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THE UNIVERSITY OF ALBERTA

OCCUPATIONAL CHOICES AND EARLY FAMILY RELATIONSHIPS

by

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A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

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THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled OCCUPATIONAL CHOICES AND EARLY FAMILY RELATIONSHIPS

submitted by SAMUEL HAZANOVITZ-JORDAN

in partial fulfilment of the requirements for the degree of Master of Education

G. W. T. H. Fleming
Supervisor

Thomas O. Maguire

Hugo R. Theal

Date 24 April 1980

I would like to dedicate this work to my beloved ones: Naomi - my wife, David - my son, Nathan and Malca - my parents. They have earned all the rights to it if only because they have suffered the most from its side effects.

ABSTRACT

Holland's occupational factors were taken to represent archi-types of sexual identity in a new theoretical approach presented in this research. A sample of 132 students were interviewed and the early relationships with their parents and other significant adults were traced. Subsequently, ratings of femininity and masculinity were established for each individual; the two ratings reflected early relationship of closeness and respect with male and female parental figures. It was found that, regardless of sex: (a) individuals more identified with mother-figure have more prominence of *Social-Artistic* inclinations than *Realistic-Intellectual* ones, (b) individuals more identified with father-figure have more prominence of *Realistic-Intellectual* inclinations than *Social-Artistic* ones, (c) individuals highly identified with both mother- and father-figures have more *Enterprizing* inclinations than individuals with different patterns of identity, and (d) *Conventional* inclination is a product of a not-as-yet-clear denial conflict of sexual identity.

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There is no question in my mind that if it were not for Dr. George Fitzsimmons - my thesis supervisor - this piece of research and theory would have been hardly possible. He backed me wholeheartedly in what will most probably become a controversial issue. For his letting me the free use of his vast knowledge in the Vocational field and for his encouragement there is no simple "thank you".

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Dr. Henry Ziel, the third member of my committee and a recent acquaintance is also a man with a considerable talent to induce instant liking for him.

I have been honored to have these three men as the first audience of my work.

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PURPOSE AND OUTLINE

The work presented here is a product of a theoretical and experimental effort that was designed to answer one preplexing question: Why and how do people choose different careers and occupations.

The question is important because we may not have a coherent psychological understanding without an answer to such a question. It is also a perplexing question because, surprisingly enough, after 52 years of research in the Vocational Psychology field we have not obtained an answer to it; at least not a developmental answer.

The experimental findings contained in this work indicate functional correspondences between early family relationships on the one hand and stable occupational selection trends on the other hand. Taken in their totality they seem to contain for us an emerging answer. However, this answer is inseparable from the particular theoretical bias that was instrumental in generating these findings.

As a result of the need to present experimental findings that constitute an integral part of our theoretical understanding of identity as a symbolic process, our work assumed a structure that we hope is adequate for such a presentation. In Chapter I, titled "Theoretical Introduction" we first outlined the basic empirical facts of the vocational field that deserve the attention of any prospective theory. Subsequent to that we focused our attention on J. Holland's account of basic occupational dimensions; an account that is widely held as the most significant breakthrough in the vocational field since Strong's discovery of the correspondence between occupations and patterns of interests. The impressive support that Holland's

factors have generated, and the consistency by which predictions that match people and occupations has been confirmed on the basis of his classification; compelled us to veiw these factors as part of the basic facts of the vocational field. Indeed these factors which on the one hand indicate selective series of occupations and on the other hand signify personal attractions to such series of occupations were the very phenomena that we sought explanation for.

For the sake of simplicity of exposition we have left only the description of Holland's model in the Theoretical Introduction whereas the review of the literature which deals extensively with the wide scale research of Holland's model is to be found in the Appendices. Since we felt that the various findings that have established the reputation of Holland's classification make for a tedious reading, we thought it wise to remove them from the body of the work. We would like to refer the critical reader to carefully examine our lengthy Appendices in order for him to have a clear idea of the explanatory strength and limits of Holland's factors.

In the last part of the Introduction we outlined our understanding of the symbolic-developmental process that makes ego-identity the mirror of early family relationship and at the same time a projector of occupational trends.

In the next chapter - Methodology - we employed a detailed description of measurements and instruments, subjects and procedures so that possible replications of this study will face minimal ambiguities.

Our third chapter - Results and Interpretations - is highly descriptive of the derivative hypotheses that led to the particular

choices of various patterns of identifications as our independent variables. In this sense it is an amplification of our theoretical journey. The chapter is structured in the chronological order of this journey since we felt it also to be its logical order.

Our subsequent chapter of Discussion is a simple progression of our theoretical exposition involving richer impressionistic data as well as references to individual case studies. The same also applies to the last chapter - Implications - where future research possibilities are presented and where we briefly conjecture about the possible relationships between intellectual strategies, sexual identity and occupational trends.

There are five appendices: Appendix I deals with evidence concerning the validity of Holland's typology.

Appendix II describes the evidence concerning the explanatory limits of Holland's typology.

Appendix III demonstrates the unpredictability and weakness of the motivational aspects of Holland's typology.

Appendix IV contains all the evidence that demonstrates the unrelatedness of Holland's factors to those personality dimensions that are more dynamic and amenable to change.

Appendix V presents all the evidence linking Holland's typology to other personality measures which stand in a corroborative relationship to our findings.

While the body of our work serves the purpose of generating insight by symbolic analysis of identity and its relationship to our findings, the Appendix is couched in the conventional scientific terminology. It is a more technical and involved reading and it

leaves the reader to form his own opinion.

THEORETICAL INTRODUCTION

A radically new understanding of what is involved in occupational choice and professional identity is reflected in the research presented in this paper. Consequently, we will have first to take a broad look at what it is that we seem to know in vocational psychology.

The basic facts are these:

1. Human beings who choose a particular occupation tend to have a similar pattern of "likes" and "dislikes". These patterns were referred to as "patterns of interests".

2. In most cases, patterns of interest crystalize anywhere between early and late adolescence.

3. Once crystalized, patterns of interests show remarkable stability and provide one of the most stable dimensions of personality (e.g., a person who likes music will tend to retain his love for music for the rest of his life). (Campbell 1974).

4. Men and women, treated as groups, show systematic differences in patterns of interests and occupational preferences. These differences were not affected by social changes of modern time. (Campbell 1974).

The field of vocational psychology is empirically based on the patterns of interests peculiar to many occupations that were initially discovered by Strong (1927). Interest tests incorporated various "likes" and "dislikes" and the study of those items is most revealing of the nature of the phenomena with which vocational psychology is dealing. What is much less known is how patterns of interests and occupational preferences are formed.

There have been several consequences to this ignorance. First,

modern vocational counseling is strongly couched in "decision-making" terminology. Second, to people who do not seem to know what occupation to choose, vocational counselors impute either lack of knowledge or lack of proper "decision-making" strategy. Consequently there are three main ways to help these people: (a) Give them more information about various occupations, (b) Administer to them an interest test that will hopefully indicate what occupation their pattern of interests most resemble, and (c) Engage them in proper "decision-making strategy". There has been no realization that our happiest non-customers, those who always seemed to "know their calling in life", also seemed to have never made any decisions about it. There was no realization that in many if not most cases, occupational indecision is also remarkably stable throughout life. And there was no realization of what are the motivational aspects of "not knowing".

Another far reaching consequence of our lack of insight into what is developmentally responsible for the formation of interests, concerns the issue of differences between men and women. Stereotypic differences of occupational preferences between men and women are taken to be some kind of superstitions - an uncomfortable disturbance. Vocational psychologists in modern time are all contributing their efforts to remove this "noise" from their field of phenomena.

We shall hope to show that this "noise" is our best bet in gaining fundamental understanding into the formation of occupational preferences and interests.

In recent years major attention was drawn to Holland's vocational theory (1966). Based on Guilford's (1954) huge factor analysis of human interests it names six primary factors. These factors in

circular related fashion are: *Realistic, Intellectual, Artistic, Social, Enterprizing* and *Conventional*. Holland proceeded to describe any person and any occupation by using any three of the six factors, and his main prediction that people thus described will end up in corresponding occupations has generated much support in wide scale research (Appendix I). Holland's main bold step was to treat the six factors as indicators for six pure personality types or aggregates of traits. The adjectives he used to describe the six personality types were confirmed as genuine descriptions by subjects' self descriptions (Appendix I). Thus it became possible at last in vocational psychology to talk safely about "personality" instead of "pattern of interests". We recognize now that an auto-mechanic is mainly *Realistic* type, a biologist is an *Intellectual* type, an elementary teacher is a *Social* type, a musician is an *Artistic* type, a business executive is an *Enterprizing* type, and a bank-teller is a *Conventional* type. Moreover, any set of three factors in hierarchical order can be used to describe the more unique characterization of an occupation or a person. Hundreds of occupations were organized by one conceptual scheme and a great chaos was reduced to considerable order.

Holland's main instrument: The Vocational Preference Inventory (VPI) is used to describe any person's profile on the six factors according to how many occupations he indicates that he "likes" from each of the six categories. A person's three highest standardized scores on the VPI are used to describe both him and the occupations that are indicated for him.

Still, with all this immense progress, we have no clue yet as to how these personality types are formed. Holland's attempt to construct

individual predictions of occupational conflict, satisfaction and likelihood-to-enter-predicted-job, based on various shapes of VPI profiles has failed to generate consistent research confirmation. (See Appendix III.) The motivational weakness of Holland's model is underscored by his reference to any developmental research as "a journey into a minefield".

In this context one must try to comtemplate the basic facts mentioned earlier and the predictive success of Holland's factors. What sense do they make together? How can we account for the splendid isolation of vocational psychology as a branch of knowledge? In what way can the unique facts of the vocational field be integrated with mainstream psychology? The main difficulty seems to be the fact that developmental notions of personality in terms of stages and change do not sit very well with the post-adolescence stability of vocational facts. The natural question then is this: what other personality dimensions can be considered as remarkably stable? The answer is - sexual identity. It seems that apart from some rare cases, human males and females do experience themselves as males and females for the entire course of their life.

On the basis of this general observation and the assumption regarding the inherent bi-sexual nature of both males and females I will proceed to underline our understanding of vocational behavior that was the basis of the present research.

Ordinary people, and also psychologists outside of practice hours, do not seem to have any difficulty in attaching distinct shades of femininity and masculinity descriptions to either men or women. Statements like "Jill is a tom-boy", "John is effeminate in manners", and

"The girl in the T.V. ad looks like the stereotype of feminity" strike a responsive chord and one may wonder what kind of psychological realities they represent. Without getting into any deep interpretation, we may immediately note two main ways in which these attributes correspond to our basic vocational facts. First, we expect these attributes to represent enduring qualities of the individuals they describe. One does not expect John to stop being effeminate tomorrow. Thus, they are no less stable than human interests. Second, although feminity is not the sole possession of women, and masculinity is not the sole possession of men yet a reasonable observation will be that more women than men appear feminine, and more men than women appear masculine. This state of affairs where we have a great overlap of two big distributions that are different in means is also a fairly accurate description of the occupational differences between men and women (Campbell 1974). Third, the circular relatedness of Holland's six factors suggests that at least in principle they may appear in a space that is defined by two big co-ordinates; namely, masculinity and femininity.

If one wants to make a case for the stability of a personality dimension one has to point to developmental irreversibility. Here at last we have arrived at some of the basic formulations of developmental psychology. With the late finding of Piaget (1969) that the normative age of cognitive object constancy corresponds to the normative age where fixation of early object relationship occurs (age 1:00) fundamental ideas in developmental psychology begin to integrate. The realization is dawning that one refers to the same basic psychological process whether one talks about the emotional security of a one-year

old baby toward his disappearing mother, or about the formation of an Ericksonian "basic trust", or about the permanence of a vanished inanimate object in the baby's cognitive field. Thus it seems that the concept of "early object relationship" may emerge as a central integrative concept in developmental psychology. We may have nothing more than an intuitive understanding for the nature of this entity but we may well wonder about its possible implication for vocational psychology. We may even entertain the hope that by studying these implications we may eventually contribute some theoretical understanding to human development. The fact is that the concept of early object relationship has become strongly suggestive since psychoanalysis has been systematically tracing enduring personality syndromes of adults to their early childhood dramas. It is a truism among child psychologists to say after Freud that the basic structure of personality is formed around age 5. For our main line of argument the recognition of the irreversibility of basic personality structure around age 5 is particularly significant since this is the age where sexual identity processes are culminating. If, then, early object relationship is the stuff which sexual identity is made of, and if vocational preferences are projections of sexual identity, then a program of research emerges. The reason why this theoretical link is important stems from the fact that sexual identity at this stage may be too impressionistic to be measured reliably as a research variable. Object relationship, on the other hand, can be biographically ascertained.

To give any coherence to such research program we will have to make explicit what is the meta-theoretical language that we are using. To put it in one word: this language is symbolic language. Thus,

vocational preference will be taken to convey a symbolic choice, and it is represented by such statement as: "This is what I want to be..." rather than "This is what I want to do..." The self is taken to be the symbolic self which compells the individual to analyze his own behavior in statements such as: "I was not myself today", "I was beside myself", "I was drunk and was not my sober self", etc. Identification is taken to be a process that is also betrayed by the symbolic mechanism of the language. What is "my" or "mine" becomes "me" (e.g., "my father", "my mother", "my older brother", "my grandfather", etc.).

In choosing the term "symbol" we have deliberately chosen a term which is a fusion of the act of perception, attention, cognition, emotion and meaning all at once. We take it to be the fundamental psychological datum since we believe that the separation of the above mentioned processes is an exercise in futility and an empty abstraction.

Our metaphysical assumption - which should also be explicated here - is to deny that there is such a thing as reality which is independent of the observer. We are flatly denying that there are "things in themselves". Thus, we cannot concur with Freud who, when describing the nature of men and women, asserted that "anatomy is destiny". According to our metaphysical assumption we will have to rephrase it to mean "symbolized anatomy is destiny; but not an exhaustive destiny".

We will now have to spell out the symbolic value of femininity and masculinity in a way that will illuminate their predictive relevance to occupational preferences.

In order for us to do that by symbolic analysis, we will have to turn our sensibility to the much-debased sexual stereotypes as the very reality that we are looking for. Once we realize that this is not the

reality that we should get rid of but - on the contrary - our most fundamental psychological datum, we will produce a short-cut for a fast and sweeping understanding. The more our symbolic analysis is tuned to the "raw" and the "vulgar" the more certain we are that we hit the core of our phenomena. We should ask ourselves, then, what is the most "raw" meaning that we can attach to feminity and masculinity.

Femininity will first be taken by us to mean basically an inward orientation. Since "inward" cannot be understood in any material sense, it is understood symbolically as an orientation toward emotionality. One's world of emotions and intuition is symbolically understood to be "inside oneself". This is the symbolized biology of the woman. The other raw meaning of femininity is inherent in the mother-child relationship. Its symbolic derivation will be an orientation of the "taking care of the other". The "other" will be the young one, the helpless one, the one in distress, or the disabled. Two of Holland's six factors, *Artistic* and *Social*, will immediately strike us as echoing these two feminine stereotypes of emotionality and motherhood.

Masculinity in its raw meaning is of course the polar opposite: it is basically represented as an "outward orientation". Here, also, the meaning of "outward" implies an orientation towards the reality which is symbolically outside of oneself. The man, as the master of that reality represents competence and manual skill. The second theme of masculinity is related to the first theme of control. Its existence as a distinct symbol emerges with the motive of controlled emotionality. We are familiar with its alternate name: *Intellectualism*. Thus the second theme of masculinity shares with its first one the

qualities of mastery and control in the sphere of ideas. It is as likely a source of power as manual competence and in the field of science this power is frequently described as "thrust" and "penetration". Here too we find that two of Holland's six factors are symbolic representations of these two related themes of masculinity: they are *Realistic* and *Intellectual*.

