CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research methodology. This study is using the positivism paradigm and the deductive approach. The study is a quantitative in nature. The study deploys a survey design and uses a questionnaire as the instrument for data collection. The chapter consists of nine sections. First section presents an introduction of the chapter. The second section discusses the research design followed by population and sampling in the third and fourth sections respectively. The fifth section presents the research instrument. Validity and reliability are given in the sixth section. Data collection procedures are discussed in the seventh section and the eighth section discusses the data analysis and last section summarizes the chapter.

3.2 Research Design

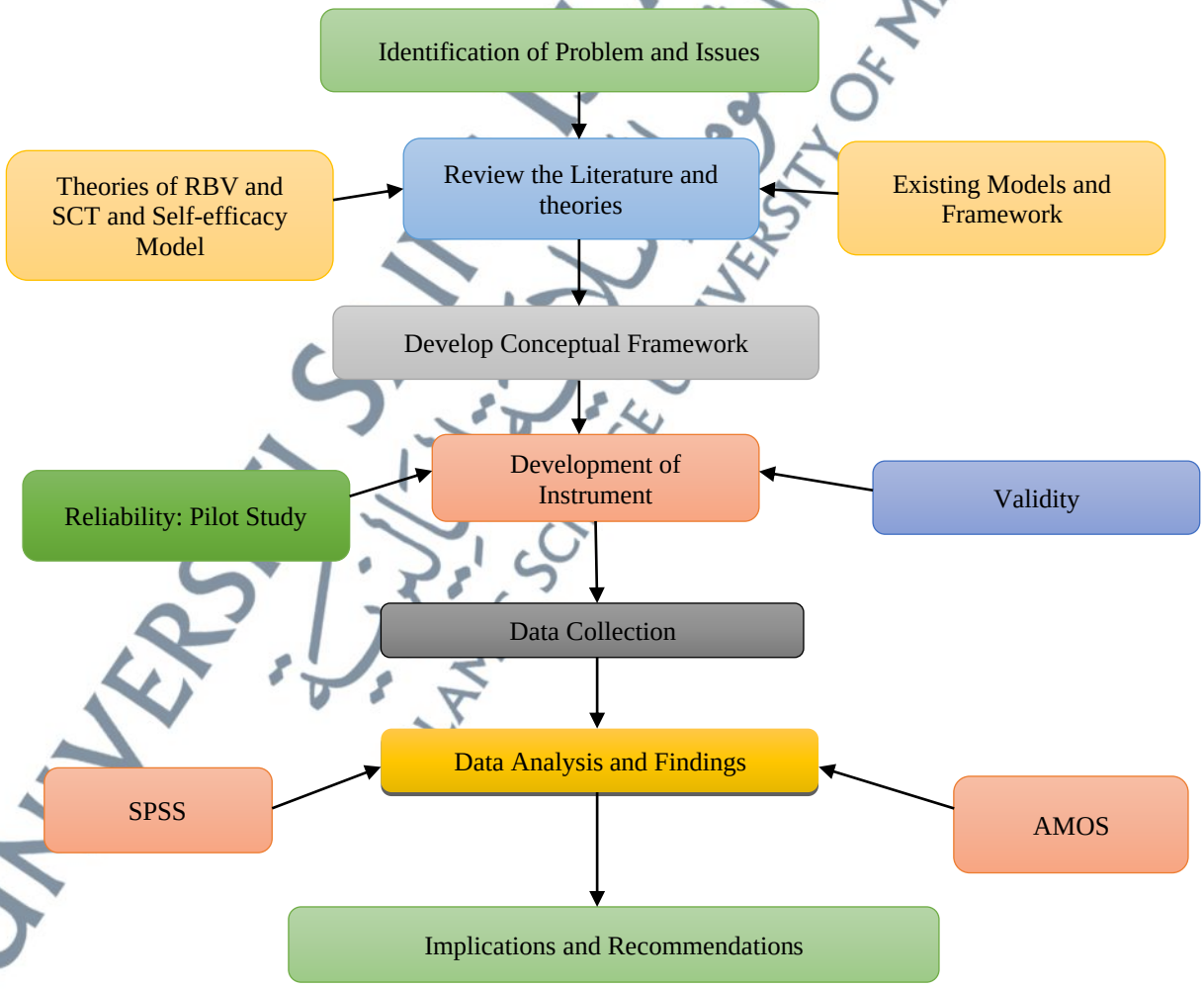
This section disucsses the research design of this study. In research deisgn, one of the important aaspect is the research philosphy. Reseach philosphy focuses on the paradigm of research. There are several paradigm philosphies, however, the most known are the positivism and the constructionsim. Positivism is objective, empirical, traditional and researcher is independent from the research and it uses a quantitative method to understand phenomena (Ryan, 2015). On other hand, the constructivism is

subjective and the researchers is not independent from the reseach. In other words, the researchers can affect the result of the study. Usually, constructivism uses a qualitative approach (Hall, 2013; Lee, 2012). This study deploys the positivisim paradigam due to the fact that the study is quantitative and the reseracher uses a structured questionanire as a tool for data collection.

As a fact, many researchers believe that the questionnaire is one of the best ways to collect data because of the benefits that can be achieved through the questionnaire, as this tool allows researchers to evaluate large numbers of variables in one study. The questionnaire is also the most appropriate tool to describe the trends or the causal relationships among the variables with an aim to generalize the results. In addition, given the short data collection period, the questionnaire allows a researcher to collect a large number of responses within a relatively short period of time without the presence of the researcher at the place of the research (Sekaran & Bougie, 2016). Based on the above, questionnaire is used in this study as a method to collect data.

This research goes through several stages. The process of this research is presented in Figure 3.1. First, the problem and the issues were identified. Next, the literature was reviewed to understand the theories and the work of other researchers in regard to the problem of this study. The literature was reviewed also to develop the conceptual model that can solve the problem of this study. To test the conceptual model, the instrument of data collection was developed based on the literature. The instrument needs to be validated and tested for reliability before proceeding to filed data collection.

