The impact of interpersonal support, supervisory support, and employee engagement on employee turnover intentions: Differences between financially distressed and highly financially distressed hospitals

Kwabena G. Boakye • Bettye A. Apenteng • Mark D. Hanna • Linda Kimsey • William A. Mase • Samuel T. Opoku • Charles Owens • Angela Peden

Background: Critical access hospitals (CAHs) are small hospitals in rural communities in the United States. Because of changes in rural population demographics, legacy financial obligations, and/or structural issues in the U.S. health care system, many of these institutions are financially distressed. Indeed, many have closed due to their inability to maintain financial viability, resulting in a health care and economic crisis for their communities. Employee recruitment, retention, and turnover are critical to the performance of these hospitals. There is limited empirical study of the factors that influence turnover in such institutions.

Purpose: The primary purpose of the study was to study relationships between interpersonal support, supervisory support, employee engagement, and employee turnover intentions in CAHs. A secondary purpose was to study how financial distress affects these relationships.

Methodology: Based on a survey of CAH employees (n = 218), the article utilizes mediated moderation analysis of a structural equation model.

Results: Interpersonal support and supervisory support are positively associated with employee engagement, whereas employee engagement mediates the relationships between both interpersonal support and supervisory support and employee turnover intentions. Statistically significant differences are found between these relationships in financially distressed and highly financially distressed institutions.

Conclusions: Our results are consistent with the social exchange theory upon which our hypotheses and model are built and demonstrate the value of using the degree of organizational financial distress as a contextual variable when studying motivational factors influencing employee turnover intentions.

Practical Implications: In addition to advancing management theory as applied in the CAH context, our study presents the practical insight that employee perceptions of their employer's financial condition should be considered when organizations develop employee retention strategies. Specifically, employee engagement strategies appear to be of greater value in the case of highly financially distressed organizations, whereas supervisory support seems more effective in financially distressed organizations.

Key words: critical access hospital (CAH), employee engagement, financial distress, interpersonal support, supervisory support, turnover intentions

Kwabena G. Boakye, PhD, is Associate Professor, Department of Logistics and Supply Chain Management, Parker College of Business, Georgia Southern University, Statesboro.
Bettye A. Apenteng, PhD, is Associate Professor, Department of Health Policy and Community Health, Jiann-Ping Hsu College of Public Health, Georgia Southern University, Statesboro.
Mark D. Hanna, PhD, is Professor, Department of Logistics and Supply Chain Management, Parker College of Business, Georgia Southern University, Statesboro. E-mail: hannamd@georgiasouthern.edu.
Linda Kimsey, PhD, is Assistant Professor, Department of Health Policy and Community Health, Jiann-Ping Hsu College of Public Health, Georgia Southern University, Statesboro.
William A. Mase, DrPH, is Associate Professor, Department of Health Policy and Community Health, Jiann-Ping Hsu College of Public Health, Georgia Southern University, Statesboro.
Samuel T. Opoku, MBChB, PhD, is Assistant Professor, Department of Health Policy and Community Health, Jiann-Ping Hsu College of Public Health, Georgia Southern University, Statesboro.
Charles Owens, MSA, is Associate Clinical Professor and Director, Center for Public Health Practice and Research, Jiann-Ping Hsu College of Public Health, Georgia Southern University, Statesboro.
Angela Peden, MPH, is Lecturer and Assistant Director, Center for Public Health Practice and Research, Jiann-Ping Hsu College of Public Health, Georgia Southern University, Statesboro.

Funding for this research is provided by the Georgia Department of Community Health, State Office of Rural Health (Grant 16049G) through the Medicare Rural Hospital Flexibility (FLEX) Program Financial and Operational Improvement Grant initiative funded by the Health Resources and Services Administration (Grant H54RH00057; 2016–2018). Primary grantee: Georgia Southern University Research and Service Foundation.

The authors have disclosed that they have no significant relationship with, or financial interest in, any commercial companies pertaining to this article.

DOI: 10.1097/HMR.0000000000000251

An adequate supply of professional employees is essential to the effectiveness and financial viability of health service organizations. However, compared to urban counties, rural counties nationwide face significant challenges in recruiting both clinical and administrative health care professionals (A. Anderson, 2014; MacDowell, Glasser, Fitts, Nielsen, & Hunsaker, 2010; Ricketts, 2005). With some regional variation, survey results from 335 responding chief executive officers of rural hospitals reported by MacDowell et al. (2010) document perceived shortages of physicians and allied health professionals, including registered nurses, physical therapists, and pharmacists. Ricketts (2005),

similarly, identified workforce shortages for almost all health profession categories, including physicians, nurses, pharmacists, dentists, and mental health professionals. Although turnover rates in rural health organizations may not vary significantly from that of urban health organizations (Staggs & Dunton, 2012), the recruitment hurdles rural organizations face necessitates additional attention to workforce retention in rural health organizations.

The existing studies on the rural health care workforce have identified multifactorial influences on workforce retention, including personal, organizational, and community characteristics; place-based social processes; and policy-related factors (Cosgrave, Malatzky, & Gillespie, 2019; Rabinowitz, Diamond, Markham, & Paynter, 2001). In a recent study, Stroth (2010) called for the adoption of a job embeddedness model to inform retention strategies in rural hospitals. *Job embeddedness* is defined as a multidimensional construct that includes the dimensions of fit (perceived compatibility with organization), links (connections between individual and colleagues, community and physical environment), and sacrifice (perceived costs associated with leaving the organization). A job embeddedness approach to improving retention, thus, calls for a holistic approach to retention through the adoption of strategies that address both on-the-job and off-the-job factors.

Although several studies have assessed the individual and place-based or community factors associated with rural health care practice (e.g., MacDowell et al., 2010; Rabinowitz et al., 2001), the role of organizational dynamics in the retention of rural hospitals employees and, in particular, in critical access hospitals (CAHs) has been less characterized. Furthermore, the existing studies (e.g., Rabinowitz et al., 2001; Staggs & Dunton, 2012) on organization-related retention factors have focused on specific clinical professionals, including nurses and physicians, and not on other employees, such as administrative, ancillary, and other nonclinical staff. Evidence suggests that organizational factors such as a positive work climate and supervisor support improve retention in health care organization (Humphreys et al., 2001), and there have been calls for improving workforce retention in health care by fostering organizational cultures that value employees and provide supportive supervision and leadership (World Health Organization, 2009). From an intraorganizational perspective and in-line with the job embeddedness framework for retention (Stroth, 2010), attention to employee engagement improves an employee's connection with their work and with the organization, thereby generating positive perceptions of organizational fit and improving retention.

