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ANXIETY, STRESS, AND PERFORMANCE

by

Gary Karl Burger

A Thesis Submitted to the Faculty of the Graduate School
of Loyola University in Partial Fulfillment of
the Requirements for the Degree of
Master of Arts

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LIFE

Gary Karl Burger was born in Chicago, Illinois, December 19, 1938.

He was graduated from Loyola Academy, Chicago, Illinois, June, 1956, and from Loyola University at Chicago, June, 1960, with the degree of Bachelor of Arts.

He began his graduate studies at Loyola University at Chicago in September, 1960, and became a graduate assistant at that time. In September, 1962, he became a teaching fellow at Loyola University. He became a research associate at the Loyola Psychometric Laboratory in May, 1963.

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CHAPTER I

INTRODUCTION

As Walker and Nicolay (1963) point out, " a perusal of the psychological research literature for the last decade reveals a pronounced interest in the concept of anxiety and attempts to measure it." They also go on to point out that results in this area of research are often inconsistent. Two reviewers of anxiety studies (Taylor, 1956; I. G. Sarason, 1960) have made this same observation -- that there are many inconsistencies in anxiety studies supposedly employing the same variables. In his review article Sarason (1960) has suggested that these inconsistencies might be due to the fact that most of the tests used to operationally define anxiety are primarily global in nature. Perhaps, he suggests, what is needed are scales to measure specific types of anxiety.

To explore this possibility, Walker and Nicolay (1962) devised a test of anxiety which included scales for specific types of anxiety. These specific types are as follows (Walker, Nicolay, 1962):

Anxiety Type M (Motor Tension)

Type M anxiety is characterized by concern with external achievements coupled with physical tension which acts as a defense against feelings of inadequacy. When frustration occurs, energy is channeled somatically instead of psychically. Type M anxiety results in hyper-activity, physical and mental restlessness, or jumpiness.

Anxiety Type O (Object)

Type O anxiety is characterized by concern that external demands and perceived expectancies may be overwhelming and one may suffer harm. It represents a projection or rationalization of one's possible personal inadequacy. It results in a magnification of personal problems out of proportion to objective reality. The emphasis here is on the external as a source of uncertainty or unrest.

Anxiety Type P (Personal Inadequacy)

Type P anxiety is characterized by concern that one may not be capable of meeting the difficulties of life. The person himself feels inadequate and the inadequacy lies within himself. There is a certain helplessness and self-evaluation which may give rise to guilt feelings. The focus of the uncertainty is on one's own inadequacy.

These three anxiety types were based upon a factor analysis of the MAS (O'Connor, Lorr, and Stafford, 1956).

Items corresponding to the above named factors were constructed and given to ten clinicians, who sorted them according to the three specified subtypes of anxiety. Only those items which evidenced high agreement among the clinicians were utilized. Thus, the PRS attempts to measure experimentally derived subtypes of anxiety. It is hoped that these factorially defined types will relate in a consistent fashion to other variables.

Other investigators in the area of anxiety, as is indicated in Chapter II, have concentrated upon developing tests of anxiety related to specific situations. Within this framework, then, there will be as many types of anxiety as there are specific situations. As can be readily seen, the PRS, based as it is upon factorially defined anxiety subtypes, represents a different and more parsimonious approach to the question of global vs. specific tests of anxiety. The PRS is currently being researched to determine its relationship to other variables.

Some of the typical independent variables that have been used in anxiety research have been stress (or, as it is sometimes called, threat and non-threat) and level of task difficulty. Studies have been attempted to assess the relationship between anxiety and these variables. Here again, as Sarason (1960) points out, the results have often

been inconsistent.

The purpose of this study is to examine the relationship between anxiety, stress, and level of task difficulty utilizing the Nicolay-Walker Personal Reaction Schedule as a more specific estimate of anxiety types.

CHAPTER II

REVIEW OF RELATED LITERATURE

While anxiety has been a concept which has been widely employed in many psychological theories and explanations, its objective definition did not come until late in the history of psychology. In 1951 a group of experimental psychologists developed the Taylor Manifest Anxiety Scale (MAS) (Farber, 1955; Taylor, 1951, 1953, 1956). The scale was developed in order to test certain propositions of the Hull-Spence learning theory -- the MAS being a measure of Hull's D. Essentially, the MAS consists of anxiety items from the M.M.P.I. along with buffer items. The MAS has, since its construction for use as a description of D, been used in a wide variety of experiments dealing with the relationship of anxiety to other variables.

