitudinally. Finally, it is recommended that this approach be developed as a universal method to measure outcomes.

Keywords: nursing students, metacognition, self-efficacy, learning

¹Department of Nursing, College of Life Science and Natural Resources, Sunchon National University, 255 Jungang-ro, Suncheon-si, Jeollanam-do 57922, South Korea
²College of Nursing, Research Institute of Nursing Science, Chonbuk National University, 567 Baekje-daero, deokjin-gu, Jeonju-si, Jeollabuk-do, 54896, South Korea
*Corresponding author: e-mail - tcellkim@jbnu.ac.kr Telephone: 82-63-270-4628
Effects of Caring Laughter Therapy Program on spinal cord injured patients

MIJIN KIM1 and YOUNGSOON CHOI2*

The purpose of this study was to investigate the effects of depression, anger, and anxiety on Caring Laughter Therapy Program for patients with spinal cord injury and their families. The results of the study are summarized as follows. The depression, anger, and anxiety scores of the spinal cord and family members who participated in the interpersonal nursing laughter treatment program were significantly lower than those of the non-participant spinal cord patients and their families. Anxiety scores were the lowest among the various variables.

As a result of the above study, we have developed a Caring Laughter Therapy Program for spinal cord injured patients and their families and confirmed that this intervention reduces depression, anger, and anxiety. Participation in Caring Laughter Therapy Programs for patients with spinal cord injuries and their families may have a positive impact on the home or community, and the Caring Laughter Therapy Programs will be a nursing intervention that can help the stress management and health promotion of spinal cord injury.

Keywords: laughter therapy, spinal cord injury, depression, anger, anxiety

1 Associate Professor, PhD, RN, Department of Nursing, Shinhan University, 95 Hoam-ro, Uijeongbu-si, Gyeonggi-do 480-857, Republic of Korea e-mail – kimjin29@daum.net
2 Associate Professor, PhD, RN, Department of Nursing, Kangwon National University, Samcheck 25949, Republic of Korea e-mail – ysc615@hanmail.net
*Corresponding author: e-mail – ysc615@kangwon.ac.kr

Received 11 November 2018; Accepted 21 November 2018 ©Rushing Water Publishers Ltd. 2018
Comparison of Mild Cognitive Impairment (MCI) diagnostic validity in neuropsychological tests for dementia†

SO YUL KIM¹ and HYE KYUNG LEE²*

The aim of this study was to find out the optimal cut off scores of each neuropsychological test for dementia to diagnose MCI by applying these tests to MCI group and analyzing validity of these tests. A total of 207 persons aged from 60 to 80 years who visited a National Mental Health Hospital in a provincial area to get an early examination for dementia from 01 June 2009 to 31 December 2012 were enrolled in this study. The patients must be able to read writings in Korean and took part voluntarily in this study. They were divided either into normal (n=151) or in MCI groups (n=56). There was a significantly positive correlation between the raw scores of MMSE-KC and the results of each of the tests ($p<0.05$). The word list recall test (-0.15; 71.4% sensitivity, 74.2% specificity) got the highest optimal cut off score for MCI diagnosis (Z-score), followed by the word list memory (0.25; 73.2%, 70.2%), the constructional recall test (-0.05; 69.6%, 68.2%), the verbal fluency test (0.05; 71.4%, 68.9%), the word list recognition test (0.05; 73.2%, 63.6%), MMSE-KC (0.15; 67.9%, 56.3%), the Boston naming test (0.35; 60.7%, 61.6%) and the constructional praxis test (0.65; 66.1%, 45.0%). All the tools were effective in screening but each test had different cut off scores. Therefore, it is necessary to make a comparison of sensitivity and specificity among the tests rather than a consistent cut off score on a clinical basis.

Keywords: Mild Cognitive Impairment (MCI), Consortium to Establish a Registry for Alzheimer’s Disease Assessment Packet (CERAD-K), cognitive function, receiver operating characteristics curve, validity

¹Sejong Public Health Center, Sejong 30023, South Korea  e-mail: soyul528@daum.net
²Department of Nursing, College of Nursing and Health, Kongju National University, Gonoju 32588, South Korea.
†This article is a revised version of the first author’s Master’s Thesis, Kongju National University, Gonoju 32588, South Korea
*Corresponding author: e-mails - hklee@kongju.ac.kr  dreamfruit07@naver.com

Received 11 November 2018; Accepted 21 November 2018
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Influencing factors to compliance with standard precautions among hospital nurses

PIIL-HWAN KIM¹ AND KYOUNG-NAM KIM²*

Nurses are common medical staff working in hospitals. In hospital infection management, the role of nurses seems to be tremendous. The purpose of this study was to identify the factors influencing the implementation of guidelines on infection prevention standardization, which is the fundamental method for hospital infection management among hospital nurses. The number of subjects in this study was 174 nurses working at five general hospitals in Cities B and C. The data collected were analyzed with SPSS WIN 20.0 program. The average awareness of standard precautions was 21.2±2.8, safety environment 5.3±1.7, compliance with standard precautions 36.2±6.3, and preventive infection control behavior 65.8±8.5. There was a significant correlation between compliance with standard precautions vs. awareness of standard precautions (r=0.51, p<0.001) and safety environment (r=0.64, p<0.001) vs. preventive infection control behavior(r=0.85, p<0.001). Multiple regression analysis revealed an adjusted R² of 0.796 with the preventive infection control behavior serving as the major predictor for compliance with standard precautions (β=0.66, p<0.001). It would be necessary to encourage the infection control nurses to provide monitoring and feedback so that they can do preventive infection control behavior.

**Key words:** nurses, infection, standard precautions, compliance, infection control behavior

1¹Assistant Professor, Department of Nursing, Changshin University, South Korea  
ee-mail: feelnrkim@cs.ac.kr  
2²Assistant Professor, Department of Nursing, Busan Women’s College, South Korea  
*Corresponding author: e-mails - fairycc@hanmail.net  fairycc@bwc.ac.kr
Direct exposure of skin to sunlight could cause various diseases and even cancer. Because of this, investigation on UV protection should be conducted in order to address skin health problems. This study aims to examine the UV protection action on college students. The study subjects were 1544 nursing students in Korea. As for the research tool, it is composed of 25 questions including UV protection action related questions. The subjects did not conduct UV protection action properly. As a result, there was a difference in expected effect of UV. Also, there was a difference in expected effect of UV protection in accordance with skin color of subjects ($F=3.587, p=0.028$), and expected effect of UV protection by using sunscreen was high ($t=2.884, p=0.004$). There were only 2.5% of students who always used sunscreen. Harmfulness degree of sunlight to skin cancer was $3.99\pm1.02$ out of 5, while UV protection effect from using sunscreen was $3.73\pm0.83$ out of 5, and degree of knowledge was above intermediate level. The harmfulness degree of skin cancer and expected effect ($r=0.250, p<0.001$), the harmfulness degree of skin cancer and knowledge ($r=.113, P<.001$) and the expected effect of knowledge ($r=0.074, p<0.003$) had significant correlation in this paper.

**Keywords:** UV protection, knowledge, nursing students, skin cancer, skin health

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1Department of Nursing, Hanseo University, 46, Hanseo 1-ro, Haemi-myeon, Seosan-si, Chungcheongnam-do, Korea, e-mail address: dorothea@hanseo.ac.kr

Telephone number: 82-41-660-1589

*This study was conducted with financial grant from Hanseo University, Korea.

