Another Look at Fear of Success, Fear of Failure, and Test Anxiety: A Motivational Analysis Using the Five-Factor Model[1]

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Perhaps one of the more theoretically engaging areas of motivation research concerned the construct fear of success [M. S. Horner (1968) Sex Differences in Achievement Motivation and Performance in Competitive and Non-Competitive Situations, unpublished doctoral dissertation, University of Michigan]. Although much investigative effort was devoted to it, the research process was plagued with numerous theoretical and technical problems, not the least of which was a consistent inability to discriminate the construct from other related variables such as fear of failure and test anxiety. This report argued that the empirical overlap among these variables suggested the presence of larger motivational constructs. To evaluate this hypothesis, 263 predominantly Caucasian college women completed measures of fear of success, test anxiety, achievement motivation, and fear of failure. Scores on each variable were correlated with markers of the five-factor model of personality that revealed that these scales were factorially complex. A regression analysis showed that it was the personality domains of neuroticism and conscientiousness that were most relevant to these performance-related variables. A preliminary model of motivation was proposed that was based on these two personality domains.

Perhaps one of the more theoretically engaging areas of motivation re-search concerned fear of success (FOS; Horner, 1968). It was an appealing construct that provided a compelling explanation for the many gender dif-ferences often noted in the achievement motivation literature (Alper, 1974;

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Atkinson, 1958; French & Lesser, 1964; see Stewart & Chester, 1982 for a review). After a brief period of enthusiasm, the construct fell under harsh criticism because many of Horner's hypotheses and findings failed the test of replication. Perhaps one of the more problematic issues concerned the consistent inability to separate empirically the FOS construct from other related, though theoretically distinct, variables such as fear of failure and test anxiety (Shaver, 1976). Eventually, the consistent failures in construct validation created so many intractable theoretical and technical problems that research in the area virtually ceased. However, the lack of discriminant validity may be less a technical failure than an indication of larger motivational constructs underlying our achievement strivings. To make such a determination would require a set of personality dimensions large enough to encompass these motivational variables yet sufficiently discrete to be interpretable. This report aimed to take another look at the FOS construct and its conceptual relatives by examining them within the context of a comprehensive personality taxonomy: The five-factor model (Digman, 1990; Goldberg, 1993; McCrae & John, 1992). It was hoped that this taxonomy would provide a structure for better understanding how these motivational constructs impact performance. Specifically, it was hypothesized that the personality dimensions associated with aspiration level and negative affect would serve as the anchoring constructs for a circumplex-like model that would describe the psychological dynamics of these performance-related variables.

Fear of Success and Achievement Motivation

Atkinson and his colleagues (Atkinson, 1964; Atkinson & Feather, 1966; Atkinson & Raynor, 1974) provided an elaboration of the expectancy-value theory of achievement motivation (McClelland, Atkinson, Clark, & Lowell, 1953) that aimed to quantify both the intrinsic and extrinsic factors that influence one's achievement strivings. At the heart of this striving is the tendency to achieve (T_s) which is a multiplicative function of three components: one's motive to achieve success (M_s), the perceived probability of succeeding (P_s), and the incentive value of such success ($I_s = 1 - P_s$). Thus,

$$T_s = M_s \times P_s \times I_s \tag{1}$$

However, Equation 1 is only a single item in a larger formula that links a number of independent variables in an additive fashion (e.g., fear of failure-T_{af}, inertial tendency-T_g). It is the combined influence of all these variables that produces a particular level of achievement striving in a situation. The inability of this model to accurately predict the performance of women

in achievement situations led Horner (1968, 1970, 1972) to formulate her construct of Fear of Success (FOS) as a related, additional component to this larger model:

$$T_{-s} = M_{-s} \times P_{-s} \times I_{-s} \tag{2}$$

Equation 2 shows that a woman's tendency to avoid success (T_{-s}) is a multiplicative function of her motive to avoid success (M_{-s}), the probability of her avoiding success (P_{-s}), and the incentive value avoiding success holds (I_{-s}). According to this model, a woman's tendency to achieve would be defined by Equation 3:

$$\text{Achievement Striving} = T_s + T_{af} + T_g + T_{-s} \tag{3}$$

From Equation 3 two conclusions can be drawn: First, FOS represents only one component in a larger network of variables that combine to produce a woman's drive for success. Thus, in order to understand how FOS influences performance it must be evaluated in relation to these other variables (Piedmont, 1988). Simply correlating a measure of FOS to performance does not provide an adequate test of Horner's construct. The reliance on such a simple paradigm may partially explain the often conflicting, contradictory research findings noted in the literature. Second, this model explicitly acknowledges that all the variables in the model are independent and relate to each other in an additive fashion. In other words, one's level of achievement motivation has nothing to do with one's level of fear of success or fear of failure (see Arkes & Garske, 1982 for a review). Because these constructs are theorized to be independent, each factor makes a unique contribution to one's resultant level of achievement motivation.