However, as some reviewers have pointed out (Childs, 1954; Sarason, 1960; Taylor, 1956), many inconsistencies seem to be present in the general area of anxiety research. This, as was stated in the Introduction, might be due to the global nature of the MAS. Other investigators have con-

constructed measures of anxiety which are more specific (Bendig, 1956; Dixon, de Monchaux, and Sandler, 1957; Lykken, 1957; Mandler and Sarason, 1952; Sarason, 1958; Welsh, 1952, 1956) in an attempt to deal with such a criticism.

Using the results of a factor analysis of the MAS (O'Connor, Lorr, and Stafford, 1956), O'Brien (1957) attempted to include further items to describe three of the factors that emerged (chronic anxiety, personal inadequacy, and motor tension anxiety). However, predicted relationships between these scales and problem solving ability were not verified experimentally. The Nicolay-Walker Personal Reaction Schedule (PRS) (1962) was based upon the work of O'Brien (1957) but included several new features. The PRS measures three types of anxiety -- motor tension, object, and personal inadequacy. The authors constructed the test for use as research and clinical instrument and hypothesize that "this scale will relate significantly better than 'general' indices to dependent variables which are vulnerable to anxiety inasmuch as the PRS has been constructed to measure three relatively pure types of anxiety." Nicolay and Walker (1962) present normative data on the PRS which indicate it is a reliable and valid instrument for measuring anxiety. Research is currently in progress to relate the PRS to other variables. Specifically, the PRS was found to discriminate between psychiatric

patients and college samples (Walker, Nicolay, 1963). There is also evidence that the PRS relates more significantly to the variable of reaction time than the MAS (Walker, Nicolay, 1963).

The relationship between anxiety and stress is one of the typical problems experimentally studied in the area of anxiety. One of the most frequent techniques used for producing stress has been that of verbal instructions. As Sarason (1960) points out, "most investigators have assumed that high anxious subjects would be more sensitive to implied personal threat than would low anxious subjects." Sarason points out this assumption was not demonstrated to be true by a number of studies (Cox and Sarason, 1964; Farber and Spence, 1956; Gynther, 1957; Taylor, 1958).

Farber and Spence (1956) in a reaction time experiment, intended to clarify the relations among manifest anxiety, experimentally induced stress, and various task variables. No evidence that anxiety affected reaction time was found. Furthermore, there was no clear indication with regards to the role of induced stress. Taylor (1958) found that there was no interaction between anxiety level and the stress and neutral conditions of her study. Gynther (1957) verified this finding in terms of communication efficiency as measured in a short interview. No interaction between anxiety

and stress was observed. Using another measure of performance, responses on the Rohrschach test, Cox and Sarason (1954) found no statistical differences between neutral and stress conditions. In summary, some empirical studies have found stress, taken either alone or with anxiety, to have little or no effect upon performance.

The greater number of studies, however, according to Sarason, support the assumption (Mandler and Sarason, 1952; Nicholson, 1958; Sarason, Mandler, and Craighill, 1952; Truax and Martin, 1957; Westrope, 1953). Coupled with this assumption, it has been found that there are no differences among groups differing in scores on anxiety scales in the absence of stress (Axelrod, Cowen, and Heilizer, 1956; Sarason, 1956, 1957; Silverman and Blitz, 1956).

Mandler and Sarason (1952) found clear differences between high and low anxious subjects under stress conditions for the Kohs block design, but not for a digit symbol test. In another study, however, Sarason, Mandler, and Craighill (1952) found that in digit symbol performance "stress producing instructions can have opposite effects with different subjects, depending on the anxiety level in the testing situation." Westrope (1953) found that stress impaired digit symbol performance, but that performance was not significantly related to anxiety. The data suggested,

however, that anxious subjects tended to be more affected by stress than non-anxious subjects. Nicholson (1958) found a clear relationship between anxiety and stress. Low anxious subjects improved more under stress than did high anxious subjects, although both groups performed equally well under neutral conditions. Truax and Martin (1957), using addition as the task variable, found that stress improved performance in a simple task and that there was a significant interaction between anxiety and stress. However, in a more complex version of the task, no significant findings emerged.