Received 11 November 2018; Accepted 21 November 2018

©Rushing Water Publishers Ltd. 2018  
Printed in the Philippines
Stress, depression and sleep quality in Korean college students

IN-KYOUNG KIM¹ and SANG-WOOK PARK²*

Korean college students are in consistent stress with their everyday activities in pursuit of getting employed after graduation. The purpose of this study is to apprehend the relationship among stress, depression and quality of sleep of college students and examine its influence on stress. The study tool is composed of measuring tools of general characteristics, stress, depression and quality of sleep. This study targeted 260 college students who attend college in Chungcheongbuk-do, Chungcheongnam-do and Daejeon, Korea. The collected data was analyzed using IBM PASW Statistics (SPSS) 22.0 program. There was a significant correlation between stress and depression ($r=0.210$, $p<0.001$), stress and quality of sleep ($r=0.122$, $p<0.001$), and depression and quality of sleep ($r=0.391$, $p<0.001$). The final regression model of stress was composed of quality of sleep ($t=8.911$, $p<0.001$), depression ($t=3.624$, $p<0.001$) and part-time job ($t=2.064$, $p<0.001$) with 37.7% of explanation power. To resolve stress from excessive studying, part-time job and college life, there is a need to protect mental and physical health through positive interaction between professor and student.

Keywords: Depression, Sleep, Stress, Students, Universities

¹Department of Nursing, Hanseo University, 46 Hanseo 1-ro, Daegok-ri, Haemi-myeon, Seosan-si, Chungcheongnam-do, Korea e-mail: dorothea@hanseo.ac.kr
²Division of Educational Evaluation, Korean Institute for Curriculum and Evaluation, 8 Gyohak-ro, Deoksan-myon, Jincheon-gun, Chungcheongbuk-do, Korea
*Corresponding author: e-mail - swpark@kice.re.kr Telephone: 82-43-931-0201
Influencing factors on health science students’ job perception and employment preparation behavior about international medical tour coordinator

MI SOOK KIM¹ and SOON OCK KIM¹* 

This study was undertaken to determine the factors influencing job perception and employment preparation behavior of health science students regarding international medical tour coordinator. Totally, 230 students who majored in nursing, radiologic technology, ocular optics, clinical laboratory technology and dental hygiene were enrolled as study subjects. Data collected from September 1-30, 2016 were statistically evaluated using SPSS 22.0 for Windows. Pearson’s correlation analysis defined the relation between job perception and employment preparation behavior. We also applied multiple regression analysis to determine how socio-demographic characteristics influence job perception and employment preparation behavior, which were considered as dependent variables. Our study revealed that job perception is higher amongst women students than men; however, there is no difference between genders with respect to employment preparation behavior. Job perception is highest among radiologic technology, followed by dental hygiene, nursing, clinical laboratory technology, and ocular optics. Furthermore, job perception and employment preparation behavior of younger students is higher. Analyzing the correlation between job perception and employment preparation behavior revealed that the higher the job perception, higher is the employment preparation behavior. The factors that influence job perception are gender and subject major (Adjusted $R^2=0.068$); job perception among women students and radiologic technology students are significantly higher. The factors that influence employment preparation behavior are age, major subject, and satisfaction with the major subject (Adjusted $R^2=0.115$); older students have lower employment preparation behavior, radiologic technology students have highest employment preparation behavior and students who answer that major satisfaction is “poor” show more employment preparation behavior than “good”.

Keywords: employment preparation behavior, health science students, international medical tour coordinator, job perception

¹Department of Nursing, Shinhan University, 30 Beolmadeul-ro 40 Beon-gil, Dongducheon, Gyeonggi-do 483-777, South Korea
*Corresponding author: e-mails - kso6210@hanmail.net, 200061@shinhan.ac.kr Telephone: 82-31-870-0472
Effect of lumbosacral orthoses on spatio-temporal gait parameters of patients with chronic lumbar pain

SANG-CHEOL IM¹, HO-YOUNG CHO¹** and KYOUNG KIM³***

The purpose of the study was to identify the impact of limitation of the trunk movement by wearing the lumbosacral orthosis (LSO) on gait patterns in patients with chronic lumbar pain. This study was performed to determine the impact of the lumbosacral orthosis which surrounds the spine as well as the pelvis during gait on the change of spatiotemporal variables. Fourteen subjects walked without wearing a lumbosacral orthosis, wearing a flexible lumbosacral orthosis, and wearing a semi-rigid lumbosacral orthosis in random order for three-dimensional (3D) motion analysis. The results showed that cadence and step width of the subjects significantly increased when they wore the orthoses, indicating that gait stability decreased. Thus, balance training may be needed to reduce the risk of damage caused by wearing a lumbosacral orthosis when patients with chronic lumbar pain walk.

Keywords: lumbosacral orthosis, 3-d motion analysis, chronic lumbar pain, gait

¹Department of Rehabilitation Science, Graduate School, Daegu University, 201 Daegudae-ro, Jillyang-eup, Gyeongsan-si, Gyeongsangbuk-do 38453, Republic of Korea
ounded by wearing the lumbosacral orthosis (LSO) on gait patterns in patients with chronic lumbar pain. This study was performed to determine the impact of the lumbosacral orthosis which surrounds the spine as well as the pelvis during gait on the change of spatiotemporal variables. Fourteen subjects walked without wearing a lumbosacral orthosis, wearing a flexible lumbosacral orthosis, and wearing a semi-rigid lumbosacral orthosis in random order for three-dimensional (3D) motion analysis. The results showed that cadence and step width of the subjects significantly increased when they wore the orthoses, indicating that gait stability decreased. Thus, balance training may be needed to reduce the risk of damage caused by wearing a lumbosacral orthosis when patients with chronic lumbar pain walk.

Keywords: lumbosacral orthosis, 3-d motion analysis, chronic lumbar pain, gait

²Department of Physical Therapy, College of Rehabilitation Science, Daegu University, 201 Daegudae-ro, Jillyang-eup, Gyeongsan-si, Gyeongsangbuk-do 38453, Republic of Korea

***Corresponding author: e-mail - kykim257@hanmail.net  Telephone: 82-10-9412-7288
Effect of action observation training with auditory stimulation and vision for gait function of stroke patients

HO-YOUNG CHO1*, SANG-CHEOL IM1** and KYOUNG KIM2***

A group of action observation training using visual and auditory senses had 15-min therapeutic intervention twice a day consisting of 3-min action observation training with rhythmic auditory stimulation and 12-min physical training while a group of action observation training using visual sense only had 15-min therapeutic intervention twice per day consisting of 3-min action observation training and 12-min physical training. Both of the groups had the above exercises three times a week for four weeks. The study results showed that the group of action observation training using visual and auditory senses and the group of rhythmic auditory training using only visual sense increased functional gait test significantly, respectively. Both of the group of action observation training using visual and auditory senses and the group of rhythmic auditory training using only visual sense increased gait endurance significantly showing that the group of action observation training using visual and auditory senses improved the functional gait ability more than the group of rhythmic auditory training using only visual sense did.

