MONO-SYMPTOMATIC PHOBICS AND NORMALS: WHETHER AND HOW THEY DIFFER

Mordechai Glick

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ABSTRACT

MONO-SYMPTOMATIC PHOBICS AND NORMALS:

WHETHER AND HOW THEY DIFFER

Mordechai Glick, Ph.D.
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Explanations of the development of phobias based on traditional learning theory have proven inadequate. Unlike some other learned responses, phobias are selective, resistant to extinction and unaffected by cognitive factors. One attempt to explain phobias with those exceptions in mind has stressed the differential rates of association between stimulus events and posits that phobias are an example of "prepared" learning. While this approach appears promising in explaining why certain stimuli are more likely to become phobic objects than others, it fails to address the question of why some people develop or retain phobias, while others do not.

The present study attempted to determine whether certain individuals are phobia-prone. Traditionally it had been assumed that this was not the case, except for multi--symptomatic phobics who have been shown to differ from normals on many dimensions. In addition, an attempt was made to determine whether extent or degree of fear is related to the following personality measures: Neuroticism,

Extroversion, Dominance, Capacity for Status, Fear of Negative Evaluation, Social Avoidance and Distress, and Self Esteem.

Eighty subjects filled out a Fear Survey Schedule and the other paper and pencil measures. Respondents were then divided into normals, mono-symptomatic phobics, and multi--symptomatic phobics depending on the number of items reported to evoke terror in the individual. It was found that the three groups were significantly different from one another on degree and extent of fear. Subjects who checked off "terror" to one or more items were more likely to have more fears - in number as well as in severity - than subjects who reported no "terror" responses. This finding supports the suggestion that people are either phobia-prone or not, and seems to argue against the notion that individual differences are unimportant in the development of phobias.

A number of the other measures taken were found to be correlated with both extent and degree of fear. The measures seem to suggest that fear may be related to a behavioral style of avoidance. The groups, however, do not appear to be significantly different from one another on the personality measures. Phobics and normals apparently differ only quantitatively on these personality measures and do not seem to represent different personality types.

This strenghens the suggestion that behavioral style - specifically the tendency to avoid stressful situations - may be the significant variable in determining whether a person is phobia-prone or not. It is suggested that this might explain how phobias develop and why they occur in some individuals, but not in others.

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Introduction

Traditionally, it had long been assumed that laws of learning exist which apply more or less equally well to all species and all situations (Pavlov, 1928; Thorndike, 1911; Watson, 1914). Hull (1945) summed up this view when he said "all behavior of the individuals in a given species and that of all species of mammals, including man, occurs according to the same set of primary laws" (p. 45).

In the mid 1960's, the work of Garcia and his associates with conditioned taste aversions (e.g. Garcia & Ervin, 1968; Garcia & Koelling, 1966; Garcia, Kovner, & Green, 1970; Garcia, McGowan, Ervin & Koelling, 1968) demonstrated that, in fact, not all learning occurs according to the same set of rules. These findings, as well as those of others (e.g. Revusky & Bedarf, 1967; Rozin, 1967; Zahorik & Maier, 1969) forced a rethinking of that long held assumption concerning the generality of the

laws of learning. The understanding of the development of phobias, in particular, was affected by this rethinking. Thus behavior therapists and learning theorists assumed that phobias are learned avoidance reactions but had been prone to leave somewhat open the question of exactly how such disturbances arise (Andrews, 1966). To some extent, this was due to the fact that many aspects of phobic disorders did not make sense within the framework of general process learning theory. The problem was further compounded with the development of seemingly effective treatment methods such as systematic desensitization (Wolpe, 1958) and flooding (Hodgson & Rachman, 1970). These treatment methods have obstensibly been based on conditioning principles and yet these very same principles have proven insufficient to provide a convincing account of the etiology of phobias (cf. Costello, 1970; Ohman, Fredrickson, Hugdahl, & Rimmo, 1976; Seligman, 1971).

The aspects of human phobias that make them difficult to understand within a traditional learning framework are (1) the fact that they are selective and are generally found only within a relatively small number of stimulus objects; (2) their resistance to extinction; and (3) the fact that they are apparently unaffected by cognitive information.

Selectivity

A straight learning or conditioning explanation of phobias (see Eysenck & Rachman, 1965) would lead to the conclusion that any "neutral" stimulus can come to elicit the fear response. If this were the case, the frequency of phobias for any particular stimulus object should be in direct relationship to how common the object is in man's environment. In fact, however, this is clearly not the case. Phobic stimuli comprise a much more select group (Marks, 1969; Seligman, 1971), and this is true whether we look at the distribution of fears in the general population or in psychiatric practice (see Rachman, 1974). Stimuli which come to elicit the phobic response frequently tend to display some natural potentially harmful quality (in the phylogenetic sense). Thus such stimuli as dogs, snakes, or heights are frequently the object of phobic responses, while more harmless stimuli (again in the phylogenetic sense) such as electrical outlets, stoves, ladders or lambs rarely serve as phobic stimuli.

Resistance to extinction

Conventional procedures which reliably lead to extinction of classically conditioned fear in the laboratory do not seem to work in the case of phobias. Many people have assumed that using the conditioned avoidance response (CAR) rather than the conditioned fear

response as an analogue to human phobias (and thus accepting Mowrer's, 1947, two factor theory of avoidance learning) would account for this resistance to extinction (Eysenck & Rachman, 1965). For in the CAR experiments, it has been well demonstrated that once an animal begins avoiding reliably, the animal will continue responding even after the shock has been disconnected; frequently avoiding for hundreds of extinction trials with no sign of a weakness in the response (e.g. Seligman & Campbell, 1965; Solomon, Kamin & Wynne, 1953). As Costello (1970) points out, however, Hernstein's (1969) review of the literature shows that the experimental evidence is not in support of the two factor theory, but demonstrates, rather, that when a conditioned stimulus (CS) is introduced into the avoidance learning situation, it seems to function as a discriminative stimulus for the avoidance response rather than as a conditioned aversive stimulus.

Non-cognitive nature of phobias

Telling a cat phobic that cats (the CS) will not harm him or even showing him that a trauma (the unconditioned stimulus, or UCS) does not occur when cats are around is not effective in reducing his fear (Seligman, 1971). In fact, as Marks (1969) notes, most phobics know that their fear is excessive and unrealistic. This makes little sense within a traditional learning framework, for showing an

animal that the CS no longer predicts the UCS usually results in extinction (Black, 1958). Furthermore, it has been demonstrated that with "neutral" CSs, such as pictures of human faces or houses, telling human subjects that no more shocks would be given facilitates extinction (Grings, 1973); while when the CS is a "phobic" object such as a picture of a snake, such instructions show no facilitative effect (Ohman, Erixon & Lofberg, 1975).

Attempts at explanation

The unique aspects of phobias noted above make them difficult to explain within the traditionally accepted general laws of learning. It now appears, however, that these unique aspects of phobias are, in fact, not unique to phobias at all. Selectivity, for instance, has been widely demonstrated, especially in the conditioned taste aversion studies of Garcia and his associates cited above. Resistance to extinction has been demonstrated in a pecking for food response in pigeons (Williams & Williams, 1969). The non-cognitive nature of certain forms of learning has also been noted in situations besides the development and maintenance of phobias. Thus Kalat and Rozin (1972) have reported findings which suggest that "highly prepared" associations such as taste aversions are not readily blocked by informational factors, while Kamin (1969) has shown that "less prepared" associations are.

Thus, attempts which have been made to account for the differential rates of association observed in different learning situations have also been applied to the understanding of the development and maintenance of fears and phobias. Seligman (1970, 1971; Seligman & Hager, 1972) has advanced a notion which he refers to as "preparedness". This notion asserts that, contrary to traditional views of learning, stimuli are not freely interchangeable from situation to situation and from organism to organism. But rather an animal may be more or less "prepared" by the evolution of its species to associate certain CSs and UCSs or certain responses and reinforcers. Within this framework then, a phobia is simply a highly prepared association. Preparedness, Seligman (1971) claims, will account for those aspects of phobic development so puzzling within a traditional learning framework. For prepared associations, by definition, are selective, resistant to extinction, learned even with degraded input and probably are non--cognitive (Seligman, 1971).

Schneirla (1965) has suggested that the distinction between stimuli that elicit approach or withdrawal may lay in the qualities of the stimuli and not in the actual object. That is, he would postulate that escape reactions to certain stimuli do not depend on the inheritance of an inner file of pictures of dangerous objects but upon an innate tendency

to approach or withdraw from stimuli which exhibit certain qualities or configurations.

Thus, both Seligman & Schneirla have attempted to explain some of the difficulties in the understanding of phobias by modifying traditional learning theory and stressing the differential rates of associability between human fear and various CSs. Research has, in fact, generally upheld the notion that certain objects are more likely to be associated with noxious UCSs than others (Hugdahl, Fredrikson, & Ohman, 1977; Ohman et al., 1975; Ohman et al., 1976; Ohman, Eriksson & Olofsson, 1975). These studies lend support to the idea that certain objects and situations are more likely to become the object of human phobias than others.

While the preparedness notion has become popular, an important question that it fails to address is the characteristics of the person likely to develop phobias. Thus, if the potentiality to become a phobic object were a sufficient explanation of phobias, then all people who have ever come into contact with these objects in conjunction with an unpleasant or noxious experience would develop a phobic reaction to them. In reality, this clearly is not the case. Most people, though experiencing some unpleasant situation with dogs (e.g. being chased, bitten or simply

frightened by sudden barking) do not become dog phobics. Thus, while "preparedness" may shed some light on the question of what phobia will develop, it ignores the equally important question of who will develop a phobia - or the more basic question or whether or not there is a phobia-prove individual.