This assumption of independence has proven to be problematic for both the FOS and achievement constructs. The lack of predictive validity in early FOS measures (see Zuckerman & Wheeler, 1975) led to an explosion in the number of FOS scales, each attempting to capture more precisely the construct. A number of studies evaluated the relations among these measures (Chabassol & Ishiyama, 1983; Griffore, 1977; MacDonald & Hyde, 1980; Paludi, 1984; Shaver, 1976) and concluded that the scales reflected a wide spectrum of personological qualities that did not always discriminate well from other measures (Orlofsky, 1981; Sadd, Lenauer, Shaver, & Dunivant, 1978; Reviere & Posey, 1978). Gelbort and Winer (1985) applied a multitrait-multimethod matrix to a number of FOS and fear of failure (FOF; FOF is the same as T_{af}) scales and failed to find any discriminant validity between the two. In a study evaluating the relations between achievement motivation and FOS, I found that it was the *interaction* between FOS and achievement that significantly predicted performance for women, a result that suggested a multiplicative rather than additive

relationship between these two variables (Piedmont, 1988; see also Kara-benick, 1977). Finally, as Horner (1968) pointed out, anxiety concerning success is only relevant in someone for whom being successful is important. High FOS women experience much psychological conflict around their achievement ambitions. Thus there are both empirical and theoretical reasons to expect that performance inhibiting and facilitating variables are not independent.

This study explicitly evaluated the overlap among the FOS, FOF and achievement constructs to determine if their interrelations reflected some discernible, systematic process. Rather than a validity failure, the question considered was: Could the overlap among these variables reflect the presence of some larger construct that may be more meaningfully related to performance in achievement situations? To answer this question, several analyses were undertaken. The first was to apply a multitrait-multimethod matrix (Campbell & Fiske, 1959) to the constructs of FOS and achievement motivation. According to the expectancy-value theory, there should be no relation between measures of achievement motivation and FOS. Based on the previous discussion, it was expected that the achievement and FOS measures would be correlated. Such a finding, in conjunction with the Gelbort and Winer results, would be further evidence that Atkinson's expectancy-value model of motivation does not accurately specify the empirical relations among FOS, FOF, and achievement motivation. However, in order to demonstrate that these correlations represented a substantive phenomenon, an appeal was made to the five-factor taxonomy of personality (Digman, 1990; Goldberg, 1993). This model provided a meaningful context for evaluating the interrelations among these variables and afforded a potential opportunity for theory development.

The Five-Factor Model of Personality and Its Relations to Motivation

Psychologists have long been interested in identifying the underlying dimensions of personality because such factors would provide a paradigm for evaluating, interpreting, and classifying the personological qualities of any psychological variable. Over the past 30 years research has converged on the existence of five dimensions which have been shown to constitute an adequate taxonomy of personality characteristics (Digman, 1990; McCrae & John, 1992). These five factors were empirically derived from trait ratings and have been labeled: Neuroticism (the tendency to experience negative affect, such as anxiety, depression, hostility), Extraversion (the quantity and intensity of interpersonal interactions), Openness to Experience (the proactive seeking and appreciation of new experiences),

Agreeableness (the quality of one's interpersonal interactions along a continuum from compassion to antagonism), and Conscientiousness (the amount of persistence, organization, and motivation in goal-directed behaviors). These five factors have been shown to be stable over time and robust (Costa & McCrae, 1988b; Costa, McCrae, & Norris, 1981; Digman, 1990; McCrae & Costa, 1987, 1990; Piedmont, McCrae, & Costa, 1991).

Although initially derived from the English language, research has shown that these dimensions can represent constructs derived from a wide range of psychological theories, including Jungian typologies, vocational interests, folk concepts, and the interpersonal circumplex (Costa, McCrae, & Holland, 1984; McCrae & Costa, 1989a,b; McCrae, Costa, & Piedmont, 1993). More importantly, the five-factor model has been shown to reflect personality qualities captured by Murray's (1938) needs-press theory, the theoretical platform for Atkinson's expectancy-value model (Costa & McCrae, 1988a; Piedmont, McCrae, & Costa, 1991, 1992). Further, these five dimensions have been shown to predict achievement-related life outcomes such as occupational and scholastic success (Digman, 1989; Piedmont & Weinstein, 1994; Tett, Jackson, & Rothstein, 1991). The value of this taxonomy is that it allows one to evaluate the kinds of psychological dynamics that are represented in any personality construct. Such psychological parsing enables one to determine similarities and differences among variables by virtue of their correlations with these larger dimensions (see McCrae et al., 1993; Piedmont et al., 1992).

