The Mental Health Profiles Of Student Teachers: Relevance To Teacher Education And In Identifying Potential Future Teacher Problems

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Citation

Abstract

Good mental health is an index of psychological wellbeing desirable to all people including student teachers. To prevent and protect children from being exposed to teachers with poor mental health, trainee teachers might need to be screened for psychological wellbeing. Using the Revised Symptoms Checklist, the survey assessed the mental health of Brunei trainee teachers and explored the extent to which the profiles were useful in informing teacher education and addressing potential future problems. Males scored higher and were significantly different from their female counterparts on six primary factors (Obsessive-compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, and Phobia) and two summary indices (Global Severity Index and Positive Symptom Total). In addition, four primary factors (Obsessive-Compulsive, Depression, Anxiety, and Paranoid Ideation) contributed significantly to the global psychological distress. Furthermore, the primary factors and summary indices correlated negatively with achievement test scores. Moreover, multiple regression analysis subsequently confirmed them to be poor predictors of academic success. Overall, the findings suggested that these assessments could sensitize trainees regarding mental wellbeing issues, aid efforts in counseling the vulnerable and at-risk students, and assist in promoting mental health among student teachers. Future mixed-methods research is recommended.

INTRODUCTION

Among the many human resource players considered essential and important in education are teachers. Teachers are entrusted with the enormous task and responsibility of facilitating and fostering young people's intellectual and social development. The minds, intellectual capabilities and social skills of children and adolescents are still in the formative stages of growing up. One of the many factors that is suspected to affect academic achievement positively or negatively is mental health. Thus it seems that to handle delicate young minds effectively and to be able to cope with the expectations of important educational stakeholders such as parents and the community, a teacher may need to have good mental health and understand the harmful effects and implications of poor mental health to teaching and learning. The review of literature for the present study came across only few relevant investigations that addressed the issue of teacher mental health. To illustrate the nature of the problem, three recent studies are discussed below.

Mundia (2010a) reported the case of a student teacher in Brunei who dropped out of the training course due to untreated mental health problems. The trainee teacher in Mundia's (2010a) study was very anxious and phobic of talking to groups of people (including fellow students) in a formal setting. Her mental health condition disabled and inhibited her from doing peer teaching, micro-teaching and teaching practice in schools. Mundia summarized the investigation, in part, as follows:

On the other hand, Ballou (2012) compared the likelihood of minor psychiatric disorders (MPD) among serving teachers with civil servants. This study revealed that the proportion of teachers with MPD was greater than that of civil servants. The difference was, however, not statistically significant through multiple logistic regression analysis adjusted for potential confounders (Ballou, 2012). Ballou noted that reduced job satisfaction and lack of leisure time were associated with an increase in MPD among teachers while longer working hours, reduced life satisfaction, and physical illness were associated with an increase in MPD in civil servants. In another study, Mathew (2011) investigated the need for teacher education curriculum to include sexual abuse contents. Sexual abuse is a traumatic event that affects

children frequently and is perpetrated by adults in families, the community and schools. Sexual abuse tends to have long-term adverse impacts on children's mental health. Both teacher trainers and teachers need to know how to identify and handle students who are abused sexually, emotionally, and physically. According to Mathew:

In Brunei, recent research by Mundia (2010b) showed that a few trainee teachers may have mild to moderate mental health difficulties. The student teachers attempt to resolve these issues using a wide range of coping strategies some of which, e.g. emotion-oriented coping style, are less effective (Mundia, 2010c).

ATTITUDES TO SEVERELY DISABLED LEARNERS AND PEOPLE WITH MENTAL HEALTH PROBLEMS

The attitudes of Brunei educators towards students with mental health problems in institutions of higher leaning are not yet known due to lack of research. In addition, the number of students with severe challenging behaviors (e.g. behavioral disorders, BD or emotional and behavioral disorders, EBD) and mental-health problems in Brunei tertiary institutions is still small because of the small population and rigorous selection procedures. Emotional disturbance has potential to contribute to the onset and persistence of schizophrenia, organic mental disorders, psychosomatic disorders, and personality disorders. Due mainly to the social stigma attached to negative labels pertaining to psychiatric conditions, the few students admitted into Brunei tertiary institutions with BD, EBD or mental-health problems tend to mask their behaviors and are thus invisible. Related to this, recent research by Haq and Mundia (2011) found that children and adults with mental health problems were invisible in Brunei society. Furthermore, there is also stigma associated with seeking professional psychiatric help (Shute, 2007). In view of these and other reasons, research on students with mental health problems is still scant in Brunei and the present study was an attempt to narrow this knowledge gap. At the secondary school level, early previous research from elsewhere showed that regular school teachers were in general opposed to having disabled learners in their classrooms (Jones et al., 1978; Jamieson, 1984; Knoff, 1985). The more severe or profound the learner's disability, the higher the chance such a learner was likely to be rejected by regular school teachers, non-disabled peers in an inclusive setting, and parents of non-disabled students (Heward, 1996) but this is changing

with the inclusion of special education contents in teacher education curriculum. Among students with partial or mild disabilities who were includable in ordinary schools, regular teachers preferred most those who had learning difficulties and liked least learners with mental and behavioral disorders (William & Algozzine, 1979; Vandivier & Vandivier, 1981). This might be partly due to the fact that students with mental and behavioral disorders pose the biggest challenge to teaching and assessment. In addition many teachers may not know how to handle learners with mental health problems.

