

The impact of job isolation on new principals' sense of efficacy, job satisfaction, burnout and persistence

The impact of
job isolation

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Abstract

Purpose – The purpose of this paper is to test the model first presented by Federici and Skaalvik (2012) involving the relationships among four attributes of principals' work: self-efficacy, burnout, job satisfaction, and intention to leave (persistence). The model is then extended to test the role of isolation as a precursor.

Design/methodology/approach – Path analysis is used to test the models, based on responses from an electronic survey of first-year principals in a southeastern US state, using established measures of each construct.

Findings – First, the results show support for the model presented by Federici and Skaalvik, supporting their original hypotheses. Second, the authors show that isolation is an important predictor of all four constructs in the model, and that when included as an antecedent factor, isolation represents the most potent predictor of new principals' intention to leave.

Research limitations/implications – The analysis involves a sample of new principals from a single setting, thus limiting generalizability. Additionally, the exclusive use of self-reported data in this study raises the possibility that the results are influenced by single-source bias.

Practical implications – The findings showing that isolation is a significant predictor of work outcomes, such as efficacy and satisfaction, and an important predictor of persistence suggest that scholars and practitioners alike need to consider ways to understand and mitigate the sources of isolation experienced by school leaders.

Originality/value – Isolation is largely neglected in empirical studies of principals' work. This study adds to what is known and raises questions about the study of isolation experienced by school leaders.

Keywords Principals, Isolation, Persistence

Paper type Research paper

While the concept of isolation is often discussed as an issue for school leaders, there are few systematic research studies of principal isolation (Beaudoin and Taylor, 2004; Norton, 2003; Painter, 2000; Zoul and Link, 2007). As the role of the principal has changed from that of a manager to an instructional leader that takes responsibility for all aspects of the school program (Casavant and Cherkowski, 2001; DiPaola and Tschannen-Moran, 2003; Goldring *et al.*, 2012; Grissom and Harrington, 2010; Robinson *et al.*, 2008; Tschannen-Moran and Gareis, 2004; Williams, 2000), the impact of isolation seems likely to increase in importance. The focus on the virtues of distributed leadership would seem to place a premium on fostering professional growth of others through frequent interaction,

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appropriate task delegation, and collaboration (Camburn *et al.*, 2003; Gronn, 2008, Spillane *et al.*, 2001). Robinson *et al.* (2008) show that five instructional leadership behaviors have a potent (if indirect) impact on the students' learning, including promoting and participating in teacher learning. The import of this factor would also suggest that the interaction between the principal and his/her fellow educators within the building would be vital to the effectiveness of the school. If the contemporary role of an effective principal involves more numerous and varied social interactions with teachers, students, parents, etc., the degree to which principals feel isolated may have a severe impact on their abilities to serve as instructional leaders. Further, isolation may impact their quality of work life, the school's work environment, the overall effectiveness of school leaders, and perhaps principals' persistence or intention to remain in their job.

Purpose

There is little existing theory framing the role of isolation in predicting the various outcomes relating to the quality of work life of school principals. In previous research (Bauer and Brazer, 2010, 2013; Stephenson and Bauer, 2010), we attempted to address this void by examining the role of isolation as a possible mediating factor, linking variables reflecting the quality of new principals' work experience and specific work outcomes. We found support for the role of isolation as a mediating factor between such indicators of the quality of work life as role ambiguity and social support on the one hand, and outcomes like job satisfaction, burnout, and leader efficacy on the other. More recently, we extended this work to examine the impact of isolation on the principals' intention to leave (Bauer *et al.*, in press).

Concurrently, a study by Federici and Skaalvik (2012) was published that involved examining a sample of Norwegian principals to test a model relating efficacy, burnout, and job satisfaction as precursors of principals' intention to leave their jobs (Figure 1).

Whereas our work examined outcomes such as burnout, self-efficacy, and job satisfaction in separate models to understand the mediating impact of isolation between work-related constructs and each outcome, Federici's work suggests the importance of examining these variables in relation to each other and as predictors of leaders' intention to leave.

In this paper, we extend our prior work by replicating Federici and Skaalvik's (2012) study using a sample of first-year principals from a southeastern state in the USA, and we extend their model by examining the role of isolation as a predictor of each of the aforementioned constructs. Thus, we extend study of Federici and Skaalvik's model using a sample of American principals, first, and by testing the model on a sample of new principals; further, we add to our understanding of the import of isolation on indicators of the quality of work life and new principals' likely persistence in their job.

