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ABSTRACT

The purpose of this study was to determine if definitive factors emerge from the responses of teachers to the Teaching Events Stress Inventory (TESI). In a series of three studies during the years 1980 to 1982, data were collected to assess the levels and sources of stress experienced by 660 teachers in central and western Kentucky. The subjects were public school teachers either enrolled as masters-level students or participants in inservice programs on teacher stress. The three data sets were combined and factor analysis using the varimax rotation was employed to determine the factor solutions for the total data set. This procedure produced five factors that were relatively stable and independent as well as logically sound. These were labeled as: (1) personal/professional threat, (2) interpersonal relationships, (3) racial issues, (4) non-contact teaching tasks, and (5) change in normal routine. (PN)

A FACTOR ANALYTIC STUDY OF THE TEACHING EVENTS STRESS INVENTORY

by

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A paper

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A FACTOR ANALYTIC STUDY OF THE TEACHING EVENTS STRESS INVENTORY

Attempts to investigate the nature of stress in the teaching profession met with difficulty and uncertainty until an instrument emerged which related specific teaching events to stress as perceived by teachers. The Teaching Events Stress Inventory (TESI) is a thirty-six item instrument developed by Cichon and Koff (1978) to determine the sources and levels of task-based stress experienced by teachers. Although this instrument still retains some potential for bias and distortion as frequently occurs when utilizing self-report measures, it does avoid the generality of the trait and state scales once used regularly to assess anxiety in teaching. The strength of the TESI lies in its ability to provide a quantitative basis for the investigation of stress by assessing the magnitude of stress induced by events associated with teaching.

Several recent investigations of stress utilizing the TESI have produced remarkably similar mean rankings of events perceived by teachers to be stressful. The studies (Blackwell, 1981; Martray and Adams, 1981; Adams, Martray, and Alexander, 1982; Meza and Elliott, 1981) reported the highest rankings for those items which conceptually seemed to fit in a 'Management Conflict' cluster. Moderately high to low rankings were reported for items that seemed to fit in a 'Teaching Tasks' cluster. Items conceptually comprising a 'Personal Security' cluster were reported as ranked among the highest fifteen items across all four studies. Consistently low in rank across all four studies were items that conceptually comprised the cluster, 'Interpersonal Relations'. Such similarities across studies conducted in three different states seem to indicate that the TESI is capable of reliably measuring stress-related experiences germane to the teaching profession irrespective of geographic location within the general area of the southeastern United States.

Interestingly, the logically derived clusters referred to above were not dramatically different from clusters or 'general themes' identified by Cichon and Koff (1980) in a study involving teachers in the Chicago public schools. Four clusters were identified in that study. The first cluster was labelled a 'Priority Concern' category and involved such priority concern events as: managing disruptive children, being threatened with personal injury, having a colleague assaulted in school, and being a target of verbal abuse by student. The second cluster was comprised of items reflecting the theme, 'Management Tension'. Included in this cluster were such events as: involuntarily transferred, overcrowded classrooms, notice of unsatisfactory performance, lack of books and supplies, reorganization of programs and classes, implementation of board of education goals, denial of promotion or advancement, and disagreement with supervisor. Most studies which have utilized the TESI to study stress in teaching have reported the highest rankings for those events over which the teacher has little control and which are the responsibility of management. Thus, the Cichon and Koff designation of events as fitting into this cluster is quite consistent with designations made in other studies.

The third cluster of events identified by Cichon and Koff were concerned with the theme of 'Doing a good job'. Items included were: maintaining self-control when angry and teaching students who are below average. The lowest ranked ten events made up the final cluster. These events reflected a theme of 'Pedagogical Functions' and included such items as teacher-parent conferences, dealing with bilingual students, taking additional coursework for promotion, attending inservice meetings, and doing lesson plans.

The conceptual clustering of responses to the TESI by Cichon and Koff (1981) and by other investigators (Adams, Martray, and Alexander, 1982; Blackwell, 1981;

Martray and Adams, 1981; Meza and Elliott, 1981; Young, 1980) suggests that teacher stress (at least as defined and measured by the TESI) may be multi-dimensional. However, there is no empirical support for any set of factors or scales associated with this instrument.

