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Job Satisfaction of Nurse Aides in Nursing Homes: Intent to Leave and Turnover

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Purpose: The relationship between job satisfaction of nurse aides and intent to leave and actual turnover after 1 year is examined. ***Design and Methods:*** Data came from a random sample of 72 nursing homes from 5 states (Colorado, Florida, Michigan, New York, and Oregon). From these nursing homes, we collected 1,779 surveys from nurse aides (a response rate of 62%). We used a job satisfaction instrument specifically developed for use with nurse aides, as well as previously validated measures of intent to leave and turnover. We used ordered logistic regression and logistic regression to examine the data. ***Results:*** High overall job satisfaction was associated with low scores on thinking about leaving, thinking about a job search, searching for a job, and turnover. In examining the association between the job satisfaction subscales and intent to leave and turnover, we found that high Work Schedule subscale scores, high Training subscale scores, and high Rewards subscale scores were associated with low scores on thinking about leaving, thinking about a job search, searching for a job, and turnover. High scores on the Quality of Care subscale were associated with low turnover after 1 year. ***Implications:*** These results are important in clearly showing the relationship between job satisfaction and intent to leave and turnover of nurse aides. Training, rewards, and workload are particularly important aspects of nurse aides' jobs.

Key Words: Nursing homes, Quality, Turnover, Nurse aides, Staffing

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With a predicted shortfall in the number of formal caregivers needed to provide care in the coming decade (Stone, 2004), workforce issues are becoming ever more salient in the long-term-care industry. Moreover, formal caregivers in long-term care are the linchpin to helping provide quality care. Nurse aides may be of particular importance in nursing homes because they provide the vast majority of hands-on resident care (Institute of Medicine, 2001). Researchers have examined workforce issues, such as training and staffing levels of these workers (Centers for Medicare and Medicaid Services [CMS], 2002), but few studies have examined job satisfaction of nurse aides. A strong association in other health care settings between job dissatisfaction and undesirable work behaviors such as tardiness and aggression has been established (Irvine & Evans, 1995). Most significantly, job satisfaction of caregivers in other health care settings is directly associated with turnover (Irvine & Evans, 1995). Given the high nurse aide turnover in many nursing homes (Harrington & Swan, 2003), we may have an opportunity to improve these rates by further understanding the relationship between job satisfaction of nurse aides and turnover in these facilities.

Our understanding of job satisfaction and turnover of nurse aides may also be limited by the sample size, job satisfaction instruments, and turnover definitions used in prior studies. Of the few studies in this area, most have used small samples of nurse aides (e.g., Monahan & McCarthy, 1992; Moyle, Skinner, Rowe, & Gork, 2003) that were probably not representative of these caregivers. In addition, data aggregation to all nursing staff (i.e., registered nurses [RNs], licensed practical nurses [LPNs], and nurse aides) by other studies (e.g., Kiyak, Namazi, & Kahana, 1997) may be problematic, as nurse aides may have different work preferences. All previous studies in this area used generic job satisfaction instruments. Such generic instruments have generally not performed well in long-term-care settings (Coward et al., 1995). The subscales used in these instruments may have little relevance to this

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population, or respondents may not have fully understood the questions being asked. In addition, some recent work has shown substantial measurement error associated with some turnover measures (Castle, 2006). Thus, in the present research examining the relationship between job satisfaction of nurse aides and turnover, we used (a) a large sample of nurse aides, (b) a job satisfaction instrument specifically developed for use with this population, and (c) previously validated measures of intent to leave and turnover.

Job Satisfaction and Turnover

We identified a total of 14 publications examining job satisfaction in nursing homes from 1980 to 2005. However, most of these studies were descriptive, and only four studies examined the relationship between job satisfaction and turnover (or intent to leave). The most recent study was by Parsons, Simmons, Penn, and Furlough (2003). These authors examined six subscales of nurse aide job satisfaction (Personal Opportunity, Supervision, Benefits, Coworker Support, Social Rewards, and Task Rewards) using 38 questions and a 5-point Likert scale. They found that 30% of the 550 nurse aides from 70 facilities in Louisiana planned to quit.

Kiyak and colleagues (1997) used the Job Description Index (Smith, Hulin, Kendall, & Locke, 1974) in six nursing homes and with 258 staff (including RNs, LPNs, and nurse aides). This index contains five subscales: Satisfaction With Work, Opportunities for Promotion, Relationship With Coworkers, Satisfaction With Pay, and Relationship With Supervisors. Both intent to leave ($p < .05$) and turnover ($p < .05$) 1 year after completing the survey were associated with low job satisfaction scores.

Coward and associates (1995) examined 281 RNs and LPNs from 26 nursing homes. The job satisfaction scale used included subscales for Professional Status, Task Requirement, Autonomy, Interactions With Other Nurses, and Pay. These authors used a total of 18 questions with a 5-point Likert scale. Current intent to stay was highly associated ($p < .0001$) with overall job satisfaction.

Humphris and Turner (1989) used a job satisfaction instrument with three subscales (Working Conditions, Emotional Climate, and General) and 14 questions with a 6-point Likert scale. They studied 31 nursing staff (RNs, LPNs, and nurse aides) with three assessments approximately 6 months apart. Turnover was positively associated ($p < .01$) with low job satisfaction.

Conceptual Model and Hypotheses

Met expectations theory is commonly used to explain job satisfaction (Best & Thurston, 2004). This theory proposes that individuals have expectations from work; if these expectations are not fulfilled then dissatisfaction with work results (Best & Thurston, 2004). However, this theory does not explain all of the potential consequences of dissatisfaction with work, such as turnover and intent to leave. Therefore, we used a conceptual model from the turnover literature because it more fully specifies the interrelationships between antecedents of both turnover and job satisfaction.

We modified the model of turnover initially developed by Price (Price, 1977, 2000; Price & Mueller, 1981) because it includes both turnover and intent to leave, and it is the result of extensive research in this area over several decades. We modified the model to be representative of the nursing home context; for example, we included facility characteristics that have had prior robust associations with turnover (e.g., Harrington & Swan, 2003).