Based on definitions of the FOS, FOF, and achievement scales, some specific correlations with the five-factor model were anticipated. First, the achievement scales embody psychological qualities such as perseverance, aspiration, and self-discipline that constitute part of the conscientiousness domain and therefore should be correlated with it. Second, FOS represents anxiety and apprehension over success, thus the FOS scales should correlate with neuroticism, itself an index of negative affectivity. The FOF and test anxiety scales all share some elements of anxiety, fear, and self-consciousness and so were also expected to correlate with neuroticism. Given this conceptual analysis of the scales (cf. Gough, 1965), it is not surprising that the previous literature failed to discriminate among the FOS, FOF and test anxiety scales in that they all appear to share a common psychological grounding in negative affectivity. Indeed, inhibition of one's performance in any achievement setting may be a function of one's level of neuroticism. Differences among scales designed to measure performance inhibition may be found only in terms of the kinds of negative affect they assess (e.g., anxiety versus low self-esteem).

Although the zero-order correlations between the five-factor model and the motivation scales are very useful for psychologically defining these

scales, what the correlations do not show is the degree to which these two sets of variables overlap. In order to accomplish this, a multiple regression analysis will be performed and the resulting multiple R will index how well the five-factor model can accommodate the information contained in these performance variables. Further, this analysis will also identify the most predictive dimensions. From there a new model of motivation will be proposed that will more clearly articulate the personological dynamics underlying these performance-inhibiting constructs.

METHOD

Subjects

Subjects consisted of 263 predominantly caucasian women who volunteered as part of a larger study on achievement motivation and fear of success (see Piedmont, 1989 for complete details). Average age of subjects was 19.4 years (SD = 3.5); Mean GPA for this group was 3.16 (SD = .48). Subjects received course credit for their participation.

Measures

Adjective Check List (ACL). Developed by Gough and Heilbrun (1983), this measure consists of 300 adjectives from which individuals select those adjectives which are viewed as most self-descriptive. The ACL provides information on 35 scales from diverse theoretical orientations, including Murray's (1938) needs, Berne's (1961) Transactional Analysis, Welsh's (1975) Intellectence and Origenence Scales and several scales developed by Gough and Heilbrun (1965, 1983) to measure salient interpersonal qualities. Of particular interest in this study is the achievement motivation scale which has been shown to be a relevant predictor of cognitive performance for women (Piedmont, DiPlacido, & Keller, 1989).

Using a panel of experts familiar with the five-factor model of personality, John (1990) created adjective marker scales for each of the five dimensions from the ACL items. These rational judgments were supported by empirical analyses that demonstrated both the convergence of these markers with other measures of the five-factor model (McCrae, 1990) and with relevant scales from the ACL (Piedmont, McCrae & Costa, 1991). These five-factor marker scales will also be used in this study.

Fear of Success Scale (ZA-FOS). Developed by Zuckerman and Allison (1976), this 27-item scale contains items concerning the costs and benefits

of success (e.g., "For every winner there are several rejected and unhappy losers", "Often the cost of success is greater than the reward") as well as attitudes towards success (e.g., "A person who is at the top faces nothing but a constant struggle to stay there", "When you are the best all doors are open"). Subjects indicate their responses on a 7-point agree-disagree likert scale. The scale was constructed on the basis of Horner's theory, and there is evidence for its construct validity (Chabassol & Ishiyami, 1983; Griffore, 1977; MacDonald & Hyde, 1980; Orlofsky, 1981). The alpha reliability of this scale in the current study was .72.

Concern Over Negative Consequences of Success Scale (CNCS-FOS). Developed by Ho and Zemaitis (1981), this is another 27-item scale designed to measure FOS. This scale offers a more general conceptualization of FOS that does not include any conflicts with, or losses of, femininity (e.g., "At times, I believe I have gotten by in school because of good luck and the carelessness of teachers", "If it weren't for some remarkable good luck I would not have gotten as far as I have"). Unlike Horner's construct, this measure does not anticipate any gender differences in scores. Individuals respond to each item on a 4-point agree-disagree continuum. There is some evidence suggesting that this scale does capture concerns over the negative consequences of success, such as jealousy, exploitation, and social rejection (Hyland, Curtis & Mason, 1985). The alpha reliability of this scale in the current sample was .86.

Reactions to Tests Scale (RTT). Sarason (1984) developed this scale to conceptualize anxiety as a multidimensional construct. A negative reaction to tests occurs as a result of intrusive thoughts and feelings that interfere with task-focused thinking. These toxic elements are distinguished in this scale from more diffuse affective experiences which may have less impact on performance. This 40-item questionnaire contains 4 ten item scales: *Test Irrelevant Thinking* assesses the presence of distracting thoughts during a test (e.g., "During tests I think about recent past events"); *Bodily Symptoms* evaluates the presence of physical dysphoria experienced during tests (e.g., "My stomach gets upset before tests"); *Tension* refers to the emotional reaction to a test (e.g., "I feel jittery before tests"); and *Worry*, which refers to the cognitive side of anxiety, preoccupation over performance in evaluative situations (e.g., "Before taking a test, I worry about failure"). Sarason (1984) provides a series of studies that outline the reliability and validity of these scales. Alpha reliabilities for these scales were found to be .92, .79, .92, and .85 for the Test Irrelevant Thinking, Bodily Symptoms, Tension, and Worry scales, respectively.

