
CHAPTER 4. STRESS AND FLYING

18. WHAT IS STRESS? Stress is a term used to describe the body's nonspecific response to demands placed on it, whether these demands are pleasant or unpleasant in nature. The demands on a pilot can range from unexpected windshear encountered on a landing to a lost wallet. Piloting the aircraft is the pilot's responsibility. Therefore, a healthy pilot should perform at his/her optimum level and make decisions to the best of his/her ability. Numerous physical and physiological conditions in a pilot's personal and professional life, as well as the nature of flight itself, can hamper this ability. Even though a pilot holds a medical certificate stating that the pilot meets the health requirements for a particular type of flight operation, the decision whether the pilot is fit to fly is strictly the pilot's.

19. HOW MUCH STRESS IS IN YOUR LIFE?

a. *If you hope to succeed* at reducing stress associated with crisis management in the air or with your job, it is essential to begin by making a personal assessment of stress in all areas of your life. You may face major stressors such as a loss of income, serious illness, death of a family member, change in residence, or birth of a baby, plus a multitude of comparatively minor positive and negative stressors. These major and minor stressors have a cumulative effect which constitutes your total stress-adaption capability which can vary from year to year. To enhance your awareness about the sources of stress in your life, the life change profile questionnaire (appendix 5) is presented. Place a check in the **Happened** column if you have experienced the event described in the last 12 months. Total your score at the end of the questionnaire.

b. *The more change you have*, the more likely you are to suffer a decline in health. As a rule of thumb, if you score over 20 checks, mostly in the top half of the checklist, you have an 80 percent chance of a serious health change. If you have about 20 checks distributed over the checklist, you have about a 50 percent chance of illness in the near future. Each of us has personal

stress-adaption limitations. When we exceed this level, stress overload may lead to poor health or illness.

20. IS STRESS BAD? Stress is a response to a set of circumstances that induces a change in a pilot's current physiological and/or psychological patterns of functioning forcing the pilot to adapt to these changes. Stress is an inevitable and necessary part of life that adds motivation to life and heightens a pilot's response to meet any challenge. In fact, performance of a task will generally improve with the onset of stress, but will peak and then begin to degrade rapidly as stress levels exceed a pilot's adaptive abilities to handle the situation.

21. HANDLING STRESS IN FLYING. Accidents often occur when flying task requirements exceed a pilot's capabilities. A superior pilot uses superior judgment to avoid stressful situations which might call for use of superior skills. The difference between pilot capabilities and task requirements is the margin of safety (figure 5). In this example, the margin of safety is minimal during the approach under ideal conditions. For this pilot, a cold and fatigue may reduce the minimal margin of safety as well as the overall margin of safety throughout the flight.

a. *Stress is insidious.* Stress has a gradual and cumulative effect that develops slowly, so slowly that stress can be well established before becoming apparent. A pilot may think that he/she is handling everything quite well, when in fact there are subtle signs that the pilot is beyond his/her ability to respond appropriately.

b. *Stress is cumulative.* A generalized stress reaction can develop as a result of accumulated stress. There is a limit to a pilot's adaptive nature. This limit, the stress tolerance level, is based on a pilot's ability to cope with the situation. If the number or intensity of the stressors becomes too great, the pilot is susceptible to an environmental overload. At this point, a pilot's performance begins to decline and judgment deteriorates.

