

Validation of the Clance Impostor Phenomenon Scale

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The Clance Impostor Phenomenon Scale (CIPS; Clance, 1985) was compared to the newly developed Perceived Fraudulence Scale (Kolligian & Sternberg, 1991). The two scales were found to have high internal consistency and to correlate in a similar manner with other measures. Further, discriminant validity evidence for the Impostor Phenomenon (IP) was provided by comparing the CIPS to measures of depression, self-esteem, social anxiety, and self-monitoring. The IP was related to, but substantially discriminable from, these constructs. Finally, construct validity evidence for the CIPS was provided through principal components analysis that yielded three stable factors: Fake, Discount, and Luck.

The concept of the Impostor Phenomenon (IP) refers to individuals who are successful by external standards but have an illusion of personal incompetence (Clance & Imes, 1978). They attribute their success in an area to luck and interpersonal skill rather than to their intelligence and ability. Although the IP was originally hypothesized to exist primarily in women, it is now known that it exists with similar frequency in men as well (Beard, 1990; Cozzarelli & Major, 1990).

Since its formulation, three separate scales have been developed to measure the IP. The Harvey Impostor Phenomenon Scale (HIPS; Harvey, 1981) is a 14-item scale designed to measure the presence of cognitions and affects associated with the IP. Harvey reported substantial internal consistency (Chronbach's $\alpha = .85$) and good convergent and discriminant validity evidence for the HIPS. Subsequent investigations, however, showed the HIPS to have an unacceptably low level of internal consistency ($\alpha = .34$, Edwards, Zeichner, Lawler, & Kowalski, 1987; $\alpha = .64$, Kolligian & Sternberg, 1991). Furthermore, it did not prove adequate in differentiating impostors from nonimpostors (Holmes, Kertay, Adamson, Holland, & Clance, 1993; Mat-

thews, as cited in Campbell, 1986). In addition, investigators using the HIPS failed to find significant relations in areas where they were expected (Flewelling, 1985; Lawler, 1984; Topping, 1983). This led to speculation that the wording of the HIPS might be perceived as negative by respondents and thus might inhibit accurate self-reporting.

In order to address these problems, the Clance Impostor Phenomenon Scale (CIPS; Clance, 1985) was developed. In addition to the attributes tapped by the HIPS, the CIPS incorporated: (a) fear of evaluation, (b) fear of not being able to repeat success, and (c) fear of being less capable than others. Furthermore, items on the CIPS were worded in a manner that consistently acknowledged the success of the individual in order to minimize social desirability effects. The 20-item CIPS has been shown to reliably differentiate impostors from nonimpostors (Campbell, 1986; Holmes et al., 1993), and it has a high level of internal consistency with reported alpha values ranging from .84 (Prince, 1989) to .96 (Holmes et al., 1993). In addition, three primary factors (Fake, Discount, and Luck) have been identified (Kertay, Clance, & Holland, 1991).

For the most part, research has supported the validity of the IP. Characteristics of impostors have been found to include introversion (Campbell, 1986), defensive stance (Beard, 1990), low self-esteem (Kertay, 1991), trait anxiety (Topping, 1983), dependence, and low evaluation of self-efficacy (Kertay). However, two recent publications have questioned the IP as a separate psychological phenomenon. Cozzarelli and Major (1990) suggested that the IP may simply reflect a general propensity to experience negative affect. Kolligian and Sternberg (1991) claimed that the term impostor phenomenon denotes a specific diagnostic category and instead proposed the term *perceived fraudulence*, measured by the Perceived Fraudulence Scale (PFS; Kolligian & Sternberg).

Kolligian and Sternberg (1991) provided evidence for the construct, convergent, and discriminant validity of the PFS. First, the PFS was factor analyzed and compared to the HIPS and to measures of depression, social anxiety, self-esteem, achievement pressure, self-monitoring, and daydreaming styles. The PFS was highly correlated with the HIPS ($r = .83$) and had a significantly higher internal consistency ($\alpha = .95$ as compared to .64). Two factors, Inauthenticity and Self-Deprecation, were identified and shown to also have significantly higher alpha coefficients than the HIPS (.95 and .85 respectively). Second, it was found that although the IP was related to both depression and social anxiety, it was a distinguishable and separate construct.