Keywords: auditory stimulation and vision, rhythmic auditory training action observation, stroke, gait, rhythmic auditory stimulation

1Department of Rehabilitation Science, Graduate School, Daegu University, 201 Daegudae-ro, Jillyang-eup, Gyeongsan-si, Gyeongsangbuk-do 38453, Republic of Korea
*e-mail: welove24@naver.com   ** e-mail: marinept83@daum.net
2Department of Physical Therapy, College of Rehabilitation Science, Daegu University,
201 Daegudae-ro, Jillyang-eup, Gyeongsan-si, Gyeongsangbuk-do 38453, Republic of Korea
***Corresponding author: e-mail - kykim257@hanmail.net   Telephone number: 82-10-9412-7288

Received 11 November 2018; Accepted 21 November 2018
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Systematic review and meta-analysis on the quality of life promotion program for infertile individuals

Ju-Young Ha1, Seon-Hwa Ban2*, Mi-Sun Lee2 and Kyong-Sun Ryu2

This study was a systematic review and meta-analysis designed to investigate effects of quality of Life promotion program for infertile individuals. The studies, dated until August 2017, were gathered from the PubMed, Cochrane Library Central, EMBASE, CINAHL, and several Korean databases. The risk of bias was assessed using Cochrane Collaboration’s tool. To estimate the effect size, meta-analysis of the studies was performed using comprehensive meta-analysis and RevMan programs. Finally, 11 studies met the inclusion criteria and these were used to estimate the effect size of psychoeducational intervention. Effect sizes [standardized mean difference (SMD)] were heterogeneous and random effects models were used in the analyses. Selected intervention was effective for quality of life (n=507, ES=1.61; 95% CI: 0.86, 2.36); martial satisfaction (n=414, ES=1.27; 95% CI: 0.02, 2.51); anxiety (n=493, ES=-0.68; 95% CI: -1.24, -0.12) and depression (n=119, ES=-0.68; 95% CI: -1.24, -0.12). Selected intervention appears to be effective in improving positive outcome (quality of life, martial satisfaction), and it is effective in reducing negative outcome (anxiety, depression). These findings provide scientific evidence for developing and using effective interventions to improve quality of life of infertile individuals.

Keywords: infertility, quality of life, programs, meta-analysis

1College of Nursing, Pusan National University, 49 Busandaehak-ro, Mulgeum-eup, Yangsan-si, Gyeongsangnam-do 50612, Pusan, South Korea e-mail: jyha1028@pusan.ac.kr
2College of Nursing, Pusan National University, 49 Busandaehak-ro, Mulgeum-eup, Yangsan-si, Gyeongsangnam-do 50612, Pusan, South Korea
*Corresponding author: e-mails - elli2378@korea.kr, elli2378@hanmail.net Telephone number: +82-10-5269-8677,
The purpose of this study was to investigate the level of knowledge, attitude, and performance of patient safety management of nursing students undergoing clinical practice. It aims to analyze the correlation between knowledge, attitude and performance of the nursing students. Data collection was conducted from November 20-30, 2016. The subjects of this study were 200 nursing students in the nursing department of the university in D city. Data were analyzed using descriptive statistics, t-test, one-way ANOVA and Pearson correlation coefficient using SPSS 21.0 program. The knowledge and attitude about patient safety management have a significant effect on the degree of performance. Therefore, it is necessary to increase the degree of nursing student’s safety management performance by reflecting the knowledge and attitude about patient safety management in the nursing curriculum.

**Key words**: nursing student, patient safety management, knowledge, attitudes, level of performance

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1College of Nursing, Yeungnam University College, 170 Hyeonchung-ro, Nam-Gu, Daegu 42415, South Korea

*Corresponding author: e-mail - mhmo1@ync.ac.kr    Telephone: 82-10-7502-1085
Well-dying in nursing students: Q-methodology

MEESUK WANG¹* and SUNYOUNG JANG¹**

The purpose of this study was to identify the Well-dying subjectivity recognized by nursing students, to describe the characteristics of each type, to identify the Well-dying typology, and to apply Q-methodology. Thirty four college students attending H University in Chungcheongnam-do, Korea were asked to classify 33 statements about Well-dying. The collected data were analyzed using QUANL PC program. As a result of analyzing the Well-dying nursing students recognized, three types were identified. The three types of Well-dying that nursing students perceive are ‘death accepting type’, ‘dignified death preparation type’, and ‘real happiness seeking type’. This is to explore subjective perception of Well-dying in nursing students, and it will provide basic data for development in nursing medical care interventions, palliative care and Well-dying education programs for nurses caring or meeting physically challenged patients.

Keywords: Well-dying, nursing students, subjectivity, Q Methodology, nurses

¹Assistant Professors, Department of Nursing, Hanseo University, 46 Hanseol-ro, Haemi-myun, Seosan-si, Chungeongnam-do 1569-709, Seoul, Korea  *e-mail: wangms@hanseo.ac.kr
**Corresponding author: e-mails - sjang@hanseo.ac.kr, arcsunyoung@naver.com
Musculoskeletal symptoms on nurses of comprehensive nursing care service wards

HO-YEON LEE¹ and MEE-SUK WANG²*

This study was conducted to investigate the severity of musculoskeletal injuries in nurses working in public hospital integrated service wards. The purpose of the study was to identify musculoskeletal disorders based on the working type, working hours and working position of nurses at public hospitals. The study surveyed 193 public hospital nurses. The survey period was from January 2014 to January 2016. The analysis was done using SPSS 18.0 program. General characteristics were analyzed by mistake and percentage. Musculoskeletal symptoms were analyzed by mistake, percentage and t-test according to the work type, working time and working attitude of the subjects. According to the work department, the results of the study on the musculoskeletal symptoms showed a significant difference in the departmental neck (F= 0.26). There was no significant difference in working hours. The musculoskeletal symptoms according to working position showed significant difference in neck (F= 0.45) and waist (F= 0.27). It can be concluded that nurses need prevention education to reduce and prevent musculoskeletal symptoms and use them as basic data for the development of musculoskeletal prevention program for nurses’ job training.

Keywords: public hospital, nurses, musculoskeletal symptoms

¹Department of Nursing, Seoul Medical Center, 156 Shinnae-ro, Jungrang-gu, Seoul 02053, South Korea
²Department of Nursing, Hanseo University, 46 Hanseo 1-ro Haemi-myun, Seosan-si, Chungcheongnam-do 31962, South Korea
*Corresponding author: e-mail - ilsong7@hanmail.net Telephone number: 82-10-3569-3507
Death in Korean elderly: Q-methodology

MEESUK WANG¹ SOOK KIM² AND SUNYOUNG JANG¹*

The purpose of this study is to grasp the subjectivity of death in Korean elderly people, to describe characteristics by type and to grasp the typology of death, to apply Q-methodology on data analysis. 35 elderly people living in Jeollanam-do and Chungcheongnam-do were read statement of death and were told to classify 28 sentences. The collected data were analyzed using QUANL PC program. As a result of this study, three types of deaths recognized by Korean elderly were identified. The types of death that Korean elderly perceives are ‘life transcendence type’, ‘bodily demise type’, and ‘temporal absence type’. For subjective perception of death in Korean elderly, this could be used as a basis for educational programs related to death or Well-dying for the elderly.

Keywords: Korean elderly, death, perception, subjectivity Q-methodology

¹Assistant Professors, Department of Nursing, Hanseo University, 46 Hanseol-ro, Haemi-myun, Seosan-si, Chungcheongnam-do 1569-709, Seoul, Korea   e-mail: wang@hanseo.ac.kr
²Assistant Professor, Department of Nursing, Chunnam Techno University, 113 Daehak-ro, Okgwamyeon, Gokseong-gun, Korea   e-mail: sokim@cntu.ac.kr
*Corresponding author: e-mails - sjang@hanseo.ac.kr, arcsunyoung@naver.com

Received 11 November 2018; Accepted 21 November 2018
©Rushing Water Publishers Ltd. 2018
Printed in the Philippines
Relationship between urinary incontinence, depression and quality of life in male elderly

KYUNG-SOON RYU¹ and YOUNG-JU JEE²*

This cross-sectional study sheds light on community-based elderly males’ urinary incontinence and depression and determines the correlation between their urinary incontinence, depression and Quality of Life (QoL). One hundred and twenty four community-based elderly males in two districts of B City completed each a structured questionnaire. SPSS WIN 23 was used to analyze the subjects’ characteristics, urinary incontinence and depression in terms of frequencies, percentages, means and standard deviations. The variance in their urinary incontinence and depression was analyzed with t-test and ANOVA. The correlation between the measured variables was analyzed with Pearson correlation coefficients. The results showed 45.5% of the community-based elderly males had at least mild urinary incontinence, while approximately 55% of them suffered from at least mild depressive symptoms. The males’ urinary incontinence was positively correlated with depression, whereas it was negatively correlated with the QoL. That is, the depression increased with the urinary incontinence, whereas the QoL decreased with the urinary incontinence. Depression was negatively correlated with QoL. That is, the more severe the depression was, the lower the QoL was. The findings of this study will be used as reference data for research on community-based elderly males and on intervention programs for urinary incontinence in men.