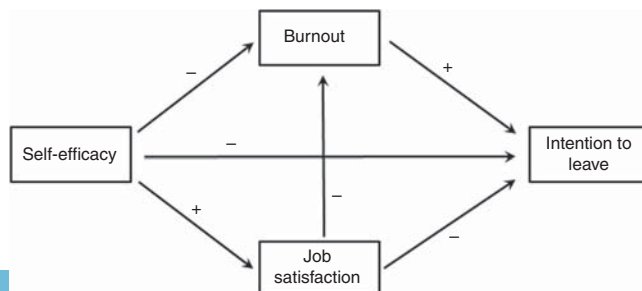


Figure 1.
The Federici and Skaalvik (2012) model

Review of literature

First, it is worth commenting about why we focus on the first-year principals and their persistence as the key outcome of interest. There is a paucity of research on the experience of first-year principals; anything we can add to the understanding of their work experience may be valuable. Second, and perhaps much more important, there is a shortage of qualified principals – not because teachers are not completing programs, but because the challenges of the position are seen to outweigh the benefits (Myung *et al.*, 2011). As Barnett *et al.* (2012) report in their analysis of job realities of assistant principals, teachers shy away from consideration of the position because of “role overload and stress, limited contact with students, inadequate funding, fear of failure and public disclosure of mistakes, uncertainty of their own ability to perform the role, and lack of time with family” (p. 97). Feelings of isolation and psychological intensity, taking on the standards movement, and working in schools with a strong focus on accountability may make the job seem impossible (Casavant and Cherkowski, 2001; DiPaola and Tschannen-Moran, 2003). Because of the energy, efforts, and time commitment required to become a school administrator, fewer teachers seem to be entertaining the idea of becoming principals (Adams and Hambright, 2004; Cooner *et al.*, 2008).

With all of the perceived negatives, potential administrators engage in a process of weighing incentives vs disincentives, and examine the workload expectations vs the prospects of better professional opportunities and increased salary that the results from taking on a principals’ position (Howley *et al.*, 2005). As people enter into a new level of school administration, they certainly face long-term challenges as to whether they will remain in their positions. Shoho and Barnett (2010) found that new principals strongly anticipated becoming frustrated with the position and in their study, only a few participants anticipated remaining in their positions longer than five to ten years. Oplatka (2012) adds to the discussion by stating, “It has been held that experiences, perspectives and behaviours of principals may change considerably over the course of their career, indicating that one’s career should be considered a flexible and fluid thing, rather than stable and permanent through the years” (p. 44). The work of Farley-Ripple *et al.* (2012) considers the relationship between career paths and administrators’ decision-making. “They [researchers] often assume that career paths are rational and involve choice on the part of administrators – for example, to move to a higher performing school or to a better-paying district” (p. 791).

Other researchers concentrate on principal attrition and challenges faced “on the job.” Tekleselassie and Villarreal (2011) discuss that the principals must exist in a realm of both managerial and leadership activities, taking on multiple roles, underlined by high expectations and accountability to stakeholders. While principals commonly report a sense of fulfillment that comes from positive influence and successful instructional decisions, there remain factors and issues that do not seem to outweigh the positives for many. Understanding more about these factors is critical to ensuring a supply of quality leaders for today’s schools.

We move on, next, to brief consideration of each of the variables in the tested model, outlining why each is of interest.

Self-efficacy

Self-efficacy is, at its core, a person’s belief about his or her ability to complete a task successfully and it predicts the likelihood of persistence through difficult circumstances (Bandura, 1997). In education, the study of self-efficacy has focused mostly on classroom teachers, with the result that higher levels of student achievement are associated with higher degrees of teacher self-efficacy and collective efficacy (Goddard *et al.*, 2000; Tschannen-Moran and Woolfolk-Hoy, 2001). Recently, principal efficacy has emerged as the focus of research on leader effectiveness. Leithwood and Jantzi (2008) found that higher degrees of principals’ self-efficacy and perceptions of their schools’ collective efficacy are

associated with enhanced school improvement. They also found that principals' self-efficacy is malleable and susceptible to district influences. In a more recent study, Louis *et al.* (2010) found that principals' sense of efficacy related to school improvement is impacted by the degree of clarity and consensus on important school goals, and that both leader self-efficacy and sense of collective efficacy are important outcomes related to leader effectiveness. Grissom and Loeb (2009) caution us, however, that the causal direction between principal self-efficacy and school outcomes is complex – principal self-efficacy might lead to more effective schools, but also principals may feel more efficacious in schools that are higher performing. Principals with higher levels of efficacy tend to be more engaged at work and report higher levels of job satisfaction and lower levels of burnout (Federici and Skaalvik, 2012; Tschannen-Moran and Gareis, 2004).

Job satisfaction

According to Locke (1976), job satisfaction is defined as the pleasure one feels from the appraisal of the job. Job satisfaction has been a favorite outcome of interest in the studies of quality of work life, for instance relating employees' perception of job satisfaction to role ambiguity and role conflict (Bacharach *et al.*, 1986; Hackman and Oldham, 1980; Thompson *et al.*, 1997). Conley *et al.* (2007) studied the relationships among role definition, relationships to coworkers, and satisfaction of school principals and assistant principals. They found that "attachment to coworkers" was a significant predictor of job satisfaction, even when accounting for the influence of other predictors. This suggests that isolation and lack of relationships with coworkers may be related to principal job satisfaction, or isolation may mediate the relationship between factors like role ambiguity, role overload, social support, and satisfaction.

