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IDENTIFICATION OF PERFECTIONISTIC COLLEGE STUDENTS

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IDENTIFICATION OF PERFECTIONISTIC COLLEGE STUDENTS

A Thesis Submitted to the Graduate School
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for the Degree of
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By
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An Abstract of the Thesis by
Susan A. Morgan

The purpose of the study was to identify distinctive personality characteristics for perfectionistic college students. One hundred eighty-four graduate and undergraduate students enrolled in psychology and business courses were asked to participate by completing a measure of perfectionism and a personality test. The participants scores were arranged into groups based on their MPS subscale scores. Discriminant analyses revealed 3 separate clusters of variables which predicted perfectionism group membership with surprising accuracy.

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REVIEW OF LITERATURE

Perfectionism is a concept that is familiar to both mental health professionals and the general public. But there is a difference between what the two groups mean when they discuss perfectionism. The general public is usually referring to a degree of perfectionism which is less severe than the type mental health professionals describe. Thus, the perfectionism the public discusses is usually healthy and does not cause the perfectionists many problems but the perfectionism that mental health professionals discuss is unhealthy and leads to many problems for perfectionists. Until recently there was little research into the characteristics and recommended treatment of perfectionism which mental health professionals could utilize when treating their clients. This paper will review the ongoing search for a more precise definition, the growth in research, mental health problems associated with perfectionism, society's positive view of perfectionists, and the need for identification and intervention with perfectionistic college students.

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CHAPTER I

REVIEW OF LITERATURE

Perfectionism is a concept that is familiar to both mental health professionals and the general public. But there is a difference between what the two groups mean when they discuss perfectionism. The general public is usually referring to a degree of perfectionism which is less severe than the type mental health professionals describe. Thus, the perfectionism the public discusses is usually healthy and does not cause the perfectionists many problems but the perfectionism that mental health professionals discuss is unhealthy and leads to many problems for perfectionists. Until recently there was little research into the characteristics and recommended treatment of perfectionism which mental health professionals could utilize when treating their clients. This paper will review the ongoing search for a more precise definition, the growth in research, mental health problems associated with perfectionism, society's positive view of perfectionists, and the need for identification and intervention with perfectionistic college students.

The Search For A Definition

Hollender (1965) noted that perfectionism was frequently discussed in psychiatric and psychoanalytic literature but it was normally mentioned only briefly. He

also pointed out that the definition of perfectionism which was being used was ambiguous. This definition said perfectionism was "the practice of demanding of oneself or others a higher quality of performance than is required by the situation" (English & English, cited in Hollender, p. 94). However in his attempt to clarify the definition he said perfectionism existed when the people themselves characterize their performance as perfectionistic and when most psychiatrists would agree with this depiction. In addition he included in his definition that the perfectionists demand a certain level of performance of themselves and are unaccepting or discontent with anything less than perfection (Hollender). One of the problems with this definition is that many perfectionists do not see themselves as being perfectionistic and thus would not meet Hollender's definition.

Another one of the few articles written in the 1960's and 1970's on this concept was written by Hamachek (1978). He attempted to delineate "normal and neurotic perfectionism." He stated that people who are "normal perfectionists" could also be referred to as skilled artisans, careful workers, or masters of their craft because they derive a real sense of pleasure from their labors and feel free to be less precise as the situation allows. In contrast, neurotic perfectionists are unable to feel satisfaction because they believe they never do things well enough to have the feeling of satisfaction (Hamachek). This

is in agreement with Missildine (1963) who noted that one of the most important distinctions between normal and neurotic perfectionists is that the former feels a deep sense of satisfaction while the latter has a corrosive feeling of "I'm not good enough. I must do better." (Missildine).

According to Hamachek (1978), other important distinctions between normal and neurotic perfectionists include the observations that neurotics demand a higher level of performance than is usually possible to attain. These excessively high standards reduce their chances of success and feeling good about themselves. Normal perfectionists are able to establish performance boundaries based upon their insight into their own limitations and strengths. This knowledge increases their chance for success because their self-expectations are more reasonable and realistic (Hamachek).

Hamachek (1978) also discussed the differences in the motivational components of these two types of perfectionism. He believed that neurotic perfectionists are motivated by a fear of failure which contributes to their tense and deliberate attitude. He described normal perfectionists as being motivated by a desire for improvement which allows them to have a more relaxed attitude (Hamachek).

