

CHAPTER III

METHODOLOGY

Introduction

This chapter has been devoted to a presentation of the research method and procedures that were used in this investigation. Meticulous attention was given to the design, selection of subjects, instrumentation, data collection, scoring and analysis procedures. This is to enable the objectives of the study to be achieved.

There are seven objectives to be accomplished in this study. Measuring the resiliency of school counselors using RAS is the first objective of the study. The second objective is to identify resilient counselors in terms of gender, race, and schools types. Developing resiliency profiles of school counselors is the third objective. The fourth objective is to examine if counselor resilience is affected by school environment. The fifth objective is to investigate if significant differences in counselor resilience exist according to academic and professional qualifications, working and counseling experiences. Identifying factors that contribute to and predictive of counselor resilience in Malaysia is the sixth objective. The last objective of the study is to examine the relationships between resilience, self-efficacy and burnout.

Research Design

Taken overall, this research fits into Kerlinger's (1986) definition of non-experimental research which is a systematic empirical inquiry in which the researcher has no direct control over the independent variables because their manifestations have already taken place or because they are inherently not manipulable. In non-experimental research, inferences about the relations among variables are drawn from noncommittant variation of independent and dependent variables without any direct intervention.

In addition, the research is partially descriptive too where data is collected to answer some research questions concerning the current status of Malaysian school counselors. According to Gay (1996), a descriptive study determines and reports the way things are. Typical descriptive studies are concerned with the assessment of attitudes, opinions, demographic, conditions and procedures. Descriptive data are normally collected through a questionnaire survey, interviews or observation. However, in view of the magnitude of this study, only the survey method was used.

Population

The research was targeted at all the national secondary schools throughout Malaysia which have been assigned a full-time counselor. As of June 1999, 1,110 out of 1,561 secondary schools had been assigned at least one counselor.

The schools were categorized into grade A and B based on criteria set by the Ministry of Education, Malaysia. Among the criteria were student enrolment, school location, student hostel facility, availability of science stream for form four and five students, availability of form six classes, and others. On top of that, the schools were also divided into boarding and non-boarding schools; single gender or coeducational schools; religious and non-religious schools; urban and rural schools and some other categorizations.

Respondents

The respondents of this study were 615 trained counselors who were appointed as full-time counselors in their respective schools for at least 2 years. As of June 1999, there were 1,110 of them. The questionnaires were sent to all of them but only 615 returned the completed questionnaire. The majority of the respondents were trained teachers who had undergone further education and training in counseling. Among them were bachelor and master degree holders majoring in counseling. Some possessed a diploma or a certificate in counseling. Further details of the respondents are presented in Table 1.

As shown in Table 1, out of 615 respondents, 532 (86.5%) were Malays, 43 (7.0%) were Chinese, 16 (2.6%) were Indians and the remaining 24 (3.9%) were Iban, Kadazan and other minority ethnic groups. In terms of gender, there were 352 (57.2%) male and 263 (42.8%) female counselors.

Table 1: Respondents by Race and Gender

Race	Male	Female	Total
Malay	314 (51.06%)	218 (35.44%)	532 (86.5%)
Chinese	11 (1.79%)	32 (5.21%)	43 (7.0%)
Indian	12 (1.95%)	4 (0.65%)	16 (2.6%)
Iban	3 (0.49%)	1 (0.16%)	4 (0.65%)
Kadazan	6 (0.98%)	3 (0.49%)	9 (1.46%)
Others	6 (0.98%)	5 (0.81%)	11 (1.79%)
Total	352 (57.2%)	263 (42.8%)	615 (100%)

The respondents' age ranged between 23 and 53 years old with a mean of 37.9 years. This is also indicative of their working experience. On the average, the respondents have served the Ministry of Education for 14.3 years. However, their experience in counseling had a mean of 6.8 years. Since the implementation of full-time counseling scheme only started in early 1996, the respondents' experience as full-time counselors had a mean of 2.4 years.