DEFINITION AND DESCRIPTION OF MENTAL HEALTH

Mental health is defined in many ways but none of them is regarded as the standard. In addition, there is no globally accepted description of what constitutes poor mental health. To make matters worse, there are big cultural differences in attitudes to mental health. Each of these is briefly considered here. The World Health Organization (WHO, 2007) views mental health as not just the absence of mental disorders (such as depression, anxiety, stress, and schizophrenia) but rather a state of well-being in which every individual realizes her or his own potential, can cope with the normal stresses of life, could work productively and fruitfully, and is able to make a contribution to her or his community. According to the American Psychiatric Association (APA, 1994) mental health refers to mental disorders (patterns of behavioral or psychological symptoms that impact multiple life areas and/or create distress for the person experiencing these symptoms). The assessment and diagnosis of mental health or mental disorders is done in several ways including the regular use of observations, checklists, interviews, and psychometric inventories. The two most widely used checklists are the Diagnostic and Statistical Manual of Mental Disorders 4th Edition (DSM-IV) published by the American Psychiatric Association (APA) and the International Classification of Diseases 10th Edition (ICD-10) produced by the World Health Organization (WHO). Both of these assessment tools has several parts each called an axis, giving a different type of information about the diagnosis. In addition, both checklists are currently under revision and the new editions will be published in 2013 (DSM-5) and 2015 (ICD-11). Two examples of psychological tests used in the assessment and diagnosis of mental health disorders are the Minnesota Multiphasic Personality Inventory, MMPI-2 (Hathaway & McKinley, 1989) and the Symptoms Checklist-90-R, SCL-90-R (Derogatis, 1975). Although relatively old, both of these

instruments are seminal or classical and are still frequently being applied in research, counseling, psychotherapy, psychiatry, and criminal justice. In determining what constitutes poor mental health, the classification assessment procedures (DSM and ICD) emphasize severity and persistence of the condition in their technical manuals. On the other hand, psychometric scales such as the MMPI-2 and SCL-90-R use standard transformed (T) scores as cut-off points or multiple criteria to determine the degree of mental health. Scores in the range $T \geq 70$ are considered to be in the critical or clinical zone and indicate poor mental health on a given domain or factor.

The terms "good" or "poor" mental health are relative and their meaning depend to some extent on the cultural context under which they are used. For example, Gilbert et al. (2007) found significant differences in shame-focused attitudes to mental health problems in Asian and non-Asian female students. The results from this study indicated that Asian students had higher external and reflected shame than their counterparts. A study by Lawrence et al. (2008) revealed cultural differences in attitudes towards caring for people with dementia. Lawrence and colleagues found that people of south Asian or black Caribbean origin were far more likely to hold a "traditional" view of caregiving (regarded the role as natural, expected and virtuous) towards people with dementia than white British people. More recently, David (2010) found that the higher levels of cultural mistrust was related to lower likelihood of seeking professional psychological help in Asian Americans particularly Filipino Americans. Cultural mistrust is a construct that was initially conceptualized to describe the distrust among African Americans of White Americans and mainstream American institutions including the legal system, political system, government agencies, educational system, health care system, employment settings, and other entities that are governed or staffed by White Americans as a result of racist experiences with them (David, 2010). The concept of cultural mistrust now applies to all minority ethnic and religious groups in the US who experience similar segregation or discrimination. It is, however, widely acknowledged that mental health problems can have negative impacts on a person's ability to function effectively. For instance, severe mental health difficulties may adversely affect a student's social, emotional, intellectual and physical wellbeing thereby disrupting her/his educational achievement. This then serves as a rationale and justification for assessing student teachers' mental health

with a view to identifying and addressing the concerns early through counseling or psychotherapy. In dealing with and discussing the relationship between mental health and teaching, one has to be careful. Although it is clearly established that mental health issues can be a factor contributing to a host of problem behaviors such as criminality, many other variables (e.g. heredity, poverty and personality) are also implicated. The view of the present study is that both pre-service and in-service teachers need to be sensitized about mental health challenges if they are expected to deal with these problems in school settings.

APPROACHES AT RESOLVING STUDENT MENTAL HEALTH PROBLEMS IN EDUCATIONAL INSTITUTIONS

With regard to mental health problems in primary and secondary schools, there are indications that these can be dealt with effectively using whole-school message campaign programs such as the MindMatters Plus (MM+) initiative in Australia (see Anderson, 2005a, b; Rickwood, 2005; Gillies, 2006). It is important to do this because mental health can directly affect a student's academic work and social life either positively or negatively. The effect (for example on academic work) can be adverse where the student's psychological well-being is defective and dysfunctional. Another example of the whole-school approach in mental health intervention is the KidsMatter programs that also aim at improving teachers' methods of teaching, assessing students, and interacting with school children (see Graetz et al.,2008).

At the college and university levels of education, research from elsewhere (e.g. Craig, 2010; Mundia, 2010b) indicates that students might appear to be leading a normal life and yet they are seriously disturbed and need help. According to Mundia (2011) it is not easy to identify tertiary students with mental health concerns although they might occasionally exhibit a few observable distress symptoms or signs such as frequent absences from class, delays in submitting assignments, missing tests or examinations, and either poor performance or repeated failure (lack of success). Mundia (2011) says one way of solving this problem is to deliberately encourage students to undergo voluntary and confidential psychological testing if they suspect that they might have a serious psychological or mental health problem. The assessment can be done in a private and safe place at the Counseling Unit within the college or university, or at a Psychiatric Unit in a hospital. If the testing succeeds

in diagnosing correctly the psychological or mental health problem, the student can then be referred for appropriate counseling or psychotherapy intervention. To be effective, this encouragement and advice should be given to students in a highly friendly, safe and non-frightening manner such as through mass sensitization or awareness campaign programs that may include (but are not restricted to) free information pamphlets, video or film shows, sports and games, leisure and relaxation techniques, counseling websites, self-help focus group discussions as well as seminars and workshops on student study strategies, psychological problems, and coping strategies mounted by mental health professionals. In short, each college and university should have a whole-institution mental health promotion focus or agenda that is cost-effective and highly beneficial to students. The pastoral care program (s) should target the major problems that impact negatively on students' mental health such as depression, anxiety, stress, procrastination, relationships, time management, financial management, drugs, alcohol, smoking, gambling, study skills, and exam preparations, to name a few (Mundia, 2011).