As Halgin and Leahy (1989) and Pacht (1984) noted, Hamachek's conceptualization of perfectionism into normal and neurotic is problematic. This is because his selection of the word "normal" implies that perfectionistic behavior is

common and that people may benefit from the desire to be perfect. Other authors (Barrow & Moore, 1983; Burns, 1980; and Pacht, 1984) have described Hamachek's neurotic perfectionists as pursuing excellence to an unhealthy extreme. Thus while Hamachek's conceptualization of perfectionism as being on a continuum seems appropriate, it may be more acceptable to change the names of the anchors. The healthy pursuit of excellence could replace the term normal perfectionism and the unhealthy pursuit of excellence could be synonymous with perfectionism.

The current interest in perfectionism began after David Burns, M.D. wrote an article which was printed in Psychology Today in 1980 (King, 1986). In this article, Burns (1980) explored the development and disadvantages of perfectionism, and proposed one form of treatment. Also included was a 10-item test which he developed to identify perfectionistic people so that research could be conducted on this concept. The test is a modified portion of the Dysfunctional Attitude Scale (DAS) and is called the Perfectionism Scale (PS) (Burns).

Burns' (1980) test was based upon his theory of perfectionism. His definition of perfectionists was "those whose standards are high beyond reach or reason, people who strain compulsively and unremittingly toward impossible goals and who measure their own self-worth entirely in terms of productivity and accomplishment" (Burns, p. 34). As can be seen, Burns' contribution to the evolving definition was

recognizing that these people use their productivity and accomplishments to determine their worth.

Three years later Asher R. Pacht emphasized the importance of understanding perfectionism when he chose to write his Distinguished Professional Contribution Award address to the American Psychological Association on perfectionism. He stated that he selected this topic because it is a recurrent theme among the people he sees in his work (Pacht, 1984).

Hewitt and Flett (1990) have been among the first to describe the multidimensional aspects of perfectionism and to develop a test which measured these dimensions. They identified three types of perfectionism which they assess with their Multidimensional Perfectionism Scale (MPS). These types are self-oriented, other-oriented, and socially prescribed perfectionism (Hewitt & Flett).

Self-oriented perfectionists have self-directed perfectionistic behaviors such as setting exacting standards for themselves and rigidly evaluating their behavior (Hewitt & Flett, 1991b). This is what most people would define as perfectionism.

Other-oriented perfectionism is characterized by having unrealistic standards for significant others, placing importance on others being perfect, and rigidly evaluating their behavior (Hewitt & Flett, 1991b). This is similar to the concept of self-oriented perfectionism with the exception that the perfectionistic behavior is directed outward. Other

people that have described this type of perfectionism include Missildine (1963), Burns (1980), and Hollender (1965).

Socially prescribed perfectionism involves the need to achieve standards and meet the expectations that significant others prescribe (Hewitt & Flett, 1991). Thus, these perfectionists believe that significant others have unrealistic standards for them, evaluate them stringently and exert pressure on them to be perfect (Hewitt & Flett).

It has been shown that Burns' PS is most strongly correlated to Hewitt and Flett's self-oriented perfectionism (Hewitt & Flett, 1991b). But the PS is also correlated with other-oriented perfectionism and, to a lesser extent, with socially prescribed perfectionism (Hewitt & Flett).

World-oriented perfectionism is measured by the perfectionism subscale of the Irrational Beliefs Test and is an irrational belief that there are precise, correct, and perfect solutions to all human and world problems (Jones, 1969). Watzlawick (1977) described perfectionism in a similar fashion. Little research has been conducted on this type of perfectionism, but there are studies that have shown that it is a distinct type of perfectionism (Flett, Hewitt, Blankstein & Koledin, 1991; and Hewitt, Mittelstaedt, and Wollert, 1989).

King (1986) divided perfectionism into Type I and Type II. Both types have the same underlying extraordinary aspirations and rigid rules, but they are distinguished by the behaviors the people display. Type I

corresponded with Hewitt and Flett's self-oriented perfectionism while Type II perfectionists are laid back and appear to take life casually. This is a result of their having chosen to eliminate goals because of the stress and frustration that they feel when striving to reach a goal. Because of this decision, they are able to have a more relaxed life than Type I perfectionists. However, they are also confined to their current state of living with no chance for advancement. This is a type of perfectionistic behavior which has been referred to as "paralyzed perfectionism" by Riggs (cited in Alvino, 1982). King stated that approximately 20% of the perfectionists that he has treated would fall into this Type II category.

While most researchers have stated that the essential component of perfectionism is the presence of a rigid standard for performance (Hewitt et al., 1989), some findings contradict this notion. Through factor analysis, Frost, Marten, Lahart, & Rosenblate (1990) developed the Multidimensional Perfectionism Scale (MPS) which should not be confused with the test of the same name developed by Hewitt and Flett. Frost et al.'s MPS measures what these researchers believe to be the five components of perfectionism: concern over mistakes, personal standards, parental expectations, parental criticism, and doubts about actions (Frost et al).

