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# PERSONALITY CORRELATES OF THE IMPOSTOR PHENOMENON: AN EXPLORATION OF GENDER DIFFERENCES IN CRITICAL NEEDS

James Beard

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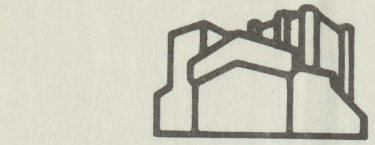

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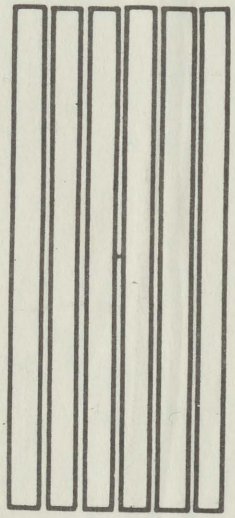

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James Beard

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# Personality Correlates of the Impostor Phenomenon: An Exploration of Gender Differences in Critical Needs

A THESIS

Presented in Partial Fulfillment of Requirements for the
Degree of Master of Arts
in the College of Arts and Sciences
Georgia State University

1990

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Abstract

The Impostor Phenomenon (IP) refers to the pervasive feeling of phoniness experienced by many high achieving individuals and the anxiety they feel as they encounter new challenges. This study investigates gender differences in the personalities of male and female Impostors using an instrument previously shown to be relevant to the IP, the Personality Research Form (PRF). The PRF, Clance's IP Scale, and the Otis-Lennon Mental Abilities Test were administered to 63 subjects. The findings indicate that the IP in males is associated with high needs for Change, Defendance, Endurance, and Impulsivity and low need for Order. Among females the IP seems to be associated with high needs for Defendance and low needs for Affiliation, Change, Exhibition, Impulsivity, Nurturance, and Play. Contrary to its conceptualization as a phenomenon found among high achievers, the IP was also shown not to correlate with grade point average. No differences were found on any PRF variable between high-achieving and low-achieving Impostors. Implications of this study and suggestions for further research are offered.



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# CHAPTER I

## Introduction

We have all had the experience of congratulating someone on a given achievement only to have the praise shrugged off by a comment such as, "I was just lucky." Usually we attribute such a response to modesty, perhaps even false modesty at that. But from some people such a comment may not reflect humility as much as a genuine belief that a success had little to do with any personal ability but is the result of some external factor. Such a person may, therefore, feel that success and praise are undeserved; the resulting feeling of discomfort might be more than a difficulty in handling complements but may reflect a pervasive feeling of phoniness when he or she is treated as a successful person.

It is this feeling of phoniness despite ample evidence to the contrary that Clance and Imes (1978) investigated and came to label as the Impostor Phenomenon. Impostors, by definition high achieving, successful people, have a deep-rooted conviction that there is no cause-effect relationship between accomplishments and abilities. The belief that their success is somehow a mistake is often a carefully guarded secret, and Impostors characteristically invest great effort in not being discovered for the failures they think they really are.

Each new challenge is fraught with anxiety as the

Impostor fears that she or he will be unable to replicate past success and will be discovered as a charlatan. Often a vicious cycle occurs as Impostors invest great effort in each new task, resulting in new and greater successes that themselves become sources of anxiety. The Impostor may begin to feel that this cycle of anxiety and extra effort after each achievement is a necessary element of his or her success, making the pattern especially difficult to break (Clance and Imes, 1978).

Review of the Literature

The Impostor Phenomenon (IP) was initially conceptualized as an issue of primary concern for women and was hypothesized to arise from gender differences in socialization and resulting attributional patterns. Clance and Imes (1978) studied 150 high achieving women and found that many of them were experiencing IP symptoms of feeling undeserving of success and fear of being discovered for the failures they felt themselves to be. Clance and Imes also found that women who tended to experience IP feelings often also attributed success to factors external to themselves or to interpersonal skills rather than to ability. These women also reported depression, frustration, and generalized anxiety.

The discovery of the IP seemed to fit well with

research in the area of locus of control, notably that of Simon and Feather (1973), that indicates that by young adulthood women develop more of an external locus of control than do men. In the area of attribution theory, Deaux (1976) found that women tended to attribute success to external, unstable causes and failure to internal, stable causes. Men, on the other hand, were found more likely to make the opposite attributions, attributing success to internal, stable factors and failure to external, unstable ones. Lott (1981) has theorized that this gender difference in attribution results from the socialization of children from a very young age. Girls are socialized to look to others for validation even in the way they are encouraged to play; boys, on the other hand, are more often taught to play in ways that develop self-validation.

Imes (1979) attempted to explore the idea that the IP results from gender differences in attributions for success and failure. She utilized the Personal Attributes Questionnaire to investigate whether gender roles of masculinity and femininity had any impact on attributions above and beyond gender alone. Not only did she find that men and women tend to experience the IP in equal numbers, she found no gender-based differences in attributions of success and failure. Imes found that traditionally

masculine and traditionally feminine individuals attributed success to ability in equal proportions and that there was no significant differences in attributional patterns between individuals in sex-role congruent and incongruent fields. She did find, however, that individuals classified as undifferentiated, fitting into neither traditionally masculine or feminine sex roles, tended to experience the IP significantly more often than those in other sex role categories.

Continuing the investigation of the relationship between attributional pattern and the IP, Stahl, Turner, Wheeler, & Elbert (1980) studied 41 Black, female high-achieving high school seniors with regard to the attributions they made regarding their academic success. They found that 55% of these young women attributed their achievement to factors other than ability. Furthermore, 28% of their subjects responded that they would attribute their achievement to luck versus ability 1/2 to 3/4 of the time.

Harvey (1981) studied attributions of ability, effort, and interpersonal assets in high-achieving male and female undergraduates and graduate students. She developed a 14-item, Likert-type scale as a standardized measure of the IP, correlating scores on this measure with attributions of success. Consistent with the clinical

observations of Clance and Imes (1978), she found that individuals scoring high on the IP scale tended to make more interpersonal attributions for success than did those scoring lower on the measure. No significant differences in effort or ability attributions were discovered, nor did atypicality of gender or race seem to bear any significant relationship to the IP. In support of her hypothesis that the IP correlates negatively with longevity, Harvey found that first-year graduate students experienced the IP more than advanced graduate students or undergraduates in their senior year.

Hirschfeld (1982) then explored several variables hypothesized to be predictive of the IP. Although few of the 80 professional women who participated in the study were high in IP symptoms, those who did score high on the IP scale tended not to attribute success to ability. In studying male and female faculty members, Topping (1983) found a similar negative correlation between ability attributions of success and the IP among males, but not among females. With both sexes, the IP correlated negatively with faculty rank and with attributing success to effort. Topping also found a significantly higher number of males with the IP than females and hypothesized that, contrary to original conceptualizations, males may in fact suffer from IP symptoms more than do females.

Research on the IP then turned toward other possible antecedents of the phenomenon. Lawler (1984) explored the relationship between the IP and Jungian personality theory using the Meyers-Briggs Type Indicator, or MBTI (Meyers, 1962). The MBTI is used to distinguish Jungian personality types (introverted versus extraverted) as well as an individual's preferred mode of functioning in the environment (sensing, thinking, intuiting, or feeling). In her study of 130 male and female graduate and honors undergraduate students, Lawler correlated data gleaned from the MBTI with Harvey's IP scale; she confirmed her hypothesis that persons who maintain an introverted rather than extraverted personality style are more vulnerable to experiencing the IP. Lawler also found the IP to be positively correlated with a tendency to use sensing as the primary perceiving function. She concluded that individuals who look inwardly and who make decisions based on values and beliefs seem more susceptible to the IP.

Following Lawler's research, Flewelling (1985) undertook a study of the IP as related to individuals successful in careers self-perceived as atypical. Interested also in the role of career longevity and the role of mentors in the IP, Flewelling administered Harvey's IP scale, a mentoring/longevity questionnaire, and a self-perceived atypicality questionnaire to 47

female and 52 male professionals. Although the overall incidence of the IP was low, Flewelling found no significant relationship between atypicality of career and the IP. As expected, she did find the IP to be negatively correlated with longevity, but contrary to her hypothesis discovered that having a mentor, especially one of the same gender, appeared to be positively correlated with the IP. Subjects in Flewelling's study with low IP scores tended to have opposite sex mentors or no mentors at all.

In another attempt to relate atypicality to the IP, Grays (1985) studied 232 undergraduate female students at predominantly black and predominantly white colleges in the Southeastern United States. Grays hypothesized that students with low socio-economic status (SES), students in a racial minority in their schools, students pursuing gender-atypical career goals, and students with educational levels atypical of their families would be more vulnerable to experiencing IP feelings. Interestingly, she was unable to find any significant relationship among any of these variables and the IP.

Grays (1985) questioned whether Harvey's (1981) IP scale was sensitive enough to effectively detect the phenomenon. Flewelling (1985) suggested that the scale was not worded in a manner that communicated safety and acceptance; thus, subjects might be reluctant to disclose

IP feelings due to the shame and fear surrounding them. Holmes (1986), theorizing that some of the discrepancies among IP studies might be due to such problems in measuring the phenomenon itself, conducted a validity study of an alternative scale developed by Clance (1985).

Clance's scale was designed to promote a feeling of safety and acceptance around the disclosure of IP feelings; it also attempted to tap into feelings of being less capable than peers, fear that success cannot be repeated, and fear of evaluation that were not measured by Harvey's scale. Comparing a group of clinically-identified Impostors and non-impostors, Holmes administered both Harvey's and Clance's scale. She concluded that Clance's scale clearly differentiates between Impostors and non-Impostors with an inter-item consistency alpha of .96108. Holmes' study further suggests a significant correlation between Clance's scale and scores on the Extraversion-Introversion scale of the MBTI. Based on the number of false positive and false negative identifications of clinical Impostors and non-Impostors obtained using the median split procedure employed in IP studies to that point, Holmes also suggested the use of a cut-off score of 62 on Clance's scale to delineate Impostors.

In another comparison of Harvey's and Clance's IP

scales, Campbell (1986) compared a sample of high achieving honors undergraduate students with a group of average undergraduates. Using the TONI, a non-language based cognitive measure, as an additional indicator of intellectual ability, Campbell found that subjects with higher ability tended to score higher on the Clance IP Scale but that this did not hold true for the Harvey IP Scale. He concluded that Clance's scale seems to differentiate the IP as a phenomenon experienced by high achievers in a manner that Harvey's scale does not.

Campbell also studied childhood atypicality within the family of origin in response to Clance and Imes (1978) hypothesis that the IP is related to being designated as somehow "special" by family members. Campbell was unable to support his hypothesis that the IP would correlate with a history of being designated "socially superior," "intellectually superior," or "totally superior" within the family, although a post-hoc analysis of the data suggested that being labeled "socially superior" as a child contributes to experience of the IP.