Recent studies linked job satisfaction to school leaders' self-efficacy (Federici, 2013; Federici, and Skaalvik, 2012; Schermuly *et al.*, 2011; Skaalvik and Skaalvik, 2009); self-efficacy is positively related to job satisfaction in that school leaders who believe that they are capable feel personal satisfaction with their role as the principal. Schermuly *et al.* (2011) suggest that perceived competence or self-efficacy and meaningfulness of work lead to job satisfaction when job roles are less ambiguous and school leaders are not overloaded.

A negative relationship has been shown to exist between principals' job satisfaction and burnout (Federici and Skaalvik, 2012; Maslach *et al.*, 2001; Skaalvik and Skaalvik, 2009). Principals who suffer from burnout tend to be less satisfied with their jobs. Federici and Skaalvik (2012) found that job satisfaction was strongly predicted by emotional exhaustion and moderately predicted by reduced personal accomplishment. When principals are emotionally exhausted and lack a sense of accomplishment in their work, they are dissatisfied with their jobs. Behaviors exhibited by emotionally exhausted individuals seem to reflect aspects of isolation and may influence the relationship between burnout and job satisfaction.

Burnout

Maslach (2003) speaks of burnout as a prolonged, negative response to stressors in the workplace. One's ability to cope with stress is thus related to burnout, which may be mitigated, in turn, by such things as social support. The inability to cope, over time, may result in negative physical, emotional, and cognitive job-induced symptoms, though burnout is most often associated with emotional exhaustion. Burnout is a factor recognized in work environments across a wide variety of settings, but it has been particularly associated with helping or human-service professions, and has been studied in relation to the role of school principal (Friedman, 2002; Oplatka, 2002; Tomic and Tomic, 2008; Vanheule and Verhaeghe, 2005). Federici and Skaalvik (2012) reported that burnout has been related to both efficacy and satisfaction, and consequently to poor job performance in general.

Principals who experience lower isolation levels tend also to be less likely to suffer from burnout (Friedman, 2002; Oplatka, 2002; Tomic and Tomic, 2008), which in turn increases the chance that they will perform more effectively on the job.

Intention to leave

Farley-Ripple *et al.* (2012) describe forces that influence a principal to leave or remain in their job. These forces include characteristics of the principal, principal behavior, and environmental conditions. They found that push forces that influenced a principal to leave their profession were emotional and physical tolls, which are also related to principal burnout. On the other hand, pull forces that led to principals' persistence were their sense of self-efficacy and/or desire for challenges. These findings are supported by the work of Tschannen-Moran and Gareis (2004) who found that self-efficacy predicts principals' persistence in their role. Depersonalization, or detachment from their role and coworkers, is a dimension of burnout that is closely related to the incidences of principal turnover. Overall, relationships, whether they are beneficial or challenging, have an influence on principals' intention to leave or persist (Farley-Ripple *et al.*, 2012). As noted earlier, social support is a key factor in principals' sense of isolation. Federici and Skaalvik (2012) showed that job satisfaction is negatively related to a school leaders' motivation to leave their position, but they also caution us that while intention to leave is often used as a proxy for persistence, the motivation to quit is not the same thing as actually leaving. There are many reasons individuals may "suffer in silence." Nevertheless, we might imagine that individuals who are motivated to leave but persist are unlikely to be as effective as they would be if their perceptions of work were more positive.

Principal isolation

Isolation has to do with the principals' sense of feeling alone at work. It is less a structural reality than an emotional response to one's experiences as a school leader. Professional isolation is embedded in the legacy of how the principalship is developed. The administrative demands of schooling have changed drastically since the days of the one-room schoolhouse. Schools have moved from having no principal, to being loosely led by "principal teachers," to having principals that must take full responsibility for all of the administrative and instructional imperatives of complex organizations (Cuban, 1988). Indeed, the landscape of educational leadership has changed dramatically as schools themselves have changed, notably due to increasing diversity among schoolchildren; loss of confidence in public schools (and government in general); the press for privatization and school choice; and increasing pressure to improve test scores under high-stakes accountability policies (Blackman and Fenwick, 2000). Bottoms and O'Neill (2001) observed that the accountability movement has focused attention on principals by making them personally responsible for school success. A constant through all of these changes is principals' sole responsibility for school outcomes and the likelihood that they make many of their key decisions in isolation.

Much of the above remains speculative, however, because the literature on the topic of principal isolation continues to be sparse (Beaudoin and Taylor, 2004; Cookson, 2005; Garmston, 2007; Hord, 2007; McGrail, 2007; Robbins and Alvey, 2003; Rooney, 2000; Schlechte *et al.*, 2005). Howard and Mallory's (2008) work supports the inclusion of isolation as a variable that operates in concert with the stress created by principal job expectations in the form of role ambiguity, role overload, and role conflict. Dussault and Thibodeau's (1997) research extends the examination of isolation as a variable that impacts outcomes of the quality of the work experience such as job satisfaction. A more recent study conducted by Izgar (2009) shows that there is a statistical relationship between measures of principal loneliness and depression. Finally, in a small study of principals who left their jobs,

Johnson (2005) noted that “profound isolation” is among the main reasons school leaders cite for leaving their jobs, and that “reducing the isolation principals feel in dealing with the many challenges they face” (p. 23) is a primary way school systems can keep principals. Thus, there is support for studying the impact of isolation on principal persistence.