The purpose of this study is to determine if definitive factors do emerge from the responses of teachers to the TESI. Empirical confirmation of such factors or scales will be sought through the application of factor analysis. As part of the same set of studies teachers were asked to respond to an instrument designed to assess degree of experienced burnout. Should clear and distinct factors emerge from the application of factor analysis to responses on the TESI then an attempt will be made to relate these factors to factors of the Maslach Burnout Inventory.

Methods

In a series of studies during the years, 1980, 1981, 1982 data were collected to assess the levels and sources of stress experienced by teachers in central and western Kentucky. The subjects were six hundred and sixty public school teachers employed in urban, suburban, or rural school districts. They were either enrolled as master-level students in Research Methods and Educational Psychology classes or were participants in inservice programs on teacher stress. Although their participation as subjects in the studies was voluntary, there were virtually equivalent proportions of elementary and secondary school teachers.

While the sampling procedures used in these studies precluded generalizability beyond the subjects involved, summary statistics did indicate close similarities in patterns of responses to the Teaching Events Stress Inventory (TESI) across all three studies. In addition, comparisons were made with other studies (Blackwell, 1981; Meza and Elliott, 1981) which also used the TESI in studying teacher stress. The data reported in those studies were also

quite similar to those obtained in the Kentucky studies.

Data Collection Procedures

Prior to administering the instrument in each of the three studies teachers were informed that their involvement would contribute to a more global effort to assess the sources and levels of stress experienced by public school teachers in the commonwealth of Kentucky. Cooperation and support was obtained from the majority of the teachers. Subjects then received a packet containing a demographic sheet, the Teaching Events Stress Inventory, and instructions for completing the instrument.

Instrumentation

The Teaching Events Stress Inventory (Cichon and Koff, 1978) contained 36 items, each of which represented a potential stress producing event associated with teaching. In its original form the instrument utilized a 0 to 1000 point scale with the first item, "The first week of the school year," assigned the arbitrary value of 500. That format was modified in each of these studies to a Likert-type seven point scale as the response set for each of the 36 items. Teachers were instructed to respond to the items as they applied to them at the time they were responding to the instruments. A zero category was also a response option if the respondent did not experience the event during the preceding year.

Results

The three data sets representing three distinct studies were combined to form the "total" data set used for the factor analysis of the TESI. This procedure allowed for a maximum n-size of 660 subjects. While these studies were conducted at different times and with different samples of teachers, the findings were quite similar across studies.

In addition, factor analyses were conducted separately for the most recent study (Burno data set) as these data will be utilized in additional analyses to determine the relationship between the TESI factor scores and measures of teacher burnout. The results from both the total and the Burno data sets will be discussed.

Factor analyses utilizing the varimax rotation was employed to determine the factor solutions for the total data set. In the first analysis the factors were allowed to be formed free of control by the investigators. Seven factors emerged from this analysis. Upon inspection of this factor structure, it was decided that a five factor solution would best serve the purposes of this study as two of the factors were principally one-item factors. Thus, factor analyses were obtained for both sets of data by "forcing" a five factor solution.

The nature of the data obtained from the TESI also required that two factor analysis computations be performed for each of the data sets: one utilizing zeros as legitimate values indicating the non-existence of the stressor for that teacher, and one omitting zero from the computations. This procedure allowed for factors to be formed from response sets that (1) included all responses whether or not they were perceived as stressors and (2) just those items that were perceived by the teachers as stressors. The results of the factor analyses using the varimax rotation for the total data set, with and without zero and the Burno data set, with and without zero are contained in Appendix B.

The factor structures that emerged for the total group analyses and the Burno analyses were markedly similar as were the with zero and without zero analyses. Tables 1 through 5 contain the factor structure for each analysis. The strongest factor across each data set both for with and without zero contained items that were high stressors and had the common element of threat

associated with the item. Those items loaded heavily on the factor labeled as "Personal/Professional Threat" (see Table 1). Thus, it seemed that those items that were perceived threatening to teachers, whether from a personal security perspective or from a professional security perspective, tended to form a common factor.

The second factor that emerged was named "Personal Relationships" as those items that loaded heavily on this factor were characterized by personal interactions with parents and students. Again the factor loadings were strong and quite similar across all analyses. Table 2 gives the results of these analyses.

The third factor, "Racial Issues," was consistent across all analyses and contained three items that dealt with racial issues. These factors were quite stable and ranked as third or fourth in the hierarchy of strength. Table 3 contains the factor loadings for Factor 3.