Concern over mistakes is defined as a negative reaction to mistakes, a tendency to see mistakes as

failure and a tendency to believe that they will lose others' respect because they failed (Frost et al., 1990). Personal standards describes the setting of very high standards and placing excessive importance on these standards for the purpose of self-evaluation. Parental expectations represents the tendency to believe one's parents set excessively high goals. Parental criticism is defined as perceiving one's parents as being overly critical. Doubting of actions is the tendency to feel that tasks are not satisfactorily completed. The MPS also measures a separate but related dimension called organization which represents a tendency to be orderly. Research has shown that organization is not a main component of perfectionism (Frost et al.).

By using their MPS, Frost et al. (1990) concluded that the central component of perfectionism is concern over mistakes. Frost et al. have been the first to make this assertion which led to their re-defining perfectionism as the setting of excessively high standards for performance accompanied by overly critical self-evaluation (Frost et al.). Others have described overly critical evaluative tendencies in perfectionists. For example, Hamachek (1978) described an overconcern with mistakes while Burns (1980) and Pacht (1984) emphasized the importance that fear of mistakes plays in perfectionism.

A recent study, using both Hewitt and Flett's MPS and Frost et al.'s MPS, appeared to lend support to Hamachek's (1978) conceptualization of neurotic and normal perfectionism

(Frost, Heimberg, Holt, Mattia, & Neubauer, 1993). Hewitt and Flett's (1991) self-oriented and other-oriented perfectionism combined with Frost et al. (1990) personal standards and organization to form a factor which has the positive aspects of perfectionism. They named this factor, which corresponds to Hamachek's normal perfectionism, "positive strivings." The negative aspects of perfectionism were represented by a cluster of Hewitt and Flett's socially prescribed perfectionism and Frost's et al. concern over mistakes, parental criticism, parental expectations, and doubts about actions. This factor, which was named "maladaptive evaluation concerns," corresponds to Hamachek's neurotic perfectionism (Frost et al.).

Problems

Pacht (1984) believes that the striving for nonexistent perfection keeps people distressed and is associated with a significant number of maladaptive psychological diagnoses. There have been a number of forms of maladjustment which have been linked to perfectionism which include various types of evaluative anxiety such as test and social anxiety (Barrow & Moore, 1983), obsessive-compulsive characteristics, personality disorders, and alcoholism (Hewitt & Flett, 1991b).

In addition to these problems there are a large variety of physically-related problems that have been linked to perfectionism. These include coronary heart disease (Smith & Brehm, 1981), anorexia nervosa (Druss & Silverman, 1979),

erectile dysfunction (Quadland, 1980), migraine headaches (Burns, 1980), atypical face pain (Smith et al., 1969), irritable bowel syndrome and abdominal pain (Pacht, 1984).

Although Burns (1980) was the first to report the link between depression and perfectionism, it is Hewitt and Flett who have done much of the research on this relationship. In fact they found that greater levels of depression were associated with a greater need to be perfect (1990). They have also consistently found that self-oriented and socially prescribed perfectionism were positively related to depression symptoms in college students (Hewitt & Flett, 1989, 1990, & 1991).

Society's View

If perfectionism contributes to such a variety of psychological and physiological problems, then why was perfectionism not studied earlier? One of the main reasons is that perfectionism is a cultural phenomenon that Burns (1980) believes is reinforced by "language patterns, the media, and religious beliefs." Hollender (1965) noted that it is not surprising that perfectionism was not studied earlier because perfectionists are likely to be careful workers who perform services and produce items that society values. Barrow and Moore (1983) agree that culture views perfectionism positively and note the emphasis on achievement and perfection in our educational system.

The extent to which perfectionism is viewed positively

in our society is revealed by King (1986). He had developed a group treatment approach for perfectionists which he advertised as a "Perfectionism Group". He had to change the name to "Overcoming Perfectionism" because students wanted to join to learn how to become perfectionists (King).

Identification and Intervention

It is important to identify perfectionism during the college years because of its relationship to suicide in students (Halgin & Leahy, 1989) and because this is a time when perfectionists are often open to changing their perfectionistic thinking and behavior (Barrow & Moore, 1983).

Mental health professionals have been concerned about the number of suicides and suicide attempts by college students. One of the contributing factors which has been identified as related to suicide attempts is perfectionism (Halgin & Leahy, 1989). However, because perfectionism is often concealed as "working hard in order to excel" or as being a "high achiever" it usually goes undetected and untreated (Halgin & Leahy).

Another reason that perfectionism may go undetected and untreated is that students rarely seek treatment for perfectionism (Halgin & Leahy, 1989). They usually present with problems that accompany perfectionism such as interpersonal difficulties, inefficiency, procrastination, depression, and anxiety (Halgin & Leahy).