According to this model (see Figure 1), intent to leave is influenced by personal characteristics, role-related characteristics, facility characteristics, turnover opportunities, and job characteristics. Intent to leave consists of a progression of three phases: (a) thinking about leaving, (b) thinking about searching for a job, and (c) searching for a job. In each of these phases, nurse aides' intent to leave increases. In turn, actual turnover is influenced by all of these factors (i.e., personal characteristics, role-related characteristics, facility characteristics, turnover opportunities, and job characteristics) and intent to leave (Price, 1977; Price & Mueller, 1981). In this investigation, personal characteristics were individual nurse aide variables such as age; role-related characteristics included tenure on the job; facility characteristics included staffing levels (Anderson, Issel, & McDaniel, 1997); turnover opportunities included contextual factors such as local unemployment rates; and job characteristics included the individual subscales used in the job satisfaction instrument, described in detail in the following paragraphs.

Thus, consistent with this theoretical model, nurse aides first become dissatisfied with their jobs; second, decide to leave; and third, terminate their employment. As Sheridan and Abelson (1983, p. 418) stated, "the termination decision process can be described as a sequence of cognitive stages starting with an initial dissatisfaction with the present job." Based on this and the prior studies in this area, Hypothesis 1, after controlling for personal, role-related, and facility characteristics and turnover opportunities, was that nurse aides with low job satisfaction would be more likely to intend to leave their current positions. In other words, these nurse aides would be more likely to be thinking about leaving, thinking about searching for a new job, and searching for a job (representing the three subscales comprising the intent-to-leave scale). Hypothesis 2, after controlling for personal, role-related, and facility characteristics and turnover opportunities, was that

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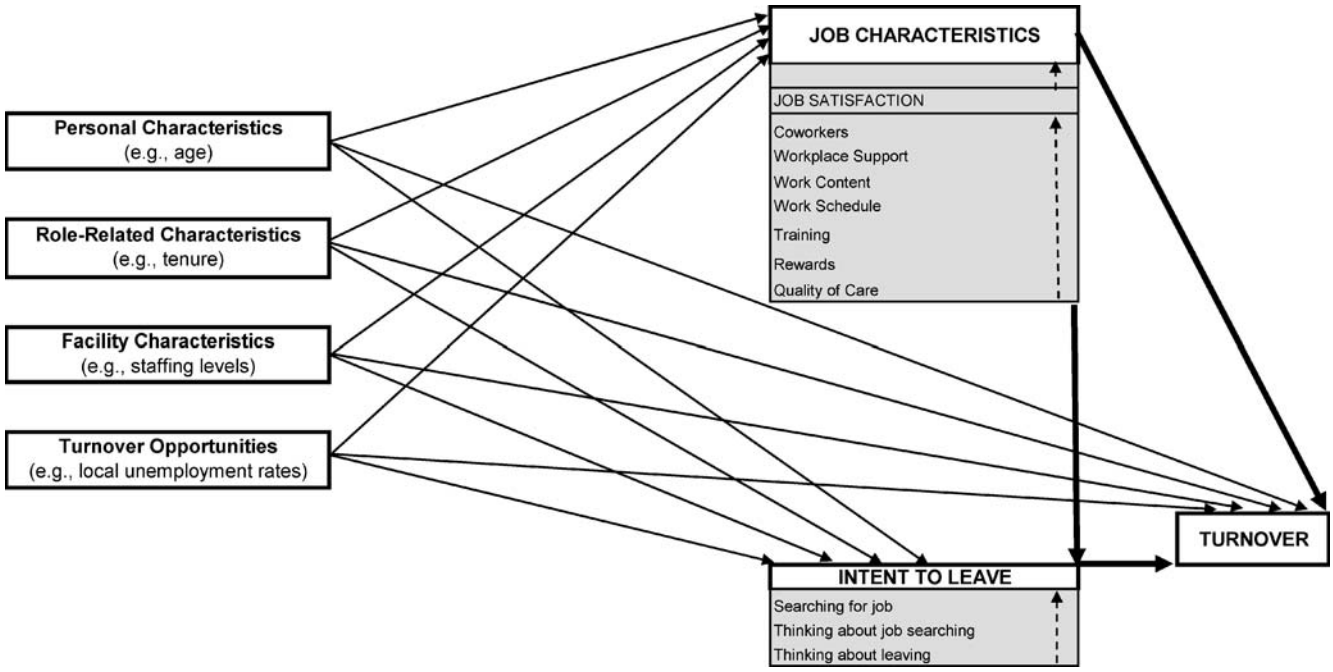

Figure 1. Proposed model for examining intent to leave and turnover of nurse aides.

nurse aides with low job satisfaction would be more likely to turnover within 1 year.

These two hypotheses examine relationships with overall job satisfaction levels. However, a better understanding of the job-satisfaction–turnover relationship comes from examining the subscales used in the job satisfaction instrument. In the present study, this approach also capitalizes on the nurse-aide–specific nature of the job satisfaction instrument used, which we describe further in the Methods section. If intent to leave does consist of a progressive sequence, then nurse aides may indicate greater dissatisfaction on a greater number of the job satisfaction subscales in each of these stages. Thus, Hypothesis 3 was that nurse aides would exhibit dissatisfaction on more job satisfaction subscales as they progressed from thinking about leaving, to thinking about searching for a new job, to searching for a job. Because the turnover decision is a sequence of stages, we also believed different job satisfaction subscales would be associated with separate stages in this process and that this would be most likely for the Rewards and Quality of Care subscales as hypothesized in the following paragraphs.

Monetary rewards and benefits for nurse aides are minimal. According to the *Occupational Outlook Handbook* (Bureau of Labor Statistics, 2002), the mean hourly wage for nurse aides is $9.51. The Paraprofessional Healthcare Institute (2003) found that employers rarely offer health insurance coverage to nurse aides and that health insurance coverage would be an important incentive for workers entering this field. Recent work at the state level found that low wages and poor benefits are by far the most commonly cited reasons for staff turnover (Mulliken Consulting, 2003). Thus, Hypothesis 4a was that nurse aides with low job satisfaction in the Rewards subscale would be more likely to intend to leave their current position.