SELECTED RESULTS OF RESEARCH THAT USED THE SCL-90-R

An SCL-90-R profile of a normal population of student teachers has not yet been obtained before in Brunei and many other developing countries. However, the SCL-90-R has been previously used on secondary school students with excessive internet use (Yang et al., 2005). Its reliability and validity have been investigated in college and university students but not necessarily trainee teachers (Martinez et al., 2005). Other research applications of the SCL-90-R in none teaching contexts have included studies of alcoholics (Mercier et al., 1992), relapse risk after alcoholism detoxification (Lucht et al., 2002), outcome measure in clinical trials (Derogatis, 2000), psychopharmacological trials (Pani et al., 2000), substance abuse inpatients (Zack et al. 1998), cancer patients (Fitch et al. 1995) as well as psychotherapy trials (de Jonghe et al., 2001). The SCL-90-R has also been used in the past as a screening device for global psychological distress and psychiatric conditions (Schmitz et al., 2001) and as a measure of mental status and mental health related issues (Osterberg et al, 2002). Although not really a measure of personality types, some scales in the SCL-90-R have been used in assessing both psychological distress and dysfunctional personality (e.g. Yang et al., 2005) and in cross-validation of psychological instruments. In this regard, Derogatis et al. (1976) validated

the SCL-90-R concurrently (i.e. obtained convergent and discriminant validity) with the Minnesota Multiphasic Personality Inventory (Hathaway & Mckinely, 1989) while Dinning and Evans (1977) validated the SCL-90-R and reported their findings in a journal of personality assessments. This is because subscales such as obsessive-compulsive, anxiety or neuroticism, depression, and psychoticism are also found on many personality instruments like the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1964) and the Minnesota Multiphasic Personality Inventory (Hathaway & Mckinely, 1989).

PSYCHOLOGICAL AND MENTAL HEALTH PROBLEMS MEASURED BY THE SC-90-R

The Symptoms Checklist-90-Revised edition measures 9 primary factors of distress and 3 global indices. Such dimensions and summary indices may help us to understand why some teachers commit the above offenses. In particular, some of the subscales measure factors that have been identified by the literature above as predictors of criminal behavior. For example, psychoticism has been shown by Eysenck (1977) as one of the causes of criminality. In addition, psychoticism is highly correlated with psychopathy, a variable that is well researched and known as the chief cause of criminal thoughts and actions (see Hare & Jutai, 1983; Hare & McPherson, 1984; Hare, 1986; Hare, 1990; Loucks & Zamble, 1994; and Blair et al. 1997). There is also a link between psychoticism and mental illness which is associated with criminal activities (see Washington & Diamond, 1985; Maniadaki & Kakouros, 2008). Two other predictors of criminal life that are measured by the SCL-90-R via the hostility subscale are aggression (e.g. Hare & McPherson, 1984) and bullying (e.g. Farrington & Ttofi, 2011). Together with hostility, two other subscales of the SCL-90-R (interpersonal sensitivity and paranoid ideation) may be useful in understanding other predictors to crime such as interpersonal hostility (Walters, 2005) as well as authoritarian / coercive parenting, inter-parental conflict, and poor interpersonal interaction and communication (Leschied et al., 2008). Thus, virtually all the SCL-90-R nine primary scales and three summary indices are measures of mental health. Of these, four primary factors (interpersonal sensitivity, hostility, paranoid ideation, and psychoticism) incorporate personality attributes that previous research literature discussed above has identified as predictors of criminality. The SCL-90-R subscales and global indices are listed and briefly explained below while the full descriptions of the dimensions are presented in the technical manual

(Derogatis, 1977).

PRIMARY FACTORS MEASURED BY THE SCL-90-R

GLOBAL OR SUMMARY INDICES MEASURED BY SCL-90-R

OBJECTIVES OF THE STUDY

Research by Mundia (2010a, b; 2011) suggested that mental health problems were prevalent in Brunei student teachers but on a small scale. The present study used the SCL-90-R to inform both trainee teachers and teacher educators alike in Brunei and elsewhere regarding student teachers' psychological wellbeing or mental health. The SCL-90-R has not yet been applied extensively in studies of student teacher populations in developing countries including Brunei. As noted in the literature review above, there are not many journal articles on teacher mental health. However, simply knowing that teachers might have mental health issues is, in itself, not enough. Additional attention and efforts should be directed at developing strategies for early identification of the problems and the provision of interventions to address the concerns. It is hoped that the present study will stimulate interest in researching teacher mental health problems further. Given these broad goals or aims, the five main and specific objectives of the present study were to:

METHOD

The study used the field survey research method. Like other approaches to research, field surveys have both disadvantages and advantages. One of this strategy's major limitations is that the findings may not indicate cause-and-effect relationships among the variables investigated. For example, the use of inter-scale correlations might be useful for validation purposes but does not tell us anything about the cause-effect relationship of the variables involved. Another main drawback is that the presence of the investigator during data collection may lead to negative researcher effects such as encouraging research participants to give socially desirable responses on self-report measures. Despite these and other weaknesses discussed below, the rationale and justification for employing the field survey procedure to investigate the problem in the present study was three-fold. First, the researchers wanted to involve as many student teachers as possible in the study. Second, the investigator wanted to give on-the-spot help to respondents who needed assistance in completing the research instruments properly so as to increase the number of usable returns. Third, using the obtained scale data, an attempt was made at determining the cause-and-effect relationship of the variables concerned by employing the multiple regression analysis technique in processing the data. This statistical procedure estimates the proper relationship between two variables when other factors entered simultaneously in the same analysis are controlled or held constant. The size, sign/direction (positive or negative), and significance level of the resulting standardized Beta coefficients indicate the relative variance contribution of each independent variable to predicting the dependent variable. The researcher made every effort to ensure that the shortcomings of the research method used did not adversely affect the outcomes of the study.