Fear Of Failure Scale (FOF). Initially constructed by Alpert and Haber (1960), this measure is designed to assess anxiety specific to achievement-oriented situations. This measure provides two negatively related subscales

that assess the facilitative (9 items) and debilitative (10 items) effects of anxiety. Only the debilitative scale will be included in this study as a measure of Fear of Failure. This scale has been widely used as such in the research literature (Hoffman, 1974; MacDonald & Hyde, 1980; Sadd, Lenauer, Shaver, & Dunivant, 1978). The alpha reliability was found to be in this sample .82.

Projective Assessment of Fear of Success (TAT-FOS). Three verbal cues were presented to all subjects and were scored by Horner and Fleming's (1977) revised, empirically derived scoring system. Although this procedure has not had widespread usage, it does appear promising (Bremer & Wittig, 1980; Fleming, 1978; MacDonald & Hyde, 1980) and is Horner's most recent psychometric statement of her construct. Subjects received the following leads: "Carol is looking into her microscope", "Barbara is returning to the office late in the day", and "Judy is sitting in a chair with a smile on her face." These leads were selected due to the frequency of their usage in the literature. All stories were scored separately for FOS by 2 scorers who had previously obtained category agreement coefficients of .8 and .9, respectively, with expert-scored practice materials. A composite score was created based on agreements between the two coders. When an inconsistency arose (i.e., one scorer checked a category as present and the other did not), the story was read by a third rater (category agreement coefficient of .8) who made the final determination. All analyses were computed using scores corrected for verbal fluency by a regression analysis.

Projective Assessment of Achievement Motivation (TAT-ACH). Four visual cues were presented to subjects for 20 seconds and then subjects had 4 minutes to write a story. The four cues were selected from current research in achievement motivation. They were: Two men working in a machine shop; a little girl sitting in a classroom alone with a school book opened; two women working in a laboratory setting; and two younger boys examining pieces of some construction. Stories were scored for n Achievement according to McClelland, Atkinson, Clark, and Lowell (1953) by a scorer who had previously attained a category agreement coefficient of .9 with expert-scored materials. All scores from this measure were corrected for verbal fluency by a regression analysis.

Procedure

Testing was done as part of a larger study on FOS and achievement motivation. All materials were completed in groups of 5 to 15. Subjects completed the ACL, objective measures of FOS, and projective measures during the first phase of testing. The order of presentation was counter-

balanced both between the objective and projective tests *and* between the two projective measures to control for any order effects. Upon completion of these materials, subjects received a 7-10 min. break followed by the remaining objective measures. Subjects were then debriefed and thanked for their participation.

RESULTS AND DISCUSSION

Multitrait-Multimethod Matrix

Table I provides the multitrait-multimethod matrix for the Achievement and FOS scales. As can be seen, the objective measures evidence stronger convergent validity than the projectives. Only the achievement measures evidence any heteromethod-monotrait convergence. The small magnitude of this validity coefficient is not surprising given the very small alpha coefficients for the projective tests. These results highlight some of the psychometric difficulties inherent to research using projective-based instruments (Entwisle, 1972; Klinger, 1966; Zuckerman & Wheeler, 1975).[3]

The significant negative correlation between the FOS and achievement scales indicates a clear failure in discriminant validity, emerging over instruments and measurement methods. Rather than being an independent motivational construct, FOS appears to be correlated with one's aspirational levels. Further, the lack of heteromethod-monotrait convergence among the FOS scales may suggest that Horner's revised coding scheme does not capture the same qualities as reflected in objective-based measures. Then again, it cannot be determined how much of the monomethod-monotrait correlation, $r(261) = .54$, $p < .01$ two-tailed, is due to shared method variance. Nonetheless, correlating these scales with the five-factor model can determine if the overlap among these scales can be substantively interpreted.

[3]Some researchers argue that current psychometric theories (e.g, Domain Sampling Theory) are not appropriate for evaluating the reliability of the TAT (Atkinson, Bongort, & Price, 1977; McClelland, 1985; Winter & Stewart, 1977). Rather than striving for high item redundancy, supporters of the TAT argue that each TAT stimulus is selected for its ability to capture qualities of the individual *distinct* from the other stimuli. Thus measures of internal consistency should be small. Lundy (1985) presented data supporting this contention. He noted that alpha reliability coefficients in his sample were very small (less than .35) while one-year test-retest coefficients were much higher, in the .45–.60 range. Usually, internal consistency measures should be higher than retest coefficients. For Lundy, these findings suggested that the reliability of TAT-based measures are significantly underestimated by standard procedures. For these reasons, the TAT scores were included in all further analyses.