Intent to leave and actual turnover are often highly correlated. For this reason, researchers often use intent to leave as a proxy for turnover; however, this does not necessarily mean the same job satisfaction subscales will be associated with both. For example, as described previously, we believed that the Rewards subscale would be associated with intent to leave, but we believed this subscale would not necessarily be highly associated with actual turnover (Bloom, Alexander, & Nuchols, 1992). This is because in most local employment markets benefits and wages for nurse aides do not vary widely. Thus, rewards may cause lower job satisfaction and intent to leave, but actually leaving for a higher paying position or one with better benefits is unlikely. Thus, Hypothesis 4b was that scores on the Rewards subscale would not be associated with turnover.

Numerous publications have identified nurse aides as having a strong concern for the quality of resident care. For example, Bowers, Esmond, and Jacobson (2003) described nurse aides' views on quality, and Anderson and colleagues (2005) described nurse aides' philosophies of care and both showed that aides were very concerned with resident care issues. Bergman and associates (1984) found staff perceptions of quality to be associated with turnover. Thus, Hypothesis 5 was that nurse aides with low job satisfaction on the Quality of Care subscale would be more likely to leave their current position.

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Methods

Job Satisfaction Questionnaire

Job satisfaction is defined as "the favorableness or unfavorableness with which employees view their work" (Grieshaber, Parker, & Deering, 1995, p. 18). In this analysis, we used the Nursing Home Nurse Aide Job Satisfaction Questionnaire (NHNA-JSQ). This instrument assesses the job satisfaction of nurse aides with seven subscales: (a) Coworkers, which represents relations with other workers in the facility; (b) Workplace Support, which represents resources and demands of the job; (c) Work Content, which represents the complexity and challenge of the work; (d) Work Schedule, which represents time pressures; (e) Training, which represents preparation for the position; (f) Rewards, which represents benefits of the job; and (g) Quality of Care, which represents how well nurse aides perceive residents are being cared for. In addition, we included two global job satisfaction questions. All 21 questions in the NHNA-JSQ use a visual analogue rating scale. A visual analogue format (also called *graphic scaling*) is a pictorial scale that usually has some interval value (e.g., in this case, a scale from 1–10 with 1 representing the lowest rating and 10 representing the highest rating).

In prior testing of the NHNA-JSQ, Castle (in press) found that Cronbach's alphas for all the subscales were higher than .74, which is above the usually recommended level of .70. The percentage of nurse aides not providing responses for each question was low and averaged only 1.5%. In addition, the floor and ceiling effects on all items were negligible. This prior testing included more than 1,000 nurse aides, and the psychometric properties of the instrument have been previously described as extremely robust.

Sources of Data

We chose a random sample of approximately 10% ($N = 240$) of nursing homes from five states (Colorado, Florida, Michigan, New York, and Oregon). We selected these states randomly from all 50 states. Eligible nursing homes were those participating in Medicare and/or Medicaid certification, which includes approximately 97% of all facilities in the United States. We used this eligibility definition because these nursing homes are included in the Online Survey, Certification, and Reporting system (OSCAR) data, which we used first to randomly choose facilities for participation, and second, to identify the mailing addresses of these facilities.

We excluded hospital-based facilities and small facilities with fewer than 40 beds from the sampling frame. We made these exclusions because of the added expense of collecting data from small facilities with likely few survey responses from nurse aides, and because hospital-based facilities tend to staff differently from other nursing homes (such as having higher staffing ratios in general and using more RNs). At the time of this study (Summer 2004), eligible facilities included 2,449 nursing homes.

In requesting participation in this study, we asked administrators if they would be willing to distribute the job satisfaction questionnaire to nurse aides and to complete a brief survey. In return, we agreed to give administrators as compensation a report with facility aggregate job satisfaction results. In all, 72 facilities agreed to participate for a facility response rate of 30%.

We gave participating facilities prepackaged mailing materials. These consisted of sealed envelopes containing the NHNA-JSQ, a letter describing the study, and a postage-paid return envelope. We asked participating facilities to distribute these prepackaged materials to all nurse aides ($N = 2,872$), including those working full-time, part-time, and on all shifts (but excluding agency staff). These aides returned 1,779 surveys for a nurse aide response rate of 62%.

Dependent Variables

Intent to leave and actual turnover after 1 year were the dependent variables of interest. Intent to leave was a self-reported measure, using a scale developed by Mobley, Horner, and Hollingsworth (1978). These seven items use a 5-point Likert scale, anchored by strongly disagree and strongly agree. The intent-to-leave questions represented three phases of this process: thinking about leaving (two questions), thinking about job searching (two questions), and searching for a job (three questions).

We measured actual nurse aide turnover 1 year after we collected the job satisfaction information. We collected this turnover information by sending a follow-up survey to nurse aides who had answered the baseline job satisfaction survey and who had given us permission to survey them again at a later date. If aides reported that they were no longer working at the nursing home, we asked them to identify whether this turnover was voluntary or involuntary. We defined voluntary turnover as having moved from the prior nursing home of one's own volition and involuntary turnover as having been willfully released from the prior nursing home. We included in our analyses only nurse aides who responded that their turnover was voluntary. For analysis, we created a dichotomous variable indicating whether an individual had left or not.

The overall nurse aide response rate of 62% varied very little by state (59%–64%) or by employment status (i.e., full time or part time; day, evening, or night shift) of nurse aides (55%–65%). However, the facility response rates were more varied: from 41% to 77%. In addition, of the 1,779 nurse aides

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participating in the baseline job satisfaction questionnaire, 1,031 (or 58%) completed the 1-year follow-up survey and 492 (48%) identified that they had voluntarily left their prior position. Only 3% of nurse aides reported involuntary termination.

Independent Variables

The independent variables of interest were overall job satisfaction and those measured by the job satisfaction subscales. For each subscale score, 9 values (from 0–8) or 13 values (from 0–12) were possible because scores could range from 0 (strongly disagree) to 4 (strongly agree) for each question. The overall job satisfaction score represented the sum of the seven job satisfaction subscale scores. In addition, personal characteristics, role-related characteristics, facility characteristics, and turnover opportunities were independent variables and followed the theoretical model.

The personal variables included in the analyses were age, race, marital status, and living distance from the nursing home. The role-related variables included in the analyses were tenure in the current facility (in years), tenure in any prior facility (in years), previous number of jobs held (both as a nurse aide and in any other jobs), whether the aide worked part time, and shift worked (i.e., day, evening, or night). Nurse aides self-reported this information as part of the questionnaire.