SAMPLE

The study was based on the responses of randomly selected Brunei undergraduate or pre-service student teachers who were taking an educational psychology course in the Sultan Hassanal Bolkiah Institute of Education at the University of Brunei Darussalam. The course had 133 students but only 113 or 85% of them (sample) completed the research instrument appropriately and provided usable protocols. The other 20 (15%) of the 133 students were excluded from the study for various reasons. Among the 20 excluded students, 7 students (4 females and 3 males) were removed from the study for being absent on the test administration day and showing no interest in the study. Another 3 students (2 females and 1 male) were excluded for accumulating too many missing values. A further 10 students (5 females and 5 males) were excluded for amassing numerous zero responses. Of the remaining pooled sample of 113 students, 82 (26.33%) were females while 31 (24.09%) were males. Their age ranged from 20 to 40 with a mean of 31.35 (Standard deviation = 7.09). The two genders did not differ significantly in age (t (111, 2-tailed) = 1.141, p > .05). The research participants were drawn randomly from five teacher education programs: Bachelor of Arts in Education, BA Ed (5, 4%); Bachelor of Science in Education, BSc Ed (24, 21%); Postgraduate certificate in Education, PGCE (28, 25%), Bachelor of Arts, BA in Primary Education (19, 17%), and Bachelor of Education, BEd in Primary Education (37, 33%). The frequencies or percentages of students on different teacher education programs differed significantly (Chi-square (df = 1, 4) = 24.68, p < .01). The student teachers studied a wide range of school teaching subjects as either a major or minor that included mathematics, physics, chemistry, biology, geography, accounting, economics,

history, and teaching English as a second language (TESL). The degree students were in their third and fourth year of training while the PGCE students were in the first year.

INSTRUMENT

Data for the present study were collected by two instruments (psychological and educational) both administered to the sample on the same day and time. The psychological test used was the revised Symptoms Checklist, SCL-90-R (Derogatis, 1975). This inventory was designed to assess the psychological symptom pattern of the client and as a screening device for measuring mental status (e.g. Osterberg et al, 2002). The scale measures nine primary areas or symptom dimensions of psychological distress (somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism) as well as three global indices (Global Severity Index, Positive Symptom Distress Index, and Positive Symptom Total). Each item is rated on a 5-point Likert-type scale of distress (0 = "Not at all" to 4 = "Extremely"). The SCL-90-R is a measure of current, point-in-time, psychological symptom status. The reference time set is "the past 7 days including today". The questionnaire can be administered once or can be used repeatedly to document formal outcomes, response trends, or pre-post therapeutic evaluations.

There are many ways for determining the reliability of a scale such as the SCL-90-R. Previous research based on different samples such as control groups (Derogatis, 1983), psychiatric inpatients (Rauter et al. 1996), substance abuse inpatients (Zack et al., 1998), and cancer patients (Fitch et al., 1995) found that the SCL-90-R had good Cronbach alpha consistency reliability. The alpha reliability of the SCL-90-R in this study based on the Brunei sample is presented in Table 1. Only the additional items had poor reliability but these are not extensively used in the scale.

Figure 1

Table 1: Reliability of the scales and additional items (N = 113)

Scale	Items	Alpha	Mean	SEm[a]	SD[b]
Somatization	12	.87	12.83	1.04	8.92
Obsessive-Compulsive	10	.79	17.30	0.62	6.96
Interpersonal Sensitivity	9	.81	10.83	0.71	6.11
Depression	13	.80	14.34	0.70	7.74
Anxiety	10	.84	11.07	0.83	7.07
Hostility	6	.68	5.78	0.78	3.91
Phobic Anxiety	7	.82	4.43	1.02	4.94
Paranoid Ideation	6	.71	6.84	0.75	4.16
Psychoticism	10	.75	9.06	0.84	6.18
Additonal items	7	.65	8.53	0.70	4.93

[a] SEm = Standard error of the mean
[b] SD = Standard deviation

Similarly, there are many procedures for assessing the validity of the SCL-90-R. The present study adopted the convergent and discriminant criterion-related validity (two forms of concurrent validity). Convergent and discriminant validity are like two sides of the same coin, both obtained by correlating similar and dissimilar scales, respectively. In evaluating the validity of their personality scale, Eysenck and Eysenck (1964) correlated the total scores of the SCL-90-R subscales to get estimates of the subscales' convergent and discriminant (or divergent) validity. Subscales that correlated high and positively were said to have had adequate convergent validity while subscales with high negative correlations were considered to have good discriminant validity. The examples of previous studies that found good evidence of convergent validity for the SCL-90-R include Derogatis et al. (1976) and Dinning and Evans (1977). In particular, Derogatis et al. (1976) found that some scales of the SCL-90-R correlated significantly with similar scales on the Minnesota Multiphasic Personality Inventory (MMPI). Derogatis et al. (1976) interpreted those subscales that did not correlate high and positively with non-analogous scales as having good discriminant validity. Evidence for the convergent and discriminant validity of the SCL-90-R in the present study (based on the Brunei student teacher sample) is presented in Table 2. The table contains many low but significant positive correlations (indicating scale overlap according to the Brunei sample). This suggests that the subscales measure different aspects of the same construct (mental health) but the associations are not too high (e.g. 0.85 and above) as to make them redundant. Overall, the

evidence supported convergent validity rather than discriminant validity. Discriminant validity was, however, implicated between two scales, SOM and I-S (r (113) = .27 p <. 01) despite the low but significant correlation. It can, further, be noted from Table 2 that all the SCL-90-R subscales correlated negatively and insignificantly with the developmental psychology objective test.

