

Administrative stressors and psychological and physiological symptoms among novice primary school principals

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ABSTRACT

This study was conducted to identify whether the administrative workloads led to the stress level among novice principals in their new schools. In addition, we also explore whether the principals are experiencing the psychological and psychological symptoms from their stress issue. The data collection consisted of two major phases. In the first phase, questionnaires were administered to 70 novice primary principals who were just being appointed at their new schools. It was followed by three sessions of interviews with purposely selected 10 novice primary principals as the second phase. From the quantitative data analysis, primary principals perceived their schools' administrative stress caused them a moderate stress level from their heavy administrative workloads. However, principals reported having psychological and physiological symptoms from the quantitative findings and interview sessions.

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1. INTRODUCTION

It is a well-known fact that the school principals are key individuals who determine one school's excellence and effectiveness [1]. As school leaders, principals face huge accountabilities and job demands resulting from the school's change process [2]. At the same time, principals must be skillful in generating the school's vision and mission, ensuring the schools' academic performance and achieving students' academic standard [1] nurturing a lifelong learning culture, implementing change and in fact, leading their school's development process [3], [4]. In this sense, it is assumed that the huge responsibilities of principals as increasingly apprehensive with tensions and dilemmas, which require them to acquire a higher level of confidence [4]–[6].

As a school leader, principals' work is considered demanding in facing challenges that can result in stress and impact their well-being [7]. Nevertheless, they need to be resilient in maintaining their stress, emotional state and well-being since they are essential individuals that influence the school's overall performance and their leadership effectiveness [8], [9]. Principals also have to think about managing their stress and ways to diminish stress problems among staff and teachers [10]. Empirically, it is proved that principals' stress issue has possible effects on their well-being [4], [11]. Symptoms such as feeling tired and fatigue due to working for long hours, an enormous load of paperwork and excessive work pressure were identified as causes of stress to principals [12]. These symptoms will result in undesirable attitudes such as anger and anxiety [13], low performance in terms of physical and mental capabilities [14], absentees and

issues related to their well-being [15]. Despite numerous studies exploring principals' stress experience, little is known on how the administrative workloads faced by primary principals led to psychological and physiological strains. As such, Dicke *et al.* [16] argued that school leaders are not systematically the subject of health research.

In this study, the attempt was made to examine the problems faced by novice primary principals who were newly appointed in their new schools. In particular, the study investigates novice principals having at least two years' experience (described as a new member in their new school contexts), focusing on the intense situation faced by these principals and linking the problems to their psychological and physiological strains. Angeriness, tiredness, anxious, and worries that can lead to burnout, absenteeism and dissatisfaction are symptoms that emerge from those problems [17]. Specifically, we addressed the following questions: i) Do newly appointed and transferred primary principals face issues within their administrative workloads and adjust to their new schools' cultures? and ii) Do the primary principals experience any stress symptoms within their psychological and physiological elements?

Expressively, this study derived from their administrative workloads that have been continuously examined to understand how they faced their stress and how they were able to cope with their demanding and taxing positions. In pointing out the novelty of this study, two main aspects were highlighted based on the authors' knowledge and awareness on the topic. First, the design of the study; this study employed two strands of quantitative research: survey and interviews for data collection from the selected primary principals. Combinations of both strands are accomplished to provide more in-depth findings; thus, further complement and supplement among the principals that can lead to holistic overviews can be proposed [18]. Empirically, previous studies on the principals' stress and loneliness [19]–[21] were mostly conducted with only one strand, either qualitative or quantitative. Thus, this study embarked on a new approach least employed when studying principals' stress issues. The second aspect is related to the principals' psychological (stress) and physiological (burnout). These aspects are also least studied by previous researchers because most of the studies focused mostly on factors and prevalence aspects without focusing on the physiological aspects experienced by principals, such as difficulty in sleeping, easily angry and muscle tightness due to their heavy workloads. Hence, this study sought to highlight the symptoms experienced by the principals, psychologically and physiologically, which in turn led to principals' physiological issues while leading their schools. In terms of its relevancy, studies on principals' stress are scarce and limited, making it difficult to suggest its prevalence and implication [21]. Therefore, this study is expected to contribute to the body of knowledge about understanding principals' stress as a global issue that needs to be addressed by the educational authorities. In addition, research evidence related to principals' stress was constantly studied within English-speaking and European countries [19], [21] which makes this study have its novelty and originality. It is hoped that the educational authorities may design a syllabus or a course that addresses the principals' issues and their emotional experiences while functioning at their principalship position [20], [22].