Administrators self-reported several facility characteristics using a brief questionnaire sent to those who had agreed to participate in the study. This questionnaire asked about yearly turnover rates for RNs, LPNs, and nurse aides; as well as staffing levels (per 100 beds) for these staff. We asked for this information because turnover rates for these staff are not commonly found in secondary data sources, and secondary data sources that record staffing levels (such as OSCAR) may be error prone (Straker, 1999). Based on prior work (Castle, 2006), the definition of turnover was total number of staff (measured in full-time equivalents) who had left employment during the previous 6 months divided by the total number of staff (measured in full-time equivalents) who had been employed during this period (this calculation included all shifts, part-time staff, and voluntary and involuntary turnover). A limited number of other OSCAR-derived facility variables included ownership, chain membership, occupancy, private-pay occupancy, and case-mix (measured using activities of daily living). These specific OSCAR variables have been used in prior research studies and are considered to be reliable (Harrington & Swan, 2003).

Three variables representing turnover opportunities also came from the Area Resource File: rural location, unemployment levels, and number of nursing facilities in the local market. We also included an opportunity variable from the nurse aide questionnaire that asked how many facilities existed in the area for which they thought they could work.

Analyses

We present descriptive analyses consisting of the percentages or means for the personal characteristics of nurse aides, role-related characteristics of nurse aides, facility characteristics of nursing homes, and opportunity characteristics in the market. We also present the means for each subscale in the NHNA-JSQ and intent-to-leave questionnaire, along with all of the item means and standard deviations. In addition, we conducted bivariate comparisons for respondent and nonrespondent facilities using the OSCAR data.

We examined multicollinearity and the level of collinearity among the predictor variables using the variance inflation factor test. Using a recommended variance inflation factor score of 2.5 or more (SAS Institute, 1999), we eliminated some variables used in the descriptive analyses (i.e., number of places employed as a nurse aide and LPN turnover) from the multivariate analyses. In addition, we excluded gender and education because almost all nurse aides were female and had a high school education.

We used multivariate analyses to examine (a) intent to leave and (b) turnover after 1 year. We used three different subscales to measure intent to leave. As described in the previous section, 9 values were possible for two of these subscales and 13 for the third one. Therefore, in these analyses we used ordered multinomial logistic regression analysis, which is appropriate for polychotomous, ordered outcomes such as these (Kennedy, 1992). We used multivariate logistic regression to examine turnover after 1 year. This estimates the probability of mutually exclusive events and, hence, is most often used with dichotomous dependent variables as in this case with turnover (0 = no, 1 = yes). In order to account for the possible correlation of variables within facilities, which can bias the standard errors of the estimates, we used the Huber–White sandwich estimator clustered by facility in all multivariate analyses.

Results

Table 1 presents descriptive statistics of the nurse aide sample, along with characteristics of the nursing homes in which they worked. Aides were most likely to be about 31 years old, be female, and have a high school diploma. Because we were able to link facilities with OSCAR data, we determined that few significant differences existed on facility characteristics (i.e., bed size, ownership, case mix, private-pay occupancy, and average occupancy) for participating nursing homes compared to nonparticipating homes.

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Table 1. Characteristics of Nurse Aides ($N = 1,779$) and Nursing Homes ($N = 72$)

Characteristic	%	*M* (*SD*)
Personal characteristics of nurse aides		
Gender (female)	98%	
Age (years)		31.2 (8.5)
Race (minority)	74%	
Marital status (single)	49%	
Highest level of education		
High school	92%	
More than high school	8%	
Travel distance from nursing home (miles)		11.2 (9.9)
Role-related characteristics of nurse aides		
Tenure in current facility (years)		3.9 (4.3)
Tenure in any prior facility (years)		0.5 (5.1)
Number of prior places employed as a nurse aide		3.5 (0.8)
Number of total prior jobs (in any position)		5.5 (1.5)
Tenure as an nurse aide in all facilities (years)		12.4 (11.2)
Part-time position	78%	
Shift		
Day	61%	
Evening	22%	
Night	17%	
Facility characteristics of nursing homes		
Average yearly nurse aide turnover rate		45.2 (18.3)
Average yearly LPN turnover rate		40.4 (11.0)
Average yearly RN turnover rate		33.5 (17.1)
FTE nurse aides per 100 residents		25.3 (8.6)
FTE LPNs per 100 residents		11.2 (9.4)
FTE RNs per 100 residents		8.5 (8.1)
Facility size (number of beds)		137.2 (81.1)
For-profit ownership	49%	
Chain membership	32%	
Average occupancy	93%	
Average private-pay occupancy	16%	
Case mix (activities of daily living)		2.6 (0.9)
Opportunity characteristics in market ($n = 59$)		
Rural location	18%	
Average unemployment rate in county		6.3 (1.8)
Number of nursing homes in county		18.2 (14.1)
Number of facilities nurse aides think they could work at in the area		7.5 (2.3)

Notes: LPN = licensed practical nurse; RN = registered nurse; FTE = full-time equivalent; *SD* = standard deviation.

However, respondent facilities were less likely than nonrespondent facilities to be members of a chain. Nursing home participation rates varied little by state and ranged from 27% (New York) to 35% (Michigan).

Table 2 presents descriptive statistics of the NHNA-JSQ and intent-to-leave questions. For the NHNA-JSQ, the mean score for the Work Content subscale was the highest (7.8), followed by scores for the Quality of Care (7.5), global ratings (7.4), Training (6.9), Coworkers (6.8), Workplace Support (5.7), Work Schedule (5.5), and Rewards (5.3) subscales. For the intent-to-leave subscales, the mean score for the Searching for a Job subscale was highest (2.63), followed by scores for the Thinking About Leaving (2.17) and the Thinking About Job Search (2.11) subscales. In support of the notion that these three intent-to-leave subscales represent a sequence of stages, the scores on these subscales were only moderately correlated.

Table 3 presents regression results examining the association between nurse aides' overall job satisfaction, intent to leave, and turnover. We found that high job satisfaction scores were associated with low scores on thinking about leaving, thinking about job search, searching for a job, and turnover. This was consistent with Hypotheses 1 and 2. In general, few variables were significant in the intent-to-leave analyses, and this is reflected in the low pseudo-R^2 scores. In contrast, many variables were significant in the 1-year turnover analyses, and the pseudo R^2 was relatively high.