Table I. Multitrait-Multimethod Matrix for the Achievement Motivation and Fear of Success Scales[a]

		Method 1 projectives		Method 2 ojectives		
		TAT Ach	TAT FOS	ACL-Ach	ZA-FOS	CNCS-FOS
Method 1 projectives	TAT Ach	(.21)[b]				
	TAT FOS	−.18[c]	(.12)			
	ACL-Ach	.15[d]	−.10	(.82)		
Method 2 ojectives	ZA-FOS	.05	.07	−.27[c]	(.72)	
	CNCS-FOS	.01	.03	−.33[c]	.54[c]	(.86)

[a]$N = 263$. TAT Ach: TAT achievement scores based on McClelland et al. (1953) scoring system; TAT FOS: TAT fear of success scores based on Horner and Fleming's (1977) revised scoring system; CNCS-FOS: Ho and Zemaitis (1981) Concern over Negative Consequences of Success scale; ZA-FOS: Zuckerman and Allison (1976) fear of success scale; ACL-Ach: Adjective Check List achievement scale (Gough & Heilbrun, 1983).
[b]Reliabilities for the TAT measures are Cronbach's alphas based on total scores obtained from each of the 4 achievement cues and from each of the 3 FOS cues.
[c]$p < .01$, two tailed.
[d]$p < .05$, two tailed.

Big-Five Correlates of FOS, FOF, and Test Anxiety

In order to gain some understanding of the personological qualities underlying these scales, the achievement, FOS, and FOF scales were correlated to the ACL marker scales of the Big Five personality dimensions. These results are presented in Table II. The numerous correlations in Table II present two immediate observations. First, all the scales reflect heterogeneous constructs: Each correlates with at least two of the major personality dimensions. From a predictive perspective this personological breadth is a welcome quality, insuring some predictive relevance to a wide range of criteria. However, such diversity is problematic interpretively because scores do not clearly reflect any one psychological construct. Although correlations with the Neuroticism and Conscientiousness scales were expected, the associations with the Extraversion, Openness, and Agreeableness scales may reflect the inclusion of irrelevant personological material in these measures. With regard to the FOS scales, these multidomain correlations support findings of the factor analytic studies which consistently displayed great factorial diversity. Thus, attempting to isolate the dynamics that inhibit performance becomes difficult.

A second observation is the unanimous loading of all scales on the Neuroticism domain. Both the FOS and FOF scales have their largest cor-

Table II. Correlations Between Fear of Success, Fear of Failure, and Achievement Motivation Scales and the ACL Markers of the Five Major Dimensions of Personality

Scale	ACL markers for big five personality dimensions				
	Neuro-ticism	Extra-version	Openness	Agree-ableness	Conscien-tiousness
ACL Achievement	$-.30^b$	$.46^b$	$.35^b$	$-.01$	$.49^b$
TAT Achievement	$-.16^b$	$.00$	$.09$	$.17^b$	$.21^b$
CNCS - FOS	$.29^b$	$-.21^b$	$-.29^b$	$-.01$	$-.20^b$
ZA - FOS	$.20^b$	$-.22^b$	$-.17^b$	$.15^c$	$-.05$
TAT - FOS	$.11$	$-.08$	$.00$	$-.12^c$	$-.04$
Fear of Failure	$.22^b$	$-.16^b$	$-.21^b$	$.14^c$	$-.16^b$
Reaction to tests scales					
Tension	$.21^b$	$-.15^c$	$-.14^c$	$.09$	$-.11$
Worry	$.24^b$	$-.10$	$-.16^b$	$.01$	$-.14^c$
Test irrelevant thinking	$.25^b$	$-.08$	$-.05$	$-.10$	$-.14^c$
Body symptoms	$.30^b$	$-.15^c$	$-.21^b$	$.01$	$-.15^c$

$^aN = 263$. TAT Ach: TAT achievement scores based on McClelland et al. (1953) scoring system; TAT FOS: TAT fear of success scores based on Horner and Fleming's (1977) revised scoring system; CNCS-FOS: Ho and Zemaitis (1981) Concern over Negative Consequences of Success scale; ZA-FOS: Zuckerman and Allison (1976) fear of success scale; ACL-Ach: Adjective Check List achievement scale (Gough & Heilbrun, 1983); Fear of Failure: Alpert and Haber's (1960) debilitating anxiety scale; Reaction to Tests Scales: Sarason's (1984) test anxiety scales.
$^bp < .01$, two tailed.
$^cp < .05$, two tailed.

relations on this factor. Clearly, all these dimensions have some type of emotional distress at their core. This personological commonality explains why attempts at discriminating among these constructs have failed. Despite any phenotypic differences in their item content, genotypically these scales (with the exception of Horner & Fleming's TAT based measure) all capture underlying levels of negative affectivity.

Another common dimension is Conscientiousness. The achievement scales load positively (as they should) while the FOS, FOF and Test Anxiety scales all correlate negatively. Consistent with previous expectations, FOS (and FOF) does not represent a distinct dynamic that blocks one's desire to achieve. Rather, FOS (and FOF) and achievement motivation operate conjointly to influence performance. The desire to succeed includes a capacity to cope with the inevitable stressors competition entails as well as an ability to maintain high levels of self-esteem. Individuals high on FOS may experience a personal sense of affective dysphoria that may paralyze any efforts at competing.