Keywords: elderly males, urinary incontinence, depression, Quality of Life (QoL), exercise

¹Doctoral Student, College of Nursing, Pusan National University, Pusan, South Korea
²Assistant Professor, Department of Nursing, Kyungnam University, Masanhappo-gu, Changwon-si Gyeongsangnam-do, South Korea
*Corresponding author: e-mail - jeeyoungju@kyungnam.ac.kr  Telephone: 82-10-2571-5334

Received 11 November 2018; Accepted 21 November 2018
©Rushing Water Publishers Ltd. 2018 Printed in the Philippines
Effect of psychological factors on job burnout of general hospital nurses

EUN-JU LEE1* AND SU-IN LEE2**

This study dealt with effect of psychological factors on job burnout of general hospital nurses. The survey was conducted from May 2 to 16, 2018 on a total of 109 nurses registered in two general hospitals. The survey results were analyzed by frequency, t-test, ANOVA, Scheffe’s test, Pearson’s correlation coefficients and multiple regression analysis using SPSS 22.0 software. The findings in this study indicated that the factors affecting the job burnout were religion, education level, organizational commitment and emotional regulation ability, explaining 27% of the variance in the regression model. Therefore, high organizational commitment and emotional regulation ability are necessary to attenuate job burnout for nurses in general hospitals. The perception and empowerment of the organizational commitment and emotional regulation ability can be learned empirically, and thus, professional and systematic education programs are needed to develop these.

Keywords: nurses, job burnout, organizational commitment, workplace adaptation

1Research Institute of Nursing Science, Keimyung University, 1095 Dalgubeol-daero, Dalseo-Gu, Daegu, South Korea
2Department of Nursing, Keimyung University, 1095 Dalgubeol-daero, Dalseo-Gu, Daegu, South Korea
*Corresponding author: E-mail: my06andy@naver.com
Relationship between job burnout and organization commitment for general hospital nurses using the mediating effect of workplace adaptation

SU-IN LEE¹ and EUN-JU LEE²*

The purpose of this study was to investigate the mediating effect of the workplace adaptation on the job burnout, organizational commitment and workplace adaptation in the general hospital nurses. The subjects were 92 nurses working at two general hospitals in one metropolitan city. As a result, the relationship between the job burnout and organizational commitment, and the relationship between the job burnout and workplace adaptation have negative correlation, respectively, and the relationship between the organizational commitment and workplace adaptation were positively correlated. For the case of the relationship between the job burnout and organizational commitment, the workplace adaptation showed mediating effect. Therefore, in order to reduce the job burnout of nurses and to increase the organizational commitment, it is necessary to develop the training strategy to improve the workplace adaptation for the nurses adapting smoothly to various medical environments.

Keywords: nurses, job burnout, organizational commitment, workplace adaptation

¹Department of Nursing, Keimyung University, 1095 Dalgubeol-daero, Dalseo-Gu, Daegu, South Korea
²Research Institute of Nursing Science, Keimyung University, 1095 Dalgubeol-daero, Dalseo-Gu, Daegu, South Korea,
*Corresponding author: e-mail - 11578@gw.kmu.ac.kr

Received 11 November 2018; Accepted 21 November 2018
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Factors influencing the image of physician assistants perceived by nurses

HYE RAN LEE¹ and NAM YOUNG YANG¹*

This research has the purpose of understanding the role and image of the physician assistant perceived by the nurse, while trying to investigate on the influence factors that affect the image of a physician assistant in hopes of raising awareness of the roles of a physician assistant and using research results as baseline data for developing an educational program that will positively promote the image of physician assistants. Combining the results of this research, the satisfaction and contribution of a physician assistant to the role of them was recognised as an important variable in determining the positive image of a physician assistant. Accordingly, the role of the physician assistant should be set up, in the current medical situation, with expectation of expanding of the role of the physician assistant and the increasement of number of the physician assistant and thus the establishment of a systematic and professional education program is required to improve the quality of their work and to legalize the work.

Keywords: PA (Physician Assistant), role, image

¹Department of Nursing, Kongju National University, 56 Gongjudae-hak-ro, Gongju-si, Chungcheongnam-do 32588, South Korea
*Corresponding author: e-mail - nyyang@kongju.ac.kr  Telephone number: 82-41-850-0314
Effects of education-centered intervention program on attitude on dementia and depression in dementia family caregivers

YOUNG-SUN PARK¹ and YOUNG-JU JEE²*

Nowadays, the cases of dementia are increasing with the growing number of elderly. The family's burden of care for the elderly with dementia increases as the elderly with dementia are restricted in performing their daily lives and highly dependent on their family or society. This is why the family needs to understand dementia, learn how to cope with it, and manage dementia patients. The study is a potential paper on the effects of education-centered intervention program on the attitude and emotion of families taking care of elderly with dementia. As a result, stabilization, knowledge and total score were not significant in Dementia of Attitude Scale (DAS) measuring the dementia attitude of dementia family, but a slight increase appeared in average score (pre-mean 41.86±10.84, post-mean 44.91±8.86)(pre-mean 44.64±12.98, post-mean 46.50±14.82)(pre-mean 87.27±21.04, post-mean 91.41±19.27). The depression of dementia family was measured with the Center for Epidemiologic Studies Depression Scale (CES-D) and as a result, it was not significant, but a slight decrease appeared (pre-mean 3.91±3.45, post-mean 2.36±3.01). This suggests that program is instructive for providing stable care based on knowledge for the family who takes care of the elderly with dementia. Therefore, as the education-centered intervention program for dementia family is beneficial for dementia family, there is a need to expand and popularize the program. Also, it is suggested that the development of a program considering the various characteristics of care providers in the development of educational-centered intervention programs, and that the number of subjects should be secured and studied for generalization.

Keywords: dementia, dementia attitude, depression, intervention, family caregivers

¹Department of Nursing, Kyungbok University, 154 Sinpyeong-ro, Sinbuk-myeon, Pocheon-si, Gyeonggi-do 11138, South Korea e-mails: yspark@kbu.ac.kr, ellapys@hanmail.net
²Department of Nursing, Kyungnam University, Woryeongbuk 16-gil, Masanhappo-gu, Changwon-si, Gyeongsangnam-do 631-701, South Korea
*Corresponding author: e-mail - jeeyoungju@kyungnam.ac.kr Telephone: 82-10-2571-5334

Received 11 November 2018; Accepted 21 November 2018
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User perception of the pet robots

JOO HYUN PARK¹ and HAN YOUNG RYOO¹*

The purpose of this research was to investigate the user perception of the pet robots. For an in-depth investigation on the users’ needs and evaluation of the pet robots, a focus group interview and a survey were conducted. The participants were first given a pet robot to have some experience with it, and then a focus group interview followed to talk about their thoughts and opinions about the pet robot. Out of all the topics that were discussed, shape, texture, color, size and screen have been selected as main subjects. The users’ opinions were then organized into pros, cons and needs per subject. After that, a survey was conducted with regard to the evaluation of the appearance of the pet robot and the emotions. The appearance evaluation was composed of the first impression, shape, size and weight while the emotion evaluation was executed by using the emotional words. In order to have a detailed analysis on these five evaluation items, a total of eight types of users, male and female in a single-person household, male, working mom and housewife with small children, and male, working mom and housewife with grownup children, have been compared. From the integrated results of the focus group interview and the survey, six implications of the pet robot have been drawn. This research has a significance that it suggests directions of the pet robots that the users actually desire through detailed analysis on the user experiences and emotions with the pet robot. The results of this research will be a useful tool in developing and evaluating the pet robots.