With respect to the relationship between anxiety and task complexity, Childs (1954), after reviewing several studies, points out that "These various lines of evidence do add up to a convincing demonstration that as the task becomes more complex (in the sense of involving conflict among various response tendencies) there is a tendency for high anxiety subjects to show increasingly poor performance in comparison with low anxiety subjects." It has also been demonstrated that, for simple tasks, high anxious subjects perform better than do low anxious subjects. This idea, basically generated by the research of the Dowa group, has been supported as described by Sarason (1960), by numerous studies (Farber and Spence, 1953; Montague, 1953; Ramond, 1953; Spence, Farber,

and McFann, 1956; Taylor, 1951; Taylor and Spence, 1952). However, these notions, usually referred to as the drive theory of anxiety, have not been confirmed in a significant number of studies (Bindra, Paterson, and Strzelocki, 1955; Deese, Lazarus, and Keenan, 1953, Heilizer, Axelrod, and Cowen, 1956; Kamin and Clark, 1957).

Since task difficulty and stress both appear to be related to anxiety, Sarason and Palola (1960) studied the interaction of anxiety, differential motivating instructions, and task complexity. Their results indicate that all three variables must be considered simultaneously.

The experimental design of this study does take into account these three variables -- anxiety, task complexity, and differential motivating instructions -- and relates them to performance. In addition, the Nicolay-Walker Personal Reaction Schedule (PRS) was used as a measure of anxiety in order to avoid the inconsistencies of past research in the field.

CHAPTER III

PROCEDURE

To investigate the relationship between anxiety, stress, and level of task difficulty, anxiety scores were obtained for 240 subjects. One hundred and twenty of these received stress instructions after the initial non-stress instructions, and one hundred and twenty received non-stress instructions after the initial non-stress instructions. Half of each of the above two groups performed a simple task, while half performed a complex task. Thus difficulty of task, anxiety, and stress were manipulated as independent variables. For the purposes of this study, only the "P" scale (personal inadequacy) and the "T" scale (total anxiety) of the Nicolay-Walker Personal Reaction Schedule were used as indices of anxiety.

Subjects

The subjects for this study were randomly selected from the population of introductory psychology students at Loyola University. The sample included both males and females. All of these subjects had been previously given the Nicolay-Walker Personal Reaction Schedule. (A copy of the Personal Reaction

Schedule is contained in the Appendix.) The subjects were tested in groups ranging in size from six to twelve members. Each group was randomly assigned to one of the four experimental treatments listed below. Each experimental treatment contained sixty cases, making a total of two-hundred and forty for the whole study.

Experimental Design

Condition I (N = 60)

A simple task performed under non-stress conditions followed by a simple task performed under non-stress conditions.

Condition II (N = 60)

A simple task performed under non-stress conditions followed by a simple task performed under stress conditions.

Condition III (N = 60)

A complex task performed under non-stress conditions followed by a complex task performed under non-stress conditions.

Condition IV (N = 60)

A complex task performed under non-stress conditions followed by a complex task performed under stress conditions.

Task

The simple task was a digit symbol test of two-hundred and fifteen digits in length with a code of five symbols. There were two forms of this task -- form one and form two.

Form one was administered in the first part of conditions I and II, and form two was administered in the last part of conditions I and II. Both forms contained the same symbols; only the order of the digits was different.

The complex task was a digit symbol test of two-hundred and fifteen digits in length with a code of ten symbols. There were also two forms of this task -- form one and form two. Form one was administered in the first part of conditions III and IV and form two was administered in the last part of conditions III and IV. Both forms contained the same symbols; only the order of the digits was different. (Copies of all forms are contained in the Appendix.)

Non-Stress and Stress Instructions

All of the subjects were given the following instructions previous to being administered form one (both simple and complex). They were designed to be relatively non-threatening in nature.