It should be obvious by now that we view the structural symbolization of the body as investing itself with a compelling force in determining who is "me" and who is "like me" and therefore a mirror-part of "me". If we were to assume that sexual identity is an exclusive function of differential object relationship with mother and father figures we should not have expected that more women will be described as feminine and more men will be described as masculine.

We should take in consideration therefore that those two dichotomous symbols of anatomical sexuality which catalyze a sense of "inward reality" versus a sense of "outward reality", operate as two constraining forces in what would have otherwise been a field of sexual identity processes fixed by random differential combinations of early object relationships.

In answering the challenge as to why should Holland's factors, of all things, be chosen as representations of these universal symbolic motives, I should like to point out that they have been derived through the method of factor analysis. Factor analysis may well be the statistical method of choice to tap enduring symbolic motives: factors are derived in a way which is very similar to the way in which a symbol is derived; namely, by structural association.

Granted, for the present the validity of this (line of) argument

we should look carefully at the other two factors of Holland's scheme: *Enterprizing* and *Conventional*.

We cannot make any new assumptions to explicate their existence if we want to retain the coherence of our understanding. On the other hand they present us with an immediate dilemma since they do not readily emerge for any symbolic analysis. There is no clear femininity or masculinity symbolism that can be unambiguously attached to either the *Conventional* or the *Enterprizing* factors. This impression is quite confirmed by the empirical evidence too. If we take a look at the standardized scores of Holland's factors in the VPI (which are based on the norming populations of 6143 female college freshmen and 6270 male college freshmen) we will discover that the difference in bias of *Conventional* and *Enterprizing* factors for men vs women is quite negligible compared to the other factors. Fifty percent of men indicate a liking for, on the average 1.95 *Conventional* occupations compared to 1.8 for women. Fifty percent of men indicate a liking for, on the average 4 *Enterprizing* occupations compared to 3.4 for women. In comparison to this kind of difference, 50% of women indicate a liking for, on the average 0.8 *Realistic* occupations compared to 3.5 for men. A ratio of more than 4:1.

What sense can we make of that for the *Enterprizing* and *Conventional* factors? What meaning can they have? We have taken the position that the symbolic elusiveness of these 2 factors is the very source of their meaning! We shall explore the proposition that they represent two different solutions to the lack of one primary symbolic principle in the formation of identity.

This, however, is only a general statement. It should be obvious

that we cannot equate *Conventional* and *Enterprizing* since they represent two distinct inclinations in occupational preferences.

In the case of *Enterprizing*, inspite of the slight empirical bias towards men, we would like to contend that the business woman is not a "man in a suit", she is rather a "woman in a suit". As a matter of fact individuals from both *Enterprizing* and *Conventional* occupations form a distinct population in terms of clothing styles. The impression is strong that they tend to dress more in a formal proper sense than in a straight sexual-appealing sense. It seems to me that we should oppose the notion that this formal style of clothing - or any other style - has a functional value emanating from the nature of these occupations. What is historically given always creates the illusion of it being contemporary functional. The emphasis on form, as in the Rorschach, is the all time psychological indicator for an escape from conflict; in our case an identity conflict. *Enterprizing* occupations are neither strictly social nor strictly creative. They are rather materially creative and socially manipulative. Compared to *Conventional* inclinations they thus may represent not only a formal escape but an active and positive synthesis of two equally strong femininity and masculinity identifications forever competing for primacy. The question as to why an active synthesis such as the *Enterprizing* syndrome needs to have a formal symptom can be clarified only in terms of our understanding of the symbolic self. One is constructing his "self" in a manner which is very similar to the way a scientist constructs his theory. One is forever striving to create a structure that is as free as possible from any ambiguities and conflicts. Self contradictions are painfull. The striving for coherence, order and predictability is

similar too. One's theory of his-self is as close to his actual behavior as some of our scientists are close to their data. Finally, the way in which one's theory of one's self creates its own reality is not dissimilar to the way in which our scientific theories operate. In sum, some of us have better theories than others but all of us want to keep our "integrity". It is clear then why our constructive *Enterprizing* personality needs a formal touch. Philosophical, theoretical as well as personal formalization is attempted whenever an ambiguity is experienced. Successful formality is self definitive. It establishes itself as the self reference and the definition. Thus, a self order has been constructed out of an experienced contradiction.

In terms of our research prediction, then, we will expect higher *Enterprizing* manifestations from individuals who experienced equally strong early identifications with both mother and father figures.

Conventional manifestations may be more negatively defined. For one thing it represents much greater formal investment. *Conventional* occupations do not convey any sexual overtones or undertones. They are sexless occupations. The very existence of this line of occupation and people's life long commitment to them gives the lie to the notion that occupational preferences are controlled by superficial sexual stereotypes in a given society. The one known exception to that - secretary jobs - is no exception. This occupation still carries a derivative sexual symbolism on the strength of it being a patently subordinate "girlish" role in relation to a higher father-figure. Men are extremely rare in that position since its norms and atmosphere is a ritualistic elaboration of the basic girl-father premise. However, "being my Daddy's girl" is far from being a full answer as to "what I

want to be ...". What we propose is that the *Conventional* factor which secretary jobs share with a whole series of *Conventional* occupations attest to a deeper existential meaning. The actual productive nature of these occupations (e.g., bank-teller, accountant) is revealing. The entire occupational production, including most of the *Social* relationships, is formal. The actual job involves a never ending translation of a myriad of social and task situations into formal *a priori Conventional* solutions. Certainly Holland has chosen the right names. A *Conventional* job constitutes a daily triumph of human formality. It is for this reason that a bank robbery can be perceived as both shocking and comical; initially there is no conventional answer for it.

If, then, it is understood in this way, as a sexless translation of content into conventions, we are in a position to illuminate the *Conventional* inclinations as a constructed solution to a unique kind of existential conflict - the conflict that is inherent in self-denial. If one understands sexual identity as the very substance that relates a person to tasks and people, one can also understand what is being denied in the *Conventional* solution. It is also obvious that the *Conventional* solution cannot be negatively defined in the sense of referring it to some kind of "absence" of identification. Any occupation is a constructed-constructive solution otherwise it would not have the power to define "what a person is". We should rather conceive of it as a perpetual answer to the dialectical trap of self-negation. The negation of one's-self-sex strongly implies the confirmation of its existence. Evidently, then, there can be only formal solution to such trap.

We have to confess here that prior to our research we did not have much clue as to the possible set of conditions (early pattern of object relationship) that might be responsible for this syndrome. We made a temporary hypothesis that committed us to look in one direction. The prediction was made that people who more strongly identified with cross sex parental figure will exhibit higher *Conventional* inclination compared to other people. However we have explored other directions as well.

Our other two predictions - aside from *Conventional* and *Enterprizing* - were much more straightforward. They consisted in hypothesizing that: (a) People who were more identified in early childhood with a maternal figure will show more *Artistic* and *Social* inclinations, (b) People who were more identified with a paternal figure will show more *Realistic* and *Intellectual* inclinations.

There is only one more methodological point that should be made here. We have made it clear, by now, that we have taken early object relationships to be the more basic processes for the understanding of sexual identity and occupational preference. Thus, although we have employed a Freudian symbolic sensibility here, we have ignored the oedipal drama that is central to Freud's understanding of childhood development. We acknowledge here the many contributions of Melanie Klein (1977) which have widened our understanding into the central importance of those early pre-oedipal symbolic processes. We have taken the view that the oedipal drama can only be understood on the background formation of sexual identity positions of all the characters involved in the drama. There is no doubt however that it is precisely the complications of the oedipal situation that make any conventional

developmental research an unrewarding enterprize. It is for this reason that aside from direct self report we have tapped information on various indirect evidence that bears on the early family situation in this research. Taken together and used by a clinical judge who is mindful of the influence of the various derivative oedipal dramas - a reasonable evaluation of the differential sexual identification of a given individual could be derived.

There is a second reason why the distorted lense of the oedipal situation could have been safely ignored here. It has to do with the standardized scores of Holland's VPI. The predictive success of Holland's factors measured by the VPI was predicated on the use of standardized scores. This means in effect that, when a woman points out two "like" choices on the questionnaire for *Realistic* occupations, it is taken to indicate a more significant *Realistic* inclination than her pointing out of 10 "like" choices for *Social* occupations. It is after all this situation that has been predictively confirmed. In this way the sexual-oedipal distortions have been wiped out by the use of standardized scores and the more genuine structure of this woman's inclinations is revealed. Our indirect evaluation of basic sexual identity patterns were therefore symetrically paralleled by the statistical production of the VPI. In both cases a more basic dimension is evaluated. We were free to predict, then, regardless of sex and oedipal position, that whenever a *person* was more identified with a maternal figure he/she will manifest more *Social* and *Artistic* inclinations than *Realistic* and *Intellectual* ones, and vice versa.

It should be clear that we are not inclined to deny the positive role that the oedipal drama plays in the processes of identifications.

As a matter of fact we have come to recognize the oedipal phase as the crucial battle in the salvation of the symbolic self of the child. In the classical situation both the small boy and the small girl are turning to the father as their savior from their babyhood symbiosis (e.g., overidentification) with the mother. The small girl is more ardently turning to the father because her symbiosis with the mother is more total. Not only is she the "mother's baby", come from "mother's belly", nourished from "mother's milk", but on top of that, she is "like mother" and is constantly growing to be even more "like mother". Since one necessarily grows by and through attachments (identification) and at the same time is compelled to become his/her own "self" the father is the ideal object who can be embraced "whole heartedly" without one initially committing the fatal symbolic "embrace" of being "like him". He is therefore the "golden loner", the "stranger-lover" and one can be him-/her-self with him. It is only, of course, a matter of time before one becomes also "like father" at which point one will turn to other "selves". We are coming then to the strange conclusion that what is often demonstrated in the notorious cases of "wild crash" of oedipal love between daughter-father is paradoxically the overwhelming symbiotic pull between daughter-mother that is threatening to obliterate the girl's self. Declaring herself as rather "belonging to father" is the only way out. It is in this sense that the oedipal phase can be a distorting lense. The clinician here is obviously tempted to underestimate the daughter-mother symbiosis and identification and furthermore has the unenviable task of delineating the real strength of daughter's identification with father out of her sometimes exaggerated self report.

Here lies the clinical significance of our research. If we are able to experimentally establish the symbolic connections of occupational preferences to those basic processes of the self, we will be in a position to gain two perspectives: (a) Clinically, the most accessible and revealing projections of the early ego structure into occupational history, and (b) We will be able to establish for the first time the connections between occupational malaise and ego malaise.

METHOD

MEASUREMENT AND INSTRUMENTS

There were two main types of information that were generated for all subjects: (a) Occupational inclinations, (b) Early-family-related information.

Occupational inclinations were measured for each subject by J. Holland's instrument: the Vocational Preference Inventory (VPI). Each subject's scores on the six occupational factors of the VPI were taken to indicate the structure of his/her occupational inclinations.

Early-family-related information was generated by a questionnaire and an interview. In part I of the questionnaire, subject was asked to choose 1 out of 9 descriptions of child-parents relationships as approximating his own relationships with his parents as a child. In part II subject was asked to indicate directly the extent of his feelings of closeness and his feelings of respect towards each of his parents as a child age 3 to 6. In part III subject was asked to indicate his overall level of confidence in his choice of occupation. And, in part IV he was asked what he has chosen to be.

The interview was used to generate information on the following topics: (a) The parent's occupational history, (b) Number of subject's siblings, and corresponding birth-order and age, (c) Social structure of the family (e.g., what child was favorite of what parent; roles of each child; patterns of attachments and subgroups within the family), (d) Power structure of the family (e.g., who of the parents was "the boss"; who carried more weight with the children, etc.), (e) Any absences or disruption of subject's exposure to his parents up till age

14, (f) Detailed description of subject's relationship with his parents through childhood, adolescence and early adulthood, (g) Influential figures on subject's life - particularly the period of childhood - extensiveness of contact, character sketch, occupation, and extent of closeness and respect toward that figure, (h) Patterns and dates of family's geographical movement, (i) Characterization of parents' relationship towards each other, and finally (j) Subject was asked to indicate how close was his choice of family description in part I of the questionnaire to the real life situation.

The questionnaire itself was prefaced by the following statements:

"The following questionnaire is part of a research that is designed to answer the following question: is there a relationship between a person's choice of an occupation and his early relationship with his parents.

An answer to this question will link types of occupations chosen, confusion, and difficulty in making decisions with the early feelings of a child towards his parents. Understanding these relationships may help us among other things in the direction and assistance of young people who are uncertain about their future professional life.

The questionnaire consists of a few very short descriptions of early relationships in a family. You are asked to check the <u>one</u> description which - more than others - resemble your feelings as a child (age 3 to 6 years old) towards your parents.

Many people do not recall their relationships with their parents at that early age; on the other hand if drastic change had occured in such relationship most people will have no difficulty in recalling it. Therefore, if you neither recall your early relationship with your parents nor are aware of any marked change in these relationships, the best approach in answering this questionnaire is to assume that your present relationship with your parents, as far back as you can remember, truly reflects the same basic attitudes that you experienced as a child.

Some of the descriptions are fairly similar so please read all the nine descriptions before deciding on the one that most resembles your situation as a child."

After all family-related data of all subjects were compiled and any chance allusions to the subjects' occupational history were omitted, the experimenter (which in that capacity will be referred to as "the judge") proceeded to evaluate the data according to the following instructions:

> "On the basis of each subject's family-related data you are asked to rate each subject on the extent of his identification with female figures and the extent of his identification with male figures. These ratings will be used in prediction as indexes of each subject's femininity and masculinity. Since we are aware that given the compactness of the biographical data and the lack of physical exposure to the subjects, these requested ratings assessments are somewhat akin to a "shot in the dark" we ask you to construct two such related ratings based on slightly different weights given to the theoretical considerations:
>
> (1) Giving major weight to the primary figures of mother & father in the biographical data, please indicate on two 1-7 scales (using half scores if you wish) the extent of feminine identification and masculine identification of each subject. In the event of similar extent of feminine and masculine ratings for any one subject, please elaborate further whether in your judgement the subject is: (a) more feminine oriented, (b) balanced or (c) more masculine oriented.
>
> (2) Taking identifications with "other influential figures" as signifying the subject's primary drive of identification, and therefore giving somewhat greater weight to the sex of those influential figures (as an indirect signifier to subject's primary identification), please categorize each subject into one of the following 5 categories: (1) Primary identification with male only, (2) Primary male & secondary female, (3) Balanced male & female, (4) Primary female & secondary male, (5) Primary female only.
>
> Apart from these classifications you may recognize that the history of some subjects exhibits a clear cut pattern of identification (e.g., the subject was more attached and had more respect toward her mother and other female figures throughout her life as compared to her father and other male figures), while the history of other subjects presents a more ambiguous picture. On the basis of this, please indicate on a 1 to 3 scale for each subject how hard it is to determine his/her pattern of identifications."

The use of the experimenter as the judge is objectionable on the grounds of some imperceptible pre-knowledge on the part of experimenter-judge of the dependent variables to be predicted here. However such a procedure was inevitable here for the following reasons: (a) The experimenter was for the time being the sole possessor of the particular theoretical bias that was the basis of these evaluations, (b) The imperative need for consistency of evaluations which is a product of such a theoretical bias, and (c) The forbidding cost of employing a psychoanalytically-oriented and clinically astute judge for hundreds of diagnostic hours on top of a training in our approach concerning the oedipal situation here.