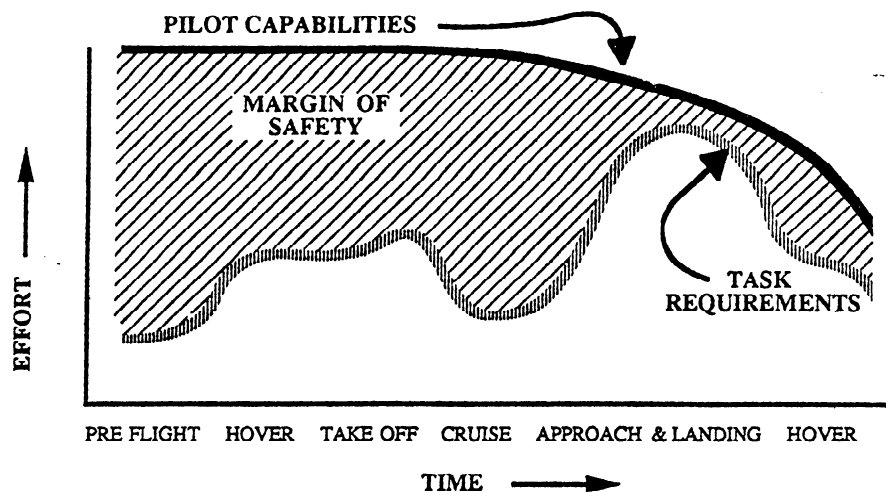


FIGURE 5. THE MARGIN OF SAFETY

c. *Signs of inadequate coping.* The indicators of excessive stress often show as three types of symptoms: (1) emotional, (2) physical, and (3) behavioral. These symptoms differ depending upon whether aggression is focused inward or outward. Those individuals who typically turn their aggressive feelings inward often demonstrate the emotional symptoms of depression, preoccupation, sadness, and withdrawal. The individual who typically takes out frustration on other people or objects exhibits few physical symptoms. On the other hand, emotional symptoms may show up as overcompensation, denial, suspicion, paranoia, agitation, restlessness, defensiveness, excess sensitivity to criticism, argumentativeness, arrogance, and hostility.

d. *Life Stress Management.* There are many techniques available that can help reduce the stress in your life or help you cope with it better. Not all of the following ideas may be the solution, but some of them should be effective for you.

- (1) Become knowledgeable about stress.
- (2) Take a realistic assessment of yourself.
- (3) Take a systematic approach to problem solving.
- (4) Develop a life style that will buffer against the effects of stress.
- (5) Practice behavioral management techniques.
- (6) Establish and maintain a strong support network.

e. *Cockpit Stress Management.* Good cockpit stress management begins with good life stress management. Many of the stress coping techniques practiced for life stress management are not usually practical in flight. Rather, you must condition yourself to relax and think rationally

when stress appears. The following checklist outlines some thoughts on cockpit stress management.

(1) Avoid situations that distract you from flying the aircraft.

(2) Reduce your workload to reduce stress levels. This will create a proper environment in which to make good decisions.

(3) If an emergency does occur, **be calm**. Think for a moment, weigh the alternatives, then act.

(4) Maintain proficiency in your aircraft; proficiency builds confidence. Familiarize yourself thoroughly with your aircraft, its systems, and emergency procedures.

(5) Know and respect your own personal limits.

(6) Do not let little mistakes bother you until they build into a big thing. Wait until after you land, then "debrief" and analyze past actions.

(7) If flying is adding to your stress, either stop flying or seek professional help to manage your stress within acceptable limits.

f. **Flight Fitness.** A "Go/No-Go" decision is made before each flight. The pilot should not only preflight check the aircraft, but also his/herself on each and every flight. A pilot should ask, "Could I pass my medical examination

right now?" If the pilot cannot answer with an absolute "yes," then the pilot should not fly. The following checklist is intended for a pilot's personal preflight use. A pilot may elect to carry a copy in his/her flight bag and onboard the aircraft.

(1) Do I feel well? Is there anything wrong with me at all?

(2) Have I taken any medication in the last 12 hours?

(3) Have I had as little as one ounce of alcohol in the last 12 hours?

(4) Am I tired? Did I get a good night's sleep last night?

(5) Am I under undue stress? Am I emotional right now?

(6) Have I eaten a sensible meal and taken in a good load of protein? Do I have a protein snack, such as cheese, meat or nuts, aboard?

(7) Am I dehydrated? Do I need to take noncarbonated liquids such as water or fruit juices?

(8) Am I equipped with sunglasses, ear protectors, appropriate clothing?

CHAPTER 5. RISK MANAGEMENT

22. ASSESSING RISK. Risk management is the responsibility of everyone involved in aviation. The flight operations manager, for example, who is faced with the decision as to just how hard to push a pilot to go, becomes a party to the risk management process. It is understandable from an economic point of view that the mail, checks, boss, passenger, whatever, must get through. This question "Is the success of the task worth the risk?" must always be kept in mind during decision making. Risk management in ADM is discussed in detail in DOT/FAA/PM-86/43, Aeronautical Decision Making for Instrument Pilots.