This present study begins to fill a void in the literature by reporting survey results focused on the impact of managerial support and employee engagement on employee turnover intention in financially distressed (FD) and highly financially distressed (HFD) CAHs. Through its focus on CAHs, the study fills an important gap in the rural hospital workforce literature. Specifically, studies focusing on rural hospitals workforce issues have often treated rural hospitals as a homogenous group. However, the existing evidence suggests that CAHs may be characteristically different from other rural hospitals (Pink, Holmes, Thompson, & Slifkin, 2007; Ramamonjiarivelo et al., 2015; Rosko & Mutter, 2010) and may face additional challenges in retaining health professionals (Holmes, Pink, Friedman, & Howard, 2010).

CAHs are small rural hospitals in the United States with up to 25 acute care inpatient beds and an average length of stay of no greater than 96 hours for acute care patients. The CAH designation was created as a legislative mandate of the Balanced Budget Act of 1997, with the purpose of improving the viability of small rural hospitals and assuring access to health care for rural residents. Perhaps, the most important difference between CAHs and other rural hospitals relates to how they are reimbursed. Unlike other rural hospitals that are reimbursed under the Prospective Payment System, CAHs are reimbursed on a cost basis and are entitled to reimbursement from Medicare at 101% of reasonable cost for most services and diagnostic tests. To be eligible for a CAH designation, hospitals should not be located within 35 miles of another hospital or within 15 miles drive of another hospital if they are located in mountainous terrain or areas with only secondary roads (Centers for Medicare and Medicaid Services, 2017). Because of these program participation criteria, CAHs are often sole providers located in small rural communities that provide services lower in scope and scale. Consequently, compared to other hospitals, to varying degrees they tend to have poorer operational and financial performance (Pink et al., 2007; Ramamonjiarivelo et al., 2015; Rosko & Mutter, 2010).

CAHs are also not a homogenous group; individual hospitals may face context-specific challenges and respond differently to common threats, resulting in variations in organizational structure, processes, and performance (Pink et al., 2007). Pink et al. (2007), in particular, highlight the diversity among CAHs in regard to the services offered and their financial characteristics and call for an approach to CAH research that segments any analysis by "peer group." Furthermore, even though a number of studies have examined the financial and clinical performance of CAHs (e.g., Pink et al. 2007; Rosko & Mutter, 2010), we are not aware of any studies that address CAH workforce and the experience of this class of rural hospitals with regard to workforce retention. Because of their geographic location, smaller organization size, and limited resource availability, CAHs may face greater challenges retaining skilled health care professionals, highlighting the need for organizational efforts targeted at retention. Attention to workplace dynamics that enhance staff morale and minimize costly turnover is essential, particularly within the context of organizations that are financially constrained to varying degrees. Accordingly in response to the lack of CAH-focused workforce studies and Pink et al.'s (2007) call for peer group assessments of CAHs, this study examines the relationships among work climate (focusing on the organizational climate dimensions of supervisory and interpersonal support), employee engagement, and turnover intentions in CAHs and explores the impact of hospital financial performance on these relationships.

Theory

The social exchange theory (SET), which is based on the foundational work of Homans, Thibaut, Kelley, and Blau (Emerson, 1976), has been used widely to assess employee

workplace behavior (Cropanzano & Mitchell, 2005) and to provide theoretical support for the study of employee engagement (Jose & Mampilly, 2012). A core idea of SET is the concept of rules and norms of exchange, which refers to the "normative definitions of the situation that forms among or is adopted by the participants in an exchange relation" (Emerson, 1976, p. 351). Rules and norms of exchange include negotiated agreements (where roles and responsibilities of parties are explicitly stated) or reciprocal exchanges between social actors (Cropanzano & Mitchell, 2005). Perhaps, the most focused-on rule of exchange in the SET literature has been those that center on reciprocity. Under the reciprocity principle, the SET posits that individual behaviors are contingent on actions from others in a reciprocal manner (Blau, 1964). That is, individuals receiving favorable reactions from another are also obliged to respond favorably. Similarly, negative actions will elicit negative reactions. Furthermore, these interactions between the social actors are interdependent and have the potential to shape the quality of relationships over time (Cropanzano & Mitchell, 2005). Reciprocity may also be expected as a function of social norm or cultural expectation (Cropanzano & Mitchell, 2005). Applied within the organizational context, employees are expected to respond to positive interactions with their organizations and other organizational members by eliciting positive workplace behaviors, such as employee engagement (Jose & Mampilly, 2012). Based on the SET framework, it is anticipated that positive work conditions and environment (including climate, interpersonal and supervisory support) will result in increased employee engagement and desire to stay with the organization.

Relationship Between Work Climate and Engagement

Employee engagement is a positive employee behavior that has been defined in the organizational behavior literature as "a holistic investment of the entire self, [which] focuses on work performed on a job, and involves a willingness to dedicate physical, cognitive, and emotional resources to one's job" (Saks, 2017, p. 78). Saks (2006) decomposes employee engagement into two distinct parts: job engagement and organization engagement. He distinguishes the two by defining job engagement in terms of one's job/task performance and organizational engagement in terms of one's formal role performance as an employee of the organization.

Work climate is recognized as a multidimensional construct that describes overall working conditions within organizations (Linzer et al., 2005). R. A. Anderson, Corazzini, and McDaniel (2004) describe climate in a health care organization as "a set of management practices that are part of organizational processes that interact to create the whole" (p. 379). Health care work climate, according to these authors, is shaped by "patterns of relationship, including the degree of connection and interaction" within an organization (p. 385). It includes dimensions such as supervision, work design, group behavior, patient/client-centered environments, and organizational concern for employee well-being (R. A. Anderson et al., 2004).