ALL

I am going to give you a task, which I shall explain in a moment, on which I am trying to set up norms for college students in general and Loyola students in particular. Please do not start the task until I give you the starting signal. Also, please do not talk or make any distracting noises from this point onward.

(Now Pass Out Form One)

Please fill in your name at the top immediately. Now, look

at these boxes. Notice that each has a number in the upper part. Every number has a different mark. Now look here (point to samples) where the upper boxes have numbers but the squares beneath have no marks. You are to put in each of these squares the mark that should go there, like this ---. Here is a 2, so you would put in this mark. Here is a 1, so you would put in this mark.

Now, when I tell you to begin, start here and fill in as many squares as you can without skipping any. You will have three minutes in which to work. You probably will not be able to finish all of them, but do the best you can. Be sure to stop when I say stop. Are there any questions? Ready, begin.

(After 3 Minutes Say Stop)

Now, to simplify the scoring procedure for me, please count the number of squares which you have successfully completed and record this number in the box marked "score" in the upper right hand corner of your sheet. I'll check your computation later.

(Now Collect Papers)

For conditions I and III, the subjects were given the following instructions previous to taking form II of the task. Again, they were designed to be relatively non-threatening in nature.

NON STRESS

Now, in order to make sure that I've obtained an accurate measure, I'm going to give you another form of the previous task. Notice that the code remains the same.

(PASS OUT FORM TWO)

Please put your name on the top of the paper. The same directions apply. You again will have three minutes. Start when I say start and stop when I say stop. Ready, begin.

(After 3 Minutes Say Stop)

For conditions II and IV, the subjects were given the following instructions. They were designed to create stress in that they now refer to the task as an intelligence test and state that most of them have performed considerably below average.

STRESS

As some of you might know, this test was a form of the WAIS -- The Wechsler Adult Intelligence Scale, which is a very frequently used measure of adult intelligence. The digit symbol test, which you have just taken, is a subscale of the Wechsler Adult Intelligence Scale and is often used to obtain a quick measure of intelligence.

We've found that high school students of above average intelligence -- an I.Q. greater than 100 -- and most college students who graduate make scores between 140/185 and 170/215 on this test of intelligence.¹

Now I'll give you another form of the WAIS digit symbol test to check the reliability of your original score and also your comparison with our previously computed norms. Notice that the code remains the same.

(PASS OUT FORM TWO)

Please put your name on the top of the paper. The same directions apply. You again will have three minutes. Start when I say start and stop when I say stop. Ready, begin.

(After 3 Minutes Say Stop)

¹The figures 140 and 170 were selected on the basis of a pilot study and were done so to represent levels of performance that few students reach. This was born out by the data.

At the conclusion of the experimental conditions (conditions II and IV) the subjects were interviewed to determine whether they did, as a matter of fact, experience stress. The data of all subjects who reported that they did not experience stress were not included. The experimenter took particular care, throughout the experiment, to hold the manner of presentation of the differential instructions constant.

CHAPTER IV

RESULTS

The results, in general, indicated that there was no significant relationship between anxiety, stress, and level of task difficulty as operationally defined and manipulated in this study.

Anxiety

Table 1 presents the means and standard deviations of the four groups tested for both the Personal Inadequacy and the Total Anxiety scales of the Nicolay-Walker Personal Reaction Schedule.

Table 1
Anxiety Scores for "P" and "T" Scales
For the Four Experimental Conditions
(N = 60)

Condition	"P" Scale		"T" Scale	
	Mean	S.D.	Mean	S.D.
I	10.92	3.75	31.45	9.90
II	10.10	3.75	28.69	9.55
III	10.70	3.96	30.45	9.10
IV	10.93	4.11	29.48	7.60

Table 2 presents the normative data for both the Personal Inadequacy and the Total Anxiety scales based upon undergraduate students at Loyola University (Nicolay, Walker, 1962).