Table 4 also presents regression results examining the association between nurse aides' job satisfaction, intent to leave, and turnover. We found that for job satisfaction, high Work Schedule, Rewards, and Training subscale scores (all indicating higher job satisfaction) were associated with low scores on thinking about leaving, thinking about job search, searching for a job, and turnover. High scores on the Quality of Care subscale (indicating higher job satisfaction) were associated with low scores on searching for a job. This progression of significant subscales was consistent with Hypothesis 3, and the significant Quality of Care subscale score supported Hypothesis 4a.

In addition, Table 4 shows that high Rewards subscale scores (indicating higher job satisfaction) were also associated with low turnover. This was contrary to Hypothesis 4b. High scores on the Quality of Care subscale (indicating higher job satisfaction) were associated with low turnover, which supported Hypothesis 5. High scores on the Work Schedule and Work Content subscales (both indicating higher job satisfaction) were also associated with low turnover. Following the pattern of findings from the previous analyses, few variables were significant in the intent-to-leave analyses, whereas many more variables were significant in the turnover analyses, and the pseudo-R^2 scores again were relatively low and high, respectively.

Discussion

As the U.S. population ages, we will need more caregivers; yet an inadequate number of caregivers are entering the health care workforce (American Nurses Association, 2001), and a significant number of nurse aides are leaving nursing homes (Seavey,

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Table 2. Job Satisfaction and Intent to Leave Scores for Nurse Aides

Item/Subscale	Subscale *M*	Item *M*	*SD*	Range
Job satisfaction[a] ($\alpha = .78$)				
Coworkers ($\alpha = .77$)	6.8			
Rate the people you work with		7.5	1.2	1–10
Rate whether you feel part of a team effort		6.2	1.8	1–10
Rate cooperation among staff		6.9	2.4	1–10
Workplace support ($\alpha = .72$)	5.7			
Rate the support you get when doing your job		6.8	1.2	1–10
Rate the chances you have to talk about your concerns		5.2	1.6	1–10
Rate the demands residents and family place on you[b]		5.8	2.4	1–10
Work content ($\alpha = .74$)	7.8			
Rate how much you enjoy working with residents		7.1	1.7	1–10
Rate how your role influences the lives of residents		8.6	1.2	1–10
Rate your closeness to residents and families		8.0	1.2	1–10
Work schedule ($\alpha = .73$)	5.5			
Rate your workload[b]		5.9	2.8	1–10
Rate your work schedule		5.3	2.5	1–10
Rate the amount of time you have to do your job		5.1	2.0	1–10
Training ($\alpha = .75$)	6.9			
Rate whether your skills are adequate for the job		6.5	2.1	1–10
Rate the training you have had to perform your job		7.4	1.3	1–10
Rate the chances you have for more training		6.8	1.5	1–10
Rewards ($\alpha = .83$)	5.3			
Rate how fairly you are paid		6.6	2.4	1–10
Rate your chances for further advancement		4.3	1.1	1–10
Quality of care ($\alpha = .81$)	7.5			
Rate the care given to residents		6.4	1.4	1–10
Rate the impact you have on residents' lives		8.2	1.6	1–10
Global ratings	7.4			
Rate your overall satisfaction with your job		7.6	1.7	1–10
Would you recommend working at this facility to a friend?		7.3	1.1	1–10
Intent to leave[c,d,e] ($\alpha = .82$)				
Thinking about leaving ($\alpha = .76$)	2.2			
All things considered, I would like to find a comparable job in a different organization		2.6	1.4	0–4
I am thinking about quitting		1.9	1.1	0–4
Thinking about job search ($\alpha = .88$)	2.1			
It is likely that I will actively look for a different organization to work for in the next year		2.0	1.1	0–4
I will probably look for a new job in the near future		2.2	1.8	0–4
Searching for a job ($\alpha = .75$)	2.6			
The results of my search for a new job are encouraging		2.6	1.3	0–4
At the present time, I am actively searching for a job in another organization		2.5	1.7	0–4
I intend to quit		2.8	1.8	0–4

Notes: Data were collected from 1,779 nurse aides in Colorado, Florida, Michigan, New York, and Oregon using the Nursing Home Nurse Aide Job Satisfaction Questionnaire. *SD* = standard deviation.

[a]All job satisfaction questions used a 10-point visual analogue rating format scale.

[b]Reverse coded; higher scores indicate positive job satisfaction.

[c]Measured using scale developed by Mobley, Horner, and Hollingsworth (1978).

[d]All intent-to-leave questions used a 5-point Likert scale anchored by strongly disagree (0) and strongly agree (4).

[e]The correlations among the three intent-to-leave subscales were low or moderate, indicating that the subscales measured distinct dimensions of intent to leave (i.e., thinking about leaving and thinking about job search, $r = .45$; thinking about leaving and searching for a job, $r = .42$; thinking about job search and searching for a job, $r = .37$).

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Table 3. Regression Results for Nurse Aides' Job Satisfaction, Intent to Leave, and Turnover Examining Overall Job Satisfaction Scores