Admittedly, there is an emergent body of research conducted on principals' stress issues regardless of whether they are novice or senior. However, research examining the problems faced by transferred or moving principals with their new schools is still lacking. As newly appointed school leaders, they are known as 'newcomers'. They have little knowledge and understanding of their new schools' cultures, values and norms [23], [24]. Additionally, principals being challenged with 'culture shock' issues when adopting resulted in stressful experiences [24].

Principals are the second individual after teachers who try to fulfil students' learning needs [25]. Undeniably, the stress issue faced by school principals has derived from their school administrative workloads and, at the same time, played their effective roles as instructional leaders [25]. Due to the heavy workloads that principals face, they will have the least time to build their positive relationship with teachers, overlook other management and leadership tasks that they have to fulfil [6] and have the least time for leisure with their families [12]. These challenges and workload issues that the school principals face will affect their well-being and mental health [26]. In addition, previous researchers [11], [12], [27] highlighted why newly appointed principals frequently have difficulty within their initial years of leadership. First, they have lack of knowledge and understanding in managing and leading their newly appointed schools. Second, issues within socialization aspects on their new school's culture and procedures. Thus, the newly appointed principal's initial phase was considered pressuring, leading to considerable stress [28]. At the same time, they also received a lack of support [29] and had to work long hours to complete their tasks [12]. Furthermore, they are also challenged to handle or deal with small or big issues, which insists on their immediate solutions and decision-making skills [23].

There are still limited numbers of studies conducted that explored the experience of stress resulting from newly transferred or appointed principals' problems. As principals, they have to fulfil the expectation of the community and stakeholders. Thus, this demanding and taxing situation will result in psychological and physiological strains, considered negative outcomes that can affect their mental health [11], [15]. In fact,

according to Alshamrani [30], these negative outcomes will lead to lack of concentration, loss of worth even the emerging of depression symptoms. By definition, strain is a feeling that stems from lowered emotional attachment, which later has negative inferences on principals' well-being and mental health [30], [31].

Based on their huge accountabilities, principals are faced with heavy workloads, which results in their high level of stress [17]. Principals were noted by previous researchers as receiving 'very stress' and 'extremely stressful' when fulfilling their roles and responsibilities, described as overloaded [32]. People with stress usually experience emotional symptoms like anxiety, fear, or resentment [11] and physical symptoms like high blood pressure, sleeping problems, nervousness, headaches, or back pain [33]. Besides that, they might also experience headaches, hypertension, weight gain [34], heart problems and heart palpitations, sleep problems, and depression [35].

In 1988, two important studies examined principals' health and physiological strains resulting from school stress [36], [37]. The study by Cooper, Sieverding, and Muth [36] studied principals' heart rates who worked under pressure based on readings from heart rate monitors for three consecutive days. In the study, the principals were reported facing stressful experiences due to working long hours and completing their managerial activities that led to physiological strains. In the other study, Whan [37] also found that value conflict, handling teachers and staff with low performance, managing teachers and staffs, and organizing teachers and staff meetings were the stressors experienced by 10 primary principals in New South Wales.

Stress among principals is considered a worldwide and global issue when principals from various educational systems are also experiencing stress while leading their schools. In the case of German principals, Dadaczynski, Paulus, and Horstmann [2] demonstrated that school principals have perceived themselves as 'being dissatisfied' and 'very dissatisfied' based on their working situations and having poor health status. In terms of school types, the German primary principals were reported to have a low level of resources together with their health status and satisfaction, perceived as low in both indexes. Meanwhile, Darmody and Smyth [38] concluded that 45% of Irish primary school principals described their job as stressful, which derived from lack of support, unconducive school climate, and students' issues disciplinary. As school leaders, Grissom, Loeb, and Mitani [19] also noted the lack of efficiency among school principals in putting priority and time management, which also led to their stress experiences. Another stressful principals' experience was reported by Kaufman [39] when they have to make a sound decision making which benefits the whole school community considered 'unscripted events'.

2. RESEARCH METHOD

2.1. Subjects

In this study, participants consisted of 70 novice primary principals, newly appointed to their new schools, with 27 male principals (38.6%) and 43 female principals (61.4%). Based on their length of service in the current schools, the highest group containing 29 principals (41.4%) have served their schools between 13 to 18 months, followed by 19 principals between 6 to 12 months (27.1%), 13 principals (18.6%) for 19 months to 24 months and the last group of 9 principals have served for less than 6 months (12.9%). In terms of their age groups, only 4 principals (5.7%) aged between 31 to 40 years old, followed by 42 principals (60%) aged between 40 to 50 years old, and 24 principals (34.3 %) aged between 50 to 60 years old. As for their type of schools, 34 principals served (48.6%) at rural primary schools and 36 principals (51.4%) were from urban primary schools.