Along these lines, it is interesting to note that aspects of the object or situation which tend to intensify a phobic's fear are generally those aspects which are uncomfortable to some extent for most people. For example, the same property which elicits reflex fear in primates (sudden movement, stalking, etc.) intensifies the fear of most animal phobics. Social phobics are most afraid when subjected to the gaze of others, yet they may feel at ease in the same company when not under scrutiny (Marks, 1969). This appears to be an intensification of the natural discomfort most people experience when being stared at. Similarly, it has been pointed out (Clevenger, 1890; Weiss, 1964; Westphal, 1871) that phobias of open spaces are worse when there is no boundary to a large open visual field, and diminish as soon as some kind of boundary is imposed with a hedge, fence, trees, or simply an umbrella held over the held. As Mark's (1969) notes, this reminds one of the discomfort most people feel when a small dinner party is held in a very large hall - if a screen is placed between

the dining area and the rest of the hall, a comfortable feeling of intimacy is restored. All of these facts strengthen the suggestion that there may be some individual differences that determine in which individuals these mild discomforts will become fears or phobias.

Individual Differences in the Development of Fears and Phobias

Genetic differences

Animal research has demonstrated some degree of genetic determination of emotionality and fearful behavior. Thus, Murphree and co-workers (Murphree, Dykman, & Peters, 1966; Peters, Murphree, Dykman, & Reese, 1966) selectively bred 2 strains of pointer dogs, one of which was excessively fearful, the other reasonably stable. They began with two pairs of pointers - one fearful, the other stable. By the F-2 generation, excessively fearful behavior was shown by 90% of the decendents of the originally fearful pair, and stable behavior by 80% of the offspring of the originally stable pair. Since the environment of all dogs was constant, the differences seem to be clearly the result of hereditary factors. Broadhurst and Bignami (1965) demonstrated a strong genetic control over the development of the conditioned avoidance response in two strains of selectively bred rats. Rats bred by Singh (1959, 1961; Singh & Eysenck, 1960) for emotional reactivity showed a greater susceptability to conditioning of the fearful components of behavior in conditioned emotional response (CER) experiments than rats bred for non-reactivity. Similarly, Gallup (1974a) and McGraw and Klemin (1973) have

demonstrated a strong genetic component in tonic immobility which seems to be an unlearned fear reaction to physical restraint (Braud & Ginsburg, 1973; Gallup, 1974b; Maser, Gallup & Barnhill, 1973).

Interestingly, Gallup (1974a; cf. also Gallup, Ledbetter & Maser, 1976) found that selective breeding has a pronounced effect on the duration of tonic immobility but not on susceptability to the response. This suggests that the type of fear response an individual member of a species exhibits may be common to all members of the species while the duration and intensity of the response may be genetically determined.

Though by no means demonstrated, genetic influence of fearful behavior in man has also been suggested. As Valentine (1930) noted, siblings differ from birth onwards in the intensity of their startling and fears. Scarr and Salapatek (1970) in their observation of 90 infants noted variations in temperment and stable differences over a two month interval in the pattern of fears displayed by individual infants, suggesting a possible genetic role in the development of fear during infancy. The results of twin studies, unfortunately, are ambiguous. Marks (1969) reports that very few monozygotic twins are concordant for phobic disorders. On the other hand, Freedman (1965), studying the development of smiling and fear of strangers

in a series of twins over the first year of life,' found greater concordance for monozygotic twins than for dizygotic twins (cf. also Rose & Cardwell, 1975). Furthermore, several large scale reviews (Bracken, 1969; Roubertoux & Carlier, 1973; Shields, 1973; Slater & Shields, 1969) all agree on the important role heredity has to play in personality and anxiety.

Early learning experiences

Quite apart from the question of whether or not fearful behavior is genetically influenced, many suggestions have been made as to how phobic or potentially phobic individuals differ from normals. As Marks (1969) suggests, fearful behavior likely begins with some genetically determined innate mechanism which leads to social interaction and learning which then modifies the original behavior. For example, Sackett (1966) reported that monkeys reared in isolation exhibited fearful behavior at 60-80 days of age when exposed to slides which showed monkeys in a threatening pose. These fear responses however, waned about 110 days after birth, likely due to the lack of social reinforcement. When these monkeys were later brought into contact with other monkeys, they failed to withdraw or show fear when attacked. Apparently the appropriate response had not developed, not having been reinforced at the time it first appeared. Thus, the type of social reinforcement early

expressions of fear receive will likely effect later expressions of fear. Perhaps some people are somehow innoculated against fear and phobias in this way, while others are sensitized to developing fear. Along these lines, Andrews (1966) hypothesizes that, in phobics, early family experiences have led to a "learning set" regarding how to handle difficult situations - a set of avoidance and retreat.

Assertiveness

Another suggestion of how phobics and non-phobics differ is along the dimension of assertiveness. However, while Bates and Zimmerman (1971) found a modest correlation for males between low assertiveness and fearfulness in general as measured by a fear survey schedule (FSS), they found no such correlation for females. Morgan (1974) also found a modest correlation between social fear (as measured by ten items from the FSS of Wolpe and Lang, 1964) and assertiveness; the correlation, however, accounted for less than 6% of the variance. While Hollandsworth (1976) found a somewhat stronger correlation between expressed social fear and self-report measures of assertiveness, the relationship is still only moderate. Similarly, Farley and Mealia's (1972) suggestion that fear and external locus of control may be correlated has not been borne out to any appareciable degree (Farley & Mealia, 1972; Phares,

Ritchie, & Davis, 1968; Ray & Katahn, 1968).

Cognitive factors

With the increasing emphasis which is being placed on the mediational role that cognitions are assumed to play in determining behavior (e.g. Goldfried & Davison, 1976; Mahoney, 1974; Meichenbaum, 1974; Rimm & Masters, 1974), cognitive style is another variable that has been nominated to explain how phobics and non-phobics differ (Beck, 1972; Ellis, 1962). Beck and Rush (1975) thus claim that phobics do not fear a specific object or situation per se, but rather fear the perceived consequences of exposure to such an object or situation. They reported that in all cases of the 10 phobics and 50 anxiety neurotics that they interviewed, cognitive processes involved recurring danger-related ideation expressing the fear of consequences resulting from specific events or situations. This involved an unrealistic appraisal of the situation with a consistent overestimation of the dangerous aspect, exaggerating (a) the likelihood of harm and (b) the degree of harm. They noted that these cognitions occurred in the presence of specific environmental stimuli and continued to occur when the individual was exposed to these stimuli even after repeated disconfirmations. Rimm, Jandra, Lancaster, Nahl, and Dittmar (1977) reported, however, that while phobics did report self-verbalizations as they were imagining the phobic

stimulus or situation, in only a minority of the cases were the verbalizations catastrophic in nature. Furthermore, they reported that when actually exposed to the phobic stimulus, only 50% of the phobics reported that thoughts preceeded fear - fewer than in the less fearful subjects!

Personality and conditionability

Finally, the variables of personality and conditionability have been implicated in determining individual differences in the development of fears and phobias (cf. Eysenck, 1975). Eysenck and Rachman (1965) have asserted that individuals with a high neuroticism score are those with a low threshold for emotional activation who, they predict, would therefore develop phobic reactions more readily. They also predict that the more introverted the person, the more quickly and strongly are the phobic reactions acquired and the more lastingly maintained. The findings of Kelvin, Lucas, and Ojha (1965), Ingham (1966) and Hallam (1976) however, refute these predictions. Furthermore, even where significant correlations between Eysenck's personality dimensions and fears have been found, the correlations are low and account for very little of the variance (Bamber, 1974; Hannah, Storm, & Caird, 1965).

Eysenck (1976) suggests that the mode through which certain individuals are assumed to acquire more fears and phobias than normals is a heightened degree of general

conditionability. Franks and Franks (1966) however, point out that there is no evidence to support this notion of a general factor of conditionability. They found (using a partial reinforcement conditioning procedure involving eyelid conditioning to sound, galvanic skin response (GSR) conditioning to light, salivary conditioning to sound, and finger withdrawal to a complex light pattern) that while different measures of conditioning for any one reflex system were correlated with each other, there were no significant correlations between the various systems. Similar findings were reported by Campbell (1938), Bunt and Berendregt (1961) and Dyckman, Mack, and Ackerman (1965).

Are phobics different from normals?