The relationship of the IP to social mobility was explored by Dingman (1987). She noted that research has shown that changes in social mobility are stressful and have been related to increased physical and emotional problems and hypothesized that such movement might be

related to IP symptomatology. Looking at data on social status relative to family of origin, degree of atypicality of chosen profession, interests as compared to peers, and Clance's IP Scale (1985), Dingman studied 50 male and female successful professionals in the business community of a large urban area. She found that forty-two percent of these subjects could be classified as Impostors and that social mobility was significantly correlated with the IP. Differences in interests and atypicality of profession were not found to be significant predictors of the IP, and the correlation of IP with social mobility of males did not hold true. Dingman concluded that although social mobility seems to increase vulnerability to the IP in females, the IP in males is related to other factors.

Prince (1988) continued the search for personality Scale with both MBTI data and scores on the Personality Research Form (Form E). The PRF is designed to tap into 20 personality traits relevant to an individual's global functioning and is based on Murray's (1938) theory of critical needs; an explanation of the 20 traits measured by the PRF can be found in Table 1. Studying 105 female and 48 male undergraduates, Prince identified 27% as Impostors and confirmed Lawler's (1984) findings that the IP was significantly correlated with MBTI category of introverted personality types who use sensing as the

Table 1

An Explanation of the 20 Personality Traits Measured by the PRF as described in the PRF Administration Manual Jackson, 1967)

| PRF Scale | Description of High Scorer | Defining Trait Adjectives |
|---|---|---|
| Abasement | Shows a high degree of humility; accepts blame and criticism even when not deserved; exposes himself to situations where he is in an inferior position; tends to be self-effacing | meek, self-accusing, self-blaming, self-belittling, surrendering, resigned, self-critical, humble, apologizing, obedient, yielding |
| Achievement | Aspires to accomplish difficult tasks; maintains high standards and is willing to work toward distant goals; responds positively to competition; willing to put forth effort to to attain excellence | striving, accomplishing,capable purposeful, attaining, industrious, achieving, aspiring, self-improving, productive,driving, ambitious, competitive |
| Affiliation | Enjoys being with friends and people in general; accepts people readily; makes efforts to win friendships and maintain associations with people | neighborly,loyal warm, amiable, good-natured, friendly,genial, affable,cooperative,gregarious, sociable, affiliative |

Table 1 - continued

| PRF Scale | Description of High Scorer | Defining Trait Adjectives |
|---|---|---|
| Aggression | Enjoys combat and argument; easily annoyed; sometimes willing to hurt people to get his way; may seek to "get even" with people whom he perceives as having harmed him | aggressive,quarrelsome, irritable, argumentative,treatening, attacking,pushy, hot-tempered, hostile,revengeful,belligerent |
| Autonomy | Tries to break away from restraints, confinements, or restrictions of any kind, enjoys being unattached, free, not tied to people, places, or obligations; may be rebellious when faced with restraints | unmanageable, free, self-relaint,independant,autonomous, rebellious, unconstrained, individualistic, ungovernable, uncompliant, undominated, resistant, loner |
| Change | Likes new and different experiences, dislikes routine and avoids it; may readily change opinions or values in different circumstances; adapts readily to changes in environment | inconsistent, fickle, unpredictable, wavering, adaptable, mutable, changeable, variable, innovative, flighty, vacillating |
| Cognitive Structure | Does not like ambiguity or uncertainty in information; wants all questions answered completely; desires to make decisions based upon definate knowledge rather than upon guesses or probabilities | precise, exacting, definite, meticulous, perfectionistic, clarifying, explicit,accurate, rigorous, literal, defining, rigid, needs structure |

Table 1 - continued

| PRF Scale | Description of High Scorer | Defining Trait Adjectives |
|---|---|---|
| Defendence | Readily suspects that people mean him harm or are against him; ready to defend himself at all times; takes offense easily; does not accept criticism readily | self-protective, justifying,denying, defensive, suspicious, secretive, resists inquiries, protesting,guarded, wary, touchy, self-excusing, rationalizing |
| Dominance | Attempts to control his environment and to influence or direct other people; expresses opinions forcefully; enjoys the role of leader and may assume it spontaneously | governing, controlling, commanding,leading, domineering, influential, persuasive, forceful, ascendant, directing,dominant, powerful |
| Endurance | Willing to work long hours; doesn't give up quickly on a problem; perservering, even in the face of great difficulty; patient and unrelenting in work habits | persistant, determined, steadfast, enduring, unfaltering,perservering, tireless,relentless, dogged, energetic, sturdy |
| Exhibition | Wants to be the center of attention; enjoys having an audience; engages in behavior which wins the notice of others; may enjoy being dramatic or witty | colorful, entertaining,unusual, spellbinding,exhibitionistic; conspicuous, expressive, ostentatious,immodest flashy,dramatic |
| Harm Avoidance | Does not enjoy exciting activities, especially if danger is involved; avoids risk of bodily harm | fearful, self-protective,pain-avoidant,careful cautious, timorous,apprehensive |

Table 1 - continued

| PRF Scale | Description of High Scorer | Defining Trait Adjectives |
|---|---|---|
| Impulsivity | Tends to act on the "spur of the moment" and without deliberation; gives vent readily to feelings and wishes; speaks freely; may be emotionally volatile | hasty, rash, uninhibited, spontaneous, reckless irrepressible, quick-thinking, mercurial, impatient, incautious, hurried |
| Nurturance | Gives sympathy and comfort; assists others whenever possible; interested in caring for children, the disabled, or the infirm; offers "helping hand" to those in need; readily performs favors | sympathetic, paternal, helpful, benevolent, encouraging, caring protective, comforting, maternal supporting, aiding, ministering, consoling, charitable, assisting |
| Order | Concerned with keeping personal effects and surroundings neat and organized; dislikes clutter, confusion, lack of organization; interested in methods for keeping materials methodically organized | neat, organized, tidy, systematic, well-ordered, disciplined, consistent, prompt, orderly, clean, methodical, planful, scheduled, unvarying, deliberate |
| Play | Does many things "just for fun;" spends a good deal of time participating in games, sports, social activities, and other amusements; enjoys jokes and funny stories; maintains a lighthearted attitude | playful, jovial, jolly, pleasure-seeking, merry, laughter-loving, joking, frivolous prankish, sportive, mirthful, gleeful, blithe, carefree, fun-loving |

Table 1 - continued

| PRF Scale | Description of High Scorer | Defining Trait Adjectives |
|---|---|---|
| Social Recognition | Desires to be held in high esteem by acquaintances; concerned about reputation and what others think of him; works for the approval and recognition of others | approval seeking, proper, courteous well-behaved, makes good impression, seeks respectability, accomodating, socially proper |
| Succorance | Frequently seeks the sympathy, protection, love, advice, and reassurance of others; may feel insecure or helpless without such support; confides difficulties readily to a receptive person | trusting, ingratiating, dependent, entreating, appealing for help, seeks support, wants advice, helpless, confiding, needs protection, pleading |
| Understanding | Wants to understand many areas of knowledge; values synthesis of ideas, verifyable generalization, and logical thought, particularly when directed at satisfying intellectual curiosity | inquiring, curious, analytical, exploring, intellectual, reflective, incisive, investigative, probing, logical, scrutinizing, astutue, rational inquisitive |
| Validity Scales: | | |
| Desirability | Describes self in terms judged as desirable; consciously or unconsciously presents favorable picture of self in response to personality statements | |
| Infrequency | Responds in implausible or pseudo-random manner, possibly due to carelessness, passive non-compliance, confusion, or gross deviation | |

primary function. Prince also found the IP to correlate positively with the PRF traits of Social Recognition, Succorance, Aggression, and Defendance and negatively with Affiliation, Autonomy, Change, Play, Desirability, and Endurance.

Prince, noting with surprise that Impostors in his study indicated no need for Achievement, concluded that the high achievement level among Impostors appears to be motivated by a high need for social validation, as indicated by high Social Recognition and Succorance needs.This conflicts with high needs for Defendance and Aggression and with low Affiliation needs; thus, Prince theorized that Impostors experience a great deal of interpersonal conflict which may account for the IP symptomatology of anxiety, depression, and self-criticism.

Negative correlations with Desirability, Change, Endurance, and Play traits help explain the Impostor's conflicts around achievement; they indicate that the impostor often views him/herself in negative terms, dislikes novel situations, has low endurance, and rarely exhibits a relaxed attitude. Thus, he or she is likely to experience a great amount of stress in the workplace, where evaluation is likely and new challenges may present themselves. This stress is rarely relieved through play or relaxation, taxing the resources of the Imposter who

already has lowered endurance levels and perpetuating a high level of anxiety.

The most recent investigation of the IP was undertaken by Cromwell (1989). Studying 105 high school honors students in advanced English classes, Cromwell attempted to investigate the relationship of the IP to several demographic and personality variables. She discovered that the proportion of Impostors and non-Impostors remained constant across gender and found no significant differences in grade point average based on Harvey IP Scale Scores. Cromwell also administered the Adjective Check List, a measure that yields scores on 37 scales that are designed to tap personality needs and attributes. She found Impostors to indicate significantly higher means on scales indicating needs for Succorance (to solicit sympathy or emotional support from others) and Abasement (to express feelings of inferiority through self-criticism, guilt, or social impotence) and to have significantly lower needs for Endurance (to persist in any task undertaken), Intraception (to engage in attempts to understand one's own behavior or that of others), Order (to place special emphasis on neatness, organization, and planning), and Affiliation (to seek and maintain numerous personal friendships).

Noting the distorted and irrational self-perceptions

exhibited by Impostors, Cromwell also attempted to relate the IP to the Rational-Emotive Theory conceptualized by Ellis (1962). Ellis suggested that self-defeating feelings or behaviors and emotional distress result from distorted, highly idealized, perfectionistic beliefs. Observing the similarity of Ellis' description of such beliefs to those reported by Impostors, Cromwell employed the Irrational Beliefs Test, which yields an overall measure of general irrational thinking as well as subscores for 10 separate irrational beliefs. She found significantly higher scores among Impostors on the irrational belief scales of High Self-Expectation, Anxious Overconcern, Demand for Approval, and Helplessness.

Cromwell summarized that Impostors tend to be intensely critical of themselves, to have a high need for emotional support from others, to be less attentive to the feelings of others, and to be less self-disciplined and less able to set and attain goals. She also suggested that these results help to explain why Impostors are likely to have trouble in interpersonal relationships. They have a high need for emotional support but experience considerable anxiety around being dependant on that support; thus, they often resist and reject others at the same time they reach out to them.

Purpose and Justification of the Present Study

To date, only four studies of the Impostor Phenomenon (Imes, 1979; Harvey, 1981; Topping, 1983; and Cromwell, 1989) have included gender as an independent variable. All of these studies indicated that males experience the IP in at least as great, if not greater, a proportion as do women. However, no study thusfar has specifically attempted to explore gender differences in antecedents and personality variables related to the IP, despite the fact that much of the achievement literature suggests that this might be a fruitful line of inquiry.

As Prince (1989) points out, several studies in the area of achievement research seem particularly relevant to the IP. Dweck & Elliot (1983) and Nichols (1984) have identified two achievement motivational patterns in children. Children pursuing learning goals are motivated by the desire to grasp or master a new idea or skill; thus the motivation is intrinsic and failure has few negative consequences. With performance goals, on the other hand, achievement is motivated by a desire to gain praise or avoid negative judgement. Failure in this case results in aversive consequences and the motivation to succeed comes from external forces.