Figure 2

Table 2: Convergent and discriminant validity of the SCL-90-R based on the Brunei student teacher sample*

	Scale	1	2	3	4	5	6	7	8	9	10
1.	SOM	-									
2.	O-C	.55	-								
3.	I-S	.27	.55	-							
4.	DEP	.46	.67	.58	-						
5.	ANX	.58	.65	.51	.69	-					
6.	HOS	.48	.57	.49	.65	.55	-				
7.	PHOB	.35	.53	.55	.45	.65	.65	-			
8.	PAR	.41	.54	.65	.39	.46	.55	.46	-		
9.	PSY	.49	.61	.57	.61	.63	.53	.51	.61	-	
10.	GSI	.56	.76	.65	.79	.79	.67	.63	.63	.67	-
11.	PST	.61	.68	.65	.69	.77	.64	.68	.57	.70	.84
12.	PSDI	.51	.70	.45	.64	.59	.62	.42	.58	.57	.68
13.	Test	-.03	-.16	-.15	-.11	-.09	-.02	-.13	-.00	-.11	-.09

* All the SCL-90-R inter-subscale correlations are significant (p <. 01, two-tailed)

The second instrument used in this study was an educational psychology objective test. The researcher-constructed multiple-choice objective psychology test used had 50 items drawn from the test bank of the textbook (Shaffer & Kipp, 2007) adopted for teaching the researcher's educational psychology course. Each of the items in the test had 4 alternative responses of which one was a correct answer. The test covered a number of theories in developmental psychology described in the course textbook (Shaffer & Kipp, 2007). The test was deemed (by two psychology lecturers in the Sultan Hassanal Bolkiah Institute of Education at the University of Brunei Darussalam) to have had good content validity because the items adequately covered the contents and skills taught in the course. The split half reliability coefficient for the test was .73. Both the psychometric and educational tests were administered to the sample by the researcher in the same usual lecture hall in which the participants received the educational psychology lectures. Thus the tests had good ecological validity.

PROCEDURE

Prior to administering the instruments, the researcher verbally explained to the participants the purpose of the study and the ethical conditions or requirements for being involved in the study. This discussion centered on issues of voluntary participation, privacy, anonymity, confidentiality, physical and psychological harm, debriefing and informed consent. No deception was used or involved in this study. Students were given ample time to reflect on and to withdraw from the study if they felt uncomfortable with the research's purpose and objectives. The participants voluntarily agreed to participate in the study. In addition, the participants also permitted the researcher to use the obtained data in other psychological investigations such as being included in various case studies. With regard to English language problems, the meanings of difficult English words, sentences and phrases were verbally explained to the participants. Furthermore, students at the participants' university take most courses in English language and have participated in many research studies that required them to complete self-report scales / questionnaires in English. The researcher therefore deemed it not necessary to translate the instruments into Bahasa Melayu (Brunei's mother and official language). The study met the ethical requirements for using human participants in research stipulated by the University of Brunei Darussalam, the Government of Brunei, and the Helsinki Declaration of 1975 as revised in 2000 and 2005.

DATA ANALYSIS

The SCL-90-R was scored according to instructions in the technical manual. Data from the psychological and educational tests were analyzed by both descriptive (nonparametric) and inferential statistics. Nonparametric statistics included the frequencies, percentages, mean, standard error, and standard deviation. The parametric statistics included the t-tests for independent groups, product-moment correlations, and multiple regression analyses. All data analyses were performed on SPSS Version 17.0 (see Kirkpatrick & Feeney, 2011 for explanations of this version).

RESULTS

The findings of the study are presented below according to the objectives of the investigation outlined above.

SCL-90-R PROFILE OF ALL THE BRUNEI STUDENT TEACHER PARTICIPANTS (BOTH GENDERS)

The SCL-90-R profile for the entire Brunei sample is presented in Table 3. Only two scales (SOM and PHOB) had slightly higher SEm and SD values. Despite this, the two scales had reasonably good reliability and validity as shown in Tables 1 and 2 above. The distribution of scores for all the nine primary factors of psychological distress were negatively or left skewed.

Figure 3

Table 3: SCL-90-R profile for whole Brunei sample

Scale	Mean	SEmean	SD[a]	Skewness
SOM	61.692	1.044	11.300	-1.211
O-C	69.273	0.622	6.738	-0.273
I-S	65.598	0.715	7.739	-0.279
DEP	63.478	0.707	7.653	-0.532
ANX	64.359	0.836	9.052	-0.281
HOS	62.273	0.789	8.534	-0.138
PHOB	59.538	1.028	11.119	-0.043
PAR	64.803	0.750	8.112	-0.204
PSY	67.880	0.843	9.127	-0.518
GSI	67.658	0.700	7.576	0.089
PST	67.239	0.617	6.683	0.041
PSDI	60.017	0.868	9.398	0.042

[a] SD = Standard deviation

SCL-90-R PROFILE OF ALL THE BRUNEI STUDENT TEACHER PARTICIPANTS BY GENDER

The performance by gender of the Brunei participants on the SCL-90-R is presented in Table 4. In general, males scored higher on all the subscales than their female counterparts. However, significant differences were only obtained on 6 of the 9 primary scales and on 2 of the 3 summary indices. In addition the male mean scores on two primary scales (O-C and PSY) and one summary index (GSI) were in the clinical range (T ≥ 70). It was not clear from the present study if students with SCL-90-R scores in the critical range were in counseling.