Methods

A path model was used to test both the original Federici and Skaalvik (2012) model and our extension of this model including isolation as a precursor (see Figure 2). The following hypotheses were framed based on our prior studies:

- H1. Isolation will be negatively related to self-efficacy and job satisfaction, and positively related to burnout and intention to leave.
- H2. Self-efficacy will be positively related to job satisfaction, and negatively related to burnout and intention to leave.
- H3. Job satisfaction will be negatively related to burnout and intention to leave.
- H4. Burnout will be positively related to intention to leave.

The model enables us to test these basic hypotheses, and to determine the direct, indirect, and total effects of each variable in the model.

Participants and setting

This study utilizes survey data collected from a sample of 203 first-year elementary, middle, high school, and alternative school principals from across a southeastern state. The data set was collected as part of a larger study examining the impact of instructional coaching on new principals. The principals in this study were selected based on their experience level (all of them needed to be new principals). All new principals in the state were invited to participate; in total, 203 of 273 principals responded, for a 74 percent response rate. Surveys were administered at the end of respondents’ first year as principals, during which individuals in the treatment group participated in the coaching treatment, which involved contact at least monthly with their coach (generally a recently retired school leader).

The principals serve in a variety of demographically different communities ranging from rural to suburban to urban. The demographic characteristics of the individual principals surveyed for this study represent a wide range of backgrounds. The number of male principals is 58 or 29 percent of the sample. Female principals include 143 participants or 70 percent of the overall number of participants. African-American principals comprise 67 participants or 33 percent of the total; the number of Hispanic principals is three or 2 percent of the sample; the number of white/non-Hispanic participants was 129 or 64 percent of the sample; and the number of multi-ethnic participants was 2 or 1 percent of the participants.

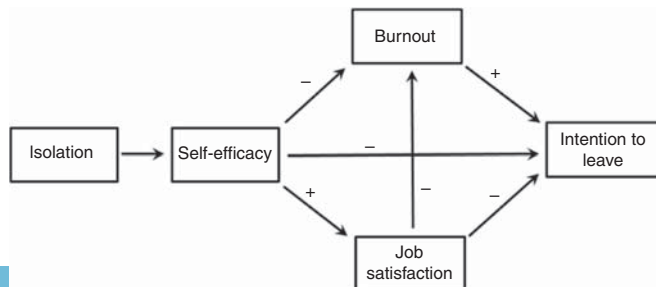


Figure 2.
The tested model

This study utilizes principal data from all levels. There are 122 (60 percent) participants who are the principals of elementary schools; 36 (18 percent) participants serve in middle and junior high schools; 29 (14 percent) principals come from high schools; and the remainder (16 or 8 percent) comes from schools with grade configurations that are combinations of the more traditional categories (e.g. K-12). Schools ranged in size from a low of 36 students to a high of 1,824, with a mean size of 505 and a standard deviation of 270. Minority enrollment averaged 56 percent, with a low of 1 percent, a high of 99 percent, and a standard deviation of 22 percent. The percentage of students qualifying for free or reduced price lunch averaged 70 percent, with a low of 14 percent, a high of 99 percent, and a standard deviation of 22.

Measures

Existing survey measures were used for all variables in the study, as described below.

Isolation. The UCLA Loneliness Scale has been used for nearly 30 years to measure the perceptions of isolation for individuals from a wide variety of backgrounds (Dussault and Thibodeau, 1997; Izgar, 2009; Russell *et al.*, 1978, 1980). This study utilizes a modified version of the most recent form of the UCLA Loneliness Scale (Russell, 1996). This form of the ten-item scale was modified to adapt it to measuring perceptions of isolation in the work setting. For example, a negatively worded statement from version 3 of the UCLA Loneliness Scale reads, "I lack companionship" while the same item for this study reads, "I lack companionship at work." A positively worded statement from the scale such as, "I feel outgoing and friendly" has been modified to read, "At work, I feel outgoing and friendly" for this study. The participants respond to items in this scale by choosing from the four options of "never," "rarely," "sometimes," or "often," scored on a scale of 1 to 4, with 1 representing the lowest, and 4 the highest isolation level possible. Thus, higher scores on this scale reflect greater perceived isolation, which would typically be associated with a more negative assessment of the quality of work life.