Ames, Ames, and Felkner (1977) demonstrated that competitive reward structures characteristic of

performance goals result in effort becoming negatively correlated with satisfaction; the need for high effort in a task was seen by children as due to a lack of ability on their part. Deiner & Dweck (1978) found that failure in the pursuit of performance goals often results in ability attributions for failure and a feeling of learned helplessness in which the child anticipates failure regardless of the effort put into the task. Ames (1984) has demonstrated that performance goals in which the emphasis is on competition result in anxiety, negative self-evaluations, and low self-confidence despite prior achievements. Licht & Dwect (1984) found that performance goals also foster a tendency to avoid challenges due to a fear of failure while learning goals facilitate challenge-seeking by minimizing negative consequences of initial failure. All of these findings clearly relate to clinical observations of IP symptomatology.

Some research indicates that males and females in this society tend to have different achievement motivational patterns. As mentioned before, Deaux (1976) found gender differences in achievement attributions, with women attributing failure to personal deficits and success to external factors while men make opposite failure and success attributions. Lott (1981) theorized that differences in socialization between males and females

create discrepancies both in attributions of success and failure and in degree of dependance on others. Typical modes of play in girls tend to involve performance goals, while boys are more likely to play in a manner that involves learning goals. Hoffman (1974) suggested that women tend to have lower intrinsic motivation than men; thus they tend to depend on others for recognition of success and are more likely to seek the favor of higher status persons than men.

Several studies of the "fear of failure" phenomenon have explored gender differences in the achievement patterns of males and females. For example, House (1974) found that competition with others tended to result in decreased achievement and less self confidence among women but not among men. Stein and Bailey (1973) point out that women tend to be overly cautious when choosing tasks on which they expect to succeed while men tend to be risk-takers and to choose tasks of undue difficulty. Erkut (1983) notes that achievement motivation (at least in a traditional sense) is in conflict with feminine sex-role stereotypes such as dependency, non-assertiveness, and non-aggressiveness; achievement, therefore, may be much more likely to produce dissonance in females than in males.

Such findings would seem to suggest that different

achievement patterns between women and men result in different etiologies of the IP. Current research seems to indicate that IP development in women is related to concern that achievement levels may be too high relative to the environment (Dingman, 1987) while among men it seems related to a low level of ability attributions for success (Topping, 1983). However, Imes (1979) found no difference in attributional style or incidence of the IP based on gender or gender-role identity, suggesting similar etiology of the IP regardless of gender or masculinity/ femininity of personality style. Again, the specific antecedents of the IP among males versus females are unclear and have received little attention.

A reanalysis of Prince's (1988) data hints at what differences in personality variables associated with the IP might exist between males and females. When data from Prince's 153 subjects was reanalyzed using gender as an independent variable several significant gender differences became apparent. Using a T-test to investigate significant differences between males and females who scored above the cut-off point of 62 on the Clance IP Scale with regard to the 20 PRF variables produced the results presented in Table 2. Male Impostors scored significantly lower than female Impostors on the PRF variables indicating critical needs for Aggression (p

Table 2

Reanalysis of Prince's (1988) Findings -- T-Test of Impostor Subjects on Selected PRF Variables by Gender

| PRF Variable | Mean | Standard Deviation | Standard Error | T Value | Prob. |
|---|---|---|---|---|---|
| Abasement | | | | | |
| Males | 6.6667 | 2.915 | .972 | | |
| | | | | .83 | .424 |
| Females | 5.8065 | 1.922 | .345 | | |
| Achievement | | | | | |
| Males | 9.6667 | 2.958 | .986 | | |
| | | | | .86 | .405 |
| Females | 8.6774 | 3.341 | .600 | | |
| Affiliation | | | | | |
| Males | 8.6667 | 3.082 | 1.027 | | |
| | | | | .17 | .868 |
| Females | 8.4516 | 4.202 | .755 | | |
| Aggression | | | | | |
| Males | 8.1518 | 3.498 | .331 | | |
| | | | | -2.15 | .035* |
| Females | 9.6098 | 3.781 | .590 | | |
| Autonomy | | | | | |
| Males | 7.0000 | 2.500 | .833 | | |
| | | | | .78 | .444 |
| Females | 6.1613 | 3.769 | .677 | | |
| Change | | | | | |
| Males | 9.2222 | 3.801 | 1.267 | | |
| | | | | 1.04 | .323 |
| Females | 7.8065 | 2.833 | .509 | | |
| Cognitive Structure | | | | | |
| Males | 8.2222 | 2.224 | .741 | | |
| | | | | -1.71 | .105 |
| Females | 9.7742 | 2.906 | .522 | | |
| Defendance | | | | | |
| Males | 8.667 | 4.301 | 1.434 | | |
| | | | | .49 | .635 |
| Females | 7.9032 | 3.515 | .631 | | |
| Dominance | | | | | |
| Males | 9.1111 | 3.723 | 1.241 | | |
| | | | | .98 | .345 |
| Females | 7.7097 | 3.993 | .717 | | |
| Endurance | | | | | |
| Males | 9.6667 | 2.739 | .913 | | |
| | | | | 2.10 | .053* |
| Females | 7.3871 | 3.283 | .590 | | |

Table 2, continued

| PRF Variable | Mean | Standard Deviation | Standard Error | T Value | Prob. |
|---|---|---|---|---|---|
| Exhibition | | | | | |
| Males | 9.3333 | 4.873 | 1.624 | | |
| | | | | 1.34 | .204 |
| Females | 5.8065 | 1.922 | .345 | | |
| Harm Avoidance | | | | | |
| Males | 6.7778 | 5.974 | 1.991 | | |
| | | | | -2.36 | .023* |
| Females | 10.5484 | 3.604 | .647 | | |
| Impulsivity | | | | | |
| Males | 9.2222 | 3.492 | 1.164 | | |
| | | | | 2.17 | .036* |
| Females | 6.8065 | 2.774 | .498 | | |
| Nurturance | | | | | |
| Males | 9.2222 | 1.986 | .662 | | |
| | | | | -1.55 | .137 |
| Females | 10.5484 | 3.020 | .542 | | |
| Order | | | | | |
| Males | 6.3333 | 3.841 | 1.280 | | |
| | | | | -1.10 | .289 |
| Females | 8.0000 | 4.546 | .816 | | |
| Play | | | | | |
| Males | 9.6667 | 3.240 | 1.080 | | |
| | | | | 1.51 | .152 |
| Females | 7.7419 | 3.750 | .674 | | |
| Sentience | | | | | |
| Males | 9.6667 | 2.915 | .972 | | |
| | | | | .30 | .766 |
| Females | 9.3226 | 3.270 | .587 | | |
| Social Recognition | | | | | |
| Males | 10.2222 | 3.801 | 1.267 | | |
| | | | | -.35 | .734 |
| Females | 10.7097 | 3.359 | .603 | | |
| Succorance | | | | | |
| Males | 9.3333 | 3.640 | 1.213 | | |
| | | | | .21 | .833 |
| Females | 9.0323 | 3.937 | .707 | | |
| Understanding | | | | | |
| Males | 7.4444 | 2.555 | .852 | | |
| | | | | 1.01 | .323 |
| Females | 6.3226 | 3.945 | .708 | | |

*Significant

= .048) and for Harm Avoidance (p = .023) and significantly higher on variables indicating critical needs for Endurance (p = .050) and Impulsivity (p = .036).

An analysis of variance performed on the 20 PRF variables by dividing Prince's subjects into four groups based on gender and Impostor/Non-Impostor distinctions revealed several significant between-group differences on four of the variables (see Table 3). For the PRF variables of Succorance and Social Recognition both Impostor males and Impostor females showed significantly higher scores than both non-Impostor males and non-Impostor females (p = .0023 for the Succorance variable and .0008 for the Social Recognition variable). On the Nurturance variable non-Impostor females scored significantly higher than non-Impostor males (p = .0008), reflecting a PRF gender difference that has been well-documented (Jackson, 1967). This usual gender difference did not, however, hold true for Impostor males and Impostor females; there were no significant differences between these two groups on this variable. Additionally, Impostor males scored significantly lower on the Nurturance scale than did non-Impostor males.

In addition to these analyses an ANOVA was performed for each PRF variable using a 2 by 2 factorial design based on the variables of gender and Impostor status

Table 3

Reanalysis of Prince's (1988) Data -- Analysis of Variance of Selected PRF Variables by Group (Based on Gender and Impostor/non-Impostor Distinction)

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Nurturance | | | | | |
| Between groups | 3 | 190.0685 | 63.3562 | 6.3486 | .0005 |
| Within groups | 142 | 1417.0890 | 9.9795 | | |
| Total | 145 | 1607.1575 | | | |
| Social Recognition | | | | | |
| Between groups | 3 | 218.1079 | 72.7026 | 5.9276 | .0008 |
| Within groups | 142 | 1741.6524 | 12.2652 | | |
| Total | 145 | 1959.7603 | | | |
| Succorance | | | | | |
| Between groups | 3 | 210.7283 | 70.2428 | 5.0558 | .0023 |
| Within groups | 142 | 1972.8950 | 13.8936 | | |
| Total | 145 | 2183.6233 | | | |

(Impostor/non-Impostor). The results of this analysis appear in Table 4. A main effect of gender was found with the variable of Dominance, with males scoring significantly higher than females ($F = 4.170$, $p = .043$), on the variable of Harm Avoidance, with females scoring significantly higher than males ($F = 18.891$, $p = .000$), on the variable of Nurturance, with females scoring significantly higher than males ($F = 17.433$, $p = .000$), and on the variable of Order, with females again scoring significantly higher than males ($F = 7.796$, $p = .006$). A main effect for Impostor status were found on the variable of Aggression, with Impostors scoring significantly higher than non-Impostors ($F = 5.361$, $p = .022$), on the variable of Defendance, with Impostors scoring significantly higher than non-Impostors ($F = 4.443$, $p = .037$), on the variable of Social Recognition, with Impostors scoring significantly higher than non-Impostors ($F = 16.314$, $p = .000$), and on the variable of Succorance, with Impostors scoring significantly higher than non-Impostors ($F = 8.936$, $p = .003$). No 2-way interactions between the variables of gender and Impostor status were found on any of the 20 PRF variables.

