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ABSTRACT

The factorial validity and reliability of the Maslach Burnout Inventory (MBI) (C. Maslach and S. Jackson, 1982) for use with coaching populations at educational institutions was investigated. A sample of 199 college basketball coaches served as subjects for the study. The coaches completed a demographic data sheet and a modified version of the Educators Survey version of the MBI. The responses to the MBI were subjected to a factor analysis and Cronbach's alpha test for reliability. The results indicate that the three-factor model of burnout that had been repeatedly demonstrated in other populations for the MBI was only partially applicable to college basketball coaches. The use of this modified form of the instrument with college coaches, using the current scoring system, should be questioned. (Contains 3 tables and 13 references.) (Author/SLD)

Running Head: VALIDITY AND RELIABILITY OF THE MBI

Validity and Reliability of the Maslach Burnout Inventory[1] for a Coaching Population

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Abstract

The factoral validity and reliability of the Maslach Burnout Inventory (MBI) for use in coaching populations at educational institutions was investigated. A sample of 199 college basketball coaches served as subjects for the study. The coaches completed a demographic data sheet and a modified version of the Educators Survey version of the MBI. The responses to the MBI were subjected to a factor analysis and Cronbach's alpha test for reliability. The results indicated that the 3-factor model of burnout that had been repeatedly demonstrated in other populations by the MBI is only partially applicable to college basketball coaches. Consequently, the use of this modified form of the instrument with college coaches, utilizing the present scoring system, should be questioned.

Key Words: Athletics, Basketball, Sports, Stress

Validity and Reliability of the Maslach Burnout Inventory for a Coaching Population

In the past two decades, there has been a proliferation of educational research examining the topic of "burnout." The phenomenon of burnout is of significance for a number of reasons. First, burnout has been identified as a major reason for education professionals leaving the workforce (Hanchey & Brown, 1989; Pastore & Judd, 1993). Second, burnout is costly to schools because of poor performance in one's job (Hanchey & Brown, 1989). Finally, identification of burnout levels and the factors relating to those levels can be used to improve current professional practices (Byrne, 1992).

Freudenburger (1974) is often credited with the application of the term "burnout" to populations of people. He used the term to describe negative emotional and behavioral responses to stress exhibited in professionals working in the mental health field. Since that time, the work has expanded to investigate this emotional response in a variety of professions. Other health care workers (Maslach, 1976; 1982), teachers (Byrne, 1992; Schwab & Iwanicki, 1982) and professionals working in athletics in educational settings (Caccese & Mayerberg, 1984; Kelley & Gill, 1993; Lemke, 1996) have also served as populations for studies in this area of psychological research.

In her investigations of burnout, Maslach (1976) identified three factors that appeared to contribute to the development of burnout in the workers. The distinct burnout subscales were called Emotional Exhaustion (EE), Depersonalization (DP), and Personal Accomplishment (PA). According to her model, high levels of EE and DP, coupled with

low feelings of PA, factored into the levels of burnout found in persons with these occupations.

A significant contribution that resulted from the work of Maslach (1976) was the development of an instrument that measured an individual's perceived burnout level based on the three subscales. The formulation of this instrument, called the Maslach Burnout Inventory (MBI), was a major step in the study of this phenomenon. The original version of the MBI, called the "Human Services Survey," consisted of a series of "feeling" statements to which subjects were asked to indicate how often they exhibited these feelings and also how intense those feelings were (Maslach & Jackson, 1982). The intensity ratings ranged from 1 (Very mild, barely noticeable) to 7 (Major, very strong). The frequency ratings ranged from 1 (A few times a year) to 6 (Every day). There was also a spot to check "Never," in which case both the intensity and frequency scores for that statement would be counted as 0's. The resulting frequency and intensity scores on the three sub-scales (EE, PA, DP) indicated the level of perceived burnout in the individual.

Since it's development, the MBI has been modified somewhat. Strong correlations between the frequency and intensity scales have resulted in the elimination of the intensity scale. Current versions of the MBI ask only for frequency responses from the subjects. The items that are designed to contribute to each of the sub-scale scores are presented in Table 1.

Schwab and Iwanicki (1982) used a modified version of the original MBI in their study of a population of teachers. Their version changed certain portions of the

instructions and the instrument to make the inventory directly applicable to persons in the teaching profession. The main change involved the substitution of the word "student" for the term "recipient" in the instrument. The result of their work was the establishment of a standard version of the MBI that could be used with educators (Maslach & Jackson, 1993).