Barrow and Moore (1983) believe that the likelihood for

change is great at this age because the students are in a developmental stage in which they are questioning various beliefs in their struggle to establish their own identities. Perfectionism may come under scrutiny and become open to change during this process. Another reason that they believe change is likely is that the college workload is often more demanding in terms of quantity and level of difficulty compared to high school. Thus, students may see that perfectionism is increasingly stressful in the new environment and desire a change (Barrow and Moore).

It is also important to realize that other investigators believe that some people develop perfectionism because of their interactions with perfectionistic parents (Barrow & Moore, 1983; Burns, 1980). Thus, if mental health professionals can identify perfectionistic college students and help them to break the pattern of perfectionism before they have children, this could benefit two generations. The first would be the individuals receiving treatment and the second would be some future children who would not be raised by perfectionistic parents (Barrow & Moore).

Summary

Perfectionism is a concept that is widely recognized by the general public but is not well understood by the professionals. It was only recently that research has begun to uncover a more accurate definition of perfectionism and to identify the varied problems associated with perfectionism. Identifying perfectionistic college students is important

because they may be open to modifying their behavior and may be experiencing increasing distress in their environment.

CHAPTER II

INTRODUCTION

For most students the college years are a time of excitement because of the new experiences, and the increased independence and responsibility. But for some students college can become overwhelming because they are emotionally unprepared for the stresses of college (Halgin & Leahy, 1989). These people have increasingly chosen to commit suicide because they are unable to cope with the stress (Halgin & Leahy).

One group of students who may be unprepared for the stresses of college are perfectionists (Halgin & Leahy, 1989). Although they are successful in academics, perfectionists may attempt or commit suicide because they feel "too much pressure" or feel "helpless." This finding helps to explain the overrepresentation of intelligent and gifted people who have committed suicide. These people, who are often perfectionistic, may be commonly referred to as individuals who "had it all" and their deaths often leave people puzzled as to why they would resort to suicide when they seemed to have so much. Professionals at college counseling centers can no longer believe that student suicides occur solely because of failed relationships or poor grades. Perfectionists must be identified and treated to help reduce the number of suicide attempts on college campuses (Halgin & Leahy).

Often professionals do not need to look far to find perfectionists. These people do seek treatment but it is usually for the problems that accompany perfectionism such as interpersonal difficulties, inefficiency, procrastination, depression, and anxiety (Halgin & Leahy, 1989). Thus, if professionals do not consider the presence of perfectionism, treatment may be ineffectively focused on the presenting problems when the focus should be on the underlying perfectionism which created the presenting problems.

Another important reason to identify perfectionistic college students is that by working on ineffective coping styles before they become an inflexible part of the personality these people may be able to avoid future crises (Barrow & Moore, 1983). This may increase the chance for successful treatment. Another factor which may increase the success of treatment is that college students are in a developmental stage in which they may be open to changing their coping styles (Barrow & Moore).

Thus if perfectionistic college students can be found to have a distinctive profile on a test commonly administered in college counseling centers, they can be identified and treated. To accomplish this, Hewitt and Flett's MPS and Cattell's 16PF will be utilized.

Hewitt and Flett's MPS was chosen over Frost et al.'s MPS because of the extensive research that they have conducted on their MPS. This research includes cross-

validation with other measures of perfectionism and personality. They have also reported test-retest reliabilities of .88 for self-oriented perfectionism, .85 for other-oriented perfectionism, and .75 for socially prescribed perfectionism. Cronbach's alpha are .86 for self-oriented perfectionism, .82 for other-oriented perfectionism, and .87 for socially prescribed perfectionism. They have also concluded that their three types of perfectionism are observable to others and are not strongly influenced by response bias (Hewitt & Flett, 1991b).

It is proposed that the MPS's three types of perfectionism will be related to specific scales of Cattell's Sixteen Personality Factors Questionnaire (16PF). Cattell believed that the 16PF scales measure "a person's characteristic style of thinking, perceiving, and acting over a relatively long period of time and in a wide range of different situations" (Birkett-Cattell, 1989, p. 2). The 16PF Form A is a self-report 187-item paper-pencil test with the sixteen factors commonly being identified by a letter.

The quantity of references for this test is second only to the MMPI (Lanyon & Goodstein, cited in Wholeben, 1985). It has been described as comparing favorably to any other instrument that claims to assess normal personality functioning (Bolton, 1978).