Interestingly, and perhaps remarkably, in spite of all the suggestions as to how phobics and normals differ - whether or not they, in fact, do differ is open to dispute. Thus, while it has been demonstrated and acknowledged that agoraphobics clearly differ from normals on many dimensions such as the presence of other disturbances or symptons (Marks, 1967, 1979; Prince & Putnam, 1912; Roberts, 1964; Ruddick, 1961; Terhune, 1949), high scores on Cornell and Neuroticism questionnaires (Gelder & Wolff, 1967; Kelly, 1966), rate of spontaneous electrodernal fluctuations (Lader, 1967; Lader & Mathews, 1968), GSR habituation rate

to repeated auditory stimuli (Lader, 1967; Lader, Gelder, & Marks, 1967; Marks, 1969), and overt anxiety (Marks & Gelder, 1966; Snaith, 1968), similar differences have not been demonstrated between mono-symptomatic phobics and normals. Quite to the contrary. Mono-symptomatic phobics' appear to be virtually indistinguishable from normals on the presence of other disturbances or symptoms (Marks, 1967, 1969), scores on the Cornell and Neuroticism questionnaires (Gelder & Wolff, 1967; Kelly, 1966), rate of sponteneous electrodermal conditioning (Lader, 1967), GSR habituation rate (Lader, 1967; Lader et al., 1967; Marks, 1967) and overt anxiety (Kelly, 1966; Snaith, 1968). The only measure on which mono-symptomatic phobics have been shown to differ from normals is on eyeblink conditioning response (Martin, Marks, & Gelder, 1969) where their rate of acquisition is faster than normals and their rate of extinction is slower. Marks (1969) argues that since mono-symptomatic phobics do not differ from normals aside from the specific phobia they have (except on conditioned eyeblink responses), mono-symptomatic phobias and agoraphobias are two different disorders. Thus, he states that "one might argue that the phobic situation is not of any importance, and that animal phobias and agoraphobias are but two ends of a continuum of phobias which are specific at one end and diffuse at the other. If this

were true we should then find many animal phobias which are diffuse and many agoraphobias which are specific; we should not find that the phobic situation predicts the specificity of the disturbance. In fact we do not find diffuse animal phobias in adults - the majority of animal phobias are discrete disturbances and more extensive symptoms are found only in those few cases where the animal phobia happens to be associated with another disturbance such as agoraphobia or personality disorder" (Marks, 1969, p. 112-113). Marks (1969) further states that animal phobics "usually have a mono-symptomatic phobia of a single animal species with little generalization despite persistence of the phobia over decades" (p. 107-108). Marks is thus asserting (a) that agoraphobias and mono-symptomatic phobias are different disorders and (b) that mono-symptomatic phobias are truly mono-symptomatic with no other symptoms or fears other than the specific object of the phobia. This, in spite of the fact that when commenting on the slowness of animal phobics to extinguish conditioned eyeblink responses, Marks himself says "this lends support to the view that animal phobics may have retained their phobias into adult life because their fears failed to extinguish ..." (Martin et al., 1969, p. 123). If they have a tendency to fail to extinguish fears, then there should be other fears remaining in addition to the phobic one! Furthermore, Marks seems to

be saying that mono-symptomatic phobics are simply normals who happened to have been in the wrong place at the wrong time (otherwise why would these normals have a phobia and not other normals?), an untenable position given that we know about the apparent unimportance of precipitating events in the development of phobias. Thus, if we are speaking of a specific learning experience or set of experiences as the sole etiological factor in the development of phobias, we would expect that they would have to have been, as Wolpe (1961) suggests, particularly intense, and if they were particularly intense, it seems unlikely that they would be easily forgotten. And yet Rimm et al. (1977) found that 50% of his phobic subjects couldn't recall any precipitating experience at all. Lazarus (1971) reported that very few of his sizable clinical phobic sample were able to recall any precipitating learning experience and Friedman (1950), in a study of 50 phobics, reported that only 10% could indicate specific frightening events that may have precipitated the phobia. Waldfogel, Coolidge and Hahn (1957) even suggested that, if anything, school phobics have been exposed to fewer frightening experiences than other children. Furthermore, in the Rimm et al. (1977) study almost identical types and properties of precipitating experiences were reported for the milder fears of their non-phobic reference group.

Rachman (1968) notes that while young children commonly fear a number of things, the number of children with such fears steadily declines over the years with only a small number maintaining their fears into adulthood. Based on the 23 cases treated at the Maudsley Hospital in London, Marks (1969) states that animal phobias start in children, usually before age seven. As he notes, however, most children outgrow such fears by puberty and it is not known why a small fraction of these child phobics maintain their phobias after puberty. We seem to be left, then, resorting back to some variation of Watson and Rayner's (1920) observation that "one may possibly have to believe that such persistence of early conditioned responses will be found only in persons who are constitutionally inferior" (p. 14) and, therefore, different from normals.

Hypothesis

If "mono-symptomatic" phobics are, indeed, different from normals, then, whatever the mechanism, there should be something about them that either predisposes them to developing fears or prevents them from extinguishing fears. In either case, the end result should be that they have more fears than normals - though perhaps sub-phobic level fears. In other words, "mono-symptomatic" phobias should not be mono-symptomatic at all! We are hypothesizing, then, that individuals with a specific phobia should differ from normals not only in the presence of that specific phobia but in the presence of more fear (in number of fears and/or intensity of fears) as well.

Method

Subjects

Subjects were solicited in day and evening university classes and at public meetings of various organizations by requesting volunteers willing to spend no more than 1½ hours participating in a psychological research project that involved completing a number of paper and pencil questionnaires. All volunteers above the age of 16 years were accepted, and they consisted of 27 males and 53 females. The mean age for all subjects was 28.5 years (standard deviation = 9.3).

While it is reasonable to assume that individuals seeking treatment for specific fears are indeed phobic, the inverse-- that individuals who do not seek treatment are normal-- is not necessarily true. Geer (1965) found that 35% of his 124 "normal" college students had one or more severe fears. Similarly, Solyom, Beck, Solyom and Hugel (1974) reported finding "mild phobias" in 45% of a group of normal subjects. To circumvent this labelling problem, presentation for treatment was not used as a criterion for designating a subject as phobic, but rather whether or not a subject checked off terror to any item of a Fear Survey Schedule. Therefore subjects were selected from a general rather than a clinical population.

Tests

Fear Survey Schedule (FSS)

The FSS used in this study (see Appendix A) was based on the items in the Wolpe and Lang FSS (1964), but modified to be much more specific and to provide a wider range of fear magnitude estimate. Thus, using a seven point Likert--type scale, subjects were instructed to indicate how much each of 82 items disturbs them nowadays. The choices consisted of (1) not at all, (2) very little, (3) a little, (4) a fair amount, (5) much, (6) very much, and (7) terror.

Many Fear Survey Schedule are available (Braun & Reynolds, 1969; Geer, 1965; Lang & Lazovick, 1963; Manosevitz & Lanyon, 1965; Wolpe & Lang, 1964). However a problem that they all seem to face is their relatively poor correlation with behavioral approach tests. As Hersen (1973) points out, a paper and pencil measure is of little or no value if the verbal report is not an accurate predictor of overt behavior. Lang (1966) found that while 20% of his student subjects reported fear of snakes on a questionnaire, only 1-2% actually avoided snakes when tested. Geer (1965) found that of all the male college students that reported fear of dogs-- whether they reported low, medium or high fear of dogs, none of them actually avoided a dog in a behvioral approach test! Lanyon and

Manosevitz (1966) found that subjects reporting fear of spiders did differ from non-fearful subjects on an approach task. Interestingly, however, when fearful subjects were divided into mild, moderate and intense categories, they did not differ from one another on the basis of an approach task. Cooke (1966) found a correlation of only .35 between a look, touch, and hold step of an approach task and responses of "very much afraid of laboratory rats" on a modified FSS. Fazio (1969) found that although the correlation between FSS responses and behavioral measures was significant, the self-report measures accounted for only 25% of the behavioral variance. Schroeder and Craine (1971) reported similar findings. Furthermore, the discrepancy between these self-report measures and behavioral approach tests are not always in the same direction. Responses on FSSs may either overestimate or underestimate fear as measured by an approach task. Thus, for example, Geer (1965) examined latency of approach for high and low fear female subjects after a time-delay interval and found that low fear subjects evidenced longer latencies than their high fear counterparts.

As Lanyon and Manosevitz (1966), Bernstein (1973), and Hodgson and Rachman (1974) all point out, however, it may well be that these relatively low correlations are a result of yielding to situational demands in carrying out

instructions. Lick, Sushinsky and Malow (1977) have demonstrated that using "low demand" approach instructions, correlations between self-report and avoidance measures increase considerably. They furthermore demonstrated that as self-report stimuli more closely described the avoidance test, correlations between self-report and avoidance measures increase even further. Thus, they found the correlation between fear reported to the FSS item "rat" and avoidance, to be .53. The correlation rose to .78 when the test item was "harmless white laboratory rat", and to .81 when the item was "you are in an experiment in which you are asked to gradually approach and ultimately touch a harmless white laboratory rat in a cage".

Because of this increased accuracy obtained as FSS items are made more specific, items in the FSS used in the present study were much more specific than those used in Wolpe and Lang's (1964) FSS.

Other tests

In addition to the Fear Survey Schedule, all subjects completed the following paper and pencil tests: (a) the Eysenck Personality Inventory, Form B (EPI - Eysenck, 1963), (b) the Tennessee Self Concept Scale (TSCS - Fitts, 1964), (c) the Fear of Negative Evaluation Scale (FNE - Watson & Friend, 1969), (d) the Social Avoidance and Distress Scale (SAD - Watson & Friend, 1969), and (e) the

Dominance (Do) and Capacity for Status (Cs) scales of the California Psychological Inventory (CPI - Gough, 1957). The EPI is a 57 item yes-no questionnaire which provides scores for neuroticism and extroversion-introversion. This inventory was included to test Eysenck and Rachman's (1965) prediction that phobics would exhibit high neuroticism and low extroversion scores. The TSCS is a 100 item true-false questionnaire designed to measure an individual's overall level of self esteem. The FNE, a 30 item true-false questionnaire, and the SAD, a 28 item true-false questionnaire are measures of different aspects of social anxiety. The Do and Cs scales, 46 and 32 items respectively, are true-false questionnaires providing measures of self reliance and self confidence. The TSCS, FNS, SAD, Do and Cs scales were included in an attempt to determine which, if any, of these measures are correlated with degree of fear and thereby procure a broader picture of whether and how phobics differ from normals.

Procedure

Each subject was given a kit including each of the afore-mentioned tests. The FSS was on top, followed by the EPI, Do and Cs scales, FNE, SAD, and TSCS in that order. Subjects were instructed to complete all the forms while alone and in one sitting, and were requested not to discuss the questions or answers with anyone until the forms were

returned. Subjects were assured of confidentiality and told that they need not sign their name on any of the test forms. After returning the forms, most subjects asked for and were given an explanation as to the purpose of the research.