The SET provides a theoretical basis for explaining the relationships between work climate and employee behaviors and outcomes. A climate that promotes autonomy and collaboration and demonstrates concern for employees' safety and well-being, communicates to employees that organizational members are valued and respected by the organization. Employees, in turn, may respond by eliciting positive reciprocal employee behaviors, such as increased organizational engagement and commitment. Within health care, several studies have identified a relationship between multiple dimensions of work climate (including ethical climate, supervisory climate, safety climate) and positive employee behavioral outcomes (Ancarani, Di Mauro, & Giammanco, 2017; Stone et al., 2007). Accordingly, we hypothesized that the work climate dimensions of supervision (hereto referred to as *supervisory support*) and concern for employee well-being (hereto referred to as *interpersonal support*) are positively associated with engagement. We assess employee engagement by focusing on organizational engagement (Saks, 2006).

Hypothesis 1A: Interpersonal support is positively associated with employee engagement.
Hypothesis 1B: Supervisory support is positively associated with employee engagement.

Turnover

Turnover intention refers to the psychological aim to leave an organization. This contrasts with actual turnover, which refers to the termination of employment (Bedeian, Kemery, & Pizzolatto, 1991). There is consistent empirical evidence to suggest that the two constructs are highly correlated; turnover intention has been identified as the strongest predictor of turnover (Bedeian et al., 1991). Because of the cost of hiring new employees and the uncertainty of the quality of work performance from new employees, organizations strive to enhance employees' desire and motivation to remain in their positions and thereby prevent actual turnover (Cohen & Golan 2007). Factors such as negative work climate can increase turnover intentions (Poghosyan, Liu, Shang, & D'Aunno, 2017), whereas employee engagement has been negatively associated with turnover (Saks, 2017).

Employee Engagement as a Mediator of the Relationship Between Work Climate and Turnover

It is expected that positive work climate, characterized by high levels of supervisory and interpersonal support, will be associated with higher levels of engagement, which in turn reduces the likelihood of turnover. Indeed, previous studies have shown that employee engagement mediates the relationship between work climate and turnover across multiple sectors, including health care (Collini, Guidroz, & Perez, 2015; Saks, 2006).

Thus, the following hypotheses are proposed:

Hypothesis 2A: Employee engagement mediates the relationship between interpersonal support and turnover intention.
Hypothesis 2B: Employee engagement mediates the relationship between supervisory support and turnover intention.

Financial Strength as a Moderator of the Climate, Engagement, Turnover Relationship

Few studies have examined the moderating effect of organizational financial stress on the relationships between organizational dynamics and employee behaviors. In one such study examining the relationships between leadership, climate, and turnover intentions in safety net institutions in New Mexico, Aarons, Sommerfeld, and Willging (2011) found that organizational financial stress moderated these relationships. Specifically, they reported an inverse association between transformational leadership and a demoralizing work climate, but only for safety net institutions experiencing high financial stress.

There is evidence to suggest that organizations experiencing financial distress tend to lose qualified employees (Baghai, Silva, Thell, & Vig, 2017), attract fewer applicants in general to fill vacancies, and may have problems recruiting quality applicants (Brown & Masta, 2016). Furthermore, the sense of financial insecurity may be more heightened among employees who work in firms that are themselves financially strapped, leading to potentially higher levels of employee disengagement in such organizations (Rink, n.d.). From a practical perspective, organizations may be HFD and perceived to have bleak prospects of survival, whereas others may be FD and yet not in imminent danger of closure. Organizational dynamics and employee response to the organization's financial state may thus differ between these two groups of organizations. We sought to assess if financial strength moderated the relationship between organizational dynamics and employee behaviors in CAHs. Although all CAHs participating in this study experienced financial challenges, their levels of financial distress varied, allowing us to distinguish between FD organizations and HFD organizations.

Based on the evidence mentioned above from the existing literature, we hypothesized that:

Hypothesis 3A: Employee engagement more effectively mediates the relationship between interpersonal support and turnover intentions for highly financial distressed critical access hospitals than for financially distressed critical access hospitals.

Hypothesis 3B: Employee engagement more effectively mediates the relationship between supervisory support and turnover intentions for highly financial distressed critical access hospitals than for financially distressed critical access hospitals.

The hypothesized relationships among interpersonal support, supervisory support, employee engagement, turnover intentions, and financial distress are illustrated in the study's conceptual framework in Figure 1.

Method

Permission to conduct the survey was obtained from the institutional review board at the authors' university, and survey protocols ensured the 590 participants of their right to informed consent. Two hundred twenty-six employees from six Georgia CAHs, who were participants of a statewide research project, completed the self-administered online survey between August and December of 2017. After deleting eight surveys that had more than 25% of missing data, the final sample size was 218, a net response rate of 36.9% (218/590). Most of the respondents were women (n = 188) and full-time employees (n = 203). Although most of the respondents had been at their hospitals for more than 9 years (n = 102), 74 of the respondents have less than 4 years at their hospitals. To summarize, our respondents were reflective of the professional residents of the communities in which their hospitals were located, and most had a history of extended duration in the hospitals where they worked.

Categorizing Hospitals Based on Financial Distress

Financial strength is best viewed as a continuous variable. Furthermore, single measures or ratios cannot provide a complete picture of overall financial conditions (Donkle & Gullickson, 2003). Given these characteristics, Cleverley's (2002) financial strength index (FSI) methodology was chosen to assess hospitals' financial condition. Cleverley's FSI is composed of four measures: debt financing level, average age of facilities, days cash on hand, and total margin. FSI has been previously used to assess the financial performance of CAHs (Cleverley, 2002). In agreement with Donkle and Gullickson (2003), we assigned our CAHs to one of four categories. Our four categories, however, were based on quartile values derived from actual Medicare Cost Report data for all U.S. CAHs for FY 2017. In the study sample, all hospitals were below the median FSI value. Hospitals falling below the 25th percentile with respect to FSI for all CAHs were categorized as HFD. Hospitals falling below the 50th percentile with respect to FSI for all CAHs were categorized as FD. This resulted in three hospitals falling in each category.

Survey Instrument

To test our hypotheses, we developed a survey instrument based on a comprehensive literature review and on existing organizational support and climate. Staff engagement was measured with four items adapted from Lowe (2012). To measure intention to leave, we adapted two items from Rosin and Korabik (1991). While four items from Scarpello & Vandenberg (1987) were used to measure supervisory support, three items were used to measure interpersonal support (Rhoades, Eisenberger, & Armeli, 2001). These items were anchored using a 5-point Likert scale where 1 = *strongly disagree* and 5 = *strongly agree*.