In terms of marital status, 521 (84.7%) of the respondents were married; 80 (13.0%) of them were single and the remaining 14 (2.3%) were either divorced or widowed. In terms of academic qualification, 73 (11.9%) of the respondents have a Master degree; 404 (65.7%) hold a bachelor degree, 31 (5.0%) are diploma holders; 43 (7.0%) have Malaysian High School Certificate (*Sijil Tinggi Pelajaran Malaysia*); and 64 (10.4%) possess the Malaysian Certificate of Education (*Sijil Pelajaran Malaysia*).

The main criterion in appointing the full-time counselors is their counseling credential. Among the respondents, 45 (7.3%) were found to have a Master degree in counseling; 349 (56.7%) of them had a Bachelor degree in counseling; 71 (11.5%) of them had a Diploma; 103 (16.7%) of them had a Certificate in counseling; and 47 (7.6%) of them had a certificate of participation for short courses attended.

As mentioned earlier, the study was targeted at all the full-time school counselors in Malaysia. The approval from the Educational Planning and Research Division, Ministry of Education, Malaysia (See Appendix A) was first obtained to conduct the research. Subsequently, the permission of all the state education directors (See Appendix B) were received. Next, all the state education departments were contacted to get the list of full-time school counselors and their school addresses. Questionnaires with a covering letter (See Appendix C) were then sent to the counselors. A self-addressed envelop with adequate postage was also enclosed for them to return the completed questionnaire. The final tally of the response is as shown in Table 2.

Table 2: Respondents by State, Gender, and States' Return Rate

State	Male	Female	Total	n	Return Rate
Kedah	33	10	43	85	50.6%
Pahang	28	20	48	86	55.8%
Melaka	8	13	21	43	48.8%
Negeri Sembilan	29	20	49	78	62.8%
Trengganu	30	10	40	57	70.2%
Selangor	27	29	56	105	53.3%
Kuala Lumpur	5	28	33	72	45.8%
Johor	50	53	103	175	58.9%
Perlis	10	3	13	20	65.0%
Pulau Pinang	19	17	36	41	87.8%
Kelantan	35	9	44	88	50.0%
Perak	56	26	82	128	64.1%
Sabah	12	17	29	66	43.9%
Sarawak	10	8	18	27	66.7%
Total	352	263	615	1061	58.0%

P.S. **n** refers to the number of full-time counselors corresponded in each state.

The respondents were quite reflective of the school counseling scenario in Malaysia in terms of gender ratio, age range, race, academic and professional

qualifications, teaching and counseling experience, and other characteristics that were obtained to enable further data analyses.

Instrumentation

The main instrument was the Resiliency Attitude Scale (Biscoe, 1994) which had been translated into Bahasa Melayu. The original Resiliency Attitude Scale (RAS) has an internal consistency (KR 20) of between .78 and .85 for a sample of males and females. The high internal consistency indicated that the content of the seven sub-scales was relatively homogeneous. Its test-retest reliability for samples of 97 residents at a chemical dependency treatment center for a three-month interval ranges between .54 and .80 with a median of .71.

The internal consistency of Cronbach's alpha for the Bahasa Melayu version of RAS for 615 school counselors was computed. An alpha of .80 was found. Further reliability analysis using Guttman Split-half on RAS yielded a reading of .71. These give an indication of the high reliability of RAS on Malaysian school counselors.

The other two instruments are the General Self-Efficacy Scale (GSES) (Schwarzer, 1992) and the Burnout Potential Inventory (BPI) (Potter, 1998). Both the instruments had been translated into Bahasa Melayu too. The translations were verified by two language experts who are bilingual. An expert in counseling was sought to verify the content of the instruments. GSES and BPI were found to have an internal consistency of Cronbach's alpha of .85 and .91 respectively. The Guttman Split-half analysis on the

instruments yielded readings of .83 and .85 respectively. Thus the instruments were deemed reliable for use on Malaysian school counselors.

The Resiliency Attitudes Scale (RAS)

The main instrument used in this research is the Resiliency Attitudes Scale (RAS). It was developed by Belinda Biscoe (1994) to assess resiliencies as defined by Wolin and Wolin (1993). Items were built to tap attitudes that would reflect each of the seven types of resiliencies, namely Insight, Independence, Relationships, Initiative, Creativity, Humor, and Morality. An additional subscale was added to assess general resilience which was defined as persistence in working through difficulties, and a belief that one can survive and make things better.

