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Psychometric properties of Maslach Burnout Inventory-General survey (MBI-GS) in an uncertain Economy

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Abstract

We tested the Maslach burnout inventory- general survey (MBI-GS) in an uncertain economy. Theoretically, MBI consists of three sub-scales: emotional exhaustion, cynicism and personal efficacy. We further test for the relationship between the three subscales as indicated by the literature. We used confirmatory factor loading (CFA) to validate the instrument and structural equation modeling (SEM) to test the relationship of variables. The data was collected from two hundred and sixty-three employees in Pakistan. The results confirmed that MBI-GS is a three- factor construct. MBI-GS is valid and reliable scale. The results also confirmed the relationship within the subscales (positive relationship of exhaustion and cynicism and negative relationship of cynicism and personal efficacy) in the developing country.

Keywords: Maslach burnout inventory-general survey (MBI-GS), confirmatory factor analysis (CFA), validity, reliability, structural equation modeling (SEM), developing country.

Introduction

Occupational stress experienced by employees in organizations has been studied from different angles. Research findings have shown that it plays a major role in affecting job satisfaction, organizational commitment and absenteeism. Burnout is a type of stress response, which has been named as the new organizational killer. Burned out employees are more likely to lose their motivation and willingness to perform work in an effective manner. Work that was once meaningful for employees and important part of their lives becomes uninteresting and dull for those employees who experience burnout.

Burnout is a social problem that had been conceptualized as having three interrelated components: The employee begins to lose energy and becomes emotionally exhausted (stage 1), this stage is closely followed by cynicism (stage 2) in which employee develops negative attitudes toward other employees and eventually leading to diminished sense of personal accomplishments (stage 3) called the lack of personal efficacy. A measurement instrument called Maslach Burnout Inventory (MBI) was developed by Schaufeli, Leiter, Maslach and Jackson in 1996, which has been used in multiple studies to measure employee burnout. Even though many instruments have been created to measure burnout, MBI is the most popular scale due to its established validity and reliability across nations and professions[1].

After burnout was theoretically constructed in 1996, it was widely researched empirically. Evidence of employee burnout has been found in countries like USA, Spain, UK, Canada, Finland, Turkey, Netherlands, India, Germany and Australia, etc. Some researchers have suggested that factors causing burnout differ across cultures. Initially, burnout related research was largely focused on personal contact or "helping" professions such as nurses, teachers, doctors and police officers. Later, burnout was also found in non-service occupations including chief executive officers, managers working in different positions, departments and industries; librarians, sports professionals, journalists, therapists, small business owners, secretaries, dentists etc were also studied by various researchers in this context.

In Pakistan research on burnout has become a topic of interest since 2008 and with time this interest has increased due to the intensity of the issue[2]. However, burnout has been studied mainly in relation to demographics, job satisfaction, commitment and turnover intention. Some studies have focused on causes of burnout such as role conflict, ambiguity, conflict, and resource inadequacy[3]. Yusoff and Khan have reviewed stress and burnout in higher education in Pakistan[4]. In a couple of research studies burnout has been studied as a three-dimensional variable while all other research studies have examined burnout as one-dimensional concept. Banking sector employees were used as sample in most studies while some research studies have used employees working in telecommunication, multinationals and hospitals as a sample. Nevertheless, no study had attempted to analyze the psychometric properties of MBI-GS before its implementation.

The objective of this study is three folds: to measure the psychometric properties of MBI-GS in Pakistan, to test for reliability and validity of MBI-GS and lastly to test the interrelationship between the three MBI-GS subscales namely

emotional exhaustion, cynicism and personal efficacy.

Literature Review: Maslach Burnout Inventory (MBI) is the earliest questionnaire developed to measure burnout and has become a 'gold standard' as it has been used in more than 93% of the in research studies pertaining to burnout[5]. Maslach Burnout Inventory (MBI) has become a standard to measure job burnout[6]. An estimated 6,000 books, dissertation and journals have been written while using MBI as questionnaire to measure burnout on its three dimensions[7].

The MBI authors defined burnout as a three dimensional variable namely emotional exhaustion, depersonalization and lack of personal accomplishment. The MBI was limited to the human service professions and is used in the occupational context only[8]. Traditionally, MBI had twenty-five items which were divided into four subscales; emotional exhaustion (9 items), depersonalization (5 items), personal accomplishments (8 items) and involvement (3 items)[9]. Later the involvement sub scale was excluded in 1986.

Three Dimensions of Burnout: Emotional exhaustion refers to employees feeling overextended in an attempt to deal with work pressures; depersonalization refers to employees who show impersonal responses toward the co-workers in order to deal with exhaustion; and lack of personal accomplishment refers to employees who feel they have little or no feelings about accomplishments in their job. Organizational employees suffering from burnout may feel one dimension of burnout or a combination of two or all of the three dimensions. Fatigue, loss of concern for people, depression, dissatisfaction with self-fulfillment and negative attitudes toward work are some of the indicators of presence of burnout in an individual[6,10]. According to the authors, professionals suffering from burnout display symptoms related to the three sub-scales of the burnout instrument, the MBI.

For the MBI-SS (Service Sector) questionnaire and the MBI-ES (Education Sector) questionnaire, the three dimensions were mildly altered. However, the MBI-GS (General Survey) was constructed on the ideology of MBI that is it had three levels but those subscales were modified according to the factors that cause burnout in the non-service professions.