In view of this, an utmost care was exercised in deferring any knowledge of the VPI profiles and allusions to subjects' occupations while evaluations were made. Moreover, the sheer enormity of the biographical data of 132 subjects and the facts that all the interviews were conducted by telephone proved to be so disorienting that the retention of an individual case by memory was an hopeless exercise. It was the experience of this experimenter that months after the study was conducted and while many people approached him with the air of warmth, familiarity, and good will, he was at a loss to know who they were. Finally, a period of seven months was allowed to pass between the interviews and the evaluations to ensure the exclusion of any possibility of recall.

SUBJECTS

A sample of 132 U of Alberta students were selected for this study. The students were selected from an urban area widely known as Michener Park in the City of Edmonton, Canada. Michener Park is a

student residential area which belongs to the University of Alberta. Units of housing in Michener Park are either 2-3 bedroom apartments or row houses. To be eligible for such housing, a U of A student has to be married or a single parent and has to have a yearly income of less than $12,000 in the period of his studies. There are 540 housing units in Michener Park and both undergraduate and graduate students from all the faculties of the University are represented there. Twelve percent of the students are divorced, single parents and 61% of the students have children. The age of the students in our sample ranged from 18 to 54 years old, median age 26 and mean age 29. About 35% of our subjects were native Albertans, the rest came from all parts of Canada. There were 65 male students and 67 female students that participated in the research, totalling 132 subjects.

The usual need for random sample is inconsequential to this type of study which should be more properly conceived as an instance of exploring 132 individual case studies. Moreover, the theoretical claims here which are universal in the widest possible sense of the word make randomness a non-issue. Nonetheless, for the purpose of future replications of this study, the manner in which we obtained our subjects may be instructive: First, a list of all Michener Park's inhabitants was obtained from the administration specifying names, telephone numbers, apartment numbers, and countries of origin. Subsequently to that, all non-Canadians were excluded from the list. Next, a time period, each week-day, between 6:00 P.M. to 9:30 P.M. was designated for contact with potential subjects at their own apartments. Each apartment was approached only once and attempted contact was made with all the apartments on the list. Thus, any

apartment occupant who, for whatever reason, was absent at the time of contact, was thereby excluded. Approximately half of the potential subjects were absent: Ten of the absentees - due to unusual working hours, the rest - due to various random reasons. Twelve apartments had neither spouse no children or babysitter at home. A total of 350 apartments were approached and of those present, only student spouses were contacted.

PROCEDURE

Future subjects were contacted at their own homes and were asked to participate in the research. The experimenter introduced himself as a fellow student doing his thesis. It was furthermore suggested to the subjects that participation in the research would involve the filling out of two relatively short questionnaires (the VPI and the family-related questionnaire). After consent was granted the experimenter instructed the subject with regard to the nature of the two questionnaires and incidently remarked that after the questionnaires were checked the subject may be given a profile analysis of his/her occupational inclinations if he/she so desire. Practically all the subjects responded warmly to that. This promise was made to ensure agreeable co-operation with subjects, reliable report on the questionnaires, and most important, to enable the experimenters to conduct an interview with each subject at a later time. Out of 134 students who were contacted, 2 students declined to participate in the research.

The two questionnaires were left at each subject's home and were recalled a week or two later. A few subjects returned their

questionnaires by mail or personally.

At the third stage, after all questionnaires were analyzed, the experimenter called each subject by telephone and proceeded to describe the subject's own 6 factors' profile on the VPI. Sixty-eight of the subjects were asked to predict their highest factors before the information was given by the experimenter. After the information was given, Holland's Occupational Finder was used to discuss various occupational implications of the VPI profile, comparing them with the subjects' real life occupational choice(s).

Much to the credit of Marshal McCluhen, the telephone proved to be an engrossing medium and a singularly effective instrument in creating an intimate atmosphere and in generating the most intimate information. Even in 3 cases where subjects' high defensiveness colored a somewhat tense atmosphere, the anonimity of the telephone and subjects' gratefulness for being given valuable information, was enough to secure the sought-after biographical information. In 85% of the cases the established rapport was spontaneous enough for the experimenter to secure the interview data by the mere showing of a slight interest on the several predetermined biographical topics. In 15% of the cases the experimenter found it more appropriate to formally announce his intention to ask several biographical questions. Except for the three above-mentioned subjects consent was most agreeably granted. In 80% of the cases a full account of a "life story" was given - far beyond the experimenter's expectations and research interest (so much for the myth of the "reserved Canadians"). All the subjects gave their approval for the use of their biographical data in the statistical analysis and occasionally

disguised case study.

Aside from the telephone, part of the credit for this procedural success should be given to the established interviewing skills of the experimenter. Apart from that, the telephone made it possible to record the key biographical points during the conversation. A full elaboration of those key points was made immediately after each interview.

RESULTS AND INTERPRETATIONS

Several correlation tests were made to determine the validity of our first hypothesis. In general terms the first hypothesis can be phrased in the following way: (a) if a person developed stronger identification (attachment and respect) during the period of his childhood with an older male figure (father, substitute father, older brother, or any other male influential figure) compared to his/her identification with an older female figure, he/she will have higher inclination toward *Realistic* and *Intellectual* occupations compared to his/her *Social* and *Artistic* inclinations, and (b) conversely, if a person developed stronger identification with a female figure, he/she will have higher *Social* and *Artistic* inclinations than *Realistic* and *Intellectual* ones.

The dependent variable was constructed by: (a) Adding a subject's standardized score on the *Artistic* dimension to his standardized score on the *Social* dimension; thus forming a combined score (S + A), (b) Forming in the same manner the combined score *Realistic* + *Intellectual* (R + I) for the same subject, and (c) Subtracting (b) from (a), then creating for each subject a score based

on the formula (S + A) - (R + I). The independent variable was either of the judge's three ratings.

Rating "A", based on more weight being given to the subject's report about his relationship with his parents or parental figures, was called 'Primary Identification - Rating "A"'. Rating "A" consisted of the 1 to 7 "masculinity" score being subtracted from the 1 to 7 "femininity" score for each subject.

Rating "B" was based on Rating "A" and involved the judge's further decision whether subject was more "female identified", "equally male and female identified", or more "male identified". This rating was named 'Primary Identification - Rating "B"'.

Rating "C" was based on more weight being given by the judge to secondary figures of identification as more revealing of the "true" primary pattern of identification. This 1 to 5 rating was named 'Secondary & Primary Identification - Rating "C"'.

For the purposes of the statistical tests, three groups were regarded as "the sample". All of them were subjected to the same tests. Group "1" consisted of all 132 subjects. Group "2" consisted of all subjects with the exclusion of those whom the judge found "very hard" to determine their pattern of identification. Also excluded from Group "2" were 5 subjects whose VPI profiles were felt to deserve rejection on account of them being patently incongruent with the subjects' sought after occupations, their ideal choice of occupations and their entire occupational history. Those profiles were simply judged to be false and unrepresentative with regard to the subjects. The total number of subjects in Group "2"

was 96. Group "3" consisted only of those subjects whom the judge regarded as clear-cut diagnostic cases in terms of their revealed pattern of identification. Only two subjects whose VPI profiles were judged false were excluded from this group. Total number of subjects in Group "3" was 44.

Table 1 presents the results of Pearson Correlation tests done in Groups "1", "2", and "3" between the relative tendency of "Masculinity vs Femininity" and the relative tendency of "*Social + Artistic* vs. *Realistic + Intellectual*". As these results indicate, a significant correlation exists between relative tendency of Femininity vs. Masculinity and relative tendency of *Social-Artistic* vs. *Realistic-Intellectual* occupational inclinations. It is also evident that Rating "C" (in which the judge based his Femininity-Masculinity evaluations a bit more heavily on the secondary figures of identification as an indication of subjects' primary identifications' pattern), is a consistently superior measure. This measure when employed in Group "3" which consisted of only clear-cut diagnostic cases produced a high correlation of $r = .81$. This correlation is unusual, considering the crude quantification that was necessary in this kind of research. At the same time, the fact that this correlation was established in a group of 44 subjects, after 88 other subjects were excluded from consideration, is enough to suggest the complexity and ambiguity of manifestations of sexual identity in many subjects and the usual problems of its diagnosis. This conclusion is especially amplified since we are studying a case of independent-dependent variables that,

Table 1

Correlation Between Relative Tendency of Masculinity Vs. Femininity and Relative Tendency of *Social-Artistic* Vs. *Realistic-Intellectual* Occupational Inclinations

	Primary identification Rating "A"	Primary identification Rating "B"	Secondary & Primary Identification Rating "C"
	Group "1"[a] (n=132)		
Social-Artistic vs. *Realistic-Intellectual* inclinations	r = .32	r = .36	r = .63
	Group "2"[a] (n= 96)		
	Rating "A"	Rating "B"	Rating "C"
Social-Artistic vs. *Realistic-Intellectual* inclinations	r = .48	r = .50	r = .76
	Group "3"[a] (n= 44)		
	Rating "A"	Rating "B"	Rating "C"
Social-Artistic vs. *Realistic-Intellectual* inclinations	r = .74	r = .75	r = .81

Note. $P < .001$ for all r values.

[a]See remark for groups "1", "2" and "3" in Table 2.

according to our theoretical considerations, are psychologically equivalent.

Moreover, the significance of the judge's ratings was only established with regard to the *relative* pattern of identifications. On the basis of the somewhat sketchy data that was supplied to the judge for each student one would not expect too much reliability of the *absolute* ratings of identification (that goes to show the enormity of the intimate data that is really needed with regard to each subject). Nevertheless, it was important to establish whether a correlation exists between evaluations of the absolute strength of identifications and the absolute level of the VPI profile. If such a correlation can be at least suggested, then we may hope to gain an additional insight into a plausible conclusion; namely, that the more strongly a person was identified the more vigorously attracted he/she will be to a whole line of occupations from a respective dimension. Consequently the absolute as well as the differential level of the VPI will provide us with important personality information.

We first wanted to know whether the combined strength of feminine and masculine identifications is correlated with the overall height of all the six factors (e.g., relative elevation of the VPI profile). To assess that we employed two ratings: The first rating was established by simply combining the judge's two original ratings of femininity and masculinity (F + M) for each subject. The second rating was generated by asking the judge to evaluate on a scale of 1 to 7 the overall relationships (OAR) of each subject with his original parents only. By comparison to this rating which reflected the identification of a

person with the primary parental figures only, the first rating could also reflect in many cases secondary identifications, provided they were sufficiently important. Table 2 describes the correlations of the two ratings with the total elevations of the VPI's six factor profile in Groups "1", "2" and "3". The index for the total elevation of the profile was derived by the simple summation of subjects' standardized scores of the six factors. Table 3 describes the same set of correlations but not with the total six factors profile. Instead, a summation of standardized scores of only four factors - *Realistic, Intellectual, Social* and *Artistic* - was considered as the dependent variable for each subject.

The results of Tables 2 and 3 support the general conclusion that the relative height of the VPI profile does reflect the overall strength and identification of Ss with primary parental figures of their early childhood. The more are clear-cut diagnostic cases being selected for investigation the stronger the correlation. Taking into account that the judge is more likely to be able to tell that, say, "S was identified more strongly with mother than with father" and less likely to tell "how strongly" S was identified with each one of them, we should beware, then, that the judge's absolute ratings are much less reliable. Granted that, the trend of the correlations across Groups "1", "2" and "3" strongly points to the possibility that the weaker are an individual's primary identifications the less attracted he/she will tend to be with regard to various occupations. Comparison of the results of Table 2 vs. Table 3 shows the same trend while the correlations are consistently higher in Table 3 in which only the four factors are considered (*Realistic, Intellectual, Social* and *Artistic*). This is as expected in view of our

Table 2

Correlation Between Ratings of Overall Identifications With Parental Figures and Overall Level of VPI Profile

	Group "1"[a] (n=132)	
	Strength of masculine and feminine identifications (F + M)	Overall relationships with parents only (OAR)
Overall level of VPI Profile	r = .26**	r = .31*
	Group "2"[a] (n= 96)	
	(F + M)	(OAR)
Overall level of VPI Profile	r = .27**	r = .34*
	Group "3"[a] (n= 44)	
	(F + M)	(OAR)
Overall level of VPI Profile	r = .43**	r = .51*

*P < .001.

**P < .01

[a]Groups "1", "2" and "3" represent 3 overlapping samples. They signify from "1" to "3" accelerating degrees of subjects' clarity and distinctness of patterns of identifications according to a judge's rating.

Table 3

Correlation Between Ratings of Overall Identifications With Parental Figures and Overall Level of *Realistic*, *Intellectual*, *Social* and *Artistic* Factors of the VPI Profile, (R+I+S+A)

	Group "1"[a] (n=132)	
	Strength of masculine and feminine identifications (F + M)	Overall relationship with parents (OAR)
Overall level of R + I + S + A	r = .30*	r = .35*
	Group "2"[a] (n= 96)	
	(F + M)	(OAR)
Overall level of R + I + S + A	r = .33*	r = .38*
	Group "3"[a] (n= 44)	
	(F + M)	(OAR)
Overall level of R + I + S + A	r = .52*	r = .56*

*$P < .001$.

[a]See remark for groups "1", "2" and "3" in Table 2.

theoretical considerations. In all probability the factor of *Conventional* has detracted somewhat from the correlations in Table 2.

Another significant pattern that is revealed by both Tables 2 and 3 is that the rating of "overall relationship with parents only" produced consistently higher correlations than the (F + M) rating. The difference is slight and suggests that the two ratings are minor variations of the same theme; yet its consistency does suggest the possibility that one's relationship with one's namesake are symbolically more important regardless of how deep were the relationships with other influential figures.

Since the sets of correlations in Table 2 and 3 are concerned with overall relationships it was also important to inquire into specific correlation between extent of feminine identification and strength of *Social-Artistic* inclinations as well as the correlation between extent of masculine identification and strength of *Realistic-Intellectual* inclinations. Tables 4 and 5 present the results of these tests of correlation. The derivation of the variables were symmetric to the procedure outlined earlier except that only one rating was used based on the judge's original rating of masculinity and femininity for each S. The *Social-Artistic* measure was derived by the simple summation of the respective standardized scores (S + A); the same goes for the *Realistic-Intellectual* measure (R + I)..

The results of Tables 4 and 5 are complementary to the previous results. They suggest the surprising possibility that masculinity and femininity can be taken to be two independent symbolic dimensions. Once again, the more carefully we select our subjects with regard to the clarity of their early pattern of identification (From Group "1" to "3") the stronger the correlations become. The comparison of Tables 4 and 5

Table 4

Correlation Between Strength of Feminine Identification

And Extent of *Social-Artistic* Inclination

	Group "1"[a] (n=132) Strength of feminine identification	Group "2"[a] (n=96) Strength of feminine identification	Group "3"[a] (n=44) Strength of feminine identification
Extent of *Social-Artistic* inclination	r = .24**	r = .28**	r = .54*

*P < .001.

**P < .01.

[a]See remark for groups "1", "2" and "3" in Table 2.

Table 5

Correlation Between Strength of Masculine Identification

And Extent of *Realistic-Intellectual* Inclination

	Group "1"[a] (n=132) Strength of masculine identification	Group "2"[a] (n=96) Strength of masculine identification	Group "3"[a] (n=44) Strength of masculine identification
Extent of *Realistic-Intellectual* inclination	r = .36*	r = .47*	r = .65*

*P < .001.

[a]See remark for groups "1", "2" and "3" in Table 2.

also suggests the less ambiguous character of identification with the father figure in early life compared to mother figure identification. The correlations achieved in Table 5 are consistently higher than those in Table 4. This pattern was foreshadowed in our theoretical analysis which points to the problematical nature of the symbiosis and identification with the mother for both girls and boys. The lower correlations of Table 4 compared to Table 5 convey the ambivalent nature of identification with a mother figure which prohibit a clear diagnosis of its strength. The identification with the father on the other hand was more authentically and straightforwardly perceived by the subjects and consequently by the judge too. In view of this it will be appreciated at once how important it is, from a clinical point of view, to be able to use the *Social-Artistic* dimensions as revealing the real strength of early identification with a mother figure.