	Thinking About Leaving[a]		Thinking About Job Search[a]		Searching for a Job[a]		Turnover[b,c]	
Variable	AOR	95% CI	AOR	95% CI	AOR	95% CI	AOR	95% CI
Job satisfaction								
Overall score[a]	0.78	0.66–0.91**	0.82	0.70–0.95**	0.87	0.73–0.99*	0.41	0.26–0.65***
Personal characteristics								
Age[d]	1.06	0.93–1.21	1.00	0.89–1.14	1.00	0.88–1.14	1.29	0.89–1.89
Minority[e]	0.92	0.68–1.23	1.00	0.73–1.35	1.18	0.81–1.72	0.38	0.06–0.47***
Marital status[e]	0.84	0.63–1.12	0.90	0.68–1.18	0.72	0.54–0.98*	1.23	0.48–3.12
Travel distance[f]	0.99	0.97–1.00	1.00	0.73–0.99*	1.18	0.81–1.00	1.21	1.03–1.42***
Role-related characteristics								
Number places employed as nurse aide[d]	1.34	1.12–1.59***	1.39	1.17–1.67	1.39	1.13–1.71***	2.06	1.13–3.76*
Total number prior jobs[d]	1.09	0.91–1.31	1.08	0.89–1.29	0.79	0.71–1.00	0.88	0.55–1.41
Tenure as nurse aide (all positions)[d]	0.81	0.74–0.91***	0.80	0.71–0.91***	0.80	0.72–0.90***	2.59	0.76–3.82***
Part-time position[e]	0.56	0.37–0.87**	0.57	0.39–0.83***	0.64	0.43–0.95**	1.26	1.00–1.42**
Shift[e]	1.21	0.79–1.85	1.07	0.69–1.66	1.02	0.69–1.51	0.31	0.07–1.31
Facility characteristics								
Nurse aide turnover[d]	0.98	0.71–1.35	1.09	0.80 –1.48	1.17	0.85–1.60	1.13	1.02–2.15*
Registered nurse turnover[d]	1.02	0.78–1.33	1.10	0.89–1.09	1.16	0.96–1.13	0.90	0.43–1.14
Nurse aide staffing levels[d]	1.04	0.83–1.32	1.14	0.86–1.36	0.88	0.71–1.38	1.03	0.63–1.86
Licensed practical nurse staffing levels[d]	1.06	0.78–1.44	0.90	0.73–1.11	1.18	0.90–1.54	0.58	0.27–1.65
Registered nurse staffing levels[d]	0.92	0.74–1.14	0.90	0.71–1.51	0.91	0.76–1.09	0.96	0.38–1.24
Facility size[d]	0.87	0.66–1.16	1.50	0.99–1.14	1.23	0.85–1.10	0.62	0.14–2.42
For-profit ownership[e]	1.32	0.82–2.11	1.50	1.00–2.29*	1.16	0.82–1.79	1.46	0.29–2.83
Chain membership[e]	0.98	0.62–1.57	0.72	0.50–1.47	0.78	0.54–1.62	1.42	0.40–7.37
Average occupancy[d]	0.80	0.51–1.26	0.72	0.50–0.99*	1.23	0.92–1.12	1.20	0.39–5.09
Average private-pay occupancy[d]	1.27	0.88–1.84	1.00	0.86–1.79	0.97	0.84–1.65	0.88	0.63–3.67
Case mix (activities of daily living)[d]	1.03	0.88–1.21	1.09	0.80–1.17	1.17	0.85–1.11	2.13	0.69–1.23
Turnover opportunities								
Rural location[e]	0.74	0.45–1.23	0.76	0.49–1.17	0.91	0.60–1.37	0.25	0.02–3.76
Unemployment rate[d]	0.90	0.76–1.07	0.87	0.75–0.99*	0.91	0.79–1.04	0.76	0.32–1.77
Number of nursing homes in county[d]	0.62	0.47–0.81***	0.66	0.51–0.84***	0.71	0.58–0.88**	1.90	0.76–4.77
Number of facilities nurse aide could work in[d]	0.94	0.83–1.05	0.91	0.81–1.03	0.91	0.80–1.03	0.92	0.69–1.22
Intent-to-leave subscales								
Thinking about leaving[f]							1.01	0.78–1.31
Thinking about job search[f]							0.90	0.70–1.16
Searching for a job[f]							0.90	0.80–0.99*
Pseudo R^2	0.05		0.06		0.09			0.67

Notes: Data were collected from 1,779 nurse aides in Colorado, Florida, Michigan, New York, and Oregon using the Nursing Home Nurse Aide Job Satisfaction Questionnaire. All analyses used the Huber–White sandwich estimator clustered by facility. AOR = adjusted odds ratio; CI = confidence interval.

[a]Examined using ordered logistic regression.
[b]Examined using logistic regression.
[c]The 1-year turnover rate for nurse aides was 48%.
[d]Adjusted odds ratio reported for a 1-*SD* change.
[e]Adjusted odds ratio reported for 1 vs 0.
[f]Adjusted odds ratio reported for 1-unit increment.
*$p \leq .05$; **$p \leq .01$; ***$p \leq .001$.

2004). The General Accounting Office (2001, p. 12) gave one reason for this shortage as "decreased job satisfaction." This shortage of workers is clearly significant for the nursing home industry, which expects an increased future need for these workers (Stone, 2004).

It is recognized that "fundamental flaws in the environment, design, and culture of long-term-care

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Table 4. Regression Results For Nurse Aides' Job Satisfaction, Intent to Leave, and Turnover Examining Job Satisfaction Subscales