The remaining two factors were not as consistent for all analyses as the preceding factor structures. Table 4 contains the item loadings for the factor called "Non-Contact Teaching Tasks" which are tasks and responsibilities teachers have that do not require student contact, such as, lesson plans, student records, and outside of class responsibilities. This factor was stable across three of the analyses, however, for the total without zero analysis, the items were not as heavily loaded and in fact combined with the items in Factor 5 to form a more complex factor. See Appendix B, Total Group Analysis Without Zero.

The last factor contained items that were commonly regarded as disruptive of the normal teaching routine. However, the item "voluntary transferred" did not load heavily for the with zero analyses for either the total or Burno data set, but was a contributing item in the without zero analysis. Thus, for the factor "Change in Normal Routine" there may be some question as to the inclusion of this item as part of the computation for the with zero factor score. For

purposes of this paper, the factor scores were computed using all items as appear in the respective tables.

To determine the independence of the factor scores, an intercorrelation matrix was computed for each set of analyses. Inspection of these matrices revealed that while moderate relationships were noted between some factors (i.e., factor one and factor three), the overall relationships were not of sufficient magnitude to warrant concern. Thus, the factors can be considered to be relatively independent. Tables 6 through 9 contain these intercorrelation matrices.

Finally, the means and standard deviations were computed for each factor score. As can be seen in Tables 10 and 11, the without zero means were of greater magnitude--as would be expected. These summary statistics offer two different indices of teacher stress: the with zero statistics indicate the overall degree of stress attributed to the respective factor while without zero statistics indicate the degree of stress when the items within the factor actually occur for the respondents. For example, the factor "Personal/ Professional Threat" has a mean value of 1.76 when zeros were included as legitimate responses, but 3.51 when zeros were omitted. This indicates that this factor has a relatively low occurrence rate but when teachers do perceive the items as stressors, the stressors are rather intense. Similar matters are true for Factor 3, "Racial Issues" and Factor 5, "Change in Normal Routine."

Summary

The purpose of this paper was to determine, if possible, a factor structure for the TESI that was both statistically and logically coherent. The results of a factor analysis procedure using the varimax rotation produced five factors that were relatively stable and independent as well as logically sound. These were labeled as:

Factor 1: Personal/Professional Threat

Factor 2: Interpersonal Relationships

Factor 3: Racial Issues

Factor 4: Non-Contact Teaching Tasks

Factor 5: Change in Normal Routine

These findings will be used in additional analyses to determine if relationships exist between the TESI factor scores and measures of Teacher Burnout from the Maslach Burnout Inventory.

References

Adams, R. D., Martray, C. R. and Alexander, L. Relationships among burnout factors and occupational stressors in the teaching profession. A paper presented at the Annual Meeting of the Mid-South Educational Research Association, New Orleans, Louisiana, November 1982.

Blackwell, M. W. An analysis of stress for classroom teachers. Paper presented at the Annual Conference of the Mid-South Educational Research Association, Lexington, Kentucky, November 1981.

Cichon, D. and Koff, R. The Teaching Events Stress Inventory. Paper presented at the Annual Meeting of the American Educational Research Association, Toronto, Ontario, Canada, March 1978.

Cichon, D. and Koff, R. Stress and Teaching. NASSP Bulletin, March 1980, 91-104.

Martray, C. R. and Adams, R. D. Stress: Specific life events in the teaching profession. Paper presented at the Annual Conference of the Mid-South Educational Research Association, Lexington, Kentucky, November 1981.

Meza, J. and Elliott, R. J. The relationship of stressful teaching events, teacher anxiety and teacher behavior as perceived by students. Paper presented at the Annual Conference of the Mid-South Educational Research Association, Lexington, Kentucky, November 1981.

Young, T. Teacher stress: One school district's approach. The Journal of the Association of Teacher Educators, 1980, Fall, 11(4), 37-40.