Assessment of MBI: Later, several version of MBI were developed, the MBI-HSS (Human Services Survey), was developed to measure burnout in employees working in the services professions, the MBI-ES (Educators Survey) was developed as a questionnaire that measures burnout in education professionals. MBI-GS (General Survey) is a questionnaire that is used to measure burnout among employees working in professions other than services. The MBI-HSS and MBI-ES are for employees interacting with clients, patients, students etc. The MBI-GS was extensively modified form the original version of MBI. In MBI-GS, the sub scales were adapted from depersonalization to cynicism and personal accomplishment to personal efficacy.

MBI-GS focused on employee's relationship to the work environment while MBI-HSS and MBI-ES identified employee's relationship to the clients, students or patients. The MBI-HHS and MBI-ES questionnaire contains twenty-two items divided into nine items related to emotional exhaustion, five items related to depersonalization and eight items related to personal accomplishment. There are sixteen items in MBI-GS divided into five items related to exhaustion, five items related to cynicism and six items related to personal efficacy.

Research in Pakistan: Most research studies that have been carried out in Pakistan have analyzed burnout as a single dimensional variable. It is noteworthy that the psychometric properties of MBI-GS have not been tested in Pakistan. The causal relationship of workplace stressors to burnout and the effect of burnout in the form of low satisfaction, low organizational commitment and high turnover intention have been studied in many countries (Spain, Germany, Finland, USA, Italy etc). It was important to study the same in Pakistani culture, as several comparative research studies have shown that burnout differs across cultures, nations and languages[12,13]. These studies also reported relationship of socio-demographics with burnout that differed across cultures.

Some studies in Pakistan have reported causes of burnout that can be listed under workload and control; only two studies have used burnout as three-dimensional concept[13,14]. The existing research in Pakistan does not provide insight about the three dimensions of burnout in relation to its causes and consequences. Table-1 provides literature on burnout in Pakistan.

Development of the hypotheses: Three-factor construct: Several studies have shown the confirmatory factor analysis of MBI. Schutte et al., Shuafeli, Salanova, Gonzalez-Roma and Bakker explored the three-factor analysis and found the three-factor model to be better than the one-factor model as well as two-factor model[12,15]. In 1996, Lieter and Schaufeli confirmed the three-factor construct along with Taris et al[16,17]. Rothmann et al. and Jansen van Vuuren showed that item 13 to show low loading[18,19]. This item belonged to cynicism. Storm and Rothmann used SEM to measure the factor analysis[20]. They tested the one factor model and found it to be poor than the three-factor model.

Validity and Reliability of MBI-GS: Lieter and Schuafeli have researched satisfactory internal consistencies[16]. Cynicism had internal consistency of 0.73 while exhaustion had 0.91. Exhaustion and personal efficacy showed reliability and validity but for cynicism one item was removed to research the acceptable level[12]. Validity of MBI-GS was also found to acceptable in several researches. Campbell and Rothmann tested the usability of MBI-GS in Africa and found good validity and reliability of the MBI-GS[21]. They found results to consistent

with Storm and Rothmann, Schaufeli et al, Taris et al., Lieter and Schaufeli and Schutte et al[12,16-18,20].

Relationships between the three subscales of MBI-GS: The literature has suggested that the three sub-scales of MBI-GS have interrelation. Lieter and Shaufeli found exhaustion to be positively related to cynicism while cynicism was negatively related to personal efficacy[16]. Schaufeli et al. found exhaustion and cynicism has strong relationship while cynicism and personal efficacy also had strong but negative relation[1]. Masalch et al. has explored the relationship between the three dimensions[22]. In some cases the relationship of cynicism with personal efficacy was found to be weaker than the relationship of cynicism with exhaustion.

Hence, from the above discussion, we developed the following hypothesis:

H_1: MBI-GS measuring burnout is a three-factor construct. H_2: MBI-GS is a valid and reliable construct H_3: There is a relationship between the three sub-scales of MBI-GS namely emotional exhaustion, cynicism and personal efficacy.

Table-1
Findings of Research on Burnout in Pakistan

Burnout	**Variables Studied**	**Results**	**Sample size**	**Sector/ City**	**Authors**
1-Dimension (Job Burnout)	Job stress, **work overload, ambiguity, conflict, resource inadequacy**, type A behavior and **turnover motivation**	**Work overload, ambiguity, conflict, resource inadequacy, turnover motivation were significantly related to burnout**	325	American based multinational/ Pakistan	Jamal (2008)
	Worklife balance, worklife conflict, **job satisfaction and turnover intention**	**Job Satisfaction was negatively related to burnout components**	175	Service sector (Hospitals)/ Peshawar, Lahore, Rawalpindi, Islamabad	Malik et al. (2011)
Physical, psychological and organizational burnout	Organization, job, relationship, physical environment and family stressors	**Organization, job and relationship were related to burnout**	237	Banking sector/ Pakistan	Khattak et al (2011)
2-Dimensions (emotional exhaustion and reduced personal efficacy)	Job induced tension, **workload and job satisfaction, demographics**	**Workload and job satisfaction were significantly related to burnout; no difference was found between younger and older group**	98	Mobilink Customer sales representatives / Karachi	Jalees (2008)
3-Dimensions	Demographics (**age, gender, marital status, qualification, work experience**, salary and working hours)	**Males scored higher on depersonalization, lack of personal efficacy and overall burnout, and qualification was positive with lack of personal efficacy.**	406	Banking Sector/ Lahore	Haque et al (2011)
	Turnover Intention and non-work satisfaction	**Turnover Intention was positively related to three burnout dimensions**	306	Office employees/ Pakistan	Jamal (2010)
	Model of Mediation Causes: Areas of Worklife **Consequences:** Job Satisfaction, Commitment and Turnover	**Burnout did not mediated the relationship of causes and consequences of burnout but significant relationship was found with burnout**	263	Office employees/PAkistan	Khan and Zafar (2013)

Bold in the second column highlight the variables used in this research, Bold in the third column are variables that were found positively related with burnout.