Because Kolligian and Sternberg (1991) compared the PFS to the HIPS rather than to the more reliable and sensitive CIPS, the first objective of this study was to compare the PFS with the CIPS by partially replicating the Kolligian and Sternberg study. Of particular interest were comparisons of the relations between these two scales.

The second objective of this study was to investigate the construct validity of the CIPS. In order to examine discriminant validity, the CIPS was

compared to measures of psychological well-being, depression, self-esteem, self-monitoring, and social anxiety. These comparisons were used to investigate the discriminability of the IP from the general domain of negative affectivity. Construct validity was further explored by examining the factor structure of the CIPS.

METHOD

Participants

Participants were 269 undergraduate students who attended two local universities. Of these, 219 were enrolled in introductory or upper division psychology courses and received class credit for their participation. The remaining participants ($n = 50$) were recruited from the Honors Program, Mortar Board, or Who's Who in American Universities. This latter group maintained a 3.5 grade point average on a 4.0 scale. Their participation was voluntary. Participants ranged in age from 17 to 50 years old, with an average age of 23 years. Approximately two thirds of the participants were female (69%) and approximately one third were male (31%).

Instruments

To simplify comparisons during analyses, some instruments were modified to a 5-point Likert format. With the exception of Blatt's Depressive Experiences Questionnaire (DEQ; Blatt, DAfflitti, & Quinlan, 1976), all reported

TABLE 1
Alphabetical List of Abbreviations Used With Corresponding Scale Names

ABS	Affect Balance scale (Psychological Well-Being Scale; Bradburn, 1969)
BDI	Beck Depression Inventory (Beck et al., 1961)
CIPS	Clance Impostor Phenomenon Scale (Clance, 1985)
Dep	Dependency subscale (Depressive Experiences Questionnaire; Blatt et al., 1976)
DEQ	Depressive Experiences Questionnaire (Overall)
DOS	Dominance scale (Jackson Personality Research Form E; Jackson, 1987)
Eff	Efficacy subscale (Depressive Experiences Questionnaire)
EXS	Exhibition scale (Jackson Personality Research Form E)
FNES	Brief Fear of Negative Evaluation Scale (Leary, 1983)
JPRF	Jackson Personality Research Form E (Overall)
PFS	Perceived Fraudulence Scale (Kolligian & Sternberg, 1991)
PLS	Play scale (Jackson Personality Research Form E)
RS-ES	Rosenberg Self-Esteem Scale (Rosenberg, 1965)
S-Crt	Self-Criticism subscale (Depressive Experiences Questionnaire)
S-ES	Self-Esteem scale (California Self-Evaluation Scales; Phinney & Gough, 1985)
S-MS	Self-Monitoring Scale (Snyder, 1987)
SRS	Social Recognition scale (Jackson Personality Research Form E)
ZS-RDS	Zung Self-Rating Depression Scale (Zung, 1965)

Cronbach alpha reliability coefficients are from this study. The following assessment instruments were used (see the Procedure section for order of presentation; see Table 1 for a list of the abbreviations of scale names).

Impostor. Two IP scales were used. The 20-item CIPS uses a Likert scale format with a 5-point response range ($\alpha = .92$). The 51-item PFS also uses a Likert format. The 7-point response range was reduced to 5 without affecting internal consistency ($\alpha = .94$).

Depression. Three scales specifically designed to assess depression were used. The 66-item DEQ is made up of three subscales: Dependency (Dep), Self-Criticism (S-Crt) and Efficacy (Eff). The 7-point Likert format was decreased to 5 points. Alpha values for the Dep, S-Crt, and Eff subscales were .81, .80, and .72, respectively.

The 21-item Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) assesses the behaviors, symptoms, and attitudes that characterize depression. Items are constructed in a multiple choice format ($\alpha = .92$).

The Zung Self-Rating Depression Scale (ZS-RDS; Zung, 1965) consists of 20 items with a 4-point response range. It measures major characteristics of depression including pervasive affect, physiological indicators, and psychological concomitants ($\alpha = .92$).

