Age, Developmental, and Job Stage Influences on Nurse Outcomes

Donna K. McNeese-Smith, MN, EdD
and Gwen van Servellen, PhD, RN

This descriptive study surveyed 412 nurses in three hospitals and found that older nurses and nurses in more mature developmental stages showed greater job satisfaction, productivity, and organizational commitment. Job stages of entry, mastery, and disengagement were examined, and 24% of nurses reported being disengaged from their jobs, with lower satisfaction and commitment. Implications include the compelling need for nurses and organizations to do career planning together to avoid disengagement of nurses so critical to patient and organizational outcomes.

Nurses pass through life and job cycle stages as they mature and accomplish developmental tasks. How much nurses value their relationship to the organization might depend on the significance of the organization and work to the issues and concerns of their "developmental journey." If this relationship were more fully understood, the effect on nurse outcomes also might be better understood and could be incorporated, by nurses and their managers, into career planning. Improving the course of nurse outcomes also might positively influence patient and organizational outcomes.

An examination of the relationship between age, developmental stage, job stage, and nurse outcomes is absent from the literature. Therefore, the purpose of this study was to determine the extent to which life and job cycle influences are related to outcomes of job satisfaction (JS), productivity (PR), and organizational commitment (OC) in a sample of hospital nurses.

Literature Review

It is theorized that it is normal for adults to move through sequential developmental stages, interspersed with transition periods.[1-7] As a result, the energy and drive that employees exhibit probably reflect, in part, the major tasks of their age and developmental period. Three variations of life stages were examined: age-groups, developmental stages, and job stages.

Age-Groups

Age has been found to have significant but low positive correlations with work satisfaction,[8-12] and also to OC.[13-17] Generally, older employees report more satisfaction and more commitment to the organization, though unhappy employees may have been eliminated with the passing of time.

Developmental Stages

Developmental stage (DS) refers to a phase in human growth and development, an "active and multidimensional process that is primarily rooted in the construction of the individual."[18(p 240)] Loevinger[5] described changes as occurring within a developmental continuum, with identifiable behaviors and functions maximal at a particular stage. For this study, developmental theories have been synthesized by the researchers into seven stages of adult development from end of adolescence through late adulthood (see Appendix 1): Early Adult Transition, Early Adulthood, Mid-life Transition, Middle Adulthood, Late Adult Transition, Late Adulthood, and Late, Late Adulthood.

A study by Kets de Vries and colleagues[9] hypothesized a trimodal curve of organizational outcomes related to predictable life cycle influences. They concluded that job satisfaction was high on entering the career, but fell as "reality shock" occurred, then rose from ages 31 to 40 years, during a period of socialization and growth. It fell during a time of mid-career crisis, then rose until the preretirement years of 51 to 55. Satisfaction then rose again just before retirement. Other researchers have studied the life cycle in relation to career-related processes[18-22] and have all concluded that developmental stage is an important influence.

Job Stages

Job stages provide another way of conceptualizing life cycle influences that may impinge on employee performance and attitudes. Graham[23] described job stages as levels of identification with the job environment, including work values, symbols (eg, uniforms and tools), standards, skills, and rewards. Stages are: Entry, Mastery, and Disengagement (see Table 1). According to Graham,[23] the environment influences the individual as he or she moves through stages on a predictable continuum related to time on the job, skill development, and attitudes. Graham's model was selected for this research because it might explain the path that nurses follow and outcomes important to nurses.

Employee outcomes important to all organizations include job satisfaction, productivity, and organizational commitment.

Job Satisfaction

Job satisfaction is a global construct, defined as the overall feelings an employee has about the job in general.[24] It encompasses pay, work, supervision, opportunities, conditions, and organizational practices. Organizational research shows that employees who are experiencing JS are more likely to be productive[25,26] and to stay on the job.[27,28] Job dissatisfaction leads to absenteeism, grievances, and turnover, resulting in higher employee costs.[27-30]

Productivity

Defined by Bain[31] as the contribution toward an organizational outcome in relation to resources consumed, PR may be measured quantitatively, such as by time and dollars spent, and qualitatively, as in goal attainment and customer satisfaction. Although evidence is mixed, most studies show that employees who are experiencing JS are more likely to be productive employees.[20,32] When turnover, absenteeism, and grievances are considered, the relationship of PR to JS is even more apparent.[33,34] This outcome should be a major goal in these times of cost reduction.

