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Perceived Fraudulence in Young Adults: Is There an "Impostor Syndrome"?

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This investigation consists of two studies designed to examine perceived fraudulence, its measurement, and the personality traits associated with the experience in young adults. For Study 1, the Perceived Fraudulence Scale (PFS), a new measure constructed for this study, was administered to a sample of 50 college undergraduates, along with several other self-report measures; a semistructured interview and thought-listing exercise were added to provide convergent assessments of perceived fraudulence. Correlational patterns and regression analyses supported the investigators' conceptualization of perceived fraudulence as involving a combination of fraudulent ideation, depressive tendencies, self-criticism, social anxiety, achievement pressures, and self-monitoring skills. Study 2, in which 100 college undergraduates completed several personality questionnaires, replicated the factor structure of the PFS and provided some evidence for the discriminant validity of the construct of perceived fraudulence.

> The world may observe academic success of a high degree, and may find it hard to believe in the very real distress of the individual concerned, who feels "phony" the more he or she is successful. (Winnicott, 1960/1965, p. 144)

Perceived fraudulence, or the "impostor phenomenon,"[1] has been discussed in the personality literature as a real psychological experience, one with usually distressing and often maladaptive consequences (e.g., Clance, 1985; Clance &

[1]We believe that the term *perceived fraudulence* more accurately and precisely captures the technical meaning of the experience than do other terms commonly used in the literature—such as *impostor syndrome* or *impostor phenomenon*—that suggest the experience should be viewed as a pervasive mental illness or categorical personality disorder. Consistent with our conceptualization, perceived fraudulence is viewed, not as a pervasive syndrome or phenomenon, but as a specific self-perception or self-referential ideation with both cognitive and affective components. Self-perceptions of fraudulence may also be considered normative responses to certain situational factors and environmental constraints, although for the purposes of this investigation, it is primarily discussed as an individual-differences characteristic.

Imes, 1978; Gediman, 1985; Harvey, 1981; Harvey & Katz, 1985). Investigators studying perceived fraudulence have suggested that buried in the hearts and minds of many high-achieving individuals is the private sense of being an impostor or a fraud. Perceived fraudulence is a subjective experience of perceived intellectual phoniness that is held by certain high-achieving adults who, despite their objective successes, fail to internalize these successes. Although Clance and Imes (1978) were unclear about the specific reasons for this failure, they did suggest distorted attribution processes. For instance, students who feel fraudulent often fantasize that they were mistakenly admitted to graduate school because of an error by the admissions committee or that their high examination scores are due to luck, to misgrading, or to the faulty judgment of professors. Whereas individuals who often experience perceived fraudulence do not fall into any one diagnostic category or represent a singular psychological syndrome, the clinical symptoms most frequently reported are generalized anxiety, lack of self-confidence, depression, and frustration related to an inability to meet self-imposed standards or achievement (e.g., Clance & Imes, 1978).

Perceived fraudulence is not without its historical and conceptual antecedents in psychoanalytic and other related clinical literatures. Interestingly, although the psychoanalytic literature is laced with clinical case studies of impostors (e.g., Abraham, 1925; Conrad, 1975; Deutsch, 1955; Gediman, 1985, 1986; Greenacre, 1958a, 1958b; Kaplan, 1984; Lewis, 1990), these writings tend to investigate instances of a "real" impostor or a liar. The basis of these clinical investigations of fraudulent tendencies has been to understand the intrapsychic dynamics that incline an individual toward making overt falsifications of aspects of his or her identity. Whereas this body of work focuses on the personality of individuals who deliberately misrepresent their character, it relates to subjective experience characterized by an individual's self-perception of fraudulence. Accordingly, Gediman (1985) believed that the concept of perceived fraudulence or "imposture" should be viewed as a phenomenological continuum. At one extreme is the "true" impostor who assumes multiple false identities in order to deceive deliberately; at the other extreme is the "perceived" impostor who tends to feel fraudulent and inauthentic when, to the objective observer, he or she is not (see also Conrad, 1975). A handful of recent studies emphasizing attribution style have been conducted to investigate this latter form of fraudulence.

In a clinical article based on their interactions with 150 highly successful women, Clance and Imes (1978) first identified perceived fraudulence as a prevalent experience among high-achieving women. They concluded that, unlike men, who are more likely to view success as attributable to a quality inherent in themselves, women are more likely to project the source of success outward either to an external cause (e.g., luck) or to a temporary internal quality (e.g., effort) not equated with inherent ability. Imes (1979) then examined the relationship between perceived fraudulence and sex-role orientation and found that a close relationship exists between fraudulence-related dimensions and

subjects high in femininity and androgyny. These results, then, were consistent with Clance and Imes's (1978) previous suggestion that perceived fraudulence tends to be a distinctly "female" experience, although Imes did not directly tap subjects' fraudulent self-perceptions.