	Thinking About Leaving[a]		Thinking About Job Search[a]		Searching for a Job[a]		Turnover[b,c]	
Variable	AOR	95% CI	AOR	95% CI	AOR	95% CI	AOR	95% CI
Job satisfaction subscales[d,g]								
Work schedule	0.79	0.68–0.92**	0.81	0.69–0.96**	0.79	0.68–0.92***	0.58	0.27–0.74**
Workplace support	1.17	0.98–1.41	1.10	0.92–1.31	1.17	0.98–1.41	0.17	0.10–0.29***
Coworkers	0.97	0.73–1.29	1.17	0.89–1.55	0.97	0.73–1.29	2.38	0.99–4.30
Work content	1.04	0.83–1.31	0.99	0.80–1.22	1.04	0.83–1.31	0.35	0.16–0.78**
Training	0.79	0.65–0.95**	0.72	0.60–0.87***	0.79	0.65–0.95**	0.29	0.12–0.73***
Rewards	0.61	0.44–0.72***	0.84	0.68–0.96*	0.75	0.64–0.87**	0.91	0.67–0.99*
Quality of care	0.99	0.94–1.05	0.98	0.92–1.05	0.99	0.94–0.99*	0.48	0.33–0.71*
Personal characteristics								
Age[e]	0.90	0.78–1.03	0.91	0.80–1.04	0.90	0.78–1.03	1.81	1.07–2.21**
Minority[f]	0.63	0.39–1.41	0.52	0.33–0.82**	0.63	0.39–1.03	0.34	0.25–0.64***
Marital status[f]	0.97	0.67–1.01	1.20	0.84–1.73	0.97	0.67–1.41	1.15	1.08–1.43*
Travel distance[g]	0.90	0.78–1.23	0.91	0.80–1.04	0.90	0.78–0.99*	1.81	1.07–1.21*
Role-related characteristics								
Number places employed as nurse aide[e]	1.05	0.90–1.02	1.02	0.86–1.20	1.05	1.00–1.09**	0.39	0.26–1.31
Total number prior jobs[e]	1.30	1.07–1.39*	1.33	1.11–1.59**	1.30	1.07–1.57*	2.22	1.21–2.67**
Tenure as nurse aide (all positions)[f]	0.86	0.73–1.23	0.86	0.72–1.02	0.68	0.42–1.10	2.12	1.77–2.79*
Part-time position[f]	0.68	0.42–0.89**	0.52	0.34–0.80***	0.86	0.73–0.99*	0.11	0.01–0.54***
Shift[f]	1.16	0.81–1.08	1.23	0.81–1.88	1.16	1.02–1.21*	0.39	0.26–1.03
Facility characteristics								
Nurse aide turnover[e]	1.15	0.84–1.02	1.06	0.77–1.45	1.15	0.84–1.57	2.90	0.73–3.21
Registered nurse turnover[e]	1.17	0.98–1.26	1.11	0.90–1.36	1.17	0.98–1.39	1.23	0.55–1.36
Nurse aide staffing levels[e]	0.88	0.71–0.95*	0.91	0.73–1.12	0.88	0.71–0.99*	1.01	0.45–1.06
Licensed practical nurse staffing levels[e]	1.17	0.89–1.07	1.14	0.85–1.51	1.17	0.89–1.54	0.76	0.31–0.89*
Registered nurse staffing levels[e]	0.92	0.76–0.99*	0.90	0.71–1.15	0.92	0.76–1.11	1.21	0.37–1.39
Facility size[e]	1.23	0.84–1.21	1.50	1.00–2.31*	1.23	0.84–1.82	0.63	0.12–0.87**
For-profit ownership[f]	1.20	0.85–1.39	1.00	0.66–1.52	1.20	0.85–1.68	1.14	0.16–1.20
Chain membership[f]	0.78	0.54–1.04	0.71	0.49–0.99*	0.78	0.54–1.12	0.92	0.19–0.99*
Average occupancy[e]	1.21	0.91–1.43	1.28	0.94–1.75	1.21	0.91–1.62	1.65	0.41–1.92
Average private-pay occupancy[e]	0.97	0.84–1.19	1.00	0.86–1.17	0.97	0.84–1.12	0.64	0.42–1.02
Case mix (activities of daily living)[f]	1.15	0.84–1.04	1.06	0.77–1.45	1.15	0.84–1.57	2.90	0.73–1.30
Turnover opportunities								
Rural location[f]	0.94	0.61–1.43	0.80	0.52–1.22	0.94	0.61–1.43	0.14	0.01–3.51
Unemployment rate[e]	0.91	0.79–1.05	0.87	0.75–1.01	0.91	0.79–1.06	0.75	0.28–2.00
Number of nursing homes in county[e]	0.72	0.58–0.90***	0.66	0.51–0.85***	0.72	0.58–0.90***	1.44	0.50–4.17
Number of facilities nurse aide could work in[e]	0.91	0.80–1.04	0.91	0.81–1.02	0.91	0.80–1.04	1.14	1.03–1.13**
Intent-to-leave subscales								
Thinking about leaving[g]							0.80	0.55–1.02
Thinking about job search[g]							0.95	0.72–1.03
Searching for a job[g]							1.05	1.00–1.20*
Pseudo R^2	0.12		0.11		0.10		0.72	

Notes: Data were collected from 1,779 nurse aides in Colorado, Florida, Michigan, New York, and Oregon using the Nursing Home Nurse Aide Job Satisfaction Questionnaire. All analyses used the Huber–White sandwich estimator clustered by facility. AOR = adjusted odds ratio; CI = confidence interval.

[a]Examined using ordered logistic regression.
[b]Examined using logistic regression.
[c]The 1-year turnover rate for nurse aides was 48%.
[d]Reverse coded; higher scores indicate positive job satisfaction.
[e]Adjusted odds ratio reported for a 1-*SD* change.
[f]Adjusted odds ratio reported for 1 vs 0.
[g]Adjusted odds ratio reported for 1-unit increment.
*$p \leq .05$; **$p \leq .01$; ***$p \leq .001$.

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work contribute to vacancies and high turnover'' (Davis & Dawson, 2003, p. 4). Staff job satisfaction likely reflects these flaws. Researchers have established a strong association between job satisfaction and turnover in other health care settings (Irvine & Evans, 1995), yet it would be useful to better understand this relationship as it relates to nursing homes. In this research, we examined both intent to leave and turnover after 1 year and their relationship with overall job satisfaction and seven job satisfaction subscales.

Given the often-reported poor quality of care in nursing homes (Institute of Medicine, 2001) and difficult work undertaken by caregivers (Tellis-Nayak & Tellis-Nayak, 1989), one may not have expected the descriptive results showing moderately high job satisfaction scores of nurse aides on some items. These results may reflect the fact that many nurse aides consider their work to be a profession and not merely a job (Davis & Dawson, 2003).

We do note, however, that some other job satisfaction studies have produced similar results, highlighting the enjoyment staff receive from relationships with residents (e.g., Parsons et al., 2003). Our results are similar to those of previous studies that have identified satisfaction with relationships with residents and shown that nurse aides are aware that their roles influence the lives of residents. The challenge is to capitalize on these positive aspects of the work environment to enhance job satisfaction and retention.

Overall, in the multivariate analyses, we found that low job satisfaction is associated with both intent to leave and turnover, which supports Hypotheses 1 and 2. These findings are consistent with research results in other areas of health care (e.g., Irvine & Evans, 1995) and findings from prior nursing home studies (e.g., Parsons et al., 2003). Nevertheless, the strength of our findings is weak, and in all cases the results have low adjusted odds ratios. We believe these weak relationships exist because nurse aides are likely more sensitive to some areas of their work than others, a fact that is reflected in the job satisfaction subscale scores rather than in aggregate scores. Indeed, the Training, Rewards, and Work Schedule subscales show stronger associations with both intent to leave and turnover.