Table 2
Normative Data for "P" and "T" Scales of the
Nicolay-Walker Personal Reaction
Schedule (N = 648)

	"P" Scale	"T" Scale
Mean	10.94	30.88
S.D.	4.30	10.35

Performance and Stress

Table 3 presents the means and standard deviations of the four groups for both forms of the task. The performance scores were the number of correct digit symbols completed during the allotted time. The group performing the simple task under first non-stress and then stress instructions (condition II) improved significantly more than did the group performing the simple task under non-stress and then non-stress instructions (condition I). For the simple task, the presence of stress produced a greater improvement in performance than did its absence. This effect was not present in the complex task. The correlations between forms one and

two for all conditions are also presented. All of the correlations differ significantly from zero. All are rather high and indicate almost equivalent performance for all of the subjects, going from form one to form two.

Table 3
Performance Scores* and Correlations** for
Forms One and Two (N = 60)

Condition	Form One		Form Two		r_{12}
	Mean ₁	S.D.	Mean ₂	S.D.	
I	144.83	19.00	161.50	22.53	.81
II	134.34	28.80	158.85	28.49	.85
III	116.33	16.88	133.17	16.48	.76
IV	113.34	15.52	132.00	18.68	.67

*The difference ($M_1 - M_2$) for Condition I minus ($M_2 - M_1$) for Condition II is significant beyond the .01 level.

**All correlations differ significantly from zero beyond the .01 level.

Performance and Anxiety

Table 4 presents the correlations between the measures of anxiety and performance for all conditions. All of the relations were scatter plotted before computation to check for curvilinearity. No such relationship was found. No one of the correlations differs significantly from zero. No two of

the correlations differ significantly between themselves. The measures of anxiety used in this study do not relate significantly to level of task difficulty on performance under varying degrees of stress.

Table 4
Correlations Between the "P" Scale, "T" Scale, and
Performance Scores on Forms One and Two (N = 60)

Condition	Form one		Form Two	
	r_{p1}	r_{t1}	r_{p2}	r_{t2}
I	.14	.08	.17	.12
II	.16	.16	.08	.04
III	.01	.12	.08	.16
IV	.07	.09	.15	.18

None of the above correlations differs significantly from zero at the .01 level.

No one correlation differs from any other correlation at the .05 level.

CHAPTER V

DISCUSSION AND CONCLUSIONS

The most significant aspects of the study are related in Table 3 and Table 4 as presented previously. In Table 3, considering conditions I and II, the presence of stress instructions for the simple task produced a significantly greater improvement in performance than did non-stress instructions. However, for the complex task (conditions III and IV), there was no significant difference in performance between stress and non-stress instructions. Ignoring the influence of anxiety, then, stress, as operationally defined in this study, increases performance on a simple task but not on a complex task. The high degree of linear association, as given by the Pearson product moment correlations, between forms one and two of the task for all the conditions may be interpreted as a measure of the uniform and homogeneous rate of improvement of the subjects.

Table 4 may be interpreted as evidencing the degree of linear association between anxiety, task difficulty, and stress. The lack of any significant degree of association or of differences among any of the various associations admits of

several interpretations. Firstly, it is possible that there in reality is no relationship between anxiety, stress, and task difficulty. Secondly, it is possible that the stress, as operationally defined in this study, was inadequate in terms of intensity to produce experimental effects. This interpretation seems likely in view of the fact that the stress conditions did not significantly alter the variance of the groups involved. In terms of central tendency, no disruptive effects due to stress were evidenced. In fact, as noted above, stress improved performance significantly for the simple task.

A third possible interpretation of Table 4 is that the measure of anxiety used, the PRS, is an inadequate instrument for the definition of anxiety within the framework of this particular study. Still a fourth possible interpretation is that certain unknown (at the time of the experiment) social variables were not controlled. A recent study by Walker and Weismuller (1963) indicates that social variables such as competition and cooperation can interact significantly with anxiety and performance in certain group testing situations. It seems most likely to the experimenter that interpretations two and four listed above are the most adequate interpretations of the experimental findings. It is suggested that future studies include these possibilities in their research

design.

The conclusions, then, that can be drawn from this study are as follows. Considering the operational definitions of anxiety, stress, and task difficulty to be valid: 1) stress improves performance significantly more in a simple task than in a complex task, 2) there is no relationship between either a global measure of anxiety (T) or a specific measure of anxiety (P) and task difficulty and stress using performance as a criterion. However, there is serious doubt whether the operational definition of stress used is adequate and there is the possibility that certain unknown social variables were uncontrolled.