Harvey (1981; Harvey & Katz, 1985) subsequently developed the Impostor Phenomenon Scale (IPS), a 14-item self-report scale that attempted to differentiate between those individuals who are high and those who are low in fraudulent feelings and cognitions. Using this scale, Harvey found that high-achieving students scoring high on her scale attribute significantly more of their scholastic successes to their interpersonal assets than do those scoring low on perceived fraudulence. She also found marginally significant correlations between perceived fraudulence scores and high self-monitoring and low self-esteem.

Topping (1983) also attempted to establish the construct validity of the IPS. She administered the IPS to 285 university faculty members and found that men had significantly higher mean IPS scores than did women. This finding is contrary to the clinical formulation of Clance and Imes (1978) that resulted in the original identification of perceived fraudulence as an experience more prevalent in women than in men, indicating that the relationship between the prevalence of fraudulent self-perceptions and gender is still unclear. More recently, Edwards, Zeichner, Lawler, and Kowalski (1987) investigated the general construct validity of the IPS and found an unacceptably low level of internal-consistency reliability for the full scale (alpha = .34), in contrast to the higher reliability of .75 reported earlier (Harvey, 1981). The authors factor-analyzed the scale, thus improving its internal consistency through the use of factor scores rather than an overall scale score, but concluded that the utility of the IPS as a valid measure of fraudulent self-perceptions remains highly suspect.

This sparse body of research raises many questions about the nature of perceived fraudulence as well as its assessment and relation to other personality constructs. Several dispositional factors have been implicated as important components of the experience of perceived fraudulence. First, depressive symptomatology appears to be a component of perceived fraudulence. Individuals who are high on perceived fraudulence may be characterized by the distorted attribution processes that relate to depressive cognition, dysphoric affect, and low self-esteem. Despite their inability to internalize successes, they may set high standards for achievement or receive relatively high levels of pressure to achieve from other significant people, leading to a continual fear of failure. A second component of perceived fraudulence may be social anxiety related to both evaluative and social situations. Individuals high in perceived fraudulence seem especially prone to anxiety in reaction to impending potentially negative outcomes and the subsequent threat of exposure. Finally, high levels of self-consciousness may be a component of perceived fraudulence. Individuals who feel fraudulent may be overly concerned and preoccupied with the reactions of others; they may believe that others in their immediate vicinity

are as concerned with their thoughts and behaviors as they themselves are, leading to high impression-management or self-monitoring skills designed to shape others' opinions.

Given the psychometric inadequacy of the IPS as well as the general importance of assessing the ways in which those individuals characterized by fraudulent self-perceptions may be similar to and different from individuals characterized by negative affect or depressive cognitions, a more satisfactory measure needs to be developed and validated. Accordingly, our research, consisting of two studies, further defines and validates the construct of perceived fraudulence in college-age adults. A prestudy was conducted with 60 Yale undergraduates for the purpose of testing a trial version of the PFS. This trial version contained 67 items believed to measure diverse aspects of the phenomenon of perceived fraudulence. Various forms of item analysis, including a factor analysis, were used to pare down the number of items to 51. These items were chosen to help optimize the internal consistency and external validity of the scale. Because the scale was modified after this trial, the detailed results of the analysis are not of interest here (although they may be obtained from the authors).

In order to expand on the assessment of perceived fraudulence, Study 1 included thought listing and interview components in addition to questionnaires. The thought-listing procedure tapped subjects' ongoing thought patterns in response to their imagined involvement in a series of situations designed to evoke fraudulent thoughts and feelings. A personal interview was included to assess directly subjects' self-perceptions of fraudulence in a one-on-one social situation. It was expected that the inclusion of these two components would assist in the identification of individuals experiencing fraudulent cognitions and feelings. Strong correlations among different measures of the same construct (i.e., perceived fraudulence) would contribute toward the convergent validation of existing psychometric measures. Accordingly, in Study 1, 50 undergraduate students completed a battery of questionnaires. Some of the questionnaires from the prestudy were eliminated, while the PFS was revised (i.e., unreliable items were deleted). Study 2 was conducted to demonstrate the discriminant validity of the PFS as well as to examine the stability of its psychometric properties, such as the factor structure, with a larger sample of subjects.

STUDY 1

Method

Subjects

Fifty college students enrolled in introductory psychology classes at Yale University participated in the study in exchange for course credit. The subjects, 26 males and 24 females, ranged in age from 17 to 21 years ($M = 18.36$; $SD = 0.96$).

Self-Report Measures

The following personality inventories were used in our study. They are described in order of their presentation to participants. With the exception of the Depressive Experiences Questionnaire, all reliabilities are for the present sample.

Achievement Pressure Scale. A short, 12-item rating scale of external achievement pressures was designed for use in this study. Subjects were asked to rate how much pressure to excel they received from significant people or groups of people (i.e., parents, teachers, siblings, peers) during (a) elementary school, (b) high school, and (c) college. Subjects rated the items on a 7-point scale ranging from *no pressure to excel* (1) to *strong pressure to excel* (7). Cronbach's alpha reliability coefficient was .74.

