

VALIDITY AND RELIABILITY OF TIME MANAGEMENT QUESTIONNAIRE

ZAMAN YÖNETİMİ ANKETİ: GEÇERLİK VE GÜVENİRLİK

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ABSTRACT: The purpose of this study was to conduct the reliability and validity of Time Management Questionnaire (TMQ) for Turkish university students. 35-item Time Management Questionnaire was administered to Middle East Technical University undergraduate university students who were taking elective courses opened to all departments and faculties. 9 elective courses were randomly selected from the elective courses opened at 1999-2000 spring season. The subjects of this study were 165 female and 196 male university students. Validity of the questionnaire was established by face validity and construct-related evidence. To analyze the factors associated with this instrument for Turkish population, items were subjected to principal component analysis and results showed that 35-item TMQ revealed 3 components. For the reliability of instrument internal consistency statistical method (cronbach alpha) was used. Cronbach alpha coefficient for TMQ was 0.87.

KEY WORDS: Time Management Questionnaire, Validity and Reliability, University students.

ÖZET: Bu çalışmanın amacı, Zaman Yönetimi Anketi (ZYA)'nin güvenilirlik ve geçerliğini Türkiye'deki üniversite öğrencileri için test etmektir. 35-maddeden oluşan ZYA Orta Doğu Teknik Üniversitesi'nde okumakta olan ve tüm bölümlere ve fakülterlere açılmış olan seçmeli dersleri alan lisans öğrencilerine uygulanmıştır. 9 seçmeli ders 1999-2000 bahar döneminde açılan seçmeli dersler arasında rastgele yöntemle seçilmiştir. Bu çalışmanın örneklem grubu 361 kız ve erkek üniversite öğrencisinden oluşmaktadır. Anketin geçerliği iç-geçerlik ve yapısal geçerlik ile belirlenmiştir. Bu envanterin alt boyutlarını Türk popülasyonu için saptayabilmek için Temel Bileşenler Faktör Çözümlemesi kullanılmıştır ve sonuçlar 35-maddelik ZYA'nin 3 alt boyutu olduğunu göstermiştir. Anketin güvenilirliği 0.87 olarak bulunmuştur.

ANAHTAR SÖZCÜKLER: Zaman Yönetimi Anketi, Geçerlik ve Güvenirlik, Üniversite öğrencileri.

1. INTRODUCTION

Today the use of time or managing time is a critical issue both for individuals and organizations. The value of time management is not control of time per se, but the ways people can use time to improve their life [1]. Time management makes success by reducing stress, maintaining balance, increasing productivity and also setting and trying to reach goals. From this broadened perspective, people can see that the real value of time management is that it enhances their lives in all dimensions. What people gain from time management, in essence, are not more time, but a better life. Lankein [2] says that managing and controlling the time requires answering the question "what is the best way to spend my time?" To perform good time management and to answer it in a better way, one should list the possible long-term goals, set priorities, list possible activities, set priorities and identify activities, and do them as scheduled.

Generally, most people do not know how to manage their time effectively. According to Gautschi [3] an individual who can not effectively manage time, can not manage his professional life and daily life. The true measure of time management is determined by how well an individual manages and plans his/her time effectively. Time concept is a problem for university students' academic life and their social life. In trying to read all the books and chapters assigned, meet paper deadline, and

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participate in extracurricular activities, university students may become overwhelmed with feeling that there is not enough time to complete all their work adequately. Poor time management behaviours, such as, not allocating time properly or last minute cramming for exams, are sources of stress and poor academic performance [4].

The importance of time management and time practices have been increasing day by day and especially there is lack of studies related to time management and academic achievement [5,6,7].

Time management instrument measures several time management components; choosing goals and subgoals, prioritizing the goals, generating tasks and subtasks from goals, prioritizing the tasks, listing the tasks on a "to do" list, scheduling the tasks, and then carrying out the tasks. Items in the instrument were based on Britton and Glynn [8]'s theoretical model of time management practices. Britton and Tesser [6] developed 35-item Time Management Questionnaire for university students. Total score on TMQ ranged from 52 to 123, with a mean of 91 and a standard deviation of 14. They performed principal component analysis of 35-item questionnaire that was yielded three factors. These three components accounted for 36 % of the total variance. Factor 1 accounts for 16 % of variance, Factor 2 for 11 %, and Factor 3 for 9 %. They are short-range planning (7), time attitudes (6) and long-range planning (5). Trueman and Hartley (1995) were tested British version of this questionnaire and it has two subscales with 5-item daily planning scale and 9-item confidence in long-term planning. However, there is lack of study on measuring time management practices of university students in Turkey. Therefore, the purpose of this study was to test the reliability and validity of 35-item TMQ for Turkish university students.