23. THE DECIDE MODEL.

a. *A good tool* to use in making good aeronautical decisions is the Decide Model (figure 6).

The Decide Model, comprised of a six step process, is intended to provide the pilot with a logical way of approaching decision making. The Decide Model is described in greater detail in DOT/FAA/PM-86/43, Aeronautical Decision Making for Instrument Pilots.

b. *The six elements* of the Decide Model represent a continuous loop decision process which can be used to assist a pilot in the decision making process when he/she is faced with a change in a situation that requires a judgment. This Decide Model is primarily focused on the intellectual component, but can have an impact on the motivational component of judgment as well. If a pilot practices the Decide Model in all decision making, its use can become very natural and could result in better decisions being made under all types of situations.

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1. **Detect.** The decision maker detects the fact that change has occurred.
 2. **Estimate.** The decision maker estimates the need to counter or react to the change.
 3. **Choose.** The decision maker chooses a desirable outcome (in terms of success) for the flight.
 4. **Identify.** The decision maker identifies actions which could successfully control the change.
 5. **Do.** The decision maker takes the necessary action.
 6. **Evaluate.** The decision maker evaluates the effect(s) of his action countering the change.

FIGURE 6. The DECIDE MODEL

CHAPTER 6. IDENTIFYING THE ENEMY

24. GENERAL.

a. *Most preventable accidents* have one common factor: human error, rather than a mechanical malfunction. Pilots who are involved in accidents generally know what went wrong. Very often, the pilot was aware of the possible hazards when the decision the pilot made led to the wrong course of action. In the interest of expediency, cost savings, self-gratification, or other often irrelevant factors, the incorrect course of action was chosen. This cycle of decisions began at the flight planning desk with decisions made on how much fuel to carry, the route, the alternate route, and adequate weather conditions. This cycle continues throughout the flight with decisions made on speed, altitude, and when to descend. Each flight is a sequence of choices with certain milestones in the sequence that require particular determination and discretion.

b. *Flying is rapidly changing* from a physical to a mental task. Initial instruction to manipulate and control an aircraft requires approximately 1 to 2 years. However, training to command an aircraft intelligently involves a decade or two of experience and periodic recurrent training. ADM is designed to reduce the extremely long and sometimes painful process of learning how to make good judgment decisions based upon experience alone. While it is true that simple errors of equipment operation are seldom serious, mistakes in judgment can be fatal.

25. **PERSONAL CHECKLIST.** One essential decision point before a flight is the checklist of basic principles that cannot be compromised. This personal checklist should include the fundamental tenets applicable to every flight. Once a pilot decides what not to do, the decision on what needs to be done becomes clear. Consider the following **never's** as factors that contribute significantly to unsafe flight:

a. *Flight while under* the influence of alcohol or drugs, including applicable prescription drugs, is a **never**. Several drinks of an alcoholic beverage will influence thought and reaction for

approximately 24 hours, while heavy drinking will have lingering effects for up to 36 hours or longer. Effects from the use of marijuana remain in the system for at least a week. The concept should be obvious that flight safety is measurably compromised within those time periods. The side effects and duration of all prescription drugs are well documented and available from a local pharmacist, the family physician, a drug addiction agency, or the Surgeon General.

b. *Flight with a known* medical deficiency is never expedient or legal (FAR § 61.53).

c. *Flight outside* the certified flight envelope is never safe. Weight, balance, speed, maneuvers, G-loading, and flight in known icing should be limited to flight manual parameters. Beyond that, you are in the wilderness and all discoveries could be unhappy experiences.

d. *Flight with less* than the required minimum fuel is never reasonable. The applicable FAR's are sufficiently liberal. Twenty or 30 minutes fuel in VFR conditions (depending on aircraft category) and acceptable IFR reserves should be adequate to provide for contingencies.

e. *VFR flight* into instrument meteorological conditions is never justified.

f. *Descent below* the applicable minimum enroute altitude anywhere is never justified.