Keywords: pet robot, user perception, appearance, emotional words

¹Department of Content Convergence, Ewha Womans University, 52 Ewhayeodae-gil, Seodaemun-gu, Seoul 03760, South Korea
*Corresponding author: e-mail - hyryoo@ewha.ac.kr
Repeated measurement for screw loosening of implants in four different fastening methods

SOO-CHUL PARK

With the recent development of dental technology, there has been an increase in the production of dental prostheses using a variety of fastening types of dental implant. These implant prostheses restore missing teeth without having to remove the surrounding ones. It is also known that the biggest problem with screw fixation type implants is screw loosening. The purpose of this study was to evaluate the differences in screw loosening torque by measuring screw loosening, with a test repeated for five rounds, in implant fixture and abutment after fixing the implant (N=6) fixture and abutment using four different fastening methods, with fixed screws at a force of 30 N·cm. Screw loosening tests were conducted using an electric torque meter (SMTT03-50, MARK-10, USA). The results from repeatedly measuring screw loosening of the non-submerge type internal octagon connection implant with 8° morse taper showed the highest screw loosening force ($p<0.001$). There was also a significant difference in the screw loosening force depending on the amount of loosening ($p<0.001$).

**Keywords:** dental implant, repeated measures, screw, loosening, connection type
Effect of aroma oils with arousal and relaxation on visual fatigue due to smartphone

SEUNG-HYUN KWAK¹ and BYUNG-CHAN MIN¹*

This study was conducted to investigate the effect of the aroma odor, which is characterized by arousal and relaxation, on smartphone-induced visual fatigue. Experiments were performed in 10 males and females in their twenties who have no olfactory disease history. The smartphone in this experiment was a 5.2-inch full-HD IPS TFT-LCD (424 ppi) panel and presented visual stimulation by reading electronic books. Lavender and peppermint were used as aroma oils. To measure the changes of the autonomic nervous system, a pulse wave meter was used. Experimental results showed that the effect of aroma odors was somewhat higher in the autonomic nervous system after 20 minutes than the beginning of the presentation of aroma oil. Also, the changes in the autonomic nervous system were found to be more influenced by the reading time of electronic books than the aroma oil odor. These results suggest that the increase of visual fatigue in the competition process of visual and olfactory transmission to the cerebrum is dominant to the effect of aroma oil.

Keywords: e-book, visual fatigue, aroma oil, smartphone, autonomic nervous system

¹Department of Industrial & Management Engineering, Hanbat National University, 125 Dongseodae-ro, Yuseong-gu, Daejeon 305-719, South Korea
*Corresponding author: e-mails - bcmin@hanbat.ac.kr, ecoterran@gmail.com
Telephone: 82-10-5426-5449

Received 11 November 2018; Accepted 21 November 2018
©Rushing Water Publishers Ltd. 2018
Relationships among smartphone use level, communication competence, social avoidance and distress of college nursing students†

SUN MI KIM* and HYUN LI KIM**

This study dealt with the smartphone use level of college nursing students and the differences of their general characteristics as well as the relationship of their communication competence and social avoidance and distress. In order to examine students of nursing department of C college in D district from September 23-27, 2013 and their questionnaires were analyzed as 185 case finally. The data were analyzed by frequency and Pearson Correlation Coefficient of the SPSS WIN 20.0 program. The smart phone use levels of nursing students classified as high risk group, potential risk group and general group were 8.1, 13.1 and 78.8%, respectively. The average score was 34.74± 6.30, with average communication competence of 3.44± 0.46 and average social avoidance and distress of 2.80± 0.44. Their communication competence and social avoidance and distress were similar to those of other college students. This study revealed a negative relation between communication competence and social avoidance and distress. Conversely, a positive relation with smartphone use of nursing students was noted which should be a consistent concern for smart phones to be used as tools to improve life by strengthening awareness. Positive reinforcement programs for nursing students’ major to fortify their communication competence should be developed and implemented.

Keywords: nursing, students, smartphone, social avoidance, distress, addictive behaviors, communication competence

1College of Nursing, Chungnam National University, Jung-gu, Munhwa-ro 266, Daejeon, South Korea  *e-mail: witch1228@nave.com
*Corresponding author: e-mail - hlkim@cnu.ac.kr  Telephone: 82-042-580-8330
†This article is a condensed form of the first author’s Master’s Thesis, Chungnam National University, Daejeon, South Korea.
Influence of frailty of the elderly on depression and cognitive function

KWANG-OK LEE¹ and SOON-OCK KIM²*

This study was conducted to investigate the degree of frailty of the elderly and the influence of frailty on depression and cognitive function. A total of 207 elderly persons aged 65 years or older in eight senior centers in S city, Korea were surveyed. The data were then analyzed using t-tests or ANOVA and Scheffe’s multiple comparison method. In addition, Pearson’s correlation coefficient was used to determine the correlation of frailty, depression and cognitive function, and multiple regression was used to investigate the factors affecting frailty. The results revealed the mean degree of frailty of the elderly was 7.05, which was considered moderate, while the value of depression was 4.88 (mild); the cognitive function was 3.57, and 23.2% showed doubtful dementia. There was a significant difference in depression ($F=16.581, p<0.001$) and cognitive function ($F=38.913, p<0.001$) relative to the degree of frailty. Moreover, frailty showed a significantly positive correlation with depression ($r=0.454, p<0.01$) and cognitive function ($r=0.562, p<0.01$). Perceived health condition ($p<0.001$) and frailty (moderate frailty, $p<0.001$; severe frailty, $p<0.01$) were found to have a significant influence on elderly depression. Frailty of the elderly (moderate frailty, $p<0.001$; severe frailty, $p<0.001$) had a significant influence on cognitive function. Taken together, these results imply that decreasing the frailty of the elderly could prevent depression.

Keywords: elderly, frailty, depression, cognition

¹Department of Nursing, Sangmyung University, 31 Sangmyungdae-gil, Dongnam-gu, Cheonan-si, Chungnam-do, South Korea
²Department of Nursing, Shinhan University, 30 Beolmadeul-ro, 40 Beon-gil, Dongducheon, Gyeonggi-do 483-777, South Korea
*Corresponding author: e-mails - 200061@shinhan.ac.kr, kso6210@hanmail.net
Telephone: 82-031-870-0472
Location of the pre-post-care center for international medical services determined through the Analytic Hierarchy Process (AHP)*

TAE-GYU YU¹

So far, there has been a limit to the selection of strategic areas and customized strategies for each region in China. In addition, there is a need to establish a pre-post care center to overcome these limitations and to strengthen the local public health promotion function. The present paper analyzed the economic and social environments, the status and expenditure of medical institutions, the status of medical practitioners, and the macro environment for the main transmission regions in China. The purpose of this study was to obtain evidence data for the candidates for the location of medical center. The requisite of the Factor Rating Method was to ask the local survey company for the data list before setting the weights for the indicators and to try to prevent the error of the research result due to the change of the index by using only the collectable index after distinguishing the surveyable indicators. Finally, as a result of the priority setting for each city, the top 20 cities were selected as the first choice sites and the field survey was conducted for each city based on the detailed indicators of Factor Rating Method. In conclusion, the final candidate site of the Korea Medical Center was designated as Beijing, with a maximum of about 30 points over the average priority.