Table 1

Job Stages

Entry: Time of dreams, promise, and identify formation between self and job; membership created by training, skill acquisition, and peer acceptance. Realistic goals and support lead to mastery; lack of success leads to disengagement.

Mastery: Starts with advanced beginner skills, low job esteem; moves toward seniority, expertise, and high esteem; experience and skills merge job ideal with self-identity; lack of congruency between job and self-identity leads to disengagement.

Disengagement: System changes, friends leave or advance, and job no longer provides growth; employee feels confined and displaced so disengages; performance and esteem in relation to the job decrease, and employee identity separates from job.

Age, Developmental, and Job Stage Influences on Nurse Outcomes

Organizational Commitment

Defined as the "strength of an individual's identification with and involvement in a particular organization,"[35p 601] OC is characterized by a strong belief in the values and goals of the organization, and a willingness to work hard and maintain membership in the organization. It has been shown to be correlated with both PR and JS.[8,28,32,33]

In conclusion, literature and research suggest that age has a positive relationship with developmental stage and that both of these might affect nurse outcomes of JS, PR, and OC. Job stage might have a positive effect during entry and mastery but a negative effect during disengagement. However, no studies were identified that examined all of these relationships, particularly among nurses.

Hypotheses

1. There is a positive, significant relationship between age stage and developmental stage.
2. There is a positive, significant relationship between (1) age stage and (2) developmental stage and nurse outcomes of JS, PR, and OC.
3. There is a relationship between job stages and nurse outcomes such that nurses in entry and mastery stages have higher JS, PR, and OC than nurses in the disengagement stage.

Methods

Settings

Registered nurses in three church-related hospitals in Los Angeles County were surveyed. These hospitals have a licensed bed capacity ranging from over 350 to 550, and each has a large outpatient service, serving the health care needs of a varied, multiethnic population. Two are owned by the same organization, and the middle-sized hospital is part of a separate system.

Sample

The study's sample (n = 412) was primarily women (95%), with a mean age of 41 years.

Forty-six percent of the sample held at least a Bachelor's degree in nursing, with most (67%) having received their nursing education in the United States. Eighty-six percent were employed full time, 66% were staff nurses, 15% were middle managerial rank (managers, clinical nurse specialists, educators, and case managers), and the remainder were charge nurses or supervisors. The average number of years of RN experience was 15.6. Demographic differences of nurses by hospital seemed to be related to community locations.

Random samples were selected from last payroll by computer in two hospitals, whereas the sample from the third hospital (their request) included all nurses on duty during one randomly selected 24-hour period. In addition, all managers, educators, clinical nurse specialists, and case managers were invited to complete questionnaires to increase the number of participants in nonstaff nurse roles. Hospital A had 297 RNs; a sample of 169 were invited to participate, and 110 returned questionnaires for a return rate of 65%. Hospital B had 486 nurses; a sample of 266 were invited to participate, and 133 returned questionnaires for a return rate of 50%. Hospital C had 500 nurses; 357 were on duty, and 169 were returned, for a return rate of 47%. The overall return rate was 52%. No analysis of nonparticipants was performed. A sample size of 350 to 400 was considered sufficient for detecting small to medium effects, with a power of 0.80, when comparing multiple categories.

Procedure

Permission to conduct the study was received from the University Research Subjects Protection Committee and from appropriate approval bodies of each hospital. Confidentiality of staff questionnaires and responses, as well as hospital response patterns, was protected by omitting names on questionnaires and through confidential management of the data set. Letters of invitation with instruments and a researcher-addressed envelope were distributed to the sample.

Measures

Adult Stages of Development Questionnaire

A description of seven developmental stages was synthesized from the literature by the researchers. Face and content validity were established through careful adherence to theories of widely accepted developmental theorists[1–7] and validation by a content expert. Test-retest reliability was assessed by a researcher administering the questionnaire to a group of 21 nursing graduate students (ranging in age from younger than 30 years to older than 50 years), at two points with a 3-week interval. Ninety percent of the respondents checked the same developmental stage in both administrations (r = 0.90). For the study, respondents were instructed to choose the one stage, out of seven, that best described them.