g. *Casual neglect* of any applicable checklist is never justified. A checklist may be larger or smaller; however, certain standards should be established for all flights so that the first decision point is whether or not to begin the flight. This can be the toughest decision.

h. *Aircraft accident statistics* show that pilots should be conducting preflight checklists on themselves as well as their aircraft. Pilot impairment contributes to many more accidents than failures of aircraft systems. The following version of the "I'M SAFE" personal checklist (figure 7) contains all of the most common categories of pilot

impairment and can easily be committed to memory.

smoking, speeding, overeating, etc.), the pilot is, nonetheless, driven by his or her own emotions.

26. HOW TO BE A SAFE PILOT.

a. *A pilot does not have* to be a genius to be a safe pilot. However, a pilot should be an emo-

d. *Existing rules would go* a long way to remedy the accident rate; however, personality traits that cause irrational behavior also make pilots prone to disregard the rules that would assure safe operations.

1. Illness.	Do I have any symptoms?
2. Medication.	Have I been taking prescription or over-the-counter drugs?
3. Stress.	Am I under psychological pressure from the job? Do I have money, health, or family problems?
4. Alcohol.	Have I been drinking within 8 hours? Within 24 hours?
5. Fatigue.	Am I tired and not adequately rested?
6. Eating.	Have I eaten enough of the proper foods to keep adequately nourished during the entire flight?

FIGURE 7. The "I'M SAFE" Checklist

tionally stable person who can accept the fact that he/she is not in possession of all facts or skills for all situations and be willing to accept the recommendations of those who specialize in evaluating, assessing, and administering aviation procedures.

b. *Reaching a consensus* on all matters within the aviation community can prove difficult, if not impossible. Even though the rules and procedures are designed to serve most of the people most of the time, a pilot can always argue for different ways of doing things. An experienced, mature pilot will accept and follow the rules and procedures which will benefit the aviation community. The immature, emotionally unbalanced pilot has strong tendencies to satisfy a personal need regardless of the consequences.

c. *Some pilots break rules* simply for the immediate gratification of some emotional need. Even though the pilot may know that this emotional need is not considered a healthy habit (e.g.,

e. *When a pilot exhibits* one or more of the five hazardous attitudes or irrational behavior, that pilot may also be exposing any emotional weaknesses in his/her personality.

27. DEVELOPMENT OF GOOD DECISION MAKING SKILLS.

a. *The development of* good decision making skills is far more difficult than developing good flying skills, but it can be done. Good judgment may mean not flying while under the influence of any medication, when it is too windy, or refusing a revenue flight when it would require flying in marginal weather.

b. *Many pilots fail* to make proper decisions; sometimes due to a lack of knowledge, but too often the result of a human tendency to rationalize a situation until it appears justifiable. When a pilot really wants to do something (such as loading that one last passenger when close to maximum gross

weight, or performing a high speed, low altitude pass), the pilot can generally make himself/herself believe that it was all right to do it. A pilot can be his/her own worst enemy.

c. *In addition to* the FAR, AC's, articles in magazines, books written by expert pilots and instructors, Pilot Proficiency Programs, Airman's Information Manual, NOTAM's, Airworthiness Directives, and Biennial Flight Reviews, there are some do's and do not's that can ensure the prevention of most accidents. All of this information is safety-oriented. Not following this safety-oriented information is similar to not following the advice of a doctor or lawyer.

d. *The most important decision* a pilot will make is to learn and adhere to published rules, procedures, and recommendations. Pilots, by learning and adhering to these published rules and procedures, can take most hazards out of flying.

When a pilot operates an aircraft, human lives are held in the balance. Therefore, a pilot has a moral responsibility to operate in the safest possible manner.

e. *Aviation has reached a new plateau.* Acquiring aeronautical knowledge, airmanship skills, and proficiency are relatively easy. Navigation has been reduced to calculator simplicity. Modern autopilots and electronic displays have significantly reduced a pilot's workload. Today's technology requires administrative management and aeronautical decision making skills as prerequisites for safety and efficiency.