These resilience measures were further divided into "Skill Subscales" which contain questions that tap the basic resilience skills associated with each resilience measure. For instance, the resilience of independence requires one to be able to emotionally distance from unhealthy people, and that one be able to recognize and end unhealthy relationships. For each resilience subscale there are approximately ten items.

To reduce response bias, approximately half of the statements were written so that high resilience is indicated if the person agrees with the statement and half the statements were reverse coded so that if a person disagrees with the statement it indicates high resilience. Care was used to try and convey the concepts that were assessed at the lowest reading level and in the least complex way possible.

The Translation Procedure

The RAS was translated into Bahasa Melayu by the researcher. Extra care was used to convey the concepts assessed clearly using the simplest language structures possible. The translated version was sent to two language experts who are bilingual in the Faculty of Education, University of Malaya to be back-translated into English. The back-translated version was then compared with the original version to check its accuracy. Most of the items were accurately translated and consensually agreed upon except for items 22, 60, 67 and 71 which involved figurative language. These items were debated and a final decision was reached to accept the translated version.

To ascertain the content validity of the instrument, an expert in the field of counseling psychology was consulted. The expert verified the content of the instrument. The same procedure was applied in translating the Burnout Potential Inventory and the General Self-Efficacy Scale.

RAS Items and Subscales

The 72 items of RAS, its subscales and concepts are summarized in Table 3.

Table 3: RAS Items and Subscales

RAS Items	Resiliency	Definition/Concepts
1 – 10 <i>(1, 4, 5, 8)</i> <i>(2, 3, 6)</i> <i>(7, 9, 10)</i>	Insight: Sensing Knowledge Understanding self and others	The mental habit of asking searching questions and giving honest answers. This subscale includes the concepts: reading signals from other people; identifying the source of the problem; and trying to figure out how things work for self and others.
11 – 20 <i>(11, 13, 15, 19)</i> <i>(12, 14, 16, 17, 18, 20.)</i>	Independence Separating Distancing	The right to safe boundaries between self and significant others. This subscale includes the concepts: emotional distancing, and knowing when to separate from bad relationships.
21 – 30 <i>(22, 23, 24, 25, 27, 28)</i> <i>(21, 26, 29, 30)</i>	Relationships Recruiting Connecting/Attaching	Developing and maintaining intimate and fulfilling ties to other people. This subscale includes the concepts: Perceived ability to select healthy partners, to start new relationships, and to maintain healthy relationships.
31 – 40 <i>(31, 32, 33, 35, 37)</i> <i>(34, 36, 38, 39, 40)</i>	Initiative Problem Solving Generating	Determination to master oneself and one's environment. This subscale includes the concepts: creative problem solving; enjoyment of figuring out how things work; and generating constructive activities.
41 – 50 <i>(42, 43, 46, 50)</i> <i>(41, 44, 45)</i> <i>(47, 48, 49)</i>	Creativity & Humor Thinking/Imagination Expressing feelings Humor	Safe harbors of the imagination where you can take refuge and rearrange the details of your life to your own pleasing. This subscale includes the concepts: creativity/divergent thinking, being able to use creativity to forget pain, using creativity to express emotions, using humor to reduce tension or make a bad situation better.
51- 62 <i>(51, 52, 53, 56, 57, 58, 59, 60)</i> <i>(54, 55, 61, 62)</i>	Morality Valuing, judging what's right and wrong. Helping others	Knowing what is right and wrong and being willing to stand up for those beliefs. This subscale includes the concepts: knowing what is right and wrong and being willing to take risk for those beliefs; finding joy in helping other people.
63 – 72 <i>(63, 64, 65, 66, 68)</i> <i>(67, 69, 70, 71, 72)</i>	General Resiliency Persistence, Belief in self. Belief in ability to make it.	This subscale was included to assess: Persistence at working through difficulties, confidence that one can make the most of bad situations, and the belief that one can make things right.
1 - 72	Total Resiliency Score	The overall level of one's resiliency.