Our findings thus far are in a close agreement to our understanding concerning the symbolic equivalence of primary identifications and occupational trends. In order to establish whether the nature of *Enterprizing* manifestation conforms to our theoretical expectation as well, we had to form two groups of subjects according to one critical decision: Did a particular subject identify to the same extent (in his childhood) with both his/her mother and father figures; or not. In reality, of course, *Enterprizing* inclination demonstrates itself in the population by the same bell-shaped curve as any other dimension. We can also expect that there is lesser and greater extent in which identifications with both mother and father figures is symbolically "equal". However, we cannot expect any judge's rating to obtain such fine distinctions, and so, owing to the crudeness of our independent variable we were prohibited from making any

correlation test here. Instead, a t-test between the two groups formed by the above-mentioned criterion was in order. We employed the three judge's ratings to operationalize three versions of the criterion.

Criterion "C-1" was established by employing the judge's crudest rating concerning subjects' patterns of identifications (more feminine identified; more masculine identified; equally feminine and masculine identified). All the subjects who were classified by the judge in this criterion to be "equally feminine and masculine identified" were taken by us to form one group; all the rest of the subjects were taken to form the other group. The two groups' *Enterprizing* scores were compared in a t-test.

Criterion "C-2" was established by employing the judge's original femininity and masculinity rating. By this criterion Group 1 consisted of all subjects whose femininity and masculinity ratings did not differ by more than 0.5 points of the 1 to 7 scale. Group 2 consisted of all the rest of the subjects. The rationale for this criterion stemmed from the recognition that any reasonably close identifications with both mother and father figures may be experienced as symbolically "equal" by the child and may prevent any clear primacy of identification pattern. Aside from that, the crudeness of the judge's ratings was an additional reason for classifying reasonably close identifications with mother and father figures in one group. Here, again, the rest of Ss formed the other group.

Criterion "C-3" was based on the judge's third rating which weighted secondary figures of identification somewhat more heavily as a way of assessing primary identifications. Subjects who were classified by the judge as having both feminine and masculine figures of identification

formed one group, and all the rest of the subjects formed the other group.

Aside from these 3 versions of groupings we have again employed our Groups "1", "2" and "3", to define the sample in each instance. Ss were drawn from each overlapping sample according to the above-mentioned criteria "C-1", "C-2", and "C-3".

Table 6 describes the results of t-tests between each 2 groups formed according to the criteria "C-1", "C-2", and "C-3": The Table also represents the two groups comparison as drawn from each of the sample universes: Group "1", "2" and "3", which indicate accelerating degree of diagnostic clarity.

As the results of Table 6 indicate, the isolation of the factor of "balanced identification pattern" as the criterion, regardless of the *absolute* strength of the pattern of identification, was sufficient to produce consistent differences in the expected direction in all the nine comparisons. With one exception, the trend of the differences between the "Balanced" vs. "One-Sided" groups reaches higher differences the more selective is the sample universe with regard to the diagnostic clarity of individuals' pattern of identification. Criteria "C-1" and "C-2" obtained probability of 0.09 and 0.06 in the sample-Group "3". The exceptional case of Criterion "C-3" in Group "3" is not an exception with regard to the difference between the two groups' means (which predictably increased) but is a function of the standard error in the unusually small "Balanced" group (n = 6) of Criterion "C-3" in Group "3". The standard error was 12.15 compared to other standard errors which did not exceed 4.89. Furthermore, the significance of the difference - 0.07 - of the two groups in Criterion "C-3" of Group "2" indicate the

Table 6

t Tests Comparison of *Enterprizing* Inclination Between Group of Ss Rated as Equally Identified With Mother And Father Figures Vs. Group of Ss Rated As Presenting One-Sided Identification Pattern

	Group "1"[a] (n=132)		Group "2"[a] (n=96)		Group "3"[a] (n=44)	
CRITERION "C-1"	MEANS	SD	MEANS	SD	MEANS	SD
EQUALLY IDENTIFIED	42.49	30.89	48.59	31.06	58.57	27.43
ONE-SIDED IDENTIFIED	37.34	29.58	40.28	29.99	37.27	30.19
	SIGNIF. = .36		SIGNIF. = .22		SIGNIF. = .09	
CRITERION "C-2"	MEANS	SD	MEANS	SD	MEANS	SD
EQUALLY IDENTIFIED	42.23	31.78	46.82	31.98	57.22	29.48
ONE-SIDED IDENTIFIED	36.57	28.53	40.04	29.23	36.40	29.68
	SIGNIF. = .28		SIGNIF. = .28		SIGNIF. = .06	
CRITERION "C-3"	MEANS	SD	MEANS	SD	MEANS	SD
EQUALLY IDENTIFIED	42.80	30.03	53.65	27.77	57.17*	29.77
ONE-SIDED IDENTIFIED	37.73	30.16	30.93	30.58	38.05	30.17
	SIGNIF. = .39		SIGNIF. = .07		SIGNIF. = .15	

[a]See remark for groups "1", "2" and "3" in Table 2.

*The standard error of this group is 12.15. The other groups' Std. errors never exceeded 4.83.

operation of the general trend.

Since *Enterprizing* manifestation can be reasonably expected from relatively highly-energetic individuals it is quite inconceivable that it may be a manifestation of low level of identification. All our clinical wisdom to date suggests that weak primary relationships is associated with a deranged sense of being on the part of the growing child. Consequently, our isolation of the factor of "Balanced identification" regardless of the level of identification, must have produced a lot of statistical "noise" and might have depressed our results. In order to check such a possibility it was necessary to form two different kinds of groups for t-test comparison.

Since the factor of level of identification was to be considered here; we could employ only one of the judge's rating of femininity and masculinity (the two original 1 to 7 scales of F and M). Based on this rating, one group was formed by considering only those Ss who scored 5 or more on both of the judge's F and M scales. The other group was consisted of all the Ss who scored 4.5 or less on both the F and M scales.

Thus, the formation of these two groups involved a direct test of the factor of level of identification with both parents since all the subjects who were rated as 5 or more on only one of the F or M scales were excluded from either of the groups. However, it will be misleading to assert that we have managed by this procedure to completely isolate the factor of "level of identification" as an independent variable here and to exclude the factor of "Balanced identification". On the contrary, we can almost take for granted the need of children to judge unequal but relatively strong identifications with father and mother figures as

symbolically "equivalent". Apart from that, by choosing the cut-off point 5 on the 1-7 scales as a way of distinguishing the "high-powered" group, we also increased the statistical probability of two scores in any pair being equal or nearly equal (that is "balanced identification") in our favored group. Thus our two group formation favored only one group with the two related factors that according to our understanding are potent for *Enterprizing* inclination. Table 7 presents the results of t-tests between these two groups drawn anew from each of the overlapping sample - Groups "1", "2" and "3".

The results of Table 7 indicate a particularly strong agreement with the factors that were presumed to affect the manifestation of *Enterprizing*: In sample-Group "3" the 2 groups' difference was very marked indeed and reached a significance of 0.006. The mean of the "weakly-identified" group here was 16.12 Std. score on the VPI profile which is between 0 to 1 raw score on the *Enterprizing* dimension. The significantly low Standard Deviation of this group is a function of the constraint of 0 score at the bottom of the scale. We can confidently suggest, then, that a child who strongly identified with both of his parents (or parental figures) without any clear preference for either parent (or more generally: without one-sided pattern of identification) can be expected to have a tendency toward *Enterprizing* occupational inclination. This tendency will increase the more actually balanced his pattern of identification has been.

We have found various corroborative evidence to this conclusion. In the first place, the factor of "relationship between the parents" was found to be in functional relationship with *Enterprizing* manifestations. In order to test that we first excluded from consideration all the

Table 7

t Test Comparison of *Enterprizing* Inclination Between Group of Ss Rated As Strongly-Identified With Both Their Mother And Father Figures Vs. Group of Ss Rated As Weakly-Identified With Both Their Mother and Father Figures

	Group "1"[a] (*n*=90)			Group "2"[a] (*n*=66)			Group "3"[a] (*n*=29)		
	MEANS	SD	N	MEANS	SD	N	MEANS	SD	N
STRONGLY-IDENTIFIED	44.53	31.59	60	46.89	30.48	46	49.00	29.85[b]	21
WEAKLY-IDENTIFIED	32.00	28.70	30	31.90	31.62	20	16.12	16.30[b]	8
	SIGNIF. = .07			SIGNIF. = .07			SIGNIF. = .006		

[a]See remark for groups "1", "2" and "3" in Table 2.

[b]A significant difference between the 2 groups' Std. Deviations was reached here; (Cochran c. test: P = 0.03).

subjects who did not have an ongoing exposure to both of their parents during their childhood (up to age 6). We then considered (in the remaining sample) all the subjects whose parents' relationship was rated as 5 or more (on a 1 to 7 scale from "disastrous" to "ideal"), as belonging to one group. Similarly we considered all the Ss whose parents' relationship was rated as 3 or less, as belonging to the other group. We thus obtained two somewhat polarized groups on this dimension. We then compared the two groups' *Enterprizing* scores in a t-test. The judge's 1 to 7 rating was quite directly based in this case on Ss' descriptions of their parents' relationship, together with other evidence concerning the disruptiveness of the parents' family life. The emphasized reliance on subjects' self-report here was based on the recognition that these perceptions represent the subjects' motivation and integration as well. Aside from that, subjects' reports on this issue were almost invariably felt as authentic. Table 8 presents the t-test results. These results conform to a strong impression that emerged from the informal study of individual cases; namely, that the entire family structure of relationship has to be considered in order to have a clear understanding of the subject's pattern of relationship. In many cases, where parents' relationships were described as "stormy" or "conflictual" subjects were forced or simply found themselves in alliance with one parent against the other. This in turn either shaped or distorted subjects' pattern of identification. Our statistical results are therefore not really surprizing: the two variables "Relationship between parents" and "*Enterprizing* manifestation of the child" which at first sight seem totally unrelated, achieve functional relationship through the mediating effect of patterns of identifications which in turn detract

Table 8

t Test Comparison of *Enterprizing* Inclination Between Group Of Ss Whose Parents' Relationship Were Rated As Harmonious Vs. Group of Ss Whose Parents' Relationship Were Rated As Poor

	MEANS	SD	N
"HARMONIOUS RELATIONSHIP""	44.39	31.36	54
"POOR RELATIONSHIP"	29.56	24.96	34
		SIGNIF. =	.02

from or enhance the symbolic fusion that give rise to *Enterprizing* inclination. One has to remember that the process of identification guarantees the fact that a child's definition of his parents (or parental figures) is directly translated to his definition of himself by symbolic means. Therefore, a split between the parents is directly experienced by the child as an immanent split within himself.

We have to acknowledge here that the symbolic significance of *Enterprizing* was elusive to us for a long time. The symbolic fusion which is its base prevents us from the easy "architypal" analysis of the *Social-Artistic* or the *Realistic-Intellectual* type. It is as if the *Enterprizing* personality proclaims "I am neither of those archtypes and I am both of them". Thus it happened that in our attempt to elucidate the symbolic meaning of *Enterprizing* inclinations we approached 16 of our subjects who display prominent *Enterprizing* inclination which dominated their VPI profile, and asked them to indicate what was their most favorite subject of studies in high school. Twelve of the subjects indicated "History" as *their most favorite* subject and four of the subjects indicated "History" as *one of their most favorite* subjects. Surprized by this clear pattern we turned to Holland's Occupational Finder to verify the 3 factor structure of "Historians". We found that *Enterprizing* is the second highest inclination of a representative group of historians.

The symbolic meaning of "History" is as elusive as the *Enterprizing* personality. History occupies the ostensible middle ground between Art and Science. As a subject matter it avoids the expressive emotionality of the Arts and avoids also the hard, cold and impersonal "facts" of the exact sciences. History is consisted of down-to-earth facts but facts

that relate to people and their dramas. Thus we hear again here this implicit statement: "I am neither of those architypes and I am both of them". One of our women subjects who displays a predominantly *Enterprizing* inclination has expressed in the following manner the dilemma of the *Enterprizing* personality:

> "It is pretty clear to me that I am going to a business career. I don't feel any desire for a different career or occupation. On the other hand I don't feel that I'm going to become something ... that I'm going to be something."

This is an important clue. It means first of all that the *Enterprizing* personality is illusive to itself as well as to us. There is a subtle symbolic difference between having a "business career" and having an "occupation". A "business career" somehow does not answer the question "What I want to be ...." A businessman is indeed a *busy man* but it does not strike him or us that he is having an occupation.

The reason a professional occupation answers the question "What I want to be ..." is because of the sexual primacy factor of identity. The primary factor (which may be represented by Holland's highest code in the 3 code description of an occupation) by virtue of its sexual significance continuously confirms what *I am* as a sexual being. Moreover, the primary factor colors all other secondary factors. In "psychologist" as an occupation, the secondary factors of *Social* and *Artistic* are colored and shaped by the primary *Intellectual* factor. This *Social* and *Artistic* shaping under *Intellectual* domination provides us with the familiar sense of the "psychologist". *Enterprizing* personality is a different symbolic integration in which feminine and masculine elements were fused in the symbolic self as in "psychologists" but primacy was prevented. It is in this sense that a businessman is

having a career but not an occupation. On the other hand our businessman can still "become" something through his hobbies. All our *Enterprizing* Ss expressed a wish to write a book someday.

CONVENTIONAL MANIFESTATION

Our journey of results and interpretations is faced with a rougher road in the case of *Conventional* manifestation. Here we initially felt much more in the dark and consequently it was important, first, to establish what are the variables that *Conventional* manifestation is unrelated to.

The following is a list of variables with which *Conventional* manifestation was tested, found not to be associated with, and thus, by way of elimination, provide us with the first closure about its nature:

1. The factor of "high identification with both parents" (or parental figures) vs. "low identification with both parents" did not produce any significant difference between "high" and "low" groups in terms of *Conventional* manifestation. The measures of significance of differences for the sample-groups "1", "2" and "3" were correspondingly: 0.80, 1.00, and 1.00. (This is in striking difference to the functional relationship of this factor with *Enterprizing* manifestation.)

2. The factor of "high mother-figure identification" vs "low mother-figure identification", did not produce any significant difference between "high" and "low" groups in terms of *Conventional* manifestation. The measures of significance of difference for the sample-groups "1", "2" and "3" were correspondingly: 0.66, 1.00 and 1.00. (This is in contrast to the functional relationship of this factor with *Social-Artistic* manifestation.)

3. The factor of "high father-figure identification" vs "low

father-figure identification" did not produce any significant difference between "high" and "low" groups in terms of *Conventional* manifestation. The measures of significance of difference for the sample-groups "1", "2" and "3" were correspondingly: 1.00, 0.66 and 0.86. (This is in contrast to the functional relationship of this factor with *Realistic-Intellectual* manifestation.)

4. The factor of "high identification with cross-sex parental figure" vs "low identification with cross-sex parental figure" did not produce any significant difference in terms of *Conventional* manifestation. The measures of significance of difference for the sample-groups "1", "2" and "3" were correspondingly: 0.44, 0.44 and 1.00.

The tests done with these factors were *t*-tests and chi-square tests. The reason why chi-square tests were performed in addition to *t*-tests was based on the recognition that 43% of our Ss did not indicate any *Conventional* manifestation at all. Since *Conventional* occupations are thus seen to have an either appealing effect or aversive effect, it was presumed that perhaps a cut-off point between 0 and 1 raw scores will prove to be a more sensitive dichotomy for the effect of the above-mentioned factors. However, the significance rate of both *t*-tests and chi-square tests were about the same in these instances. (The measures of significance that were given above are those of the chi-square tests.)