Self-efficacy. Self-efficacy measures the principals' beliefs in their abilities to make a difference in the schools they lead. This study employs an instrument developed by Tschannen-Moran and Gareis (2004), an adaptation of a measure introduced by Tschannen-Moran and Woolfolk-Hoy (2001). The scale includes 18 items that measure the three dimensions of principal efficacy: instructional leadership, management, and moral leadership. The participants are asked to think about their current role as principal, and respond on a nine-point scale regarding the extent to which they can influence a variety of important outcomes at work (1 = not at all, 9 = a great deal). Sample items include, "Facilitate student learning in your school?" "Manage change in the school?" and "Promote school spirit among a large majority of the student population?" For purposes of this paper, the aggregate scale is used, with higher degrees of perceived efficacy reflected in higher scores.

Burnout. This study uses a slightly modified form of the Shirom-Melamed Burnout Measure (Shirom, 2003; Shirom and Melamed, 2006), a 14-item questionnaire to measure burnout including three dimensions: physical fatigue (six items), emotional exhaustion (three items), and cognitive weariness (five items). The measures were modified to better reflect the school work setting. Responses for this iteration of the survey are scored on a scale of 1 to 7, with 1 representing the lowest, and 7 the highest possible emotional, cognitive, or physical burnout level. The participants read each unique item after pondering the general statement, "Below are statements that describe different feelings you may have at work. Please indicate how often, in the past thirty days, you have felt each of the following ways." This is followed by more specific statements like, "I felt tired" (physical); "I had difficulty concentrating" (cognitive); and "I felt incapable of being sympathetic to others" (emotional).

Job satisfaction. Job satisfaction is measured using an adaptation of an instrument developed by Bacharach *et al.* (1988) and Conley *et al.* (1989). Responses to the seven-item scale are made on a five-point Likert scale ranging from highly dissatisfied to highly satisfied. The respondents were asked, "In general, how satisfied are you with each of the following?" (1 = very dissatisfied, 2 = moderately dissatisfied, 3 = neither satisfied nor dissatisfied, 4 = moderately satisfied, and 5 = very satisfied). Sample items include: "The progress you are making toward the goals you set out for yourself in your present position?" and "The chance your job gives you to do what you are best at?"

Intention to leave (persistence). Principal turnover has increased to unprecedented levels in recent years – in a research brief entitled "Churn: the high cost of principal turnover," advocates from the School Leaders' Network (2014) write:

Twenty five thousand (one quarter of the country's principals) leave their schools each year, leaving millions of children's lives adversely affected. Fifty percent of new principals quit during their third year in the role. Those that remain frequently do not stay at high poverty schools, trading difficult-to-lead schools for less demanding leadership roles that serve more affluent populations (p. 1).

Turnover, however, is impossible to measure concurrently while a principal is on the job. To overcome this problem, principal intention to leave has been used as a proxy for actual turnover data. Research in a variety of fields has utilized the intention to leave substitution to produce reliable data and analysis on turnover (Johnsrud and Rosser, 2002; Lum *et al.*, 1998). Using this proxy allows an accurate analysis of likely turnover in the context of the other study variables as they apply to the participating principals.

This study uses measures developed by Weisberg (1994) and Moynihan *et al.* (2000) to measure the likelihood that someone will leave his or her current position. These survey items are scored on a standard five-point Likert scale ranging from "strongly disagree" to "strongly agree." Responses for this iteration of the survey are scored on a scale of 1-5, with 1 representing the lowest, and 5 the highest likelihood that a principal would soon leave his or her current position. Sample items include, "I have considered leaving education," and "I will probably look for a new job in the next year."

Analytic procedures

Data for this study were collected using an online survey application that allows the participants to visit a secure website and complete and submit all answers directly to the research collecting institution in electronic form. All principals gave their informed consent before completing and submitting the confidential surveys.

Following the work of Federici and Skaalvik (2012), we used path analysis to test the model. Specifically, we used Warp-PLS 5.0 software (Kock, 2015). This software provides the advantage of using a partial least-squares algorithm with a procedure for testing models for linearity and correcting them, if needed, to provide optimal fit. Statistical significance is reported for each path in the model ($p < 0.05$), and we also report in tabular form the direct, indirect, and total effects of each predictor on associated outcomes.

Limitations

While this study yields important analysis and implications for theory building, research, and practice dealing with the work experience of new principals, it has several significant limitations. First, the participants for this study come entirely from one state in the USA. This fact may limit the appropriateness of generalizing the results to principals in other states in the USA and overseas (although we note that we are building on a study done with Norwegian principals). Similar research using a national or even international, random

sample of principals may help verify these results as they apply to the principals across the country and the world.

Second, the exclusive use of self-reported data in this study will inevitably lead to criticisms about a single-source bias (Podaskoff and Organ, 1987; Spector, 1987). However, the nature of most of the variables being used for this study cannot be accurately measured by any other method than self-reporting. Most of them are perceptual and psychological by nature, and could not be “validated” by any reliable external measure. Nevertheless, since this study’s models are tested using single data sources, which may inflate some statistics, the results should be interpreted with due caution.

Results

Two models were run, the first replicating the original Federici and Skaalvik (2012) model with our sample of first-year principals, and the second adding the measure of isolation to determine its role in predicting self-efficacy, job satisfaction, burnout, and intention to leave. Each model had good fit; model fit statistics are presented in the Appendix to the paper.