28. SUCCESSFUL DECISION MAKING. Successful decision making is measured by a pilot's consistent ability to keep himself/herself, any passengers, and the aircraft in good condition regardless of the conditions of any given flight.

CHAPTER 7. TEACHING ADM

29. PURPOSE. The ADM manual for Instructor Pilots (DOT/FAA/PM-86/44) contains all of the necessary background material to teach effectively the subject material of the companion publication entitled "Aeronautical Decision Making for Student and Private Pilots" (DOT/FAA/PM-86/41). This chapter provides a brief introduction and overview on the process of teaching ADM.

30. BACKGROUND. The instructor's ADM training manual is a result of 10 years of research, development, testing, and evaluation of the effectiveness of judgment and decision making. It is a revision of the prototype publication "Judgment Training Manual for Instructor Pilots," which was developed jointly by the Federal Aviation Administration, General Aviation Manufacturers Association, and Transport Canada in an effort to improve general aviation safety.

31. THE FLIGHT INSTRUCTOR'S ROLE IN ADM TRAINING.

a. *Although the information* in this chapter is designed to help pilots overcome a variety of circumstances which may result in poor pilot judgment, the flight instructor is the key element of this program. The flight instructor's attitude and approach to flying may often influence students more than any specific lesson. By always setting a good example and by giving students support and encouragement throughout this program, a flight instructor helps students develop good judgment and sound flying practices.

b. *To help prepare for this role*, thought should be given to the differences between the instructor as an evaluator and the instructor as coach. The evaluator sees his/her role as one of telling the student what to do, then monitoring the student's performance. In contrast, think of the instructor in a slightly different perspective; someone who actively stimulates learning, such as a "coach." The instructor not only makes assignments and observes the results, he/she also helps the student learn through demonstration and personalized instruction.

32. PRINCIPLES OF ADM TRAINING.

a. *The ADM manual* for student and private pilots is simple and repetitive for two reasons:

(1) The simplicity provides frequent positive reinforcement; and

(2) The repetition builds good judgment habits and refreshes memory so that information can be readily recalled in a variety of circumstances, even when under stress.

b. *The scenarios* in the student and private pilot ADM manual should stimulate the student's interest and appreciation of the need for good pilot judgment and ADM.

c. *The instructor* has a profound effect on a student as a role model and as an opinion shaper.

(1) Use of the ADM concepts to guide conversations with the student focuses the instruction on judgment-related training and increases the student's ability to provide self-generated feedback.

(2) Knowing how to recognize and respond to hazardous attitudes and high stress is very important to exercising good pilot judgment. The instructor should encourage the student to develop these skills but, in doing so, should never attempt to analyze or modify the student's personality.

(3) The student learns concepts and behavioral techniques and repeatedly applies this learning to relevant flight situations during ground and flight training.

d. *The basic instructional principles* which follow are simple, but application does take some practice. When you first try to apply them you may feel somewhat awkward, but you will become more comfortable with them eventually. After a few months, the use of these principles will become automatic.

(1) Behavior positively reinforced will continue.

(2) Behavior followed by punishment may decrease.

(3) Be very specific about learning objectives.

(4) Reinforce generously in the early stages of learning.

(5) Shift slowly from continuous to occasional reinforcement.

(6) Shape existing behavior into desired behavior.

33. TEACHING THE BEHAVIORAL ASPECTS OF ADM.

a. *General.* Students must be exposed to this material early in their pilot training, ideally during the first quarter of the student standard private pilot training course.

b. *Description of Material in the Student and Private Manual (DOT/FAA/PM-86/41).* Three approaches are presented in this manual to improve the pilot's judgment and decision making skills. The first approach presents an analytical method for making decisions and evaluating risk (Chapters 2 and 3). The second approach (Chapters 4, 5 and 6) addresses the pilot's hazardous attitudes and substitutes ones which promote good judgment. The third approach (Chapter 7) deals with overcoming high stress which reduces judgment and decision making abilities.

34. TEACHING THE APPLICATION EXERCISES.

a. *General.* The following material, contained in Chapter 8 of DOT/FAA/PM-86/41, Aeronautical Decision Making for Student and Private Pilots, should be integrated, where appropriate, into the topics of the conventional ground training syllabus.