Job Identity Stages Questionnaire

A description of three stages of development in the respondent's current job, using the model developed by Graham,[24] was included in the survey packet. Face and content validity were established through careful adherence to Graham's theory and validation by a research expert. Reliability was estimated by test-retest methods. A researcher administered the questionnaire to the same 21 graduate nursing students, at two points, with a 3-week interval. The instrument was found to be stable, with 80% of the graduate students selecting the same answer in both the first and second administration (r = 0.81). In the study, respondents were instructed to choose the one stage of development in their current job that best described their situation.

Job Satisfaction Scale

Job satisfaction was measured by the Job-in-General Scale, developed by Smith et al.,[45] to measure overall job satisfaction. Smith et al.[45] reported internal consistency using Cronbach's α (0.91 to 0.95). In the current study, internal consistency was also demonstrated (α = 0.85). Convergent validity was demonstrated through correlations with four other job satisfaction scales (r = 0.66 to 0.80).[45]

Productivity Scale

Individual productivity can be measured through an external source, such as a supervisor or a consultant, or through the employee's self-assessment. An instrument for measuring self-perception of productivity was developed by this researcher in a previous study.[46] It included questions on the following factors: goal attainment, controlling costs of labor and supplies, quality of service, employee growth, hours of care per unit of service, amount of work accomplished, meeting deadlines, work organization, errors, use of sick leave, influencing turnover, and problem solving. Face and content validity were established through a panel of 8 experts in productivity, and a panel of 20 staff nurses. Stability was established through test-retest measures. The scale has been used in previous studies where internal consistency was demonstrated, using Cronbach's α (range, 0.90–0.93).[42,46] In the current study, internal consistency was also demonstrated (α = 0.91).

Organizational Commitment Scale

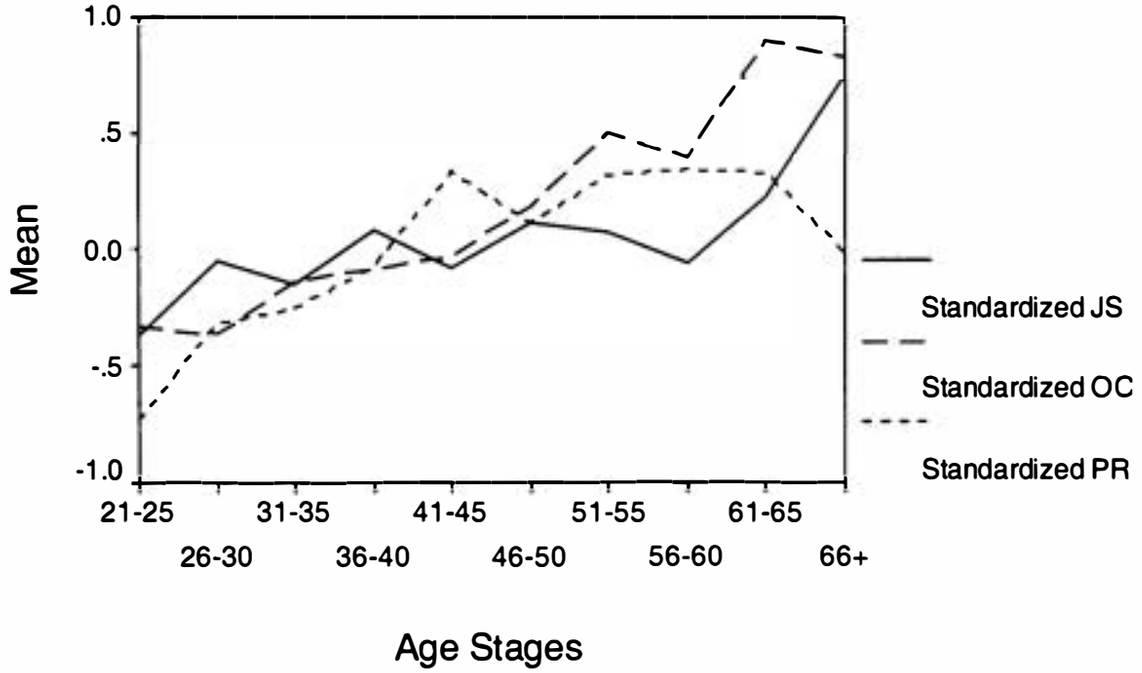
The OC Scale was developed by Porter et al.[14] and consists of 15 items on a 7-point Likert-type scale ranging from "Strongly agree" to "Strongly disagree." Examples are "I really care about the fate of this organization" and "I feel very little loyalty to this organization." Porter et al.'s scale has shown internal consistency (α = range of 0.82 to 0.93)[14] and predictive validity with both intent to leave the job within 1 year ($r = -0.37$, $P < 0.001$ and actual leaving ($r = -0.22$, $P < 0.001$).[15] In the current study, internal consistency was again demonstrated (Cronbach's $\alpha = 0.90$).