The model proposed in this study consists of four reflective (interpersonal support, supervisory support, employee engagement, and turnover intention) measures. We used confirmatory factor analysis to evaluate the reliability, convergent validity, and discriminant validity of these measures (J. C. Anderson & Gerbing, 1988). The statistical software Stata SE 15 was employed, and the maximum likelihood estimation method was used. The measurement model indicated good fit (χ^2 = 122.917, df = 59, p = .00, Root Mean Square Error of Approximation (RMSEA) = 0.072, Comparative Fit Index (CFI) = 0.970, Tucker Lewis Index (TLI) = 0.960, Standardized Root Mean Square Residual (SRMR) = 0.035), with indices exceeding the threshold levels suggested by Hu and Bentler (1999). We found that the internal

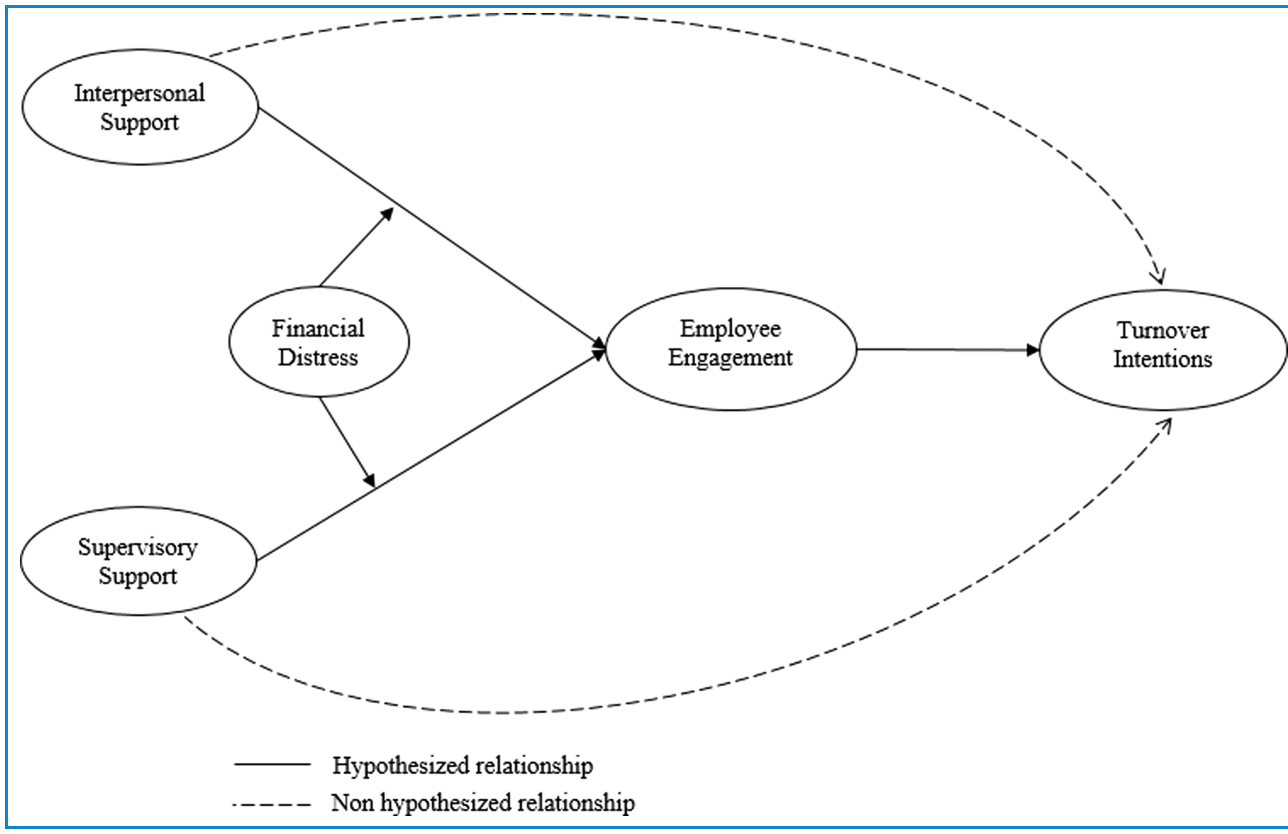

Figure 1. Research framework

consistency of the reflective constructs, as measured by Cronbach's alpha and composite reliability values in Table 1, exceeded the recommended value of .7 (Nunnally, 1978).

Convergent validity examines the extent to which indicators of a specific construct converge or share a high proportion of variance in common. We evaluated convergent validity for these constructs using factor loadings and average variance extracted (AVE) measures. High factor loadings on a construct indicate that the associated indicators have much in common, which is captured by the construct. In Table 1, factor loading values were above the 0.7 threshold, indicating that at least 50% of the indicator's variance is explained through the construct (Götz, Liehr-Gobbers, & Krafft, 2010). The AVE captures the amount of variance explained by the construct from the variance of its indictors. All AVE values range from 0.61 to 0.83, indicating that the constructs in the study accounts for more than 50% of the variance of its indicators/items (Fornell & Larcker, 1981). The high factor loadings and the AVE values above 0.5 show acceptable convergent validity for our construct.

Discriminant validity measures the extent to which a construct is truly distinct from the other constructs both in terms of how much it correlates with other constructs and how distinctly measured variables represent only this single construct. As suggested by Fornell and Larcker (1981), discriminant validity is achieved when the construct's AVEs are higher than the squared correlation between constructs of interest and other constructs. In Table 2, we report that the AVEs of a construct (on the diagonals) are higher than the squared correlations between the construct and other constructs (on the off-diagonals). In summary, the results displayed in Tables 1 and 2 indicate that our measurement model has good psychometric properties that are well within acceptable levels.

Because of our reliance on self-reported data, we assessed whether common method variance (CMV) was likely a threat that could inflate test results from our model. We thus investigated CMV using the marker variable technique (Lindell & Whitney, 2001). This technique was used in a post hoc format since we did not include a marker variable prior to our data collection (Lindell & Whitney, 2001). Using Lindell and Whitney's (2001) Equations 4 and 5, we first assumed the second lowest correlation in the manifest variable correlation matrix (.23) to be the extent of CMV and computed the CMV adjusted correlations. The results show that, of the 78 significant correlations, only five changed to be nonsignificant when CMV was controlled for. Given that most of the significant correlations (94%) remained significant after controlling for CMV, we believe the effect of CMV is not substantial and does not pose a serious threat in this study.