After specifying the population and the sampling technique and size, the data is collected from the respondents. The data analysis is conducted using Statistical Package for Social Science (SPSS) version 25.0 and Analysis of a Moment Structures (AMOS) version 26.0. Data examination is conducted using SPSS while the main analysis for the hypotheses testing is conducted using AMOS. Since most of previous studies are either descriptive or correlation, the use of AMOS will enable a regression model to be tested. The findings are presented and based on the findings, the implication for theory and decision makers are given as well as the recommendations to enhance the performance of academic staff. Figure 3.1 presents the research process.



Source: Self-Developed

Figure 3.1: Research Process

3.3 Population and Sampling

Sekaran and Bougie (2016) describe the target population of a research as the entire group of people, events, or things of interest that the researcher wishes to investigate, however an element is a single member of the population. The population of this study is the entire public universities in Jordan. Jordanian's higher education system comprises 10 public universities. Table 3.1 shows the name of the universities, their websites, and number of academic staff in each university.

Table 3.1: Public Universities in Jordan

#	University	Website	Number of academic staff
1	The University of Jordan	www.ju.edu.jo	1431
2	Yarmouk University	www.yu.edu.jo	1597
3	Mutah University	www.mutah.edu.jo	550
4	Jordan University of Science & Technology	www.just.edu.jo	962
5	The Hashemite University	www.hu.edu.jo	609
6	Al albayt University	www.aabu.edu.jo	319
7	AL-Balqa Applied University	www.bau.edu.jo	1469
8	AL-Hussein Bin Talal University	www.ahu.edu.jo	294
9	Tafila Technical University	www.ttu.edu.jo	255
10	German Jordanian University	www.gju.edu.jo	127
	Total	-	7613

In this study, the university of Jordan, Yarmouk University, and Al-Balqa Applied University are chosen as the population of this study. This choice is based on several reasons. First, it is time consuming and costly to survey all the population. Having survey of all the population will take longer time and will have additional cost. Secondly, the geographical distribution. The three universities are geographically distributed in all Jordan from the north is the Yarmouk university, from the middle is Al-Balqa Applied University which is in As-Salt state and the university of Jordan, which is in Amman, the capital of Jordan. Thus, the three universities represent well the academic staff in Jordan. Thirdly, the large number of academic staff in these

three universities. The three universities are the largest in Jordan. The three universities have 4,497 out of 7613 academic staff in Jordanian public universities. This accounts for 59.7% of the population. Thus, the large number of academic staff in these three universities ensures that the selected population can represent sufficiently the academic staff in public universities in Jordan.

Lastly, the reputation of these universities in cooperating with academic research and having centers that helps in communication between researchers and the universities as well as the fact that these universities have a list of academic staff on their websites that ease the data collection process and enables the use of probability sampling technique. All the above reasons make the choice of the three universities a justifiable move. The three universities are the university of Jordan, Yarmouk University, and Al-Balqa Applied University and they have a total of 4,497 academic staff. This makes the population of this study 4,497 academic staff.

Hair, Hult, Ringle, and Sarstedt (2017) defined the sampling as "the selection of elements or individuals from a larger body or population. The individuals are specifically selected in the sampling process to represent the population as a whole". A good sample should reflect the similarities and differences found in the population so that it is possible to make inferences from the (small) sample about the (large) population. The sample of this study is choosing from the academic staff at Jordanian public universities. Sekaran and Bougie (2016) indicated that the unit of analysis of any study is specified based on the research objectives. This study investigates the performance of academic staff at public universities in Jordan. Accordingly, the unit of analysis is the public universities. Therefore, three selected public universities are the unit of analysis of this study and representatives of these universities are the

academic staff working in these universities. In next section, a discussion of the sampling technique and sample size are given.

Two main sampling techniques are used widely in the academic studies. These are the probability and the non-probability. Random sampling technique and stratified sampling techniques falls under the probability sampling technique and they allow for generalization of the findings (Sekaran & Bougie, 2016). This study investigates public universities, which has different number of academic staff. Thus, to represent the population of this study, a stratified random sampling technique is deployed in this study. Using this technique, the sample size for the population is calculated. Next, the sample size that represents each university is calculated. Details of the sample size and the calculation of the sample size of each university is given in the next section.

Sekaran and Bougie (2013) pointed out that a number of responses greater than 30 and less than 500 is suitable for any academic research. According to Reisinger and Turner (1999), the maximum likelihood estimation provides valid results with a sample size as small as 50. However, generally recommended minimum samples, when using structural equation modelling (SEM), are 100 to 200 (Hair et al., 2017). Kline (2013) pointed out that the typical sample size when using the SEM is 200 responses. Nevertheless, based on Krejcie and Morgan (1970), for a population of 4,497, the sample size at 5% margin error and 95% confidence level is 354. Table 3.2 shows the criteria of determining the sample size based on Krejcie and Morgan (1970).

Table 3.2: Sampling Size

N	S	N	S
10	10	400	196
50	44	500	217
100	80	1000	278
150	108	10000	370
200	132	20000	377
250	152	50000	381
300	169	100000	384

Source: Krejcie and Morgan (1970)

This is the total number of responses required for this study. However, since this study is deploying the stratified sampling technique, the sample size of each university is calculated based on the population of the university. In other words, the percentage of university of Jordan is calculated by dividing the number of academic staff in the university to the total population (1431*100/4,497=31.8%). Similarly, for the Yarmouk university, the percentage is 35.6% (1597*100/4,497=35.6%). To calculate the sample size of each university, the percentage of the university is multiplied by the total sample size. The sample size of this study is 354. Thus, for university of Jordan, the sample size is 31.8%* 354= 113. Similar procedures are applied to calculate the sample size of each university. Table 3.3 shows the calculation and the distribution of sample size among the universities.