The 10-item Psychological Well-Being Scale (Bradburn, 1969) consists of three parts. The Positive Affect scale ($\alpha = .61$) and the Negative Affect scale ($\alpha = .71$) each contain 5 items that assess recent experience of a wide range of feelings. The numerical discrepancy between these indices, the Affect Balance scale (ABS), indicates the respondent's psychological well-being and is used as an indirect measure of depression.

Self-Esteem. The Rosenberg Self-Esteem Scale (RS-ES; Rosenberg, 1965) contains 10 items that measure self-evaluation of worth, usefulness, self-respect, and competence. The 4-point response range was increased to 5 ($\alpha = .90$).

The Self-Esteem scale (S-ES) is a 20-item inventory developed by Phinney and Gough (1985) as part of the California Self-Evaluation Scales. The inventory evaluates current level of global self-esteem. The original 9-point response range was decreased to 5 ($\alpha = .94$).

Social Anxiety. The Brief Fear of Negative Evaluation Scale (FNES; Leary, 1983) consists of 12 items that assess apprehension and distress related to negative evaluation. The true-false format was changed to a 5-point Likert scale ($\alpha = .92$).

The Social Recognition scale (SRS) of the Jackson Personality Research Form E (JPRF; Jackson, 1987) evaluates the degree to which respondents are

concerned with what other people think of them and the extent to which they work for the approval and recognition of others. The 16 true-false items were changed to a 5-point Likert format ($\alpha = .82$).

Self-Monitoring. The Self-Monitoring Scale (S-MS; Snyder, 1987) is a revision of the original 25-item inventory. It measures the degree to which an individual monitors self-presentation in order to achieve desired public appearances. The scale contains 18 true-false items that were changed to a 5-point Likert scale format ($\alpha = .61$).

The Exhibition scale (EXS), Dominance scale (DOS), and Play scale (PLS) of the JPRF were used as additional measures of self-monitoring. Each scale contains 16 true-false items that were changed to a 5-point Likert scale format. Alpha values for EXS, DOS, and PLS were .87, .85, and .78, respectively.

Procedure

Testing was conducted in groups with an average of 10 participants per group. The self-report measures were administered in two parts. The instruments for Part 1, in order of presentation, were CIPS, JPRF, S-MS, RS-ES, and DEQ. For Part 2 the instruments were PFS, S-ES, ABS, FNES, ZS-RDS, and BDI. Approximately half the participants received Part 1 first, followed by Part 2. For the other half of the participants, Part 2 was given first.

RESULTS AND DISCUSSION

The CIPS and PFS were compared in several ways. First, Cronbach alpha coefficients were determined for each. Second, the CIPS and PFS were correlated with one another. Third, the CIPS and PFS were correlated with all other measures used in the study and these correlations were compared.

The construct validity of the CIPS was examined in two ways. First, the CIPS was compared to a minimum of two measures of each of the following constructs: (a) depression, (b) self-esteem, (c) self-monitoring, and (d) social anxiety. To accomplish this, the scales measuring each of these constructs were first correlated with one another. Then the magnitudes of the correlations between these scales and the CIPS were compared to the magnitudes of the correlations among these scales. Finally, the CIPS was factor analyzed using principal components analysis.

Comparison of the CIPS and PFS

Although internal reliability for the PFS ($\alpha = .94$) was marginally higher than for the CIPS ($\alpha = .92$), this difference was not considered notable,

particularly given the relative lengths of the scales. Application of the Spearman Brown equation demonstrated that if the 51-item PFS was reduced to the length of the 20-item CIPS, the estimated internal reliability of the PFS would substantially decrease ($\alpha = .57$).

The CIPS and PFS were significantly correlated with one another ($r = .78$, $p \leq .01$). Furthermore, the pattern of their correlations with other measures were generally quite similar. In subsequent sections, correlations of .10 to .29 are reported as small, .30 to .49 as medium, and .50 and above as large (Cohen, 1977).