Note: Numbers in Italics and underlined are reverse coded items.

The General Self-Efficacy Scale (GSES)

The General Self-Efficacy Scale is a 10-item psychometric scale that is designed to assess optimistic self-beliefs to cope with a variety of difficult demands in life. The scale was originally developed in German by Matthias Jerusalem and Ralf Schwarzer in the early 80ies and has been used in many studies in thousands of participants. In contrast to other scales that were designed to assess dispositional optimism, this one explicitly refers to personal agency, that is, the belief that one's actions are responsible for successful outcomes (Schwarzer, 1992). The scale is available in twenty language versions including the Indonesian version which had been adapted into *Bahasa Melayu*.

The scale is simple in administering as well as scoring. After reading and understanding each of the 10 items in the scale, in the space provided before each item, the respondents were required to score 1 indicating Not at all true, 2 for Barely true, 3 for Moderately true, 4 for True and 5 for Exactly true. The scores were then totaled and the attained score was the general self-efficacy scale of the respondent. The scale ranged from a minimum of 10 to a maximum of 50. This enabled a correlational analysis with RAS.

The Burnout Potential Inventory (BPI)

The Burnout Potential Inventory was an adapted 24-item psychometric scale that was designed to assess the potential of experiencing burnout under a variety of difficult job situations. The inventory was originally developed by Potter (1998). It had been adapted and translated into *Bahasa Melayu* adhering to the procedure explained earlier.

According to Potter (1998), individuals suffering from job burnout experience some degrees of imbalance in 12 symptoms, namely, powerlessness, lack of information, conflict, poor team work, work overload, boredom, poor feedback, punishment, alienation, ambiguity, unrewarding, and values conflict. The scale measures each of the 12 symptoms using 2 items. Thus it provides a comprehensive measure of burnout conditions.

The inventory was simple in administering as well as scoring. After reading and understanding each of the 24 items in the inventory, in the space provided before each item, the respondents were required to score 1 indicating Very rarely, 2 for Rarely, 3 for Sometimes, 4 for Often and 5 for Very often. The scores were then totaled and the attained score was the potential burnout score of the respondent. The score ranged from a minimum of 24 to a maximum of 120. This also enabled a correlational analysis with RAS.

Pilot Study

A pilot study was carried out on 32 psychiatrists based in government hospitals throughout Malaysia. Data was collected using the questionnaire comprising the translated *Bahasa Melayu* version of RAS, GSES, and BPI. The questionnaire was administered during a Mental Health Promotion programme held in Sandy Bay Paradise Hotel in Penang by the Ministry of Health from 19 - 24 April 1999.

The main objective of the pilot study was to assess the reliability and validity of the Bahasa Melayu version of RAS, GSES, and BPI, also to determine the time taken to respond to the questionnaire fully. The respondents were also requested to comment on items that they felt were ambiguous. Their comments were noted and the items concerned had since been refined.

The internal consistency of Cronbach's alpha for the three instruments were computed. They were found to have an alpha of .84 , .94 , and .81 respectively which give an indication of their high reliability.

Reliability analysis using Guttman Split-half on the instruments yielded readings of .85 , .93 , and .84 respectively. These further substantiated the reliability of the *Bahasa Melayu* version of the instruments. This had provided the researcher adequate confidence to use these instruments in the research.

In view of the importance of RAS particularly in this research, a further attempt was made to assess its dimensionality involving the seven subscales, namely, insight, independence, relationship, initiative, creativity, humor and morality. The Multidimensional Scaling analysis was performed. The algorithm stopped at the fifth iteration because S-stress improvement is less than .001 . The summary of the analysis is shown in Table 4. The procedure used the Young's S-stress formula 1. This provides a good indication of the construct validity of RAS.

Table 4: A Summary of Multidimensional Scaling Analysis

Iteration	S-stress	Improvement
1	.31261	
2	.27357	.03904
3	.25423	.01934
4	.24683	.00741
5	.24688	.00014

A computation of stress and squared correlation (RSQ) values which are the proportion of variance of the scaled data in the partition accounted for by their corresponding distances. The average values of stress and RSQ are .23 and .63 which give another good indication of the construct validity of RAS.