Perceived Fraudulence scales. Two self-report inventories were given to measure the experience of perceived fraudulence. The IPS (Harvey, 1981) was administered first. The alpha reliability coefficient was .64.

The PFS was also administered. Based on the investigators' formulation of perceived fraudulence and on a review of the personality literature, 51 statements were constructed to reflect a relatively broad range of phenomenological tendencies associated with the experience. The alpha reliability coefficient of the PFS was considerably higher than the reliability coefficient of the IPS (Cronbach's alpha of PFS = .94).

Depressive Experiences Questionnaire. The Depressive Experiences Questionnaire (DEQ; Blatt, D'Afflitti, & Quinlan, 1976) is a 66-item self-report inventory that assesses the degree of self-criticism and dependency in the individual's depression-relevant experience. A third factor, efficacy, measures a subject's sense of confidence about his or her resources and capacities. Alpha coefficients for the Dependency, Self-Criticism, and Efficacy factors were .81, .80, and .72, respectively (from Blatt, Quinlan, Chevron, McDonald, & Zuroff, 1982).

Zung Self-Rating Depression Scale. This 20-item scale (Zung, 1965) assesses depression as a character dimension; subjects rate the physiological and psychological equivalents of depressive symptomatology at the time of testing (Cronbach's alpha = .81). The format of this scale was changed from the original 4-point to a 7-point scale.

Self-Esteem Scale. This 20-item self-report inventory (Phinney & Gough, 1984) assesses an individual's present level of global self-esteem (Cronbach's alpha = .94).

Self-Monitoring Scale. This revised 18-item scale (Snyder, 1987; Snyder & Gangestad, 1986) assesses the extent to which individuals regulate their expressive self-presentation for the sake of desired public appearances. The format of the scale was changed from the original true–false keying to a 7-point Likert rating scale. Cronbach's alpha reliability was .86.

Social anxiety. A brief version of the Fear of Negative Evaluation Scale (Leary, 1983; Watson & Friend, 1969) was administered to assess both subjects' apprehension about others' evaluations and subjects' distress over negative evaluations. This brief version was utilized because of its advantage of requiring less administration time, its very high correlation ($r = .96$) with the original scale, and its nearly identical psychometric properties to those of the full-length scale (Leary, 1983). The format of this 12-item scale was changed from the original 5-point to a 7-point rating scale (Cronbach's alpha reliability = .93).

Daydreaming styles. The short form of the Imaginal Processes Inventory (IPI; Huba, Aneshensel, & Singer, 1981) is a 45-item version of Singer and Antrobus's (1972) scale. It was administered to assess positive, dysphoric, and distracted daydreaming styles. Cronbach's alpha coefficients were .79, .83, and .85 for the Positive, Dysphoric, and Distracted subscales, respectively. The format of the scale was changed from the original 5-point to a 7-point rating scale.

Thought Listing

In this part of the experiment, subjects were presented with a packet consisting of six short scenarios. Subjects were instructed to read each scenario carefully, to imagine themselves as the main character in each passage, and then spontaneously to list all thoughts and feelings that occurred to them during and in response to reading each passage. Subjects were given 8 min to read each passage and to list at least five thoughts. The scenarios generally involved common themes and task demands of orienting oneself to a new role or position. Subjects' thoughts in response to each scenario were content-analyzed by two independent raters on nine dimensions; each rater was blind to the specific purpose of the study as well as to the subjects' identities. The dimensions on which the thoughts were scored are: (a) fraudulence, (b) self-deprecation, (c) anxiety, (d) depression, (e) positive emotions, (f) other stimulus-relevant thoughts, and (g) stimulus-irrelevant thoughts. (Explanations of these dimensions are available from the authors.)

Following the spontaneous, open-ended listing of thoughts and feelings, subjects were presented with an adjective checklist and asked to circle the words that described how they felt during and after imagining themselves in the preceding scenario. The adjectives included in each checklist represented four

conceptual clusters: positive affect (e.g., happy), negative affect (e.g., depressed), fraudulent content (e.g., false), and authentic content (e.g., sincere). Thirty-two adjectives (8 per cluster) were contained in the checklist.

Personal Interview

Subjects underwent a semistructured personal interview conducted by the first author. Interview questions focused on experiences directly related to the nature and frequency of subjects' own fraudulent thoughts and feelings; for instance, subjects were asked about the extent to which they hide important aspects of themselves from others or about the circumstances in which they have felt fraudulent in the past or might feel inauthentic in the future. Each interview consisted of 10 questions and lasted approximately 15 min. Unclear or ambiguous answers were probed by the experimenter in order to gain clarification.