Respondents were then divided into three groups labelled (1) normal, (2) mono-symptomatic phobic, and (3) multi--symptomatic phobic. Assignment to one of the three groups was determined by the number of terror responses on the FSS. Thus, if no items were indicated to evoke terror, that subject was labelled "normal"; if one or two items were checked off at the terror level, the subject was labelled "mono-symptomatic phobic"; and if three or more items were checked off at the terror level, the subject was labelled "multi-symptomatic phobic".

Following the suggestion of Hannah et al. (1965) and Spiegler and Liebert (1970), the FSS was scored to provide two measures of fear: a phobic score (P) which was simply the number of items checked as very much disturbing, and a total fear score (F) which was obtained by summing for each subject his weighted rating on all items. Thus, an item checked at "not at all" was given a weight of one, "Very little" a weight of two, etc. with maximum weighting for any item being seven ("terror"). However, since the groups were defined on the basis of "terror" responses, a mean total fear score ($\bar{X}F$) with "terror" not included was used

rather than the raw F score. Thus, the $\bar{X}F$ score was arrived at by adding a subject's weighted ratings except for terror responses, and dividing by 82 minus the number of terror responses. The other tests were all scored in the standard manner.

Results

Of the 80 subjects, 38 were "normal", 21 were "mono-symptomatic phobic" and 21 were "multi-symptomatic phobic". Figure 1 shows the mean number of items checked at each level of fear for each of the three groups. For each of the four highest levels of fear, the normals checked off the fewest items, the multi-symptomatic phobics checked off the most items, and the mono-symptomatic phobics fell in between the other two groups. At the other end of the scale, the positions were reversed, with normals checking off the highest number of items as not at all disturbing, multi-symptomatic phobics the lowest number, and mono-symptomatic phobics again falling in between.

An analysis of variance comparing the three groups on $\bar{X}F$ was performed (for each subject's $\bar{X}F$ score, see Appendix B) and showed a highly significant difference (see Table 1). A t-test for differences among several means was performed to determine which specific means differed significantly from one another. While it had been assumed that multi-symptomatic phobics would differ from mono-symptomatic phobics and normals as the literature cited above contends, it was specifically hypothesized that, in addition, mono-symptomatic phobics would differ from normals as well. Since these differences had been hypothesized prior to the collection of the experimental

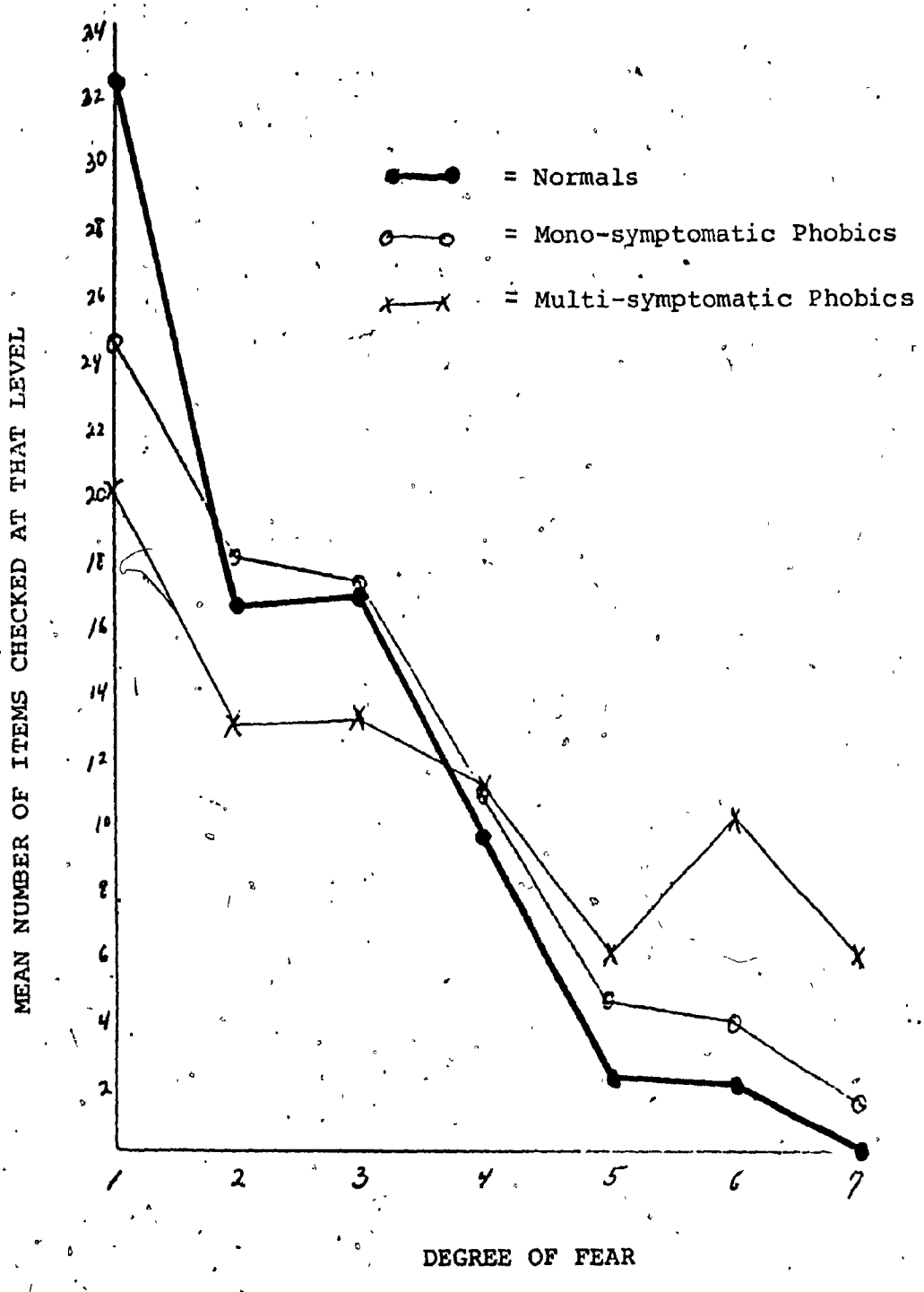

Figure 1. Distribution of items checked for each of the three groups

TABLE 1

SOURCE TABLE - ANALYSIS OF VARIANCE

COMPARING THE THREE GROUPS ON $\bar{X}F$

Source	SS	df	ms	F	p
Total	25.16	79			
Between	8.08	2	4.04	18.36	<.001
Within	17.08	77	.22		

data, these t-tests may be performed. Results of the t-test comparing the multi-symptomatic and mono-symptomatic groups showed that they are significantly different from one another (C. $diff._{01} = .35$, $\bar{X}_1 - \bar{X}_2 = .49$, $p<.01$). Similarly, the mono-symptomatic phobic and normal groups differed significantly from one another (C. $diff._{05} = .26$, $\bar{X}_2 - \bar{X}_3 = .28$, $p<.05$), as did the multi-symptomatic and normal groups (C. $diff._{01} = .35$, $\bar{X}_1 - \bar{X}_3 = .77$, $p<.01$).

Similarly, an analysis of variance comparing the three groups on the number of "very much" responses was performed (for actual number of items each subject checked as very much disturbing, see Appendix C) and showed a highly significantly difference (see Table 2). Once again a t-test for differences among several means was performed to determine which means differed significantly from one another. Results showed that the multi-symptomatic and mono-symptomatic groups differed significantly from one another (C. $diff._{01} = 2.89$, $\bar{X}_1 - \bar{X}_2 = 6$, $p<.01$) as did the mono-symptomatic and normal groups (C. $diff._{05} = 1.92$, $\bar{X}_2 - \bar{X}_3 = 2.06$, $p<.05$) as well as the multi-symptomatic and normal groups (C. $diff._{01} = 2.89$, $\bar{X}_1 - \bar{X}_3 = 8.06$, $p<.01$).

On the relationship between measures of fear and the other test scores, mean fear scores ($\bar{X}F$) were found to be significantly correlated with all the personality measures taken except for extroversion and dominance. Table 3 lists

TABLE 2

SOURCE TABLE - ANALYSIS OF VARIANCE COMPARING THE THREE GROUPS ON NUMBER OF "VERY MUCH" RESPONSES

Source	SS	df	ms	F	p
Total	1847.95	79			
Between	889.83	2	444.92	35.77	<.001
Within	958.12	77	12.44		

TABLE 3

CORRELATION BETWEEN $\bar{X}F$ SCORES AND OTHER MEASURES FOR ALL SUBJECTS

Measure	correlation with $\bar{X}F$	Level of significance of the correlation
Capacity for Status	-.43	p<.001
Fear of Negative Evaluation	.42	p<.001
Neuroticism	.39	p<.005
Self Esteem	-.38	p<.005
Social Avoidance and Distress	.29	p<.01
Dominance	-.21	p>.05
Extroversion	-.11	p>.05

each of the Pearson Product-Moment correlation coefficients and its level of significance. Number of items checked as very much disturbing was likewise found to be significantly correlated with all the personality measures taken except for extroversion. Table 4 lists each of the Pearson Product-Moment correlations for "very much" responses and its level of significance. To determine the degree of predictability of $\bar{X}F$, given knowledge of the other measures taken, and to determine which of the variables are most predictive, a step-wise multiple regression was performed. Results (see Table 5) show a multiple correlation coefficient of .53 between the dependent variable ($\bar{X}F$) and the joint variables of Capacity for Status, Fear of Negative Evaluation and Self Esteem. The bulk of the relationship, however, is accounted for by the single variable of Capacity for Status (.43), Fear of Negative Evaluation increasing the correlation by only .08, and Self Esteem by only .02.