Regression Analysis

In order to assess how well the five-factor model marker scales can predict these performance variables, a multiple regression analysis was undertaken. First, a composite motivation variable was created by standardizing the FOS, FOF, test anxiety, and achievement variables and aggregating them so that high scores reflected the performance inhibiting motivational aspects and low scores reflected the performance enhancing qualities. This composite served as the criterion and the five-factor model marker scales were the predictors. The results of this analysis are presented in Table III. As can be seen, the five-factor model marker scales account for 25% of the variance in the motivation composite variable ($R = .50$, $F(5,255) = 17.00, p < .0001$). Although the five-factor model variables may not be redundant with these motivational variables, there is sufficient overlap to justify the use of the five-factor model as a paradigm for understanding these performance-related constructs.

An examination of the beta weights showed that high N and low C were the most salient predictors. Clearly, high emotional distress coupled with a lowered sense of personal competency are at the heart of FOS, FOF, and test anxiety. According to Hofstee, de Raad and Goldberg (1992), individuals with this five factor profile are characterized as inconsistent, scatterbrained, unstable, erratic, forgetful, impulsive, and frivolous. Such a portrait reflects an individual who lacks the personal organization and drive to pursue achievement-related goals. In fact, such an individual may avoid the stresses and pressures associated with such competitive endeavors.

Low E and high A were also found to be significant predictors. E and A have been shown to define the interpersonal circumplex (McCrae & Costa, 1989b) and hence able to describe a wide range of interpersonal styles. The pattern found here describes an interpersonal style characterized

Table III. Regression Analysis Using Five-Factor Model Marker Scales to Predict Performance-Inhibiting Motivation Composite

Variable	Beta	t Value
Neuroticism	.32	5.17[c]
Extraversion	-.17	-2.89[b]
Openness to experience	-.10	-1.79
Agreeableness	.12	2.12[a]
Conscientiousness	-.24	-4.11[c]
$R^2 = .25$	$F(5,255) = 17.00$	$p < .0001$

[a] $p < .05$.
[b] $p < .005$.
[c] $p < .0001$.

as timid, unaggressive, submissive, modest, naive, and compliant (Hofstee et al., 1992). Clearly, the confrontational nature of competitive endeavors would prove very intimidating to such women.

Overall, the beta weights suggest a personality profile that is characterized by a large amount of emotional distress. This affective dysphoria may operate to impair women's performance in two ways. First, these women may attempt to find succor for their internal distress in their relationships with others. Thus any endeavor that may serve to jeopardize their contacts with soothing significant others may exacerbate their inner turmoil and cause them to sabotage their performance. Or, levels of distress (e.g., personal feelings of inadequacy or incompetence) may be so intense as to naturally interfere with their ability to concentrate on goal-directed and/or competitive behaviors. Although these women may wish to compete and excel, they may be too fearful to act on these needs. They may not be afraid of losing relationships with others. Their own insecurities may prevent them from really making any efforts at success.

Although these two interpretations are consistent with current theories of FOS, the multifactorial nature of these scales makes it impossible to determine if a given woman is not succeeding because she is unambitious or because she is conflicted about success. What is needed is a paradigm that can disentangle the overlap among all these variables and plot their personological significance within a meaningful framework. The dimensions of N and C may be able to provide the basis for such a model that can serve both as a framework for reinterpreting the often conflicting literature in this area and as a structure for guiding future research.

A New Look at Performance-Related Motivation

The conclusion from the data presented in this report is that underlying all types of performance inhibition is a moderately high level of negative affect. FOS and FOF do not represent distinctly different phenomena, but instead reflect differing expressions of a common temperament. Future research may wish to examine these variables using a more precise measure of the five factors (e.g., the NEO-PI-R, Costa & McCrae, 1992). Such an instrument would be able to determine the kinds of negative affect being captured by these various scales. This type of paradigm would also be useful in the development of new measures of these constructs because it would allow a researcher to select the personological content of the items. For example, an effort could be made to remove the presence of the extraversion and agreeable qualities noted in these scales and concentrate specifically on the neuroticism and conscientiousness elements.

However, rather than trying to maximize interpretive distinctions among these variables, it may be in our better interests to appreciate their fundamental cohesiveness. No matter how one wishes to define the constructs of FOS, FOF, and test anxiety, they all appear to represent a more global, performance inhibition dimension that is characterized by high levels of internal, personal distress. Linking these variables to neuroticism helps to bring a more parsimonious interpretive framework to the past literature: The previous failures of discriminant validity can now be interpreted as compelling, convergent evidence for the existence of a global latent trait that contributes to impaired performance in a number of life domains.