TABLE 1

Personal/Professional Threat Factor

Item	Total		Burno	
	With 0 (Fac 1)	Without 0 (Fac 1)	With 0 (Fac 1)	Without 0 (Fac 1)
3. Colleague Assaulted	.607	.688	.634	.446
6. Notification Unsat. Perf.	.785	.731	.808	.737
8. Strike Preparation	.584	.457	.627	.858
11. Involuntary Transferred	.752	.507	.706	.561
16. Threat of Pers. Injury	.638	.666	.680	.493
29. Supervisor Disagreement	.598	.621	.647	.643
34. Promotion Denial	.601	.541	.632	.534

TABLE 2

Interpersonal Relationships Factor

Item	Total		Burno	
	With 0 (Fac 2)	Without 0 (Fac 2)	With 0 (Fac 2)	Without 0 (Fac 3)
12. Managing Disrup. Stud.	.629	.497	.639	.669
19. Talk to Parent/Child Prob.	.776	.724	.788	.763
22. Giving Grades	.623	.607	.662	.541
25. Tch. Below Avg. Students	.457	.499	.559	.489
30. Teacher/Parent Conference	.666	.684	.712	.673

TABLE 3

Racial Issues Factor

Item	Total		Burno	
	With 0 (Fac 3)	Without 0 (Fac 4)	With 0 (Fac 3)	Without 0 (Fac 4)
17. Community Racial Issues	.751	.507	.754	.869
24. Staff Racial Issues	.554	.672	.657	.628
35. Student Racial Issues	.702	.623	.689	.691

TABLE 4

Non-Contact Teaching Tasks Factor

Item	Total		Burno	
	With 0 (Fac 4)	Without 0 (Fac 3)	With 0 (Fac 4)	Without 0 (Fac 2)
14. Daily Lesson Plans	.537	.354	.528	.657
32. Student Records	.563	.374	.606	.621
33. Research or Training Program From Outside the School	.360	.427	.445	.612
5. Inservice Meetings	.375	.405	.491	.434

TABLE 5

Change in Normal Routine Factor

Item	Total		Burno	
	With 0 (Fac 5)	Without 0 (Fac 3)	With 0 (Fac 5)	Without 0 (Fac 5)
1. First Week of School	.542	.520	.514	.566
2. Reorganization of Classes	.621	.604	.613	.614
9. Changes in Duties	.442	.513	.546	.550
4. Voluntarily Transferred	.165	.643	.282	.470

TABLE 6

Intercorrelation Matrix - Total With 0

	P/PT	IPR	RI	NTT	CNR
P/PT	--	.199	.550	.228	.369
IPR		--	.258	.518	.438
RI			--	.335	.334
NTT				--	.410
CNR					--

TABLE 7

Intercorrelation Matrix - Total Without 0

	P/PT	IPR	RI	NTT	CNR
P/PT	--	.314	.484	.223	.296
IPR		--	.321	.478	.431
RI			--	.245	.260
NTT				--	.354
CNR					--

TABLE 8

Intercorrelation Matrix - Burno With 0

	P/PT	IPR	RI	NTT	CNR
P/PT	--	.124	.604	.264	.442
IPR		--	.070	.446	.437
RI			--	.339	.429
NTT				--	.397
CNR					--

TABLE 9

Intercorrelation Matrix - Burno Without 0

	P/PT	IPR	RI	NTT	CNR
P/PT	--	.404	.495	.291	.388
IPR		--	.101	.423	.393
RI			--	.161	.286
NTT				--	.382
CNR					--

TABLE 10

Mean and Standard Deviation for Each Factor Score
Total Sample

	Total With 0			Total Without 0		
	$\bar{X}$	SD	N	$\bar{X}$	SD	N
Factor 1	1.76	3.77	660	4.29	3.51	501
Factor 2	3.08	2.19	660	3.42	1.71	651
Factor 3	1.22	2.50	660	2.89	2.70	384
Factor 4	2.10	1.64	660	2.78	1.80	639
Factor 5	2.72	2.06	660	3.80	2.31	647

TABLE 11

Mean and Standard Deviation for Each Factor Score
Burno Sample

	Burno With 0			Burno Without 0		
	$\bar{X}$	SD	N	$\bar{X}$	SD	N
Factor 1	2.21	4.58	220	4.50	3.55	174
Factor 2	3.40	2.12	220	3.56	1.81	218
Factor 3	1.12	2.79	220	3.11	3.00	105
Factor 4	2.19	1.68	220	2.74	1.79	215
Factor 5	2.96	2.45	220	3.86	2.56	216

APPENDIX A

The Teaching Events Stress Inventory
by Cichon & Koff
1978 ED 160-662

Directions:

Please rate the following teaching events as to the relative degree of stress for you at this time. If an event does not apply to you, mark the "zero" column. The "one" column indicates a very low stressor while a "seven" indicates a very high stressor.