These findings suggest that the personality variables associated with the IP are indeed different between males and females and that the etiology of the phenomenon may

Table 4

Reanalysis of Prince's (1988) Data -- ANOVA of PRF Variables by Group (Based on Gender and Impostor/non-Impostor Distinction)

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Affiliation | | | | | |
| Main Effects | 2 | 35.808 | 17.904 | 1.223 | .297 |
| Gender | 1 | 7.313 | 7.313 | .500 | .481 |
| Impostor grp | 1 | 31.801 | 31.801 | 2.172 | .143 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 4.371 | 4.371 | .299 | .586 |
| Explained | 3 | 40.179 | 13.393 | .915 | .436 |
| Residual | 142 | 2078.807 | 14.639 | | |
| Total | 145 | 2118.986 | 14.614 | | |
| Aggression | | | | | |
| Main Effects | 2 | 67.468 | 33.734 | 2.855 | .061 |
| Gender | 1 | 9.159 | 9.159 | .775 | .380 |
| Impostor grp | 1 | 63.353 | 63.353 | 5.361 | .022 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 4.739 | 4.739 | .401 | .528 |
| Explained | 3 | 72.208 | 24.069 | 2.037 | .111 |
| Residual | 142 | 1678.011 | 11.817 | | |
| Total | 145 | 1750.219 | 12.070 | | |

Table 4, continued

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Autonomy | | | | | |
| Main Effects | 2 | 62.263 | 31.131 | 2.838 | .062 |
| Gender | 1 | 40.434 | 40.434 | 3.686 | .058 |
| Impostor grp | 1 | 14.621 | 14.621 | 1.333 | .250 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | .791 | .791 | .072 | .789 |
| Explained | 3 | 63.054 | 21.018 | 1.916 | .130 |
| Residual | 142 | 1557.885 | 10.971 | | |
| Total | 145 | 1620.938 | 11.179 | | |
| Change | | | | | |
| Main Effects | 2 | 16.514 | 8.257 | .793 | .455 |
| Gender | 1 | .075 | .075 | .007 | .932 |
| Impostor grp | 1 | 15.892 | 15.892 | 1.526 | .219 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 16.759 | 16.759 | 1.609 | .207 |
| Explained | 3 | 33.272 | 11.091 | 1.065 | .366 |
| Residual | 142 | 1478.947 | 10.415 | | |
| Total | 145 | 1512.219 | 10.429 | | |

Table 4, continued

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Change | | | | | |
| Main Effects | 2 | 16.514 | 8.257 | .793 | .455 |
| Gender | 1 | .075 | .075 | .007 | .932 |
| Impostor grp | 1 | 15.892 | 15.892 | 1.526 | .219 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 16.759 | 16.759 | 1.609 | .207 |
| Explained | 3 | 33.272 | 11.091 | 1.065 | .366 |
| Residual | 142 | 1478.947 | 10.415 | | |
| Total | 145 | 1512.219 | 10.429 | | |
| Cogntitive Structure | | | | | |
| Main Effects | 2 | 14.823 | 7.411 | .725 | .486 |
| Gender | 1 | 14.698 | 14.698 | 1.439 | .232 |
| Impostor grp | 1 | .704 | .704 | .069 | .793 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 6.748 | 6.748 | .660 | .418 |
| Explained | 3 | 21.570 | 7.190 | .704 | .551 |
| Residual | 142 | 1450.820 | 10.217 | | |
| Total | 145 | 1472.390 | 10.154 | | |

Table 4, continued

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Defendance | | | | | |
| Main Effects | 2 | 53.696 | 26.848 | 2.235 | .111 |
| Gender | 1 | .138 | .138 | .011 | .915 |
| Impostor grp | 1 | 53.378 | 53.378 | 4.443 | .037 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 4.359 | 4.359 | .363 | .548 |
| Explained | 3 | 58.055 | 19.352 | 1.611 | .190 |
| Residual | 142 | 1705.787 | 12.013 | | |
| Total | 145 | 1763.842 | 12.164 | | |
| Dominance | | | | | |
| Main Effects | 2 | 100.240 | 50.120 | 3.014 | .052 |
| Gender | 1 | 69.335 | 69.335 | 4.170 | .043 |
| Impostor grp | 1 | 19.828 | 19.828 | 1.192 | .277 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | .066 | .066 | .004 | .950 |
| Explained | 3 | 100.306 | 33.435 | 2.011 | .115 |
| Residual | 142 | 2361.235 | 16.628 | | |
| Total | 145 | 2461.541 | 16.976 | | |

Table 4, continued

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Endurance | | | | | |
| Main Effects | 2 | 42.568 | 21.284 | 1.750 | .178 |
| Gender | 1 | 14.827 | 14.827 | 1.219 | .271 |
| Impostor grp | 1 | 22.405 | 22.405 | 1.842 | .177 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 22.733 | 22.733 | 1.869 | .174 |
| Explained | 3 | 65.300 | 21.767 | 1.789 | .152 |
| Residual | 142 | 1727.446 | 12.165 | | |
| Total | 145 | 1792.747 | 12.364 | | |
| Exhibition | | | | | |
| Main Effects | 2 | 42.114 | 21.057 | 1.201 | .304 |
| Gender | 1 | 38.708 | 38.708 | 2.208 | .139 |
| Impostor grp | 1 | 1.077 | 1.077 | .061 | .805 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 15.606 | 15.606 | .890 | .347 |
| Explained | 3 | 57.720 | 19.240 | 1.098 | .352 |
| Residual | 142 | 2489.019 | 17.528 | | |
| Total | 145 | 2546.740 | 17.564 | | |

Table 4, continued

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Harm Avoidance | | | | | |
| Main Effects | 2 | 341.221 | 170.610 | 9.511 | .000 |
| Gender | 1 | 338.863 | 338.863 | 18.891 | .000 |
| Impostor grp | 1 | .677 | .677 | .038 | .846 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 2.093 | 2.093 | .117 | .773 |
| Explained | 3 | 343.314 | 114.438 | 6.380 | .000 |
| Residual | 142 | 2547.180 | 17.938 | | |
| Total | 145 | 2890.493 | 19.934 | | |
| Impulsivity | | | | | |
| Main Effects | 2 | 49.348 | 24.674 | 2.080 | .129 |
| Gender | 1 | 34.380 | 34.380 | 2.898 | .091 |
| Impostor grp | 1 | 21.018 | 21.018 | 1.772 | .185 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 16.803 | 16.803 | 1.416 | .236 |
| Explained | 3 | 66.151 | 22.050 | 1.859 | .139 |
| Residual | 142 | 1684.568 | 11.863 | | |
| Total | 145 | 1750.719 | 12.074 | | |

Table 4, continued

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Nurturance | | | | | |
| Main Effects | 2 | 180.562 | 90.281 | 9.047 | .000 |
| Gender | 1 | 173.970 | 173.970 | 17.433 | .000 |
| Impostor grp | 1 | 17.869 | 17.869 | 1.791 | .183 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 9.507 | 9.507 | .953 | .331 |
| Explained | 3 | 190.069 | 63.356 | 6.349 | .000 |
| Residual | 142 | 1417.089 | 9.980 | | |
| Total | 145 | 1607.156 | 11.084 | | |
| Order | | | | | |
| Main Effects | 2 | 157.629 | 78.814 | 3.921 | .022 |
| Gender | 1 | 156.720 | 156.720 | 7.796 | .006 |
| Impostor grp | 1 | 6.455 | 6.455 | .321 | .572 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 2.905 | 2.905 | .145 | .704 |
| Explained | 3 | 160.534 | 53.511 | 2.662 | .050 |
| Residual | 142 | 2854.589 | 20.103 | | |
| Total | 145 | 3015.123 | 20.794 | | |

Table 4, continued

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Play | | | | | |
| Main Effects | 2 | 22.574 | 11.287 | .899 | .409 |
| Gender | 1 | .002 | .002 | .000 | .989 |
| Impostor grp | 1 | 22.146 | 22.146 | 1.764 | .186 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 32.932 | 32.932 | 2.623 | .108 |
| Explained | 3 | 55.506 | 18.502 | 1.474 | .224 |
| Residual | 142 | 1782.501 | 12.553 | | |
| Total | 145 | 1838.007 | 12.676 | | |
| Sentience | | | | | |
| Main Effects | 2 | 18.946 | 9.473 | .902 | .408 |
| Gender | 1 | 18.251 | 18.251 | 1.737 | .190 |
| Impostor grp | 1 | .080 | .080 | .008 | .931 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 10.994 | 10.994 | 1.046 | .308 |
| Explained | 3 | 29.940 | 9.980 | .950 | .418 |
| Residual | 142 | 1491.978 | 10.507 | | |
| Total | 145 | 1521.918 | 10.496 | | |

Table 4, continued

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Social Recognition | | | | | |
| Main Effects | 2 | 218.077 | 109.039 | 8.890 | .000 |
| Gender | 1 | 5.776 | 5.776 | .471 | .494 |
| Impostor grp | 1 | 200.097 | 200.097 | 16.314 | .000 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | .030 | .030 | .002 | .960 |
| Explained | 3 | 218.108 | 72.703 | 5.928 | .001 |
| Residual | 142 | 1741.652 | 12.265 | | |
| Total | 145 | 1959.760 | 13.516 | | |
| Succorance | | | | | |
| Main Effects | 2 | 163.642 | 81.821 | 5.889 | .003 |
| Gender | 1 | 23.162 | 23.162 | 1.667 | .199 |
| Impostor grp | 1 | 124.156 | 124.156 | 8.936 | .003 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 47.087 | 47.087 | 3.389 | .068 |
| Explained | 3 | 210.728 | 70.243 | 5.056 | .002 |
| Residual | 142 | 1972.895 | 13.894 | | |
| Total | 145 | 2183.623 | 15.059 | | |

Table 4, continued

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Succorance | | | | | |
| Main Effects | 2 | 163.642 | 81.821 | 5.889 | .003 |
| Gender | 1 | 23.162 | 23.162 | 1.667 | .199 |
| Impostor grp | 1 | 124.156 | 124.156 | 8.936 | .003 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 47.087 | 47.087 | 3.389 | .068 |
| Explained | 3 | 210.728 | 70.243 | 5.056 | .002 |
| Residual | 142 | 1972.895 | 13.894 | | |
| Total | 145 | 2183.623 | 15.059 | | |
| Understanding | | | | | |
| Main Effects | 2 | 39.278 | 19.639 | 1.549 | .216 |
| Gender | 1 | 9.658 | 9.658 | .762 | .384 |
| Impostor grp | 1 | 33.571 | 33.571 | 2.647 | .106 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 25.225 | 25.225 | 1.989 | .161 |
| Explained | 3 | 64.503 | 21.501 | 1.696 | .171 |
| Residual | 142 | 1800.627 | 12.680 | | |
| Total | 145 | 1865.130 | 12.863 | | |

differ based on gender. Prince hypothesized that high needs for social support and validation conflict with high aggression and defendance needs, contributing to the IP symptomatology of anxiety, depression, and self-criticism. Similarly, Cromwell (1989) theorizes that Impostors need a great deal of social support but resist emotional dependency, creating conflict and preventing these needs from being met. However, on the basis of the re-analysis of Prince's data, it seems that while both male and female Impostors have high needs for social recognition and succorance, the needs for defendance that create such interpersonal conflict are much more apparent in female Impostors. Interpersonal conflict in male Impostors may result from low needs for nurturance; while they crave social support and validation, they may be relatively insensitive to the needs and feelings of others and this might result in interpersonal distance that prohibits the meeting of social needs.

Similarly, Prince and Cromwell both suggest that conflicts around achievement among Impostors stem from low endurance combined with a tendency to avoid novel situations and low needs for relaxation and play. In light of the re-analyzed data, however, it seems that low endurance and the tendency to avoid novel situations are more characteristic of female Impostors. Male Impostors

seem to be more willing to seek change and to have higher endurance but in addition seem more impulsive than female Impostors; this impulsivity and high need for change combined with lower needs for harm avoidance may speak to issues with impulse expression and control.