Results

Selected demographic variables showed statistically significant relationships with employee outcomes. Nurses with graduate degrees tended to report more PR and OC than nurses with associate degrees and diplomas. Managers, charge nurses, and supervisors tended to report more PR and OC than staff nurses or nurses in the clinical nurse specialist, case manager, or educator classification. Also, nurses tended to have higher scores in JS, PR, and OC the longer they had been a nurse. They reported greater PR and OC the longer they had worked in this hospital, and greater PR the longer they had been in their current job.

Job satisfaction, productivity, and organizational commitment were each regressed (using simultaneous entry) against all significant demographic variables. This produced significant models, but with relatively low R^2. For JS, no predictors had significant coefficients, and the R^2 was only 3% ($P = 0.04$) of the variance. For PR, 13% ($P = 0.0001$) of the variance was accounted for, and US education ($t = -3.16$, $P = 0.002$) and years worked as an RN ($t = 3.24$, $P = 0.0013$) had significant coefficients. Demographic variables accounted for 12% ($P = 0.0001$) of the variance for OC, with educational level ($t = 3.75$, $P = 0.0002$) and role ($t = 2.41$, $P = 0.02$) being significant. Master's-prepared nurses and a role as a supervisor or charge nurse were related to higher organizational commitment.

Findings indicated partial support for study hypotheses. Specifically, there was a strong, positive, significant relationship (*rho* = 0.73, $P = 0.001$) between age and developmental stage. A positive, statistically significant relationship was found between age stage and JS (*rho* = 0.11, $P = 0.03$), PR (*rho* = 0.25, $P = 0.001$), and OC (*rho* = 0.30, $P = 0.001$). With advancing age-groups, employee satisfaction, productivity, and organizational commitment tended to rise (Figure 1). Using analysis of covariance (ANCOVA) and controlling for developmental stage showed no significant differences for job satisfaction by age-groups. However, controlling for developmental stage indicated age-group differences for PR and OC, with means showing an increasing trend over time. Adding demographic variables (education, role, location of education, years as a



Age, Developmental, and Job Stage Influences on Nurse Outcomes

Figure 1. Standardized scores for job satisfaction, productivity, and organizational commitment by age stages.