		Rating							
		Low							High
1.	The first week of the school year.	0	1	2	3	4	5	6	7
2.	Reorganization of classes or program.	0	1	2	3	4	5	6	7
3.	Collegue assaulted in school.	0	1	2	3	4	5	6	7
4.	Voluntarily transferred.	0	1	2	3	4	5	6	7
5.	Attendance at in-service meetings.	0	1	2	3	4	5	6	7
6.	Notification of unsatisfactory performance.	0	1	2	3	4	5	6	7
7.	Overcrowded classroom.	0	1	2	3	4	5	6	7
8.	Preparing for a strike.	0	1	2	3	4	5	6	7
9.	Change in duties/work responsibilities.	0	1	2	3	4	5	6	7
10.	Conference with principal/supervisor.	0	1	2	3	4	5	6	7
11.	Involuntarily transferred.	0	1	2	3	4	5	6	7
12.	Managing "disruptive" children.	0	1	2	3	4	5	6	7
13.	Implementing Board of Education Curriculum goals.	0	1	2	3	4	5	6	7
14.	Developing and completing daily lesson plans.	0	1	2	3	4	5	6	7
15.	Supervising student behavior outside the classroom.	0	1	2	3	4	5	6	7
16.	Threatened with personal injury.	0	1	2	3	4	5	6	7
17.	Dealing with community racial issues.	0	1	2	3	4	5	6	7
18.	Maintaining self control when angry.	0	1	2	3	4	5	6	7
19.	Talking to parents about their child's problems.	0	1	2	3	4	5	6	7
20.	Dealing with students whose primary language is not English.	0	1	2	3	4	5	6	7

		Rating							
		Low							High
21.	Target of verbal abuse by student.	0	1	2	3	4	5	6	7
22.	Evaluating student performance or giving grades.	0	1	2	3	4	5	6	7
23.	Lack of availability of books and supplies.	0	1	2	3	4	5	6	7
24.	Dealing with staff racial issues.	0	1	2	3	4	5	6	7
25.	Teaching students who are "below average" in achievement level.	0	1	2	3	4	5	6	7
26.	Lavatory facilities for teachers are not clean or comfortable.	0	1	2	3	4	5	6	7
27.	Taking additional course work for promotion.	0	1	2	3	4	5	6	7
28.	Teaching physically or mentally handicapped children.	0	1	2	3	4	5	6	7
29.	Disagreement with supervisor.	0	1	2	3	4	5	6	7
30.	Teacher parent conferences.	0	1	2	3	4	5	6	7
31.	Seeking principal's intervention in a discipline matter.	0	1	2	3	4	5	6	7
32.	Maintaining student personnel and achievement records.	0	1	2	3	4	5	6	7
33.	Having a research or training program from "outside" in the school.	0	1	2	3	4	5	6	7
34.	Denial of promotion or advancement.	0	1	2	3	4	5	6	7
35.	Dealing with student racial issues.	0	1	2	3	4	5	6	7
36.	Disagreement with another teacher.	0	1	2	3	4	5	6	7
37.	Other _____	0	1	2	3	4	5	6	7
38.	Other _____	0	1	2	3	4	5	6	7

Demographics

1. Sex male _____ (1) female _____ (2)

2. Age _____

3. Years of teaching experience _____

4. Grade Level

Lower elementary (K-3)	_____ (1)	High School (9-12)	_____ (4)
Upper elementary (4-6)	_____ (2)	Other	_____ (5)
Middle School (7-8)	_____ (3)		

5. Marital Status

Single	_____ (1)	Divorced/Separated	_____ (3)
Married	_____ (2)	Widowed	_____ (4)