The 16PF scales which might be expected to be related to perfectionism include a high Q3, (which has been described as representing conditional self-regard and being

perfectionistic) and a high Q4, (which represents someone who is tense and driven). Low self-esteem, which several have linked to perfectionism, (Burns, 1980; King, 1986) could be represented by a high O. A low F score is associated with being serious, cautious and fearful of making mistakes. This fear of mistakes has been described by Frost et al. (1990) as the central component of perfectionism. A high G score is representative of being determined and moralistic. These are characteristics that King (1986) and Burns (1980) have linked to perfectionists. An average to low score on Factor C would be expected because a high C is described as lacking perfectionism (Cattell, 1989). A low I score might be expected because it represents someone who constricts their emotions, and has difficulties in interpersonal relationships, which are characteristics that Burns (1980), King (1986), and Halgin and Leahy (1989) have described as being common in perfectionists. The meaning of high and low scores on all of the 16PF scales can be found in the appendix.

CHAPTER III

METHODS

Participants

One hundred eighty-four Pittsburg State University students voluntarily participated in the study. The undergraduate students were from Developmental Psychology, Applied Psychology, Intermediate Accounting II and Intermediate Accounting III. Graduate student participants were from Accounting Theory II and there were both undergraduate and graduate participants from the Psychology of Exceptional Children class. The students' assistance was solicited during class time with no coercion or reward given to obtain their cooperation. All interactions with the participants were approved by the Rights of Human Subjects committee. There were 37 protocols which were not used in the analyses because of double marked or omitted items on either the MPS or 16PF. Three other protocols were rejected because the 16PF's validity scales indicated that the tests were invalid on both the fake good and fake bad scales. This resulted in a total of one hundred forty-four participants whose data was included in the analyses. There were 92 females, 49 males and 3 participants who did not indicate their gender.

Materials

The Multidimensional Perfectionism Scale (MPS) developed

by Hewitt and Flett was used to assess the presence of three perfectionistic beliefs. The 45-item self-report instrument measures self-oriented, other-oriented, and socially prescribed perfectionism. Participants rated their agreement with the statements on a seven-point scale with higher scores representing greater perfectionism.

Cattell's 16PF was used to measure the personalities of participants. A profile consisting of 16 factors was developed based upon their responses. Form A is a self-report 187-item forced-choice paper-pencil test.

Procedure

The students were informed of their rights as participants in accordance with the guidelines set by the Rights of Human Subjects Committee of the Department of Psychology and Counseling. They were then told that if they chose to participate they would be assigned a random identification number that would guarantee confidentiality would be maintained. It was emphasized that their names would not be used in the research. They were given the phone numbers of both the investigator and the supervising instructor so that any questions they might have at a later time could be answered. After completing a consent form, participants completed the measures in a classroom with the tests being counterbalanced to control for order effects. The two tests took forty-five to sixty minutes to complete.

All of the perfectionism tests were computer scored to identify those participants whose scores fell in the top

third and the bottom third of the sample for each of the three types of perfectionism. Then these participants' 16PF's were scored. Forty-five 16PF's had scales that were corrected because the tests' validity scales fell into either the fake good or fake bad category. The scales which needed to be corrected were identified by looking at the fake good or fake bad sten score of each test and then following the 16PF correction guidelines for that fake bad or fake good sten score (Krug, 1978). Because raw scores were going to be used in the analyses to avoid using sten scores, the corrections were made by first looking at the appropriate norm table to find the sten score for the scale to be corrected. Then the number of raw score points were added to or subtracted from the original raw test score to move the raw score into the appropriate corrected sten score category. When there were a range of raw scores listed for a sten score, the identification of the appropriate number of raw score points which were added or subtracted was done through extrapolation. For example, if the original raw test score fell at the higher end of a sten score's range of raw scores, enough points were added or subtracted to place the score at the higher end of the range of raw scores of the appropriate sten score. A discriminant analysis was conducted to determine what 16PF factors are essential for distinguishing perfectionists from non-perfectionists. It was expected that a high Q3 and Q4, an average to low C, and a low F would be found in both self-oriented and socially prescribed

perfectionists. A high O and G, and a low I were expected for all three types of perfectionism.

CHAPTER IV

Results and Discussion

The means and standard deviations of MPS scores for all of the participants of this study and Hewitt and Flett's 1991b study are in Table 1. As can be seen, this study's results are similar to Hewitt and Flett's. All of the participant's scores were arranged into groups based on their MPS subscale scores. The self-oriented perfectionism (SOP) group was comprised of those individuals whose scores were in the top or bottom third on the SOP scale. The other-oriented perfectionism (OOP) group was comprised of those individuals whose scores were in the top or bottom third on the OOP scale. The socially prescribed perfectionism (SPP) group was comprised of those individuals whose scores were in the top or bottom third on the SPP scale.

The 16PF raw scores for each perfectionism group were entered into three linear discriminant analyses, one per perfectionism group, to see how accurately these 16PF variables would identify perfectionism membership. For the discriminant analyses that assessed group membership only the first canonical variates were retained.