The same procedure was followed to determine the degree of predictability of P (number of items checked as very much disturbing), given knowledge of the other measures taken. Results (see Table 6) were similar to those obtained with $\bar{X}F$ as the dependent variable, though the order of steps 2 and 3 were reversed and the multiple correlation coefficient was lower (.44). Again, Capacity for Status accounted for most of the relationship (.35), with Self Esteem adding

TABLE 4

CORRELATION BETWEEN "VERY MUCH" RESPONSES AND OTHER MEASURES FOR ALL SUBJECTS

Measure	Correlation with "very much" responses	Level of Significance of the correlation
Cpacity for Status	-.35	p<.005
Self Esteem	-.35	p<.005
Fear of Negative Evaluation	.33	p<.005
Social Avoidance and Distress	.27	p<.05
Dominance	-.24	p<.05
Neuroticism	.24	p<.05
Extroversion	-.18	p>.05

TABLE 5

RESULTS OF A STEP-WISE MULTIPLE REGRESSION WITH $\bar{X}F$ AS THE DEPENDENT VARIABLE

Measure	Multiple R
Capacity for Status	.43
Fear of Negative Evaluation	.51
Self Esteem	.53
Neuroticism	.54
Social Avoidance and Distress	.54
Dominance	.54
Extroversion	.54

TABLE 6

RESULTS OF A STEP-WISE MULTIPLE REGRESSION WITH P AS THE DEPENDENT VARIABLE

Measure	Multiple R
Capacity for Status	.35
Self Esteem	.42
Fear of Negative Evaluation	.44
Dominance	.45
Neuroticism	.46
Social Avoidance and Distress	.46
Extroversion	.46

only .07 to the correlation, and Fear of Negative Evaluation adding only .02.

Comparing the groups on the personality measures taken, showed mixed results. Analyses of variance (ANOVAs) comparing the three groups displayed significant differences for the variables Self Esteem, Fear of Negative Evaluation, Social Avoidance and Distress, and Dominance (see Tables 7, 8, 9, and 10) but detected no significant differences for the variables Capacity for Status, Neuroticism, and Extroversion (see Tables 11, 12, and 13). Results of a Tukey test[1] on the Self Esteen ANOVA showed a significant difference between the normal and multi-symptomatic phobic groups (C. $diff._{.05}$ = 19.09, $\bar{X}_1 - \bar{X}_3$ = 19.12, $p<.05$) but no significant differences between the normal and mono--symptomatic phobic groups (C. $diff._{.05}$ = 19.09, $\bar{X}_1 - \bar{X}_2$ = 5.69, $p>.05$) or between the mono- and multi-symptomatic groups (C. $diff._{.05}$ = 19.09, $\bar{X}_1 - \bar{X}_3$ = 13.43, $p>.05$). Similarly, results of Tukey test on the Fear of Negative Evaluation ANOVA displayed a significant difference between the normal and multi-symptomatic phobic groups (C. $diff._{.05}$ = 5.09, $\bar{X}_1 - \bar{X}_3$ = 6.7, $p<.05$) but no significant differences between the normal and mono-symptomatic phobic groups (C. $diff._{.05}$ = 5.09, $\bar{X}_1 - \bar{X}_2$ = 2.85, $p>.05$) or between the mono- and multi-symptomatic groups (C. $diff._{.05}$ = 5.09, $\bar{X}_2 - \bar{X}_3$ = 3.86, $p>.05$). Results of a Tukey test on the

TABLE 7

SOURCE TABLE - ANALYSIS OF VARIANCE COMPARING THE THREE GROUPS ON SELF ESTEEM

Source	SS	df	ms	F	p
Total	65735.95	79			
Between	5510.84	2	2755.42	3.52	<.05
Within	60225.11	77	782.14		

TABLE 8

SOURCE TABLE - ANALYSIS OF VARIANCE COMPARING THE THREE GROUPS ON FEAR OF NEGATIVE EVALUATION

Source	SS	df	ms	F	p
Total	4897.95	79			
Between	608.97	2	304.49	5.47	<.01
Within	4288.98	77	55.70		

TABLE 9

SOURCE TABLE - ANALYSIS OF VARIANCE COMPARING THE THREE GROUPS ON SOCIAL AVOIDANCE AND DISTRESS

Source	SS	df	ms	F	p
Total	1872.75	79			
Between	265.41	2	132.71	6.36	<.005
Within	1607.34	77	20.87		

TABLE 10

SOURCE TABLE - ANALYSIS OF VARIANCE COMPARING THE THREE GROUPS ON DOMINANCE

Source	SS	df	ms	F	p
Total	2878.39	79			
Between	232.56	2	116.28	3.38	<.05
Within	2645.83	77	34.36		

TABLE 11

SOURCE TABLE - ANALYSIS OF VARIANCE COMPARING THE THREE GROUPS ON CAPACITY FOR STATUS

Source	SS	df	ms	F	p
Total	1230.00	79			
Between	85.98	2	42.99	2.89	>.05
Within	1144.02	77	14.86		

TABLE 12

SOURCE TABLE - ANALYSIS OF VARIANCE COMPARING THE THREE GROUPS ON NEUROTICISM

Source	SS	df	ms	F	p
Total	1203.95	79			
Between	84.57	2	42.29	2.91	>.05
Within	1119.38	77	14.54		

TABLE 13

SOURCE TABLE - ANALYSIS OF VARIANCE COMPARING THE THREE GROUPS ON EXTROVERSION

Source	SS	df	ms	F	p
Total	739.8	79			
Between	8.48	2	4.24	.45	>.05
Within	731.32	77	9.50		

Social Avoidance and Distress ANOVA showed significant differences between the normal and multi-symptomatic groups (C. $diff._{.05}$ = 3.12, $\bar{X}_1 - \bar{X}_3$ = 3.85, $p<.05$) as well as between the mono- and multi-symptomatic phobic groups (C. $diff._{.05}$ = 3.12, $\bar{X}_2 - \bar{X}_3$ = 4.52, $p<.05$), but not between the normal and mono-symptomatic phobic groups (C. $diff._{.05}$ = 3.12, $\bar{X}_1 - \bar{X}_2$ = .67, $p>.05$). Finally, results of a Tukey test on the Dominance ANOVA showed no significant differences between any of the groups (C. $diff._{.05}$ = 4.00, $\bar{X}_1 - \bar{X}_2$ = 3.01, $p>.05$; $\bar{X}_1 - \bar{X}_3$ = 3.73, $p>.05$; $\bar{X}_2 - \bar{X}_3$ = .72, $p>.05$). These results are summarized in Table 14.

TABLE 14

LEVEL OF SIGNIFICANCE OF DIFFERENCES BETWEEN GROUPS ON EACH OF THE PERSONALITY MEASURES WHICH PRODUCED A SIGNIFICANT ANOVA

Personality Measure	Level of significance of differences between groups		
	Normal vs. mono-Symptomatic Phobic	Normal vs. multi-Symptomatic Phobic	mono vs. multi-symptomatic Phobic
Self Esteem	>.05	<.05	>.05
Fear of Negative Evaluation	>.05	<.05	>.05
Social Avoidance and Distress	>.05	<.05	<.05
Dominance	>.05	>.05	>.05

Discussion

The literature has shown that multi-symptomatic phobics are significantly different from both normals and mono-symptomatic phobics on many dimensions (e.g. Marks, 1967; Marks & Gelder, 1966). The present findings support that data and demonstrate that on both degree of fear (P) and extent of fear ($\bar{X}F$), multi-symptomatic phobics appear to represent a different population from either normals or mono-symptomatic phobics. These findings, therefore, support the assertion of Marks (1969) that multi-symptomatic phobics are somehow qualitatively different from both normals and mono-symptomatic phobics.

On the other hand, this appears to be likewise true for mono-symptomatic phobics in relation to normals. Thus the results of this study seem to confirm the hypothesis that mono-sympatomatic phobics are somehow different from normals. And whatever that difference be, the end result of it is the presence of a greater number and intensity of fears than normals. And so, whether we compare the groups on average degree of fear on all items ($\bar{X}F$), which is a measure of extent of fear, or on the number of high fear items an individual checks (P), the results are the same - individuals who have one or two items which they report being terrified of are significantly more afraid of more things than individuals who report no terror items. If

mono-symptomatic phobias were solely the result of external factors and each individual were as likely as the next to develop such phobias, then mono-symptomatic phobics should, as Marks (1969) and others (e.g. Cooper, Furst, & Bridger, 1969) contend, not be more fearful or anxious of other things than anyone else. In fact, summing up the conventional wisdom and prevailing assumptions regarding the development of phobias. Sutherland, Amit, and Weiner (1977) state rather emphatically that "there is no such thing as a phobia prone personality. Phobias are learned, and anyone can learn one, given the right combination of circumstances ... why doesn't everyone develop a phobia? Because, fortunately, the combination of events and conditions necessary to produce a full-fledged phobia does not occur often enough. But if it did, then everyone would develop a phobia. And personality would not even enter into it" (pp. 25,26). The results of the present study seem to contradict that hypothesis.