Methodology

A cross-sectional research was designed for this research[23]. The data for this research was collected using questionnaires. The questionnaire was constructed using the MBI-GS by Maslach et al[22]. MBI-GS has 16 items and uses a 7-point likert scale ranging from 0 (never) to 6 (daily). This questionnaire had positive and negative worded statements, which are job-related feelings (e.g., "I feel burned out from my work," "I feel confident that I am effective at getting things done"). Table-2 shows the number of items for MBI-GS.

Table-2
Three Components of Burnout

Burnout	Question	Variable Code
Emotional Exhaustion	5 Questions	EE
Cynicism	5 Questions	CY
Personal Efficacy	6 Questions	PE

We collected the data from employees to check for job burnout. Thirty employees were asked to fill the questionnaires as a part of the pilot study. They were asked questions about ambiguity and confusion regarding the questionnaire. One the questionnaire was approved we contacted the HR managers of several firms and requested help in the data collection. The employees were asked to fill the questionnaires and submit back to as soon as possible.

Three hundred and fifty questionnaires were given out, out of which two hundred and sixty-three questionnaires were found completed and usable. The data was entered into SPSS while AMOS was used for analysis. Out of 263 usable questionnaires 81.4% were males while 18.6% were females. The average age was between 30-40 years of respondents.

We tested for the non-response bias. The questionnaires were rotated in two waves. The early respondents were considered the respondent's opinion while the late respondents represented the non-respondent's opinion[24]. Chi-square tested revealed that no significant difference existed between the fist wave and the second indicating that the respondents were equally distributed between the samples. Table-3 shows the results of the non-response bias check.

Results and Discussion

This research investigated the usability of Maslach Burnout Inventory in the developing country with an uncertain economy. We first tested MBI-GS as a one-factor model (figure-1). However, the model fit revealed a poor model. As suggested by Kline, Hu and Bentler, we used a number of indexes since each index has their own strengths and weaknesses[25,26]. The normed Chi-square was 9.588 [27]. NFI, RFI, IFI, TLI and CFI were all below 0.9[28,29]. NFI was 0.625, RFI was 0.567, IFI was 0.650, TLI was 0.594 and CFI was 0.648. RMSEA was 0.181. However, an overall bad model fit was indicative of a poor model.

Table-3
Non- response bias (263 respondents)

	First Wave	Second Wave	Total	
Gender	139	124	263	$X^2 = 2.414$ df = 1 $p = .120$
Male	118	96	214	
Female	21	28	49	
Sector	139	124	263	$X^2 = .715$ df = 1 $p = .398$
Manufacturing	35	37	72	
Services	104	87	191	
Ethnicity	139	124	263	$X^2 = .081$ df = 1 $p = .776$
Punjabi	114	100	214	
Non-Punjabi	225	24	49	

MBI-GS has 16 items that were loaded on three different subscales; emotional exhaustion, cynicism, and personal efficacy. Figure-2 shows the factor loading of the three-factor scale. The factor loading should be greater than 0.4[30]. The higher loading is an indicator of the importance of the item in measuring the variable. For the initial construct we find that all loadings are between the acceptable ranges expect C3 from CY (cynicism) with the loading of 0.01.

We measured construct reliability, convergent and discriminant validity to answer the research question. Table-4 shows the construct reliability (CR), average variance extracted (AVE) and discriminant validity (DV) for the initial construct. CR is greater than 0.7, which shows the reliability of the construct[31, 32]. The AVE should be greater than 0.4[30]. We find that AVE for personal efficacy was lowers than 0.4 while it was acceptable for exhaustion and cynicism. The discriminant validity holds, as it was higher than the squared correlations[33].

We also investigated the unidimentionality and found normed Chi-square to be 3.28, NFI was 0.875, RFI was 0.852, IFI was 0.910, TLI was 0.892 and CFI was 0.909[30]. We found most of the indexes to be between 0.8-0.9. However, RMSEA is an important measure for analysis. RMSEA for the initial construct was 0.93, which is above the cut-off of 0.08. Therefore, the three-factor model is better than the one factor model but still needed improvement. We accept our fist hypothesis that MBI-GS is a three-factor model.