2. METHOD

2.1. Subjects

The subjects of this study were undergraduate university students from Middle East Technical University who were taking the elective courses opened to all departments and faculties. 9 elective courses were randomly selected from the elective courses opened at 1999-2000 spring season. As elective courses were opened to all departments and faculties, it was decided to decrease the departmental differences among students. TMQ were administered to subjects. 165 female and 196 male undergraduate university students were participated to this study.

2.2. Instrument

35-item TMQ developed to measure time management practices of university students has 5-point Likert scale. Responses under each item consist of *always*, *frequently*, *sometimes*, *infrequently* and *never*. In scoring, 5 point was assigned to answer "always" at positive items, and 1 point was assigned to answer "always" at negative meaning items. Higher values on the TMQ correspond to better time management practices. Time Management Questionnaire was administered to subjects at classrooms and it took 10 minutes.

2.3. Statistical Analysis

Validity of questionnaire was established by face validity and construct-related evidence. Total score on TMQ ranged from 47 to 123 with a mean of 86.68 and a standard deviation of 13.21. To analyse the factors associated with 35-item time management instrument, items were subjected to a principal components analysis. Application of principal component analysis showed that there were 9 components with an Eigen value greater than 1 and it enabled to interpret the number of factors that appeared on the scree plot. Inspection of the scree plot showed that the breakpoint of the Eigen values appeared on the fourth value. When the factor

loadings on the rotated factor matrix were closely examined, it was seen that the factors were not representing meaningful clustering. Henceforth, 4-factor solution was run and the breakpoint of Eigen values appeared on the 4th value. The item loading 0.40 or more under these four factors were taken into consideration [9]. Inspection of the factor loadings indicated that each of the factors has interpretable except for factor 4. As factor 4 had only two items, it was excluded because two items were not representing a meaning.

First factor was named as Time Planning because it appears to encompass a variety of

items that require planning in the short run (either within the day or within the week) and in the long run. Second factor, which was called Time Attitudes, is more attitudinal in nature. Third factor was Time Wasters because it has items related to poor time using habits and bad use of personal time. As it is seen in Table 1, Factor 1 includes 16 items, Factor 2 includes 7 items and Factor 3 includes 4 items.

These three factors accounted for 34 % of the variance. Factor 1 accounts for 20 % of total variance, Factor 2 accounts for 9 % of total variance and Factor 3 accounts 6 % of total variance.

Table 3. Time Management Questionnaire Factor Structure and Loadings.

Factor/Item	Time Planning (Factor 1)	Time Attitudes (Factor 2)	Time Wasters (Factor 3)
Time Planning (Short and Long Range Planning)			
1. Do you plan your day before you start it?	,742	,166	,000
2. Do you have a set of goals for each week ready at the beginning of the week?	,727	,195	,000
3. Do you spend time each day planning?	,690	,119	,000
4. Do you write a set of goals for yourself for each day?	,683	,175	,000
5. Do you make a list of the things you have to do each day?	,659	,000	,000
6. Do you make the schedule of activities you have to do on workdays?	,653	,239	-,103
7. Do you have a clear idea of what you want to accomplish during the next week?	,637	,247	,000
8. Do you set deadlines for yourself for completing work?	,616	,200	-,165
9. Do you try to schedule your best hours for your most demanding work?	,595	,184	-,213
10. Do you keep your important dates (eg. Exam dates, research paper due dates, etc.) on a single calendar?	,592	,000	,000
11. Do you have a set of goals for the entire quarter?	,557	,124	-,120
12. Do you clip or xerox articles which, although not presently important to you, may be in the future?	,458	,000	,119
13. Do you regularly review your class notes, even when a test is not imminent?	,444	,000	-,356
14. Do you keep things with you that you can work on whenever you get spare moments?	,437	,000	,000
15. Do you set and honour priorities?	,404	,430	-,167
16. Each week do you do things as they naturally occur to you, without an effort to make a plan in advance and compulsively? ^a	-,397	-,405	,273