It should be pointed out that the results obtained in this study are not inconsistent with at least some of the work that has been done in this field. The effect of stress in improving performance on the simple task but not on the complex task confirms the findings of Truax and Martin (1957). The lack of any significant relationship, linear or curvilinear, between anxiety and performance under either stress or non-stress conditions confirm such findings as Farber and Spence (1956) and Gynther (1957). The lack of any significant correlation between performance and anxiety under neutral conditions is consistent with the findings of Sarason (1956, 1957) and others. Thus, this study verifies or agrees with some aspects of pre-

vious studies in this area, but disagrees with others. In this sense, it contributes to the already large body of inconsistent evidence in this field.

CHAPTER VI

SUMMARY

While anxiety has been the subject of many empirical studies during the last decade, findings in this area frequently have been inconsistent. Some reviews of anxiety research have suggested that these inconsistencies are due to anxiety measures which are too global or all inclusive in nature. To remedy this deficiency, Nicolay and Walker (1962) authored the Personal Reaction Schedule which measures three specific types of anxiety.

In order to determine the relationship between this measure of anxiety and stress and task difficulty, 240 undergraduate students at Loyola University were randomly assigned to one of four experimental conditions as follows.

Condition I

A simple task performed under non-stress conditions followed by a simple task performed under non-stress conditions.

Condition II

A simple task performed under non-stress conditions followed by a simple task performed under stress

conditions.

Condition III

A complex task performed under non-stress conditions followed by a complex task performed under non-stress conditions.

Condition IV

A complex task performed under non-stress conditions followed by a complex task performed under stress conditions.

The testing was done in groups ranging in size from six to twelve. The stress conditions were established by telling the subjects that they were taking an intelligence test, and that they hadn't done well on the first trial. The simple task was a digit symbol test containing five digits and symbols. The complex task was a digit symbol test with ten digits and symbols.

It was found that stress improved performance significantly on the simple task but not for the complex task. Performance on form one was highly correlated with form two under all experimental conditions. Correlations of both the P and T scales with forms one and two under all experimental conditions did not differ significantly from zero or from each other.

The results indicate that there is no relationship between anxiety and stress or task difficulty. However, there

are some reasons to hypothesize that the stress, as operationally defined in the experiment, was inadequate. It was also suggested that several unknown social variables were in operation.

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APPENDIX

SIMPLE DIGIT SYMBOL TEST

Form One

1	2	3	4	5
—	⊥	□	⊥	⊥

CODE

2	3	1	4	5

SIMPLE DIGIT SYMBOL TEST

Form Two

1	3	2	5	3

COMPLEX DIGIT SYMBOL TEST

Form One

1	2	3	4	5	6	7	8	9	0
—	⊥	□	⊥	□	⊥	Λ	X	≡	□

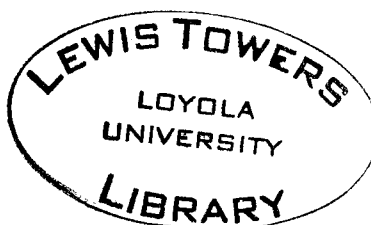
CODE

6	7	1	3	8	9	0	1	2	4

COMPLEX DIGIT SYMBOL TEST

Form Two

2	1	0	9	8	5	4	3	6	4



PERSONAL REACTION SCHEDULE

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PERSONAL REACTION SCHEDULE

DO NOT WRITE OR MARK ON THIS BOOKLET IN ANY WAY. YOUR ANSWERS ARE TO BE RECORDED ONLY ON THE IBM ANSWER SHEET.

Print your name, age, birth, sex, etc. in the blanks provided on the answer sheet.

The reaction schedule consists of numbered statements. Read each statement and decide whether it is true as applied to you, or false as applied to you. If a particular statement is true or mostly true as applied to you, blacken between the lines in the column headed T. If the statement is false or not usually true as applied to you, blacken between the lines in the column headed F. Remember, you are to mark your answers on the answer sheet.

Work quickly and remember to give YOUR OWN opinion of yourself. Do not leave any item unanswered.