The present study is an attempt to clarify whatever gender differences there may be in critical needs that are associated with and contribute to the IP. The basic outline of the study is the one suggested by Prince (1988) with several modifications. First of all, the MBTI will not be administered since Prince's findings did not differ significantly from what has been previously found regarding the IP. Another modification stems from the fact that Prince collected no data on the grade point averages (GPA's) of his subjects. In its original conceptualization, the IP was perceived to be associated specifically with high achieving individuals (Clance and Imes, 1978) and most research has therefore been conducted on high achieving populations. Some of Prince's subjects who were classified as Impostors may not have had high achievement levels as measured by grade point average and may have differed from high achieving Impostors in some way. For example, Prince noted with surprise that IP Scale scores did not correlate highly with Achievement needs. Perhaps this relates to the inclusion of subjects

who may not have been high achievers and who, therefore, did not meet the classic definition of Impostors.

The present study, therefore, will gather information on the grade point average of subjects in order to investigate the relationship between this measure of achievement and the other variables of interest. For example, do subjects who score at the Impostor level on the IP Scale have significantly higher achievement levels (as measured by GPA) than do non-Impostors? How might low-achieving Impostors differ from high-achieving Impostors on the PRF variables? Do high-achieving Impostors have higher ability levels than non-Impostors or is their success due to factors other than ability? Are subjects with high IP Scale scores with low achievement levels (as based on GPA) achieving at a level consistent with their abilities or are they under-achieving? To examine the last two questions subjects will be given the Otis-Lennon Mental Abilities Test (Form J) as a measure of their academic abilities.

## CHAPTER II

## Methodology

The methods and procedures of the study are presented in this chapter. It has been divided into the following five sections: Statement of the research hypotheses, Subjects, Description of the research instruments, Procedure, and Treatment of data.

### Statement of the Research Hypotheses

The primary modification of Prince's study will be to use gender as an independent variable of study. Six hypotheses will be examined:

I) Both male and female Impostors will show higher scores on the PRF variables of Succorance and Social Recognition than will non-Impostors.

II) The PRF variable of Nurturance will correlate negatively with IP Scale scores for males while the variables of Change, Impulsivity, and Endurance will correlate positively.

III) The PRF variables of Nurturance and Harm Avoidance will correlate positively with IP scale scores for females while the variables of Change, Impulsivity, and Endurance will correlate negatively.

IV) Since the IP is hypothesized as a phenomenon of

high-achieving individuals, there will be significantly higher Impostor Scale scores among subjects with a higher grade point average (based on a medial split).

V) Achievement level (as measured by GPA) will correlate positively with mental ability (as measured by IQ score) for both high-achieving and low-achieving Impostors.

VI) There will be no significant differences between scores on any PRF scale between high-achieving Impostors and low-achieving Impostors.

Participants

Participants in this study were students enrolled at a large urban university in the Southeastern United States who were asked to voluntarily participate in the study in order to fulfill an undergraduate psychology course requirement. A power analysis indicated that 53 participants would be sufficient to detect the effects shown by Prince (1989) at an 80% power level. The experimental population was composed of 35 females and 28 males, yielding a total of 63 subjects. Thirty one participants were college freshmen, 19 were sophomores, 8 were juniors, and 5 were seniors. Ages ranged from 17 to 29 years and the average age was 19 years.

Testing sessions were composed of 12 students maximum. Seven separate testing sessions were scheduled and testing was conducted without any unusual disturbances.

Description of the Research Instruments

Clance's IP Scale (1985) is a self-administered, 20-item instrument utilizing a five-choice, Likert-type scale. Holmes (1986) concluded from an analysis of the covariance of this scale and Harvey's (1981) instrument that Clance's scale is a more reliable measure of the IP, with an inter-item consistency of .96108 alpha as opposed to .91410. Holmes also found that Clance's scale seems to measure additional attributes associated with the IP, including fear of evaluation, feeling less capable than peers, and fear that success cannot be repeated. Holmes' study also suggests a cutoff score of 62 on Clance's scale to identify Impostors and this served as such a criterion for the present study.

The Personality Research Form (Form E) was developed by Jackson (1967) and is based on Murray's (1938) critical needs theory. It consists of 352 true/false items that constitute 22 scales of 16 items each. These scales are designed to tap personality traits or critical needs of the individual that pertain to his or her global functioning. The PRF is constructed to control for

response sets that reflect malingering or socially desirability and its convergent and descriminant validity have been demonstrated (Jackson, 1967).

The Otis-Lennon Mental Abilities Test is a timed test that can be administered individually or to groups and is aimed at measuring an individuals facility at reasoning. It was developed by Otis (1954) and consists of 80 questions dealing with variety of verbal, symbolic, and figural content that are designed to measure "scholastic aptitude," or those abilities emphasized in western school systems. The test yields a raw score that is then converted to a Deviation Intelligence Quotient (DIQ) based on the subject's age and score in comparison with age-peers in the standardization samples. Form J is normed for use with students in the 10th grade through college level.

Procedure

Upon arrival all participants were given a copy of the informed consent form and encouraged to voice any questions or concerns about the experimental process. They were then given two computer-scored answer sheets and were instructed on how to enter information about their age, gender, grade in school, grade point average, and social security number.

After all participants had entered this information, a copy of the Otis-Lennon Mental Abilities Test was given to each subject and the instructions for group administration outlined in the administration manual were read aloud. Participants were then allowed to work on the test for 40 minutes, at which time the experimenter called "time" and instructed participants to hand in their test materials. The question booklets containing the PRF and the Clance IP Scale were then handed out; participants were given instructions for completing these materials and were told that they had as much time as needed to do so. Testing sessions generally lasted 2 and 1/2 hours.

Treatment of Data

Data were examined using Pearson Product Moment Correlations to investigate the relationship between scores on the Clance IP Scale and the Personality Research Form and how these vary between gender groups. Holmes' suggested cut-off score of 62 was used to distinguish Impostors and non-Impostors on Clance's IP Scale and an analysis of variance was performed to investigate the differences between scores on each PRF scale between the following groups: Impostor males, non-Impostor males, Impostor females, and non-Impostor females. An analysis of variance was also performed to investigate differences

in the number of Impostors detected among subjects with high and low grade point averages (these groups being distinguished by splitting them medially based on GPA). Pearson Product Moment Correlations were measured between the variables of GPA and IP Scale scores and between the variables of GPA and Otis-Lennon DIQ for Impostors and for non-Impostors. Finally, an analysis of variance was performed to investigate differences on each PRF scale between high-GPA and low-GPA Impostors.

# CHAPTER III

## Results

### Population Characteristics

Analysis of the data indicated that out of the 63 participants in the study (35 females and 28 males), 24 (38%) were identified as Impostors; of those Impostors, 39% were male and 61% were female. Of the 28 male participants, 9 (32%) were identified as Impostors and of the 35 female participants 15 (43%) were identified as Impostors. Grade point averages ranged from 0.75 to 4.00; the average GPA among participants was 2.47 and the median was 2.50. Deviation IQ Scores (DIQs) from the Otis-Lennon Mental Abilities Test ranged from 35 to 137; the average DIQ among participants was 108 and the median was 102.

### Relationships Between IP Scores and PRF Variables

Hypothesis I stated an expectation that both male and female Impostors would score significantly higher on the PRF variables of Succorance and Social Recognition than would non-Impostors. Table 5 shows the results of an ANOVA of the 20 PRF variables by gender and Impostor Status. Contrary to prediciton, there was no significant difference at the .05 significance level on either the Succorance or the Social Recognition variable between Impostor males, non-Impostor males, Impostor females, and

non-Impostor females.

Hypothesis II dealt with the expectation that among male participants IP scores would correlate negatively with the PRF variable of Nurturance and positively with the PRF variables of Change, Impulsivity, and Endurance. Table 7 displays Pearson Product Moment Correlations of IP scores with all 20 PRF variables for male participants. No significant correlation was found between IP scores and the Nurturance variable ($r = -.0659$, $p = .380$). Significant positive correlations were found between IP scores and the PRF variables of Change ($r = .4759$, $p = .009$), Defendance ($r = .3686$, $p = .038$), and Impulsivity ($r = .3420$, $p = .047$) and a marginally significant positive correlation was found for the variable of Endurance ($r = .3379$, $p = .053$). A significant negative correlation was found between IP scores and the PRF variable of Order ($r = -.3851$, $p = .031$).

Hypothesis III dealt with the expectation that IP scores among female participants would correlate positively with the PRF variables of Nurturance and Harm Avoidance and negatively with the PRF variables of Change, Impulsivity, and Endurance. Table 8 displays Pearson Product Moment Correlations of IP scores and PRF variables for female participants. The Harm Avoidance variable did correlate positively with IP scores ($r = .015$, $p = .015$),

as did the Defendance variable ($r = .3643$, $p = .016$). The Nurturance variable was found to correlate **negatively** with IP scores ($r = -.3087$, $p = .036$), as were the variables of Change ($r = -.4265$, $p = .005$), Impulsivity ($r = -.3751$, $p = .015$), Affiliation ($r = -.3792$, $p = .012$), Exhibition ($r = -.3840$, $p = .011$), and Play ($r = -.5549$, $p = .000$).

To demonstrate statistically the different patterns in PRF needs for male and female Impostors and non-Impostors, Impostor scores were dichotomized (with the cut-off score of 62 used to distinguidh Impostors and non-Impostors) and each PRF need was analyzed in a two-way (gender and Impostor status) ANOVA. The results of this analysis are presented in Table 5.

A main effect of the gender variable was found on the variable of Agression, with males scoring significantly higher than females ($F = 4.459$, $p = .039$), on the variable of Autonomy, with males scoring significantly higher than females ($F = 4.368$, $p = .041$), on the variable of Change, with males scoring significantly higher than females ($F = 4.499$, $p = .038$), and on the variable of Harm Avoidance, with females scoring significantly higher than males ($F = 6.068$, $p = .020$). A main effect of Impostor status was found on the variable of Defendance, with Impostors scoring significantly higher than non-Impostors ($F = 17.121$, $p = .000$) and the variable of Play, with non-

Impostors scoring significantly higher than Impostors ($F = 5.387$, $p = .024$).

An interaction between the variables of gender and Impostor status was found on several variables and the cell means for these variables can be found in Table 6. The interaction of gender and Impostor status on the Change variable was significant ($F = 5.014$, $p = .029$), indicating that higher Impostor scores in males were related to indicated higher scores on the Change variable while higher Impostor scores in females were related to lower scores on the Change variable. On the Endurance variable the significant interaction ($F = 3.756$, $p = .030$) indicates that higher Impostor scores in males were related to higher Endurance scores while higher Impostor scores in females were related to lower Endurance scores. On the Harm Avoidance variable the significant interaction ($F = 5.361$, $p = .022$) indicates that higher Impostor scores in males were related to lower Harm Avoidance scores while higher Impostor scores in females were related to higher Harm Avoidance scores. Finally, on the Impulsivity variable the significant interaction ($F = 6.110$, $p = .017$) indicates that higher Impostor scores in males were related to higher Impulsivity scores while higher Impostor scores in females were related to lower Impulsivity scores.