Keywords: foreign patients, Delphi analysis, AHP, pre-post care center

¹Assistant Professor, (331-707), Department of Geriatric Welfare, Namseoul University, Seounghwan-eup, Seobuk-gu, Cheonan City 3507, Korea e-mail address: fur1man@hanmail.net

*The funding for this paper was provided by Namseoul University, Cheonan City, Korea.
A qualitative study of caregivers of elderly with dementia

JU-YOUNG HA 1* AND SO-YOUNG JEON 2**

The purpose of this study was to analyze care experiences of dementia caregivers. The analysis extracted 139 significant statements, 13 sub-themes and 6 themes. The 6 themes were categorized into 3 categories. They gained unique experiences upon first encounter with dementia patients. They had fruitful experiences in addition to experiencing physical and mental difficulties while nursing dementia patients. They experienced various emotions after dementia patients showed beautiful farewell, which led to a negative emotion called depression. Such emotions faded away with longer nursing experience. Accordingly, it would be necessary to develop tools that can measure difficulties in nursing elderly with dementia.

Keywords: dementia, caregiver, nursing care, qualitative research, experience

1College of Nursing, Pusan National University, 49 Busandaehak-ro, Yangsan-si, Gyeongsangnam-do 50612, Korea e-mail: jyha1028@pusan.ac.kr
2Pusan National University Hospital, 179 Gudeok-ro, Seo-gu, Busan 49241, Korea
*Corresponding author: e-mail - wjsth64@naver.com Telephone: 82-10-4033-5458
Experience of nursing students in problem-based learning (PBL) with pair discussion

Oonhee Yee¹, Juyoung Ha² and Youngmi Ahn³*

Using content analysis, a qualitative, descriptive and exploratory study was conducted to determine nursing students’ experiences of problem-based learning (PBL) with pair discussion. Reflective journals written by 138 third-year nursing students after their PBL class were analyzed. The impact of the experience of PBL with pair discussion, as experienced by nursing students during a PBL class, included six main domains: individual learning ability, individual problem solving, individual discussion ability, group problem-solving processes, group-discussion ability and learning activities in group problem solving. In 247 responses related to the experience of the influence of pair discussion on personal learning process, 29 sub-categories and 11 categories were found. In 119 responses related to the experience of the influence of pair discussion on group discussion in PBL, 39 sub-categories and 9 categories were found. It was concluded that the simultaneous application of detailed learning-ability training opportunities, such as pair discussion, to the application of teaching and learning could be used to enhance the clinical thinking ability and problem-solving ability of nursing students.

Keywords: problem-based learning, pair discussion, nursing student, content analysis

¹Department of Nursing, Baekseok Culture University, 58 Munam-ro, Dongnam-gu, Chonan-si, Chungcheongnam-do, 31065, Republic of Korea
²College of Nursing, Pusan National University, 49 Busandaehak-ro, Mulgeum-eup, Yangsan-si, Gyeongsangnam-do 50612, Republic of Korea
³Department of Nursing Science, Baekseok University, 76 Munam-ro, Dongnam-gu, Chonan-si, Chungcheongnam-do 31065, Republic of Korea
*Corresponding author: e-mails - yahn@bu.ac.kr, youngmi.ahn@gmail.com

Received 11 November 2018; Accepted 21 November 2018
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Effects of geriatric depression prevention program on community-dwelling seniors

YOUNGMI AHN¹, JUYOUNG HA²* and OONHEE YEE³

This study was conducted to verify the effectiveness of the developed eight session-geriatric depression prevention program. It was a quasi-experimental study to conduct pre- and post-test, with 28 experiments and 24 controls in the study. The effectiveness of the program was measured by changes in levels of geriatric depression, ego-integration and anxiety. The average geriatric depression score decreased by 1.00±1.94 points, also the geriatric depression score differed significantly before and after the experiment (t=2.722, p=0.011). The average ego-integration score increased by 7.15±11.70, the ego-integration score differed significantly before and after the experiment (t = -3.232, p = 0.003). The mean score of state anxiety was lowered by -4.62±11.36 points which was statistically significant (t=2.163, p=0.040). In other words, the developed geriatric depression prevention program showed a significant decrease in geriatric depression scores, elevate ego-integrity and decrease anxiety.

Keywords: seniors, geriatric depression prevention program, ego-integrity, state anxiety

¹Department of Nursing Science, Baekseok University, 76 Munam-ro, Dongnam-gu, Cheonan-si, Chungcheongnam-do 31065, Republic of Korea   e-mail: yahn@bu.ac.kr
²College of Nursing, Pusan National University, 49 Busandaehak-ro, Mulgeum-eup, Yangsan-si, Gyeongsangnam-do 50612, Republic of Korea
³Department of Nursing Science, Baekseok Culture University, 58 Munam-ro, Dongnam-gu, Cheonan-si, Chungcheongnam-do 31065, Republic of Korea   e-mail address: ohyee@bscu.ac.kr
*Corresponding author: e-mails - jyha1028@pusan.ac.kr, jyha1028@gmail.com
   Telephone: 82-10-3205-7364
Priority of nurse caring behaviors as perceived by nurses and elderly patients

SOO-SUNG PARK\textsuperscript{1} and JU-YOUNG HA\textsuperscript{2}* 

In this study, we aimed to compare the perceived importance of nursing care behaviors between 131 nurses and 131 elderly patients. Participants were enrolled in 10 geriatric hospitals with at least 30 beds each from the Busan Metropolitan City area. Data were collected using the Caring Behavior Inventory, which is comprised of 42 items covering 5 factors. It was shown that nurses placed greater importance on nursing care behaviors than their patients did, and that both groups valued the factor “professional knowledge” most highly. However, there was a significant difference between the two groups in the importance given to each other item, with each prioritizing the remaining items differently. The study results therefore, highlight that nurses and elderly patients prioritize many caring behaviors differently. By considering the caring behaviors perceived as more important to the elderly, we should be able to deliver quality nursing plans that better meet their needs.

Keywords: nursing care, behavior, nurse, aged, patients

\textsuperscript{1}Busan St. Mary’s Hospital, 25-14 Yongho-ro, 232 Beon-gil, Nam-gu, Busan 48575, South Korea
\textsuperscript{2}College of Nursing, Pusan National University, 49 Busandaehak-ro, Yangsan-si, Gyeongsangnam-do 50612, South Korea
*Corresponding author: e-mails - jyha1028@pusan.ac.kr, jyha1028@gmail.com
Telephone: 82-51-510-8332
Effect of health perception and health literacy on the health promotion behavior of Korean rural elderly

SUNG-SIM LEE¹, SOOKYOUNG JEONG², HYUNJU PARK¹* and YOUNG-SOON CHOI³**

The purpose of this study was to investigate the effects of health literacy and health perception on health promotion behaviors in the rural elderly. There were statistically significant differences in age, reading and writing disability, and spouse status according to general characteristics. Health literacy was found to have a significant positive correlation in health-related terms, comprehension and mathematics areas, and health promoting behaviors. Health-related terms have a significant positive correlation in the area of comprehension and mathematics. Regression analysis of factors affecting health promoting behaviors showed statistically a significant effect on spouse existence, health perception, health literacy, comprehension and mathematics. The results of this study suggest that the health promotion behaviors of the elderly are related to the health perception and health literacy. In order to improve the health promotion behaviors of the elderly, the nursing intervention strategy considering health perception and health literacy should be sought.