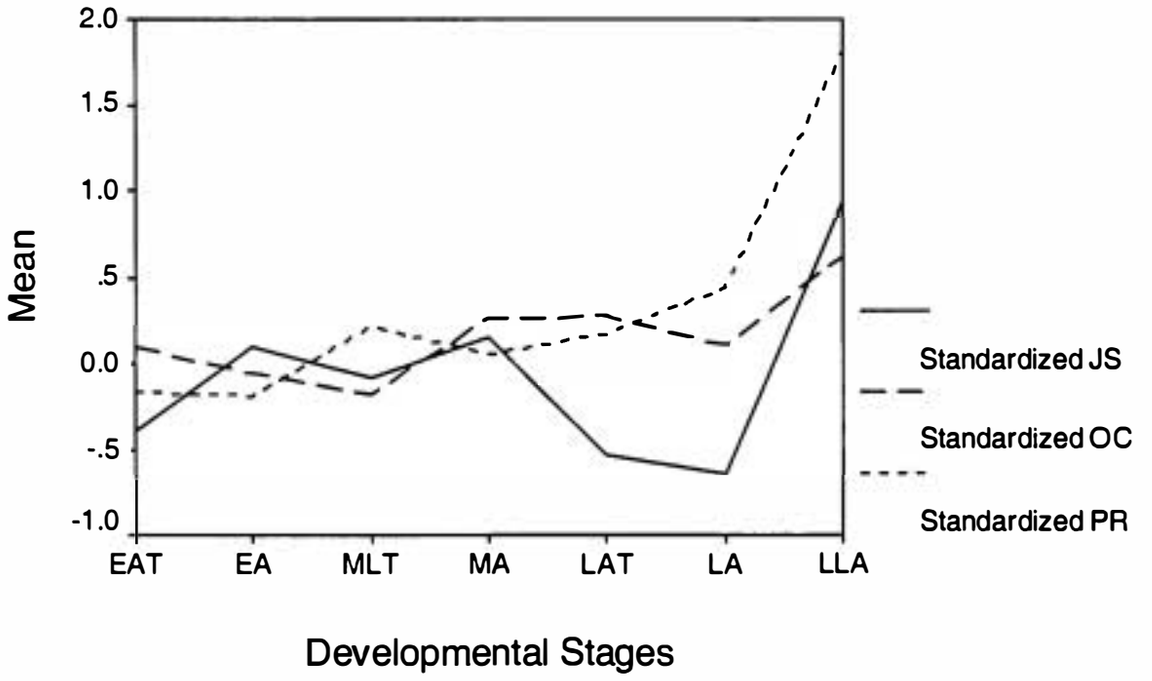


Figure 2. Standardized scores for job satisfaction, productivity, and organizational commitment by developmental stages. EAT = early adult transition; EA = early adulthood; MLT = mid-life transition; MA = middle adulthood; LAT = late adult transition; LA = late adulthood; LLA = late, late, adulthood.

nurse, years at this hospital, and years in this job as additional covariates) did not alter results for JS and OC, but resulted in nonsignificant age-group differences for productivity.

No statistically significant relationship was found between DS and JS, but a slight correlation was shown between developmental stages and PR (*rho* = 0.15, *P* = 0.005) and OC (*rho* = 0.12, *P* = 0.02), with nurses tending to report more PR and OC in stages of greater maturity (Figure 2). Using ANCOVA and controlling for age stage indicated a significant effect for JS ($F_{6,344}$ = 3.67, *P* = 0.002). Post hoc *t*-tests showed that nurses in transition to late adulthood and late adulthood had lower JS than other nurses. Controlling for demographics did not change results.

Using regression, neither age nor DS alone predicted JS, but they did when entered together ($F_{2,349}$ = 5.434, R^2 = 0.03, *P* = 0.0047). Age predicted PR ($F_{1,393}$ = 25.203, R^2 = 0.06, *P* = 0.0001), as did DS ($F_{1,350}$ = 7.556, R^2 = 0.02, *P* = 0.0063); this was also shown when entered together ($F_{2,343}$ = 11.44, R^2 = 0.06, *P* = 0.0001). Age predicted OC ($F_{1,394}$ = 40.679, R^2 = 0.09, *P* = 0.0001), as did DS ($F_{1,351}$ = 4.832, R^2 = 0.01, *P* = 0.03); when entered together, both predicted OC ($F_{2,344}$ = 18.588, R^2 = 0.10, *P* = 0.0001).

A statistically significant relationship also was found between job stage and JS ($F_{2,355}$ = 11.26, *P* = 0.0001), PR ($F_{2,349}$ = 11.83, *P* = 0.0001), and OC ($F_{2,350}$ = 25.94, *P* = 0.0001); thus, the hypothesis was partially supported. However, groups differed somewhat from the hypothesis. Nurses in the Mastery stage were significantly more satisfied than nurses in the Disengagement stage; nurses in the Mastery and Disengagement stages were significantly more productive than nurses in Entry; and nurses in Mastery were significantly more committed than nurses in Entry or Disengagement. Using ANCOVA and controlling for age, developmental stages, and for demographic variables, data consistently showed job stage differences for all three nurse outcomes (Figure 3).

Discussion

Several hypotheses were posed, and the results of this analysis indicated that age, developmental stage, and job stage are related, to some extent, to JS, PR, and OC. Several general patterns seemed to emerge. A slight but significant positive relationship was found between age-group and job satisfaction. A stronger relationship was observed between age-group and productivity, and age-group and organizational commitment. The ascending order suggested that employees in older age-groups were more likely to report higher JS, PR, and OC.