Relationships Between IP Scores, GPA, and DIQ

Hypothesis IV posited that since the IP has been traditionally conceptualized as a phenomenon related to high levels of achievement there should be higher IP Scale scores among participants with higher GPAs. A Pearson Product Moment Correlation revealed no significant correlation between IP Scale Scores and GPA ($r = -.0379$, $p = .387$). Additionally, by dividing the participants into high and low achievement groups based on a medial split on the GPA variable an analysis of variance was conducted using IP Scale scores as the dependent variable. As Table 9 shows there was no significant difference in IP Scale scores between high and low achieving participants.

Hypothesis V dealt with the relationship between GPA and DIQ and expressed the expectation that these two variables would be positively correlated both for high- and low-achieving Impostors. Table 10 displays the number of participants falling into the categories of High-achieving Impostors (11 participants), High-achieving Non-Impostors (20 participants), Low-achieving Impostors (12 participants), and Low-achieving Non-Impostors (17 participants).

Using a Pearson Product Moment Correlation data from all 63 participants, GPA and DIQ showed a significant positive correlation ($r = .3149$, $p = .007$). A significant

positive correlation was also found between GPA and DIQ among non-Impostors ($r = .3164$, $p = .028$) but, although the correlation between these variables approached significance among Impostors, it was not significant at the .05 level ($r = .3200$, $p = .068$). Correlations between GPA and DIQ were not significant among Impostors divided into either high-achieving ($r = .2522$, $p = .227$) or low-achieving ($r = .2085$, $p = .172$) groups. The results from each of these correlations are displayed in Table 11.

Relationships Between IP Scores, Achievement Level, and PRF Variables

Hypothesis VI dealt with the expectation that there would be no significant differences on any PRF variable between high-achieving and low-achieving Impostors. By dividing all Impostors into high- and low-achieving groups based on a medial split on the GPA variable an analysis of variance was conducted between groups on each PRF variable. As Table 12 indicates, there were no significant differences at the .05 significance level between groups on any PRF variable.

Table 5

ANOVA of PRF Variables by Gender and Impostor Status (Impostor male, non-Impostor male, Impostor female, non-Impostor female)

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Abasement | | | | | |
| Main Effects | 2 | 1.053 | .527 | .085 | .919 |
| Gender | 1 | .187 | .187 | .030 | .863 |
| Impostor grp | 1 | .809 | .809 | .131 | .719 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 7.783 | 7.783 | 1.258 | .267 |
| Explained | 3 | 8.836 | 2.945 | .476 | .700 |
| Residual | 61 | 340.384 | 6.189 | | |
| Total | 64 | 349.220 | 6.021 | | |
| Achievement | | | | | |
| Main Effects | 2 | 23.088 | 11.544 | 1.315 | .277 |
| Gender | 1 | .610 | .610 | .069 | .793 |
| Impostor grp | 1 | 21.877 | 21.877 | 2.491 | .120 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 2.075 | 2.075 | .236 | .629 |
| Explained | 3 | 25.164 | 8.388 | .955 | .420 |
| Residual | 61 | 483.006 | 8.782 | | |
| Total | 64 | 508.169 | 8.762 | | |

Table 5, continued

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Affiliation | | | | | |
| Main Effects | 2 | 28.195 | 14.098 | .918 | .405 |
| Gender | 1 | .081 | .081 | .005 | .943 |
| Impostor grp | 1 | 27.783 | 27.783 | 1.809 | .184 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 1.555 | 1.555 | .101 | .752 |
| Explained | 3 | 29.751 | 9.917 | .646 | .589 |
| Residual | 61 | 844.792 | 15.360 | | |
| Total | 64 | 874.542 | 15.078 | | |
| Aggression | | | | | |
| Main Effects | 2 | 43.375 | 21.688 | 2.552 | .087 |
| Gender | 1 | 37.896 | 37.896 | 4.459 | .039 |
| Impostor grp | 1 | 7.576 | 7.576 | .891 | .349 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 7.783 | 7.783 | .916 | .343 |
| Explained | 3 | 51.158 | 17.053 | 2.007 | .124 |
| Residual | 61 | 467.384 | 8.498 | | |
| Total | 64 | 518.542 | 8.940 | | |

Table 5, continued

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Autonomy | | | | | |
| Main Effects | 2 | 32.610 | 16.305 | 2.280 | .112 |
| Gender | 1 | 31.234 | 31.234 | 4.368 | .041 |
| Impostor grp | 1 | .627 | .627 | .088 | .768 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 23.770 | 23.770 | 3.325 | .074 |
| Explained | 3 | 56.380 | 18.793 | 2.628 | .059 |
| Residual | 61 | 393.247 | 7.150 | | |
| Total | 64 | 449.627 | 7.752 | | |
| Change | | | | | |
| Main Effects | 2 | 50.255 | 25.128 | 2.628 | .081 |
| Gender | 1 | 43.007 | 43.007 | 4.499 | .038 |
| Impostor grp | 1 | 9.798 | 9.798 | 1.025 | .316 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 47.935 | 47.935 | 5.014 | .029 |
| Explained | 3 | 98.190 | 32.730 | 3.424 | .023 |
| Residual | 61 | 525.810 | 9.560 | | |
| Total | 64 | 624.000 | 10.759 | | |

Table 5, continued

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Cognitive Structure | | | | | |
| Main Effects | 2 | 23.835 | 11.918 | 1.212 | .305 |
| Gender | 1 | 22.744 | 22.744 | 2.313 | .134 |
| Impostor grp | 1 | .518 | .518 | .053 | .819 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | .122 | .122 | .012 | .912 |
| Explained | 3 | 23.958 | 7.986 | .812 | .493 |
| Residual | 61 | 540.890 | 9.834 | | |
| Total | 64 | 564.847 | 9.739 | | |
| Defendance | | | | | |
| Main Effects | 2 | 145.288 | 72.644 | 9.324 | .000 |
| Gender | 1 | 17.843 | 17.843 | 2.290 | .136 |
| Impostor grp | 1 | 133.386 | 133.386 | 17.121 | .000 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 8.868 | 8.868 | 1.138 | .291 |
| Explained | 3 | 154.156 | 51.385 | 6.596 | .001 |
| Residual | 61 | 428.488 | 7.791 | | |
| Total | 64 | 582.644 | 10.046 | | |

Table 5, continued

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Dominance | | | | | |
| Main Effects | 2 | 57.516 | 28.758 | 2.124 | .129 |
| Gender | 1 | 13.738 | 13.738 | 1.015 | .318 |
| Impostor grp | 1 | 40.327 | 40.327 | 2.979 | .090 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | .012 | .012 | .001 | .977 |
| Explained | 3 | 57.528 | 19.176 | 1.417 | .248 |
| Residual | 61 | 744.506 | 13.536 | | |
| Total | 64 | 802.034 | 13.828 | | |
| Endurance | | | | | |
| Main Effects | 2 | 35.445 | 17.722 | 1.878 | .172 |
| Gender | 1 | 34.368 | 34.368 | 3.642 | .054 |
| Impostor grp | 1 | 1.077 | 1.077 | .061 | .805 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 35.441 | 35.441 | 3.756 | .030 |
| Explained | 3 | 70.886 | 23.629 | 2.504 | .069 |
| Residual | 61 | 518.911 | 9.435 | | |
| Total | 64 | 589.797 | 10.169 | | |

Table 5, continued

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Exhibition | | | | | |
| Main Effects | 2 | 124.119 | 62.060 | 3.049 | .056 |
| Gender | 1 | 55.602 | 55.602 | 2.732 | .104 |
| Impostor grp | 1 | 60.117 | 60.117 | 2.953 | .091 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 14.280 | 14.280 | .702 | .406 |
| Explained | 3 | 138.399 | 46.133 | 2.266 | .091 |
| Residual | 61 | 1119.533 | 20.355 | | |
| Total | 64 | 1257.932 | 21.688 | | |
| Harm Avoidance | | | | | |
| Main Effects | 2 | 100.473 | 50.237 | 4.301 | .017 |
| Gender | 1 | 70.882 | 70.882 | 6.068 | .020 |
| Impostor grp | 1 | 29.591 | 29.591 | 2.533 | .113 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 63.353 | 63.353 | 5.361 | .022 |
| Explained | 3 | 163.826 | 54.609 | 4.675 | .006 |
| Residual | 61 | 642.479 | 11.681 | | |
| Total | 64 | 806.305 | 13.902 | | |

Table 5, continued

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Impulsivity | | | | | |
| Main Effects | 2 | 23.425 | 11.712 | 1.276 | .287 |
| Gender | 1 | 22.931 | 22.931 | 2.499 | .120 |
| Impostor grp | 1 | 1.051 | 1.051 | .115 | .736 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 56.069 | 56.069 | 6.110 | .017 |
| Explained | 3 | 79.494 | 26.498 | 2.888 | .044 |
| Residual | 61 | 504.676 | 9.176 | | |
| Total | 64 | 584.169 | 10.072 | | |
| Nurturance | | | | | |
| Main Effects | 2 | 24.823 | 12.411 | 1.876 | .163 |
| Gender | 1 | 23.282 | 23.282 | 3.520 | .066 |
| Impostor grp | 1 | 2.450 | 2.450 | .370 | .545 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 1.555 | 1.555 | .235 | .630 |
| Explained | 3 | 26.378 | 8.793 | 1.329 | .274 |
| Residual | 61 | 363.792 | 6.614 | | |
| Total | 64 | 390.169 | 6.727 | | |

Table 5, continued

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Order | | | | | |
| Main Effects | 2 | 49.008 | 24.504 | 1.039 | .361 |
| Gender | 1 | 44.170 | 44.170 | 1.873 | .177 |
| Impostor grp | 1 | 6.993 | 6.993 | .297 | .588 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 61.762 | 61.762 | 2.620 | .111 |
| Explained | 3 | 110.769 | 36.923 | 1.566 | .208 |
| Residual | 61 | 1296.756 | 23.577 | | |
| Total | 64 | 1407.525 | 24.268 | | |
| Play | | | | | |
| Main Effects | 2 | 56.229 | 28.115 | 3.400 | .041 |
| Gender | 1 | 8.753 | 8.753 | 1.059 | .308 |
| Impostor grp | 1 | 44.544 | 44.544 | 5.387 | .024 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | 16.210 | 16.210 | 1.961 | .167 |
| Explained | 3 | 72.439 | 24.146 | 2.920 | .042 |
| Residual | 61 | 454.747 | 8.268 | | |
| Total | 64 | 527.186 | 9.089 | | |

Table 5, continued

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Sentience | | | | | |
| Main Effects | 2 | 7.886 | 3.943 | .527 | .593 |
| Gender | 1 | 6.446 | 6.446 | .862 | .357 |
| Impostor grp | 1 | 1.051 | 1.051 | .141 | .709 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | .069 | .069 | .009 | .924 |
| Explained | 3 | 7.955 | 2.652 | .355 | .786 |
| Residual | 61 | 411.265 | 7.478 | | |
| Total | 64 | 419.220 | 7.228 | | |
| Social Recognition | | | | | |
| Main Effects | 2 | 43.614 | 21.807 | 1.984 | .147 |
| Gender | 1 | .915 | .915 | .083 | .774 |
| Impostor grp | 1 | 43.351 | 43.351 | 3.988 | .059 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | .069 | .069 | .006 | .937 |
| Explained | 3 | 43.683 | 14.561 | 1.325 | .276 |
| Residual | 61 | 604.622 | 10.993 | | |
| Total | 64 | 648.305 | 11.178 | | |