In marking your answers, be careful that the number of the statement agrees with the number on the answer sheet. Blacken heavily to indicate your answers. If you wish to change any of your answers, erase completely.

PERSONAL REACTION SCHEDULE

1. Most people certainly aren't very helpful.
2. I am capable of handling crises or difficulties.
3. Good guys usually end up last.
4. I certainly feel useless at times.
5. My sleep is fitful and disturbed.
6. I bring a lot of troubles on myself.
7. I usually do better when people leave me alone.
8. When in a group of people, I have trouble thinking of the right things to talk about.
9. I frequently notice my hand shakes when I try to do something.
10. I often miss my opportunities because I don't try hard enough.
11. I would have less trouble today if my parents had been the kind of people they should have been.
12. Criticism or scolding hurts me terribly.
13. I relax as much as others do.
14. My parents expect me to achieve more than I expect of myself.
15. I could probably do better if I had more self-confidence.
16. I find it hard to make talk when I meet new people.
17. Most people can do you more harm than they can help you.
18. In stress situations I like to be physically active.
19. I certainly feel useless at times.
20. I have had very few quarrels with members of my family.
21. The teachers or bosses I have met generally don't demand too much work.
22. If people knew me well, they probably wouldn't think much of me.
23. I perspire no more than most people.
24. I like to let people know where I stand on things.
25. I think tests and examinations are usually fair.
26. I have strong feelings of regret from jobs that I have left unfinished.
27. What others think of me does not bother me.
28. I dislike moving in new social circles.
29. I don't get depressed when I think of the things I should have done.
30. Most people will use somewhat unfair means to gain profit or an advantage rather than to lose.
31. I have been afraid of things or people that I knew could not hurt me.
32. I have periods of such great restlessness that I cannot sit long in a chair.

PERSONAL REACTION SCHEDULE

PRS-2

33. I have periods in which I feel unusually cheerful without any special reason.
34. I think I am no good for anything.
35. Most people succeed in this world because of good breaks.
36. At times I feel like smashing things.
37. I don't spend too much time thinking about myself.
38. I am usually lucky.
39. I get mad easily and get over it soon.
40. I am jumpy and irritable in a crisis.
41. Being a leader does not appeal to me because I think someone else can do better.
42. I have never felt better in my life than I do now.
43. Most people will take advantage of you if you let them.
44. When worried, I eat too fast.
45. It takes a lot of argument to convince most people of the truth.
46. I would not judge most people to be more worthwhile than myself.
47. I am not a high-strung person.
48. People often disappoint me.
49. I often feel something dreadful is going to happen to me.
50. My judgment isn't very good.
51. At times I feel like swearing.
52. On the night before a big event I don't have trouble sleeping.
53. When I fail to do well, other people are usually responsible.
54. At periods my mind seems to work more slowly than usual.
55. I will probably never be able to deal effectively with most of my problems.
56. Sometimes I become so excited that I find it hard to get to sleep.
57. I have often met people who were supposed to be experts who were no better than I.
58. Others do not expect too much of me.
59. I am usually nervous and easily upset.
60. I frequently find myself worrying about something.
61. People confuse me most of the time.
62. I am certainly lacking in self-confidence.
63. I worry over money and business.

PERSONAL REACTION SCHEDULE

PRS-3

64. I don't have to urinate more frequently than most people.
65. I would be a more effective person if my home life had been more pleasant.
66. At times I am full of energy.
67. I work under a great deal of tension.
68. Most of my problems stem from my relations with other people.
69. It makes me impatient to have people ask my advice or otherwise interrupt me when I am working on something important.
70. I often notice my heart pounding and I am often short of breath.
71. I like competition.
72. I often think "I wish I were a child again."
73. I'm uneasy and restless when I have to wait.
74. I never seem to get the opportunities others do.
75. I find it hard to set aside a task that I have undertaken, even for a short time.
76. My hand is often unsteady.
77. People don't make me very nervous.
78. I think a great many people exaggerate their misfortunes in order to gain the sympathy and help of others.
79. I am not easily awakened by noise.
80. I usually expect the worst from other people.
81. It makes me uncomfortable to put on a stunt at a party even when others are doing the same sort of thing.
82. As an overall evaluation of my life to this point, I would not judge myself a failure.
83. I prefer doing things to reading.
84. Often I can't understand why I have been so cross and grouchy.
85. I don't seem to do anything right.
86. I worry quite a bit over possible misfortunes.
87. I am against giving money to beggars.
88. I sweat very easily even on cool days.
89. If my problems were like other people's I could handle them.
90. I think anyone would tell a lie to keep out of trouble.
91. I like sports as a way to blow off steam.
92. I generally prefer familiar surroundings to new ones.
93. I have sometimes felt that difficulties were piling up so high that I could not overcome them.