Figure 4

Table 4: SCL-90-R profile of the Brunei sample by gender

Scale	Females (n=82)		Males (n=31)		T (df=111)
	M[a]	SD[b]	M	SD	2-tailed
SOM	60.755	11.000	64.29	11.891	-1.501
O-C	68.139	6.295	72.419	7.027	-3.146**
I-S	64.139	7.287	68.354	8.392	-2.368*
DEP	61.500	6.780	68.967	7.341	-5.143**
ANX	62.837	8.532	68.580	9.251	-3.142**
HOS	61.186	8.107	65.290	9.089	-2.339*
PHOB	57.895	10.901	64.096	10.590	-2.736**
PAR	64.953	7.940	65.587	8.682	-0.466
PSY	66.953	9.349	70.451	8.073	-1.848
GSI	66.197	6.773	71.709	8.299	-3.653**
PST	66.267	6.443	69.935	6.697	-2.689*
PSDI	59.209	7.490	62.258	8.903	-1.558
Achievement test	60.593	12.481	61.354	13.727	-0.284

[a] M = Mean;
[b] SD = Standard deviation

*p < .05; **p < .01 (2-tailed)

PREDICTION OF GLOBAL PSYCHOLOGICAL DISTRESS AND ACADEMIC ACHIEVEMENT USING SCL-90-R FACTORS AND SUMMARY INDICES

There are two outputs of multiple regression models presented in Table 5. The first model (left hand side) shows the amount of variance contributed individually by the nine SCL-90-R primary factors in predicting the global severity index (GSI). This model is significant as indicated in the table. Three factors (DEP, ANX, and PAR) contribute strongest or the most (p < .01) to predicting GSI followed by O-C (p < .05) (see Table 5). The second model in the same table (right hand side) shows the amount of variance contributed individually by the nine SCL-90-R primary factors and three summary indices in predicting academic achievement. This model is insignificant as indicated in the table. From the table, it can be observed that all the nine primary factors and three summary indices contribute negatively and insignificantly to academic achievement or success. This finding implies that the SCL-90-R primary factors and summary indices are all predictors of failure. They are harmful and disturbing impediments to success.

Figure 5

Table 5: Regression analyses of SCL-90-R scales and summary indices on GSI and achievement test

Scale	Global Severity Index (GSI)			Achievement test		
	Beta	SError	t	Beta	SError	t
SOM	0.033	0.035	0.632	0.032	0.156	0.232
O-C	0.157	0.071	2.484*	-2.040	0.314	-1.229
I-S	0.042	0.061	0.676	-0.199	0.255	-1.229
DEP	0.311	0.069	4.448**	0.021	0.316	0.111
ANX	0.251	0.059	3.565**	0.038	0.256	0.208
HOS	0.085	0.050	1.514	0.111	0.220	0.754
PHOB	0.098	0.039	1.730	-0.058	0.169	-0.392
PAR	0.189	0.057	3.117**	0.229	0.254	1.419
PSY	-0.023	0.050	-0.382	-0.080	0.212	-0.527
GSI	-	-	-	0.051	0.430	0.198
PST	-	-	-	-0.024	0.542	-0.085
PSDI	-	-	-	-0.053	0.278	-0.261
Model	F (9,107) =59.153, p <. 01			F (12,104) = 0.667, p >. 05		
R	0.912			0.267		
R squared	0.833			0.071		

* p < .05; ** p < .01 (both 2-tailed)

DISCUSSION

The findings of the present study are discussed below under separate subheadings addressing the five objectives of the research.

RELIABILITY AND VALIDITY OF THE SCL-90-R IN A BRUNEI SAMPLE

According to the results reported in Table 1 and Table 2, the SCL-90-R is a suitable instrument for use (in research and counseling) with Brunei student teachers although no confirmatory factor analysis (CFA) was performed. This finding addressed the first objective of the present study. Specifically, it may be used as a screening device to identify trainee teachers' potential psychological problems and as a pre-post measure of outcomes following a counseling or psychotherapy intervention (both at individual and group levels). However, the extent to which the SCL-90-R is suitable for use with other categories of university students in Brunei is still unknown and remains to be established through research. The SCL-90-R has been used elsewhere before as a screening and outcome measure with other non student populations (see Derogatis, 2000; de Jonghe et al., 2001; & Osterberg et al., 2002).

PARTICIPANTS' OVERALL PSYCHOLOGICAL WELLBEING AND MENTAL HEALTH

As required by the second objective of the present study, the overall mental health profile of the Brunei sample is presented in Table 3. On average, the results in Table 3 indicated that the Brunei student teachers were in good mental health and therefore suitable for the teaching career. All the participants' subscale mean scores were below the cut-off point and criterion (T ≥ 70) for the critical and clinical zone. More importantly at the group level, Brunei trainee teachers' mean scores were below the criterion on four SCL-90-R dimensions (I-S, HOS, PAR, and PSY) which contain personality traits that predict criminality (see Hare & Jutai, 1983; Hare & McPherson, 1984; Hare, 1986; Hare, 1990; Loucks & Zamble, 1994; and Blair et al. 1997). Lack of significant psychological distress suggests that the participants may be able to complete teacher training successfully and might also perform the teaching job satisfactorily without adverse interference from poor mental health. Screening student teachers for mental health problems in this way could help identify trainee teachers in need of early professional help before the condition gets out of hand. A recent previous study showed that a student teacher in Brunei with significant mental health problems was unable to complete her teacher training program (Mundia, 2010a). In addition, occupational psychologists believe that psychological tests that are properly and adequately validated against training requirements and work specifications would have the power to predict job performance (Ones, Viswesvaran, & Schmidt, 1993; Mount, Barrick, & Stewart, 1998). Moreover, teachers who lack psychological wellbeing cannot be expected to foster the development of good mental health in school children.