Table 3.3: Calculation of Sample Size

#	University	Number of academic staff	Percentage to total population	Number of respondents from each university
1	The University of Jordan	1431	31.8%	113
2	Yarmouk University	1597	35.6%	126
3	AL-Balqa Applied University	1469	32.6%	115
	Total	4497	100%	354

Overall, based on Krejcie and Morgan (1970), for a population of this study which accounts to 4,497, the sample size at 5% margin error and 95% confidence level is 354. These responses will be collected from academic staff working in three public universities in Jordan as shown in Table 3.3

It can be seen that the sample size of this study is 354 respondents based on the three universities. The sample is distributed based on the percentage of each university. Thus, the study will distribute 354 questionnaires out of which 113 will distributed in the university of Jordan, 126 in Yarmouk University, and 115 in AL-Balqa Applied University.

3.4 Instrumentation

This study uses a survey questionnaire. All of the measurements are adopted from previous studies that have used and validated the items of each measurement. The questionnaire includes a cover letter that explains the purpose of this study as well as the confidentiality, anonymity, and the expected time and benefits of answering the questionnaire. In addition to the cover letter, the questionnaire consists of three main sections. The first section presents the background information questions which include, age, gender, education, experience, and position. In the second section, the independent and moderating variables is listed. The third section sought to answer the questions related to the dependent variable. All the questions are measured using five points Likert scale where:

(1) Strongly Disagree

(2) Disagree

(3) Neutral

(4) Agree

(5) Strongly Agree

The use of five Likert scale is based on the notion that these scales are more efficient compared with seven- or ten-point Likert scales (Dawes 2008; de Winter & Dodou 2010).

The research instrument of this study was developed based on the literature. Relevant literature related to the variables of this study was reviewed and the instrument to measure the variables was extracted from the literature. Table 3.4 shows a summary of the measurements and the number of items as well as the source of measurement.

Table 3.4: The Questionnaire's Source

Section	Source of Measurement
Past Experience	Haddad and Taleb (2016)
Vicarious Experience	Haddad and Taleb (2016)
Verbal Persuasion	Haddad and Taleb (2016)
Emotional Cues	Haddad and Taleb (2016)
Training and Development	Ali, Lei, & Wei (2018)
Performance appraisal	Ali et al. (2018)
Promotion	Ali et al. (2018)
Recruitment and Selection	Ali et al. (2018)
Nepotism	Arasli et al. (2006)
Teaching Performance	Mawoli and Babandako (2011)
Research Performance	Mawoli and Babandako (2011)

3.5 Questionnaire's Design

As pointed out in the research design, this study uses the survey method which is a preferred method among researchers due to its advantage such as the easiness in collecting data from a large number of respondents and the ability to generalize the

findings on the population (Sekaran & Bougie, 2016). Accordingly, in this study, this method is used to collect the data from the respondents. The questionnaire of this study consists of six sections. In the first section a cover letter that explains the purpose of the questionnaire and the purpose of collecting the data was presented to make the respondents understand that their information will not be shared with third party and the answers that they give are confidential. In addition, the cover letter provided the respondents with information related to the estimated time of answering the questionnaire.

The other four sections included the background information of the respondents in the second section, the self-efficacy, and its dimension in the third section. The fourth section included the HRM practices and its dimensions. Fifth section included the nepotism, and the last section presented the questions related to the performance of academic staff and its dimensions. All the questions in section three to section six were measured using five-point Likert scale. A copy of the questionnaire is given in Appendix B. Table 3.5 shows that details of the variables and the number of the items in each variable.

Table 3.5: The Item's Details

No.	Variables	No. of Items
1	Past Experience	8
2	Vicarious Experience	4
3	Verbal Persuasion	6
4	Emotional Cues	5
5	Training and development	4
6	Performance appraisal	4
7	Promotion	4
8	Recruitment and Selection	4
9	Nepotism	8
10	Teaching Performance	7
11	Research Performance	10

The number of items presented in the Table above is the items after validation. A back-to-back translation into Arabic was conducted before validation. In the next sections, each of the section in the questionnaire is discussed.

3.5.1 Demographic Information

The second part included the background information and it sought to find answers for questions related to the background of the respondents such as their age, gender, education, position, experience. These questions were asked to make the reader know who have participated in the study and to let them understand the respondents' background. The first question in the background was to ask about the gender and the possible answer labelled as (1) male and (2) female. The second question was about the age, and it is labelled from (1) to (5) and included possible answers as follows:

(1) Less than 30 years

(2) 31-40 years

(3) 41-50 years

(4) 51-60 years

(5) 61 and above

The third question was pertaining to the educational level. The questions stated as follows" What is your highest education" and it is labelled by (1) denotes to master's degree and (2) denotes to PhD degree. The fourth question asked about the title of the respondents. It included four possible answers labelled as (1) lecturer, (2) assistant professor, (3) associate professor, (4) professor.

The fifth question asked about the overall working experience as an academic staff. The option included six possible answers ranged from (1) to (6) and labelled as follows:

(1) 5 years of less

(2) 6-10 years

(3) 11-15 years

(4) 16-20 years

(5) 21-25 years

(6) More than 25 years

Similarly, the sixth questions asked about the working experience particularly in the current university of the respondents. the respondents were given six options labelled from (1) to (6) as follows:

(1) 5 years of less

(2) 6-10 years

(3) 11-15 years

(4) 16-20 years

(5) 21-25 years

(6) More than 25 years

The current position of the respondents was asked in the seventh question, and it included four possible positions labelled from (1) to (5). The fifth option was labelled as "others" to allow respondents to specify their position if not listed. The answers of the seventh questions were as follows:

(1) Academic staff

(2) Head of department

(3) Deputy dean

(4) Dean

(5) Others

3.5.2 Past Experience as Dimension of Self-efficacy

Self-efficacy in this study included four sub variable or dimension namely, past experience, vicarious experience, verbal persuasion, and emotional cues. This variable is measured by the four dimension which are measured using items from previous studies. The total number of the items of self-efficacy is 23 items divided as past experience (8 items), vicarious experience (4 items), verbal persuasion (6 items) emotional cues (5 items).

Past experience is an important dimension of self-efficacy. The measurement of the variable past experience was adopted from Haddad and Taleb (2016) and it includes eight items. The validity and the reliability of the items were tested in the study of Haddad and Taleb (2016) who examined the effect of past experience on the performance of faculty member in Jordan and found that the measurement is sufficiently measuring the past experience with Cronbach's Alpha greater than 0.70 indicating that the measurement are reliable. Table 3.6 shows the items of past experience.