Keywords: health perception, literacy, promotion behavior, rural elderly

¹24341 School of Nursing, (2nd Medical Building, #409), Kangwon National University, Kangwon-Daehakgil-1, Chuncheon City, Kangwon-do, Republic of Korea *email: hpark@kangwon.ac.kr
²26239 Department of Nursing, Saekyung College, 197 Hasong-ro, Yeongwol-eup, Yeongwol-gun, Gangwon-do, Republic of Korea email: sk22330@hanmail.net
³25949 Department of Nursing, Kangwon National University, Samcheck-si, Gangwon-do, Republic of Korea
**Corresponding author: email - ysc615@kangwon.ac.kr

Received 11 November 2018; Accepted 21 November 2018
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Printed in the Philippines
Relationships between stress, depression, social support and drinking behavior of nursing students

SUN YEUN HONG¹ and YOON JUNG KOO¹*

The purpose of this study was to examine the relationships between stress, depression, social support and drinking behavior among nursing students. Self-reporting surveys were administered to 160 nursing students. This study performed correlation analysis on the data according to the purpose of data analysis using the SPSS 23.0 program. As a result of the study, drinking behavior and social support showed a significant negative correlation, and social support and depression also showed a significant negative correlation. On the other hand, drinking behavior and depression showed a significant positive correlation. Further research on various influence factors related to drinking behavior is required continuously and repeatedly, and it is also necessary to develop and apply various support programs that society can provide based on the results of directly influencing factors.

Keywords: drinking behavior, stress, depression, social support, nursing students, nursing schools

¹Department of Nursing, Kyungwoon University, 724-5 Gangdong-ro, Sandong-myeon, Gumi-si, Gyeonsangbuk-do, Korea
*Corresponding author: e-mail - lice1@hanmail.net Telephone: 82-54-479-1382
Influence of career identity, major satisfaction, self-efficacy and academic self-efficacy on university life adaptation among nursing students

Yoon Jung Koo¹ and Sun Yeun Hong¹*

This study is a descriptive research that examined the influence of career identity, major satisfaction, self-efficacy and academic self-efficacy on university life adaptation among nursing students and sought to find a better way for students who want to enroll in nursing through the results and recommendations. Data were collected from 260 nursing students from Gumi-si in Gyeongsangbuk-do Province, Korea. Data analysis was done using descriptive statistics and multiple regression. Academic self-efficacy, major satisfaction and self-efficacy of the nursing students had positive influence on university life adaptation. But the rest of the factors do not influence university life adaptation. Based on the results of the study, in order to improve university life adaptation of nursing students, it is crucial to develop improvement program for nursing students.

Keywords: university life adaptation, career identity, major satisfaction, self-efficacy, academic self-efficacy

¹Department of Nursing, Kyungwoon University, 730 Gangdong-ro, Sandong-myeon, Gumi-si, Gyeongbuk-do, Republic of Korea
*Corresponding author: e-mail - hsy1009@hanmail.net Telephone: 82-54-479-1383
Anti-oxidant activity and whitening action of *Capsosiphon fulvescens* ethanol extracts

**Mi-Yun Yoon¹, Seon-Hee You¹ and Ji-Sun Moon²***

This study was conducted to investigate the possibility of functional cosmetics as an anti-oxidant and whitening effect by extracting ethanol from *Capsosiphon fulvescens*, a natural marine organism living in a clean sea area. RAW 264.7 cells showed no toxicity at 1, 10, and 100 µg/mL. DPPH radical scavenging activity did not show any radical scavenging activity at all concentrations. The inhibitory effect on ROS formation in RAW 264.7 cells was significant in a concentration dependent manner and inhibition of 32.7% at 100 µg/mL concentration appeared. In order to observe NO production inhibition, RAW 264.7 cells with LPS supplemented with 1, 10 and 100 µg/mL of *C. fulvescens* ethanol extracts inhibited NO production in a dose-dependent manner. *In vitro*, L-DOPA and L-tyrosine were used to inhibit tyrosinase activity in a concentration-dependent manner. The concentration of melanin at 1, 10 and 100 µg/mL was suppressed in B16F10 cells supplemented with α-MSH in the cells, and the inhibition was suppressed to 29% at 100 µg/mL. Therefore, it is considered that the ethanol extract of *C. fulvescens* is likely to be developed as a material for whitening functional cosmetics having anti-oxidant and anti-inflammatory effects.

**Keywords:** *Capsosiphon fulvescens*, anti-oxidant, anti-inflammatory, whitening, cosmetic, cytotoxicity, DPPH

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¹Department of Cosmetology, Dongnam Health University, 50 Cheoncheon-ro 74-gil, Jangan-gu, Sowon-si, Gyonggi-do 16328, South Korea

²85 Munmu-ro, Goesan-eup, Goesan-gun, Chungcheongbuk-do 28024, South Korea

*Corresponding author: e-mail - wltjs55555@naver.com  Telephone: 82-10-2562-1622
Effects of sense of humor, communication competence, general creativity and social support on self-leadership in freshman nursing students

JIYEON CHOI¹ and EUNHEE HONG²*

This study identified the effects of sense of humor, communication competence, creativity and social support on self-leadership of freshman nursing students. This was a cross-sectional descriptive correlational study of 315 freshman nursing students in the G region. As a result of this study, self-leadership showed statistical correlations with sense of humor (r=0.18), communication competence (r=0.41), general creativity (r=0.42), and social support (r=0.39). The identified influencing factors of self-leadership were satisfaction with university life (β=0.18, p<0.001), experience of being leader (β=-0.04, p<0.001), sense of humor (β=-0.11, p=0.044), communication competence (β=0.18, p=0.009), general creativity (β=-0.28, p<0.001), and social support (β=0.13, p=0.023), collectively explaining 32% of variance (F=10.83, p<0.001). By incorporating these results into the curriculum of new nursing students, we can improve the effectiveness of the organization culture and contribute to achieving the goals of the nursing organization.

Keywords: self-leadership, sense of humor, communication, creativity, social support

¹Department of Nursing, Gimcheon University, 214 Daehak-ro, Gimcheon City, Gyeongbuk 39528, South Korea  e-mail: cjy1218@gimcheon.ac.kr
²Seoul Women’s College of Nursing, 38 Ganhodae-ro, Seodaemun-gu, Seoul 03617, South Korea
*Corresponding author: e-mail - ehhong@snjc.ac.kr  Telephone: 82-10-5228-0419

Received 11 November 2018; Accepted 21 November 2018

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Adaptation of clinical nursing practice guideline for pain assessment and management in Korea

JEONG-IM LEE¹, HEE JUNG JANG²*, MI-WHA LEE³ and MEE-KYUNG CHO⁴

This study was conducted to develop a clinical nursing practice guideline for pain assessment and management using an adaptation process method from January to December 2015. The guideline was conducted into 24 steps according to the guideline adaptation manual developed by the Korean Hospital Nurses Association. The adapted pain assessment and management guideline consisted of 6 domains and 55 recommendations. The most number of recommendations in each domain was 28 in the management domain. And next domains were 9 in education, 5 in assessment, and 5 in evaluation. Of the 55 recommendations, 27.3% were graded as A, 29.1% B and 3.6% C and 40% D, respectively. This guideline is expected to contribute to improve nursing service quality by offering it as a guide to evidence-based practices for pain assessment and management. For further research, it needs to verify the evidences about pain assessment and management in order to secure higher grading recommendations.