APPENDIX B

VARIMAX ROTATED FACTOR MATRICES

Varimax Rotated Factor Matrix

Total - With 0

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Item 1	-0.064	0.224	0.050	0.168	0.542
Item 2	0.068	0.269	0.045	0.189	0.621
Item 3	0.607	0.102	0.238	-0.008	-0.083
Item 4	0.501	0.105	0.052	0.057	0.165
Item 5	0.034	0.106	0.103	0.375	0.259
Item 6	0.785	0.138	0.079	0.064	-0.052
Item 7	0.309	0.401	0.001	0.120	0.209
Item 8	0.584	-0.017	0.193	-0.022	-0.047
Item 9	0.419	0.255	0.028	0.095	0.442
Item 10	0.467	0.408	-0.047	0.040	0.230
Item 11	0.752	0.029	0.085	0.054	0.178
Item 12	0.136	0.629	0.049	0.129	0.174
Item 13	0.265	0.325	0.075	0.366	0.083
Item 14	-0.073	0.428	-0.050	0.537	0.075
Item 15	0.076	0.449	0.166	0.219	0.160
Item 16	0.638	0.142	0.326	0.003	-0.038
Item 17	0.371	0.147	0.751	0.069	0.079
Item 18	0.204	0.495	0.218	0.098	0.196
Item 19	0.055	0.776	0.039	0.095	0.089
Item 20	0.290	-0.030	0.302	0.014	-0.087
Item 21	0.365	0.477	0.305	0.013	0.036
Item 22	-0.015	0.623	-0.013	0.386	0.012
Item 23	0.188	0.337	0.091	0.240	0.238
Item 24	0.316	0.038	0.554	0.183	0.102
Item 25	-0.068	0.457	0.063	0.396	0.075
Item 26	0.292	0.081	0.182	0.254	0.091
Item 27	0.259	0.219	0.021	0.309	0.154
Item 28	0.179	0.125	0.184	0.389	0.061
Item 29	0.598	0.216	0.161	0.206	0.115
Item 30	0.091	0.666	0.006	0.190	0.111
Item 31	0.172	0.529	0.152	0.205	0.139
Item 32	0.011	0.252	0.044	0.563	0.073
Item 33	0.276	0.144	0.222	0.360	0.165
Item 34	0.601	0.005	0.260	0.213	0.005
Item 35	0.227	0.212	0.702	0.188	0.090
Item 36	0.461	0.265	0.192	0.204	0.108

Varimax Rotated Factor Matrix

Total - Without 0

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Item 1	0.111	0.144	0.520	0.086	-0.007
Item 2	0.163	0.189	0.604	0.115	-0.022
Item 3	0.688	0.034	0.038	0.055	0.001
Item 4	0.207	0.137	0.643	-0.140	0.032
Item 5	0.028	0.121	0.405	0.220	-0.016
Item 6	0.731	-0.019	0.193	0.078	0.056
Item 7	0.329	0.213	0.426	-0.127	-0.158
Item 8	0.457	-0.057	0.064	0.030	0.667
Item 9	0.397	0.147	0.513	-0.00[illegible]	-0.019
Item 10	0.387	0.339	0.277	0.051	0.100
Item 11	0.507	0.013	0.345	0.064	0.146
Item 12	0.308	0.497	0.169	0.071	-0.203
Item 13	0.163	0.242	0.363	0.105	0.025
Item 14	-0.201	0.393	0.354	0.313	0.041
Item 15	0.196	0.401	0.149	0.223	-0.126
Item 16	0.666	0.087	0.007	0.025	0.077
Item 17	0.535	0.113	0.077	0.507	0.040
Item 18	0.338	0.414	0.143	0.295	0.031
Item 19	0.206	0.724	0.184	-0.024	0.019
Item 20	0.526	0.053	0.187	-0.008	-0.482
Item 21	0.501	0.372	-0.009	0.137	-0.130
Item 22	-0.002	0.607	0.278	0.091	0.075
Item 23	0.124	0.193	0.433	0.122	-0.055
Item 24	0.330	0.039	0.256	0.672	0.004
Item 25	-0.033	0.499	0.260	0.180	-0.162
Item 26	0.132	0.152	0.222	0.181	0.151
Item 27	0.101	0.278	0.483	0.074	0.070
Item 28	0.080	0.356	0.268	0.189	-0.216
Item 29	0.621	0.275	0.264	0.184	0.175
Item 30	0.154	0.684	0.300	-0.123	0.084
Item 31	0.120	0.439	0.257	0.240	0.188
Item 32	-0.158	0.257	0.374	0.295	-0.004
Item 33	-0.037	0.391	0.427	0.266	-0.107
Item 34	0.541	0.097	0.167	0.203	-0.075
Item 35	0.427	0.273	-0.007	0.623	0.001
Item 36	0.485	0.270	0.231	0.180	0.075