	Time Planning (Factor 1)	Time Attitudes (Factor 2)	Time Wasters (Factor 3)
Time Attitudes			
1. Do you make constructive use of your time?	,434	,615	,000
2. Do you believe that there is room for improvement in the way you manage your time? ^a	,109	-,611	,000
3. Do you feel you are in charge of your own time, by and large?	,323	,607	,000
4. Are you able to make minor decisions quickly?	,128	,470	,219
5. Generally, do you think you can usually accomplish all your goals for a given week?	,185	,487	,000
6. Do you often find yourself doing things which interfere with your school work simply because you hate to say "no" to people? ^a	,170	-,456	,329
7. Do you find yourself waiting a lot without anything to do? ^a	-,248	-,438	,145
Time Wasters			
1. On an average class day do you spend more time with personal grooming than doing schoolwork? ^a	,000	,000	,718
2. Do you continue unprofitable routines or activities? ^a	-,157	-,333	,551
3. Do you smoke an average of at least one pack of cigarettes per day? ^a	,000	,000	,454
4. The night before a major assignment is due, are you usually still working on it? ^a	-,159	-,165	,395

^a These items were reverse scored, for example, response of "never" were given a score of 5.

Reliability of Time Management Questionnaire was addressed by using Cronbach alpha. Table 2 shows the reliability of Time Management Questionnaire for 361 selected university students.

Table 2. Coefficient Alpha for TMQ

Scales	Numb. of Items	Coefficient Cronbach Alpha N= 361
Time Planning	16	0,88
Time Attitudes	7	0,66
Time Wasters	4	0,47
Total Scale	27	0,87

Cronbach Alpha coefficients or internal consistency for three subscales of TMQ for selected 361 university students was ranged from .47 (Time Wasters) to .88 (Time Planning). In addition to that, Cronbach alpha for total scale was .87.

3. DISCUSSION and CONCLUSION

The results of this study suggest that 35-item Time Management Questionnaire retained three subscales for Turkish university students. These three subscales accounted for 34 % of total variance. At the original study, three subscales accounted for 36 % of total variance. This result is closely match with the original study [6]. Total score on TMQ ranged from 47 to 123 with a mean of 86.68 and a standard deviation of 13.21. These scores are also match with the original study (total score range 52-123, 91± 14).

Factor 1 represents the items related with planning in the short run, either within the day or within the week, and planning in the long run. Students who score high on this subscale report organizing their time and thinking everything in terms of a relatively wide time range. As the items clustered in Factor 1 related with short and long range planning, this factor named as "Time planning". However, short range planning and long range planning clustered under the two

separate factors in Britton and Tesser's [6] original form of TMQ. This difference between the original study and the present study may come from the non-equivalence of concepts across cultural groups and it may be resulting from the translation of the instrument [10].

Factor 2 includes the items more attitudinal in nature. Students who score high on this factor indicate that their time is used constructively and that they felt in charge of the way their time is spent. This factor was named as "Time attitudes" and it is parallel with the original study [6].

Factor 3 has items related to poor time using habits and bad use of personal time that were named as "Time wasters". Time wasters are anything that prevents students from achieving their school objectives effectively. Students, who score high on this subscale, success of their time management is low because all the items in it have reversed score. The items loaded under the Factor 3 clustered differently from the original study. Because of their logic and meaning time waster subscale was formed differently for Turkish population when compared with the original study of Britton and Tesser [6].

The results of the reliability testing for TMQ indicated that the instrument is not equally valuable for use with Turkish University students. Only the reliability of time planning subscale was found to be acceptable. In this study Cronbach alpha level for time planning scale (16-items) is .88 and for the total scale it is .87. These levels are acceptable based on Nunnally's [11] criterion of .70. However, alpha level for time attitude scale was found .66 and for time wasters scale it was found .47. When the item numbers clustered in time attitudes scale (7-items) and time wasters scale (4-items) is considered, .66 alpha level for reliability of time attitudes scale is acceptable and .47 alpha level for time wasters scale is moderate. These alpha levels may come from a few numbers of items clustered in each of these scales.

In sum, the results of principal component

analysis to determine the factors associated with TMQ for Turkish university students shows that this questionnaire provides opportunity to make meaningful interpretations on time management and time management subscales for Turkish university students.

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