The correlation matrix of the 16PF variables for the SOP group can be seen in Table 2. The strength of the variables' relationships ranged from insignificant to significantly correlated. The total structure coefficient for SOP can be seen in Table 3. This variate had a canonical correlation of

Table I

Means and Standard Deviations of the MPS Subscales

	SOP		OOP		SPP	
Study	M	SD	M	SD	M	SD
Current	68.13	14.53	57.39	10.75	53.31	12.82
Hewitt and Flett (1991) Study 2 n = 1106	68.00	14.95	57.94	11.74	53.62	13.85

Table II

Correlation Coefficients for the 16PF/SOP Discriminant Analysis

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. A	--	.04	.06	.09	.41	.08	.41	.26	.03	.08	.01	.01	.20	.33	.02	.18
2. B		--	.18	.14	.21	.06	.15	.03	.04	.06	.40	.04	.02	.04	.05	.02
3. C			--	.27	.23	.08	.39	.03	.18	.14	.20	.52	.07	.16	.07	.47
4. E				--	.46	.07	.46	.09	.39	.17	.42	.13	.23	.10	.09	.18
5. F					--	.02	.66	.13	.20	.05	.34	.12	.12	.40	.01	.13
6. G						--	.08	.11	.03	.22	.16	.06	.15	.12	.53	.01
7. H							--	.21	.15	.02	.25	.35	.03	.34	.10	.05
8. I								--	.21	.30	.09	.09	.18	.11	.08	.11
9. L									--	.25	.24	.34	.16	.06	.21	.24
10. M										--	.01	.12	.06	.20	.03	.26
11. N											--	.05	.15	.05	.26	.17
12. O												--	.08	.08	.25	.48
13. Q1													--	.14	.16	.10
14. Q2														--	.04	.01
15. Q3															--	.20
16. Q4																--

Note. Coefficients above .20 are significant at $p < .05$; those above .38 are significant at $p < .001$.

Table III

Total Structure Coefficients for the Variables in the 16PF/SOP Discriminant Analysis

	Structure coefficients
Variable	SOP
A	0.284
B	0.118
C	0.226
E	0.229
F	0.197
G	0.619
H	0.085
I	0.131
L	0.448
M	0.314
N	0.106
O	0.338
Q1	0.117
Q2	0.069
Q3	0.221
Q4	0.451

.55, $F(16, 78) = 2.15$, $p < .01$ for SOP. There are three moderately loaded 16PF variables for the SOP variate. Those variables, which discriminated between high scorers and low scorers on the SOP scale, were G, L, and Q4. As can be seen in Table 4, higher scores on the SOP were associated with higher scores on G, L, and Q4. People who score high on G may be described as responsible, moralistic, and determined. High scorers on L may be described as suspicious, jealous, and skeptical. Individuals scoring high on Q4 may be described as tense, frustrated, and driven. The classification based on the discriminant analysis was surprisingly accurate (Table 5). Only 2 of the HSOP group and 7 of the LSOP group were incorrectly classified.

The correlation matrix of the 16PF variables for the OOP group can be seen in Table 6. The strength of the variables' relationships ranged from insignificant to significantly correlated. The total structure coefficient for OOP can be seen in Table 7. This variate had a significant canonical correlation of .54, $F(16,77) = 1.94$, $p < .03$ for OOP. There are three moderately loaded variables for the OOP variate. Those 16PF variables, which discriminated between high and low scores on the OOP scale, were A, E, and L. As can be seen in Table 8, higher scores on these scales were associated with higher scores on the OOP scale. People who score high on A may be described as warm, outgoing, and good-natured. High scorers on E may be described as assertive, competitive, and stubborn. Individuals scoring high on L may

Table IV

16PF Scale Means for High and Low Scorers on SOP (n = 95)

	HSOP	LSOP
A	10.91	9.82
B	7.91	7.63
C	14.20	15.08
E	14.11	13.14
F	16.74	15.65
G	12.46	9.94
H	13.87	13.33
I	11.70	12.27
L	10.35	8.80
M	10.17	11.39
N	9.54	9.20
O	13.17	11.86
Q1	9.24	8.94
Q2	11.00	10.73
Q3	12.09	11.35
Q4	16.85	14.78

Note. HSOP = high scorers on SOP; LSOP = low scorers on SOP.

Table V

Summary of the Discriminant Analysis Classification for SOP

	Predicted perfectionism group membership	
Perfectionism group	HSOP	LSOP
HSOP	44	2
LSOP	7	42

Note. HSOP = high scorers on SOP; LSOP = low scorers on SOP.