Table 3.6: Past Experience Items

No	Past experience	Source
1	I can identify how my academic background have influenced the way I work.	Haddad and Taleb (2016)
2	I can identify how my experience has influenced the way I think	
3	My academic experience has helped me to increase my self-confidence.	
4	My academic experience has improved my teaching quality.	

No	Past experience	Source
5	My experience has helped me to teach conflict resolution skills.	
6	My experience has helped me to manage unexpected problems.	
7	Every year of teaching, I learn something new and improve delivering value to students.	
8	My resourcefulness allows me to handle unforeseen situations.	

The above items of the past experience were evaluated by three experts who concluded that the items are valid for measuring the past experience.

3.5.3 Vicarious Experience as a Dimension of Self-efficacy

Vicarious experience is the second dimension of self-efficacy. It is measured in this study using four items that has been adopted form Haddad and Taleb (2016). The questions originally developed by Bandura (1998), and they were used in several studies and provided to have validity and reliability. The Cronbach's Alpha of the items was assessed in the study of Haddad and Taleb (2016) and it showed that the items have high reliability of more than 0.70 value of Cronbach's Alpha. The item of vicarious experience is given in Table 3.7.

Table 3.7: Vicarious Experience Items

No.	Items	Source
1	I accept the fact that some faculty members would be better than me in teaching.	Haddad and Taleb (2016)
2	Usually when I see successful faculty members, I convince myself that I can be like them.	
3	I would never be affected by a failure of any of my colleagues.	
4	I believe in the quote "if they can do it, I can do it".	

The four items presented as the measurement of the vicarious experience was validated by three experts and the experts gave comments regarding the re-wording

and the numbering of the items. However, the experts concluded that the items are valid for measuring the vicarious experience.

3.5.4 Verbal Persuasion as a Dimension of Self-Efficacy

Verbal or known also as the social persuasion is the third dimension of self-efficacy. The variable is measured using six items that are adopted from Haddad and Taleb (2016). Haddad and Taleb (2016) in his research stated that they adopted the measurement from Conklin (2008) and Bandura (2001). The original items in Haddad and Taleb (2016) consist of eight items. However, in the validation, the experts suggested to merge and combine some of the items. This has resulted in reducing the items from eight to six items. The items are measured using five Likert scale. The verbal persuasion items are given in Table 3.8.

Table 3.8: Verbal Persuasion Items

No.	Items	Source
1	I have the ability to encourage my students to raise their achievements.	Haddad and Taleb (2016)
2	I have the ability to encourage my students to increase their self- esteem.	
3	I have the ability to encourage my students to behave properly.	
4	I have the ability to encourage my students to understand themselves.	
5	I can motivate students who show low interest in my course.	
6	I can foster students' creativity.	

The items was validated in the study of Haddad and Taleb (2016) and the result in their study showed that the Cronbach's Alpha is greater than 0.70 indicating that the items are sufficient for measuring the verbal persuasion. Further, the items and their Arabic translation was validated by the experts and suggested correction from

experts has been made. It was concluded by the experts that the items are sufficient for measuring the verbal persuasion.

3.5.5 Emotional Cues as a Dimension of Self-Efficacy

The fourth dimension of self-efficacy is the emotional cues. This variable is measured using five items that were adopted from Haddad and Taleb (2016). No major changes have been made on the items. Haddad and Taleb (2016) stated that they adopted the measurement from two sources that are Larson (2010) and Bandura (2001). In the research of Haddad and Taleb (2016), the authors examined the validated and the reliability of the five items in measuring the emotional cues and concluded that these items are valid and reliable with Cronbach's Alpha larger than 0.70. Table 3.9 shows the items of emotional cues.

Table 3.9: Emotional Cues Items

No.	Items	Source
1	When I'm angry or worried it quickly appears on my face.	Haddad and Taleb (2016)
2	Whenever I feel stressed, I can't manage my tasks properly.	
3	Whenever I feel depressed, my performance in the class decreases.	
4	When I feel aches or pains, trouble sleeping I can't attend and give a lecture.	
5	I can remain calm when facing difficulties because I can rely on my coping abilities.	

This study also translated the items and validated the Arabic and English version of the items using the judgement of three experts. The experts have no comment on the items of emotional cues, and it is concluded that the items are sufficient for measuring the emotional cues.

3.5.6 Recruitment and Selection as a Dimension of HRM Practices

The HRM practices is measured in this study by four dimensions. The first dimension is the recruitment and selection. This variable is original measured using three items. The three items were adopted from Ali et al. (2018). Ali et al. (2018) examined the validity, reliability, and the correlation between the items. The three items according to Ali were sufficient for measuring recruitment and selection. However, in this study, a validity and reliability were conducted. As a result, the experts in the validity phase suggested to add the fourth item which is "My university select academic staff based on their skills". In addition, different from the study of Ali et al. (2018), the word organization replaced by university. Table 3.10 shows the items of recruitment and selection.

Table 3.10: Recruitment and Selection Items

No.	Items	Source
1	My university applies objectivity in hiring.	Ali et al. (2018)
2	My university select academic staff based on expertise.	
3	My university select academic staff for future potential.	
4	My university select academic staff based on their skills.	

The four items further were validity in this study by the three experts and a pilot study was conducted to ensure their reliability in measuring the recruitment and selection. The result showed that the items are sufficient for measuring the recruitment and selection.

3.5.7 Training and Development as a Dimension of HRM Practices

Training and development are the second dimension of HRM practices, and it is measured using four items. The items were adopted from Ali et al. (2018). Ali et al. (2018) tested the validity and the reliability of the four items and concluded that the items are sufficient to measure the training and development with Cronbach's Alpha greater than 0.70. The four items were translated into Arabic and validated by three experts. Table 3.11 shows the items of training and development. The word my organization in the original source was replaced with my university and the academic staff is included instead of employees.