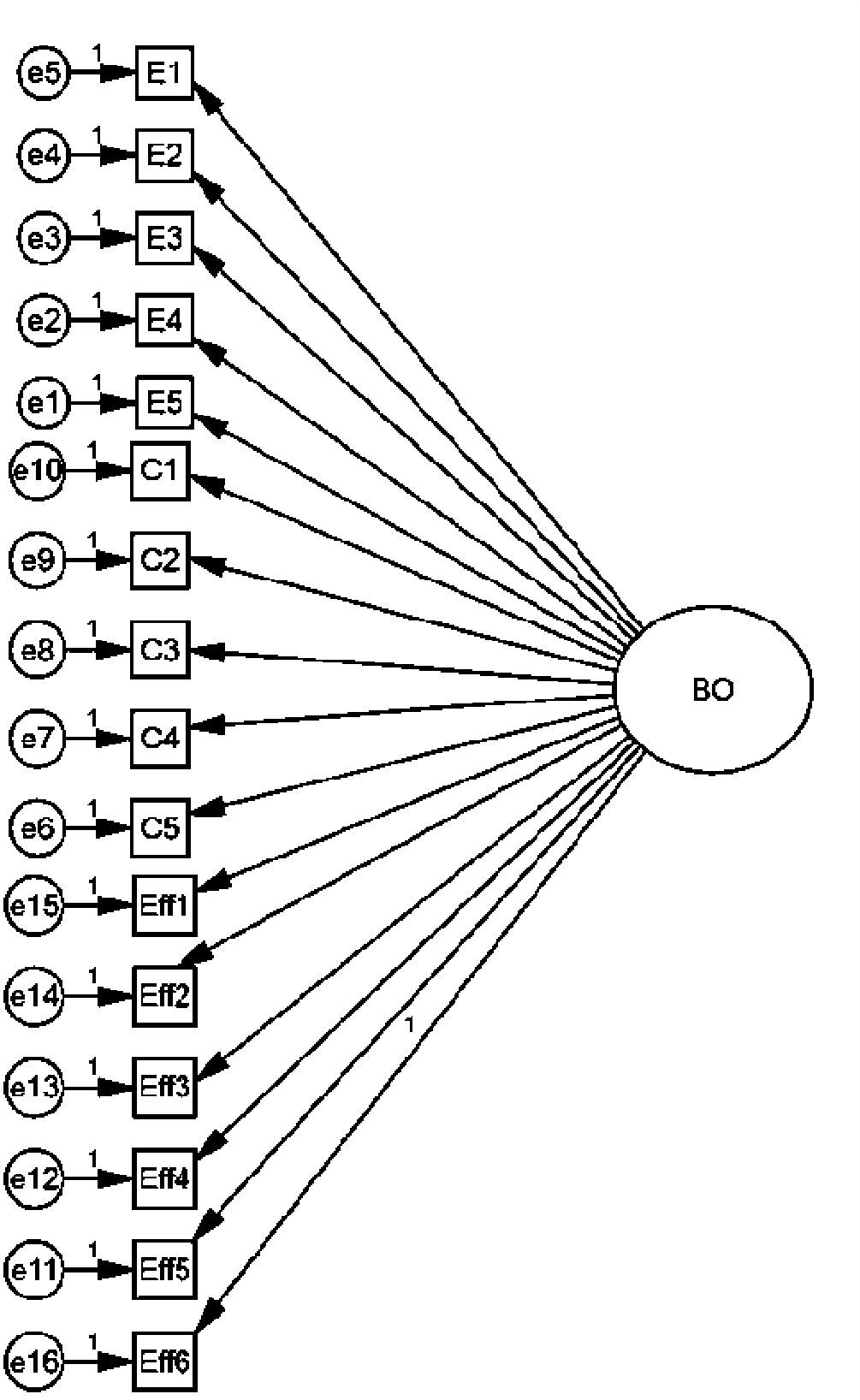

Figure-1
One- factor model of MBI-GS

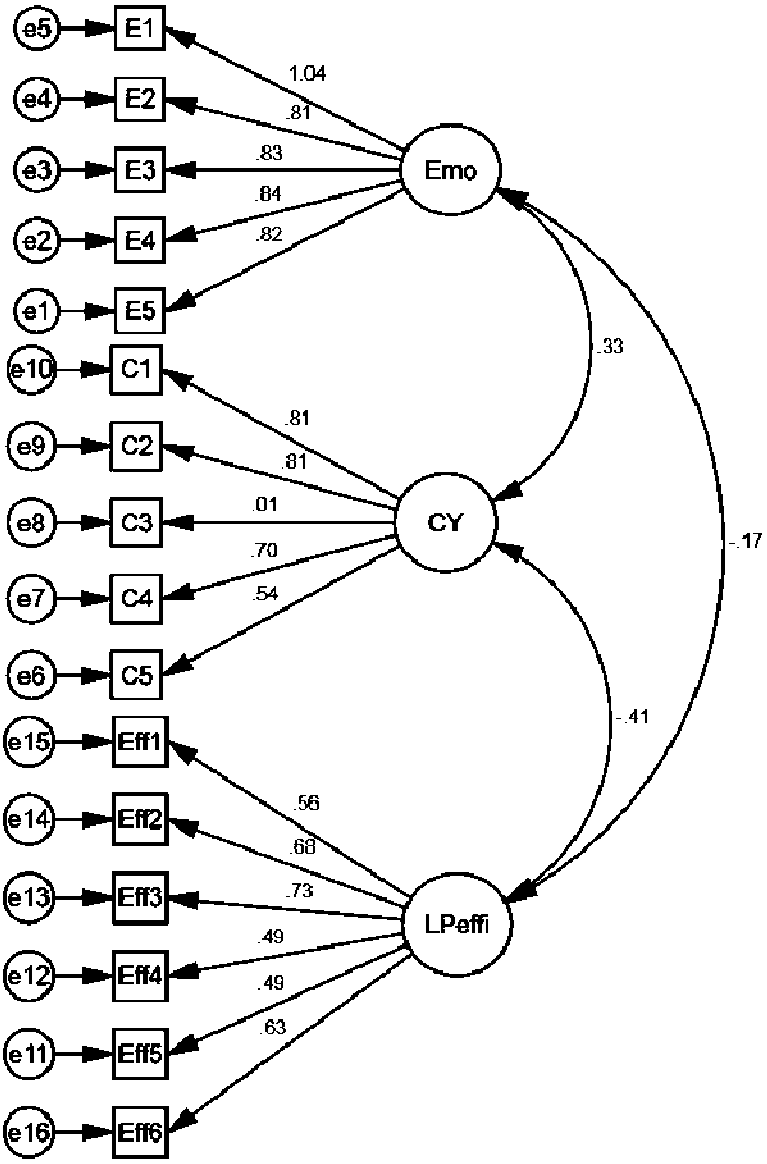

Figure-2
Three-factor model of MBI-GS (3 sub-scales)