Results

The overall structural model fits well with the data as all of the goodness-of-fit statistics fell into acceptable ranges (χ^2 (*df* = 118) = 209.59, CFI = 0.955, TLI = 0.941, RMSEA = 0.063, standardized RMR = 0.044). Controlling for covariates such as age, gender, race, positional role, work hours, and tenure in the organization, we found both interpersonal support and supervisory support to explain 63.5% of the variation in employee engagement, whereas the proposed model explains

TABLE 1: Measurement validation (n = 218)

Constructs and items	Factor loadings
Employee engagement, CR = 0.90, AVE = 0.70	
I find that my values and the organization's values are similar.	0.824
I look forward to going to work every day.	0.833
This organization inspires me to perform my best at my job.	0.878
I would recommend this organization to family and friends needing health care services.	0.803
Interpersonal support, CR = 0.83, AVE = 0.61	
Communication in this organization is open and honest.	0.825
My opinions matter in this organization.	0.783
People work like they are part of a team in this organization.	0.731
Supervisory support, CR = 0.95, AVE = 0.83	
I feel comfortable talking with my supervisor about issues I face when doing my work.	0.820
My supervisor motivates and energizes employees in our department.	0.901
I receive adequate feedback and guidance from my supervisor.	0.972
My supervisor gives me clear instructions and objectives.	0.938
Turnover intentions, CR = 0.79, AVE = 0.65	
How likely are you to leave this organization within the next 12 months?	0.759
Have you been looking for a job during the last 3 months?	0.851

Note. CR = composite reliability; AVE = average variance extracted.

43.3% of the variation in turnover intentions. Our structural model in Table 3 shows that interpersonal support (β = 0.638, $p < .01$) and supervisory support (β = 0.211, $p < .05$) positively influence employee engagement. Thus, Hypotheses 1A and 1B are supported. Furthermore, we find that employee engagement partially mediates the relationship between interpersonal support and turnover intentions (β = −0.427, $p < .05$, 95% confidence interval [−0.653, −0.202]) and also partially mediates the relationship between supervisory support and turnover intentions (β = −0.141, $p < .05$, 95% confidence interval [−0.261, −0.021]). These results provide evidence supporting Hypotheses 2A and 2B.

To test Hypotheses 3A and 3B, we used a moderated–mediated model where we split the sample into two subsamples (FD and HFD) as described previously. This categorization resulted in three hospitals being considered HFD and three hospitals being considered FD.

We examined measurement invariance between the two subsamples of financial strength prior to testing our hypotheses. First, we tested for configural invariance by running a two-group model (i.e., HFD and FD) in which all parameters were allowed to vary freely without imposing any equality constraints on them (Steenkamp & Baumgartener, 1998). The results of our analysis support configural invariance (Model 1, the unconstrained model) across the two samples with a satisfactory model fit ($\chi^2(df = 116) = 232.92$, CFI = 0.947, TLI = 0.929, RMSEA = 0.098). Next, we tested for metric invariance (Model 2, loadings of HFD and FD samples constrained to be equal) by constraining the measurement loadings to be equal across the HFD and FD samples. The chi-square difference test ($\Delta\chi^2$ = 16.43, $p > .05$) between Model 1 and Model 2 did not result in statistically significant differences in measurement loadings between the two groups at .05 significance level. Thus, metric invariance is demonstrated. Next, we tested for scalar invariance by constraining both the loadings and intercepts of the two subgroups (i.e., HFD and FD) to be equal (Model 3, loadings and intercept of HFD and FD samples constrained to be equal). The chi-square difference test ($\Delta\chi^2$ = 25.71, $p < .05$) between Model 3 and Model 2 showed a significant difference, revealing that the two groups (HFD and FD samples) did not exhibit scalar invariance. We note that researchers recommend partial measurement invariance as a sufficient condition when testing across different samples (Steenkamp & Baumgartner, 1998). Therefore, with the exception of scalar invariance that our two groups (HFD and FD) were unable to exhibit, our results show evidence for metric invariance across the two groups, satisfying the sufficient condition of metric invariance for using multigroup analysis to compare the path models (Steenkamp & Baumgartner, 1998).

We tested a model where the structural model parameters varied freely across the FD and HFD groups (i.e.,

TABLE 2: Descriptive statistics and construct correlation matrix (n = 218)

	Mean	*SD*	1	2	3	4
1. Employee engagement	4.119	0.76	.697			
2. Interpersonal support	3.498	0.899	.599	.61		
3. Supervisory support	3.881	0.936	.392	.431	.828	
4. Turnover intentions	1.262	0.488	.326	.184	.19	.65

Note. SD denotes standard deviation. The values on the diagonals (in bold font) are the average variance extracted. The off-diagonals are the squared correlations between constructs.

TABLE 3: Path coefficients: full effects model (n = 218)

Path	Direct	Indirect	Total
Interpersonal support → Employee engagement	0.638***	—	0.638***
Supervisory support → Employee engagement	0.211**	—	0.211**
Employee engagement → Turnover intentions	–0.669***	—	–0.669***
Interpersonal support → Turnover intentions	0.339**	–0.427***	–0.087
Supervisory support → Turnover intentions	–0.268**	–0.141**	–0.409***

*p < .1. **p < .05. ***p < .01.

unconstrained model, $\chi^2(df) = 439.21(256)$) with another model where the structural model parameters were constrained to be equal between low and high FSI groups (i.e., constrained model, $\chi^2(df) = 460.45(261)$). The chi-square difference statistic ($\Delta\chi^2 = 21.24$, $df = 5$, $p < .01$) between the unconstrained and constrained model is significant. This provides a statistical indication that there is a moderation effect of hospital financial distress. In addition, we find that the R^2 for employee engagement is 54.3% and 71.9% for the FD and HFD groups, respectively. The R^2 for turnover intentions is 58.9% for the FD group and 38.9% for the HFD group. We show in Table 4 the resulting significant moderating effect on the relationships between interpersonal support, supervisory support, employee engagement, and turnover intentions for both samples. From Table 4, it is evident that, for the HFD hospitals, employee engagement ($\beta = 0.638$, $p < .01$) partially mediates the relationship between interpersonal support and turnover intentions while no mediation was found between supervisory support and turnover intentions ($\beta = -0.100$, $p > .1$). For FD hospitals, however, we did not find employee engagement to mediate the relationship either between interpersonal support and turnover intentions ($\beta = -0.068$, $p > .1$) or between supervisory support and turnover intentions ($\beta = -0.061$, $p > .1$). Thus, we find support for Hypothesis 3A, but not Hypothesis 3B. Figure 2 summarizes the results pertaining to the models tested.