Table 3.11: Training and Development Items

No.	Items	Source
1	My university has effective formal training activities	Ali et al. (2018)
2	My university has comprehensive training policies and programs.	
3	The training programs for new hires academic staff is beneficial.	
4	Training in the university helps academic staff to enhance their performance.	

3.5.8 Performance Appraisal as a Dimension of HRM practices

Performance appraisal is the third dimension of HRM practices. The variable is measured using three items and it is adopted from Ali et al. (2018). The validity of the measurement was confirmed in the study of Ali et al. (2018) where the Cronbach's Alpha of the three items is greater than 0.70. In this study, the items were validated by three experts. The experts suggested to add one new item namely "Appraisal system is comprehensive and to the purpose". The items were refined after the suggestion of the experts. Table 3.12 shows the items of the performance appraisal.

Table 3.12: Performance Appraisal Items

No.	Items	Source
1	The performance appraisal in my university focus on developing the capabilities of academic staff. .	Ali et al. (2018)
2	The performance appraisal in my university is results-based appraisal.	
3	The performance appraisal in my university is behaviour-based appraisal	
4	Appraisal system is comprehensive and to the purpose	

The four items validated by the experts, and it is suggested that they are valid for measuring the performance appraisal. The items will be examined for reliability and the Cronbach's Alpha of the items will be assessed in the reliability sections.

3.5.9 Promotion as a Dimension of HRM Practices

The fourth dimension of HRM practices is promotion. Promotion is measured using four items and they are adopted from the study of Ali et al. (2018). Validity of the promotion was confirmed in the study of Ali et al. (2018). The reliability of the four items was assessed in the study of Ali et al. (2018) and it is confirmed that the four items are reliable with Cronbach's Alpha larger than 0.70. Table 3.13 presents the items of promotion.

Table 3.13: Promotion Items

No.	Items	Source
1	Fair promotion is available in the university.	Ali et al. (2018)
2	The university follows merit base promotion.	
3	Academic staff have a well-defined career ladder.	
4	Employee receives also financial reward on promotion.	

The measurement was assessed and validated by three experts. The experts suggested that the four items are sufficient for measuring the promotion. The reliability of the items will be assessed in the reliability section using the pilot study.

3.5.10 Nepotism as a Moderator between HRM Practices and Self-Efficacy with Performance of Academic Staff

The variable nepotism is a moderating variable in this study. It is expected to moderate the effect of HRM practices and self-efficacy on the performance of academic staff. Nepotism is measured using eight items. The items were adopted from Arasli et al. (2006) and it is validated in their study and the reliability of the measurement is greater than 0.70 indicating that the measurement is reliable. Nevertheless, the wordings of some items were changed. For example, in the study of Arasli et al. (2006), the word workers replaced by the academic staff and the word company replaced by university. Table 3.14 shows the items of nepotism.

Table 3.14: Nepotism Items

No.	Items	Source
1	Academic staff at this university always depend on a high-ranking relative	(Arasli et al., 2006)
2	Department heads are scarred off academic staff who have relations in upper administration	
3	I am extra careful when I talk to colleagues who are relatives of upper administration	
4	Academic staff always try to help those who have relatives in the upper administration	
5	Academic staff value family members' benefits rather than the university's benefits in general	
6	Nepotism causes internal conflicts in the university	
7	This university cannot keep academic staff who have not any relatives for long term	
8	It is very difficult to dismiss academic staff who have relatives in the upper administration	

The items were translated into Arabic, and they were validated by three experts to ensure that they are valid for measuring nepotism. The experts suggested that the items are sufficiently measuring the nepotism. Further reliability analysis of the pilot study will be conducted in the reliability section.

3.5.11 Teaching Performance as a Dimension of Performance of Academic Staff

Performance of academic staff consists of two dimensions. The first is the teaching performance and the second is the research performance. In this section, the items of teaching performance are discussed. The teaching performance adopted from Mawoli and Babandako (2011) and it includes originally 10 items. The items was validated in the study of Mawoli and Babandako (2011) and they have a Cronbach's Alpha greater than 0.70 indicating that they are reliable for the purpose of measuring the teaching performance. However, in this study, the items also validated by three experts and the suggestion of the experts to delete three items because they show similarity and should be combined. Accordingly, the items of teaching performance are seven and they are presented in Table 3.15.

Table 3.15: Teaching Performance Items

No.	Items	Source
1	I attend my lessons according to the timetable.	Mawoli and Babandako (2011)
2	I enter my class at the right time.	
3	I give practical works to the students in every course I teach.	
4	I mark all the assignments given to students.	
5	I return all continuous assessment (CA) marked scripts to students.	
6	I release the CA scores to students before examination commences.	
7	I read and correct students' project.	

The items that have been removed or combined include the statement about "I attend to my lessons always". Two of the items were combined that are related to entering the class at the right time and other two items also combined that are related to marking of the continuous assessment. After deleting one of the items and combining four items, the final number of items as shown in the table above is seven. These items will be further examined for reliability in the pilot and field study.

3.5.12 Research Performance as a Dimension of Performance of Academic Staff

The second dimension of performance of academic staff is the research performance and it is measured using 12 items adopted from Mawoli and Babandako (2011). Mawoli and Babandako (2011) conducted validated the 12 items and conducted a reliability analysis. The items were reliable for measuring the research performance. However, these 12 items were validated in this study by three experts. The experts suggested that some of the items need to be removed or combined with other items. The items of research performance are given in Table 3.16.

Table 3.16: Research Performance Items

No	Items	Source
1	I attend at least one national conference annually.	Mawoli and Babandako (2011)
2	I attend at least one international conference in every three (3) years.	
3	My conference papers are published in conference proceedings.	
4	I publish my research articles with a university, polytechnic, or affiliated journals.	
5	My research articles have been published by a foreign journal.	
6	I have authored a book(s.)	
7	I have contributed chapters in an edited book.	
8	My research articles have been published in a newspaper/magazine.	
9	I have participated in sponsored national research.	
10	I have participated in sponsored international research	

In this study, the experts suggested to combined two items that are related to editing a chapter in a book. They also suggested to combine two items that are related to co-author and authoring a book. The suggestions of experts were considered in refining the items and this has resulted in 10 items for measuring the research performance. Further reliability will be conducted to ensure that the 10 items are reliable for the purpose of this study.