We can conclude, then, that *Conventional* manifestations do not seem to be related to the actual strength of identification with parental figures either together or taken separately. It is also clear that if the position of the cross-sex parental figure is considered in isolation it does not produce any effect. This attests to the fact that the absolute level of cross-sex identification may not be important here but

it does not yet exclude the possibility of a relative effect; e.g., relative to the relationship with the same-sex parental figure.

Thus far we have witnessed that regardless of the sex of the subject, a better relationship with a mother-figure than with a father-figure produces greater *Social-Artistic* inclination than *Realistic-Intellectual* inclination and vice versa. We also witnessed that regardless of the sex of the S the absolute strength of identification with, say, the mother figure stands in direct functional relationship with *Social-Artistic* inclination. And the same pattern applies to the father figure and *Realistic-Intellectual* inclination. In *Enterprizing* manifestation, the absolute level of identifications was of critical importance too. We can sense now that by contrast the case of *Conventional* manifestation is not so simple. We can only look at this point to study *Conventional* manifestation as a product of *relative* patterns of identification; e.g., in terms of relative preference between parental figures. We should add here too that if a systematic effort to demonstrate this is failed then our general thesis regarding the sexual symbolism of occupational trends loses some of its coherence.

Since our consistent use of symbolic analysis has led us to conceive of *Conventional* manifestations as embodying the constructive dialectics of sexual role denial, there was no particular reason to believe that it is is a product of strong identification or weak identification. Rather, it should be a product of an intense conflict which entails a constructive solution. While it may be true that a *Conventional* position is an existential gesture which symbolically denies that "I am a unique being", it is definitely not a nihilistic position in the sense that "I am nobody" is, which is what we may expect from low level of identifications.

Our initial assumption therefore was that *Conventional* manifestations may be a product of a relative preference for the cross-sex parent. This hypothesis was based on the hypothetical scenario which projected that perhaps, under some measure of preferential relationship and identification with cross-sex parent, the growing child may encounter a major threat to his gender identity. Therefore *Conventional* stance may be a way to deny the undeniable. This hypothesis-picture led us to predict that we shall find higher rate of *Conventional* manifestation among the group of subjects whose pattern of identification reveals a preference for cross-sex parental figure; e.g., in the case of a girl - the father, in the case of a boy - the mother.

We tested this possibility by forming two types of groups' contrast. The first type involved contrasting the group of subjects who showed preference for cross-sex parental figure against the group of subjects who showed preference for same-sex parental figure. The second type involved contrasting the same former group against a "mixed bag" group consisting both of subjects who showed preference for same-sex parental figure and subjects with balanced pattern of identification. The rating used was the judge's rating "C" which has been slightly but consistently more superior thus far. It is worth noting that this rating which based itself slightly more heavily on the indirect indications of secondary identifications proved particularly valuable in the case of *Conventional* manifestation. The two other ratings, accumulating more mistakes, were particularly vulnerable to the equivocal indications which, as we shall see, are the very essence of *Conventional* manifestation. We have reason to believe that their surplus mistakes have been precisely generated in the cases where denial conflicts gave rise both

to *Conventional* manifestation and misleading self reports. In the case of testing the above prediction the two ratings "A" and "B" did not point to any direction while rating "C" established a trend that eventually has been corroborated by the follow-up statistical inquiry. However the trend that Rating "C" demonstrated was the exact opposite of our prediction. Table 9 describes the results of both chi-square and *t*-tests for comparison of *Conventional* manifestation between the two groups of the first contrast; ("cross-sex preference" vs "same-sex preference"). Table 10 describes the results of both chi-square and *t*-tests for comparison of *Conventional* manifestation between the two groups of the second contrast; ("cross-sex preference" vs "same-sex preference" + "balanced pattern"). The chi-square tests were based again on the dichotomy between 0 and 1 raw scores and therefore treated all subjects who indicated one or more "like" choices for *Conventional* occupations as belonging to the same category. Sample-groups "1", "2" and "3" were also used again.

The results displayed in Tables 9 and 10 were most intriguing from our point of view. Not only has our prediction been clearly reversed but also the familiar trend of groups "1" to "3" has been reversed too. This reversed trend indicates that while it seems that the group of same-sex preference and balanced identification pattern produce more *Conventional* manifestation it is certainly not true that the more clear-cut those identity patterns become the more strongly associated they are with *Conventional* manifestation. On the contrary: the less diagnostically clear-cut they are the more they are associated with *Conventional* manifestation. It seems that the judge's statement about how certain he is with regard to a particular pattern of identification, tells us more

Table 9

Chi-Square And *t* Tests Comparison of *Conventional* Manifestation Between Group of Ss Rated As "More Identified With Cross-Sex Parental Figure" Vs. Group of Ss Rated As "More Identified With Same-Sex Parental Figure"

	Group "1"[a] (*n*=96)			Group "2"[a] (*n*=76)			Group "3"[a] (*n*=38)		
	MEANS	SD	N	MEANS	SD	N	MEANS	SD	N
CROSS-SEX PREFERENCE	32.14	23.14	56	33.98	25.37	44	33.17	23.76	23
SAME-SEX PREFERENCE	37.40	21.07	40	36.84	18.31	32	37.07	19.25	15
t TEST DIFFERENCE	SIGNIF. = .27			SIGNIF. = .59			SIGNIF. = .60		
CHI-SQUARE DIFFERENCE[b]	SIGNIF. = .11[c]			SIGNIF. = .12[c]			SIGNIF. = .64[c]		

[a]See remarks for groups "1", "2" and "3" in Table 2.

[b]The basis of chi-square dichotomy was either zero manifestation of *Conventional* inclination (in terms of raw scores) or any manifestation whatsoever (1 or more raw scores).

[c]The direction of the difference between the two groups in terms of frequency of *Conventional* manifestation, is the same direction born by the *t* test difference between means; namely, frequency of *Conventional* manifestation in the "same sex preference" group.

Table 10

Chi-Square And *t* Test Comparison of *Conventional* Manifestation Between Group of Ss Who Were Rated As "More Identified With Cross-Sex Parental Figure" Vs. Group Of Ss Who Were Rated As Either "More Identified With Same-Sex Parental Figure" Or "Itentified Equally With Both Parental Figures"

	Group "1"[a] (*n*=132)			Group "2"[a] (*n*=96)			Group "3"[a] (*n*=44)		
	MEANS	SD	N	MEANS	SD	N	MEANS	SD	N
CROSS-SEX PREFERENCE	32.14	23.86	56	33.98	25.37	44	33.17	23.76	23
SAME-SEX OR NO PREFERENCE	39.32	24.18	76	40.36	22.43	52	40.28	23.78	21
t TEST DIFFERENCE	SIGNIF. = .09			SIGNIF. = .19			SIGNIF. = .33		
CHI-SQUARE DIFFERENCE[b]	SIGNIF. = .10[c]			SIGNIF. = .06[c]			SIGNIF. = .32[c]		

[a]See remark for groups "1", "2" and "3" in Table 2.

[b]See remark concerning the basis for chi-square dichotomy in Table 9.

[c]The significance here as in Table 9 indicate more frequency of *Conventional* manifestation in "same-sex or no preference" group.

about the subject than it says anything about the judge or the limitations of the biographical data. The judge's uncertainty is a mere reflection of the subject's conflicts. In other words, an outline of *Conventional* manifestation as a product of identity conflict starts to emerge according to our expectations but it is a different conflict than the one that we have envisioned. It is a conflict that is not predicated on a threat of over-identification with cross-sex parent to one's gender identity, but rather an experienced conflict of identity with same-sex parent as a basis of one's own gender identity crisis. It may simply be symbolized by the following statement: "I want to be like my same-sex parent and I do not want to." Judging by the wisdom of hindsight it does seem like a more sound basis for a conflict of denial. The very term "identity" means an equation in which a denial of one side (same-sex parent) entails the denial of the other side (my own self); this it seems, is our symbolic identity. We may also note to ourselves in light of our results that there may not be such a thing as a "threat" of over-identification as there is no such thing like a threat of good relationship with the parent to the child.

The symbolic analysis that we have just followed seems to derive from an indirect evidence of conflict based on our interpretative deduction.

Although the trend of groups "1" to "3" do not seem to call for any other reasonable deduction and although we most probably would raise our level of significance higher by considering only the uncertain cases instead of the "no selection" of our sample-group "1", yet it will still be advisable to demonstrate an independent evidence of a major identity conflict.

An independent measure of conflict may be obtained if we consider the Mf scale of the VPI profile. This scale was designed to indicate whether an individual is more oriented toward stereotypically feminine occupations or toward stereotypically masculine occupations. We can expect by now that an individual whose combined *Social-Artistic* score is higher than his combined *Realistic-Intellectual* score, will also obtain a feminine indication on the Mf scale, and vice versa. Indeed we found that there are 86 Ss in our sample whose ((S + A) - (R + I)) and Mf scores conform to our expectation, compared to 46 Ss whose scores provide an opposite indication. This assymetric distribution is much too one-sided to be accounted for by random factors and provide us with another evidence about the general sexual nature of identification which is irrespective of the biological sex of the child. A powerful corroborative evidence for this conclusion was derived from our sample when we considered the Mf scores in relation to the sex of the subjects. Here we have found that the sex of the subjects has absolutely nothing to do with the Mf scores: 87 subjects obtained Mf positions in counter-indication to their sex, compared to 45 subjects whose Mf positions conformed to their sex. It certainly appears then, that the Mf positions are controlled by the pattern of identification as they are expressed by the ((S + A) - (R + I)) scores disregarding the sex of the subjects. Moreover this evidence has nothing to do with a judge's rating and can be readily verified from samples of VPI profiles.

At the same time our 46 Ss, whose ((S + A) - (R + I)) and Mf scores were in counter indication, provide us with a crude but incisive operational measure of an identity conflict.

This conflict revealed by the score positions of the ((S + A) -

(R + I)) and Mf scale may be an important diagnostic clue for counselors who are puzzled by some of their clients' unsuccessful vocational "decision-making process". For one thing it may be a more severe manifestation of an identity conflict than *Conventional* inclination. An individual who on the one hand is most highly inclined on, say, the *Social-Artistic* dimenstions and on the other hand betrays a general inclination toward stereotypically masculine occupations is an individual who may be continuously dissatisfied with any occupation. It may very well captune a self-anhilating-definition. Our *Conventional* personality by comparison may be cheerfully engaged in his constructive self-denial solution.

The two syndromes then are different in consequences but may be highly related in terms of the symbolic identity equation: A same-sex parent who was both strongly identified with and strongly opposed.

To test this possibility we have replicated the grouping that we formed (Tables 9 and 10) to compare *Conventional* manifestation. This time the dependent variable involved a dichotomy between subjects whose ((S + A) - (R + I)) and Mf scores were consistent, e.g., in the same feminine or masculine direction, and subjects whose corresponding scores were inconsistent. Consistency of scores then were used as our operational definition of an acute identity conflict or the lack of it. To increase accuracy in this operational definition we included only those subjects who obtained a difference of 10 points or more between their S + A and R + I scores. Tables 11 and 12 present the results obtained by comparing: (a) cross-sex preference vs same-sex preference subjects, and (b) cross-sex preference vs same-sex preference + balanced identification subjects. Rating "C" was used again and so were sample-Groups

Table 11

Chi-Square Comparison of Frequency of Identity-Conflict[a] Between Group of Ss Rated As "More Identified With Cross-Sex Parental Figure" Vs. Group of Ss Rated As "More Identified With Same-Sex Parental Figure"

	Group "1"[b] (n=91)	Group "2"[b] (n=69)	Group "3"[b] (n=39)
CHI-SQUARE DIFFERENCE	SIGNIF.=.07[c]	SIGNIF.=.02[c]	SIGNIF.=.30[c]

[a]Identity-conflict was operationalized as opposite indications between ((S + A) - (R + I)) score and femininity/masculinity position on the VPI's Mf scale.

[b]See remark for groups "1", "2" and "3" in Table 2.

[c]All the measures of significance indicate a direction of more identity-conflict cases in the group rated as "more identified with same-sex parental figure".

Table 12

Chi-Square Comparison of Frequency Of Identity-Conflict[a] Between Group Of Ss Rated As "More Identified With Cross-Sex Parental Figure" Vs. Group of Ss Rated As Either "More Identified With Same-Sex Parental Figure" Or "Identified Equally With Both Parental Figures"

	Group "1"[b] (n=113)	Group "2"[b] (n=86)	Group "3"[b] (n=41)
CHI-SQUARE DIFFERENCE	SIGNIF.=.14[c]	SIGNIF.=.03[c]	SIGNIF.=.23[c]

[a]See remark for identity-conflict in Table 11.

[b]See remark for groups "1", "2" and "3" in Table 2.

[c]All the measures of significance indicate a direction of more identity-conflict cases in the group rated as either "more identified with same-sex parental figure" or "equally identified with both parental figures".

"1", "2" and "3".

As the results of Tables 11 and 12 indicate, a very similar trend to *Conventional* manifestation in Tables 9 and 10 was established for identity-conflict here. It seems that the "same-sex preference" group does contain relatively more individuals with *Conventional* manifestations and also relatively more individuals exhibiting our definition of identity conflict. For both cases the frequency difference in comparison with the cross-sex preference group reduces in significance when only clear-cut patterns are considered (Group "3").

If we add to this picture our previous finding indicating that twice as many subjects register Mf position opposite to their sex, we may be astounded to find ourselves at the end of our inquiry back within the framework of the oedipal dynamic.

The reasons for our considering the oedipal situation here stem from two rival interpretations that seem almost equally suitable to integrate our findings at this point with regard to the *Conventional* identity syndrome. In the classical Freudian argument the oedipal situation signifies a major and universal source of disturbance in identity formation. Within the oedipal triangle this disturbance occurs specifically in the relationship of the child with his same-sex parent. The perception seems irresistable therefore that it is this source of rivalry and negation with the same-sex parent, that is responsible both for the anomaly of 100% more subjects establishing opposite sex positions on the Mf scale and also for the prevalence of identity conflict among individuals who otherwise indicated a closer relationship with their same-sex parent.

What Freud did not articulate, for lack of suitable evidence, is

that one's negation of same-sex parent implies by symbolic identity the negation of one-self. The outline of a situation where a child negates a parent who is at the same time close to him and is the source for his gender identity indicates an acute and insoluble crisis. The least that we can deduct from our data is that *Conventional* manifestation is not a product of distant and cold relationship with same-sex parent but rather a product of close, involved and conflictual relationship with such parent.

We will not be surprised however if future research will demonstrate the centrality of the mother in the *Conventional* syndrome. This point will be borne out if we realize that involved and conflictual relationship with the mother is a good reason for both the boy and the girl to move towards the father, but that the girl, by virtue of her symbolic identity, will be more compelled in the end to allign her-self with her mother. This dynamic is sufficient to explain by itself the different outcomes of allignment tendencies for boys and girls and the similar outcome of *Conventional* manifestation for both of them. This is a different variant of interpretation and it is based on the understanding of the mother as a symbol of emotionality. If a denial-conflict with the mother generates a denial of emotionality in one's self-definition and consequently a denial of emotionality in one's interactions with people and tasks, then our understanding of the *Conventional* solution acquires an additional shade of meaning. In our interviews with subjects with dominant *Conventional* inclination we encountered a few times the confession that they feel at ease in interaction with people once they are within their occupational role but they feel "shy" with people outside it. In terms of our statistical findings we have found only a

trend for the proposition that conflict with mother is associated with *Conventional* inclinations. When we took inconsistency between self report of "closeness" and "respect" toward the mother as a definition of ostensible identity conflict with the mother, and performed chi-square test between "consistent" and "inconsistent" groups we obtained a significance of only .16 in the expected direction. We should add, though, that (a) this measure of identity-conflict is quite crude, (b) using this measure we could not control for the actual strength of the relationship with the mother (nor were those self-reports on the questionnaire particularly useful as measure of actual strength), and (c) replicating the same test with the father did not produce even a trend of difference.