Discussion

In this study of employee engagement at CAHs, we found that supervisory and interpersonal support were positively associated with employee engagement. This result is not surprising. It is consistent with the theoretical basis of these hypotheses and lends additional support to the validity of our model.

In our full-effects path model incorporating employee engagement as a mediator of turnover intentions, employee engagement was significantly and inversely associated with this variable. However, the direct effect of interpersonal support on turnover intentions was positive: Higher levels of interpersonal support were correlated with higher levels of intentions to leave. Although other factors could be at play in any given setting, in some settings this finding could be the result of a "misery loves company" phenomenon, in which vocal unhappy coworkers share their discontent with peers. The direct effects of supervisory support on turnover intentions exhibited an inverse relationship: Higher levels of supervisory support were correlated with lower levels of intentions to leave.

Both supervisory and interpersonal support exhibited indirect effects of employee engagement that were inversely related to turnover intentions. As postulated in Hypotheses 2A and 2B, employee engagement was also found to mediate the relationships of the support variables with turnover intentions. The partial mediation effect in the case of interpersonal support was to reduce the positive relationship between interpersonal support and turnover intentions. By contrast, the partial mediation effect of employee engagement was to enhance the inverse relationship between supervisory support and turnover intentions. These results are consistent with the literature in that employee engagement—seen as a motivational process

TABLE 4: Moderated mediation path coefficient model results

	Highly financially distressed (n = 92)			Financially distressed (n = 126)		
Path	Direct	Indirect	Total	Direct	Indirect	Total
IS → EE	0.643***	—	0.643***	0.495***	—	0.495***
SS → EE	0.128	—	0.128	0.449***	—	0.449***
EE → TOI	–0.784***	—	–0.784***	–0.137	—	–0.137
IS → TOI	0.592***	–0.504***	0.088	–0.196	–0.068	–0.264*
SS → TOI	–0.232	–0.100	–0.332**	–0.371**	–0.061	–0.432**

Note. IS = interpersonal support; SS = supervisory support; EE = employee engagement; TOI = turnover intentions.
*p < .1. **p < .05. ***p < .01.

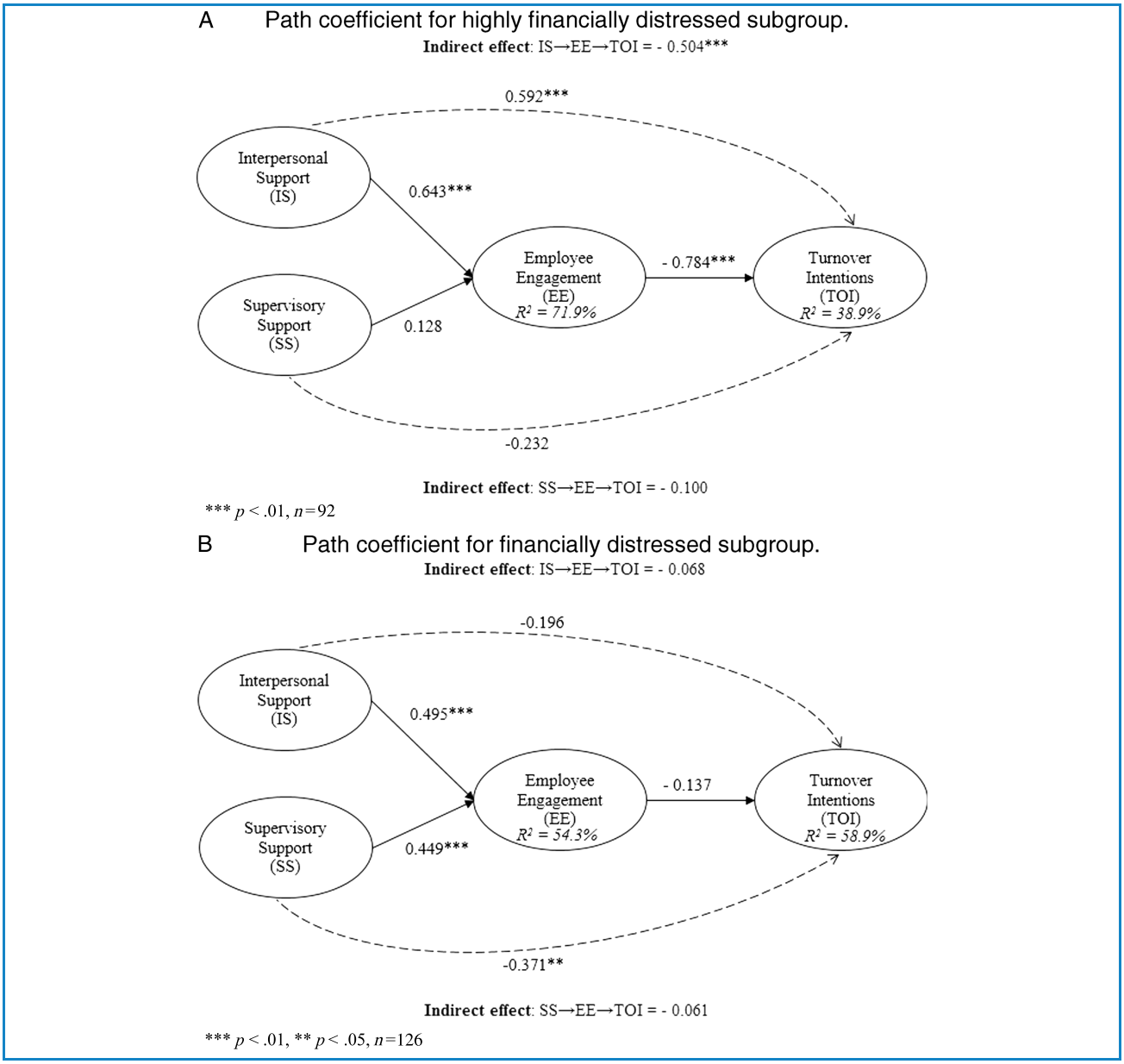

Figure 2. Path coefficients and significance in the HFD and FD subgroups

involving high levels of self-efficacy, autonomy, and needs satisfaction—is associated with a lower turnover intentions (Collini et al., 2015; Saks, 2006; Tullar et al., 2016).