Table-4
CR, AVE and DV for the initial construct

	CR	AVE	DV
Emotional Exhaustion	0.941	0.764	0.874
Cynicism	0.742	0.423	0.650
Personal Efficacy	0.770	0.364	0.603

After careful analysis and theoretically evaluation items we deleted one by one as suggested by Hair et al. We deleted item C3 as it was with the lowest loading. Eff5 and Eff4 from personal efficacy were deleted later to achieve an acceptable AVE. Figure-3 and table-5 explain the construct after deletion of three items. The factor loading of all items are above 0.4. The AVE for personal efficacy is now within the acceptable cut-off range. Table-6 shows the significance of each item in regards to the sub-scale. We find that all items were highly significant with $p<0.01$ indicating that all remaining items are important in

measuring the respective sub-scale of MBI-GS.

The model fit indexes for the second construct was better. The normed Chi-square was 3. NFI was 0.921, RFI was 0.901, IFI was 0.945, TLI was 0.931 and CFI was 0.945. We find that all indexes are now in the acceptable range that is greater than 0.9 including RMSEA[30]. RMSEA has also improved to 0.08, which is the acceptable level for RMSEA. Hence, we find that after the deletion of three items the factor loading, reliability and validity have improved for MBI-GS for use in the developing country. Hence, our third hypothesis was also accepted since this construct is reliable and valid.

The third research question was to test the pathways that existed between the three sub-scales of MBI-GS; emotional exhaustion, cynicism and personal efficacy. We analyzed the literature and found that as research by several authors emotional exhaustion is the first stage of burnout. Keeping this in mind, we developed relationship based on literature of emotional exhaustion with cynicism and personal efficacy (figure-4). Table-7 shows the regression estimate and p-value of the proposed model.

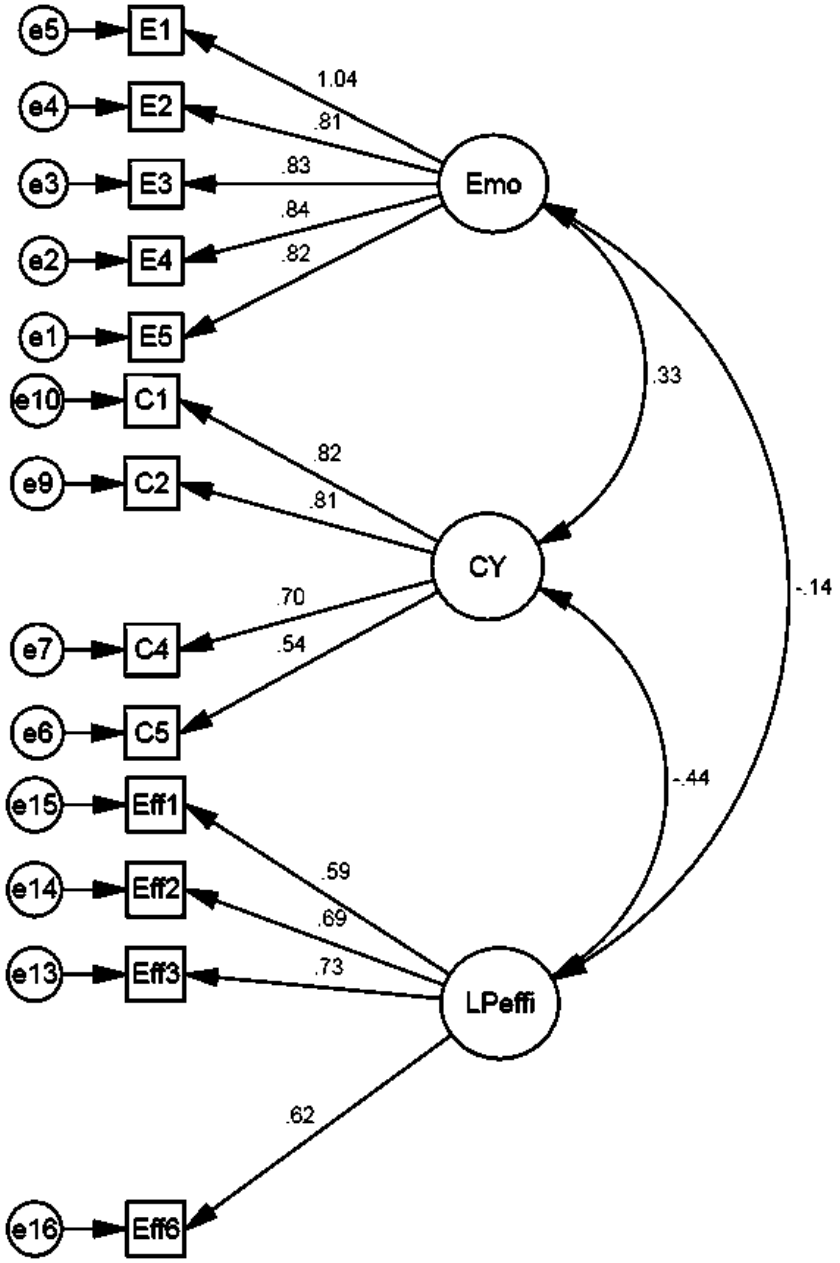

Figure-3
Factor loading of MBI after item deletion (13 items)

We find that the p-value is highly significant for emotional exhaustion with cynicism, and cynicism with personal efficacy but not for emotional exhaustion (insignificant with p-value=0.969).