For the interview, 10 novice primary principals were purposely selected from 70 primary principals who participated in the quantitative data collections [40]. They were personally contacted to obtain their voluntary participation. The reasons to add the qualitative interviews are to obtain an in-depth understanding and insights on subjects' experiences [41]. Of the 10 novice primary principals, four were males and the other six were females. There were five principals from urban primary schools and another five were from rural primary schools. In terms of their experiences, four principals have served between 2 to 4 months and six principals have served for 6 to 12 months. The reason for selecting only 10 primary principals in this study was predominantly based on the suggestion by Guest, Bunce, and Johnson [42] who emphasized that if the sample is relatively homogenous, 6 to 12 participants are considered adequate or sufficient to reach the saturation point and richness of the data. In a similar view, Kvale and Brinkman [43] recommended between 5 to 25 participants, while Saunders [22] suggested four to 12 participants. Thus, in this study, we decided that 10 newly primary principals are adequate to obtain in-depth, rich, and reach the saturation point.

2.2. Instruments

A total of 41 items, divided into three sections, were used to obtain principals' feedback on their initial problems. Section A has five items, comprising the primary principals' demographics (gender, their length of service with their current schools, their age groups, and their schools' categories). In section B, there are 16 items comprising principals' administrative stress. All items in this section were adopted from

the administrative stress index (ASI), developed by Swent and Gmelch [44]. The original version of ASI has 35 items. However, this study only chose 16 items relevant to the context of the study. In this section, seven constructs represented all 16 items being studied and represented the administrative stressors experienced by newly primary principals. Each construct was represented by only two items. The constructs are heavy workloads, attendance in a meeting, attending parents, solving the school's problems, monitoring staff's performance, supervising staff, handling staff who do not understand the principals' expectations and relationship problems with staff.

Next, in section C, we asked primary principals about psychological and physiological strains resulting from their stress issues. There are 10 items on psychological and another 10 items that represent the physiological symptoms. As for the scaling, all items used the Likert five scales; widely employed, ranging from '5-strongly agreed' to '1-strongly disagreed'.

As for interview sessions, the semi-structured interview's protocol items consisted of three items developed to explore the principals' administrative stress issues. Their psychological and physiological symptoms were initially developed before the interview sessions. The three items were asked to the principals on three major constructs: their administrative stress problems, psychological and physiological symptoms. Items are: i) What administrative stress and problems do you face as a newly appointed primary principal?; ii) How is your feeling while facing these problems?; and iii) Do you have any physiological symptoms caused by stress that you have experienced?

2.3. Reliability and data analysis

In order to examine the principals' understanding of the items and obtain items' reliability, a pilot test was conducted with 10 primary principals, which were excluded from the exact sample of the study. The reason for selecting only 10 primary principals was based on the suggestion by Johnson and Christensen [45] that a pilot test should be conducted with a minimum of 5 to 10 participants to determine the consistency of the items. The second reason is based on limited numbers of newly appointed principals within the state, which limited the numbers of the actual participants and participants employed as the sample for the pilot test. Participants were selected based on their homogenous criteria with the exact sample of the study. Based on the quantitative pilot test, Cronbach's alpha values obtained consisted of administrative workloads ($\alpha=0.941$), and psychological ($\alpha=0.925$) and physiological symptoms ($\alpha=0.905$). In the quantitative data analysis, descriptive statistics were used, which comprised frequencies, percentages, mean scores, and standard deviations.

As for the qualitative data analysis, the process started with transcribing all the interviews data related to primary principals' administrative stress issues and their psychological and physiological symptoms. The following process is to read the transcribed data a few times to acquaint with the data. The verbatim was being re-read many times to understand the content and search for meaningful sentences. In the next phase, we provide all the data with codes on administrative stress and their psychological and physiological symptoms. Next, all the codes from the interviews data were combined as sub-themes. Following that, all the sub-themes were grouped and combined into a few major themes. After completing the process, all data and themes were re-read and checked to ensure connections between themes. To ensure validity, the debriefing technique was used. Two experts were appointed as the evaluators to check on the accuracy of the given themes. After obtaining sufficient comments, a few rectifications were made to the exact themes.