Table 5, continued

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Succorance | | | | | |
| Main Effects | 2 | 26.717 | 13.358 | 1.094 | .342 |
| Gender | 1 | 26.713 | 26.713 | 2.187 | .145 |
| Impostor grp | 1 | .171 | .171 | .014 | .906 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | .926 | .926 | .754 | .525 |
| Explained | 3 | 27.643 | 9.214 | .754 | .525 |
| Residual | 61 | 671.747 | 12.214 | | |
| Total | 64 | 699.390 | 12.058 | | |
| Understanding | | | | | |
| Main Effects | 2 | 28.342 | 14.171 | 1.132 | .330 |
| Gender | 1 | 26.143 | 26.143 | 2.087 | .154 |
| Impostor grp | 1 | 1.284 | 1.284 | .103 | .750 |
| 2-Way Interaction (Gender x Impostor grp) | 1 | .574 | .574 | .046 | .831 |
| Explained | 3 | 28.916 | 9.639 | .770 | .516 |
| Residual | 61 | 688.812 | 12.524 | | |
| Total | 145 | 717.729 | 12.375 | | |

Table 6

Cell means of PRF Variables Showing a Significant Gender by Impostor Status Interaction

Change

| | Impostor | non-Impostor |
|---|---|---|
| Male | 10.62 | 8.29 |
| Female | 7.50 | 9.00 |

Endurance

| | Impostor | non-Impostor |
|---|---|---|
| Male | 10.13 | 8.00 |
| Female | 7.80 | 9.29 |

Harm Avoidance

| | Impostor | non-Impostor |
|---|---|---|
| Male | 7.69 | 8.88 |
| Female | 12.21 | 10.24 |

Table 6, continued

Impulsivity

| | Impostor | non-Impostor |
|---|---|---|
| Male | 9.50 | 6.69 |
| Female | 5.57 | 6.90 |

Table 7

Pearson Product Moment Correlation Coefficients of Impostor Scale Scores with PRF Variables for Male Subjects (n = 28)

| PRF Variable | Pearson r | p Value |
|---|---|---|
| Abasement | -.0747 | .364 |
| Achievement | -.2287 | .141 |
| Affiliation | -.0249 | .454 |
| Aggression | -.1383 | .260 |
| Autonomy | .2609 | .109 |
| Change | .4759 | .009* |
| Cognitive Structure | .0038 | .493 |
| Defendance | .3686 | .038* |
| Dominance | -.2609 | .132 |
| Endurance | .3379 | .053* |
| Exhibition | -.2025 | .171 |
| Harm Avoidance | .1349 | .265 |
| Impulsivity | .3420 | .047* |
| Nurturance | -.0659 | .265 |
| Order | -.3851 | .031* |
| Play | .0598 | .391 |
| Sentience | .0199 | .463 |
| Social Recognition | .0833 | .349 |
| Succorance | -.0147 | .473 |
| Understanding | -.0844 | .347 |

Table 8

Pearson Product Moment Correlation Coefficients of Impostor Scale Scores with PRF Variables for Female Subjects (n = 35)

| PRF Variable | Pearson r | p Value |
|---|---|---|
| Abasement | .1088 | .267 |
| Achievement | .0281 | .436 |
| Affiliation | -.3792 | .012* |
| Aggression | -.0096 | .478 |
| Autonomy | -.1242 | .238 |
| Change | -.4265 | .005* |
| Cognitive Structure | .1872 | .141 |
| Defendance | .3643 | .016* |
| Dominance | -.1645 | .172 |
| Endurance | -.1942 | .132 |
| Exhibition | -.3840 | .011* |
| Harm Avoidance | .3661 | .015* |
| Impulsivity | -.3851 | .031* |
| Nurturance | -.3087 | .036* |
| Order | -.1397 | .212 |
| Play | -.5549 | .000* |
| Sentience | -.1770 | .155 |
| Social Recognition | .1188 | .248 |
| Succorance | -.0588 | .369 |
| Understanding | .1087 | .267 |

Table 9

Analysis of Variance of Impostor Scale Scores by High and Low Achievement Level (Based on a Medial Split on the GPA Variable)

| Source | df | Sum of Squares | Mean Squares | F Ratio | F Prob |
|---|---|---|---|---|---|
| Between groups | 1 | 7.4754 | 7.4754 | .0573 | .8117 |
| Within groups | 63 | 7567.1079 | 130.4674 | | |
| Total | 64 | 7574.5833 | | | |

Table 10

Breakdown of Total n by the Variables of Impostor Scale Category (Impostor/non-Impostor) and Achievement Level (Based on a Medial Split on GPA)

| | High Achievement | Low Achievement |
|---|---|---|
| Impostor | 12 | 12 |
| non-Impostor | 22 | 17 |

Table 11

Pearson Product Moment Correlation of GPA with DIQ by Impostor Scale Category (Impostor/non-Impostor) and Achievement Level (Based on a Medial Split on GPA)

| Group | n | Pearson r | Prob. |
|---|---|---|---|
| All Participants | 63 | .3149 | .007 |
| All non-Impostors | 39 | .3164 | .028 |
| All Impostors | 24 | .3200 | .068 |
| High-Achieving Impostors | 12 | .2522 | .227 |
| Low-Achieving Impostors | 12 | .2985 | .172 |

Table 12

Analysis of Variance of PRF Variables Between High- and Low-Achieving Impostors

| PRF Variable | F Ratio | F Prob. |
|---|---|---|
| Abasement | 1.8295 | .1906 |
| Achievement | 2.0847 | .1635 |
| Affiliation | .0489 | .8255 |
| Aggression | .0997 | .7554 |
| Authority | .2154 | .6473 |
| Change | 1.0183 | .3244 |
| Cognitive Structure | .1704 | .6839 |
| Defendance | .3572 | .5565 |
| Dominance | .5989 | .4476 |
| Endurance | 1.1292 | .3000 |
| Exhibition | .5718 | .4580 |
| Harm Avoidance | .0693 | .7950 |
| Impulsivity | .4727 | .4993 |
| Nurturance | 1.6506 | .2129 |
| Order | 1.1238 | .3011 |
| Play | 1.8216 | .1915 |
| Sentience | 1.0669 | .3134 |
| Social Recognition | 1.0553 | .3160 |
| Succorance | .1850 | .6715 |
| Understanding | .1942 | .6639 |

# CHAPTER IV

## Discussion

### Summary of Findings

The PRF personality traits of Succorance and Social Recognition, the two traits that best correlated with the IP in Prince's data, did not correlate significantly with IP Scale scores among subjects in this study and no differences were found on either variable between gender/Impostor status groups. Several other traits did correlate with IP Scale scores in an expected fashion between gender groups; the traits of Change and Impulsivity did correlate positively with the IP among males and negatively among females. Additionally, the Endurance trait correlated positively with the IP among males but did not correlate significantly among females. The defendence trait correlated positively with the IP among both males and females and a main effect of Impostor status was found on this variable. Likewise, a main effect of Impostor status was found on the variable of Play, with Impostors scoring significantly lower on this trait than non-Impostors.

The gender-Impostor status interactions revealed by the two-way ANOVA cast further light on gender differences in the PRF needs associated with the IP. With the variables of Change, Endurance, and Harm Avoidance,

Impostor status seemed to accentuate the gender differences already apparent in the subject pool as a whole; males were overall less harm avoidant and showed higher endurance and need for change than females but these differences were markedly greater among Impostors. With regard to the Impulsivity variable the primary difference between groups seemed to be that male Impostors showed significantly higher scores than non-Impostor males or either group of females.

Jackson (1967) utilized factor analysis to group PRF traits into five personality factors. Table 13 shows these five categories along with the individual traits that constitute them and the traits that were shown to be polar opposites to them. This categorization may help to explain the correlational patterns found among participants females in this study. Among males the positive correlation between the IP and the traits of Change and Impulsivity and the negative correlation of the IP with the Order trait seems to suggest strongly that the IP in males is associated with low impulse control and expression. This does not seem to hold true for females, however; women in the study showed negative correlations between the IP and the traits of Change and Impulsivity and positive correlations with the Harm Avoidance trait, indicating that the IP in women is associated with

Table 13

Groupings of PRF Traits into Factor Categories

| Category | Component Traits | Polar Opposite Traits |
|---|---|---|
| Impulse Expression and Control | Harm Avoidance<br>Impulsivity<br>Change | Order<br>Cognitive Structure |
| Orientation Toward Work and Play | Achievement<br>Endurance | Play |
| Orientation Toward Direction from Other People | Succorance | Autonomy |
| Intellectual and Aesthetic Orientation | Understanding<br>Sentience | |
| Degree and Quality of Interpersonal Orientation | Affiliation<br>Nurturance<br>Exhibition<br>Social Recognition | Aggression<br>Defendence |

relatively tight impulse control and low risk-taking behaviors.

Other traits associated with the IP among female participants are largely concentrated in the constellation centered around degree and quality of interpersonal orientation. Positive correlations with the Defendence trait and negative correlations with the traits of Affiliation, Exhibition, and Nurturance seem to indicate that the IP in females is associated with fewer or poorer quality interpersonal associations.

A second set of questions dealt with how achievement level related to the IP. By original definition the IP is assumed to be a phenomenon associated with high achievers; thus it would seem likely that IP Scale scores would correlate positively with grade point average. This, however, did not prove true in this study; GPA and IP Scale scores showed no correlation. In light of this finding it may be appropriate to reconsider the assumption that the experience of the IP is confined to high achieving individuals.

Given that the IP is not strictly confined to high achievers, one may ask how low-achieving and high-achieving Impostors differ. For example, are low-achieving Impostors achieving at a level commensurate with their level of ability? Although GPA and Deviation IQ

Scores showed significant positive correlations for all subjects studied together and for Impostors in general, no significant correlation was found for the subsets of either high-achieving or low-achieving Impostors. This lack of correlation is likely a result of the low n in these groups relative to the total n of all subjects (see Table 9), but might possibly hint that ability and achievement do not correlate as well for Impostors as they do for the general population or that ability may not be as reliable a predictor of achievement level for those who experience IP symptomatology.

Another way to examine possible differences between high- and low-achieving Impostors is to look for differences between these groups on the PRF personality traits. No differences were, in fact, found on any of these variables. This would seem to indicate that Impostor symptomatology is associated with similar personality traits regardless of achievement level. This finding also lends support for expanding the conceptualization of the IP beyond its definition as a phenomenon that manifests itself primarily in high achievers.

Clinical Significance and Implications

The data collected from these participants supports

the findings of other studies (Imes, 1979; Topping, 1983; and Cromwell, 1989) that have indicated that males experience IP symptomatology in generally the same proportion as females. Although no gender differences in the etiology or manifestation of the IP are evident in any of the IP literature, the re-analysis of Prince's (1988) data and the results of the present study indicate that the personalities of male and female Impostors do differ in significant ways.