Tables I and II show the descriptive statistics and correlations among variables in the models. Table I suggests that new principals in the sample are quite satisfied with their jobs (mean = 4.1 on a five-point scale); experience moderately low levels of burnout (mean = 2.9 on a seven-point scale); typically feel effective at their jobs (mean = 7.2 on a nine-point scale), and experience low to moderate isolation and motivation to leave (means = 1.7 and 1.9 on four-point scales). It should be noted, though, that the ranges and standard deviations

Table I.
Descriptive statistics

	<i>n</i>	Minimum	Maximum	Mean	SD	Cronbach's α
Job satisfaction	193	1.60	5.00	4.12	0.70	0.92
Burnout	198	1.14	5.57	2.95	0.87	0.92
Self-efficacy	196	3.44	9.00	7.15	1.08	0.95
Intention to leave	195	1.00	4.75	1.91	0.78	0.71
Isolation	197	1.00	3.40	1.75	0.57	0.89

Table II.
Correlations

	Job satisfaction	Burnout	Self-efficacy	Intention to leave	Isolation
<i>Job satisfaction</i>					
Correlation	1				
<i>n</i>	193				
<i>Burnout</i>					
Correlation	-0.44**	1			
<i>n</i>	192	198			
<i>Self-efficacy</i>					
Correlation	0.50**	-0.39**	1		
<i>n</i>	188	193	196		
<i>Intention to leave</i>					
Correlation	-0.47**	0.39**	-0.36**	1	
<i>n</i>	193	194	190	195	
<i>Isolation</i>					
Correlation	-0.45**	0.44**	-0.44**	0.36**	1
<i>n</i>	192	197	192	194	197

Note: **Correlation is significant at the 0.01 level (two-tailed)

suggest variability in these generalizations, i.e. there are a variety of experiences among the new principals. The perusal of Table II shows that the relationships among variables are statistically significant and in the hypothesized direction.

In their analysis, Federici and Skaalvik (2012) found that principal self-efficacy was positively related to job satisfaction and negatively related to burnout and motivation to quit. Job satisfaction was negatively related to burnout and intention to leave, and burnout was positively related to motivation to quit. In their analysis, the direct relationships were particularly large between efficacy and job satisfaction (0.55), between job satisfaction and burnout (-0.64), and between burnout and intention to leave (0.69).

Figure 3 presents our initial model, which supports Federici and Skaalvik's findings and each of the hypotheses stated earlier (save for the hypothesis related to isolation, which is not tested in this model). To fully appreciate the model, Table III displays the direct, indirect, and total effects.

Returning to our hypotheses, these findings are consistent with expectations and with Federici and Skaalvik's results:

- self-efficacy is positively related to job satisfaction, and negatively related to burnout and intention to leave;
- job satisfaction is negatively related to burnout and intention to leave; and
- burnout is positively related to intention to leave.

The perusal of the direct, indirect, and total effects chart shows that the impact of each predictor on the intention to leave is moderate to large, with effects ranging between 0.22 and -0.44, and efficacy having the most potent impact on intention to leave directly and through its impact on satisfaction and burnout. Interestingly, in contrast to Federici and Skaalvik's findings, job satisfaction has a relatively small indirect effect on intention to leave through burnout (-0.08), suggesting that its direct effect is much more important in relation to persistence.

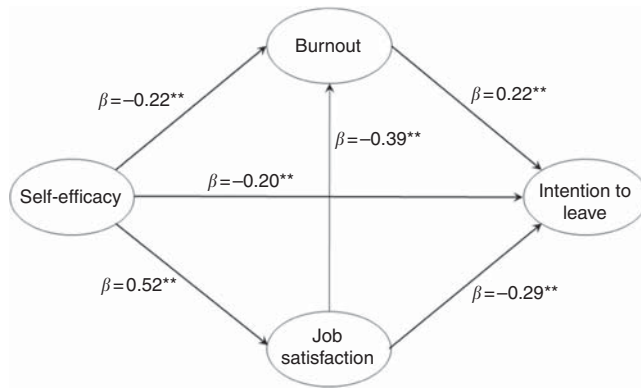


Figure 3.
Replication of Federici and Skaalvik's (2012) model with US principals

Table III.
Direct, indirect and total effects for variables in Model 1

	Job satisfaction			Burnout			Intention to leave		
	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total
Efficacy	0.52**	-	0.52**	-0.22**	-0.20**	-0.42**	-0.21**	-0.24**	-0.44**
Job satisfaction	-	-	-	-0.39**	-	-0.39**	-0.29**	-0.08*	-0.37**
Burnout	-	-	-	-	-	-	0.22**	-	0.22**

Notes: * $p < 0.05$; ** $p < 0.01$

In Figure 4, we display the model with isolation added as a precursor to each variable, and as before, Table IV summarizes the direct, indirect, and total effects of all variables in the model. A few things worth noting are evident. First, the relationships between variables in the first model remain as hypothesized, though the magnitude of their effects are somewhat muted with the inclusion of isolation in the model. That is, the following hold true:

- self-efficacy is positively related to job satisfaction, and negatively related to burnout and intention to leave;
- job satisfaction is negatively related to burnout and intention to leave; and
- burnout is positively related to intention to leave.