(1) "Preflight and Aircraft Systems" after aircraft and aircraft systems.

(2) "Weight/Balance and Performance" after performance and weight and balance.

(3) "Official Procedures and Communications" after airports and communications, aviation regulations, and the Airman's Information Manual in Canada - the AIP.

(4) "Cross-Country Flying" after basic navigation and radio navigation.

(5) "Physiological Factors and Night Flying" after medical factors and cross-country flying.

b. *Description of Material.* Each section of Chapter 8 of the Aeronautical Decision Making for Student and Private Pilots document presents exercises which test the student's judgment and decision making knowledge in the previously mentioned topic areas. These exercises require the student to use the terms and concepts learned in all previous lessons. Encourage the students to review earlier material as necessary. After the student has completed each section, discuss the answers. No answer key is provided, but bear in mind that, although responses to most of the questions may be relatively obvious, there are no absolutely right or wrong answers.

35. IN-FLIGHT INSTRUCTION: THE LESSON PLANS.

a. *General.* How does a flight instructor combine educational principles with the concepts in this manual to improve a student's judgment and decision making? By giving the student a series of practical, "hands-on" lessons in which you observe performance and response to specific behavior. Do not comment on intentions or motivations. Use rewards (praise) frequently and avoid criticism (punishment) as much as possible. Errors or misjudgments by the student should be viewed as opportunities for learning, not as occasions for criticism.

b. *The Lessons.*

(1) In this unit, while on routine training flights, you will give your students "activities" designed to further develop their appreciation for the decision making concepts based upon an actual preflight or in-flight "hands-on" experience.

(2) Take 15 minutes or so for your own preparation the first few times you work with each lesson.

(3) Start the lessons when the student has the ability to control the aircraft confidently during the most basic maneuvers. Use your own judgment, but a suggested starting point is about three flight lessons before you expect the student to solo.

(4) At least three lessons each are needed to teach risk assessment in decision making, hazardous attitude recognition, and stress management, for a total of nine lessons. Each lesson should take no more than 5 minutes and should be integrated into the normal 1-to-2 hour flight training period.

(5) The instructor's ADM manual provides 18 lesson plans for in-flight teaching of these mental processes.

36. IN-FLIGHT INSTRUCTION: THE TRAINING SCENARIO.

a. *Purpose.* The purpose of this chapter of the instructor's manual is to further encourage the student to use judgment and decision making skills. Your duties are two-fold; (1) you must set up situations to stimulate the student's decision making process, and (2) you must respond to student behavior in a manner that encourages safe judgments and decisions.

b. *The Scenarios.* Practice situations, provided in this section of the manual, create circumstances that may actually encourage the

student to make an unsafe judgment or decision. Why? Because it is important for the student to become skilled at recognizing and replacing hazardous attitudes and unsafe tendencies with good judgment behavior.

37. **TYPICAL TRAINING SCENARIOS.** This section of the instructor's manual provides a narrative of a typical judgment training session. You might find it useful in formulating your own ideas for conducting your own judgment training flights. As mentioned earlier, all necessary preparation should be completed before the student's expected arrival time.

38. MANAGEMENT OF ADM TRAINING.

a. *This training program* is more than just a collection of related facts and ideas for students to learn. It is a carefully designed educational system. Using this integrated system produces an overall result greater than that attainable by random presentation of the individual parts. To achieve the maximum benefits of this system, you must manage the instruction carefully.

b. *The materials presented* in this chapter of the instructor's manual are listed below. They are designed to aid both the individual instructor and the training supervisor for a group of flight instructors; i.e., the chief pilot engaged in decision making training activities. The aeronautical decision making training materials are:

(1) *Schedule of Student Work.* A master plan for scheduling training activities for students.

(2) *Set of Master Copies.* Original documents of all the instructional materials and forms required to teach this training curriculum.