Keywords: practice guideline, pain management, evidence-based nursing

¹Hallym University, Dongtan Sacred Heart Hospital, Hwaseong, South Korea
²Ph.D., Division of Nursing and Research Institute of Nursing Science, Hallym University, 1 Hallymdaehak-gil, Chuncheon 24252, South Korea
³Hallym University, Hangang Sacred Heart Hospital, Seoul, South Korea
⁴Hallym University, Sacred Heart Hospital, Anyang, South Korea
*Corresponding author: e-mail - hjjang@hallym.ac.kr Telephone: 82-33-248-2720

Received 11 November 2018; Accepted 21 November 2018
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Effect of job satisfaction on job stress of female workers in residential long-term care facilities

YUNG-HEE KIM1* and SUNG-JAE CHO1**

This study sought to analyze the effect of job satisfaction of female workers in residential long-term care facilities on their job stress. A questionnaire survey was conducted with 132 female workers at residential long-term care facilities. One-way ANOVA, t-test, correlation analysis and Scheffe’s multiple range test were conducted using the SPSS 22.0 program. The results of the study are as follows. Firstly, upon examining the job satisfaction of female workers according to their general characteristics, there was a meaningful difference in job satisfaction according to the number of consecutive years worked by the female worker, but the difference according to age, highest level of education achieved, occupation type, annual salary and shift pattern was insignificant. Secondly, upon examining the effect of the female workers’ job satisfaction on their job stress, job satisfaction had a meaningful effect on job stress, in the order of policy decision and implementation process, job security and potential for growth, job responsibility, supervision and opportunity to retrain, and welfare system. Results of this study would become foundational data for the development of programs to reduce job stress that has an important effect on the job satisfaction of residential long-term care facility workers.

Keywords: residential long-term care facility, job satisfaction, job stress, care facility workers

136-823 Department of Culture and Art Content, Dongbang Culture Graduate University, 28 Sungbuk-ro, Sungbukdong, Seoul, Korea *e-mail: cosac3@hanmail.net
**Corresponding author: e-mail - chosj715@daum.net

Received 11 November 2018; Accepted 21 November 2018
©Rushing Water Publishers Ltd. 2018
Printed in the Philippines
Effects of communication skills and self-efficacy on problem-solving ability: Focusing on nursing students

SAM-SOOK KIM\textsuperscript{1} and YOUNG-JU JEE\textsuperscript{2*}

This descriptive study assessed the communication skills, self-resilience, self-efficacy, and problem-solving ability of nursing students. It analyzed the correlations among these variables and identified factors influencing their problem-solving to provide basic data for improving it. The study subjects were nursing students at A university, Korea. A total of 218 responses from the students were used for analysis. The correlations among communication skills, self-resilience, self-efficacy and problem-solving ability were estimated with Pearson’s correlation coefficients using SPSS WIN 21 Program. Factors influencing problem-solving were analyzed using multiple regression analysis. The results are as follows. First, communication skills and self-efficacy explained 38.3% of nursing students’ problem-solving ability. Second, problem-solving ability, self-resilience, communication skills and self-efficacy were positively correlated with each other. The results suggest further investigation of the effect on communication skills and self-efficacy, which were identified as predictors of problem-solving in nursing students. Regarding the evaluation standards of the Korean Accreditation Board of Nursing, it is suggested that a systematic and organized approach to establish programs designed to improve nursing students’ problem-solving be considered. Accordingly, future studies need to analyze the effectiveness of the approach.

Keywords: nursing students, communication, self-efficacy, problem-solving ability

\textsuperscript{1}Department of Nursing, Daedong College, 506 Geumjeong-gu, Dongbugok-ro 27, Beong-gil 88, Busan, South Korea
\textsuperscript{2}Department of Nursing, Kyungnam University, Woryeongbuk 16-gil, Masanhappogu, Changwon-si, Gyeongsangnam-do, South Korea
*Corresponding author: e-mail - jeeyoungju@kyungnam.ac.kr  Telephone: 82-01-2571-5334

Received 11 November 2018; Accepted 22 November 2018
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REVIEWERS - *ASIA LIFE SCIENCES* Supplement 17, Number 1, 2018*

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*Disclaimer:* The use of trade names in this publication does not imply endorsement or criticism of the products named.

Actual date of publication: 18 Dec 2018 - ALS Suppl 17(2) 2018  
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Printed in the Philippines
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Actual Date of Publication: Asia Life Sciences Supplement 17(1) 2018 - 18 December 2018
Reviewers - Asia Life Sciences Supplement 17(1) 2018

ASIA LIFE SCIENCES - The Asian International Journal of Life Sciences (ISSN 0117-3375) is a non-profit, non-stock, refereed/peer-reviewed (double-blind review), print-edition, international, scientific journal devoted to the publication of original research in the Life Sciences and other disciplines. Articles originating from anywhere in the world are most welcome. Two issues a year make a volume.

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•Technical Production Manager: Y dred Harriss G. Gruèzo BSA

Deadlines for submission of manuscripts. First issue-01 July; Second issue-01 January.

Subscription Prices. •Foreign: Institutional - US$1000; Individual - US$800 (including Volumes 1-27, 1992-2018 + 17 Supplements). •Local: Institutional - PhP10,000; Individual - PhP8000 (including Volumes 1-27, 1992-2018 + 17 Supplements). •Prepayment of order/back order is required. All issues are to be sent by air mail. Back orders will have an additional packing-handling and postage cost.

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Website: http://emtpub.com/journals/ALS/ /

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81 Governor F.T. San Luis Avenue, Masaya, Bay 4033, Laguna, Philippines
Celfone nos. (063) (049) 0916-526-0164; 0926-723-4759
e-mails: asialifesciences@yahoo.com  wsmgruezo@gmail.com
http://emtpub.com/journals/ALS/
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Asia Life Sciences has an Impact Factor of 0.180

The papers published in Asia Life Sciences are indexed/covered by SCOPUS, Elsevier B.V., Radarweg 29, 1043 NX, Amsterdam, The Netherlands; CABI, Wallingford, Oxon, UK; China National Knowledge Infrastructure (CNKI), 66 Xixiaokou Avenue, Haidian District, Beijing, China and J-Gate, Informatics Publishing Limited, No. 194, RV Road, Basavanagudi, Bangalore-560004, Karnataka, India.

Asia Life Sciences is a recipient of the Journal Accreditation Award of the Commission on Higher Education (CHED), Republic of the Philippines (2010-2016).

Printed on acid-free papers

Actual Date of Publication: Asia Life Sciences Supplement
17(1) 2018 - 18 December 2018
The papers published in *Asia Life Sciences* are indexed/covered by SCOPUS, Elsevier B.V., Radarweg 29, 1043 NX, Amsterdam, The Netherlands; CABI, Wallingford, Oxon, UK; China National Knowledge Infrastructure (CNKI), 66 Xixiaokou Avenue, Haidian District, Beijing, China and J-Gate, Informatics Publishing Limited, No. 194, RV Road, Basavanagudi, Bangalore-560004, Karnataka, India.

*Asia Life Sciences* is a recipient of the Journal Accreditation Award of the Commission on Higher Education (CHED), Republic of the Philippines (2010-2016).

Printed on acid-free papers

**Actual Date of Publication:** *Asia Life Sciences Supplement 17(1) 2018 - 18 December 2018*
Asia Life Sciences has an Impact Factor of 0.180

The papers published in Asia Life Sciences are indexed/covered by SCOPUS, Elsevier B.V., Radarweg 29, 1043 NX, Amsterdam, The Netherlands; CABI, Wallingford, Oxon, UK; China National Knowledge Infrastructure (CNKI), 66 Xixiaokou Avenue, Haidian District, Beijing, China and J-Gate, Informatics Publishing Limited, No. 194, RV Road, Basavanagudi, Bangalore-560004, Karnataka, India.

Asia Life Sciences is a recipient of the Journal Accreditation Award of the Commission on Higher Education (CHED), Republic of the Philippines (2010-2016).

Printed on acid-free papers

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