On the other hand, the differences between the three groups may actually be a spurious finding caused not by an actual difference in degree or extent of fear, but by a difference in response criteria. Thus, perhaps our "mono--symptomatic phobics" in fact experience the same fear to each of the FSS items as those in the "normal" group, but instead of labelling a moderate degree of fear as "a little"

or "a fair amount", they are more liberal in their use of more extreme labels and call it "much" or "very much". Two things mitigate against this possibility. The first is the finding cited earlier (Lick et al., 1977) that demonstrates a high degree of correlation between FSS responses and behavioral avoidance measures when the FSS items are detailed. The second is the shape of the curves found (refer back to Figure 1). Since points within each curve are not independent and each check at a given fear level reduces by one the number of possible checks at any other fear level, the shape of the curve is important. If the differences between the groups were really the result of a shift in response criteria, and those called "phobic" are simply people who use more extreme labels to describe their experiences than those called normal, then one would expect to see the higher fear groups exhibiting the same curve as the normal group, but beginning at a greater degree of fear. Table 15 lists the actual mean number of items checked at each level of fear for all three groups. Table 16 lists the mean number of items one would expect if the mono--symptomatic group simply shifted their criteria up one level, and the multi-symptomatic phobics up two levels from the normals. The curves would then look something like those illustrated in Figure 2 rather than the actual curves illustrated again in Figure 3. It seems reasonable, then,

TABLE 15

MEAN NUMBER OF ITEMS CHECKED AT EACH LEVEL OF FEAR FOR ALL THREE GROUPS

Group	Mean Number of Items Checked at Each Level						
Normal	32.47	16.76	17.16	9.92	2.87	2.32	0
Mono-Symptomatic Phobic	24.71	18.24	17.43	11.10	4.81	4.52	1.43
Multi-Symptomatic Phobic	20.33	13.14	13.81	11.19	6.10	10.38	6.10
Fear Level:	Not at all	Very little	a little	a fair amount	Much	Very much	Terror

TABLE 16

MEAN NUMBER OF ITEMS EXPECTED ~~IF~~ THE DIFFERENCES BETWEEN GROUPS WERE DUE TO AN UPWARD SHIFT OF RESPONSE CRITERIA

Group	Mean Number of Items Expected at Each Level						
Normal	32.47	16.76	17.16	9.92	2.87	2.32	0
Mono-Symptomatic Phobic	0	32.47	16.76	17.16	9.92	2.87	2.32
Multi-Symptomatic Phobic	0	2.32	32.47	16.76	17.16	9.92	2.87
Fear Level:	Not at all	Very little	a little	a fair amount	Much	Very much	Terror

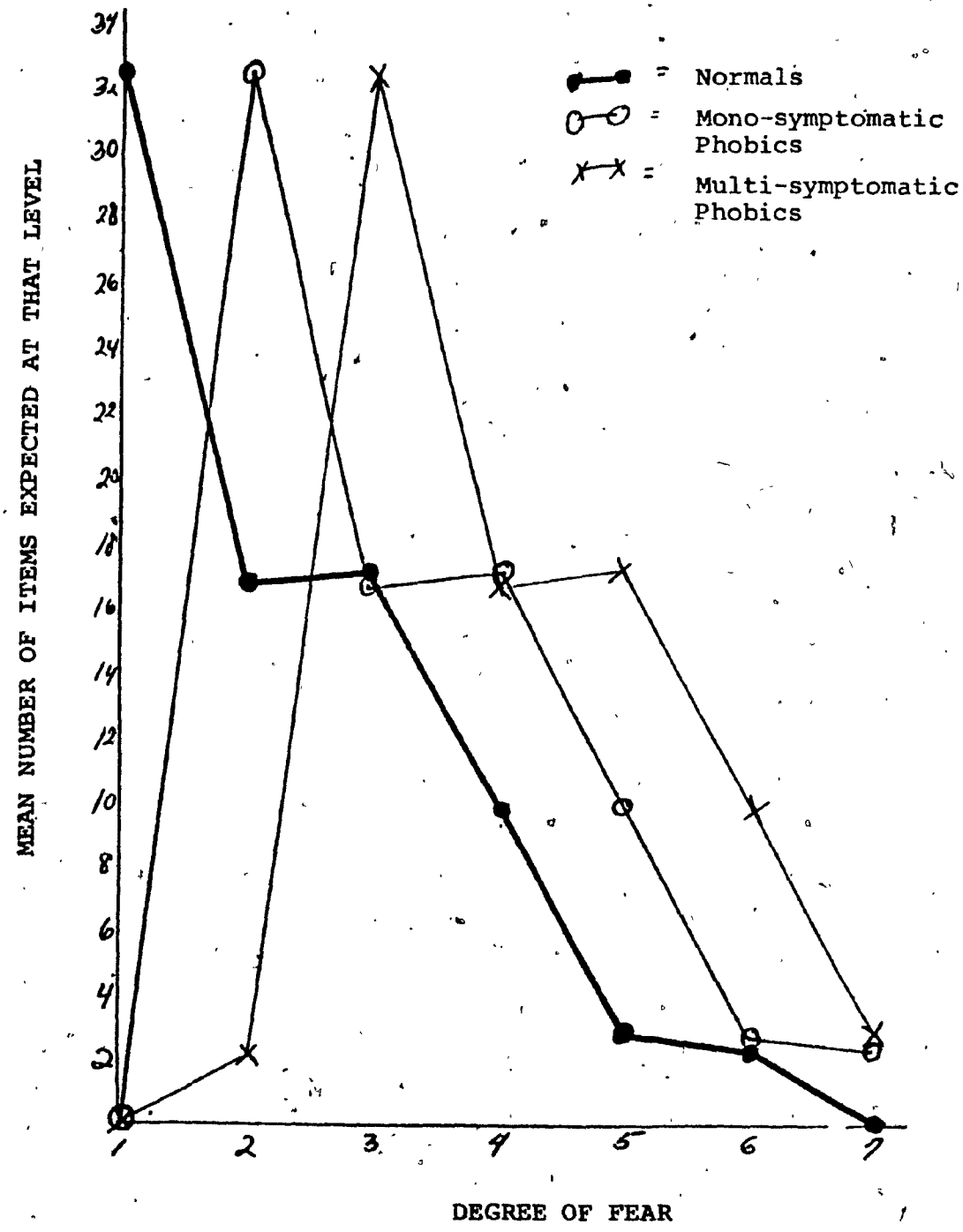

FIGURE 2. Expected distribution of items with an upward shift of response criteria.

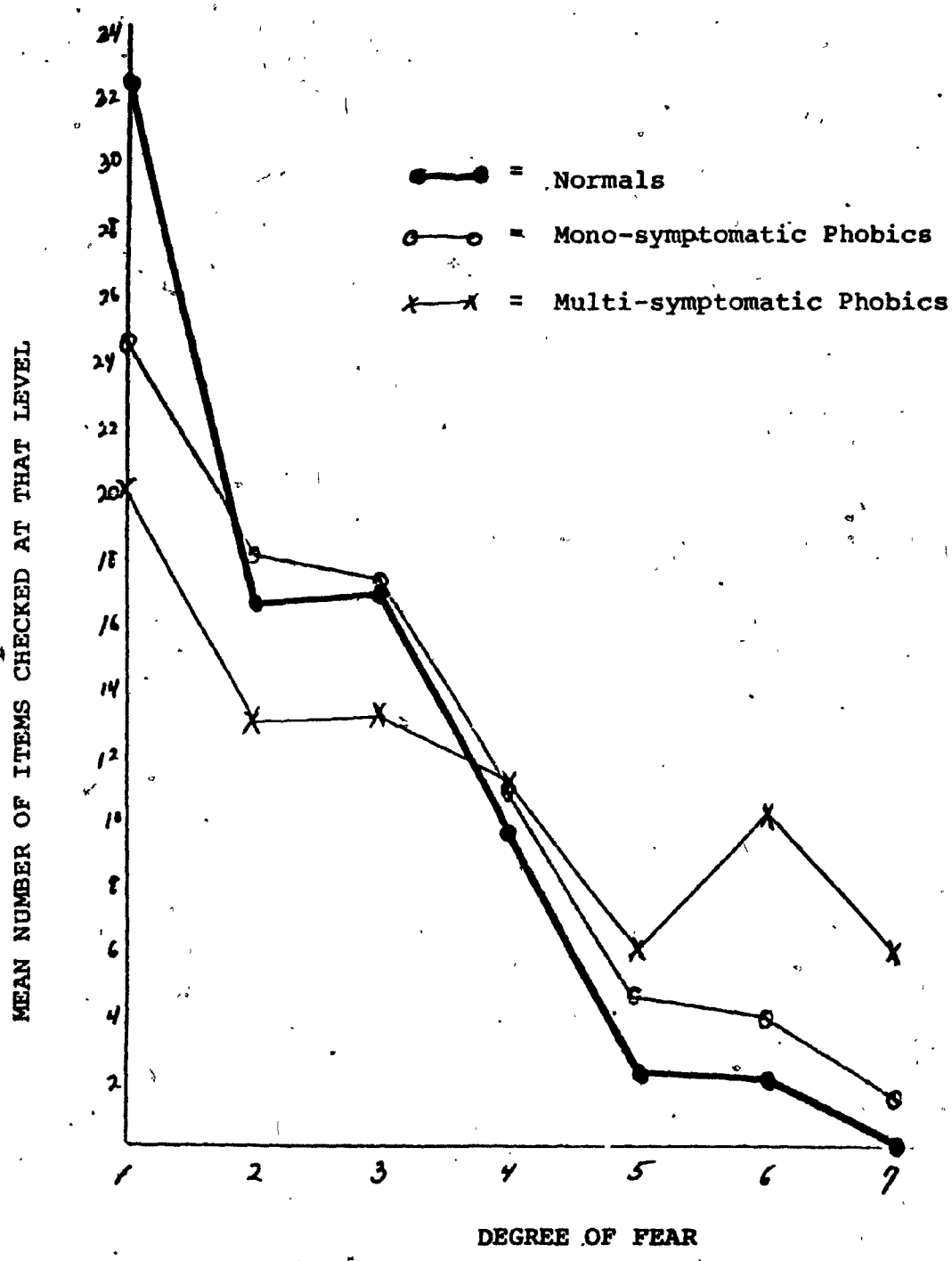

Figure 3. Actual distribution of items checked for each of the three groups.

to conclude that the differences do not appear to be due to a shift in response criteria.