It might be concluded that older employees are better employees. However, after age 40, the number of nurses decreased significantly, making it difficult to make solid conclusions. Dis-

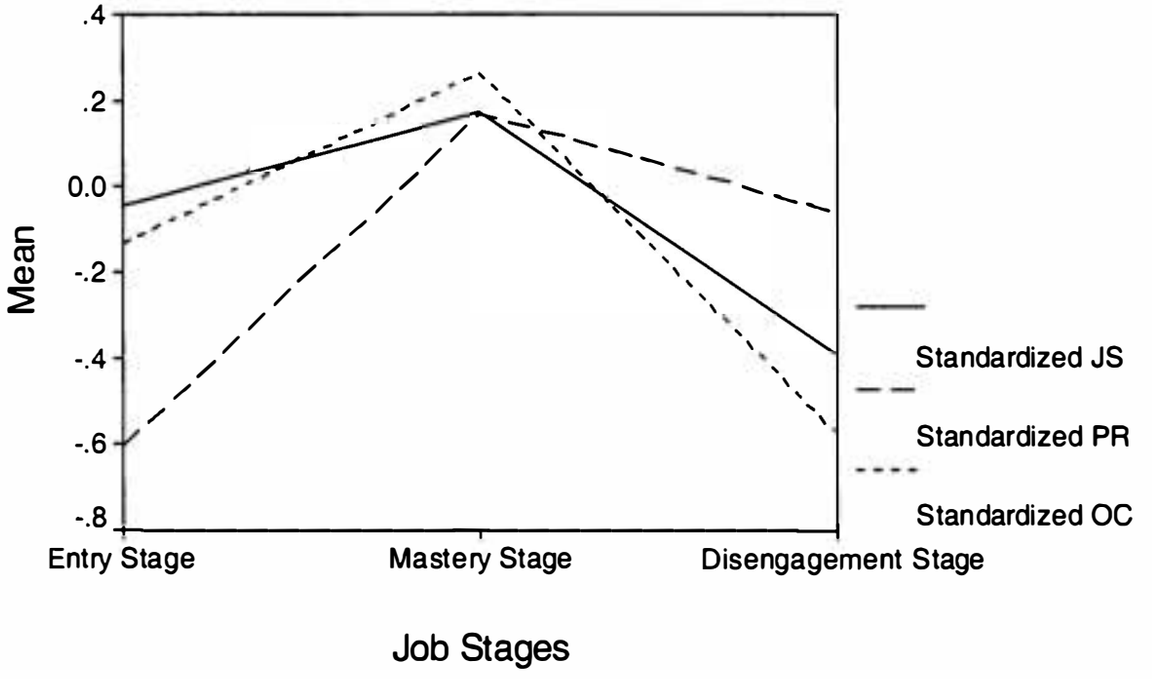


Figure 3. Standardized scores for job satisfaction, productivity, and organizational commitment by job stages.

satisfied nurses may have left hospitals for other work settings. It would be understandable that the remaining smaller number might be more satisfied. Because costs of replacing one critical care nurse are approximately $20,000,[47] these are steep losses for hospitals that must keep orienting new, younger, less experienced nurses.

Other researchers[8,10,12] have found low, but consistently positive, significant relationships between age and various measures of work satisfaction. Also, a number of researchers have identified positive, significant relationships between age and organizational commitment.[11,15,38,39]

In this study, although developmental stage was not significantly related to job satisfaction, slight but significant relationships were found between developmental stage and PR and OC. Again, the ascending order seemed to suggest that those individuals in later developmental periods were likely to report higher levels of productivity as well as have greater levels of commitment to the organization. Developmental stages showed different relationships to employee outcomes than age-groups, so developmental stages may be related to other factors, such as employee feelings, self-perceptions, health status, and difficulties with the job, as well as to age.

Age, Developmental, and Job Stage Influences on Nurse Outcomes

A graphic representation of the data shows an ascending order (see Figures 1, 2) between age-group and developmental stages and JS, PR, and OC. However, as the results show, relationships, although ascending, fluctuated considerably, which no doubt affects the overall strength of the correlations between these variables.

The examination of job stages was surprising. It is alarming to find that 24% of nurses reported being disengaged from the job. Job satisfaction and OC scores were significantly lower for nurses in the disengagement stage. These results, although preliminary, should charge nurses and employers to consider better planning *with* nurses, and *on the part of nurses*, to determine and influence factors contributing to the outcome of disengagement. These factors include boredom, frustration, lack of growth or rewards on the job, job tension, conflict, nurse attitude, and burnout. For example, regular meetings might be held between the manager and the nurse for evaluation, job assessment, goal setting, and career planning. Another option would be regular supervisory support meetings similar to those often provided in psychiatric settings.