Another major benefit that came out of this pilot study was the readiness of a dummy template for data entry, organization and analysis which were in order for the actual data later.

Administering the Instruments

The RAS, GSES, and BPI were designed to be administered in a self report format. The instruments were supposed to be administered in a quiet and private environment free of distractions. An average of 20 minutes was needed to complete the

RAS comprising 72 items, 3 minutes for the 10-item GSES, and 7 minutes for the 24-item BPI. Thus, an allocation of 35 minutes was sufficient to respond to all the items in the questionnaire including the first section on bio-demographical data.

In this research, the questionnaires comprising RAS, GSES, and BPI were sent by mail to school counselors who were appointed as full-time counselors. A self-addressed envelop with adequate postage was enclosed to facilitate the returning of the completed questionnaires. The cooperation of counselors was sought to return the completed questionnaires using the enclosed envelop within two weeks. Personal phone calls were made whenever necessary to enhance the response rate and genuineness of data. The researcher's network throughout the nation was also swung into action to facilitate these.

Scoring the RAS

The following items were reversed coded: 1, 3, 5, 6, 8, 11, 13, 14, 18, 19, 20, 21, 25, 26, 27, 28, 31, 35, 37, 38, 39, 42, 46, 47, 48, 50, 52, 53, 55, 56, 59, 61, and 68, to make: Strongly Disagree equal to 5, Disagree equal to 4, Undecided equal to 3, Agree equal to 2, and Strongly Agree equal to 1.

Next the subscale scores and the total resiliency scores were computed by adding up responses to each item included in the scale to obtain the respondent's raw score. The

raw score was divided by the total possible points on that scale and then multiplied by 100 to obtain the standardized score.

Interpretation of RAS Scores

Each Resiliency Attitudes Scale (RAS) standardized score represented a percent agreement with the items on that scale to yield a strength index. The scores ranged from 20% to 100%. Higher scores indicated higher resiliency. Lower scores indicated lower resiliency. For instance, if a person scored 100 on a scale, this indicates that he obtained 100% of the possible resiliency points on that scale. If he scored 50 on a subscale, that means he obtained 50% of the possible resiliency points on that subscale. For each resiliency subscale there were ten to twelve items. Special attention was given to items which were reverse coded.

Scoring the GSES and BPI

The General Self-Efficacy Scale and Burnout Potential Inventory were scored by totaling the score of all their items by simple addition. Since the sub-scale scores of these two instruments are not pertinent to data analysis, they were not computed.

Interpretation of GSES and BPI Scores

The GSES score ranged from 10 to 50. Respondents who scored between 10 and 22 were considered as having low self-efficacy. For those who score between 23 and 36, they were considered as having moderate self-efficacy. Individuals of high self-efficacy were those who scored between 37 and 50.

The BPI score ranged from 24 to 120. Scores that range between 24 and 55 were considered low risk of experiencing burnout but preventive action is always recommended. Respondents with scores that ranged between 56 and 87 were considered as having a moderate risk of experiencing burnout. They need to develop a plan to correct their problem areas. Individuals who scored between 88 and 120 were categorized as having a high risk of burnout and corrective action was vital for them.

Data Collection

This research was planned to be a national study so that its findings are as reflective of the population as possible and also to achieve a high representativeness. Thus, this research employed various strategies to ensure as high a response rate of questionnaires by mail as possible. In other words, there was no specific sampling procedure being adhered to. The subject size was very much dependent on the level of cooperation elicited from the subjects through personal contacts, e-mails and phone calls. Some state education departments had given their full support in ensuring a high return

rate of questionnaires by providing a covering letter (See Appendix D) to the subjects urging their cooperation.

As explained earlier, the subject size was very much dependent on the response rate of questionnaires by mail. However, steps were taken to ensure that at least 600 subjects return the questionnaires out of 1110 sent out. This would be adequate for correlational computation according to Krejcie and Morgan (1970). Other considerations were the avoidance of Type I and Type II errors due to inadequate sample size. Thus, the cooperation rendered by some state education departments was crucial and greatly appreciated.