Varimax Rotated Factor Matrix

Burno - With 0

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Item 1	-0.010	0.299	0.112	0.153	0.514
Item 2	0.066	0.300	0.158	0.090	0.613
Item 3	0.634	0.131	0.327	-0.033	-0.041
Item 4	0.492	0.098	0.232	0.100	0.282
Item 5	0.046	0.171	0.135	0.491	0.099
Item 6	0.808	-0.009	0.105	0.018	0.125
Item 7	0.400	0.369	0.044	0.042	0.220
Item 8	0.627	0.001	0.354	-0.065	-0.061
Item 9	0.333	0.298	0.137	0.129	0.546
Item 10	0.398	0.400	-0.080	0.176	0.391
Item 11	0.706	0.004	0.170	0.176	0.234
Item 12	0.123	0.639	0.056	-0.027	0.221
Item 13	0.181	0.328	0.096	0.260	0.224
Item 14	-0.117	0.443	-0.029	0.528	-0.037
Item 15	0.043	0.430	0.167	0.107	0.193
Item 16	0.680	0.089	0.361	-0.076	-0.043
Item 17	0.403	0.074	0.754	0.055	0.077
Item 18	0.210	0.509	0.281	0.027	0.180
Item 19	0.060	0.789	-0.091	0.104	0.073
Item 20	0.289	-0.028	0.411	0.066	0.210
Item 21	0.456	0.415	0.283	-0.020	0.057
Item 22	0.032	0.662	-0.036	0.270	0.068
Item 23	0.276	0.354	0.098	0.179	0.242
Item 24	0.324	-0.104	0.657	0.237	0.174
Item 25	-0.122	0.559	-0.070	0.339	0.065
Item 26	0.345	0.159	0.024	0.189	0.001
Item 27	0.245	0.185	0.013	0.415	0.093
Item 28	0.266	0.113	0.173	0.310	0.141
Item 29	0.647	0.248	0.096	0.159	0.212
Item 30	0.102	0.712	-0.109	0.259	0.090
Item 31	0.316	0.460	0.080	0.169	0.144
Item 32	0.068	0.185	0.097	0.606	0.078
Item 33	0.333	0.011	0.199	0.445	0.343
Item 34	0.632	-0.061	0.177	0.323	0.109
Item 35	0.306	0.094	0.689	0.237	0.122
Item 36	0.435	0.242	0.168	0.203	0.053

Varimax Rotated Factor Matrix

Burno - Without 0

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Item 1	0.114	0.242	0.151	0.110	0.566
Item 2	0.146	0.275	0.203	0.094	0.614
Item 3	0.446	-0.159	0.202	0.383	0.216
Item 4	0.243	0.296	0.023	0.063	0.470
Item 5	0.085	0.434	0.004	0.071	0.175
Item 6	0.737	-0.122	0.152	0.241	0.187
Item 7	0.247	0.137	0.267	0.195	0.275
Item 8	0.858	0.082	-0.036	0.183	0.126
Item 9	0.376	0.462	0.144	0.069	0.550
Item 10	0.407	0.223	0.356	0.114	0.337
Item 11	0.561	0.251	0.034	0.233	0.211
Item 12	0.179	-0.040	0.669	0.085	0.243
Item 13	0.186	0.397	0.178	0.027	0.277
Item 14	-0.079	0.657	0.235	-0.015	-0.080
Item 15	0.072	0.195	0.464	0.089	0.079
Item 16	0.493	-0.127	0.228	0.620	0.046
Item 17	0.235	0.027	0.034	0.869	0.250
Item 18	0.170	0.192	0.380	0.479	0.094
Item 19	0.153	0.175	0.763	0.050	0.063
Item 20	0.251	-0.274	0.147	0.249	0.776
Item 21	0.279	-0.010	0.461	0.467	0.057
Item 22	0.137	0.341	0.541	0.030	0.160
Item 23	0.176	0.371	0.254	0.149	0.270
Item 24	0.186	0.452	-0.114	0.628	0.295
Item 25	-0.119	0.489	0.470	-0.023	0.043
Item 26	0.196	0.320	0.161	0.093	-0.004
Item 27	0.197	0.357	0.338	0.052	0.332
Item 28	0.010	0.513	0.253	0.080	0.173
Item 29	0.643	0.176	0.311	0.183	0.321
Item 30	0.103	0.301	0.673	0.078	0.152
Item 31	0.314	0.334	0.408	0.139	-0.025
Item 32	0.035	0.621	0.061	0.102	0.109
Item 33	0.097	0.612	0.183	-0.008	0.124
Item 34	0.534	0.178	0.217	0.220	0.115
Item 35	0.306	0.237	0.069	0.691	0.017
Item 36	0.468	0.116	0.174	0.114	0.158

WKU—Printing paid from state funds. KRS 57.375.