This is an era in which we are expecting nurses to manage patient symptoms and diseases, prevent complications, reduce risks of hospitalization, lead organizations, and change patient and organizational outcomes.[40] Yet 24% of these nurses reported disengagement from their job. This indicates the importance of further research, such as (1) longitudinal studies to determine whether disengagement is a normal career stage, and whether disengagement occurs

Appendix 1

Adult Developmental Stages*

Early Adult Transition (18–30): Moves into adulthood from conformist to conscientious behavior; focused on sexual and intimate relations, career and lifestyle preparation.

Early Adulthood (30–38): Career, family, and lifestyle central; focused on establishing a place in society and meeting goals; conflict between needs, desires, and resources.

Mid-life Transition (38–43): Recognizes that youth is over, evaluates accomplishments and areas of neglect; energy shifts to internal world and unmet needs of self.

Middle Adulthood (43–59): Time of calmness and renewed capacity for self-actualization; focus on creativity, productivity, and guidance of next generation.

Late Adult Transition (59–65): Body is declining, fear of deterioration, interested in creative pursuits for retirement; views life with wisdom but finds change harder.

Late Adulthood (65–80): Focused on retirement, inner conflicts resolving but conflict between responsibility and entitlement; ideal is self-actualization.

Late, Late Adulthood (80+): Aging more evident than growth, occupied with bodily needs, disengaged from life's tensions; focused on past, finds meaning in life and death.

*Ages are approximate.

among most employees; (2) studies to evaluate whether processes and outcomes of nursing care deteriorate as nurses become disengaged, as Graham[25,31] hypothesized; and (3) experimental studies to determine whether strategies such as goal setting, job transfer, rewards, counseling, and education might avoid the disengagement phenomenon.

This study has limited generalizability because of the settings, the sample, and the nonexperimental methodology. The questionnaires on developmental stage and job stage were created for this research, using a single measure for each stage, and measured the nurse's perception of his or her own stage. These instruments have limited validation of their psychometric properties. However, although this is not the first study to examine the impact of age on JS, PR, and OC, it is the first to examine the relationship of developmental stage and job stage to these critical employee outcomes, particularly among nurses. Job stage of nurses appears to be virtually unexplored, and the nursing profession would benefit from future research on this topic.

In conclusion, the major contribution of this study is its findings that describe a complex relationship between demographic variables, age, and developmental stages, job stages, and employee outcomes.

Acknowledgments

The author thanks Dr. Lynn Brecht, Principal Statistician, and Yu Fen Li and Yan Cao, statistical support, for their assistance.

References

1. Gould R. The phases of adult life: a study in developmental psychology. Am J Psychiatry 1972;129: 33–43.
2. Gould R. Transformations during early and middle adult years. In: Smelser N, Erickson E, eds. Themes of work and love in adulthood. Cambridge, MA: Harvard University Press, 1980:213–237.
3. Levinson D. The seasons of a man's life. New York: Alfred A. Knopf, 1978.
4. Vaillant G. Adaptation to life. Boston: Little, Brown, 1977.
5. Loevinger J. Ego development. San Francisco: Jossey-Bass Publishers, 1976.
6. Homans P. Childhood and selfhood: essays on tradition, religion and modernity in the psychology of Erick H. Erikson. Lewisburg: Bucknell University Press, 1978.
7. Gilligan C. In a different voice: Psychological theory and women's development. Cambridge, MA: Harvard University Press, 1977.
8. Blegen MA. Nurses' job satisfaction: a meta-analysis of related variables. Nurs Res arch 1993;42: 36–41.
9. Kets de Vries M, Miller D, Toulouse J, et al. Using the life cycle to anticipate satisfaction at work. Journal of Forecasting 1984;3:161–172.
10. King M, Murray M, Atkinson T. Background, personality, job characteristics, and satisfaction with work in a national sample. Hum Relations 1982;35: 119–133.
11. Romzek BS. Personal consequences of employee commitment. Academy of Management Journal 1989;32:649–661.
12. Stamps P, Piedmont E. Nurses and work satisfaction: An index for work satisfaction. Ann Arbor, MI: Health Administration Press Perspectives, 1986.