Caccese and Mayerberg (1984) and Kelley and Gill (1993) also used modified versions of the MBI. In these investigations, the Educators form of the MBI was used to investigate burnout in coaches at educational institutions. To improve the face validity for use in coaching populations, wherever the term "student" appeared on the instrument, it was substituted with the term "student-athlete." The Lemke (1996) study, which surveyed basketball coaches in institutions of higher learning, used the updated Human Services Survey of the MBI. This study included an instruction coversheet describing that the term "recipient," as found in the MBI statements, included "players, students, or anyone else with whom they worked closely." (Lemke, p.25). This also was done to increase the face validity of the instrument.

In recent years, some concern about the use of the MBI within occupations that do not involve a great deal of people contact has led to the development of a General Survey (MBI-GS) form of the MBI (Maslach, Jackson, & Leiter, 1996). The major difference in this form involves the definition of burnout that the items address. Burnout in the MBI-GS is defined as a "crisis in one's relationship with work, not necessarily as a crisis in one's relationships with people at work" (Maslach et al., p. 20), as is emphasized in the other versions.

Although considerable evidence exists establishing the factoral validity and reliability of the MBI in the "helping professions" (Maslach & Jackson, 1986) and with teaching professionals (Gold, 1984; Schwab & Iwanicki, 1981), empirical validations of the MBI have not been established for use in school coaching populations. The studies that have used the MBI to investigate burnout in coaches have assumed the validity and reliability based on the research in these other populations (Caccese & Mayerberg, 1984; Kelly & Gill, 1993; Lemke, 1996). The question presents itself. Is the MBI, with appropriate modifications, a valid and reliable instrument that can be confidently used in studies of coaches in schools? The purpose of this research is to establish empirical evidence as to the factoral validity and the reliability of the MBI in the population of college basketball coaches. In other words, is the three-component model of burnout, as measured by the Maslach Burnout Inventory, applicable to coaching populations?

Method

Instrument

Permission was obtained to make the following modifications to the Educators Survey version of the MBI. These changes were made to improve the applicability of the instrument to the population in question. First, the title was changed to "Coaching Occupation Survey." Second, the directions were modified by changing the term "educators" to "persons in coaching." Finally, where the word "student(s)" appeared in the inventory, it was changed to "player(s)."

Participants

Using random selection, a sample of 400 college head basketball coaches from 4-year schools was chosen for the study. In order to balance representation, the sample was stratified to include 200 coaches from men's teams and 200 coaches from women's teams. During the third week in February, each coach was mailed a demographic data sheet along with a copy of the modified version of the MBI. After three weeks non-respondents were mailed a reminder. Participants provided informed consent by the return of the instrument. A total of 199 (n=199) usable surveys were returned for a return rate of 49.8%. The respondents included 102 coaches of women's teams and 97 coaches of men's teams. Of the 199 participants, 66 were females and 133 were males.

Component Analysis of the Maslach Burnout Inventory

In order to establish the factoral validity of the instrument for use in coaching populations, the data from responses to the twenty-two frequency rating items on the MBI were analyzed. Preliminary correlation matrices indicated multiple strong pairwise relationships between a variety of the items on the MBI, suggesting the possibility of an interpretable component pattern existing in the instrument.

The data were subjected to a principal component analysis with varimax transformation. This technique was the same as that employed by both Maslach and Jackson (1986) and Schwab and Iwanicki (1982) in the original establishment of the instrument's validity. As can be seen in Table 2, four factors were extracted with eigenvalues greater than 1. These factors accounted for 54.5 percent of the total variance.

In order to aid in interpretation, varimax transformation was performed. The factor-loading matrix of the 22 items is illustrated in Table 3. Items 1, 2, 3, 8, 11, 12, 13, 14, and 20 emerged as one factor (Factor I). Items 5, 6, 10, 15, and 16 loaded as a second factor (Factor II). Items 4, 7, 17, 18, and 21 showed up as a third factor (Factor III). Two items, numbers 9 and 19, formed yet a fourth factor (Factor IV). And item number 22 did not load on any of the factors.