Second, isolation emerges in this model as a predictor of all variables – while the direct effect of isolation is not necessarily the highest, the total effect of isolation on each variable is greater than any other predictor, suggesting broad importance for this factor. Third, in spite of this fact, the addition of isolation seems to make only a slight improvement in the prediction of intention to leave, at least when comparing the amount of variance explained in Model 1 ($R^2 = 0.32$) with Model 2 ($R^2 = 0.33$). In contrast, the amount of variance explained in job satisfaction and burnout are each increased somewhat more (from $R^2 = 0.27$ in each case to $R^2 = 0.34$ and 0.31 , respectively). This may suggest that the import of isolation as a direct predictor, while important, pales in comparison to its impact through other factors such as efficacy, satisfaction and burnout. Finally, as in Model 1, the indirect effect of job satisfaction on intention to leave through efficacy is quite small, in this case failing to attain statistical significance. This might suggest reconsidering whether this path should be hypothesized as important (which is also curious because in the original Federici and Skaalvik’s paper, the authors were unsure about the causal direction of this path, testing both before deciding on the direction included in the final analysis).

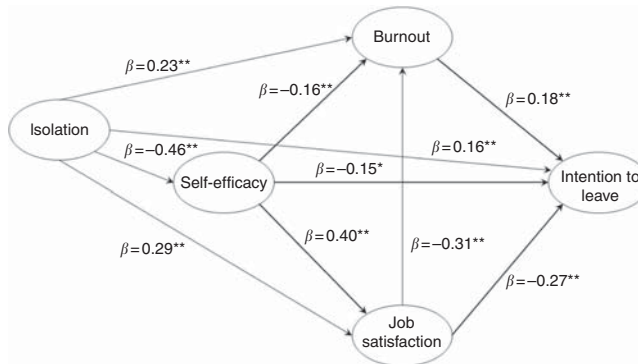


Figure 4. Model with isolation added as a predictor

	Efficacy			Job satisfaction			Burnout			Intention to leave		
	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total
Isolation	-0.46**	-	-0.46**	-0.30**	-0.18**	-0.48**	0.23**	-0.22**	0.45**	0.16**	0.28**	0.44**
Efficacy	-	-	-	0.40**	-	0.40**	-0.16**	-0.12**	-0.28**	-0.15*	-0.16**	-0.31**
Satisfaction	-	-	-	-	-	-	-0.31**	-	-0.31**	-0.27**	-0.06	-0.32**
Burnout	-	-	-	-	-	-	-	-	-	0.18**	-	0.18**

Notes: * $p < 0.05$; ** $p < 0.01$

Table IV. Direct, indirect and total effect for variables in the model

Discussion

At the outset of this paper, we noted that the research dealing with the topic of isolation has been relatively sparse, in general, and especially so when focusing on the role of school principal. Many have bemoaned the egg-crate structure of schools and the difficulty teachers have in their professional lives finding time to collaborate with others. Yet, aside from an occasional admission that “it is lonely at the top,” how isolation affects the quality of work life and consequently the effectiveness and persistence of school principals has not received much scholarly attention. This seems especially troublesome given the focus in recent years on the topic of distributing leadership, which would seem to necessitate more interaction between principals, teachers, and possibly others in schools, and the popularity of collaborative teacher teams and learning communities.

Descriptive statistics presented would suggest that the new principals studied experience relatively low levels of isolation, at least in terms of the absolute values of the measures used. It would be tempting, then, to conclude that sparse interest in isolation is warranted. This would be a mistake for several reasons. First, regardless of the absolute measure of isolation (i.e. ranging from 1 to 4 on a Likert scale), it is impossible to know at what threshold any individual might manifest unwanted consequences from even a small degree of isolation. We might think of this akin to the measure of stress. Individuals do not each have uniform abilities to cope with stressors in the workplace; for some, extreme discomfort may be a relatively minor nuisance, while for others the same experience could be debilitating. Judging whether a degree of isolation is “large” depends on one’s ability to cope and, quite possibly, their specific job duties. Second, we have no idea how any specific levels of isolation, for any particular leader, might trigger the behavioral response of leaving the profession. For that matter, we measure isolation here as a uniform quality of the work experience; it may well be that the source or type of isolation, not the absolute level, makes a difference (as an example, a new principal might be much more affected by isolation from former peers than a seasoned administrator; some leaders may expect isolation from classroom teachers, but be much affected by it from members of the administrative team or district office). Much more research, of a multi-method nature, needs to be done to understand principals’ lived experiences and their consequences, and to understand more about the kinds of factors that produce feelings of loneliness or isolation at work.