The extensive empirical findings that established the hexagonal relationships of Holland's factors (see Appendices I, II and III) corroborate the interpretation of the mother as the main source of the *Conventional* syndrome (by way of emotionality denial). This can be seen from the fact that the *Conventional* factor is most strongly associated with the *Realistic* factor and least strongly associated with the *Artistic* factor. As basic trends they suggest the simultaneous movement toward the father that occur together with the denial of the mother and of expressive emotionality which is the basis of *Artistic* inclination. People in our sample who manifested both *Artistic* and *Conventional* inclinations (a not altogether rare combination) invariably reported a fascination with art and at the same time an inner objection to the "mess" and disorder that is involved in the plastic forms of *Artistic* creativity. None of them overcame this objection and engaged in *Artistic* production and all of them experienced a life long frustration in this domain. One woman described to us her compromise solution: she

enthusiastically and excitedly engages herself from time to time in painting the walls in her home. However any such enterprize involves an extraordinary preparation: three days of furniture arrangement and the most meticulous application of newspapers on the floor. The whole operation is structured, smooth, and clean.

Future research will have to determine whether the *Conventional* syndrome is more accurately described in terms of same-sex parent denial or in terms of the denial of emotionality centered on the mother-child relationship. Invariably, however, the two interpretations will have to be firmly understood in terms of identity and the sense of "to be". Our exposure to the biographical data lead us to believe that there are in fact two symbolic syndromes that give rise to the *Conventional* solution.

DISCUSSION

The present study may first of all be criticized on the grounds that a highly interpretative bias was maintained with regard to a whole series of results; that the "facts" should have been left to speak for themselves, and that no allowance was made for other possible interpretations. This is the standard empirical criticism and we are raising it in order to sharpen our position here.

We should like to note that any such criticism should be put first in a context of a field of inquiry - vocational psychology - which has amassed by now enormous number of "facts" that are directly responsible for a growing sense of incomprehensibility and despair. There is perhaps no other field of enquiry in the whole of science which is so a-theoretical and which has retained such an empirical "purity". If it was not for Strong's finding of lawfull "patterns of interests" the whole field would not have come into its familiar existence in splendid isolation. We would not like to deny that theoretical attempts to understand the evolution of occupational trends were made, that they have failed to generate direct evidence or corroboration and that it is to be expected that in a situation that lacks theoretical guideline one may find many "facts" that do not promote his comprehension. On the other hand, an effort of 53 years of research and theory of human affairs which has not produced an intuition as to how and why different occupational trends are formed, produces its own diagnosis. Against the pro forma scientific position which holds that we do not know anything until we have obtained evidence , we wish to deny that there can be such a thing in human affairs

as "not knowing". In other words, we strongly suspect that the scientific enterprise has shared and reflected what in our culture is a specific "Taboo of knowledge" regarding occupations.

The operation of the "Taboo of knowledge" does not prevent people sensing that the most revealing question they can ask a new acquaintance is "what is your occupation?" and that no other answer can provide them so much meaning of the other person's being as the one-word-name of his occupation. It also does not prevent people from consistently using the verb "to be" in conjunction with occupations unless they want to signify a temporary "job" or a "work" taken under necessity. In such cases they will revert from using the sentence-form "I am a X" to "I am working in X now" or "I have taken the job X" or "I am doing X lately"; a transition from "being" to activity descriptions which remove the identity between themselves and their occupations. One can scarcely find a more universal and regular phenomena in social science than this language-behavior.

People, then, do seem to know what is involved in an occupation, but they do not want to make it an explicit knowledge.

The reason is not hard to find: one cannot imagine something that is more intimate and at the same time more readily open to public knowledge than an occupation. That means that if we have any tact at all we would not ask a new acquaintance "What is your occupation?" but rather "What do you do for a living?" promising him in that way that we are not going to "understand" the full significance of his answer. Certainly it is a sheer horror to suspect that a person's sexual identity pattern can be read from the mere mention of his occupation. And yet people seem to know that when they move

uncomfortably - inspite themselves - with the mention of some occupations done by men or some occupations done by women. By examining individual cases one may learn the peculiar way in which such knowledge may become explicit. One of our subjects, a young woman, had studied psychology for her B.A. and for ten years afterwards she was engaged sporadically with psychological-people-related works. She was never satisfied with either her studies or her work, yet she never knew what other occupation she should commit herself to. At age 32 she gave birth to a child for the first time and subsequently proved herself to be a "natural mother". A year afterwards it suddenly dawned on her what is her calling in life: architecture. The fact that she always was unusually gifted in self-made architectural projects never translated before that into explicit knowledge of occupational commitment; but after ensuring her femininity through her son she was ready for an occupation with a considerable *Realistic* factor that formerly threatened to disrupt her sense of femininity. Such a case reminds us that motherhood is also conjugated with the verb "to be", and that we may be violating our understanding if we exclude it from the total occupational-identity picture. What is equally important to realize is that the "Taboo of knowledge" has been shared by both the society and the scientific enterprise. Science co-operated by constructing tests that ask people what they "like" without asking them what they want "to be"; by terming the psychological phenomena involved as "patterns of interests", by pervasive talk about "decision-making processes", and finally by describing sexual-occupational differences as sexual "stereotypes". Far from being on a movement of discovery science was constructing the tools to make the defence respectable if we may judge

so by recent attempts to explore norming procedures that will eliminate the differences between men and women (Campbell, J., 1976; Greaser, 1976; Hansen, 1976; Lunneberg, 1975; Rayman, 1976). We were both irritated and amused to find out how consistently we provoked resistance among colleagues by using the terms masculinity and femininity. It is evident therefore that if Science brands the most immediate and compelling human sensibility as "stereotypes" then Science is not on its way to discovering anything of significance.

It is not; however, our wish to deplore the "Taboo of knowledge". We are not at all sure that we have done a public service in the short term by exposing the sexuality of occupations; after all the order of culture departs from the order of nature at the point where human beings wear clothes and stop going naked. As for the long term there is no reason to suspect that human beings will stop wearing clothes and we may contribute in a small way to the positive mission of women's movement in bringing human consciousness to its bi-sexual possibilities. On the other hand if women's liberation is taking the position of no sexual differences by taking upon itself to sterilize children's books and toys and de-sexualize our language, we are strongly opposed to it. As our research has shown if their wish is granted they will be emptying occupational motivation, and they are touching the core of our process of being without any capacity to predict the consequences. As George Orwell pointed out, anybody who sterilizes the language is an enemy of the people.

This then is the interpretative bias that was maintained in this study: we have stayed close to the symbolism of ordinary language and we recognize symbolic processes as the only psychological process.

To the charge that we have not entertained other possible interpretations we should like to reply that given the disorienting reality of the vocational field it was imperative that we should accomplish a coherence of facts and theory in order to promote a sense of direction. We feel that to entertain post-hoc speculations for the sake of scientific "open mindedness" is to violate the understanding that led us to search in this direction in the first place. If one should claim that on the basis of findings any interpretation is as good as another then at least a priority should be given to an interpretation that was quite fruitful in producing confirmed predictions.

A second order of methodological criticism will no doubt be contemplated with regard to our use of the judge for generating our ratings. The difficulty with this procedure lies not only with the actual use of a judge but also with our acknowledgement that he be psycho-analytically oriented and quite above-average in his clinical intuition. As a consequence a claim can be made that in future attempts to replicate this study we may be able to defend ourselves against any negative results by simply proposing that the particular judge employed in any negative study is not astute enough.

There seems to be no way out of such criticism since it was indeed our experience in this study that approximately 7 out of 10 subjects, present enough of a "rich" and ambivalent biographical data to proclude an easy detection of the pattern of identifications. Anybody who deludes himself to believe that this field of phenomena will surrender itself one day to simple decision rules, has yet to face human paradoxes. We can see therefore no way to avoid a judge and

since "identification" is a total process that engages the individual conscious life as well, the normative use of projective instruments like the Rorschach or T.A.T. cannot be used without a validity study that will show how they may tap identification processes.

Until the time where personality instruments can be routinely used, the issue of the judge's qualifications can be overcome in a different way. Anyone who wishes to replicate this study and use any unqualified judge will simply have to increase the amount of his subjects' biographical data by a geometrical ratio. When a person's biographical data reaches the order of a life-story novel, practically any reader can determine the pattern of identifications. One does not have to be a clinically-oriented judge to determine what was D. H. Lawrence's pattern of identification if one uses "Sons and lovers" as the data. The issue of the qualification of the judge, then, is simply a manifestation of the practical constraints of our biographical data; it does not involve a plea for a mysterious procedure unaccounted for by ordinary observation. We should note, though, that those practical constraints are difficult to transcend given a study which involves 132 subjects unless one literally deals with 132 individual case studies. Such an approach is no doubt optimal and may indeed become unavoidable in the future.

Having addressed ourselves to two methodological issues we would like to raise a much more substantial criticism with regard to our study. Putting it in simple terms, the question of "who is the parent?" was directly ignored in our study. Indirectly of course the particular nature of the parental figure's personality had an obvious bearing upon the ultimate child-parent relationship; nevertheless,

the question is, can we really remove the unique and idiosyncratic nature of the very object with which the child has been identified. Suppose further that a consistent demonstration is given, in this and future studies, of the overwhelming power of sexual symbolism in self-identity which is irrespective of the particular parental figures of identification, still one may ask what happens in extreme cases of stereotypic role reversal; when the mother, say, is the obvious dominant, reality-oriented, masculine figure in the house and the father is the obvious emotional and feminine figure?

Those questions are by no means academic ones. We may demonstrate the significance of these questions by two case studies chosen from amongst our subjects. In one case, a male, has remained with his mother at age 2 after the marriage had been disolved. The mother, according to the subject's description, has been a distinctly feminine figure and the subject could not report any relationships with adult males that he had formed in his childhood. An unusually strong symbiosis was formed between the mother (who did not get married again) and her son. The son, our subject, is showing a highly strong interest in the Arts together with an almost complete paralysis of action. His dominant *Artistic* inclination in an otherwise flat VPI profile is therefore in some sense meaningless: it does not translate into *Artistic* creativity or *Artistic* occupation. Such a case in a bare outline is enough to demonstrate how the particular personality of the mother entered into a relationship with a child which precluded any other relationship and transformed into a symbolic prison. The *Artistic* inclination of the subject still suggests the potency of the sexual symbolism of identity but we have to remind ourselves that we

have here a case of symbiotic identity. The total absence of *Social* inclination together with the absence of all the other factors attest to this. The fact that occupations were successfully analyzed by Holland in a 3-factors description further demonstrates the sterility of the *Artistic* factor standing alone in our subject's VPI profile. We can understand, then, that the particular person of the mother here, has shaped our subject in a way which makes the abstraction of *Artistic* inclination from his personality an empty proposition. We can also understand how futile might be an attempt of strict Vocational Counseling in such a case.

The second case study involved a female subject who was also exclusively raised by a single-parent mother; however, this was not a case of symbiotic relationship. The relationship with the mother was described by the subject as "more or less good" and on the whole no indication of symbiosis was given. On the other hand it was an unusual case of role-reversal. The mother was described as "excessively masculine" and this description was confirmed by her occupations: machinist and race driver. In this case too the subject reported of no significant relationship that was formed in her childhood with other adult figures outside her mother. Thus, nature, has provided us here with a controlled case study for investigating the effect of a parent in a clear reversed role position. Our subject's six factors VPI profile is best described as being in zero level: an absolutely flat profile. Furthermore, the subject described herself as disoriented and unable to form any concept of what she wants to be.

This case study suggests that the question "who is the parent?" may be valid in terms of the masculinity-femininity dimensions in

extreme cases of role-reversal. In view of this complicating factor the question is how were we able to obtain our consistent series of findings?

The answer to that may be similar to the reasoning that led us to neglect the exploration of this factor in the first place: (a) the fact that most men and women can be identified as men and women, and (b) the peculiar capacity of a child to construct a masculine archi-type out of almost any father and a feminine architype out of almost any mother.; This capacity is, after all, the basis of our easily-reached consensus whether somebody should be described as "masculine" or "feminine". It might also have been the basis of our generalized findings.

However this cannot be a firm conclusion, since the last mentioned case study points to the possibility that extreme role-reversal positions of parental figures may directly interfere with the mythology-making processes of the child and create a disturbance that can sometimes produce an individual who does not know who he/she is. We do not know whether this factor operates as an "either-or" category or has its own bell-shaped field of influence. Future research aside from obtaining biographical data, will have to explore this possibility by asking subjects to rate their parents and other influential figures on masculinity and femininity dimensions and consider the interactive effect of this factor in the total picture. This is an intriguing journey into the heart of symbol formation processes of the child.

SOME IMPLICATIONS

There is no question in our mind that the method of choice in the

further exploration of occupational trends is the case study. While it was important to establish experimentally the basic theoretical lines in our research, our impression of the data reveals that the individual case is far richer and more instructive phenomena than what may be suggested from the simple outline of our understanding. To get a feeling of the intricacy by which the symbolic motives of identification are intertwined in the total life span of a person, one can use any biography or autobiography which has a good reconstruction of its subject's childhood. A recent example of such an instance is B. F. Skinner's autobiography - "Particulars of my life". In such a case study we see the mother as a cold woman intensely repressed in terms of her sexuality but nonetheless attached to her two sons. The father is portrayed as a *Conventional* man reliable in his occupation but his career is showing little sign of progress. While he is not a failure he shows occasional signs of weakness and helplessness and turns to his wife for support in time of crisis. The mother habitually maneuvers herself into a superior position versus her husband and this pattern of relationship does not provoke antagonism from either of the marriage partners. It also established the mother as a more impressive figure of identification since the father is not closer to his son. Skinner as an adolescent shows definite *Intellectual* inclination and his *Realistic* inclination is manifest since his childhood by his choice of construction games and later self-made gadgets. However his highest inclination is definitely *Artistic*. He is engrossed in literature and music and his first choice of "being" after graduating from college is being a writer. He declares himself as writer-to-be and contracts his parents for a year moratorium for

producing a novel. In a long and agonizing process he discovers his sterility as a writer. By his own admission he has nothing to say. He is subsequently plunged into a severe identity crisis. He moves to New York on his own and while he is not able to produce as an *Artist* he at least lives the life of an *Artist*. We can see then that a preference identification with a cold and repressed mother has on the one hand still produced an *Artistic* inclination as a primary motive but on the other hand produced an *Artistic* sterility as well as a lack of mamifest social inclination. The young Skinner feels that Literature has "betrayed" him. He is filled with a desire for revenge. He discovers Behaviorism and before he is even enrolled into the Psychology program at Harvard he is already a committed behaviorist. For Skinner, Behaviorism becomes an existential *modus vivendi* and he has a sense of mission in demonstrating the unusefulness of our language of feelings and mental concepts in explaining behavior. Thus by an intellectual magic he has transformed his *Artistic* sterility into a creative force. He also employs his *Realistic* inclination in constructing his "Skinner box" and he is constantly talking about "technology of behavior". A glance over the span of Skinner's career reveals that his predominantly *Intellectual* being is not a wholesome solution for him. He gradually complements it more and more by his ideological novels and finally by his autobiography. He has become the writer that he can be and an *Artist* on his own terms.