3.6 Data Collection

The data of this study is collected using a questionnaire. As mentioned previously, the questionnaire is preferrable tools for collecting the data because it allows the researchers to collect data without the need of face-to-face meeting or the attendance of the researcher in the location of the data collection (Sekaran & Bougie, 2016). Thus, the questionnaire was used in this study as the tool of data collection.

Technological tools such as google form are used to create online questionnaire that is translated into Arabic. The questionnaire is sent into two languages i.e., English, and Arabic languages. Details of the academic staff in each university are listed on the website of these universities. Random sampling technique using stratified sampling as explained in population and sampling section is used as a guide to distribute the questionnaires. The questionnaire was distributed to 354 respondents. In the first wave, 110 responses were collected. Further, follow up by re-emailing the list was sent in the first time and asking those who did not answer the questionnaire to answer and resulted in more responses.

The respondents were further reminded and given reminder that the last date is approaching and those who want to answer and fill the questionnaire have to do so before the predetermined date. Thus, the follow ups that has been conducted to increase the response rate was effective and this has resulted in 273 responses. This number of responses is sufficient for the use of AMOS (Hair et al., 2017). Details of the response rate and the analysis of missing value are given in Chapter 4.

3.7 Data Analysis and Statistical Techniques

This section discusses in detail the process and procedures of data analysis. In this study, the data is analysed using two software. For preliminary analysis, the SPSS is used. However, for the main analyses, AMOS as embedded in structural equation model (SEM) is deployed. Details of the analyses are given in the next sections.

After collecting the data, researchers are suggested to conduct preliminary analysis to ensure that the data are ready for the analysis. First the data must be entered to excel or SPSS sheet and coding the data according to the original questionnaire. Next, the preliminary analysis such as missing value, outliers, normality, multicollinearity are conducted. In this study, missing value is checked using the frequency analysis in SPSS.

Next, the univariate outliers that is checked to identify and exclude the outliers. This is conducted by checking the boxplot of the variables as suggested by Hair et al. (2017). After that, the multivariate outliers will be detected by examining the Mahalanobis distance for each case as recommended by Hair et al. (2010). To test the normality of data, skewness and kurtosis values are examined as well as the visual

appearance of the distribution (histogram) as recommended by Kline (2015). Value of Skewness between +2 and -2 are considered acceptable.

Value of Kurtosis between +7 and -7 indicates that the data is normally distributed. The multicollinearity is checked using the indicator of the Variance Inflation Factors (VIF) and tolerance. Hair et al. (2017) suggested that any VIF value that is greater than 10 or tolerance less than 0.10 indicates that there is a problem of collinearity among the predictor variables. In addition, the analysis included the exploratory factor analysis (EFA).

The main analysis to test the hypotheses of this study is conducted using the AMOS. When using AMOS, there are three main stages to be conducted to obtain the result of hypothesis testing. These stages are the confirmatory factor analysis (CFA), measurement model and the structural model. In the next section, the assessment of these two stages is discussed.

CFA and measurement model are perquisites to use the structural model. According to Hair et al. (2010), there are two type of measurement model. The reflective and the formative. The reflective indicator is interchangeable and deleting any items will not cause a change to the variable. However, the formative indicator is not interchangeable and any change to the items cause changes to the variable (Lowry & Gaskin, 2014). In this study, all the indicators are reflective. This is because the items are interchangeable.

To assess the measurement model, there are five criteria that must be satisfied. First is the factor loading. Hair et al (2010) and Awang (2014) suggested that the factor loading must be greater than 0.60 and any value less than 0.60 must be considered for deleting to improve the validity and reliability of the measurement.

Hair et al. (2010) discussed the assessment of the structural model. The author indicated that there are two criteria to assess the structural model. The first criterion is the explanatory power of the model or referred to as R-square (R^2). According to Hair et al. (2010), the value of R-square provides researchers with information related to the ability of the variable in explaining the variation in the dependent variable. The authors suggested that values of 0.25, 0.50, and 0.75 are considered weak, moderate, and substantial.

Second criterion is the assessment of the path coefficient (hypotheses testing) is conducted using the structural model. The assessment includes examining the magnitude and the sign of the path coefficient. To obtain the result of the path coefficient, the bootstrapping must be set at 5000 and the number of cases must be equal to the number of the responses. The path coefficient is considered significant if the value of the critical t-value is greater than 1.96 and the significance level (p-value) is less than 0.05 (Hair et al., 2010).

The moderating effect is tested using the product indicator approach. Researchers indicated that using this approach, the mean centre or standardization of the variables should be conducted then mean centre of the independent variable (referred to as "i") is multiplied by the mean centre of the moderating variable (referred to as "j"). As a result, there are i.j (i*j) product indicators for a latent interaction term (Hair et al., 2010; Lowry & Gaskin, 2014).

In this study, nepotism is proposed as a moderator. Thus, the nepotism is multiplied by the HRM practices to create the moderating effect "HRM practices * Nepotism". In addition, the nepotism is multiplied by self-efficacy to create the

moderating effect “Self-efficacy * Nepotism”. Both moderating effects will be tested, and the result will be indicated based on the p-value of the path structure.

Thus, both of the software such as SPSS and AMOS are used in this study to analyse the data and present the findings by testing the hypotheses that can answers the research questions and fulfil the research objectives. For better presentation of the research analysis approach, Table 3.17 shows the study’s analysis approaches. It shows the objectives of this study as well as the approach deployed to answer the objective and the analysis that is used to confirm the approach.