2.4. Data collection procedures

The data collection procedure started with the distribution of questionnaires to 70 novice primary principals who had just been appointed to their new schools. The names of the newly appointed principals were obtained from the state department of education. Before distributing the questionnaire, official permission was granted from the education planning and research division (EPRD), Ministry of Education Malaysia. Following the approval, the state department of education also provided their official permission. The researchers had to visit the newly appointed principals' schools to distribute the questionnaires. However, the principals whose schools were located in rural areas received the questionnaires by postal. All principals were given a week to provide their feedback on all 41 items. After a week, the researchers returned to the studied schools to collect the questionnaires. As for the rural principals, they were instructed to return the questionnaires either by postal or handing them in person. A total of 70 questionnaires were collected with a return rate of 100%. Next, the questionnaires were checked for any incomplete responses and then were analyzed thoroughly.

In the first phase of analysis, the data were analyzed using a quantitative approach of descriptive and inferential statistics. In the descriptive statistics, the mean scores and the standard deviation were calculated. The second phase was to interview the principals. Using semi-structured interviews is particularly useful for

encouraging the principals to speak about their experiences as they provide in-depth descriptions of their perceptions [43], [45] which complemented the quantitative data. Thus, the researchers do not just collect elicited data but get the stories behind the principals' experiences related to their physiological and psychological symptoms and their administrative stressors. Ten out of 70 newly appointed principals were randomly selected to be interviewed. All interview sessions were conducted personally in the principals' offices, which made them feel at ease. After completing the 10 interview sessions, the data were analyzed using the thematic qualitative interview procedure as suggested by Braun and Clarke [46].

3. RESULTS AND DISCUSSION

3.1. Administrative stress

In this section, we asked the principals about the recent administrative stress they faced while leading their newly appointed primary schools using all distributed items. Table 1 tabulates all the results obtained after analyzing the answered items. Based on the overall mean score ($M=2.73$) of their feedback on their administrative stress, all novice primary principals evaluated their level of stress as moderate.

Table 1. Administrative stressors

Constructs of stressors	Disagree (%)	Neutral (%)	Agree (%)	Mean	SD
Heavy workloads	8.2	35.7	66.1	3.49	1.1
Attend meetings	5.7	22.9	63.1	3.24	0.6
Attending parents	78.6	17.1	4.3	1.99	0.8
Solving school's problems	44.3	16.1	38.6	2.59	0.9
Monitoring staff's performance	65.7	28.6	5.7	2.30	0.7
Supervising staffs	67.3	27.1	5.7	2.27	0.7
Staffs do not understand my expectations	30.0	32.9	37.1	3.01	1.1
Relationship problems with staffs	44.3	17.1	38.6	2.99	1.1
Overall mean scores				2.73	

Table 1 depicts the administrative stress elements while leading their newly appointed primary schools. As can be seen, the main stressor was principals' heavy workloads ($M=3.49$; $SD=1.1$) followed by attended meetings ($M=3.24$; $SD=0.6$), staffs who do not understand principals' expectations ($M=3.01$; $SD=1.1$), relationship problems with staffs ($M=2.99$; $SD=1.1$), solving schools' problems ($M=2.59$; $SD=0.9$), monitoring staffs' performance ($M=2.30$; $SD=0.7$), and supervising staffs ($M=2.27$; $SD=0.7$). However, the least stressor specified was related to attending parents ($M=1.99$; $SD=0.8$). The study later proceeded with three sessions of interviews with the primary principals. From the interviews, the novice primary principals shared their stress issues and problems while leading their schools. Two themes emerged are heavy workload and challenges within their social relationship with teachers and staff.

During interviews, three novice primary principals stressed that they face problems in their heavy workloads which forced them to bring their unfinished works to their homes. For instance, principal 7 shared her experience:

"As principal, my major problem is lack of time and heavy workloads. I'm currently facing a lack of time to finish my work. I'm quite busy at school, such as meeting parents to solve their children issues. Every day, I met parents who came to my school related to instructional issue." (P7; LP).

Likewise, another principal known as primary principal 2 also shared her experience related to the lack of time and heavy workloads.

"My greatest issue is related to time management, I'm quite busy on school days since I don't have enough time to finish my work. In fact, I have to stay until late at night." (P2; LP).

In another context, primary principal 3 also mentioned that the heavy workloads that principals had to bear and the parents' complaints they had to address took most of the principal's time.