Since this was a nation-wide study, the most practical means of data collection was through the mail despite the concern over the response rate. All the state education departments were contacted to furnish the researcher with the list of counselors in their state. The questionnaires were then sent through mail to all the school counselors based on the name lists provided. A returning envelop with adequate postage and researcher's name and address written on was also enclosed. Efforts were made to ensure a high returning rate of questionnaires through phone calls when necessary and personal contacts in the state education departments and district education offices. In some cases, the questionnaires were sent again to those who failed to return it the first time.

Data Analysis

The organization and analysis of data were done to get findings and seek answers to the research questions and hypotheses testing. This paved the way to achieve the research objectives. The Statistical Package for Social Sciences (SPSS) version 10.0 for Windows was utilized in facilitating accurate computation and analysis of the data (Coakes & Steed, 2001).

The computation of the General Resiliency strength index or the Total Resiliency strength index from RAS enabled the identification of resilient counselors. The General Resiliency strength index was computed by multiplying the total score of items 63 to 72 by 2. Whereas the computation of the Total Resiliency strength index was done by multiplying the total score of items 1 to 72 by 10 and then divided it by 36. Counselors with indices of 70% and above were considered as resilient. The first and second objective of measuring counselor resiliency level and identifying resilient counselors would then be achieved.

In an effort to achieve the third objective, that is to establish the resiliency profile of counselors, the seven subscales of resiliencies strength indices of resilient and non-resilient counselors were computed. The seven indices were then be ranked in a ascending order to obtain the profile. However, the discrimination of resilient counselors from non-resilient ones needed to be done first. The findings were presented in the form of graphs as the model resiliency profile of school counselors in Malaysia.

In an attempt to examine the effect of school environment on counselor resilience, comparisons of counselor resilience were made between 5 school categorizations, namely, boarding and non-boarding schools; urban and rural schools; boys', girls' and coeducational schools; technical, religious, Chinese, and normal schools; and academically low, average and high performing schools. The computations of t-test analyses and one-way ANOVA were done to test the hypotheses for mean RI difference by setting alpha at .05 . This paved the way to achieve the fourth objective of the study.

In an attempt to examine the influence of counselors' academic and professional counseling qualifications on their resilience, One-way ANOVA with resiliency index as the dependent variable and counselors' academic and professional qualifications as independent variables were administered separately. The significant level was again set at alpha = .05. In order to examine if there are any significant differences in resiliency between graduate and non-graduate counselors, counselors with and without a professional degree in counseling, counselors with and without prior working experience, and counselors who were experienced and less experienced, two-tailed t-test were administered to analyze these hypotheses. The significant level was set at alpha = .05. This enabled the fifth objective to be achieved.

In order to identify variables among the seven subscales that contribute most to the counselors' general resilience, the multiple regression procedure was administered. This was done to select the most useful variables to predict counselors' general resilience.

Essentially, multiple regression is based on correlations of each test with the criterion as well as inter-correlations among the tests. (Anastasi, 1988). The validity of the entire battery can be found by computing the multiple correlation (R) between the criterion and the battery. The correlation indicates the highest value that can be obtained from the given battery, when each test is given optimum weight for predicting the criterion in question. The optimum weights are those determined by the regression equation. This helped to achieve the sixth research objective.

In an attempt to investigate if resilience correlates with self-efficacy and burnout, the correlation coefficients were computed using Person Product-Moment Correlation Coefficient which takes into account not only the subject's position in the group, but also the amount of his deviation above or below the group mean (Anastasi, 1998). Pearson r was computed by setting the significant level at .05. This took care of the seventh objective of the study.

Summary

This chapter presented the research methodology in alignment with the research objectives, the follow-up research questions and hypotheses which were carefully thought and planned out. The research was designed to be a national study on school counselor resilience where 615 out of the 1,110 subjects responded and returned the questionnaire. The instruments used in this study were validated and verified to provide valid data for the necessary computations and analyses using the appropriate statistical procedure. This

enabled the research questions to be answered and the research objectives to be achieved. In short, a concerted effort was made to synchronize the various components of this study to make it a success.