GENDER DIFFERENCES IN BRUNEI STUDENT TEACHERS' SCL-90-R SCORES

Table 4 shows the six primary factors and two global indices that counseling and psychotherapy interventions for male Brunei student teachers might emphasize. In terms of the third objective of the present study, these are the variables on which Brunei males scored significantly higher than their female counterparts. In the absence of observational and interview data, it was however not clear from the present study why males scored significantly higher than females on the six primary factors (O-C, I-S, DEP, ANX, HOS, and PHOB) and two global indices (GSI and PST). In addition, males' mean scores on two primary subscales (O-C and PSY) reached the criterion level (T ≥ 70). As discussed above, psychoticism is highly related to psychopathy, a major predictor of criminality (see Eysenck, 1977, Hare & Jutai, 1983; Hare & McPherson, 1984; Hare, 1986; Hare, 1990; Loucks & Zamble, 1994; and Blair et al. 1997). As

noted above, Anxiety (ANX) and phobia (PHOB) had a damaging effect on the dropout trainee teacher described by Mundia (2010a). This student teacher was disabled from doing her peer teaching and teaching practice by high social anxiety and social phobia. Again, in the absence of interviews to probe performance on the questionnaire, it was not clear if the males who were functioning in the critical/clinical zone on these two factors (O-C and PSY) were in counseling. Further in-depth investigation of the participants' gender differences on performance on the SCL-90-R was beyond the objectives and scope of the present inquiry. However, in another recent study, Mundia (2010b) found no significant difference between female and male Brunei trainee teachers in depression and anxiety. In view of these conflicting or contradictory findings, three decisions may be made. First, the findings of the present study might be regarded as tentative rather than confirmatory. Second, there is need to replicate the assessment using qualitative strategies (observations and interviews) to confirm the results from SCL-90-R before any interventions are implemented on male student teachers. Third, repeating the measures and confirming the results are needed to rule out the possibility of making Type I and Type II errors. A Type I error (false-negative error) is committed when a psychologist or counselor says "you are healthy, when you are actually ill". On the other hand, a Type II error (false-positive error) occurs when a psychologist says "you are ill, when in fact you are not". Of these two errors, Type I error is the most serious and should be avoided at all costs by ensuring that the assessments and interpretations of the test results are done accurately.

EFFECT OF SCL-90-R FACTORS ON PSYCHOLOGICAL DISTRESS AND ACADEMIC PERFORMANCE

There is evidence in Table 5 that four of the nine primary factors (O-C, DEP, ANX, and PAR) contributed greatly and significantly to overall psychological distress (GSI). To address the fourth objective of the present study, these potentially harmful factors should be given priority and emphasis in university-wide mental health education campaigns and pastoral care programs as well as in individual and group counseling or psychotherapy settings. Possessing excessive amounts of traits such as O-C, DEP, and ANX may make it extremely difficult for a teacher or student to function effectively. As a behavior disorder, paranoid ideation (PAR) also incorporates personality elements (e.g. interpersonal hostility, bullying, aggression,

power orientation, and super-optimism) which are predictive of criminal behavior (Walters, 2005; Farrington & Ttofi, 2011). Overall, the nine SCL-90-R primary factors are also reported as correlating negatively with academic achievement in Table 2 (suggesting that they were all poor predictors of success). Additional evidence (from multiple regression analysis) in Table 5 confirmed that the nine primary factors and three summary indices were all truly predictors of failure. Although the statistical significance level of the model for prediction of overall psychological distress was strong and good (p < .01), the model explained only 8.3 % of the variance in global distress but this still confirms these factors as harmful and disturbing impediments to good mental health. This finding also has practical significance and implications for future research and guidance and counseling in teacher education contexts. According to the present study, the worst contributors (with negative Beta values) to academic failure were O-C, I-S, PHOB, and PSY (primary factors), as well as PST and PSDI (global indices). Severe O-C may be disruptive to the academic work of a student or teacher. High scores on I-S variable (extroversion) may imply both interruptive/disruptive and impulsive behavior while low scores (introversion) might prevent learning from others due to social anxiety and phobia. In addition to being linked to disruptive and impulsive behaviors, high extroversion has also connections with automatic thoughts, all of which inhibit concentration and deep thinking. Due mainly to lack of social skills and social phobia, a highly introverted student (low on I-S) might be disinterested to learn much from a curriculum that requires students to work interactively (e.g. through group/team work, cooperative/collaborative learning, public speaking, peer teaching, and leadership). A highly anxious or neurotic student is often easily disturbed or perturbed by small problems in life and may spend much of his/her time worrying chronically and excessively. As indicated above, psychoticism is (via psychopathy, its correlate) implicated as a predictor of crime (see Eysenck, 1977, Hare & Jutai, 1983; Hare & McPherson, 1984; Hare, 1986; Hare, 1990; Loucks & Zamble, 1994; and Blair et al. 1997). More importantly in the education context, a psychotic student might (because of too much confusion in the head /mind or brain) not see anything wrong with absenteeism or fail to understand the academic consequences of indulging in anti-school behaviors such as truancy (missing school for no good reasons) and may also even engage in anti-social behaviors such as aggression and violence. These variables' negative

regression coefficients with the achievement test represent negative effects on success. The factors need to be watched carefully by student teachers, psychologists, counselors and teacher educators during teacher training.