"... my workload related to parental complaints. Parents came to school to complain about school teachers and students. Complaints that raised related to teachers' punishment, bullying issues in schools and so on. Sometimes I can't conduct my teachers PDPR observations due to obligation to resolve parental complaints." (P3; PP).

In the case of principal 3, she revealed that she has relationship problems in building a positive relationship with the staff and teachers who are not that supportive. Admittedly, the issue derived from preferences conflict between the principal and the teachers. Thus, principal 3 explained:

“My obstacle is my relationship with the teachers. My relationship with the teachers was not good, because I’m a strict person, so I don’t think the teacher liked me. According to my assistant teacher, the former headmaster was not as strict compared to me, so I felt that the school teacher could not adjust to my leadership style.” (P3, LP).

As for principal 6, her major problem is that she was left alone in completing her school’s works. Thus, she felt uneasy.

“I don’t have any major problems except a relationship with my teachers. It is like nobody come to help me when I’m in school. When I face a problem, sometimes I ask my senior assistant, they will reply that they don’t know. Then, I started to ask my teachers, they replied, please ask the senior assistant. I’m clueless here, whom to ask.” (P6, LP).

Based on novice primary principals’ feedback, heavy workloads were named as the major issue faced by primary principals within their initial years with novice leadership years. As newly appointed principals, they were loaded with various tasks to complete. These definitely provide them with heavy workloads and stress issues. When principals have too much administrative work, novice primary principals have no other options except to bring their office works to their homes to meet all datelines. Principals have shared these in the interview sessions. They have the least time managing their schools until they have to stay late at night to finish the administrative workload. At schools, novice principals’ tasks were fulfilled with parents who came to schools for various reasons. Thus, principals need to consult or deal with them. Thus, the sessions between principals and parents always took most of their time finishing their taxing responsibilities. At the same time, principals need to fulfil their administrative and official duties. In addition, they also believed that they needed to be more competent and insisted on more knowledge and skills in school leadership to lead their schools effectively. The issue of principals’ workload is considered an on-going issue due to the huge responsibilities of being a novice school principal who always determines the school’s academic achievements and maintains the academic standard for students’ learning [1], [47].

During the interview, majority of the primary principals’ heavy workloads became critical when they had to attend all the official meetings, which added to their administrative stress. Due to their busy schedules, principals have the least time to build positive relationships with their staff, especially teachers. Thus, principals explained that the staff and teachers complain about difficulties understanding their leadership styles and preferences, even comparing their leadership styles with the out-going principals. In addition, primary principals also shared their sad experiences when they did not have friends to share their problems, assisting them in completing the administrative workload or clarifying certain issues faced. This finding is highlighted by previous researchers from various educational systems on principals having heavy workloads and busy schedules [4], [6], [12].

3.2. Psychological and physiological strains.

In this section, we tried to determine whether primary principals experienced their psychological and physiological symptoms resulting from stress. Feedback received were analyzed to answer the second research question. Based on Figure 1 which depicts primary principals’ feedback on their psychological strains items, it is indicated that the primary principals did noted that they are easy to get angry (M=3.30; SD=0.7) followed by they are having problems with their staff (M=2.99; SD=1.14), felt anxious (M=2.69; SD=0.94), having bad nightmares (M=2.56; SD=1.05), forgetful (M=2.54; SD=0.77), difficult to focus on their work (M=2.43; SD=1.01), feeling least motivation to work (M=2.19; 0.74), and feeling depressed (M=2.11; SD=1.75).

However, the primary principals’ least thinking from their principalship post (M=2.04; SD=0.71) and not feeling regret of being school principals (M=1.99; SD=0.77). Furthermore, we also analyzed the primary principals’ physiological symptoms which are presented in Figure 2. The figure depicts findings obtained from the principals’ feedback related to physiological symptoms which stemmed from their administrative stress problems, and thinking too much about the school performance. From Figure 2, principals are noted of experiencing muscles feel tight (M=3.33; SD=0.91), tiredness (M=3.16; SD=0.98), difficulty/lack of sleep (M=3.06; SD=0.86), feeling stressed (M=2.97; SD=0.78), headaches (M=2.74; SD=0.86), lack of appetite (M=2.69; SD=0.80), having backache (M=2.63; SD=0.92). However, primary

principals replied that that have least experience pain the neck and shoulders (M=2.49: SD=0.79) and having fast heartbeat even resting (M=2.03; SD=0.65).