At first glance the proportion of our sample who were found to be phobic (53%) seems quite high, for only 3% of all cases seem in psychiatric practice in America and England are phobic disorders (Agras, Sylvester, & Oliveau, 1969; Errera & Coleman, 1963; Frazier & Carr, 1967; Hare, 1965; Terhune, 1949) and phobic symptoms are present in only 20% of psychiatric patients (Errera & Coleman, 1963; Frazier & Carr, 1967; Hollingshead & Redlich, 1958). Actually, however, our proportion of phobics is not that unusual. Solyom et al. (1974) reported finding "mild phobias" in 45% of a group of normal subjects, while Geer (1965) found that of his 124 normal subjects, 38% reported having one or more severe fears. As Davison and Neale (1974) point out, many specific fears don't cause enough hardship to compel an individual to seek treatment. Thus a snake phobic living in a Metropolitan area is unlikely to seek treatment for his disorder and, indeed, is unlikely to consider himself to be suffering from anything. Nevertheless, according to the prevailing definition of a phobic ("a fear-mediated avoidance, out of proportion to the danger posed by a particular object or situation" - Davison & Neale, 1974, p. 123), that individual would clearly be classified as a phobic. This is equally true of individuals who have

phobias of objects that are present in his environment, but easily avoided, such as planes, darkness, etc. As Agras et al. (1969) conclude in their study of the incidence of fears and phobias in the general population, psychologists and psychiatrists see only a small percentage of the phobic population, usually the more severely disabled, and even among that group only 25% were receiving psychiatric care at the time of their study. They found that even excluding the most common fear reported - fear of snakes - 52% of the general population reported intense fears or phobias. Our findings, then, are actually well within the range of incidence one would expect to find based on past studies.

The second major finding of this study is that extent of fear ($\bar{X}F$) and degree of fear (P) are both significantly correlated with a number of other measures, namely Capacity for Status, Fear of Negative Evaluation, Self Esteem, and Social Avoidance and Distress. The three measures of Capacity for Status, Fear of Negative Evaluation, and Self Esteem are sufficiently independent of the other measures and of each other to produce a multiple correlation of .53 with $\bar{X}F$ as the dependent variable and .44 with P as the dependent variable, though in both cases most of the relationship is accounted for by the single variable of

Capacity for Status.

Eysenck and Rachman (1965) have suggested that individuals with a high neuroticism score (which they say indicates a low threshold for emotional activation) develop phobic reactions more readily. They further suggest that the more introverted the person (which they posit is associated with conditionability), the more quickly and strongly are the phobic reactions acquired and lastingly maintained. They would therefore predict that phobics should be significantly more neurotic and less extroverted than normals (cf. also Rachman, 1968; Eysenck, 1967; Eysenck, 1976). Research to date has given only very limited support to these suggestions. Thus while extent of fear has been found to be moderately correlated with neuroticism and introversion (Hannah et al., 1965; Hallam, 1976), the relation, especially with introversion, is weak, and in some cases (Bamber, 1974; Geer, 1965) not found at all. Our results bear out these findings: Neuroticism was found to be significantly correlated with $\bar{X}F$ (though not with P) while extroversion was not found to be significantly correlated with either[2]. Eysenck and Rachman's (1965) prediction, therefore, at least with regard to Extroversion, has not been supported. Results of the correlations and regressions performed indicate that individuals who score high on measures of fear ($\bar{X}F$

or P) tend to have low scores on Capacity for Status and Self Esteem and high scores on Fear of Negative Evaluation. Low scorers on the Capacity for Status scale tend to be seen as "apathetic, shy, conventional, dull, mild, simple and slow; as being stereotyped in thinking; restricted in outlook and interests; and as being uneasy and awkward in new or unfamiliar social situations" (Gough, 1957, p. 10). High scorers, on the other hand are seen as independent, mature, forceful and individualistic (Gough, 1968). Fear of Negative Evaluation was defined as "apprehension about others' evaluations, distress over their negative evaluations, avoidance of evaluative situations, and the expectation that others would evaluate oneself negatively" (Watson & Friend, 1969, p. 449). The presence of a high Fear of Negative Evaluation score, however, does not necessarily imply that an individual evaluates himself negatively (Dixon, DeMonchaux, & Sandler, 1957), and, therefore, is not indentical to low self esteem. People with low Self Esteem scores are "doubtful about their own worth; see themselves as undesirable; often feel anxious, depressed and unhappy; and have little faith or confidence in themselves" (Fitts, 1964, p. 2).

The above descriptions are remarkably similar to the report of Andrews (1966) who reviewed all the data available concerning psychotherapy with phobics. Paying

special attention to the descriptions provided of the phobics' behavior patterns, he concluded that phobics, as a general pattern of response, typically avoid activity which involves independent, self-assertive handling of difficult and fear arousing situations. He failed to find a single report in which a phobic was described as markedly independent of others or as being unusually fearless in other respects. This was true for all types of phobias, even what he refered to as "circumscribed" phobias or, more precisely, mono-symptomatic phobias. He further notes that this description of the characteristics of phobic individuals was agreed upon by writers of all theoretical persuasions.

Another interesting study which tends to indirectly confirm our findings and may possibly even suggest an understanding of them, is that of Kocowski (1970). Kocowski (1970) divided students into two groups on the basis of (a) experimental data, (b) observation, (c) anamnestic data from an interview, and (d) psychometric data. The first group ("stress-resistant") consisted of individuals who, under stress, fulfilled tasks better or as well as when under no stress. The second group ("non--stress-resistant") consisted of individals who, under stress, showed marked deterioration in task performance. He found that while the two groups did not differ as to

general emotional excitability, they were significantly different on several personality measures. Thus, non--resistant individuals seem to feel inferior, lack faith in their own abilities, and react with greater anxiety to both physical and social threats. Especially interesting is the fact that they were also found to be highly impulsive and unable to control the reactions evoked by the emotion they are experiencing at a given time. People resistant to stress, on the other hand, were found to be more perservering in overcoming obstacles and do not show a tendency to give up as do non-resistant people.

These results fit well with those of the present study. Like Kocowski's (1970) non-stress-resistant individuals, our phobics were more likely to have lower self esteem, more likely to avoid evaluative situations, and more uneasy in social situations than normals. More importantly, if we assume that resistance to stress is somehow related to the tendency to develop or maintain fears, then Kocowski's (1970) finding that stress-resistant individuals persevere and do not give up in the face of obstacles may shed some light on the mechanism through which phobia-prone individuals develop phobias. Perhaps they are more likely to develop fears and phobias because they tend to avoid anxiety or fear evoking objects and situations. Thus, in the same way that systematic desensitization and flooding

treat phobics by exposing them to the feared object, non-phobia-prone individuals may be less likely to develop phobias precisely because they are less likely to avoid feared objects and situations than are phobia-prone individuals. Further research designed to determine whether fearfulness and stress-resistance are indeed related, and to verify whether or not fearful individuals do, in fact, exhibit a gerenal tendency to avoid anxiety or fear evoking situations would shed some light on this interesting hypothesis.

The differences found between the groups on some of the personality measures taken lend further support to the above suggestion as to how these groups differ from one another. On both Self Esteem and Fear of Negative Evaluation the multi-symptomatic phobics were significantly different from the normals. Looking at these two groups alone, then, suggests that they are qualitatively different from one another, at least on those two personality measures. However, the fact that mono-symptomatic phobics fall in between the other two groups and are <u>not</u> different from either, presents a very different picture and suggests that, in fact, the differences between the groups is only quantitative. It may be, then, that the three groups do not represent different personality types, but rather different behavioral types, with normals facing fearful

situations, and phobics avoiding such situations. The fact that on Social Avoidance and Distress, multi-symptomatic phobics differ from both mono-symptomatic phobics and normals, of course, seems to argue against this suggestion. Of the other hand, even on this measure, mono-symptomatic phobics do not differ from normals. It may very well be, then, that multi-symptomatic phobics score high on Social Avoidance and Distress as a consequence of their extreme fears - beyond a certain point, an extreme number and degree of fears begins to hamper social functioning.

In summary, then, it appears that phobics have a tendency to develop or maintain fears, while normals do not. The relation between fear and the other measures taken suggests that this tendency is related to a behavioral style of avoidance in the face of stressful situations or objects. The lack of differences between the three groups on the measures taken, especially on the more traditional personality measures of neuroticism and extroversion, supports the notion that they do not differ from one another on personality traits - at least not qualitatively. The correlation between fear and the personality measures taken, on the other hand, suggests that they do differ in behavioral styles - most especially in avoidance of stressful situations.

One final caveat is in order. This study

operationaly defined "phobic" as any subject checking off one or more items on a fear survey schedule at the terror level. It has not been proven that such subjects are, in fact, equivalent to a clinical population of phobics. Therefore, generalizing from this study to actual phobics must be approached with caution. To that extent, then, this study is limited. It does, however, suggest further lines of research that may increase our understanding of the etiology of phobic disorders.