The first author was aware of the purpose of the interview but remained blind to subjects' perceived fraudulence scores at the time of the interviews. Each interview was scored on the global dimension of the degree of perceived fraudulence on a 5-point scale ranging from *low* (1) to *high* (5) by the first author and by an independent rater who was also blind to the identity and status of all subjects. The interrater reliability of the interview scores was .91.

Procedure

Thought-listing reports and personality self-inventories were administered to subjects in groups of 13 to 17 people. The testing session consisted of two parts. First, subjects were instructed to read and to list their thoughts during and in response to each of the six scenarios; subjects were timed by the first author and given 8 min to complete each scenario. Second, subjects then worked at their own pace and completed the self-report inventories. The entire testing session required from 1-½ to 2 hr.

Following subjects' completion of all tasks, personal interviews were arranged. Subjects were told that the purpose of the interview was to give participants the opportunity to clarify and elaborate on those thoughts and feelings already raised in the self-reports that were central to the objectives of the experiment. Thirty-seven of the 50 subjects agreed to participate in the personal interview; subjects who agreed to be interviewed did not differ in any systematic ways from those subjects who declined to participate in this phase of the study.

Results and Discussion

The Structure of the PFS

A principal-components analysis with varimax rotation was conducted on the PFS. Two major factors emerged in the analysis, accounting for 38% of the

variance in the data. The eigenvalues for the two factors (Inauthenticity and Self-Deprecation [S-D]) were 14.12 and 5.22, respectively. For the sake of brevity, the five highest loading items for each factor are listed in Table 1 (although a complete listing of all scale items is available upon request from the authors). Each factor score was determined by calculating an approximation score that represented the mean value of all marker items.

The factor analysis distinguished two different, yet related, aspects of the experience of perceived fraudulence. The first factor involved items most explicitly related to fraudulent thoughts, feelings, and actions; this factor included perceptions of inauthenticity, along with a wide range of impostorous tendencies that most directly capture the phenomenological characteristics of perceived fraudulence. This factor, labeled Inauthenticity, accounted for 28% of the total variance. The second factor involved items that primarily relate to self-critical and perfectionistic tendencies in achievement-oriented situations;

TABLE 1
Results of Principal Components Analysis for the PFS

	Loadings	
Item	*Factor 1*	*Factor 2*
Factor 1: Inauthenticity		
In some situations I feel like a "great pretender"; that is, I'm not as genuine as others think I am.	.86	.08
I rarely attempt to act more competent or intelligent that I am.[a]	.80	.05
I sometimes get uncomfortable because I've pretended to be more committed to a cause than I really feel.	.78	.09
In some situations I feel like an "impostor."	.78	.05
I would describe myself as an "authentic" person.[a]	.72	−.01
Factor 2: Self-Deprecation		
It is easy for me to give myself credit for the good things that happen to me, professionally or socially.[a]	−.15	.73
I often generalize negative feelings about myself which stem from a specific incident or situation to other, sometimes unrelated, situations.	.14	.72
When I receive a compliment about my academic or professional abilities, I sometimes find myself making excuses for and explaining away the compliment.	.01	.70
If I receive a great deal of praise and recognition for something I've accomplished, I tend to belittle the significance of what I have done.	−.14	.70
After having had a meeting with a professor or a supervisor, I often feel that I said something that was inappropriate or uninformed.	.00	.66

[a]Designates items whose scale has been reflected.

these items dealt with general trends toward negative self-evaluations, with the setting of very high standards for one's performance, and with the externalization of positive events. This factor was labeled S-D and accounted for 10% of the variance in the data. The PFS thus succeeded in distinguishing fraudulent from self-critical themes. Cronbach's alpha reliability coefficients for the Inauthenticity and S-D factors were .95 and .85, respectively.

Correlations With Perceived Fraudulence

As shown by their high correlation with each other ($r = .83$, $p < .001$) and by their very similar correlational patterns with other measures, the PFS and IPS were closely related in Study 1. That is, the PFS and IPS showed similar correlational patterns, with the PFS more highly related to self-monitoring ($r = .48$, $p < .001$) than was the IPS ($r = .27$, $p < .01$). Given the very similar correlational patterns of the overall PFS and the Inauthenticity factor, only the correlations involving the two factors is discussed here.

Factor 1, Inauthenticity, correlated most highly with measures of self-monitoring ($r = .61$, $p < .001$) and with self-critical aspects of depressive tendencies ($r = .57$, $p < .001$); it also correlated positively with achievement pressures ($r = .51$, $p < .001$), social anxiety ($r = .51$, $p < .001$), and distracted daydreaming styles ($r = .42$, $p < .01$), and negatively with self-esteem ($r = -.36$, $p < .01$). The correlational emphasis of this factor represents an important component of perceived fraudulence; that is, a combination of high self-monitoring or impression management skills and self-critical or dysphoric personality tendencies are crucial to perceived fraudulence. Factor 2, S-D, correlated most highly with self-critical ($r = .66$, $p < .001$) and dependent ($r = .32$, $p < .05$) aspects of depression and negatively with self-esteem ($r = -.55$, $p < .001$); it also correlated positively with social anxiety ($r = .33$, $p < .05$) and distracted ($r = .30$, $p < .05$) and dysphoric ($r = .29$, $p < .05$) daydreaming. This factor, therefore, shares the Inauthenticity factor's strong depressive emphasis, while lacking any significant relationship to nondepressive constructs, such as self-monitoring and achievement pressures.