Significantly different models resulted for FD versus HFD hospitals, supporting our inclusion of organizational financial strength as a moderating variable of the relationships between supervisory/interpersonal support, employee engagement, and turnover intentions. As might be expected, in both FD and HFD hospitals, employee engagement and turnover intentions were inversely related. The indirect effects of interpersonal support on turnover intentions reached statistical significance in HFD hospitals, but this indirect effect was not significant for FD hospitals. Thus, we found support for Hypothesis 3A, aligning to some degree with the findings of Aarons et al. (2011). We note that, along with the difference in regard to significance, we can infer (based on the β values) that there is also a difference in the magnitude of employee engagement's mediating effect between the two groups. In HFD CAHs, employee engagement significantly buffered the positive relationship between interpersonal support and turnover intentions, greatly diminishing the direct effects of the possible "misery loves company" scenario, whereas this was not true in FD CAHs. One can envision that the highly uncertain environment in HFD hospitals might compel certain employees to become more engaged—committed to survival of the hospital and to its mission rather than assuming that the negative financial trajectory renders the employment scenario too risky to warrant such commitment. Conversely, employee disengagement may be more heightened in organizations experiencing high financial distress as employees worry about both the organization and their financial security. Thus, attention to engagement becomes critical (perhaps, even more so than in FD hospitals as our findings suggest). We rationalize that, due to an increased in concern

about the viability of the hospital (and perhaps the potential to close down), employees perceived view point of the organization as a whole becomes more important than their view point of the organization's agent (i.e., supervisor).

Assurances are needed from the organization itself rather than the supervisor when distress is high. Perhaps, explaining why engagement is more important in HFD hospitals and supervisor support less so in HFDs. In the HFD situations, our findings suggest that (perhaps in addition to maintaining high levels of supervisory support) enhancing employee engagement could be an essential tactic in reducing turnover intentions. Determining the employees who are truly engaged and enlisting their help in bolstering the organization's interests through their interpersonal relationships is a feasible, commonsense strategy. It seems intuitive that when working in an HFD facility, with a palpable level of closure risk, engaged employees can reduce the potential negative impact of interpersonal support that seems to increase perceived turnover intentions. By contrast, in FD CAHs, with a somewhat less critical financial condition, our results suggest that employee engagement does not provide the same benefit. In these FD environments, due to the significant negative direct effect between supervisory support and turnover intentions, the administration's most useful means of combatting turnover intentions appears to be the supervisory support that they can provide.

Strengths of this study include its focus on an often understudied population—small rural hospitals operating as CAHs—and its design. We are not aware of other studies that have addressed the relationships under consideration here with the purpose of determining differences between FD and HFD institutions. In addition, our analysis has strong construct validity (both convergent and discriminant) and reliability. CMV was not a significant problem. It is also the case that our study helps to fill a gap in the somewhat nascent literature on how to define interpersonal and supervisory support, in particular for small, rural hospitals.

Limitations of this study primarily relate to generalizability. Because the study focused on six CAHs in Georgia, it may be the case that results are less applicable to larger hospitals or to hospitals in different (e.g., urban or other regional) settings. Indeed, many other contextual factors could influence the results that we have observed. Because the data collected was cross-sectional, whereas the variables under consideration are subject to change over time, longitudinal studies would also be helpful. Also, the typical issues with self-reported data are present given our instrument design. Future research to address these issues would be valuable.

Practice Implications

In today's health care environment, CAHs, which are small and typically geographically isolated facilities, face significant challenges in retaining needed personnel. With limited ability to offer enticing salary and benefit packages, focusing on building and maintaining a positive work environment (e.g., utilizing employee engagement and supervisory support to combat potentially negative interpersonal support factors) may assist efforts to reduce employee turnover. In our results, differences exist between FD and HFD institutions as to the effectiveness of these strategies. As such, CAH managers would do well to maintain an awareness of their employees' perceptions regarding the financial condition of their organization and tailor their employee retention strategies accordingly. Specifically, employee engagement strategies may be of greater value in the case of HFD organizations, whereas supervisory support seems more effective in the FD organizations.

References

Aarons, G. A., Sommerfeld, D. H., & Willging, C. E. (2011). The soft underbelly of system change: The role of leadership and organizational climate in turnover during statewide behavioral health reform. *Psychological Services*, 8(4), 269–281.

Ancarani, A., Di Mauro, C., & Giammanco, M. D. (2017). Hospital safety climate and safety behavior: A social exchange perspective. *Health Care Management Review*, 42(4), 341–351.

Anderson, A. (2014). The impact of the Affordable Care Act on the health care workforce. *The Heritage Foundation*. Retrieved from https://www.heritage.org/health-care-reform/report/the-impact-the-affordable-care-act-the-health-care-workforce

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411–423.

Anderson, R. A., Corazzini, K. N., & McDaniel, R. R., Jr. (2004). Complexity science and the dynamics of climate and communication: Reducing nursing home turnover. *The Gerontologist*, 44(3), 378–388.

Baghai, R., Silva, R., Thell, V., & Vig, V. (2017). *Talent in distressed firms: Investigating the labor costs of financial distress* (Working paper). Stockholm School of Economics, Stockholm, Sweden.

Bedeian, A. G., Kemery, E. R., & Pizzolatto, A. B. (1991). Career commitment and expected utility of present job as predictors of turnover intentions and turnover behavior. *Journal of Vocational Behavior*, 39(3), 331–343.

Blau, P. M. (1964). *Exchange and power in social life*. New York, NY: Wiley.

Brown, J., & Matsa, D. A. (2016). Boarding a sinking ship? An investigation of job applications to distressed firms. *The Journal of Finance*, 71(2), 507–550.

Centers for Medicare and Medicaid Services (2017). *Critical access hospital. Medicare learning network booklet*. Retrieved from https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/CritAccessHospfctsht.pdf

Cleverley, W. O. (2002). Who is responsible for business failures? (Business). *Healthcare Financial Management*, 56(10), 46–51.