Conclusion

This study demonstrates that, in general, there appears to be no such thing as a mono-symptomatic phobic. People who have one (or more) phobic level fears (as defined by terror responses on an FSS) also report having more intense sub-phobic level fears to more things than normals. This is a potentially important finding and lends credence to the suggestion that phobics are different from non-phobics either in their acquisition of fears, extinction of fears, or both. The personality correlates found may be interpreted to suggest an understanding of how the increased fear levels of phobics come about: they appear to be less self confident and more avoidant of difficult situations than are non-phobics. If this is the case, it may be that an avoidance pattern is characteristic of the phobia prone individual and might very well be the mechanism through which more fears are acquired and maintained.

No suggestion is made, of course, as to the source of this avoidance pattern. It may be the result of a constitutional predisposition, learning experiences or, more likely, some interaction between the two. In any case, further research focusing on ways in which phobics and non-phobics differ, especially with regard to patterns of avoidance, seems likely to shed further light on the etiology of phobias.

Footnotes

[1] Since the groups had unequal numbers of cases, all the Tukey tests were calculated using $\bar{n}$, the harmonic mean of the numbers (see Kramer, 1956).

[2] Interestingly, the correlations found in the present study between the two measures of fear, and neuroticism and extroversion are almost identical to those reported Hannah et al. (1965), and their finding of a significant correlation between extroversion and extent of fear is only the result of the very large N used in that study (1,958 subjects).

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APPENDIX A: FEAR SURVEY SCHEDULE

AGE _____ **SEX** _____

FEAR INVENTORY

The items in this questionnaire refer to things and experiences that may cause fear or other related unpleasant feelings. Read each item and decide how much you are disturbed by its nowadays. Then put a check mark in the appropriate box. Answer all the items and work rapidly.

	Not at all	Very little	a little	a fair amount	Much	Very much	Terror
1. Noise of vaccum cleaners							
2. Looking at the open wound of a friend who is not seriously injured							
3. Looking at the open wound of a stranger who is seriously injured							
4. Being alone at home							
5. Being alone in an unfamiliar house							
6. Being alone in a room with a dead person.							

	Not at all	Very little	a little	a fair amount	Much	Very much	Terror
7. Speaking in public to a large audience							
8. Speaking in public to a small group of familiar people							
9. Crossing a busy street on a green light							
10. Being in a room with other people and noticing a peron who seems insane but harmless							
11. Driving a car in moderate city traffic							
12. Being a passenger in a car driven by a careful driver							
13. Walking into a dentist's office for a check-up							
14. Sitting at home and hearing sudden loud thunder							
15. Hearing a loud siren approaching from around the corner							

	Not at all	Very little	a little	a fair amount	Much	Very much	Terror
16. Entering a room where other people are already seated and the lecture has begun							
17. Looking down through the window from the 19th floor in a high-rise building							
18. Looking down from the balcony on the 19th floor of a high-rise building							
19. Seeing harmless worms in the gutter							
20. Receiving an injection at the doctor's office							
21. Sitting with a friend in an old country house and suddenly seeing a bat fly across the room							
22. Travelling a long distance in a train							
23. Feeling angry at someone who failed to follow directions and thereby caused you considerable inconvenience							

	Not at all	Very little	a little	a fair amount	Much	Very much	Terror
24. Being called to your boss', supervisor's or professor's office for an unknown reason .							
25. Sitting in a garden and seeing 2 bees flying nearby							
26. Seeing a stranger receiving an injection as you sit in the doctor's waiting room							
27. Sitting at the kitchen table and hearing a sudden loud noise							
28. Sitting in a chair and noticing a cat running underneath							
29. Sitting in a chair and suddenly seeing a cat jump on a nearby table							
30. Seeing several pigeons flying nearby							
31. Standing near the edge and looking into a deep pool of water							

	Not at all	Very little	a little	a fair amount	Much	Very much	Terror
32. Being aware that a friend is watching you as you work							
33. As you walk down the sidewalk, noticing a dead dog lying in the gutter							
34. Seeing a policeman holding a gun							
35. Noticing that your hands are dirty							
36. Sitting in a half-full city bus							
37. Noticing a large spider lowering itself from the ceiling above you							
38. Sitting in a restaurant when 2 people at a nearby table get up and start pushing each other							
39. Seeing an empty building on fire as firemen attempt to put out the fire							

	Not at all	Very little	a little	a fair amount	Much	Very much	Terror
40. Visiting a friend in the hospital who recently had his tonsils removed							
41. Visiting a friend in the hospital who is dying from cancer							
42. Being criticized by your boss or supervisor for a minor oversight							
43. Being in a modern elevator with 2 or 3 unfamiliar people							
44. Being in a very crowded modern elevator							
45. Being in a crowded old fashioned elevator							
46. Watching a surgical operation from behind a glass partition							
47. As you walk in, seeing a rat run across an old garage							

	Not at all	Very little	a little	a fair amount	Much	Very much	Terror
48. Standing next to a harmless white laboratory rat in a cage							
49. Seeing a stranger bleeding from a deep cut							
50. Seeing a dog bleeding from his paw							
51. Being in a small walk-in closet to look for a coat							
52. Waiting in a hospital bed to be taken for a minor surgical operation							
53. Waiting in a hospital bed to be taken for a major surgical operation							
54. Waiting to board an airplane							
55. Walking into a small airplane (100 passanger) for a short flight.							
56. Walking into a jumbo aircraft for a transatlantic flight							

	Not at all	Very little	a little	a fair amount	Much	Very much	Terror
57. Seeing a harmless 3-foot snake behind a glass partition							
58. Seeing a harmless 3-foot snake moving through the grass nearby							
59. Walking next to a cemetary							
60. Taking a shortcut through a cemetary							
61. Standing at the graveside as a distant relative is being buried							
62. Walking alone down a very dark familiar corridor							
63. Walking alone down a very dark unfamiliar corridor							
64. As you are walking, you notice that your heart seemed to miss a beat							
65. Being in a poolside locker room where there are nude people of the same sex as you							

	Not at all	Very little	a little	a fair amount	Much	Very much	Terror
66. Looking out the window and seeing a sudden flash of lightening							
67. Waiting in the doctor's office for your regular check-up							
68. Walking past a severely cripple person being pushed in a wheelchair.							
69. Sitting in a room next to a person with only one leg							
70. Feeling like you are going to faint							
71. You are home and you feel like you are going to vomit							
72. You have the passing thought "maybe I'am going insane"							
73. Taking an important written test when you know the material fairly well							

	Not at all	Very little	a little	a fair amount	Much	Very much	Terror
74. Being alone with a stranger of the opposite sex							
75. Standing in a very large open field							
76. Taking medicine for a minor infection							
77. After you've done something you shouldn't have, thinking "maybe God will punish me"							
78. Wondering if you have possible homosexual tendencies							
79. Having been stopped for speeding, waiting as the policeman walks towards your car							
80. Swimming in a lake that contains small harmless fish							
81. Holding a very sharp knife to cut a roast							
82. Seeing a large dog walk towards you							

APPENDIX B

$\bar{X}$F SCORE FOR EACH SUBJECT ACCORDING TO GROUP

S	Normal	S	Mono-symptomatic Phobic	S	Multi-symptomatic Phobic
16	2.32	1	3.25	2	3.10
17	2.02	8	1.70	3	2.57
18	1.89	10	2.84	4	3.66
19	1.10	12	2.79	5	3.32
20	2.23	13	2.90	6	3.61
21	2.38	15	2.60	7	3.22
22	1.89	28	2.22	9	3.05
23	3.09	29	2.66	11	3.68
24	2.62	34	2.49	14	2.69
25	2.78	39	2.65	37	2.38
26	2.71	41	2.11	42	1.82
27	2.82	48	1.80	44	2.37
30	2.23	49	2.63	46	2.30
31	2.78	51	2.98	50	3.87
32	2.28	54	2.18	57	3.08
33	2.19	56	2.31	59	3.58
35	2.07	58	2.34	61	2.56
36	1.46	60	2.48	65	3.56
38	2.17	64	2.89	66	3.06
40	1.96	67	2.78	68	3.21
43	1.96	79	2.94	71	3.18
45	1.80				
47	2.84				
52	1.77		$\bar{X}$ = 2.55		$\bar{X}$ = 3.04
53	2.22		SD = .39		SD = .55
55	2.51				
62	3.12				
63	2.73				
69	2.29				
70	2.02				
72	2.26				
73	2.43				
74	2.63				
75	2.21				
76	1.46				
77	2.71				
78	2.67				
80	1.60				
	$\bar{X}$ = 2.27				
	SD = .46				

APPENDIX C

NUMBER OF ITEMS EACH S CHECKED AS "VERY MUCH" DISTURBING.

S	Normals
16	3
17	3
18	2
19	0
20	0
21	1
22	1
23	4
24	0
25	4
26	2
27	7
30	1
31	5
32	0
33	2
35	2
36	0
38	3
40	1
43	1
45	0
47	3
52	1
53	4
55	5
62	6
63	4
69	2
70	1
72	4
73	1
74	4
75	1
76	2
77	1
78	7
80	0

$\bar{X}$ = 2.32
SD = 1.99

S	Mono-symptomatic Phobics
1	10
8	1
10	3
12	3
13	5
15	6
28	3
29	8
34	0
39	9
41	1
48	1
49	4
51	6
54	2
56	7
58	2
60	4
64	7
67	8
79	5

$\bar{X}$ = 4.52
SD = 2.91

S	Multi-symptomatic Phobics
2	7
3	5
4	16
5	7
6	14
7	13
9	11
11	26
14	10
37	8
42	4
44	3
46	3
50	18
57	8
59	14
61	4
65	11
66	11
68	13
71	12

$\bar{X}$ = 10.38
SD = 5.62