In the area of depression, both the CIPS and PFS were significantly correlated with all measures ($p \leq .01$), and correlations ranged from small to large. They each had a large correlation with the DEQ as a whole ($r = .62$ for the CIPS; $r = .69$ for the PFS) and with the Dep subscale of that instrument ($r = .64$ for the CIPS; $r = .66$ for the PFS). However, for both the CIPS and PFS, the largest correlation was with the S-Crt subscale of the DEQ ($r = .71$ for the CIPS; $r = .76$ for the PFS). Correlations with the Eff subscale were negative and small ($r = -.26$ for the CIPS; $r = -.22$ for the PFS). The negative direction of these correlations is a scoring artifact. Both the CIPS and the PFS correlated at a medium level with the BDI ($r = .42$ for the CIPS; $r = .49$ for the PFS). Correlations with the ZS-RDS were somewhat different, though not significantly so, in that the CIPS correlated with the ZS-RDS at a medium level ($r = .45$) whereas the correlation between the PFS and the ZS-RDS was large ($r = .55$). Both the CIPS and PFS correlated at a medium level with the ABS ($r = .41$ for the CIPS; $r = .44$ for the PFS).

In the area of self-esteem, the CIPS and PFS again showed similar correlational patterns. Correlations were large, negative, and significant ($p \leq .01$) with both the RS-ES ($r = -.59$ for the CIPS; $r = -.64$ for the PFS) and the S-ES ($r = -.53$ for the CIPS; $r = -.51$ for the PFS).

The CIPS and PFS were also significantly correlated with both measures of social anxiety ($p \leq .01$). However, there was some variability in the size of these relations. Correlations of the CIPS and PFS with the FNES were both large ($r = .54$ for the CIPS; $r = .59$ for the PFS). In contrast, there was a significant difference in the size of their associations with the SRS, $t(266) = 4.4$, $p \leq .01$. The CIPS and SRS correlated in the small range ($r = .27$), and the correlation between the PFS and the SRS was medium ($r = .43$).

In the area of self-monitoring, the CIPS and PFS again had similar patterns. First, both tests showed a significant negative correlation with the DOS ($p \leq .01$). The correlation between the CIPS and DOS was medium sized, and the correlation between the PFS and the DOS was small ($r = -.33$ and $-.25$, respectively). This difference in size, however, was not significant, $t(266) = 1.97$, $p > .05$. Second, the CIPS and PFS both showed a small, significant ($p \leq .01$), negative correlation with the EXS ($r = -.20$ for CIPS; $r = -.16$ for the PFS) and were essentially uncorrelated with the PLS ($r = -.02$ for the CIPS; $r = .08$ for the PFS). In addition, the CIPS and PFS each showed a small correlation with the S-MS ($r = .10$ for the CIPS; $r = .18$, $p \leq$

.01 for the PFS). Although the PFS correlated significantly with S-MS and the CIPS did not, this difference was not significant, $t(266) = 1.53, p > .05$.

To summarize, these results demonstrated that the CIPS and PFS share a strong conceptual relation. They are highly correlated with one another and both have good internal consistency. In addition, they have similar correlational patterns with other measures. These patterns suggest a general description of the IP that is congruent with theoretical descriptions. The IP is related to depression, particularly to the dependent and self-critical aspects of that experience. It is also related to negative thoughts and feelings, low self-esteem, doubts about resources and capacities, and fear of negative evaluation by others. In addition, persons who score high in the IP indicate on self-report measures that they do not enjoy leadership positions or being the center of attention in social situations, nor do they usually endorse a high need for play.

In addition to suggesting a general description of the IP, the correlational patterns of the CIPS and PFS indicated that these tests assess the IP in a similar fashion. The only appreciable difference was found in the stronger relation of the PFS with the SRS. This indicated that the PFS is more sensitive to one aspect of the IP, concern about the opinion of others and willingness to work for recognition. Overall, however, the CIPS and PFS perform in a comparable manner, and the test of utility appears to lie in the relative lengths of these instruments. The PFS is a much longer test with 51 items and 7 response choices compared to the 20 items and 5 response choices of the CIPS. Given the shorter length and thus greater ease of administration, the CIPS appears to be the instrument of choice for both clinical and research purposes.

Discriminant Validity of the CIPS

This portion of the analysis examined the extent to which the IP can be discriminated from depression, self-esteem, self-monitoring, and social anxiety. First, the CIPS was correlated with a minimum of two measures of each construct. The measures of each construct were then correlated with one another, and the strengths of the correlations were compared.