In general, it is found that the experience of stress and adjusting to their new schools have moderately affected the principals' psychological (M=2.48: SD=0.88) and physiological (M=2.81; SD=0.84) elements based on the overall mean score is 2.65. Based on overall mean scores, novice primary principals have reported that they are moderately experiencing psychologically and physiologically strains that affect their well-being and mental health.

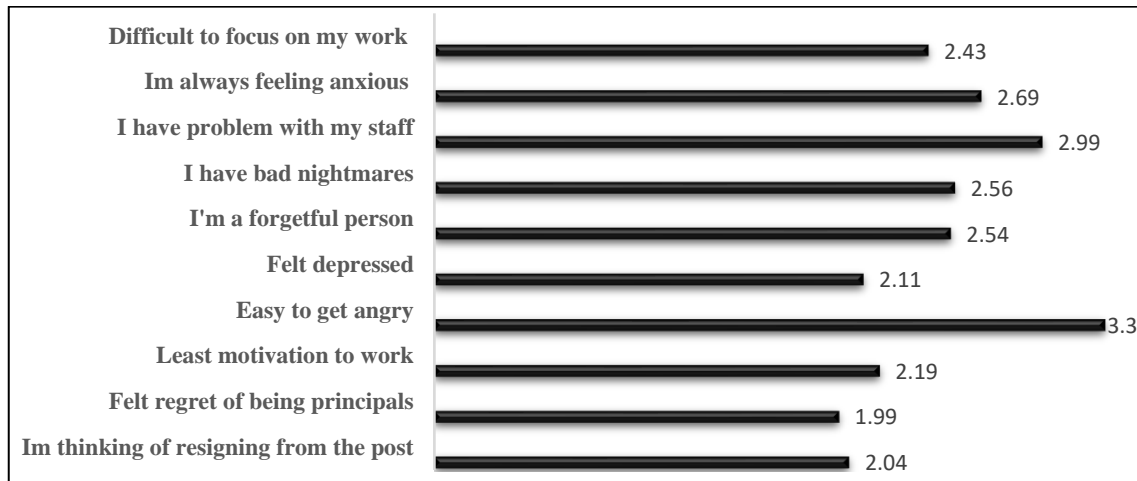


Figure 1. Psychological symptoms resulted from administrative stress

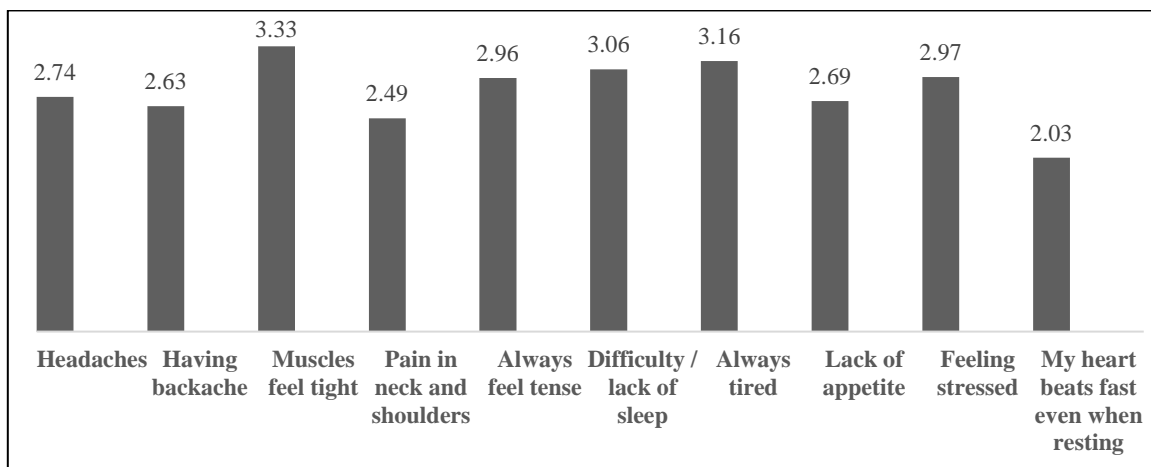


Figure 2. Psychological symptoms resulted from administrative stress

In addition, we also conducted a series of interviews with 10 primary principals to explore their issues related to their physiological and psychological symptoms. Based on interviews sessions, two major themes emerged, indicating that the principals easily get angry, which stemmed from them feeling stressed. The second theme relates to the feeling of annoyance and depression. During the interview, Principal 1 was quite angry when parents came to school to complain. P1 said;

“I was really upset when I saw parents coming to school to complain. Parents always expressed their dissatisfaction with our teachers. The discussion will definitely take long hours, which distracted most of my work.” (P1; MP)

Principal 3 stated that she felt sad when her teachers did not respond when she asked them in an official meeting. Principals 3 explains:

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“In a meeting, I usually asked my teachers about their opinions related to a certain issue. However, I received no response to my question. Thus, I feel really sad when school teachers do not respond when I ask their opinion.” (P3; LP).