The five-factor model provides a useful starting point for developing a new understanding of these motivational constructs. From Table III it was shown that neuroticism and conscientiousness were the best predictors of all these scales. Arranging these two orthogonal dimensions into a circumplex-like form creates a useful preliminary model for understanding the predictive and construct validity of these motivational variables. The model's strengths are: a) it recognizes the multifactorial nature of aspiration level; and, b) it provides a framework for systematically conceptualizing the psychological qualities of scales designed to predict performance outcomes. Plotting a scale in the two-dimensional space defined by neuroticism and conscientiousness would provide a ready personological interpretation and orient a researcher to the kinds of performance outcomes to be expected.

Working from the adjective descriptors provided by Hofstee et al. (1992), preliminary personological descriptions for each quadrant of the circumplex are hypothesized. The high neuroticism-high conscientiousness quadrant would be defined by individuals who are anxious, possessive, and particular. These individuals experience much conflict in their aspirations. They may have a solid history of success and may be characterized by their numerous somatic difficulties. The high neuroticism-low conscientiousness quadrant would describe individuals as erratic, inconsistent, compulsive, and self-indulgent. These individuals may not have a history of success because achievement is not relevant for them. However, in a competitive situation, these individuals may look very similar to those in the previous category: They may deliberately compromise their performance in order to preempt any additional negative feelings. The low neuroticism-low conscientiousness quadrant defines people as informal, sloppy, and disorderly. These individuals are not success oriented, and do not mind their poor performance. Finally, the low neuroticism-high conscientiousness quadrant would define people as logical, decisive, thorough, and self-disciplined.
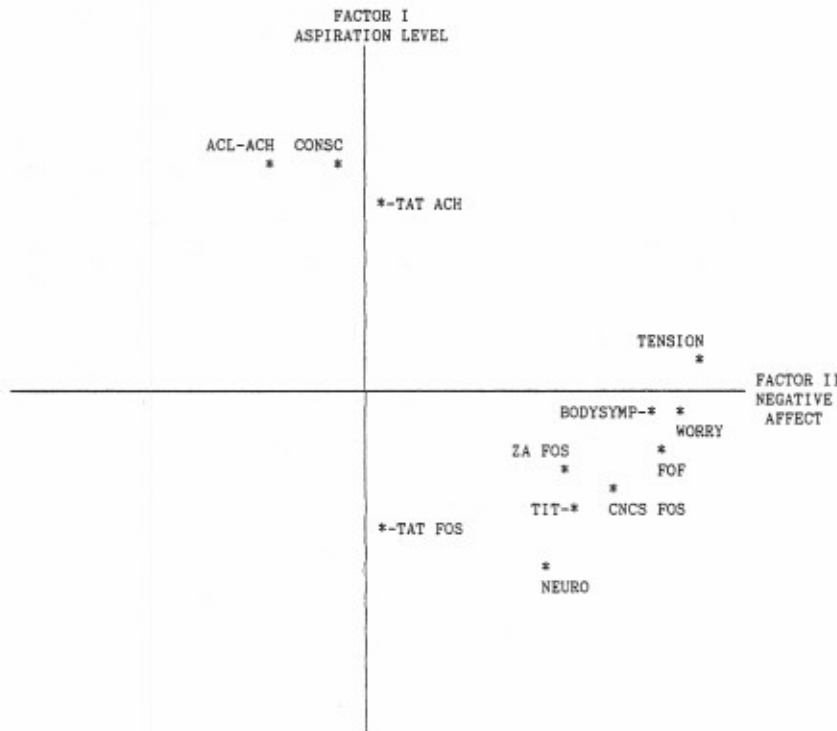
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                    FACTOR I
                 ASPIRATION LEVEL
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       ACL-ACH  CONSC    │
          *       *      │
                         │
                         │*-TAT ACH
                         │
                         │
                         │
                         │              TENSION
                         │                 *
─────────────────────────┼──────────────────────── FACTOR II
                         │                          NEGATIVE
                         │     BODYSYMP-*  *         AFFECT
                         │                 WORRY
                         │  ZA FOS         *
                         │     *           FOF
                         │               *
                         │  TIT-*   CNCS FOS
         *-TAT FOS       │
                         │
                         │     *
                         │   NEURO
                         │
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Fig. 1. Factor plot of the FOS, FOF, Achievement Motivation scales, and the ACL markers for neuroticism and conscientiousness.

	Coordinates		
ACL-Ach	(−.34, .68)	Neuro	(.34, −.46)
Consc	(−.11, .70)	FOF	(.75, −.15)
CNCS FOS	(.59, −.27)	Tension	(.82, .09)
Worry	(.81, −.01)	TIT	(.40, −.32)
Bodysymp	(.74, −.04)	TAT FOS	(.02, −.36)
TAT Ach	(.11, .58)	ZA FOS	(.46, −.17)

TAT Ach: TAT achievement scores based on McClelland et al. (1953) scoring system; TAT FOS: TAT fear of success scores based on Horner and Fleming's (1977) revised scoring system; CNCS-FOS: Ho and Zemaitis (1981) Concern over Negative Consequences of Success scale; ZA-FOS: Zuckerman and Allison (1976) fear of success scale; ACL-Ach: Adjective Check list achievement scale (Gough & Heilbrun, 1983); Fear of Failure: Alpert and Harver's (1960) debilitating anxiety scale; Tension, Worry, TIT, Bodysymp: Sarason's (9184) Reaction to Tests scales; Neuro and Consc: Adjective Check List-based marker scales for the personality dimensions of Neuroticism and Conscientiousness.