Convergent Measures of Perceived Fraudulence

Several features of the correlations between the PFS with its two factors, self-monitoring, and self-critical aspects of depression, and the other assessments included in Study 1 for the purposes of convergent validity (i.e., thought-listing dimensions, personal interview) should be underscored. The thought-listing component consisted of two related parts: (a) the scoring of subjects' unstructured, or open-ended, thoughts in response to each scenario on seven dimensions, and (b) the scoring of subjects' structured responses on the four adjective-checklist clusters following each scenario. The spontaneous listing of thoughts or unstructured responses are discussed first.

Most unstructured thought-listing dimensions were scored on the basis of frequency of a given response as well as on the intensity or severity of thought along that dimension; the intensity dimension represents the mean intensity score, independent of the number (frequency) of items reported. However, only the frequency dimension will be reported due to the identical pattern of results between the two dimensions. The reliabilities for each dimension, collapsed across scenarios, ranged from .60 to .93, with a median of .83, for frequency, and from .53 to .94, with a median of .78, for the intensity ratings. Of particular importance for the purposes of convergent validation are the unstructured dimensions of fraudulence and self-deprecation. Specifically, the thought-listing dimension of fraudulence correlated most highly with both the PFS as a whole ($r = .48$, $p < .001$) and with the Inauthenticity factor of the PFS ($r = .49$, $p < .001$); this significant relationship included the frequency of spontaneous fraudulent thoughts. In addition, the thought-listing dimension of self-deprecation correlated significantly with the PFS ($r = .31$, $p < .05$) and with its S-D factor ($r = .38$, $p < .01$) on frequency of spontaneous, self-deprecatory thoughts. Thus, subjects who rate themselves highly on a self-report of fraudulence also generate more fraudulent thoughts when imagining themselves in certain stressful situations; the same is true for self-deprecatory themes. The convergence of these different methodologies supports the use of the PFS as a measure of perceived fraudulence.

With respect to subjects' structured responses on the four adjective-checklist clusters mentioned previously, the results were consistent with the investigators' hypotheses. For instance, the PFS as a whole and one of its factors, S-D, correlated positively with both negative affect (for PFS, $r = .42$, $p < .01$; for S-D, $r = .30$, $p < .05$) and fraudulent content (for PFS, $r = .40$, $p < .01$; for S-D, $r = .49$, $p < .001$) adjective clusters, respectively. In addition, the Inauthenticity factor of the PFS also correlated positively with the negative affect cluster ($r = .36$, $p < .01$).

Finally, the personal interview scores successfully identified those subjects experiencing self-perceptions of fraudulence, as measured by the PFS. Subjects' scores on the personal interview correlated positively with both the PFS as a whole ($r = .55$, $p < .001$) and most highly with its Inauthenticity factor ($r = .57$, $p < .001$). In addition, the PFS correlated more highly with the interview measure ($r = .55$) than with assessments of self-critical depression (for DEQ–Self-Critical, $r = .38$, $p < .05$; for Zung Depression, $r = .31$, $p < .06$); however, the close relation between the PFS and self-monitoring was demonstrated by their high correlations with the personal interview measure (PFS, $r = .55$, $p < .001$; Self-Monitoring, $r = .54$, $p < .001$). Furthermore, interview scores correlated significantly with the frequency ($r = .46$, $p < .005$) of the unstructured thought-listing dimension of fraudulence. Thus, like the thought-listing procedure, the personal interview demonstrated the validity of the PFS as a measure of perceived fraudulence.

Predicting Perceived Fraudulence: Multiple Regression Analyses

A series of stepwise regression analyses was performed to identify the constructs that best predict subjects' levels of perceived fraudulence, as measured by the PFS. The models resulting from the regression analyses provided a good fit to subjects' perceived fraudulence scores. Table 2 presents the results of the regressions for the PFS and its two factors; a .05 significance level was required for entry into the models.

First, both scales of depression (for the DEQ, however, only the Dependency and Self-Criticism subscales), the Dysphoric and Distracted Daydreaming subscales, and the scales of Achievement Pressure, Self-Monitoring, General Self-Esteem, and Social Anxiety were entered into the regression equation for the PFS. Four variables entered into the regression model: the Self-Criticism subscale of the DEQ, Social–Evaluative Anxiety, Depression, and Achievement Pressure. Thus, high levels of self-critical thinking, social anxiety, and achievement pressure strongly predict self-perceptions of fraudulence as measured by the PFS.