Hence, this further confirms the relationship of the three sub-scales. Figure-5 shows the final model. Table-8 shows the significant relationship of emotional exhaustion with cynicism and cynicism with personal efficacy. The co-efficient is positive for emotional exhaustion with cynicism (.208), as higher exhaustion will cause higher cynicism while negative for cynicism and personal efficacy (-.424), as higher cynicism will decrease personal efficacy in an individual. We find that sub-scales of MBI-GS have relationship so we accept the third hypothesis.

Table-5
CR, AVE and DV of construct after item deletion

	CR	**AVE**	**DV**
Emotional Exhaustion	0.941	0.764	0.874
Cynicism	0.814	0.528	0.727
Personal Efficacy	0.754	0.435	0.660

Table-6
Significance of each item within the variable

			Estimate	**S.E.**	**C.R.**	**P**
Exhaustion6	<---	EE	1.000			
Exhaustion4	<---	EE	1.064	.058	18.224	.00
Exhaustion3	<---	EE	1.098	.061	17.896	.00
Exhaustion2	<---	EE	.975	.056	17.291	.00
Exhaustion1	<---	EE	1.111	.043	25.844	.00
Cynicism15	<---	CY	1.000			
Cynicism14	<---	CY	1.307	.167	7.823	.00
Cynicism9	<---	CY	1.519	.181	8.378	.00
Cynicism8	<---	CY	1.562	.186	8.393	.00
Efficacy10	<---	PE	1.117	.137	8.184	.00
Efficacy7	<---	PE	1.238	.156	7.956	.00
Efficacy5	<---	PE	.943	.130	7.224	.00
Efficacy16	<---	PE	1.000			

Table-7
Regression analysis of sub-scales of MBI-GS

			Estimate	**S.E.**	**C.R.**	**P**
CY	<---	EE	.208	.042	4.961	.00
PE	<---	CY	-.425	.093	-4.556	.00
PE	<---	EE	.001	.037	.039	.969

Table-8
Regression analysis for the Final model

			Estimate	**S.E.**	**C.R.**	**P**
CY	<---	EE	.208	.042	4.967	.00
PE	<---	CY	-.424	.090	-4.713	.00

The model fit indexes also indicate a good model as normed Chi-square was between 1-3. NFI, RFI, IFI, TLI and CFI were all greater than 0.90 (0.921, 0.902, 0.946, 0.932 and 0.945 respectively). RMSEA was also below 0.08 that is 0.79[30].

Discussion: The aim of this research was to test the applicability of MBI-GS in the developing country with an uncertain economy. We further tested the relationships that existed between the sub-scales namely emotional exhaustion, cynicism and personal efficacy. A small amount of literature on burnout in Pakistan is present and none has explores the usability of this construct. Through this research we have found that MBI-GS is reliable and valid scale for use. The three-factor model was confirmed by Schaufeli et al., Schutte et al., Taris et al. and Leiter and Schaufeli[1,17,22,34].

Analyzing items on conceptual and empirical understanding, item 11 ("I feel exhilarated when I accomplish something at work"), item 12 ("I have accomplished many worthwhile things in this job") and item 13 ("I just want to do my job and not be bothered") were deleted resulting in a 13-item scale. This result is consistent with Schutte et al[22].

After deletion of three items the MBI-GS was found to be usable in Pakistan. Using SEM we explore the relationship of the sub-scales and found the exhaustion had positive relation with cynicism while cynicism had negative relationship with personal efficacy[22].

With political instability and economic crisis we find that the stress level increases especially in a country like Pakistan. The use of MBI-GS will help us understand and explore this under researched topic in Pakistan. This research opens more doors toward the research in Pakistan.