So, what do we know as a result of this analysis? First, by replicating the Federici and Skaalvik (2012) model with a sample of new US principals, we lend credence to their empirical findings relating self-efficacy, job satisfaction, burnout, and intention to leave. Review of the literature on each of these constructs demonstrates that the lion’s share of empirical work rests on models dealing with each of these important constructs alone; the more we know about their inter-relationships, the better organizational research can provide models that contribute to our understanding of how these factors impact the work lives of school leaders.

Second, we know a considerable bit more about the impact of isolation on outcomes that the field considers important to measure in relation to the work of school principals, at least with respect to the experience of this sample of first-year principals. Adding isolation as a precursor to the Federici and Skaalvik’s model showed that new principals’ sense of loneliness at work is associated with feelings of efficacy, job satisfaction, burnout, and intention to leave. Further, the model tested shows that these impacts are both direct and indirect, i.e. that the impact of isolation on intention to leave is exacerbated by its interaction with and effect through these other variables. Isolation is an especially large and direct contributor to new principals’ sense of efficacy, a variable that has been shown recently to have great importance to the overall effectiveness of principals in general (see e.g. Leithwood and Jantzi, 2008; Louis *et al.*, 2010).

Overall, this paper contributes to what is known about the quality of work life of new principals and specifically adds to our knowledge about predictors of persistence,

a particularly thorny – and costly – problem for school systems in relation to new principals. This research extends previous work, affirming several conclusions relating to the importance of measuring and accounting for the impact of isolation on new principals, and offering some support for the model relating self-efficacy, satisfaction, and burnout as the predictors of persistence.

A good deal of work is left to be done; a number of questions are left unanswered. Among these include whether a similar pattern of findings emerge when studying experienced principals and/or other school leaders; what impact various contextual factors might have on isolation; and what factors most predict (or mitigate) isolation. Additionally, while the present analysis serves to affirm that there are relationships between isolation and factors such as satisfaction, burnout, and intention to leave, it cannot shed light on why these relationships exist or how they are important. We also wonder whether existing measures of isolation are conceptually and empirically sensitive to the actual phenomenon experienced by principals; it may be that the measure we are using is a relatively blunt instrument, muting variability in measured isolation and thus the ability of research models to yield robust results. We hope to tackle these problems in the near future, coupling work on measure development with qualitative work with school leaders to build a thick description of the nature of isolation in schools and its relationship to outcomes such as burnout and persistence.

From a practical perspective, this work suggests that system leaders might be wise to pay particular attention to the extent to which new principals experience a sense of isolation at work. This might require going beyond coaching and/or mentoring that is oriented to ensure that new leaders acquire requisite skills to be successful in their jobs and probing the degree to which new leaders feel alone or secluded. Given the enormous time pressures experienced by many school and district leaders, researchers and practitioners alike might be wise to give careful consideration to how this might be accomplished without exacerbating feelings of overload. The impact of isolation in the present analysis suggests, at very least, that research on school organization and leadership would be enhanced by considering this construct in models related to the impact of various aspects of principals' work.

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Appendix

Model 1 fit statistics

Average path coefficient (APC) = 0.306, $p < 0.001$

Average R^2 (ARS) = 0.285, $p < 0.001$

Average adjusted R^2 (AARS) = 0.278, $p < 0.001$

Average block VIF (AVIF) = 1.314, acceptable if ≤ 5 , ideally ≤ 3.3

Average full collinearity VIF (AFVIF) = 1.425, acceptable if ≤ 5 , ideally ≤ 3.3

Tenenhaus GoF (GoF) = 0.410, small ≥ 0.1 , medium ≥ 0.25 , large ≥ 0.36

Sympson's paradox ratio (SPR) = 1.000, acceptable if ≥ 0.7 , ideally = 1

R^2 contribution ratio (RSCR) = 1.000, acceptable if ≥ 0.9 , ideally = 1

Statistical suppression ratio (SSR) = 1.000, acceptable if ≥ 0.7

Nonlinear bivariate causality direction ratio (NLBCDR) = 1.000, acceptable if $> = 0.7$

Model 2 fit statistics

Average path coefficient (APC) = 0.261, $p < 0.001$

Average R^2 (ARS) = 0.298, $p < 0.001$

Average adjusted R^2 (AARS) = 0.290, $p < 0.001$

Average block VIF (AVIF) = 1.367, acceptable if ≤ 5 , ideally ≤ 3.3

Average full collinearity VIF (AFVIF) = 1.480, acceptable if ≤ 5 , ideally ≤ 3.3

Tenenhaus GoF (GoF) = 0.413, small ≥ 0.1 , medium ≥ 0.25 , large ≥ 0.36

Sympson's paradox ratio (SPR) = 1.000, acceptable if ≥ 0.7 , ideally = 1

R^2 contribution ratio (RSCR) = 1.000, acceptable if ≥ 0.9 , ideally = 1

Statistical suppression ratio (SSR) = 1.000, acceptable if ≥ 0.7

Nonlinear bivariate causality direction ratio (NLBCDR) = 1.000, acceptable if ≥ 0.7

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