Cohen, A., & Golan, R. (2007). Predicting absenteeism and turnover intentions by past absenteeism and work attitudes: An empirical examination of female employees in long term nursing care facilities. *Career Development International*, 12(5), 416–432.

Collini, S. A., Guidroz, A. M., & Perez, L. M. (2015). Turnover in health care: The mediating effects of employee engagement. *Journal of Nursing Management*, 23(2), 169–178.

Cosgrave, C., Malatzky, C., & Gillespie, J. (2019). Social determinants of rural health workforce retention: A scoping review. *International Journal of Environmental Research and Public Health*, 16(3). https://doi.org/10.3390/ijerph16030314

Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, 31(6), 874–900.

Donkle, R., & Gullickson, D. (2003). *The financial effects of critical access hospital conversion*. Retrieved from http://www.rwhc.com/papers/CAH.Financial.Effects.pdf

Emerson, R. M. (1976). Social exchange theory. *Annual Review of Sociology*, 2(1), 335–362.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.

Götz, O., Liehr-Gobbers, K., & Krafft, M. (2010). Evaluation of structural equation models using the partial least squares (PLS) approach. In *Handbook of partial least squares* (pp. 691–711). Berlin/Heidelberg, Germany: Springer.

Holmes, G., Pink, G., Friedman, S., & Howard, H. (2010). *A comparison of rural hospitals with special Medicare payment provisions to urban and rural*

hospitals paid under prospective payment. Retrieved from http://www.shepscenter.unc.edu/rural/pubs/report/FR98.pdf

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55.

Humphreys, J., Jones, J., Jones, M., Hugo, G., Bamford, E., & Taylor, D. (2001). A critical review of rural medical workforce retention in Australia. *Australian Health Review*, 24(4), 91–102.

Jose, G., & Mampilly, S. R. (2012). Satisfaction with HR practices and employee engagement: A social exchange perspective. *Journal of Economics and Behavioral Studies*, 4(7), 423–430.

Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of Applied Psychology*, 86(1), 114–121.

Linzer, M., Manwell, L. B., Mundt, M., Williams, E., Maguire, A., McMurray, J., & Plane, M. B. (2005). Organizational climate, stress, and error in primary care: The MEMO study. In Clancy, C. (Ed.), *Advances in patient safety: From research to implementation* (AHRQ Publication No. 050021 (1), pp. 67–77). Rockville, MD: Agency for Healthcare Research and Quality.

Lowe, G. (2012). How employee engagement matters for hospital performance. *Healthcare Quarterly*, 15(2), 29–39.

MacDowell, M., Glasser, M., Fitts, M., Nielsen, K., & Hunsaker, M. (2010). A national view of rural health workforce issues in the USA. *Rural and Remote Health*, 10(3), 1531.

Nunnally, J. (1978). *Psychometric theory*. New York, NY: McGraw-Hill.

Pink, G. H., Holmes, G. M., Thompson, R. E., & Slifkin, R. T. (2007). Variations in financial performance among peer groups of critical access hospitals. *The Journal of Rural Health*, 23(4), 299–305.

Poghosyan, L., Liu, J., Shang, J., & D'aunno, T. (2017). Practice environments and job satisfaction and turnover intentions of nurse practitioners: Implications for primary care workforce capacity. *Health Care Management Review*, 42(2), 162–171.

Rabinowitz, H. K., Diamond, J. J., Markham, F. W., & Paynter, N. P. (2001). Critical factors for designing programs to increase the supply and retention of rural primary care physicians. *JAMA*, 286(9), 1041–1048.

Ramamonjiarivelo, Z., Weech-Maldonado, R., Hearld, L., Menachemi, N., Epané, J. P., & O'Connor, S. (2015). Public hospitals in financial distress: Is privatization a strategic choice? *Health Care Management Review*, 40(4), 337–347.

Rhoades, L., Eisenberger, R., & Armeli, S. (2001). Affective commitment to the organization: The contribution of perceived organizational support. *Journal of Applied Psychology*, 86(5), 825–836.

Ricketts, T. C. (2005). Workforce issues in rural areas: A focus on policy equity. *American Journal of Public Health*, 95(1), 42–48.

Rink, R. (n.d.). Employee dis-engagement: Could financial distress be a cause. *Two West Money Simplified*. Retrieved from http://www.twowestcompanies.com/employee-dis-engagement-could-financial-distress-be-a-cause/

Rosin, H. M., & Korabik, K. (1991). Workplace variables, affective responses, and intention to leave among woman managers. *Journal of Occupational Psychology*, 64(4), 317–330.

Rosko, M. D., & Mutter, R. L. (2010). Inefficiency differences between critical access hospitals and prospectively paid rural hospitals. *Journal of Health Politics, Policy and Law*, 35(1), 95–126.

Saks, A. M. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology*, 21(7), 600–619.

Saks, A. M. (2017). Translating employee engagement research into practice. *Organizational Dynamics*, 46(2), 76–86.

Scarpello, V., & Vandenberg, R. J. (1987). The satisfaction with my supervisor scale: Its utility for research and practical applications. *Journal of Management*, 13(3), 447–466.

Staggs, V. S., & Dunton, N. (2012). Hospital and unit characteristics associated with nursing turnover include skill mix but not staffing level: An observational cross-sectional study. *International Journal of Nursing Studies*, 49(9), 1138–1145.

Steenkamp, J. B. E., & Baumgartner, H. (1998). Assessing measurement invariance in cross-national consumer research. *Journal of Consumer Research*, 25(1), 78–90.

Stone, P. W., Mooney-Kane, C., Larson, E. L., Pastor, D. K., Zwanziger, J., & Dick, A. W. (2007). Nurse working conditions, organizational climate, and intent to leave in ICUs: An instrumental variable approach. *Health Services Research*, 42(3 Pt. 1), 1085–1104.

Stroth, C. (2010). Job embeddedness as a nurse retention strategy for rural hospitals. *Journal of Nursing Administration*, 40(1), 32–35.

Tullar, J. M., Amick, B. C.III, Brewer, S., Diamond, P. M., Kelder, S. H., & Mikhail, O. (2016). Improve employee engagement to retain your workforce. *Health Care Management Review*, 41(4), 316–324.

World Health Organization (2009). *Increasing access to health workers in remote and rural locations through improved retention* (Background paper). Geneva, Switzerland: Author.