13. Cohen A. Career stage as a moderator of the relationships between organizational commitment and its outcomes: A meta-analysis. J Occup Psychol 1991;64:253–268.
14. Cohen A. Organizational commitment and turnover: A meta-analysis. Academy of Management Journal 1993;36:1140–1157.
15. Ferris K, Aranya N. A comparison of two organizational scales. Personnel Psychology 1983;36: 87–98.
16. Romzek B. Personal consequences of employee commitment. Academy of Management Journal 1989;32:649–661.
17. Wilson B, Laschinger H. Staff nurse perception of job empowerment and organizational commitment. J Nurs Admin 1994;24:(4S)39–47.
18. Witherell C, Erickson V. Teacher education as adult development. Personnel Psychology 1978;3: 229–237.
19. Cron W, Dubinsky A, Michaels R. The influence of career stages on components of salesperson motivation. Journal of Marketing 1988;52:78–92.
20. Isabella L. The effect of career stage on the meaning of key organizational events. Journal of Organizational Behavior 1988;9:345–358.
21. Glickman C. Supervision of instruction: A developmental approach. Boston: Allyn & Bacon, Inc., 1985.
22. Renshon S. Psychological perspectives on theories of adult development and the political socialization of leaders. In: Sigel R, ed. Political learning in adulthood: a sourcebook of theory and research. Chicago: University of Chicago Press, 1989:203–264.
23. Graham B. Career mastery: a study of growth and decline of occupational identity among air traffic controllers at Los Angeles International Airport. Unpublished doctoral dissertation, University of California, Los Angeles, 1970.
24. Smith P, Kendall L, Hulin C. The measurement of satisfaction in work and retirement. Chicago: Rand McNally & Co, 1975.
25. Cohen A, Josefowitz N. Effective behavior in organizations. Homewood, IL: Richard D Irwin, 1980.
26. Likert R, Katz D. Supervisory practices and organizational structures as they affect employee productivity and morale. In: Robbins S, ed. Organizational Behavior. Englewood Cliffs, NJ: Prentice-Hall, 1979:56–57.
27. Hinshaw A, Smeltzer C, Atwood J. Innovative retention strategies for nursing staff. J Nurs Admin 1987;17:8–16.
28. Tett R, Meyer J. Job satisfaction, organizational commitment, turnover intention, and turnover: path analyses based on meta-analytical findings. Personnel Psychology 1993;46:259–293.
29. Lucas M, Atwood J, Hagaman R. Replication and validation of anticipated turnover model for urban Registered Nurses. Nurs Res 1993;42:29–35.
30. Porter L, Steers RM. Organizational, work, and personal factors in employee turnover and absenteeism. Psychol Bull 1973;80:151–176.
31. Bain D. The productivity prescription. New York: McGraw-Hill, 1982.
32. McNeese-Smith D. Job satisfaction, productivity, and organizational commitment: the result of leadership. J Nurs Admin 1995;25(9):17–26.
33. Porter L, Steers R , Mowday R, et al. Organizational commitment, job satisfaction, and turnover among psychiatric technicians. J Appl Psychol 1974;59: 603–609.
34. Robbins S. Organizational behavior. Englewood Cliffs, NJ: Prentice-Hall, 1979.
35. Smith P, Ironson G, Brannick M, et al. Construction of a job in general scale: a comparison of global, composite, and specific measures. J Appl Psychol 1989;74:1–8.
36. McNeese-Smith D. Increasing employee productivity, job satisfaction, and organizational commitment. Hospital and Health Services Administration 1996;41:160–175.
37. Blaufuss J, Maynard J, Schollars G. Methods of evaluating turnover costs. Nursing Management 1992;23:52–59.
38. Glisson C, Durick M. Predictors of job satisfaction and organizational commitment in human service organizations. Admin Q 1988;33:61–81.
39. Mowday RT, Porter LW, Steers RM. Employee-organization linkages: the psychology of commitment, absenteeism, and turnover. New York: Academic Press, 1982.
40. McCormick KA. New tools: new models to integrate outcomes into quality measurement. Semin Nurse Managers 1998;6:119.
41. Graham B. Career identity crisis. Optimum 1972;4:32–41.

Accepted for publication June 27, 1999.

Donna K. McNeese-Smith, MN, EdD, *is Assistant Professor, Coordinator, Nursing Administration Graduate Program, School of Nursing, University of California, Los Angeles.*

Gwen van Servellen, PhD, RN, *is Professor, School of Nursing, University of California, Los Angeles.*

Funded in part by a UCLA School of Nursing Research Grant.

Address correspondence to Donna McNeese-Smith, MN, EdD, School of Nursing, University of California, Los Angeles, Box 956917, Los Angeles, CA 90095-6917; e-mail: DMcNEESE@sonnet.ucla.edu.