Table 3.17: The Study’s Analysis Approaches

No.	Objective of Study	Approach	Analysis
1	To identify the effects of HRM practices on performance of academic staff in Jordan.	Multiple-Regression	AMOS
2	To identify the effect of self-efficacy on the performance of academic staff in Jordan.	Multiple-Regression	AMOS
3	To investigate the moderating role of nepotism between HRM practices and performance of academic staff in Jordan.	Multiple-Regression	AMOS
4	To examine the moderating role of nepotism between self-efficacy and performance of academic staff in Jordan.	Multiple-Regression	AMOS

3.8 Pilot Study

After developing the instrument of the data collection, it is important that researchers check the validity and the reliability of the instrument (Hair et al., 2017). The process of validating the instrument and examining its reliability is conducted in the pilot study. This process is important because it allows researchers to check the understanding of the respondents of the questionnaire and its items and it also allow the researchers to correct any mistake in term of wording, numbering, and unclear words.

For this reason, this study has conducted the pilot study by validating the instrument of the data collection by inviting experts to validate its content. It also examined the reliability by distributing the questionnaire on respondents and conducting the reliability analysis. In the next sections, the process of validity and reliability of the questionnaire of this study is discussed.

3.8.1 Validity of the Study's Instruments

Validity is defined as "the extent to which an instrument measures what is supposed to measure" (Kimberlin & Winterstein, 2008). It is concerned with the meaningfulness of the research instruments (Drost, 2011). The method that is commonly used to ensure the content validity of a research instrument is by an extensive review of the past literature on the choice of items. A review was conducted in this study to select the measurement of the variables. The measurement of the variables of this study were adopted from previous studies that have examined the performance of academic staff.

Li et al. (2005) also suggest obtaining input from practitioners and academic researchers on the appropriateness and completeness of the items for ensuring the validity of the research instrument. In this study, the measurements of the variables were translated into Arabic using back-to-back translation. After the translation, the questionnaire was sent to 19 experts, who are academic staff and understand English and Arabic language for validation. Three experts were available and willing to validate the questionnaire. The feedback of the experts included removing, combining, and rephrasing the wording of the items. In addition, experts suggested to add questions in the background of the questionnaire as well as the numbering of items.

The Arabic version were also corrected by the experts for simplicity and better understanding. Table 3.18 shows the comments and the results of validation process.

Table 3.18: Outcome of Validations of Measurements

Expert	Section A: Background information	Section B: Variables of the study	Student's action
Dr. Abdullah Moh'd Ahmed Ayedh (USIM), Malaysia	Education of lecturer must be master of PhD. Formatting needs to be checked. No need for the box of comments.	No need to repeat instructions. Wording needs to be standardized.	Education was modified to have only master and PhD. Formatting is checked. Box of comment was meant for the evaluators, and it is removed from the questionnaire. The wording of all statement was corrected.
Dr. Shaker Aludwan Yarmuk University, Jordan	1. Delete bachelor from educational background. 2. Change the label of the questions	1. There is no measurement of social persuasion 2. Reduce the number of redundant sentences by merging questions. 3. Some questions are not clear. 4. Reduce the number of questions in verbal persuasion.	1. Bachelor's degree as an option were deleted. 2. Labelling of the question was corrected. 3. Social persuasion and verbal persuasion are used interchangeably. 4. Redundant questions were merged. 5. The wording was adjusted to make them simpler and clearer. 6. Number of questions were reduced.
Dr. Nidal AL hawamdeh Mutah University, Jordan	1. Formatting 2. Questions should be numbered. 3. Bachelor's degree is not suitable to be lecturer.	1. Some questions are repeated. 2. Questions need to be reduced.	1- The formatting was checked and corrected. 2- All the questions were numbered. 3- Bachelor's degree was removed. 4- Repeated questions were deleted. 5- The questions of verbal persuasion were reduced.

3.8.2 Reliability of the Study's Instrument

Reliability refers to the internal consistency of a data in which the measurement instrument produces consistent results. Sekaran and Bougie (2013) described Cronbach's Alpha as a widely used method to assess the reliability. In addition, an alpha equal or greater than 0.70 is considered reliable. This study assesses the reliability of the measurement using a pilot testing. Academic staff was invited to participate in the pilot testing. The Cronbach's Alpha is calculated for all the variables to ensure that the items are reliable, and the measurement sufficiently and effectively measure the variable. A total of 36 respondents participated in the pilot testing. Sekaran and Bougie (2016) suggested that a number of 30 respondents or above is sufficient. The reliability of each variable is assessed by the value of Cronbach's Alpha.

3.8.2.1 Past Experience Scales Reliability

The reliability analysis was conducted on the items of past experience which is one of the dimensions of self-efficacy and included as a variable in the conceptual framework. The results of the reliability test are shown below.

Case Processing Summary

Cases		N	%
	Valid	36	100.0
	Excluded[a]	0	.0
	Total	36	100.0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.821	8

The result shows that the past experience has a Cronbach's Alpha value of 0.821 which is greater than 0.70 indicating that the measurement is reliable and can be used in the field data collection of this study.

3.8.2.2 Vicarious Experience Scales Reliability

Vicarious experience is the second dimension of self-efficacy, and it consists of four items. The result of testing the reliability using Cronbach's Alpha is given below.

Case Processing Summary

		N	%
Cases	Valid	36	100.0
	Excluded[a]	0	.0
	Total	36	100.0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.839	4

The items for measuring the vicarious experience showed that it has a Cronbach's Alpha of 0.839 which is greater than 0.70 and accordingly, it is reliable and can be used in the survey of this study to collect data from the respondents.

3.8.2.3 Verbal Persuasion Scales Reliability

Verbal persuasion is the third dimension of self-efficacy, and it has six items. The reliability test was conducted on these items. The result of the test of reliability and the Cronbach's Alpha is given below.

Case Processing Summary			
Cases		N	%
	Valid	36	100.0
	Excluded[a]	0	.0
	Total	36	100.0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics	
Cronbach's Alpha	N of Items
.901	6

It can be seen that the Cronbach's Alpha for the six items is 0.901 which is larger than 0.70 supporting the notion that the items can be used in this survey to collect the data from respondents of this study.

3.8.2.4 Emotional Cues Scales Reliability

The fourth and last dimension of self-efficacy is emotional cues. This variable is proposed to be measured using five items. The reliability test was conducted on these items to check their reliability. The result of the test is given below.