(3) *Answer Keys for the Postcheck Exercises.*

APPENDIX 1. SAMPLE ATTITUDE INVENTORY ANSWER SHEET

Situation 1

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

Situation 6

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

Situation 2

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

Situation 7

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

Situation 3

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

Situation 8

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

Situation 4

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

Situation 9

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

Situation 5

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

Situation 10

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

APPENDIX 2. SCORING FORM

SITUATION	SCALE I	SCALE II	SCALE III	SCALE IV	SCALE V	Total
1.	b____	e____	c____	a____	d____	15
2.	a____	d____	b____	e____	c____	15
3.	e____	c____	a____	d____	b____	15
4.	d____	e____	b____	c____	a____	15
5.	c____	a____	d____	b____	e____	15
6.	c____	a____	d____	b____	e____	15
Items 1-6 Subtotal	____	____	____	____	____	<u>90</u>
7.	d____	c____	b____	a____	e____	15
8.	e____	a____	b____	c____	d____	15
9.	b____	e____	c____	a____	d____	15
10.	e____	d____	c____	a____	b____	15
Items 7-10 Subtotal	____	____	____	____	____	<u>60</u>
Items 1-10 Grand Total	____	____	____	____	____	<u>150</u>

APPENDIX 3. ATTITUDE PROFILE

SCALE I	SCALE II	SCALE III	SCALE IV	SCALE V	
_____ 50	_____ 50	_____ 50	_____ 50	_____ 50	← Mark X's below this line if you answered all ten situations
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____ 40	_____ 40	_____ 40	_____ 40	_____ 40	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____ 30	_____ 30	_____ 30	_____ 30	_____ 30	← Mark X's below this line if you only answered situations one thru six
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____ 20	_____ 20	_____ 20	_____ 20	_____ 20	← Mark X's below this line if you only answered situation seven thru ten
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____ 10	_____ 10	_____ 10	_____ 10	_____ 10	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____	_____	_____	_____	_____	
_____ Antiauthority	_____ Impulsivity	_____ Invulnerability	_____ Macho	_____ Resignation	

APPENDIX 4. ANTIDOTE RECALL EXERCISE

HAZARDOUS THOUGHT	ANTIDOTE
ANTIAUTHORITY:	
IMPULSIVITY:	
INVULNERABILITY:	
MACHO:	
RESIGNATION:	

APPENDIX 5. LIFE EVENTS STRESS TEST

<u>Item No.</u>	<u>Happened (X)</u>	<u>Life Event</u>
1.	_____	Death of a spouse
2.	_____	Divorce
3.	_____	Marital Separation
4.	_____	Jail term
5.	_____	Death of close family member
6.	_____	Personal injury
7.	_____	Marriage
8.	_____	Lost your job
9.	_____	Marital reconciliation
10.	_____	Retirement
11.	_____	Change in health of family member
12.	_____	Pregnancy
13.	_____	Sex difficulties
14.	_____	Gain of new family member
15.	_____	Business - budgets, schedules, deadlines
16.	_____	Change in financial state
17.	_____	Family member on drugs or alcohol
18.	_____	Death of close friend
19.	_____	Change to different line of work
20.	_____	Change in number of arguments with spouse or partner
21.	_____	Mortgage or loan over \$10,000
22.	_____	Foreclosure of mortgage or loan
23.	_____	Change in responsibilities at work
24.	_____	Son or daughter leaving home
25.	_____	Trouble with in-laws or partner's family
26.	_____	Outstanding personal achievement
27.	_____	Spouse or partner begins or stops work
28.	_____	You begin or end work
29.	_____	Change in living conditions
30.	_____	Revision of personal habits
31.	_____	Trouble with boss or instructor
32.	_____	Change in work hours or conditions
33.	_____	Change in residence
34.	_____	Change in school or teaching institution
35.	_____	Change in recreational activities
36.	_____	Change in church activities
37.	_____	Change in social activities
38.	_____	Mortgage or loan less than \$10,000
39.	_____	Change in sleeping habits
40.	_____	Change in number of family social events
41.	_____	Change in eating habits
42.	_____	Vacation
43.	_____	Christmas
44.	_____	Minor violations of the law

Total number of checks for the past 12 months _____.

U.S. Department
of Transportation

**Federal Aviation
Administration**

800 Independence Ave., S.W.
Washington, D.C. 20591

**FORWARDING AND RETURN
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