Regarding intent to leave, findings show that nurse aides are dissatisfied on progressively more job satisfaction subscales as they move from thinking about leaving, to thinking about searching for a new job, to searching for a job. The findings also support Hypothesis 4a, namely that rewards (low pay and opportunity for advancement) would be associated with intent to leave. However, rewards are also associated with actual turnover, which is contrary to Hypothesis 4b.

Scores on the Quality of Care subscale were associated with turnover but not intent to leave, supporting Hypothesis 5. The Quality of Care subscale taps the nurse aides' assessment of the impact they are able to have on residents. Prior researchers have shown that aides have a strong concern for the quality of resident care (e.g., Bowers, Esmond, & Jacobson, 2003) and have described the frustration nurse aides express when they feel that providing high-quality care is not possible given their workload (Anderson et al., 2005). Findings from this research add that this concern can also manifest as turnover.

Implications for Practice and Policy

Training, rewards, and work schedule are important aspects of nurse aides' jobs. Aides are required to undergo a minimum of 75 hr of initial training. Our results suggest that improvements in this training requirement may be important for retention efforts. However, the findings do not indicate whether providing more training or changing the content or the method of training would be most advantageous in improving the scores on this Training subscale. Nevertheless, our results lend support to advocacy efforts for more and/or different nurse aide training (Davis & Dawson, 2003).

The results for work schedule also have practical implications. Work schedule scores were likely representative of the staffing characteristics of the facilities investigated. The federal government regulates staffing levels in Medicare-/Medicaid-certified nursing homes, and mandates require that a facility provide services by a sufficient number of nursing personnel on a 24-hr basis in order to provide the required care in accordance with care plans. Nevertheless, experts consider resident-to-staff ratios in many facilities to be low (Harrington, 2005), which may influence resident care (Health Care Financing Administration, 2000). Our results also suggest that nurse aides are especially dissatisfied with staffing levels, as indicated by their dissatisfaction with workload and the amount of time they have to do their jobs. Higher staffing levels are an added expense, but given the considerable cost of hiring new staff (Seavey, 2004), lower turnover rates may offset at least some of this expense. Moreover, workload may have an interaction effect with training. That is, nurse aides with high workloads may not have the ability to follow care regimens in the way that they were taught. This may cause further discontent with both the high workload and prior training.

Regarding dissatisfaction with rewards (i.e., pay), it is widely acknowledged that nurse aides are paid at lower rates relative to workers in other areas of health care and in other industries (e.g., the fast food industry). Nurse aides are often the working poor, many being single-parent minorities. Although higher pay will likely improve retention efforts, this may be a difficult proposition: Some facilities operate under bankruptcy, and Medicaid reimbursement

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rates are close to the actual cost of providing care. However, state-initiated wage pass-throughs using Medicaid funds to increase the pay of nurse aides may be a promising approach (Paraprofessional Healthcare Institute, 2003).

Several initiatives are underway to improve the job satisfaction and retention of nurse aides. For example, the Better Jobs Better Care demonstrations (Better Jobs Better Care, 2006) involve five state-based coalitions of providers who use peer mentoring (Iowa), higher wages and benefits (North Carolina), career advancement (Oregon), uniform training requirements (Pennsylvania), and improvements to organizational culture (Vermont) to improve direct care workers' jobs. In addition, CMS has awarded 10 grants under a demonstration to improve the direct service community workforce (New Freedom Initiative, 2006). The interventions used in these demonstrations include a mix of health care coverage, enhanced training, career ladders, worker registries, and enhanced recruitment strategies. Harmuth and Dyson (2004) describe more state initiatives. These initiatives may also show that states can influence the work life, and possibly retention, of nurse aides; but they have yet to be evaluated. However, our findings suggest that the areas concerning training and rewards will be beneficial.

Federal policy development in this area may also be influential. The CMS nursing home report card Nursing Home Compare reports on quality measures in 15 areas of resident care, (Nursing Home Compare, 2006) and CMS has proposed adding other quality measures, including a measure of staff turnover (CMS, 2003). This may foster increased attention to the working conditions of nurse aides.

Limitations

Our analyses are subject to the following limitations. The data came from only five states and a limited number of facilities. Therefore, we acknowledge that this may limit the generalizability of our findings. In addition, the response rate of facilities was low at 30%; thus, our nursing home sample may be subject to bias.

Most significantly, we propose that intent to leave precedes actual turnover; however, with the cross-sectional data available for job satisfaction and intent to leave, it is not possible to validate such a causal model. Thus, one must interpret cautiously the relationships between these dependent and independent variables.

Scores on items should not be interpreted as measuring job satisfaction or dissatisfaction. However, higher scores imply that nurse aides rated the area under consideration closer to excellent, and lower scores imply a rating of very poor.

The NHNA-JSQ is subject to some limitations. For example, the developers purposefully chose not to use negatively worded items because, in the developmental stages, negatively worded items confused some nurse aides (Castle, in press). However, this approach may result in a response set bias wherein a respondent may use the same response for all questions within a category.

It is also clear that our analyses were not effective in explaining intent to leave but were more robust in explaining actual turnover. This may represent the difficulty in explaining intentions as opposed to actions. Nevertheless, this casts some doubt both on whether nurse aide intent to leave is a suitable proxy for turnover and on the conceptual model used for intent to leave. Intent to leave was influenced by personal characteristics, role-related characteristics, facility characteristics, and job characteristics, but not turnover opportunities. The conceptual model, however, did seem appropriate in examining turnover, because turnover was influenced by all of these factors in addition to intent to leave.

Finally, our analyses included a self-report of voluntary turnover from nurse aides. This measure may not be precise, given the potential embarrassment in being fired as opposed to voluntarily leaving. Thus, it is likely that this measure under represents involuntary turnover.

Conclusion

Despite these potential limitations, we believe the analyses are advantageous because they use a large sample of nurse aides, a job satisfaction instrument specifically developed for this population, and previously validated measures of intent to leave and turnover. Our results clearly show that training, rewards, and workload are important aspects of nurse aides' jobs. This may be important: As Davis and Dawson (2003) state, "at its best, caregiving is a personal relationship; it thrives on familiarity and the intimate knowledge of both parties of the other's routines and preferences. Constant churning of staff interrupts this relationship as consumers and new workers must continually reorient to each other" (p. 31). Examining the potential association between job satisfaction and quality of care seems like a necessary next research step.

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