Case Processing Summary			
Cases		N	%
	Valid	36	100.0
	Excluded[a]	0	.0
	Total	36	100.0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics	
Cronbach's Alpha	N of Items
.931	5

The findings showed that the Cronbach's Alpha for the five items of emotional cues is 0.931 which is greater than 0.70 and this indicates that the items can be used in this study to collect the data related to emotional cues from the respondents.

3.8.2.5 Training and development Scales Reliability

The variable training and development are one of the dimensions of HRM practices and it is included in the conceptual framework of this study. The variable consists of four items that were adopted from Ali et a. (2018). The reliability of the items is assessed in this study. The result of testing the reliability is given below.

Case Processing Summary

Cases		N	%
	Valid	36	100.0
	Excluded[a]	0	.0
	Total	36	100.0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.891	4

The findings in the above table shows that the Cronbach's Alpha of the training and development is 0.891. This value is greater than 0.70 which support the notion that the items of training and development can be used in this study to collect the data related to this variable from the respondents.

3.8.2.6 Performance appraisal Scales Reliability

Performance appraisal is a variable that is included in this study among the independent variable. It is also a dimension of the HRM practices. The variable is measured by four items. The reliability analysis of the pilot testing is shown below.

Case Processing Summary			
Cases		N	%
	Valid	36	100.0
	Excluded[a]	0	.0
	Total	36	100.0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics	
Cronbach's Alpha	N of Items
.904	4

The result of assessing the reliability of performance appraisal shows that the Cronbach's Alpha of the four variable is 0.904 and this shows that the items are reliable and can be used to collect the data that are related to performance appraisal from the respondents of this study.

3.8.2.7 Promotion Scales Reliability

Promotion is a dimension of HRM practices, and it is included in the framework of this study as an independent variable. The variable consists of four items. The items are expected to measure the promotion. The items confirmed reliable in the study of Ali et al. (2018). However, in this study to confirm the items are reliable, the reliability test was conducted on the four items and the result of the test is given below.

Case Processing Summary			
Cases		N	%
	Valid	36	100.0
	Excluded[a]	0	.0
	Total	36	100.0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics	
Cronbach's Alpha	N of Items
.909	4

As shown above, the reliability test of the four items showed that the Cronbach's Alpha of the items is 0.909. This value is higher than 0.70 indicating that the items are reliable and can be used in this study to collect the data related to promotion from the respondents.

3.8.2.8 Recruitment and Selection Scales Reliability

Recruitment and selection are an independent variable that is included in the conceptual framework of this study. The recruitment and selection are a dimension of the HRM practices. It includes four items. The reliability test of the four items is given below.

Case Processing Summary

Cases		N	%
	Valid	36	100.0
	Excluded[a]	0	.0
	Total	36	100.0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.899	4

The Cronbach's Alpha of the items is 0.899 which is greater than 0.70. This value indicates that the four items are reliable for measuring the recruitment and selection and they can be used in the survey of this study to collect the data that are related to recruitment and selection.

3.8.2.9 Nepotism Scales Reliability

Nepotism is the moderator in this study. It is expected to moderate the effect of HRM practices and self-efficacy on the performance of academic staff. The nepotism is measured using eight items. The wording of the items was changed based on the

suggestions of validators. To confirm their reliability, the reliability test of the items is conducted, and the results are shown below.

Case Processing Summary

Cases		N	%
	Valid	36	100.0
	Excluded[a]	0	.0
	Total	36	100.0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.775	8

The results of the reliability test showed that the Cronbach's Alpha of the moderator nepotism is 0.775 and this value is greater than 0.70 which means that the items are reliable to measure nepotism and can be used in this study to collect the data that are related to nepotism.

3.8.2.10 Teaching Performance Scales Reliability

Teaching performance if the first dimension of the performance of academic staff which is the dependent variable of this study as shown in the conceptual framework. The teaching performance originally consists of ten items. However, based on the validation, the items were reduced to seven. To ensure that the items are reliable in measuring the teaching performance, the reliability test is conducted. The result of the reliability test is given below.

Case Processing Summary

Cases		N	%
	Valid	36	100.0
	Excluded[a]	0	.0
	Total	36	100.0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items

.881	7

It can be seen that the Cronbach's Alpha of the seven items is 0.881 which is greater than 0.70. This indicates that the seven items are reliable to measure the teaching performance and can be used to collect the data related to this variable.

3.8.2.11 Research Performance Scales Reliability

The second dimension of performance of academic staff is the research performance. This variable originally consisted of 12 items. However, after validation, the items reduced to 10. To confirm that these items are reliable, the reliability test is conducted. The findings of the reliability test of research performance are given below.

Case Processing Summary

Cases		N	%
	Valid	36	100.0
	Excluded[a]	0	.0
	Total	36	100.0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.914	10

The Cronbach's Alpha of the 10 items is 0.914 and this confirms that the ten items are reliable for measuring the research performance. This is because the Cronbach's Alpha is greater than 0.70 and this leads to a conclusion that the items can be used in this study for collecting data related to the research performance.

Overall, the Cronbach's Alpha for all the variables of this study is greater than 0.70. The measurement (items) of the variables is reliable. This is because Hair et al. (2017) and Sekaran and Bougie (2016) suggested that if the Cronbach's Alpha greater

than 0.70, this indicates that the measurement has a good reliability and can be used as instrument for the data collection. Accordingly, the items of the variables are deployed to collect the data from the respondents of this study.

3.9 Summary

This chapter has presented the methodology of this study. This study is a quantitative and an explanatory in nature. The population of this study is the academic staff at three Jordanian public universities. The study uses a survey design. An online questionnaire is the instrument of this study. Details of the instrumentation was given in this chapter. The instrument was validated by three experts with PhD degree and working as academic staff. In addition, the reliability of the instrument is assessed, and all the measurement of the variables have acceptable Cronbach's Alpha.

The procedures of data collection were discussed in this chapter. In addition, details of the data analysis are also given in this chapter. The data of this study will be analysed using SPSS and AMOS. Details of the analyses that will be conducted using SPSS and the analyses that will be conducted using AMOS were discussed in this chapter. Next chapter presents the findings of this study.