The outline of such a case study is sufficient to show how early patterns of identification provide the road for the total life drama. At the same time that a case study is enriching our understanding of how the symbolism of identity operates it provides a safeguard

against any dogmatism of interpretation. There is a dialectical process between our application of the basic concepts in order to understand a particular case study and how this case study subtly modifies and enriches our understanding. What is obvious is that without a theoretical orientation we would face each individual case as a total enigma.

The study of Elton and Rose (1970) involving 530 Ss and correlating the VPI with the Omnibus Personality Inventory by discriminant analysis, has shown that the two loaded factors of masculinity and femininity account for most of the variance on the VPI while the secondary contributing factor of ability was loaded with inward and outward thinking orientation. This is an important demonstration of the sexuality of occupational trends. However since its publication in 1970 these findings has not stirred any interest. One can understand that these findings as an isolated "facts" are meaningless and the authors themselves misnamed their factors and lost their important implications. On the other hand once such general statistical findings are conceived within the framework of a theory they increase the threat of dogmatic interpretation by deterministic reductionism. In the enterprise of science the case study is the only safeguard we have that reminds us that a human being is not only shaped by the symbolism of his environment but also the creator of these symbols. This creative capacity of human beings is the ultimate element of scientific unpredictability. As Erickson has shown in "Young Man Luther" and as the autobiography of Skinner again demonstrates, human beings are capable of creating options for themselves where no options have existed for them. At the same time that we can see the

determining force in the creative act we will be forever unprepared to predict its existence and to account for its unique character. The case study couched in symbolic terminology is therefore uniquely suited to account for what we know and what in principle we cannot know.

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APPENDICES

APPENDIX I

Evidence Concerning the Validity of J. Holland's Typology

Support for Holland's model has been substantial in the past nine years and we will first delineate this support. H. A. Andrews (1971) had shown the relevancy of Holland's model to an adult population. Eighty-nine male adults between the ages of 21 and 55 whose goals in attending a community college were "self-improvement" and "to earn a better job" filled out VPI's and described both their present and future jobs on a questionnaire. The personality scores from the VPI were compared to both present and future job environment codes. Significant results suggest that when an adult male is moving to change his occupation he will tend to gravitate to an occupation more in line with his personality type as defined by Holland. Enrollment in a community college for an adult is a definite and positive act and so the results of this study seem to suggest that if adult male is committed to change he will make a "congruent" choice overcoming less congruent choice of job in his present life. The motivation to move to congruent jobs was shown in this study to be strong enough for the choices to be unaffected by employer tuition reimbursement.

This finding is in line with J. Holland (1971) findings. He applied his classification to a national sample of retrospective work histories (N = 973) in order to (a) test the predictive efficiency of the classification, and (b) test related hypotheses from his model. Analyses were performed by organizing and reorganizing the work histories according to the classification. The classification appears to order lower level occupational histories in an efficient way, well

beyond chance. The testing of the hypotheses from the model suggests that it can be applied to both adult work histories and vocational choices of high school and college students. W. D. Lacey (1971) investigated the concurrent validity of Holland's model by administering the VPI to 230 male workers well established in occupational milieus that matched Holland's six vocational environments. With the exception of the *Realistic* subscale, the five remaining vocational scales distributed eight work groups, identified as representative of each of Holland's six vocational models in a comparable fashion according to their interests.

Besides establishing the relevancy of Holland's model to the entire male age-range population, support for Holland's classification is coming from many different directions. A. M. Hollander and J. H. Parker (1972) tested the assumption that stereotypes of adolescents' occupational preferences are related to self-description. Fifty-four high school students were administered the Adjective Check List to obtain self-descriptions and stereotypes of their one most and one least preferred occupation. An occupational preference list, developed for this study was administered to determine occupational preferences. Results suggest that occupational choices for adolescents were based, in part, on the degree of positive relationship between their self-descriptions and various occupational stereotypes. Other findings indicate that choices of most and least preferred occupations were made from different categories in Holland's classification system. H. D. Nafziger (1973) who failed in his attempt to utilize the Markov chain analysis to predict patterns of movement and occupational categories from one sample to the next, concluded that the most

efficient strategy was to predict that students would maintain the Holland category of their initial occupation.

J. A. Wakefield and E. B. Doughtie established another kind of validity. They administered Holland's VPI to 373 undergraduates. The eleven scales of the inventory were intercorrelated and factor analyzed. Six common factors were obtained: (a) *Conventional Economic*, (b) *Feminine Social*, (c) *Social Desirability*, (d) *Material World Orientation*, (e) *Status*, and (f) *Artistic*. The distances between each pair of the six personality types in the six dimensional space defined by the common factors were computed and compared with Holland's hexagonal model of the relationship among the six types. The placement of the six personality types in six dimensional space by the factor analysis corresponded closely to Holland's model.

K. F. Taylor and G. I. Kelso (1973) have shown that with a sample of 188 male students from six College of Advanced Education and Teachers' College courses which prima facie corresponded with Holland's six part personality typology, the highest means on all VPI scales were obtained by the predicted courses. Distributions of high and second point VPI codes were in accordance with theoretical expectations within four of six groups, and the order of VPI means was in agreement with Holland's hexagonal model on thirty of thirty-six occasions. This Australian sample is one among a few that provide a more universal claim of validity.

Since most of the research was done with student samples, the majority of which were urban, it was important to establish the hexagon structure in other populations. P. D. Crabtree and L. W. Hales (1974) tested 1,431 high school seniors from rural districts with the VPI.

The hexagonal configurations obtained in this study validate the hexagonal model.

When various kinds of predictors are classified by the six category typology, one can estimate predictive validity as well. G. D. Gottfredson and J. L. Holland (1975) examined competencies, activities, self-estimates, interests, and vocational choices as predictors after they were organized by the six category typology. The 894 men and 989 women took the SDS at entry into two colleges and reported their occupational choices one or three years later. It turned out that when these predictors are organized by Holland's typology each one of them has a predictive validity (provided of course that future occupational choices are classified by Holland's typology too.) Predictive efficiency, however, varied between predictors. Current vocational choice was the best predictor of later choice.

A more indirect type of validity was supplied by J. C. Smart and G. W. McLaughlin (1974). They investigated the relative importance which six groups of academic departments attached to five institutional goal dimensions. The groups were formed on the basis of Holland's environment typology and the goal dimensions were developed from a factor analysis of eleven goal statements. A stepwise, multiple discriminant analysis revealed significant differences between the six groups of academic departments on the Research-Graduate and Quality-Education goal dimensions. These two dimensions produced significant differentiation in eleven of the fifteen possible group comparisons and the findings suggest tentatively that Holland's model can assist in the interpretation of varying goal priorities within the academic community.

A measure of the stability of Holland's typology was demonstrated by W. T. Lucy (1976). He assessed stability of personality types by a person's major field at graduation and by high-point VPI code as an employed adult. In addition to completing the inventory 884 university alumni were asked to indicate their present or most recently held occupation, their graduating class, and their major field of study at the time of graduation from the university baccalaureate program. Stability of personality type as assessed by Holland's typology was demonstrated for intervals of 10-35 years (!). The concurrent validity of the VPI for employed adults was substantial.

A construct validity for the typology was established too. E. I. Meir and B. Amalia (1976) compared Holland's classification with A. Roe's occupational classification system (Service, Business, Organization, Technology, Outdoor, Science, General Cultural and Arts and Entertainment fields.) Two hundred and seventeen Israeli 9th-graders answered two interest inventories, one based on Holland's and one on Roe's classification. By means of a smallest space analysis, a two dimensional configuration was found in which the hypothesized parallel fields were adjacent to one another and the general shape resembled the structure found earlier for each classification system separately. It should be noted too that with E. P. Bull (1975) comparison of correlation of scores on the Campbell-Holland Interest Scale for 150 American students vs 147 New Zealand students, and the subsequent finding that the factor structure was shown to be similar in the two samples, the claim for universality is quite substantial at this point.

Since most of the research findings have employed the VPI or SDS

as the instruments of measurement it is vital for the discussion of this classification's validity to explore their relations with other known instruments in the vocational field.

The first line of evidence suggests that all of Holland's instruments measure the same thing. R. L. Gaffey (1972) used 153 male workers from the six different types of occupational environments as subjects. To each worker the following instruments were administered: (1) a brief "General Information Questionnaire" that included questions about age, education, job title, and number of years of experience at that occupation; (2) Holland Scales, sets I and II; (3) the VPI; (4) the SDS booklet. The six occupational groups were compared on each of the six scales of the Holland scales, SDS, and the eleven scales of VPI. Four principal ways were used to investigate the discriminatory powers of the four instruments; namely, the analysis of variance, the highest mean score for each scale across the four instruments, the rank order of the mean scores, and the analysis of all possible combinations of occupational groups on each of the six scales across the four instruments. The evidence consistently suggested that one instrument is about as effective as another in operationalizing the concepts of Holland's model.

Further evidence ties the VPI with the major interest instruments in the field. N. S. Cole and G. R. Hanson (1971) compared the internal structural relationship of scales from the SVIB, the Kuder Occupational Interest survey, the Minnesota Vocational Interest Inventory, the American College Testing Program Vocational Interest Profile, and Holland's VPI. The configurations of the scales for all the inventories were found to be similar and to conform to the circular configurations

of interest proposed by Holland. Moreover, the common configuration of vocational interests was used to reconcile previous contradictory research results about the comparability of interest scores from various instruments and as a basis for counselor interpretation. This kind of evidence seems to validate both the VPI and the hexagonal structure at the same time. Other evidence suggests that even parts of established instruments, when classified according to Holland's categories, will validate the typology. R. A. Apostal and P. Harper (1972) attempted to determine whether the Basic Interest scales of the SVIB would differentiate 203 male college sophomores classified into Holland's personality types. The Basic Interest scales were classified according to Holland's scheme. It was found that all groups of Basic Interest scales except *Realistic* significantly differentiated the personality types. D. P. Campbell and J. L. Holland (1972) in a well known collaboration developed six scales, from SVIB items, representing Holland's six personality types for the SVIB. These were used to score 202 occupational samples from the strong archives and the mean scores for each sample on each scale were reported. The ranking of means conformed well with Holland's model. The highest mean scores were (a) *Realistic*: machinists, tool and die makers, and vocational agricultural teachers; (b) *Investigative*: physicists, chemists, and psychologists; (c) *Artistic*: actors, artists, and interior decorators; (d) *Social*: YMCA staff members and ministerial guidance counselors; (e) *Enterprizing*: salesmen, department store managers, and buyers; and (f) *Conventional*: bankers, business education teachers and office workers.

Practically the same type of research was done by J. I. Hansen and

C. B. Johansson (1972) with the women's form of the SVIB. In developing the Holland's scales from SVIB items care was exercised to make the scales free of item overlap. Within each scale, items intercorrelated highly positive and represented a wide range of popularity. Concurrent validity for scales consisted of rank order mean scores for 91 female groups (primarily occupational samples used in constructions of occupation scales on the SVIB.) Here again, groups were arranged in a meaningful and common-sense order on each of the six scales. Data were consistent with correlations of Holland-based scales with basic interest scales and occupational scales now in existence.

In a research that might be conceived as an extension to this one, G. R. Hanson, R. R. Lamb and E. English (1974) administered the SVIB and the ACT Vocational Interest Profile to 126 female undergraduates. The SVIB was scored on 20 occupational scales and on the six female strong-Holland Set II scales. Once again, the correlation between corresponding scales of the two instruments were generally high and applications of the spatial configuration analysis resulted in the expected circular ordering found in previous studies.

In a more comprehensive study Thomas A. Holland, R. N. Blakeney, M. T. Matheson and J. P. Schnitzen (1974) demonstrated significant relationships between the VPI and the SVIB in two validation samples totaling 596 male college students. This time conversion equations were developed to use standard scores of SVIB scales, rather than items, to produce estimates of VPI scores.

J. L. Holland and D. H. Nafziger (1975) have tied the SDS with different types of instruments. They have found that the scales of the SDS correlate with the scales of the Kuder Preference Record, the

Thurston Temperament Schedule, the Bennet Mechanical Comprehension Test, and the Minnesota Paper Form Board in predictable ways across three small samples of high school students (N = 158). This type of research seems to support both the validity of the SDS as well as Holland's hypothetical constructs.

The whole series of studies for concurrent predictions done with the new merging form of the SCII have lent substantial support to Holland's classification. R. H. Dolliver's study (1975) is a representative example. He compared the concurrent predictive accuracy of the SVIB for men for the same subjects (N = 163) on three sets of scales developed for the SVIB to reflect Holland's personality types: the SVIB-Holland scales, the Basic Interest scales, and the Occupational scales. Comparisons were made (1) between the SVIB Holland scales and SDS with different students, (2) between the Basic Interest scales and Occupational scales for the same students, (3) between the criteria of single highest scale and scores above a cutoff and (4) between the three types of scales. Cutoff scores proved most efficient. When they were used, the SVIB Holland scales and the Basic Interest scales predicted occupations held for some 60% of these students (about one-third of these accurate predictions were considered to be attributable to chance.)

Finally, it appears that even without comparison to Holland's instruments and without scales and items being classified by Holland's scheme the leading interest instruments in the field can be shown to possess this classification, if the right kind of statistical analysis is performed. D. H. Nafziger and T. S. Helmes (1972) compared Holland's categories with groups of occupations that result from the application

of McQuitty and Clark's iterative intercolumnar correlational analysis to the scales of the SVIB, Minnesota Vocational Interest Inventory and Kuder DD Occupational Interest Survey. The results indicated that clusters of occupations exist that are internally consistent and that these usually agree with the groups of occupations in Holland's classification. The hierarchical structure of the clusters follows the hexagonal ordering suggested in other studies.

This impressive, albeit monotonous line of evidence presented here was purposefully selected to establish something which I feel is almost beyond doubt now: Holland's typology classification is here to stay. What is more, the chances are that this classification captures something quite real in the human world of work. The following review of conflicting evidence may give us a clearer view of the possible limits of this classification and the reader may retain the judgment whether it will seriously challenge the classification in the first place. The reader should note, however, that the common denominator for all the research reviewed this far is merely the establishment of this classification's validity. The factor structure and the power of the typology to classify and order wide range and heterogeneous phenomena has been documented but no other claim is yet made beyond that.

APPENDIX II

Evidence Concerning the Explanatory Limits of J. Holland's Typology

In order first to gain a perspective on the whole vocational field via the prism of Holland's categories one may want to examine the most broad-range and systematic study done by G. E. Parsons (1971) and again by G. E. Parsons and J. V. Wigtil (1974). This study was designed to investigate the occupational movement and reasons for movement of men age 45 to 59, between their first and current jobs, and more precisely to examine: (1) change and stability of various occupational personality types, (2) the effect of selected variables on change and stability of personality types and (3) the relationship between job satisfaction and worker attachment to an occupational personality type.

The sample used in this study was appropriately weighted and drawn so as to be representative of the universe of American men in the non-institutional population, 45 to 59 years of age. A multi-stage probability sampling technique which included 235 sample areas comprizing 485 counties and independent cities representing every state and the District of Columbia was used. The sample was drawn to provide approximately 5,000 persons, about 1500 non-whites and 3,500 whites.

Data used in this study was collected via a personal interview instrument entitled National Longitudinal Survey: Survey of Work Experience of Men age 45-59, 1966. The questionnaire consisted of 25 questions covering the following topics: labor force participation, unemployment, mobility, formative influences, skills, health and physical condition, labor market information, marital and familial

characteristics, financial characteristics, attitudinal characteristics, and environmental variables.