Stepwise regressions were also conducted for the two factors of the PFS. For the Inauthenticity factor, four variables entered the equation at significant levels: Dysphoric Daydreaming styles, Self-Monitoring skills, Depressive tendencies (as measured by the Zung Self-Rating Depression Scale), and Achievement Pressure. The regression model for the Inauthenticity factor is notable in that it seems to capture two of the dominant features of perceived fraudulence,

TABLE 2
Results of Multiple Regression Analyses: Variables Predicting Perceived Fraudulence

Variable	β	R^2	MS_E	F	*p*
Overall PFS					
DEQ–Self-criticism	.40	.50			
Fear of negative evaluation	.26	.62			
Zung depression	.34	.71			
Achievement pressure	.25	.76	.24	34.72	<.0001[a]
PFS Inauthenticity factor					
Imaginal Processes Inventory–Dysphoric	.25	.37			
Self-monitoring	.36	.51			
Zung depression	.29	.58			
Achievement pressure	.24	.63	.66	18.79	<.0001[a]
PFS Self-Deprecation factor					
DEQ–Self-criticism	.53	.44			
DEQ–Dependency	.28	.55			
Zung depression	.29	.61	.48	24.33	<.0001[b]

[a] $df = 4, 45$. [b] $df = 3, 46$.

self-critical or dysphoric ideation and heightened self-monitoring or impression-management skills. High self-monitoring was a strong variable for predicting scores on the Inauthenticity factor of the PFS, reinforcing the important role that self-monitoring or impression-management skills play in the expression of fraudulent feelings. For the S-D factor, on the other hand, Self-Critical aspects of the DEQ entered first, followed by Dependent aspects of the DEQ and by the Zung Self-Rating Depression Scale, respectively. All three variables tap into the common denominator of depressive tendencies.

In addition, hierarchical multiple regression analyses were performed to test the discriminant validity of the PFS in predicting scores on the perceived fraudulence interview. Self-Monitoring, the Self-Critical factor of the DEQ, and the Zung Depression were entered into the regression equation. This model accounted for 36% of the variance in the data. The addition of the PFS as a fourth variable resulted in an R^2 change from 36 to 42%. Adding the IPS as a fourth variable resulted in a more moderate change from 36% of the variance to 38%. Thus, the PFS adds to the prediction of interview scores even after self-monitoring and depression have been considered. Furthermore, the PFS accounts for more variance than does the IPS.

Whereas Study 1 emphasized the close relations among perceived fraudulence, depression, and social anxiety, Study 2 was conducted to establish further the discriminant validity of perceived fraudulence, as assessed by the PFS, from these related constructs. Furthermore, an additional objective of Study 2 was to replicate the factor structure of the PFS with a larger sample of subjects. Specifically, 100 college undergraduates, 50 males and 50 females, completed the PFS along with two depression scales, two social–evaluative anxiety scales, and a measure of self-monitoring.

STUDY 2

Method

Subjects

One hundred college students enrolled in introductory psychology classes at Yale University participated in the study in exchange for course credit. The subjects, 50 males and 50 females, ranged in age from 16 to 26 years ($M = 18.46$; $SD = 1.23$).

Self-Report Measures

The following personality inventories were used in this study. The PFS, Self-Monitoring Scale, and Zung Self-Rating Depression Scale administered in Study 1 were again given to all subjects. Also, the full-length version of the Fear

of Negative Evaluation Scale (FNE; Watson & Friend, 1969), as opposed to the brief version used as a measure of Social–Evaluative Anxiety in Study 1, was also given to make sure that the reduced correlations between the PFS and Social–Evaluative Anxiety from the prestudy to Study 1 had not been due to the use of the brief version. Because this study's objectives were to examine the discriminant validity of the PFS and to replicate the factor structure of the PFS, the IPS was not included here. Another reason for the noninclusion of the IPS was that its internal reliability was viewed as unacceptably low for continued use (alpha = .64). Additional scales used for the purposes of this experiment are discussed later.

Beck Depression Inventory. This 21-item inventory (BDI; Beck, 1967; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) was administered to assess the specific behavioral manifestations (e.g., symptoms and attitudes) of depression. The BDI is highly correlated with the Zung Self-Rating Depression Scale and seems to assess a similar general component of depression. For our sample, Cronbach's alpha coefficient was .82.

Social recognition. The Social Recognition (SR) subscale of the Jackson Personality Research Form (Jackson, 1974) was used to assess concerns with the evaluations of others; specifically, this 16-item instrument measures the extent to which subjects are concerned with what other people think of them and the extent to which they work for the approval and recognition of others. The format of the scale was changed from the original true–false keying to a 7-point Likert rating scale. Cronbach's alpha reliability was .78.