Depression. The CIPS was significantly correlated with the ABS and all measures of depression ($p \leq .01$). However, the size of these correlations varied. The CIPS was most highly correlated with the DEQ ($r = .62$). This relation was significantly larger than the correlations between the DEQ and BDI, ZS-RDS, and ABS, $t(266) = 3.47, 2.33, \text{ and } 3.74$, respectively. This was due primarily to the Dep and S-Crt subscales of the DEQ. The correlations between the CIPS and the BDI, ZS-RDS, and ABS ($r = .44, .51, \text{ and } .42$) were also significant. However, these correlations were not only smaller in

all cases than the correlations of the depression scales with one another, but significantly smaller in most cases.

Self-Esteem. The CIPS was negatively correlated with the S-ES scale ($r = -.54$) and the RS-ES ($r = -.60$), and both correlations were large and significant ($p \leq .01$). However, the correlation between the S-ES and RS-ES ($r = .75$, $p \leq .01$) was significantly larger than either the correlation of the CIPS with S-ES, $t(266) = 5.94$, $p \leq .01$, or the correlation of the CIPS with the RS-ES, $t(266) = 4.14$, $p \leq .01$.

Social Anxiety. The CIPS correlated significantly with both the FNES ($r = .54$, $p \leq .01$) and the SRS ($r = .27$, $p \leq .01$). However, the correlation of the FNES with the SRS ($r = .68$, $p \leq .01$) was significantly larger than the correlation of the CIPS with the FNES, $t(266) = 2.42$, $p \leq .01$, or the correlation of the CIPS with the SRS, $t(266) = 9.11$, $p \leq .01$.

Self-Monitoring. Correlations between the CIPS and measures of self-monitoring were somewhat varied. The CIPS was significantly negatively correlated with the DOS ($r = -.33$, $p \leq .01$). In turn, the DOS was significantly positively correlated with EXS and S-MS ($r = .51$ and $.29$), essentially uncorrelated with the PLS ($r = -.02$), and not significantly related to the S-MS scale ($r = .10$). In contrast, the S-MS showed significant small to large positive correlations with the DOS, EXS, and PLS ($r = .29$, $.57$, and $.33$). Further, correlations of the S-MS with EXS and PLS were significantly larger, $t(266) = 5.68$ and 2.71 , than the correlations of these scales with the CIPS.

Overall, the results of these discriminant validity analyses indicate that although the IP is related to several constructs generally associated with the sphere of negative affectivity, it also can be substantially differentiated from this domain as follows:

First, in the area of depression, these results are consistent with previous research (Kolligian & Sternberg, 1991; Terry, 1991). The correlation between the CIPS and the DEQ is moderately large and is stronger than any of the correlations of the DEQ with the three other depression scales. This appears to be the result of conceptual differences associated with these instruments. The DEQ evaluates the phenomenology associated with depression, including depressive thoughts and feelings, self-criticism and dependency. In contrast, the ZS-RDS and BDI evaluate symptoms related to the psychiatric description of depression, and the ABS assesses current affective state. Considering the focus of the DEQ and the role of self-criticism in the IP, the strength of the correlation between the CIPS and DEQ is not surprising. However, the fact that traditional measures of depression correlate more highly with one another than with the CIPS indicates that the CIPS can be substantially differentiated from this construct.

Second, in the area of self-esteem, the CIPS showed a large correlation with both the S-ES and RS-ES. The negative direction of the correlations is a scoring artifact, and the magnitude is consistent with previous research (Cozzarelli & Major, 1990; Harvey, 1981; Topping, 1983). It should be noted that although the CIPS is highly correlated with the S-ES and RE-ES, the correlation between these self-esteem scales is larger than their correlations with the CIPS. Although low self-esteem consistently has been found to be related to the IP, these results confirm that the IP can be substantially discriminated from this construct.