Table VI

Correlation Coefficients for the 16PF/OOP Discriminant Analysis

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. A	--	.04	.08	.10	.33	.18	.44	.24	.04	.12	.07	.05	.26	.34	.04	.17
2. B		--	.07	.09	.15	.07	.03	.21	.09	.08	.24	.01	.01	.00	.02	.10
3. C			--	.18	.10	.10	.33	.02	.25	.16	.03	.52	.01	.14	.11	.49
4. E				--	.53	.19	.52	.06	.21	.09	.50	.23	.23	.27	.14	.12
5. F					--	.07	.67	.00	.11	.04	.39	.21	.13	.46	.01	.04
6. G						--	.03	.01	.16	.12	.32	.08	.21	.03	.50	.05
7. H							--	.13	.02	.10	.24	.44	.03	.42	.09	.15
8. I								--	.17	.16	.05	.13	.23	.05	.02	.09
9. L									--	.25	.33	.41	.12	.01	.27	.38
10. M										--	.05	.19	.02	.20	.10	.41
11. N											--	.01	.24	.09	.27	.18
12. O												--	.01	.13	.29	.53
13. Q1													--	.05	.09	.10
14. Q2														--	.03	.02
15. Q3															--	.20
16. Q4																--

Note. Coefficients above .20 are significant at $p < .05$; those above .38 are significant at $p < .001$.

Table VII

Total Structure Coefficients for the Variables in the 16PF/OOP Discriminant Analysis

	Structure coefficients
Variable	OOP
A	0.437
B	0.001
C	0.055
E	0.608
F	0.291
G	0.120
H	0.300
I	0.343
L	0.476
M	0.267
N	0.234
O	0.159
Q1	0.073
Q2	0.305
Q3	0.023
Q4	0.362

Table VIII

16PF Scale Means for High and Low Scorers on OOP (n = 94)

	HOOP	LOOP
A	11.27	9.80
B	7.71	7.71
C	14.43	14.64
E	14.80	12.16
F	16.92	15.31
G	11.82	11.31
H	15.04	13.11
I	11.08	12.56
L	10.16	8.56
M	9.86	10.80
N	9.04	9.76
O	11.86	12.49
Q1	8.96	8.76
Q2	9.90	11.02
Q3	12.04	12.11
Q4	16.61	14.89

Note. HOOP = high scorers on OOP; LOOP = low scorers on OOP.

be described as suspicious, jealous, and skeptical. The classification based on the discriminant analysis was surprisingly accurate (see Table 9). Only 1 of the HOOP and 4 of the LOOP were incorrectly classified.

The correlation matrix for the 16PF variables for the SPP group can be seen in Table 10. The strength of the variables' relationships ranged from insignificant to significantly correlated. The total structure coefficent for SPP can be seen in Table 11. This variate had a significant canonical correlation of .58, F (16,77) = 3.52, $p < .0001$ for SPP. There are three moderately loaded 16PF variables for the SPP variate. These variables, which discriminated between high and low scores on SPP, were C, L, O, and Q4. As can be seen in Table 12, high scores on L, O, and Q4, and low scores on C were related to higher scores on the SPP. People with high scores on L may be described as suspicious, jealous, and skeptical. High scorers on O may tend to be apprehensive, guilt-prone, and insecure. Individuals with high scores on Q4 may be described as tense, frustrated, and driven. Low scorers on C may be described as being affected by feelings and easily annoyed. The classification based on the discriminant analysis was surprisingly accurate with only 2 of the HSPP and 6 of the LSPP inaccurately classified (Table 13).

The results supported some of the hypotheses. The hypotheses that a high Q4 for SOP and SPP, and an average to low C for SPP were supported by the data. A high O and G

Table IX

Summary of the Discriminant Analysis Classification for OOP

	Predicted perfectionism group membership	
Perfectionism group	HOOP	LOOP
HOOP	48	1
LOOP	4	41

Note. HOOP = high scorers on OOP; LOOP = low scorers on OOP.

Table X

Correlation Coefficients for the 16PF/SPP Discriminant Analysis

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. A	--	.06	.02	.12	.43	.04	.39	.19	.01	.14	.03	.12	.25	.38	.06	.20
2. B		--	.10	.05	.04	.09	.05	.04	.27	.11	.38	.10	.12	.04	.06	.11
3. C			--	.23	.23	.12	.44	.05	.20	.15	.18	.50	.03	.24	.06	.52
4. E				--	.53	.16	.53	.05	.23	.02	.44	.27	.23	.15	.12	.08
5. F					--	.17	.66	.00	.13	.00	.36	.28	.16	.50	.09	.01
6. G						--	.03	.04	.10	.18	.23	.09	.19	.01	.52	.01
7. H							--	.12	.04	.14	.30	.47	.06	.40	.08	.16
8. I								--	.18	.30	.02	.12	.18	.02	.10	.06
9. L									--	.25	.10	.37	.03	.05	.29	.32
10. M										--	.13	.05	.09	.16	.11	.15
11. N											--	.07	.25	.03	.30	.15
12. O												--	.06	.15	.29	.47
13. Q1													--	.04	.00	.03
14. Q2														--	.15	.04
15. Q3															--	.20
16. Q4																--

Note. Coefficients above .20 are significant at $p < .05$; those above .38 are significant at $p < .001$.