Another principal informed that she was depressed when unable to complete her work at school and had to finish her work at home. P2 shared her experience:

“I feel really stressed out when I have to bring work to my home to finish my task. I have huge responsibilities to fulfil while I’m in the office. After completing my work, I felt so tired.” (P2; LP)

Lastly, principal 4 stated that she felt very depressed when it came time for her to make an important decision on a school matter.

“I felt really depressed when I have to make a decision about school. Sometimes, I felt anxious or anxiety while making a decision. I always question myself whether I have made the right decision for my schools, my teachers in fact to my students. In another situation, I’m also thinking on the consequences if I will receive if I made a wrong decision that affects my school performance.” (P4; LP).

In this study, we also tried to determine whether the administrative stress issue provided some consequences or effects on their psychological and physiological strains. Based on psychological symptoms experienced by novice primary principals, they believed that they have moderate psychological strains which stemmed from their heavy workloads. However, the novice primary principals shared in interview sessions that they did experience some psychological stress symptoms such as easy to lose their temper and to feel depressed and overburdened when they have heavy workloads. At the same time, they also have to welcome parents related to their students’ disciplinary issues, which took most of the principals’ time. The principals’ issue of depression became unjustified when some teachers did not give any feedback or opinions when principals asked for their opinions. In addition, principals also shared the feeling of anxiety when thinking of the consequences based on their critical decisions, which affected their schools’ performance. Although principals did respond with moderate psychological strains, it is revealed that they are experiencing psychological symptoms such as easy to lose temper, feeling depressed and overburdened or feeling anxious. Thus, the finding is congruent with opinions highlighted by previous researchers on psychological strains experienced by principals when they have high levels of stress [4], [11], [12].

Physiologically, principals also shared that they were also experiencing physiological symptoms such as difficulty sleeping at night and muscle tightness while leading their schools. In addition, the novice primary principals also explained that they were sometimes feeling stressed and intense when they thought too much about their schools’ performance. In fact, the primary principals also mentioned their lack of appetite, headaches, and backaches due to stressful feelings. Nevertheless, the principals noted that they least experienced symptoms related to their fast heartbeats. Thus, it was concluded that there is a significant relationship between administrative stress that principals had experienced with their psychological and physiological symptoms. The findings indicate that the stress experienced by novice primary principals also has some implications and influences the primary principals’ well-being and mental health, which indicates their physiological and psychological elements. Based on the findings, it is assumed that primary principals have negative physiological strains that can affect their mental health and well-being, previously mentioned by researchers [34], [35].

3.3. Non-parametric statistics

In measuring the significant differences based on novice primary principals’ demographics, there is no significant difference based on gender ($U=573.500$; $Sig=0.933$) and school types ($U=555.000$; $Sig=0.503$) through the Mann-Whitney’s non-parametric tests as presented in Table 2. In addition, there is also no significant difference indicated based on principals’ age using the Kruskal Wallis non-parametric tests ($H(2)=0.978$; $Sig=0.613$). On the contrary, there is a significant difference based on primary principals’ leadership experiences ($H(3)=20.981$; $Sig=0.000$). The significant differences based on principals’ leadership experiences are between principals who have the leadership experiences of 6 to 12 months and another category of principals who lead the school within 13 to 18 months.

Table 2. Significance differences on administrative stress based on primary principals' demographics

Demographics	Demographics' criteria and mean scores	N	Mann-Whitney U	Sig	
Gender	Male (MS=35.76)	27	573.500	0.933	
	Female (MS=35.54)	43			
School types	Urban (MS=37.08)	36	555.000	0.503	
	Rural (MS=33.82)	34			
Demographics	Criteria	N	df	Chi-square values	Sig
Leadership experiences	Least than 6 months	9	3	36.480	0.000
	6 to 12 months	22			
	13 to 18 months	26			
	19 to 24 months	13			
Age	31 to 40 years old	4	2	0.978	0.613
	41 to 50 years old	42			
	51 to 60 years old	24			