Procedure

The self-report inventories were administered to subjects in groups of 20 to 25 people. Subjects worked at their own pace and completed the entire battery in approximately 1 hr. The inventories were presented in the following order for all subjects: PFS, BDI, SR subscale, Self-Monitoring Scale, FNE Scale, and the Zung Self-Rating Depression Scale.

Results and Discussion

The Structure of the PFS

A principal-components analysis with varimax rotation was performed on the PFS. Two major factors emerged in the analysis, accounting for 33% of the variance in the data. The eigenvalues for the two factors were 11.76 and 4.89, respectively. Again, for the sake of brevity, the five highest loading items for each factor are listed in Table 3. Each factor score was determined by calculating an approximation score that represented the mean value of all marker items.

TABLE 3
Results of Principal Components Analysis for the PFS (Study 2)

Item	Loadings	
	Factor 1	Factor 2
Factor 1: Self-Deprecation		
I often feel I receive praise or grades that I don't deserve.	.73	.07
I am often surprised when I perform well on a project or a test.	.72	.06
I often feel that I am "in over my head" or beyond my capabilities in my line of work or course of study.	.71	.11
I often worry about not succeeding with a project or on an examination, even though others around me have considerable confidence that I will do well.	.71	.16
At times, I feel that I am in my present position or academic program through some kind of mistake or accident.	.70	.17
Factor 2: Inauthenticity		
In some situations I act like an "impostor."	.20	.75
I rarely pretend to be someone or something I am not.[a]	.03	.74
On the first day of a new job or program, I sometimes make it a point to act or behave more informed and intelligent than I really believe I am.	.10	.70
In some situations I feel like an "impostor."	.36	.66
At a social event, I sometimes try to impress people by acting or behaving more intelligently than I really am.	.07	.62

[a]Designates items whose scales have been reflected.

The factor analysis produced two factors corresponding to those that emerged in Study 1. Two noteworthy differences in the factor-analytic pattern of Study 2 were the reversal of the order of the two factors and the change in the number of marker items comprising each factor (for the interested reader, a complete listing of all scale items for this factor analysis is available upon request from the authors). Whereas in Study 1, Inauthenticity emerged as the first factor with S-D as the secondary factor, in Study 2, S-D emerged as the primary factor, and Inauthenticity served as the second factor. Furthermore, whereas the Inauthenticity factor had 23 marker items in Study 1 but only 12 marker items in Study 2, the S-D factor had only 12 marker items in Study 1 as compared to 19 marker items in Study 2. However, the general content of each factor remained very similar across the two studies. The first factor, again labeled S-D, accounted for 23% of the variance in the data and involved items related to self-critical and self-punitive tendencies in achievement-oriented situations. These items focused on the setting of very high standards for one's performance and on general trends toward negative self-evaluations. The second factor, labeled Inauthenticity, accounted for 10% of the total variance and involved items related to fraudulent ideation, feelings, and actions. This factor included

clear statements of inauthentic self-perceptions. Cronbach's alpha reliability coefficients for the S-D and Inauthenticity factors were .92 and .86, respectively. Given both the reversal of the order of the two factors and the change in the number of marker items comprising each factor from Study 1 to Study 2, the two solutions do not replicate each other precisely. Clearly there exists a need for future investigators to replicate independently the factor solution with another substantial sample.

Discriminant Measures of Perceived Fraudulence

The results provided evidence for the discriminant validity of perceived fraudulence as compared to the related constructs of depression, social–evaluative anxiety, and self-monitoring. As expected, the PFS was significantly correlated with depression (for Zung scale, $r = .52$, $p < .001$; for BDI, $r = .53$, $p < .001$), social anxiety ($r = .58$, $p < .001$), and self-monitoring ($r = .34$, $p < .001$). However, the constructs used to assess depressive tendencies and social-evaluative forms of anxiety were more closely related to each other than to the PFS. Two measures of depression (i.e., Zung Depression Scale and BDI) correlated more highly with each other ($r = .80$, $p < .001$) than with perceived fraudulence ($r = .52$ and .53, respectively). Similarly, the two measures of social–evaluative anxiety (i.e., FNE Scale and SR Scale) were also more highly correlated with each other ($r = .61$, $p < .001$) than with perceived fraudulence (FNE, $r = .58$, $p < .001$; SRS, $r = .29$, $p < .01$). Thus, this pattern of relations suggests that perceived fraudulence is substantially discriminable from both depression and social–evaluative anxiety.

Like the total scale, the two factors of the PFS, Inauthenticity and S-D, were also substantially discriminable from the constructs of depression and social–evaluative anxiety. The correlational patterns among the two factors and the other scales, in addition to showing discriminant validity, also replicates the significant relations found in Study 1. In other words, the Inauthenticity factor corresponds to high attention to one's self-presentation combined with apprehension or distress over negative evaluations, and the S-D factor emphasizes dysphoric affect in the absence of self-monitoring skills.