PERSONAL REACTION SCHEDULE

PRS-4

- | | |
|--|--|
| 94. I have no more trouble with diarrhea or constipation than most people. | 106. I do not have nightmares every few nights. |
| 95. At times my thoughts have raced ahead faster than I could speak them. | 107. I am often impatient with myself. |
| 96. I do things poorly if people rush me. | 108. I find it hard to set aside a task that I have undertaken, even for a short time. |
| 97. Most people seem to get along better in life than I do. | 109. I am neither physically nor mentally equipped to live a happy life. |
| 98. I don't respect the opinions of others more than my own. | 110. I am very self-conscious in strange social settings. |
| 99. I cannot keep my mind on one thing. | 111. I am generally guilty of setting my goals too low. |
| 100. I am no more sensitive than most other people. | 112. Most nights I can go to sleep without thoughts or ideas bothering me. |
| 101. I feel uneasy and tense when I leave an important task unfinished. | 113. I am unusually self-conscious. |
| 102. I often just can't "get going." | 114. In school I used to get (do get) uneasy and worked (work) harder before a test. |
| 103. Most of the things I have done haven't been worth the effort. | 115. I do not have more personal problems than most people I know. |
| 104. It doesn't make me nervous to have to wait. | 116. I don't worry over money and business. |
| 105. I am not inclined to take things hard. | 117. I get mad at myself when I make mistakes. |

NOW GO BACK AND CHECK THE IBM ANSWER SHEET. IF YOU HAVE LEFT ANY QUESTIONS UNANSWERED, PLEASE ANSWER THEM.

PRS SCORING KEY

The first letter indicates True or False; the second, the scale to which the item belongs.

1. TO	40. TM	79. FM
2. FP	41. TP	80. TO
3. TO	42. FK	81. FK
4. FK	43. TO	82. FP
5. TM	44. TM	83. TM
6. TP	45. FK	84. FK
7. TO	46. FP	85. TP
8. FK	47. FM	86. TO
9. TM	48. FK	87. FK
10. TP	49. TO	88. TM
11. TO	50. TP	89. TO
12. FK	51. FK	90. FK
13. FM	52. FM	91. TM
14. TO	53. TO	92. TO
15. TP	54. FK	93. FK
16. FK	55. TP	94. FM
17. TO	56. TM	95. FK
18. TM	57. FK	96. TO
19. TP	58. FO	97. TP
20. TK	59. TM	98. FP
21. TO	60. FK	99. TM
22. TP	61. TO	100. FP
23. FM	62. TP	101. TM
24. FK	63. FK	102. TP
25. FO	64. FM	103. TP
26. TP	65. TO	104. FM
27. FK	66. FK	105. FP
28. TO	67. TM	106. FM
29. FP	68. TO	107. TP
30. FK	69. FK	108. TM
31. TO	70. TM	109. TP
32. TM	71. FO	110. TO
33. FK	72. FK	111. TP
34. TP	73. TM	112. FM
35. TO	74. TO	113. TP
36. FK	75. FK	114. TM
37. FP	76. TM	115. FP
38. FO	77. FO	116. FO
39. FK	78. FK	117. TP

APPROVAL SHEET

The thesis submitted by Gary Karl Burger has been read and approved by three members of the Department of Psychology.

The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated, and that the thesis is now given final approval with reference to content, form, and mechanical accuracy.

The thesis is therefore accepted in partial fulfillment of the requirements for the Degree of Master of Arts.

January 31, 1964
Date

Paul von Eber.
Signature of Adviser