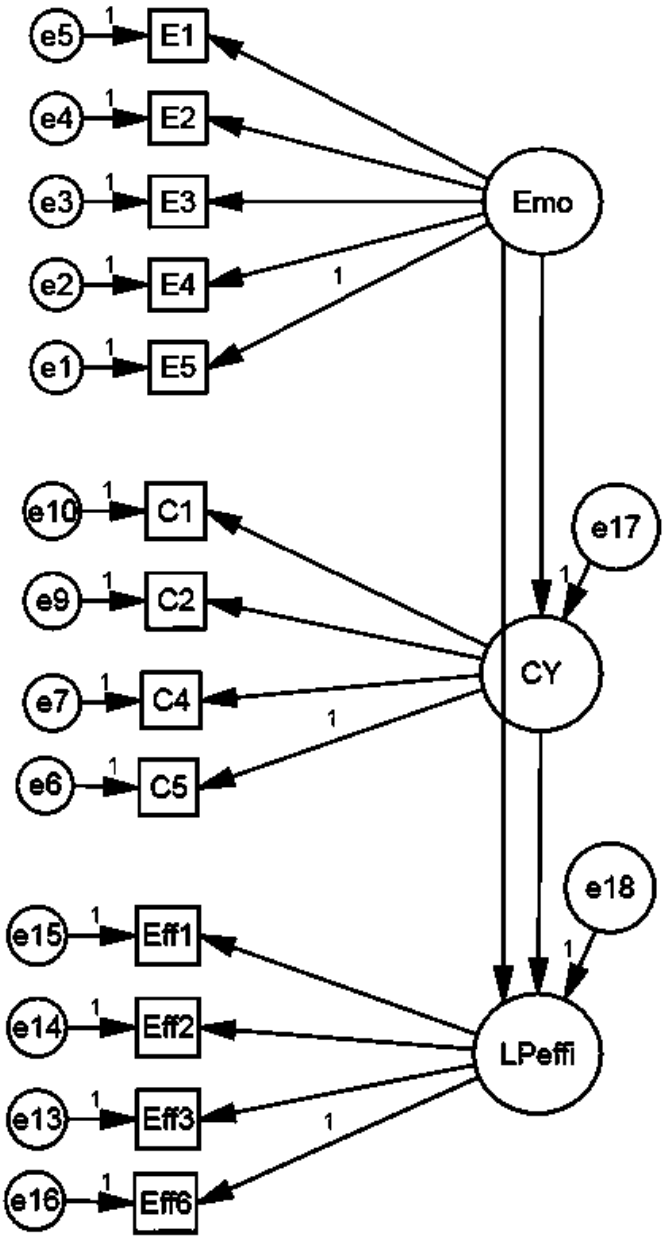

Figure-4
Relationship of sub-scales of MBI-GS

Conclusion

In conclusion the MBI-GS was confirmed to be a three-factor model. The reliability and validity of MBI-GS was found to be acceptable. The relationship between the three sub-scales was also confirmed. We find MBI-GS to be a suitable construct to measure burnout in Pakistan. MBI-GS opens more possibilities to explore and understand burnout.

Based on the analysis, it is recommended to use MBI-GS in Pakistan. However, item 11, 12 and 13 should be deleted when using this questionnaire. Further research in exploring burnout in different industries, occupations, and departments is required. Although this research confirmed the three- factor model, converting MBI-GS English version to Urdu so the non-English speaking sample can be explored and the construct should then be tested for the psychometric properties including validity and reliability of MBI-GS research. Further research gap exists in exploring the ethnic groups in Pakistan such as Pashto, Punjabi, Sindhi, etc. It would be interest to assess the psychometric analysis of MBI-GS in theses languages.

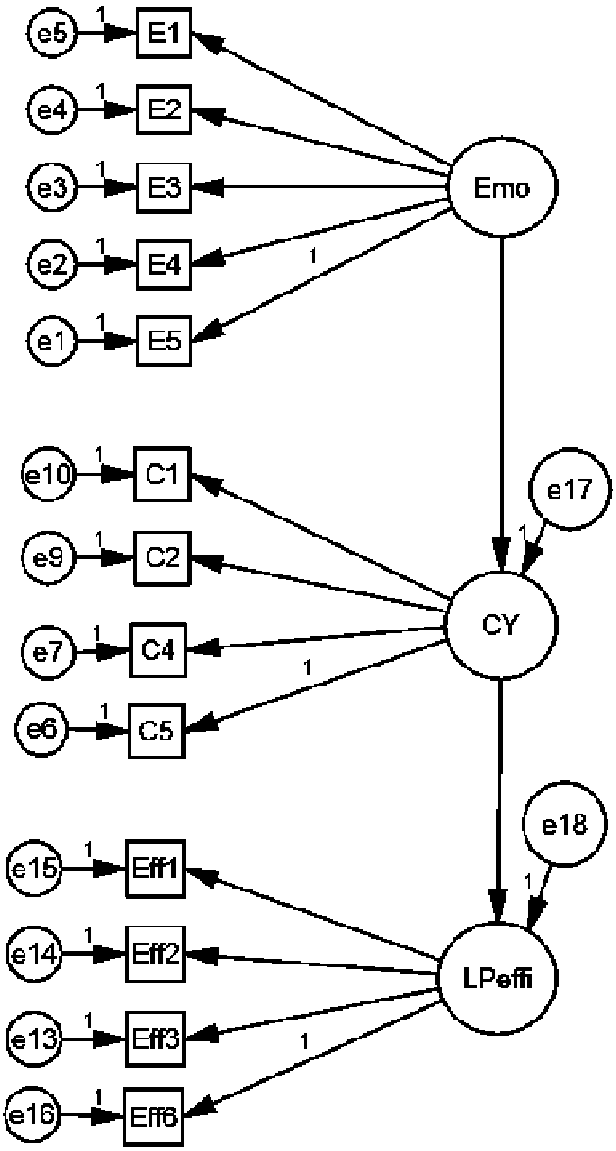

Figure-5
Final model for sub-scales of MBI-GS

References

1. Schaufeli W.B., Leiter M.P., Maslach C. and Jackson S.E., Maslach Burnout Inventory: General Survey, In Ch. Maslach, S.E. Jackson and M.P. Leiter, *The Maslach Burnout Inventory (3rd.ed) - Test Manual*, Palo Alto, CA: Consulting Psychologists Press **(1996)**

2. Khan S.N. and Zafar S., Exploring the Causes and Consequences of Job Burnout in a Developing Country, *Journal of Basic and Applied Scientific Research,* **3(5),** 212-227 **(2013)**

3. Khan S. N., The Relationship between Job Burnout and Gender-Based Socio-Demographic Characteristics in Lahore, *The Lahore Journal of Business,* **1(2),** 65–95 **(2013)**

4. Yusoff R.M. and Khan F., Stress and Burnout in the Higher Education Sector in Pakistan: A Systematic Review of Literature, *Research Journal of Recent Sciences,* **2(11),** 90-98 **(2013)**