GENERAL DISCUSSION

Our study was designed to explore the nature of normal young adults' self-perceptions of fraudulence. It was hypothesized that a distinct relationship exists between this private experience of fraudulence and several other personality characteristics. Our results confirm this hypothesis and demonstrate the utility of the PFS as a psychometric tool for capturing the dimensions of young adults' perceptions of fraudulence. However, limitations of this study's results must be

acknowledged. The subjects were Yale-affiliated students and do not constitute a representative sample of the general population or even of college students. For example, it is possible that undergraduate students enrolled at highly competitive colleges received more external pressure to achieve than do students from other, less competitive universities. Furthermore, because of the content of many items of the PFS, in its present form the scale is appropriate for use mainly with verbally fluent student samples. These facts limit the generalizability of these findings and the applicability of the present scale to other populations. It is readily acknowledged that the two-factor solution of the PFS is in need of further replication with even larger, more diverse, subject populations.

These two studies provided some promising support for the potential clinical importance of self-perceptions of fraudulence. This investigation suggests that perceived fraudulence involves a complex interplay of inauthentic ideation, depressive tendencies, self-criticism, social anxiety, high self-monitoring skills, and strong pressures to excel and to achieve. The studies indicate that young adults' perceptions of fraudulence are developed and maintained at a high clinical cost. There are many ways to account for these results. One possible explanation for this particular pattern of results is that individuals with perceptions of fraudulence are highly critical of themselves, and because this self-criticism, are anxious about the prospect of others evaluating their work and feel a strong pressure to achieve and to excel. Their own self-critical thoughts may contribute to their fear that others are concerned with and will ultimately detect the flaws they perceive in themselves. To reduce the possibility of exposure and to minimize their anxiety, these individuals closely monitor their behavior and the impressions they make on others. In turn, their self-monitoring behaviors may exacerbate their fraudulent self-perceptions. Thus, their ability to monitor the impressions they make not only protects them, but they believe that it is also partly responsible for other people's inflated views of their work in the first place; in others words, they believe that if they did not monitor their behavior so closely, then they would not perform so well. Of course, it is acknowledged that this explanation is only one of several possible ways of interpreting the results of this study. Indeed, it is not yet possible to draw any definitive causal relationships from the correlational data in this study. Our investigation does, however, provide the first systematic empirical support suggesting that perceived fraudulence may be linked to such constructs as depression, social anxiety, self-criticism, and achievement pressure.

Two books on perceived fraudulence (Clance, 1985; Harvey & Katz, 1985) describe the experience as a new phenomenon and a unitary personality syndrome. Our study suggests that fraudulent ideation results from a blend of inauthentic and self-deprecatory forms of thinking, with concomitant experiences of attention to one's behaviors and apprehension in evaluative situations. Perceived fraudulence may be looked at as a manifestation of the more general tendencies toward negative outlook or world view which, when combined with

the vigilant monitoring of one's feelings and behaviors, yields the specialized feelings of fraudulence. This study represents a preliminary attempt to investigate the personality variables that may be responsible for fraudulence ideation. It does not address the effects of different types of situational factors, such as the novelty of one's environment or task and the skills of one's referent groups (e.g., Langer, 1979), on the expression of fraudulent cognitions and feelings. Indeed, the power of situations to evoke fraudulent ideation in subjects not generally prone to such thoughts has yet to be fully explored.

Finally, our investigation raises an intriguing question: Do young adults' self-perceptions of fraudulence develop from children's more general perceptions? In her suggestive research, Phillips (1984, 1987) investigated children with self-perceptions of incompetence. She focused on those subgroups of children for whom these perceptions are inaccurate. For instance, Phillips (1984) commented that "some of the most proficient students appear to be among those who are most vulnerable to performance debilitation and self-denigration" (p. 2000). This work on the illusion of incompetence among academically competent children represents a research link that potentially may demonstrate the conceptual commonalities between self-perceptions of incompetence in childhood and self-perceptions of fraudulence in late adolescence or adulthood (Sternberg & Kolligian, 1990). In particular, longitudinal studies of children with self-perceptions of incompetence may offer a promising way of investigating the processes underlying perceived fraudulence. It is plausible that a subset of these children will learn to monitor their behavior closely and experience fraudulent ideation and inauthentic feelings as young adults, whereas others will overcome their misperceptions and focus more positively on their achievements and abilities (Kolligian, 1990). Continued work in this area may shed light on the development of inaccurate self-perceptions from childhood to adulthood and on the expression of perceived fraudulence at particular moments in an individual's life.

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Copies of the PFS, thought-listing scenarios, thought-listing dimensions, and scoring manual can be obtained from John Kolligian, Jr., Department of Psychology, Yale University, P.O. Box 11A Yale Station, New Haven, CT 06520–7447.

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