IMPLICATIONS OF THE FINDINGS ON THE SELECTION AND COUNSELING OF TRAINEE TEACHERS AND TEACHER EDUCATION

Although the SCL-90-R may not be needed when selecting student teachers, the results of the present study might have a few local and international implications on the use of psychological tests in recruiting trainee teachers. For example, if a psychometric personality test is used as one of the instruments when selecting Brunei trainee teachers, the criterion-related validity of the personality test (e.g. convergent/concurrent or divergent/discriminant) may be obtained by correlating the personality test with the entire SCL-90-R battery (or with relevant subscales in the SCL-90-R). According to findings from the present study, the SCL-90-R is suitable for use with student teachers in Brunei. The SCL-90-R has not yet been used in this way with Brunei student teacher populations prior to the present study. Besides applications in validation studies, the SCL-90-R might also be used as a screening device to detect mental health problems in student teacher populations and as an outcome pre-post measure in counseling or psychotherapy interventions (for more discussion on this see Derogatis, 2000; de Jonghe et al., 2001; & Osterberg et al., 2002). In so doing, trainee teachers who present mental health problems might be identified early and offered appropriate intervention and support. Previous research by Mundia (2010c) suggested that Brunei trainee teachers need assistance in developing effective coping strategies for stressful situations. Moreover, the curriculum for teacher education needs to be reformed to include mental health education to sensitize trainee teachers about the possible negative effects of poor mental health to themselves and the students they will teach. In this way, trained teachers might be able to help vulnerable children at risk of developing mental health problems at school. Such efforts would contribute to primary prevention of mental disorders in and the promotion of good mental health among teachers and students within schools. These wide implications and assertions therefor partly address the fifth objective of the present study.

IMPLICATIONS FOR FURTHER PSYCHO-

EDUCATION RESEARCH

Further, consistent in part with the fifth objective, future research based on the outcomes of the present student teachers' SCL-90-R scores should incorporate a structured interview component to probe and clarify the participants' responses on controversial or contentious variables such as O-C and I-S, both of which may lead to undesirable behaviors including crime. For example, a trainee teacher who is highly obsessed with and addicted to sex may eventually commit sexual crimes against school children if hired as a teacher. On the other hand, a potential teacher candidate with an insensitive or confrontational interpersonal interaction style might eventually engage in acts of violence (e.g. fighting and aggression) at school, if hired as a teacher. However, high and low scores on these factors (O-C and I-S) might be both desirable or undesirable and hence interpreted differently depending on the type of the study or problem investigated. For example, a good teacher may tend to be obsessive and compulsive with her/his work in an attempt to perfect it. However, O-C as demonstrated or observed in attention deficit hyper active disorder (ADHD), might be extremely detrimental to a student teacher's academic work. In the same way, high and low I-S scores may be interpreted variously depending on whether they are desirable or undesirable in the context or profession in which they are used. For instance, teaching is typically a social job that requires good interpersonal interaction. Some students prefer teachers that are cognitive-oriented while others prefer instructors that are affective-oriented. Teachers that are both cognitive and affective oriented might be preferable to most students. In view of these possible discrepant and conflicting interpretations, not all trainee teachers who score high or low on the O-C and I-S subscales are at risk of developing psychological distress. However, extreme deficiencies or excesses in I-S attribute might have adverse impact on a student teacher's training program and subsequent teaching career. High scores on I-S are indicative of extraversion which in turn is linked to impulsivity. As pointed out above, high scores on I-S are indicative of extraversion which in turn is linked to impulsivity. On the other hand, low scores on I-S may be associated with introversion which is implicated in undesirable conditions such as neuroticism.

CONCLUSION

The present study profiled the Brunei student teachers according to the SCL-90-R for evidence of mental health. This is the first study to generate SCL-90-R norms on trainee teachers in Brunei Darussalam. Overall, the sample

was found to be in good mental health in terms of the scale mean scores that were lower than the criterion (T ≥ 70). However, Brunei males scored significantly higher than the females on seven primary factors (O-C, I-S, DEP, ANX, HOS, and PHOB) and two summary or global indices (GSI and PST). As explained above under discussion, high scores on these variables may lead to poor mental health. The mean scores for males on O-C and I-S exceeded the criterion (T ≥ 70). This is worrying in teaching for two reasons. First, obsessions and addictions with sex and drugs in teachers are not acceptable behaviors in the profession and might eventually lead to committing of sexual and drug crimes. Second, psychoticism has connections with psychopathy and both of these variables are predictors of criminality. In the present study, all the nine SCL-90-R primary factors contributed positively to global distress and had negative effect(s) on academic achievement. Further mixed methods research is recommended to confirm these findings.

LIMITATIONS

The present study was informed by two main limitations. First, since the testing using the SCL-90-R was neither repeated nor triangulated, the obtained scores and findings may be regarded as exploratory rather than confirmatory. In view of this, the study needs to be replicated and supplemented with interviews to complement and verify data obtained from the SCL-90-R survey instrument. Second, the criterion-related concurrent validity of the SCL-90-R was only obtained by inter-correlating the instrument's subscales. While the obtained coefficients provided useful indications of validity, the scale's convergent and divergent validity were preferably supposed to have been obtained by correlating the SCL-90-R subscales with their counterparts in the Minnesota Multiphasic Personality Inventory-Revised (Hathaway & Mckinely, 1989) as was done by Derogatis et al. (1976). Alternatively, the SCL-90-R subscales could have been correlated with subscales in the Psychological Inventory of Criminal Thinking Styles, PICTS (Walters, 2005) to compare and differentiate poor mental health with dysfunctional criminal lifestyle. Computation of the construct validity by exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were beyond the scope and objectives of the present study.

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