These individuals are the ideal achievers: confident, capable, ambitious, with a long history of success.

In order to provide some empirical documentation of the circumplical model in this data set, the FOS, FOF, test anxiety, and achievement variables along with the ACL marker scales for N and C were subjected to a principal components analysis. Although it was not expected that these scales would form a perfect circumplex, it was anticipated that these measures would occupy the high conscientiousness–low neuroticism and low conscientiousness–high neuroticism quadrants. Two factors, accounting for 44% of the variance, were extracted and orthogonally rotated and the plot of these data is presented in Fig. 1.

Several important features appear in Fig. 1. First, none of the scales are located around the origin, suggesting that the two dimensions extracted can adequately describe the psychological qualities of all the included scales. Second, all the performance inhibiting scales, with the exception of the Tension scale, are found in the same quadrant, suggesting that all these scales share some common quality. That these scales are distributed along the arc defining this quadrant reflects some of the factorial complexity noted in Table II. Finally, Factor I, labeled Aspiration Level, is defined by the Achievement and Conscientiousness scales, while Factor II, labeled Negative Affect, is defined by the Tension, Body Symptoms, Worry, and FOF scales. Thus, the dimensions of drive and distressed affect (aspects of Conscientiousness and Neuroticism, respectively) can be used as constructs for defining these performance-related variables.

Concerning the FOS and FOF variables, there seem to be 3 semi-distinct clusters. The first, including the Body Symptoms, Worry, and FOF scales, seems most clearly to define the Negative Affect dimension. These scales represent unambiguously affective distress. The second cluster contains the two self-report FOS scales, the Test Irrelevant Thinking Scale, and the Neuroticism marker scale. These scales seem to reflect a combination of both affective distress and low aspirational level. Finally, there is the TAT-based FOS measure which seems to capture mostly low aspiration level with no associated affective dysphoria. As noted above, the low conscientiousness-high neuroticism quadrant reflects individuals who are compulsive and self-indulgent. These women may not be concerned about their lack of success because of their low achievement drive. They avoid achievement situations because of their inability to manage and/or tolerate the stresses that such circumstances entail. None of the FOS scales appear to capture the conflictual qualities putatively ascribed to the construct.

Given these results, it may be possible that FOS, as currently measured, is only the resultant anxiety experienced by individuals temperamentally predisposed to experience negative affect when they are placed in a stressful situation. Women who are self-conscious, anxious, and depressed may set lower personal goals because of the potential for additional threats

to self-esteem that may ensue from failing in such competitive circumstances. Rather than an approach-avoidance conflict, FOS may reflect the choices some women make between achievement and other goals (see Hyland, 1989).

It still remains for future research to develop psychometrically viable instruments that capture both high aspiration level and high negative affect. The relations of such scales to performance criteria and to other psychological constructs need to be documented. These scales may provide a whole new arena of investigation and possibly lead to a better test of the FOS hypothesis.

Concluding Comments

The data presented here clearly demonstrated how the five-factor model of personality can be useful for evaluating and interpreting motivationally-based constructs. It is up to future research to determine if this model can provide an adequate empirical orientation to understanding and predicting performance-related outcomes. Nonetheless, there are some caveats to these data that need to be discussed.

The regression analysis demonstrated that the five-factor model can account for a significant amount of variance in the FOS, FOF, test anxiety, and achievement variables, although it was clear that these variables were not entirely redundant with the five-factor model. There are both technical and theoretical reasons for this. Technically, the use of different type of measures (e.g., projective and objective) as well as the presence of factorially complex scales all introduce sources of measurement error which can serve to attenuate the associations among measures. Also, the measures of the five factors were only general marker scales. Using scales that were specifically developed and validated as measures of these dimensions (e.g., the NEO-PI-R, Costa & McCrae, 1992) may have resulted in stronger correlations. Theoretically, although the five-factor model represents an important development in the field, it does *not* capture all aspects of personality (nor is it intended to, see Costa & McCrae, 1994). The five-factor model is a taxonomy of underlying dispositions; there are other adaptive aspects of personality that are not included in this model which may be relevant for understanding a woman's performance aspirations (see McAdams, 1992).

Although the five-factor model may not be a complete periodic table of personality, the data presented here do support it as a general, heuristic paradigm for conceptualizing motivational variables. It is hoped that these data will rekindle interest in important issues that have been ignored over

the past several years. The five-factor model can provide a useful starting point for both future measurement and prediction endeavors in this area.

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