Table XI

Total Structure Coefficients for the Variables in the 16PF/SPP Discriminant Analysis

	Structure coefficients
Variable	SPP
A	0.149
B	0.273
C	0.645
E	0.113
F	0.117
G	0.116
H	0.321
I	0.433
L	0.610
M	0.276
N	0.182
O	0.657
Q1	0.015
Q2	0.223
Q3	0.118
Q4	0.560

Table XII

16PF Scale Means for High and Low Scorers on SPP (n = 94)

	HSPP	LSPP
A	10.42	11.08
B	7.27	8.02
C	13.20	16.35
E	13.42	14.00
F	15.91	16.71
G	11.58	10.98
H	13.11	15.65
I	10.78	13.10
L	10.78	8.10
M	9.64	10.88
N	9.91	9.18
O	13.56	10.47
Q1	8.64	8.59
Q2	11.22	10.22
Q3	11.22	11.63
Q4	17.38	14.35

Note. HSPP = high scorers on SPP; LSPP = low scorers on SPP.

Table XIII

Summary of the Discriminant Analysis Classification for SPP

	Predicted perfectionism group membership	
Perfectionism group	HSPP	LSPP
HSPP	43	2
LSPP	6	43

Note. HSPP = high scorers on SPP; LSPP = low scorers on SPP.

were hypothesized for all three types of perfectionism but the results revealed a high O for only SPP and a high G for only SOP. Hypotheses which were not supported include a low F and high Q3 for SOP and SPP, a low C for SOP, and a low I for all three types of perfectionism. As noted, it was expected that Q3, which is a measure of perfectionism, would be related to SOP and SPP but it did not discriminate between high and low scorers on any of the measures of perfectionism. This is noteworthy if clinicians use this scale as an indicator of the presence of perfectionism and falsely conclude that a client does not have perfectionistic tendencies because the Q3 score is low. An erroneous conclusion like this could deter a therapist from exploring the presence of perfectionism with a client. While there is the possibility that Q3 is measuring another type of perfectionism, it does not appear to measure one of the types the MPS is designed to assess.

These results suggest that there are indicators of perfectionism which may aid the clinician in exploring the possibility of perfectionistic tendencies in clients. When clinicians see high scores on the 16PF scales of G, L, and Q4, they may want to consider the possibility of SOP. If clients have high scores on A, E, and L, the clinicans may want to rule out the presence of OOP. This would seem to be particularly important with those in managerial or supervisory positions. Perhaps most importantly, when the clinicians see a low score on C, and high scores on L, O, and

Q4 the presence of SPP should be considered. This is an important type of perfectionism to consider because of its relationship to maladaptive concerns. A consistent finding for all three types of perfectionism was that these people may be suspicious and skeptical. This represents an area that clinicans may want to be aware of when dealing with these clients and formulating their individualized treatment.

Further research could be conducted with larger samples to see if these findings are consistent in other parts of the country with more racially diverse populations. Also a study could be conducted in college counseling centers utilizing the 16PF factors which discriminated between high and low scorers on the perfectionism scales to see how successfully those scales identify perfectionists.

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APPENDIX

Meaning of High and Low Scores on 16PF Scales

Scale	Low Scores	High Scores
A	Cool, Reserved, Impersonal	Warm, Outgoing, Good-Natured
B	Concrete-thinking	Abstract-thinking
C	Affected by Feelings, Easily Annoyed	Emotionally Stable, Mature
E	Submissive, Humble	Assertive, Competitive, Stubborn
F	Serious, Cautious, Fears Making Mistakes	Enthusiastic, Spontaneous
G	Disregards Rules, Self-Indulgent	Responsible, Determined, Moralistic
H	Hesitant, Shy	Venturesome, Bold
I	Tough-minded, Self-reliant	Sensitive, Intuitive
L	Trusting, Easy to get along with	Suspicious, Jealous, Skeptical
M	Practical	Imaginative
N	Forthright	Shrewd
O	Self-assured, Secure	Self-blaming, Guilt-prone
Q1	Conservative	Experimenting
Q2	Group-oriented	Self-sufficient
Q3	Undisciplined, Lax	Socially Precise, Compulsive
Q4	Relaxed, Low Drive	Tense, High Drive