Third, in the area of social anxiety, results are also consistent with previous research (Kolligian & Sternberg, 1991). The CIPS is significantly correlated with measures of this construct (FNES and SRS). However, these scales are more highly correlated with one another than they are with the CIPS. Further, it should be noted that the CIPS and FNES are moderately correlated, whereas the correlation between the CIPS and the SRS is low. This may be the result of conceptual differences associated with these instruments. The FNES is related to the desire for positive social attention as well as fear of negative evaluation (Snyder, 1974). In contrast, the SRS evaluates concern over one's reputation and the willingness to work for the approval and recognition of others. It may be that the social anxiety and impetus to perform experienced by impostors is more strongly related to the desire to be recognized in a positive way by others than to a desire to avoid negative consequences of poor performance.

Fourth, with regard to self-monitoring, the CIPS is essentially unrelated to this construct. Persons who are high self-monitors are exceptionally observant of social cues regarding appropriate behavior. They use this information to modify their self-presentation for the sake of desired public appearances (Snyder, 1987). Clance and Imes (1978) observed that impostors are very sensitive to persons who are professionally important to them and behave in a manner which evokes positive responses from these individuals. The descriptions of high self-monitors and impostors are very similar, and one would expect the constructs to be highly related. However, results of both this study and previous research (Harvey, 1981; Topping, 1983) demonstrate that the IP and self-monitoring are essentially independent constructs.

One possible explanation for the difference between self-monitoring and IP is the manner in which individuals evaluate their behavior. Snyder (1972) studied people with high S-MS scores who did not consider themselves impostors. He found that these individuals positively evaluated the discrepancies in their behavior. They considered the discrepancies an asset and interpreted them as evidence of versatility and ability to adjust to varying social demands. In contrast, impostors negatively evaluated behavioral discrepancies. They regarded the changes as representative of a false self and viewed them as inconsistent, phony, and manipulative. It may be that the difference between the IP and self-monitoring is related to the manner in which individuals integrate the meaning of their behavior.

Factor Analysis of the CIPS

Preliminary principal components analysis (PCA) of the CIPS yielded four factors. This solution was considered conceptually inadequate because the fourth factor was comprised primarily of Item 1 and represented only a small portion of the total variance accounted for by the model. Subsequent investigation revealed that Items 1 and 2 had significantly lower interitem correlations. After deletion of these items, PCA with varimax rotation yielded three clear factors. Principal axis factoring with oblique rotation did not improve this solution. Therefore, PCA was retained as the most complete and parsimonious model.

The results of this study generally corresponded to those found by Kertay and colleagues (1991). These researchers deleted four items (1, 2, 19, & 20) from analysis due to low interitem correlations. Subsequent PCA yielded three clear factors: Fake, Discount, and Luck. Respectively, these factors accounted for 38.5%, 9.2%, and 7.2% of the variance in the CIPS.

The factors identified in this study are consistent with those found by Kertay and colleagues (1991), although they differed somewhat in size and order. The first factor, Fake, accounted for 45.2% of the variance. It contained items related to self-doubt and concerns about intelligence and ability. The second factor, Luck, accounted for 6.6% of the variance and was related to thoughts of having accomplished things by chance or error rather than through ability. The third factor, Discount, accounted for 6.1% of the variance and was associated with the inability to acknowledge praise and good performance. The general consistency in the findings in these studies indicates that the CIPS has a stable factor structure, and thus, substantiates the construct validity of the CIPS.

Summary

There were two main purposes for this study: (a) to compare the CIPS to the newly developed PFS, and (b) to investigate the construct validity of the CIPS through discriminant validity analysis and factor analysis.

Comparison of the CIPS to the PFS revealed that they have similar internal-consistency reliability and measure the IP in much the same manner. However, due to its shorter length and ease of administration, the CIPS is judged to be the more useful instrument for clinical and research purposes.

Discriminant validity evidence was provided through comparison of the CIPS to measures of depression, self-esteem, self-monitoring, and social anxiety. These constructs are all associated with the larger domain of negative affectivity. Comparison of the CIPS to these measures demonstrated that although the IP as measured by the CIPS is related to these constructs to some degree, it is also substantially discriminable from each of them. Further, construct validity evidence for the CIPS was provided in that the CIPS

was shown to contain three stable factors which are generally comparable to those found by Kertay and colleagues (1991).

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