Hence, Table 3 shows that based on z-score values, the two cluster groups with significant differences based on novice principals' leadership experiences are novice primary principals who are less than six months and those with 13 to 18 months of leadership experiences (mean differences=30.968; Sig 0.000). The second comparative groups are between primary principals who have less than 6 months of being the primary principals and those between 19 to 24 months (mean difference=50.816; Sig=0.000) as shown in Table 3. Furthermore, Table 4 describes that based on Pearson's Chi-square correlation test, it is indicated that there is a significant relationship between principals' administrative stress with their psychological ($X^2(1, N=70)=21.542$; Asymp. Sig=0.000) and physiological symptoms ($X^2(1, N=70)=31.231$; Asymp. Sig=0.000). Thus, Pearson's Chi-square tests showed significant associations between administrative stress with psychological and physiological symptoms.

Table 3. The z-score test in measuring significant differences based on leadership experiences

Experiences in leadership (i)	Experiences in leadership (j)	Mean difference values	Asymp. Sig
Less than 6 months	6 to 12 months	18.551	0.127
	13 to 18 months	30.968	0.000
	19 to 24 months	50.816	0.000

Table 4. Pearson's Chi-square tests between administrative stress with psychological and psychological symptoms

Dependent variables	Values	df	Asymp. Sig
Psychological symptoms	21.542	4	0.000
Physiological symptoms	31.231	4	0.000

In examining the significant differences based on novice primary principals' demographics with their administrative stress, findings revealed the least differences between male and female novice primary principals. However, the urban novice primary principals have slightly higher administrative stress levels than rural novice primary principals. The results also revealed that there is no significant difference based on novice primary principals' age factor. Nevertheless, there are significant differences in terms of primary principals' leadership experiences. Based on z-score values, the two cluster groups with significant differences are between principals' who have less than 6 months and those who served for 13 to 18 months. The second comparative groups are between primary principals who have experienced between 19 to 24 months. In terms of the relationship with primary principals' psychological and physiological symptoms, there is a significant relationship between administrative stress and psychological and physiological symptoms.

4. CONCLUSION

This study draws out significantly the implications for the improvement of the principals with their new schools. First, it is vital for the educational authorities to remain or continue the program of mentoring as a platform to share their experiences, skills and knowledge on school leadership. Through this essential platform, the excellent principals are provided with a platform to guide and advise other principals in leading their schools effectively. Second, as the role of a principal is demanding and many-sided, this could lead to unexpected uncontrollable emotions. As a result, they become stressed. Thus, it is recommended that the educational authorities introduce anger and stress management courses to all principals. Through such

courses, the principals can identify the sources of their stress, manage their stress efficiently and recognize the importance of their healthy well-being. In this sense, it is suggested a few strategies that can be used as part of anger and stress management. These include obtaining advice from supervisors and colleagues, practicing coping behaviors such as relaxation, and thinking about solutions and options to overcome their stress issues. Third, it is also crucial for all senior principals to share their ideas, knowledge and skills on overcoming or combating their stress. As senior principals, they certainly have the skills on how to cope with stressful situations such as heavy workloads, decision making and handling teachers with low commitments based on their wide experiences. Effective coping techniques such as regular physical activities and sharing sessions with other principals and colleagues are some strategies that principals can use to overcome their stress issues. Fourth, before the stress takes a toll on the principals' health, they must learn how to keep it under control and manage it. The coping strategies as requested by the principals are important as initial steps in introducing a stress reduction program. It is hoped that the principals' ability to handle the demands of their job effectively will reduce their stress levels. Through effective coping strategies and techniques, principals will have better mental health and emotional state, which later benefited their teachers and students. Thus, healthier principals working under manageable levels of stress will be inclined to be more positive. With the introduction of coping strategies, they help maintain a healthy workplace environment. Eventually, this will also enhance principals' leadership skills and competencies, job satisfaction and performance.

While this study can be considered representing a virtuous beginning, it still has some limitations; first, the selection of 70 principals as respondents who provided feedback on the survey for the quantitative data collection. Second, the feedback obtained was from newly appointed principals who only have brief experience in school administrations. Thus, the findings do not outline clearly their real work experience and their work expectations. Third, although mixed-methods researchers are pragmatic in collecting qualitative and quantitative narrative data, others may take a critical stance towards this type of study. Understandably, some researchers suggest focusing only on either qualitative or quantitative approaches in attaining the in-depth understanding of the research outcomes.

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