5. Schaufeli W.B. and Enzmann D., The burnout companion to study and research: A critical analysis, London: Taylor and Francis **(1998)**

6. Schaufeli W.B., Leiter M.P and Maslach C., Burnout: 35 years of research and practice, *Career Development International,* **14(3),** 204-220 **(2008)**

7. Halbesleben J.R.B. and Buckley M.R., Burnout in Organizational Life, *Journal of Management,* **30**, 859-879 **(2004)**

8. Choi S.L., Ahmad J., Musibau A.A. and Lim C.G., A Review on Job Stressor in the Perspective of Health Care Industry, *Research Journal od Recent Sciences,* **2(3),** 81-86 **(2013)**

9. Maslach C and Jackson S.E., The measurement of experienced burnout, *Journal of Occupational Behaviour,* **2,** 99-113 **(1981)**

10. Iyer K. and Khan Z.A., Depression: A Review, *Research Journal of Recent Sciences,* **1(4),** 79-87 **(2012)**

11. Schaufeli W.B., Bakker A.B., Hoogduin K., Schaap C. and Kladler A., On the clinical validity of the Maslach Burnout Inventory and the Burnout Measure, *Psychology and Health*, **16**, 565–582 **(2001)**

12. Schutte N., Toppinen S., Kalimo R. and Schaufeli W., The factorial validity of the Maslach Burnout Inventory-General Survey (MBI-GS) across occupational groups and nations, *Journal of Occupational and Organizational Psychology*, **73**, 53–67 **(2000)**

13. Haque A and Aslam M.S., The Influence of Demographics on Job Burnout, *Far East Journal of Psychology and Business,* **4(2),** 57-72 **(2011)**

14. Jamal M., Burnout among Canadian, Chinese, Malaysian and Pakistani Employees: An Empirical Examination, *International Management Review,* **6(1),** 32-42**(2010)**

15. Schaufeli W.B., Salanova M., Gonzalez-Roma V. and Bakker A.B., The measurement of engagement and burnout: A confirmative analytic approach, *Journal of Happiness Studies,* **3**, 71 -92 **(2002)**

16. Leiter M.P. and Schaufeli W.B., Consistency of the burnout construct across occupations, *Anxiety, Stress and Coping,* **9**, 229-243 **(1996)**

17. Taris T.W., Schreurs P.J.G. and Schaufeli W.B., Construct validity of the Maslach Burnout Inventory General Survey: A two-sample examination of its factor structure and correlates, *Work and Stress,* **13**, 223-237 **(1999)**

18. Rothmann S., Jackson L.T.B. and Kruger M.M., Burnout and job stress in a local government: The moderating effects of sense of coherence, *S A Journal of Industrial Psychology,* **29(4),** 52-60 **(2003)**

19. Rothmann S. and Jansen van Vuuren J.A., Sense of Coherence, Self-Efficacy, Locus of Control, Coping and Bumout of Senior Managers in a Manufacturing Industry, Paper presented at the South African Burnout Conference, Potchefstroom **(2002)**

20. Storm K. and Rothmann S., A psychometric analysis of the Maslach Burnout Inventory General Survey in the South African Police Service, *SA Journal of Psychology,* **33,** 219-226 **(2003)**

21. Campbell C. and Rothmann S., A psychometric assessment of the Maslach Burnout Inventory (General Survey) in a customer-service environment. *Management Dynamics*, **14(2),** 16-28 **(2005)**

22. Maslach C., Schaufeli W.B. and Leiter M.P., Job burnout, *Annual Review of Psychology*, **52,** 397-422 **(2001)**

23. Shaughnessy J.J. and Zechmeister E.B., Research Methods in Psychology (4th ed.), New York: McGraw-Hill **(1997)**

24. Armstrong J.S. and Overton T.S., Estimating nonresponse bias in mail surveys, *Journal of Marketing Research,* **14(3),** 396–402 **(1977)**

25. Kline R.B., *Principles and Practices of Structural Equation Modeling*. Guilford Press, New York **(2005)**

26. Hu L.T. and Bentler P.M., Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives, *Structural Equation Modeling: A Multidisciplinary Journal*, **6(1),** 1-55**(1999)**

27. Papke-Shields K.E., Malhotra M.K. and Grover V., Strategic manufacturing planning systems and their linkage to planning system success, *Decision Sciences*, **33(1),** 1-30 **(2002)**

28. Byrne B.M., A Primer of LISREL: Basic Applications and Programming for Confirmatory Factor Analysis Analytic Models, Springer: Verlog, NY **(1989)**

29. Bentler P.M., Comparative fit indexes in structural models, *Psychological Bulletin,* **107(2),** 238–246 **(1990)**

30. Hair J.F., Black W.C., Babin B.J., Anderson R.E. and Tatham R.L., *Multivariate Data Analysis*, 6th ed. Prentice-Hall, Inc., New Jersey **(2006)**

31. Fornell C. and Larcker D.F., Evaluating structural equation models with unobservable variables and measurement error, *Journal of Marketing Research,* **18(1),** 39–50 **(1981)**

32. Kim S.W., An investigation on the direct and indirect effect of supply chain integration on firm performance, *International Journal of Production Economics,* **119,** 328–346 **(2009)**

33. Batra R. and Sinha I. Consumer-level factors moderating the success of private label brands, *Journal of Retailing,* **76(2),** 175–191 **(2000)**

34. Maslach C., Jackson S.E. and Leiter M.P., MBI: The Maslach Burnout Inventory: Manual. Palo Alto, CA: Consulting Psychologists Press **(1996)**