A comparison of the design of the MBI, as it relates to the three burnout subscales, and the loadings that resulted from the analysis in this investigation, yielded some interesting results. By design, the MBI is constructed to contain nine Emotional Exhaustion measuring items (numbers 1, 2, 3, 6, 8, 13, 14, 16, 20), eight Personal Accomplishment items (numbers 4, 7, 9, 12, 17, 18, 19, 21) and five Depersonalization items (numbers 5, 10, 11, 15, 22). However, in the investigation with this population, four factors emerged. First, Factor I corresponded somewhat with the Emotional Exhaustion subscale. However, Item 11, which also loaded on Factors II and III, and Item 12, which loaded negatively, appeared as variables contributing to Factor I. Additionally, Items 6 and 16, which were designed to be part of the Emotional Exhaustion factor, did not load as part of this factor.

Second, the MBI's Personal Accomplishment subscale broke down into two separate factors (Factor III and Factor IV) in this study. Factor III items dealt with people-related PA statements, while Factor IV items addressed work-related PA statements.

Third, the Depersonalization factor loaded across three different factors extracted in this study. Factors I, II, and V contained one or more of the DP items.

Finally, Item 22 did not load on any of the factors. Within this population, this statement does not appear to measure the Depersonalization factor as it has been shown to do in other populations.

Many previous studies have found cross-loadings on Items 12 and 16 (Maslach & Jackson, 1996). In the investigation of this population, this too occurred. Item 12, a PA statement, loaded negatively on Factor I, rather than on Factors III or IV. Item 16, an EE item loaded strongly on Factor II, as opposed to Factor I, which one would expect based on the design of the instrument. Additionally, Item 6, another EE statement, also loaded on Factor II. Item 11, a DP item, loaded on Factor I with additional significant loadings on Factors II and III.

Reliability of the Maslach Burnout Inventory

Coefficients of reliability for the factors (I-IV) of the Maslach Burnout Inventory for college basketball coaches were calculated using Cronbach coefficient alpha. These coefficients along with the means and standard deviations are reported in Table 4. From the examination of the coefficients, the following observations can be made. The alpha value for Factor I indicates a relatively high level of reliability (a=.87). However, Factors II (a=.74), III (a=.76) and IV (a=.69) fall below an acceptable level of reliability.

Discussion

Based on the analysis of the data generated by this sample, the answer to the main research question appears to be "no." The three-component model of burnout, as

measured by the MBI, does not appear to be applicable to the population of college basketball coaches. On one hand, 16 items loaded on factors similar to those factors identified in the establishment of the instrument. One of the factors (Factor I) was determined to be similar in nature to the Emotional Exhaustion subscale of the MBI. Seven of the nine items contributing to the instrument's EE subscale loaded strongly on Factor I. However, two of the EE items did not. Additionally, two items that were designed to measure the other subscales did load on the factor.

Second, Factors III and IV that were extracted in the analysis were similar to the MBI's Personal Accomplishment subscale. Five PA factors loaded on Factor III. These items appear to be statements that addressed people-related Personal Accomplishment. Two items loaded strongly on Factor IV. This component appears to indicate feelings of work-related Personal Accomplishment. Items 12 and 21, both PA designed items, did not load as expected.

The Depersonalization subscale items strayed the farthest from the expected loadings. Items from this subscale loaded across three separate factors. Item 11 loaded across three factors. Items 5 and 15 loaded on Factor II. Item 10 loaded on both Factors II and III. Finally, Item 22 loaded as a single item on Factor V.

Based on the analysis of the data, three main observations can be made. First, in work with this population, it is questionable that the Maslach Burnout Inventory, with the stated modifications, is an instrument that validly measures Maslach's three-factor model of burnout. The multiple loadings and/or crossloadings of 6 items draws into question the use of the MBI in college coaching populations. The number of inconsistencies between

the design of the instrument and the factor loadings that appeared in the study indicate that the MBI with these modifications does not measure what it proports to measure in college basketball coaching populations. These variations, matched with the questionable reliability coefficients, indicate that the use of the MBI, as a rigid indicator of perceived burnout levels in populations of this type, is not recommended.

Recommendations for use of the MBI for College Basketball Coaches

Based on this investigation, if the MBI is used in college coaching populations, it is suggested that the data generated not be used as a rigid determiner of an individual's or a population's level of burnout. The three-factor model of burnout, as proposed by Maslach, is not accurately measured by the MBI with these modifications. This being the case, it is recommended that, if it is used, it should be used only as an indicator of burnout trends, rather than as an instrument that establishes hard and fast burnout scores of populations and/or individuals.