The results of this study support a clinical picture of the female Impostor as someone who is cautious, avoids taking risks, and who is fearful of new situations; she is unlikely to seek change and may actively avoid it. The female Impostor tends to be careful and deliberate and is unlikely to act in a rash or spontaneous manner. She is self-protective and may readily suspect that people mean harm or are against her. She rarely seeks out the company of others and may not easily maintain interpersonal associations and friendships. The female Impostor does not enjoy being the center of attention and may feel uncomfortable with interpersonal attention.

The clinical picture of a male Impostor that emerges from these data is quite different. He also tends to be protective and to readily suspect that others mean him harm but this seems not to result in interpersonal

isolation or withdrawal. He is ready to defend himself at all times and may not accept criticism easily but seems to tolerate social contact more easily than does his female counterpart. Far from avoiding new situations, the male Impostor actually seeks them out; he dislikes routine, adapts readily to change, and is attracted by novel experiences. He may readily change his values or opinions with differing circumstances. This tendency to seek change has an impulsive quality to it; the male Impostor tends to act "on the spur of the moment," rarely considers the consequences of his actions, and may be emotionally volatile. He has a little need for order in his personal effects or for organization in his environment and tolerates or even enjoys clutter and confusion.

The difference in these two portraits seems to strongly suggest that clinical interventions with Impostors should take very different forms for females and for males. The description above of the IP in females seems to fit well with the original conceptualization of the phenomenon. Female Impostors question their successes and, consequentially, their ability to succeed in the future. This doubt seems to result in anxiety in the face of novel situations and avoidance of new challenges. Female Impostors also tend to be socially introverted and to maintain a high level of interpersonal defendence; this

causes a tendency to move away from others and to resist support when anxious feelings arise.

This tendency to withdraw from others and to resist support may be problematic in the context of therapy. A major task of the therapist is likely to be the cultivation of a therapeutic relationship with the client within which she can feel more free to express her concerns and anxiety. The cognitive distortions involved in IP symptomatology seem to lead women to avoid new situations and create a barrier to further achievement. Addressing these distortions is necessary in order for the client to become more comfortable with future challenges.

Male Impostors, on the other hand, seem to have less of a tendency to isolate from others when anxious. Although they, like their female counterparts, question their past success and share the same doubt about their ability to succeed in the future, these doubts do not impede their pursuit of new challenges. Somehow they seem able to continue to face new tasks despite their doubts, anxieties, and concerns. It seems, therefore, that male Impostors are less likely to present in therapy with issues common among female Impostors such as immobilization in the face of new tasks, anxiety about ability to complete work, or a discrepancy between achievement level and ability.

Male Impostors may deal with their anxieties and concerns by over-achieving or by constantly working to "prove" their ability to themselves or others. When they present in therapy it may more likely be with issues around this drive to do more and constantly to seek new challenges. They may be "workaholics" whose drive to achieve masks an inward doubt about their ability and whose preoccupation with achievement belies chronic feelings of phoniness.

These symptoms seem common in our culture; it is common and even expected that males be preoccupied with achievement and success and the "driven" nature of this preoccupation in male Impostors is likely to be rewarded in our society. Concern with achievement is not similarly rewarded among women; thus, male Impostors may be less likely to seek help with IP symptomatology than female Impostors. When they do, the therapist is likely to encounter underlying cognitive distortions and feelings of doubt and phoniness similar to those encountered in female Impostors. These feelings are likely to be entwined with sex roles for both men and women but, while women may be more likely to experience dissonance with the outer "achieving self," men may be more likely to accept the outer achieving parts of themselves and to experience dissonance with their inner doubts and fears.

Results and the Achievement Literature

As mentioned previously, males and females have been shown to exhibit quite different attitudes towards achievement in general. It follows, then, that the personality differences between male and female Impostors suggested by the results of this study can be better understood in the context of this achievement literature.

Several studies previously discussed seem particularly helpful in understanding these gender differences in IP phenomena. In his exploration of how socialization may differentially affect males' and females' attitudes toward success and failure, Lott (1981) noted that typical modes of play reinforced externalize attributions for females and internalized attributions for males. Hoffman (1974) found that women tend to rely more often on others for recognition of their own success than do men. Deaux (1976) discovered that women tend to make internal attributions for failure and external attributions for success while men tend to do the opposite.

These findings may help explain the gender differences in interpersonal relations that seem to exist in Impostors. Women tend to look to sources outside of themselves for cues when experiencing success; they may give the credit for the success to external factors

(including other people around them) and take the cues from others when evaluating their performance. Success for women is entertwined, then, with relationships and is more likely to be evaluated in an interpersonal context. Men are more likely to perceive success in an intrapersonal context and to interpret it apart from relationship issues.

This may be why IP symptomatology in females is associated with interpersonal distancing, a high level of defendence, and discomfort with social attention. Success and failure issues may be intimately tied to relationships, and conflict around achievement would therefore create conflict in relationships (or perhaps vice versa). As Dingman (1987) found, IP development in women is often related to an achievement level perceived as too high relative to the social environment of the individual. Although male Impostors tend to exhibit a similar defensiveness and sensitivity to criticism, conflict and doubt around achievement issues does not carry the same tie to interpersonal relations or the same association with the social environment.

Other studies seem to relate to the gender differences in risk-taking behavior, reaction to novel situations, and level of impulsivity among Impostors. House's (1974) found that women felt less self-confidence

and achieved at lower levels when in competition with others while men felt more self-confident and showed higher achievement levels in competitive situations. Erkut (1983) noted that traditional achievement motivation is in conflict with feminine sex-role stereotypes and is more likely to produce dissonance in females than in males. Stein and Bailey (1973) found that women tend to be overly cautious in choosing tasks while men tend to be risk-takers.

All of these findings help explain how in the face of IP symptomatology males are more likely than females to go ahead and seek new challenges and novel situations. In traditionally achievement-oriented situations women are more likely to lose self-confidence and to experience intrapersonal dissonance. Female Impostors, prone to self-doubt and anxiety around success and achievement to begin with, may be much more likely to avoid challenges and new achievement-oriented situations than are their male counterparts.

Suggestions for Further Research

The present study has largely employed correlational methods to investigate personality correlates of the Impostor Phenomenon and therefore no causal relationships can be determined. For example, it seems evident that

several facets of the interpersonal relationships of female Impostors are related to the experience of the IP but it cannot be concluded whether or not the relationship issues produce the conflict around achievement, the conflict around achievement produces interpersonal conflict, or neither of these causal relations are true.

It may be hypothesized that whatever relationships exist between personality variables and the IP, they are an outgrowth of the developmental process. It might be interesting, therefore, to examine such personality variables and their relationship to the IP to subjects of different ages. Similarly, since gender differences in the experience of the IP are likely to result from differences in how males and females are socialized around achievement issues, it seems likely that a cross-cultural study of the phenomenon and the gender differences associated with it would cast some light on how socialization, gender, and the IP interact.

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# APPENDICES

## APPENDIX A

### Informed Consent Form

I understand that I am agreeing to participate in a research project that seeks to examine how I perceive my success as a college student. This project is under the direction of James Beard, a graduate student in Georgia State University's Department of Psychology. There is no other sponsorship or funding for this project.

If I choose to participate in the project, I understand that I will be asked to answer a series of questionnaires requesting information typical of studies with college students -- background information, educational progress and goals, and career aspirations -- as well as information on how I perceive various aspects of my personality.

I have been told that there are no known risks or discomfort to me from participation in the project. I also understand that I can address questions or concerns to the experimenter regarding my involvement and that I may end my participation at any time.

I agree to participate with the clear understanding that as an individual I cannot be identified as having participated in this study. I understand that my name will appear only on this page, which will be numerically coded and maintained separately from the questionnaires themselves. I also understand that all data obtained from me will be pooled with data collected from others and that neither my name nor identification number will be used when the results of this research are reported.

I understand that a signed statement of informed consent is required of all participants in this project. My signature indicates that I understand and voluntarily agree to the conditions of participation described above, and have received a copy of this form.

_____

Date

_____

Signature of Participant

_____

Witness

## APPENDIX B

### Clance's IP Scale

For each question, please choose the number that best indicates how true the statement is of you by darkening the appropriate circle on your answer sheet. It is best to give the first response that enters your mind rather than dwelling on each statement and thinking about it over and over. Please be sure to answer every question.

1. I have often succeeded on a test even though I was afraid that I would not do well before I undertook the task.

   1 2 3 4 5
   (not at all) (very true)

2. I can give the impression that I'm more competent than I really am.

   1 2 3 4 5
   (not at all) (very true)

3. I avoid evaluations if possible and have a dread of others evaluating me.

   1 2 3 4 5
   (not at all) (very true)

4. When people praise me for something I've accomplished, I'm afraid I won't be able to live up to their expectations of me in the future.

   1 2 3 4 5
   (not at all) (very true)

5. I sometimes think I obtained my present position or gained my present success because I happened to be in the right place at the right time or knew the right people.

   1 2 3 4 5
   (not at all) (very true)

6. I'm afraid people important to me may find out that I'm not as capable as they think I am.

1 2 3 4 5
(not at all) (very true)

7. I tend to remember the incidents in which I have not done my best more than those times I have done my best.

1 2 3 4 5
(not at all) (very true)

8. I rarely do a project or task as well as I'd like to do it.

1 2 3 4 5
(not at all) (very true)

9. Sometimes I feel or believe that my success in my life or in my job has been the result of some kind of error.

1 2 3 4 5
(not at all) (very true)

10. It's hard for me to accept complements or praise about my intelligence or accomplishments.

1 2 3 4 5
(not at all) (very true)

11. At times, I feel my success has been due to some kind of luck.

1 2 3 4 5
(not at all) (very true)

12. I'm disappointed at times in my present accomplishments and think I should have accomplished more.

1 2 3 4 5
(not at all) (very true)

13. Sometimes I'm afraid others will discover how much knowledge or ability I really lack.

1 2 3 4 5
(not at all) (very true)

14. I'm often afraid that I may fail at a new assignment or undertaking even though I generally do well at what I attempt.

1 2 3 4 5
(not at all) (very true)

15. When I've succeeded at something and received recognition for my accomplishments, I have doubts that I can keep repeating that success.

1 2 3 4 5
(not at all) (very true)

16. If I receive a great deal of praise and recognition for something I've accomplished, I tend to discount the importance of what I've done.

1 2 3 4 5
(not at all) (very true)

17. I often compare my ability to those around me and think they may be more intelligent than I am.

1 2 3 4 5
(not at all) (very true)

18. I often worry about not succeeding with a project or on an examination, even though others around me have considerable confidence that I would do well.

1 2 3 4 5
(not at all) (very true)

19. If I'm going to receive a promotion or gain recognition of some kind, I hesitate to tell others until it is an accomplished fact.

1 2 3 4 5
(not at all) (very true)

20. I feel bad and discouraged if I'm not "the best" or at least "very special" in situations that involve achievement.

1 2 3 4 5
(not at all) (very true)

GEORGIA STATE UNIVERSITY
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