Suggestions for Future Research

Due to the value of past and potential future use of the MBI in the study of the burnout phenomenon within college coaching populations, further research in this area is indicated. As a result of this study, the following recommendations are made:

1. That MBI factoral validity studies be conducted in head college coaching populations of other sports.
2. That replications of this study be carried out in head coaching populations who work with athletes of other age groups, such as the middle and/or high school levels.

3. That studies be implemented investigating factoral validity of the MBI utilizing modifications such as those used by Caccese and Mayerberg (1982), Kelley and Gill (1993), and Lemke (1996).
4. That component analysis studies be conducted in head coaching populations using the MBI-General Survey.

References

Byrne, B. M. (1992). Investigating causal links to burnout for elementary, intermediate, and secondary teachers. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA. (ERIC Document Reproduction Service No. ED 344 886)

Caccese, T. M. & Mayerberg, C. K. (1984). Gender differences in perceived burnout of college coaches. Journal of Sport Psychology, 6, 279-288.

Gold, Y. (1984). The factoral validity of the Maslach burnout inventory in a sample of California elementary and junior high school classroom teachers. Educational and Psychological Measurement, 44, 1009-1016.

Freudenberger, H. J. (1974). Staff burnout. Journal of Social Issues, 30(1), 159-165.

Hanchey, S. G. & Brown, R. (1989). The relationship of teacher burnout to primary and secondary appraisal, coping systems, role strain, and teacher/principal behavior. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA. (ERIC Documentation Service No. ED 311 012)

Kelley, B. C. & Gill, D. L. (1993). An examination of personal/situational variables, stress appraisal, and burnout in collegiate teacher/coaches. Research Quarterly for Exercise and Sport, 64, 94-102.

Lemke, M. A. (1996). Effect of gender on burnout in coaches of college women's basketball teams. (Doctoral dissertation, University of Central Florida, 1996) Dissertation Abstracts International, 57, 1074.

Maslach, C. (1976). Burned-out. Human Behavior, 5(9), 16-22.

Maslach, C. (1982). Burnout: The cost of caring. Englewood Cliffs, NJ: Prentice-Hall.

Maslach, C. & Jackson, S. E. (1986). Maslach burnout inventory manual (2nd ed.). Palo Alto, CA: Consulting Psychologist Press.

Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). Maslach burnout inventory manual (3rd ed.). Palo Alto, CA: Consulting Psychologists Press.

Pastore, D. L. & Judd, M.R. (1993). Gender differences in burnout among coaches of women's athletic teams. Society of Sport Journal, 10, 205-212

Schwab R. L. & Iwanicki, E. F. (1982). Perceived role conflict, role ambiguity, and teacher burnout. Education Administration Quarterly, 18, 60-74.

Author Notes

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Footnotes

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Table 1

Maslach Burnout Inventory-Educators Survey Subscales with Corresponding Items

Subscale	Items
Emotional Exhaustion	1, 2 3, 6, 8, 13, 14, 16, 20
Personal Accomplishment	4, 7, 9, 12, 17, 18, 19, 21
Depersonalization	5, 10, 11, 15, 22

Table 2

Factor Extraction Eigenvalues of the Maslach Burnout Inventory

Factor	Eigenvalue	Pct. of Variance	Cum. Pct.
I	6.50	29.5	29.5
II	2.78	12.6	42.2
III	1.47	6.7	48.9
IV	1.24	5.6	54.5

Table 3

Factor Loading Matrix of the Maslach Burnout Inventory

Item	Factor I	Factor II	Factor III	Factor IV
2	.83			
1	.80			
8	.71			
3	.71			
13	.67			
14	.65			
20	.57			
11	-.49	.44	-.40	
12	-.43			
16		.73		
6		.72		
5		.64		
15		.62		
10		.58	-.41	
4			.72	
17			.69	
7			.66	
18			.65	
21			.64	

Item	Factor I	Factor II	Factor III	Factor IV
19				.78
9				.77

Note. Only values ≥ .40 are presented

Table 4

Means, Standard Deviations, and Alpha Reliability Coefficients of the MBI

Factor	No. of Items	Mean	S.D.	Alpha
I	9	18.09	13.72	.87
II	5	24.55	6.06	.74
III	5	23.11	6.68	.76
IV	2	10.12	2.22	.69

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