Results obtained by questionnaires through personal interview techniques were coded and placed on computer tapes by the Bureau of Census for The Center for Human Resource Research. Data not immediately coded was scanned by the staff of The Center for Human Resource Research, categorized and then coded. In order for this investigation to make use of the data stored on the tapes for men age 45 to 59, three variables were added: the classification of first, current (or last), and best jobs, by Holland's classification scheme types, but not necessarily Intellectual types as predicted by Holland (1966) were the most stable personality type when measured by conventional methods. Occupations classified as *Realistic* were also found to make up the largest share of the labor market. Adjusting for the prevalence of occupations in a particular personality type (non-*Realistic* type), *Artistic* and *Social* whites and *Intellectual* and *Artistic* blacks, displayed more stability over their work careers than did *Realistic* types; (2) Occupationally mobile individuals were different than occupationally stable individuals, blacks were different than whites vocationally, and *Realistic* types were different than the other five personality types when examined by age, health, geographic location and highest educational attainment. The percentage of changers to non-changers increased significantly as the age cohort examined became younger, as the self-report of health moved from poor to excellent, as one moved from the northeast or northcentral United States, as the place of residency at age 15 changed from a rural to urban status, and as the number of school years completed increased; (3) Changers were

more satisfied with their current job than were non-changers.

When assessing this study one thing that stands out is the impressive way in which vast amounts of data is organized by means of Holland's classification. This capacity alone, I feel, will make this classification indispensable. Another point worth noting is the trap that previous studies have fallen into by reaching to conclusions about the relative stability of a certain personality type without controling for such obvious constraints as labor market demands and opportunities. A more puzzling phenomenon relates to the following question: Why is it, when conclusions were first reached about the relative stability of the *Realistic* and *Investigative* types--compared to the other types--that they made so much sense, and when the opposite conclusions are reached about the *Artistic* and *Social* types that they still make so much sense? Obviously these adjective defined types are elusive enough to appear like a projection test, otherwise they would have dictated much more definite "common sense." The point is worth making because much of the comparative research is evaluative in nature due to the characterization of types by adjectives.

Finally, it will be worthwhile to remember the consistently positive value that this study demonstrated for vocational change and for changers all across the board. One becomes immediately aware that although the changes have been documented by means of Holland's classification there is no real concept in the scheme to account for change except for the concept of "congruency." Inasmuch as congruency implies greater compatability between environment types and static personality type it is quite a narrow concept of change and it will prove more troublesome when we will review the evidence for its

usefullness at a later point.

The issue of the limits of Holland's classification as a personality typology may be first illuminated by the study of Ross and Elton (1971). They compared the Omnibus Personality Inventory score patterns of 275 males and 248 females graduating in majors classified into five of the occupational categories of Holland in a 5 x 2 multivariate analysis of variance design. Although significant differences were found by sex and occupational category, it was the significant interaction effect which supported the conclusions of Rose and Elton that separate theories of occupational choice for males and females are required if the theories are to be based on personality constructs. This kind of conflicting evidence demonstrates that some aspects of Holland's model are explicit enough to generate two opposing findings in the same study.

The model is indeed explicit in the dichotomy of its categories; it is therefore amenable to statistical analysis and consequently to generate evidence which can invalidate itself. This is one source of confidence that the classification, taken in isolation from the general thrust of the model, cannot over-sell itself.

A clear example is the Lunneborg and Lunneborg study (1975). They administered the VPI and the Vocational Interest Inventory, based on the interest model of A. Roe to 235 college student volunteers. The analysis of inter-scale relations (based on somewhat different classification models) suggested that the two dimensional, circular configuration of occupational or personality types may be an oversimplification which impedes the understanding of the structure of vocational interest. For both interest models, four orthogonal dimensions seem

necessary to capture inter-individual variability; *Social* vs *Technical*, *Organizational* vs *Outdoor*, *Science* vs *Business*, and *Artistic*. In other words, both Roe's and Holland's instruments supplied data via their scales that compelled the authors of this study to describe the difference between individuals in terms of their standing on all of the above-mentioned dimensions. It seems puzzling that an instrument that was designed to measure one type of classification can supply data for a different type of classification. One has to remember, though, that classifying somebody as a type via the VPI always involves a rather arbitrary decision that calls for the inclusion of his scores from one to three categories and exclusion of the rest of his scale's scores. Thus the possibility clearly exists for different and more exhaustive types of classifications.

One measure of the classification's solidity and robustness might be its application to populations that we know to be different. Here obviously we encounter an inherent difficulty. We cannot translate the VPI, for one, to cultures with markedly limited or drastically different occupational structure. Although the typology is based on personality constructs the VPI unit of measurement is an occupational preference.

The black population in the U.S. is an ideal compromise. On the one hand, they have to orient themselves toward the mainstream American occupational world; on the other hand we know them from numerous studies such as Parson's (1971) to possess different occupational patterns and behavior. We expect Holland's classification to reflect those differences, but in what way? I would say that if the classification documents differences solely in terms of the percentages of the population found to be in specific categories then the scheme stands its ground

and even aspires to be a useful tool of cultural assessment. However, if changes in the internal structure of the classification are recorded then at the very least, the universality claim is shaken, and at the most, it casts some doubt about the classification's validity. Since personality constructs have inherent universality claim in them, Holland's model might be transformed from a personality typology to an occupational structure typology for middle-class whites.

We have four studies that vary in their relevancy to this issue:

1. R. L. Kimbal and W. E. Sedlacek and D. L. Brooks (1973) compared the pattern of vocational planning choices for black and white students and determined student satisfaction with Self Directed Search for Educational and Vocational Planning (SDS) results. The SDS was administered to 143 black university freshmen and their results were compared to a random sample of whites. Results indicate that blacks tended to choose *Social* occupations more often, compared to more *Realistic* and *Investigative* choices by whites (p. LO.5). There were no differences in satisfaction with SDS results between blacks and whites.

Since this is a student sample study it has limited value. The actual findings may suggest only different types of social selection processes for the two samples on their way to college. This study did not deal with structural differences and the results of satisfaction reports are not interpretable to our issue.

2. B. L. Yom *et al.* (1975) investigated, in this highly relevant study, whether the variables measured by the VPI were the same for both black and white students using the Kaiser *et al.* (1969) method of determining the degree of variable correspondence in two populations.

In the present study, the VPI scores for 115 black undergraduates and scores previously obtained from a group of white students were factor analyzed separately and the black structure was rotated to correspond to the white structure. The correspondence between the variables measured by the VPI for black and white students was found to be very similar, indicating for the authors that the VPI measures the same variables for both black and white college students. As we noted before, the finding of similarly expressed internal structure of the classifications in a population that is known to be different is a strong evidence that Holland's classification is more than an obvious semantic or symbolic classification. After all, the hexagonal structure was a discovery that is not straightforwardly suggested by our common sense. It will be hard, then, for somebody to argue that the classification's validity is explainable in terms of the dichotomies that occupational symbols readily offer for human beings. We are compelled at this point to conceive the categories as manifesting more deep rooted and distinctively different lines of development; or, to use Holland's terms, as representing different personality types. However the above finding is not definitely secured.

3. J. A. Wakefield *et al.* (1975) administered Holland's VPI to 115 black undergraduates. The first six scales of the inventory were tested for correspondence to Holland hexagonal findings using an improved statistical method devised by J. A. Wakefield and E. B. Doughtie (1974) for this specific task. The scales for the black students corresponded generally to Holland's model but not as well as they do for white students.

Three weaknesses in the correspondence between the scales of black

students and Holland's model were identified. The *Realistic* and *Intellectual* scales were not as closely associated to Holland's model for blacks as for whites; the *Social* and *Enterprizing* scales were not as closely associated; and the *Conventional* and *Intellectual* scales were not as closely associated as they are in Holland's model. This finding, then, contradicts the previous one although both of them agree that the scales for the black students corresponded generally to Holland's model. However, the more refined statistical analysis of the Wakefield study lent more support for his conclusions, especially in light of his second study of this issue.

4. J. A. Wakefield *et al.* (1975) investigated the relationships between the six scales on which Holland's model is based and the five other scales of the VPI developed by Holland in 1970 (Self Control, Masculinity, Status, Infrequency and Acquiescence) using canonical analysis. Considering the six personality type scales as one set of variables and the five trait scales of the VPI as the second set of variables, five significant canonical correlations were obtained for 373 (mostly white) undergraduates. In a second study, three significant canonical correlations were found for 115 black college students at another school.

This study which we will later consider in more detail for the personality implications of the classifications suggests that the factors that comprise the personality types make-up, may be more than slightly different for blacks. Although there are resemblances it is quite likely that somewhat different black personality types will be found in occupations that call for differently predictable white types. The authors concluded that the weights of the VPI scales suggest that

three patterns of relationships among the scales were shared by the black sample and the mostly white sample but (a) two of the patterns that emerged in the white sample have not shown up in the black sample, (b) among them the third most salient pattern and (c) close inspection of the differential weights suggest to me that the three resembling patterns are not so resembling. In fact it requires a big leap of faith on the part of Wakefield *et al.* to equate them. We are faced then with the interesting prospects of a cultural relativity for the classification. Other related findings make more sense under this assumption. Particularly D. H. Nafziger's huge study (1973) which studied models of occupational movement among Holland's six categories for four groups of young men (N = 5,225) divided according to race and age. Some important differences occurred among the four groups both in the patterns of career transitions and in the distribution of individuals among the six categories at the time of initial interview. In general, younger men showed a narrow range of occupational experience. For black men, the narrow range of experience persisted for the older group. Older white men held jobs in a broader range of occupational categories and were more stable in their initial occupational categories than the other groups.

With this kind of finding one wonders whether the evolution of the structure of occupations in the western world was not molded on well established personality types that are not as well suitable for blacks.

Holland's classification may have other limits too. R. F. Morrison and S. J. Arnold (1974) reports that, in a test among 268 males in four mining occupations (laboratory, process, extraction and mining), Holland's model was not as predictive as previously demonstrated for

professional and technical occupations. Contrary to Holland's theory, the four groups which were classified within the *Realistic* type did not exhibit similar personalities. Significant differences were found between the four groups on 16 of 38 life history questionnaire items, and only three of eight tested traits supported the classification of those four nonprofessional occupational groups into the *Realistic* type. It was suggested by the authors that data from members of nonprofessional occupations may be used to test and revise Holland's primary classification of these occupations.

This finding may be modified by Holland's (1971) own finding in his large study (N = 973) of representative sample of work histories; that all three letters in the *Realistic* code appear to have predictive validity. Yet, the consistent diversity which Morrison and Arnold have found is striking indeed. Furthermore their conclusions are indirectly supported by two other findings:

1. C. H. Folsom (1973) administered the VPI to 347 secondary school students. Students were divided into high and low mental ability groups (on scores on the Otis Quick-Scoring Mental Ability Tests) and correlations were computed between the VPI scores of students within each of the two I.Q. ranges. Separate correlations were computed for males and females. The results suggest that the VPI's usefulness may be limited to secondary school students whose mental abilities are relatively well developed.

2. K. C. Christensen and W. E. Sedlacek (1974) explored the use of the SDS as a diagnostic tool for identifying students who persist in college when they may be better suited to vocational training programs. The SDS was administered to all entering freshmen at the University of

Maryland. One year later it was administered to 37 freshmen from the same group who had lower than C averages and 37 controls from the original sample. One of the six scales (*Realistic*) differentiated the groups.

We have some definite signs, then, that Holland's classification may behave strangely with the less educated part of the population and we have yet to understand the implications. Does it suggest that intelligence is a crucial interactive factor with most of the personality types or do we face another relativity of the classification? We know now that the *Realistic* type is the most prevalent personality type and unless we explore and make some finer distinctions we will end up with labeling the majority of the population as *Realistic*.

Perhaps the most intriguing question is the application of Holland's classification to women. It is another population that we know to be different and we will apply the same analysis regarding the evidence coming from the studies of women at work.

As one might expect, we have conflicting findings concerning all the aspects of Holland's model in its relation to women. At this point we will concentrate only on the classification's limits of validity.

1. J. K. Edwards and D. R. Whitney (1972) administered the SDS to 358 male and 360 female undergraduates. Results were subjected to factor and configural analysis in an attempt to verify the relationships among Holland's personality types, to clarify the characteristics of each type, and to extend Holland's hexagonal model to new domains of assessment. Findings offer empirical support for the hexagonal arrangement of the personality types and also support the organization of the SDS and Holland's occupational classification.

For our issue we have an indication that in a sample composed equally with men and women the hexagonal structure is demonstrated.

2. Nancy S. Cole (1972) examined the structure of women's interests as previously found in studies using the SVIB, the Kuder Occupational Interest Survey, Holland's VPI and the ACT Vocational Interest Profile. Analysis both of the interrelationships of scales and of the interest patterns support the similarity of the structure of womens' interests to that previously found for men.

This study is typical of the wave of woman-oriented research designed to pave the way for equal treatment of women in the vocational field. The author's concluding recommendation that her evidence "be used to provide women with information about more and more diverse career options than are now commonly available," is, by now, the ritualistic password of our time. One should weigh any evidence of such "similarity" against the known differences of men's and women's patterns of interests while sharing the same occupation (Campbell 1977). Indications of differences are everywhere. A simple study such as C. B. Johansson's (1971) which used Holland's categories to merely classify freshmen males and females at Macalester College indicates clear sex differences. Thus we have evidence that Holland's classification can capture women's distinctiveness in terms of percentage distribution among its categories.

An unconventional study was done by D. W. H. Harvey (1971). The study was conducted in three phases:

1. Certain correlational relationships were predicted between the VPI occupational scales and selected scales on the Strong Vocational

Interest Blank for Women, the Edwards Personal Preference Schedule, the Study of Values and the Differential Aptitude Tests. The predictions were made on *a priori* basis, which may be called a deductive process of reasoning, by studying the definitions of Holland's types and relating these to the definitions of selected scales on the criterion measures. The results of relating the definitions of the types (*Realistic, Intellectual, Social, Conventional, Enterprizing* and *Artistic*) to the criterion scales produced predictions of expected directions of correlations between the types and the criterion scales.

2. The VPI was administered at the beginning of a group guidance and testing program for women so that preferences for Holland's six styles might be correlated with the selected scales on the criterion tests. Correlations were also computed between the VPI and other scales on the criterion measures but no predictions were made as to the direction of these correlations.

3. After computation of the validity coefficients between the VPI and the criterion measures the determination of statistically significant relationships between the VPI scales and the criterion measures was accomplished. Reliability of the VPI was examined by computing reliability coefficients between the test and retest scores gathered from two administrations of the VPI which were separated by a two to three week interval.

The results of this examination revealed statistically significant correlational evidence which supported the validity of Holland's VPI for use with adult women. However, the *Social* scale and the *Artistic* scales of the VPI remained in doubt as to their validity for this sample of women. Reliability of the VPI was shown to be acceptable.

Although certain scales of the VPI were skewed, there appeared to be sufficient validity with this female adult sample to suggest that it can be used, with caution, as an economical vocational guidance measurement instrument within the context of Holland's theory. An additional finding indicated that this sample of women seemed to gravitate to the *Conventional* occupations, and, at their present life stage these women tended to reject the nurturant role.

That the *Social* and *Artistic* scales lack sufficient validity is a significant finding since those scales have established themselves through the SVIB research literature as "feminine scales" and that is consistent with Holland's description of the types. Another thing worth mentioning is that the deductive-evaluative process by which the author chose the criterion scales can serve as a measure of the clarity of Holland's definitions of the types. The fact that these criterion scales received correlational support for four of the six types is a strong measure of validity by itself: obviously, an idea of a Holland type can generate correct assumptions of its correlated traits.

A. C. Frank and B. A. Kirk (1974) assigned Holland codes to the Basic Interest Scales (BIS) and the Occupational Scales (O-S) of the revised Strong Vocational Interest Blank for Women. Component scores of 206 female students on the BIS and O-S were separately developed, intercorrelated, and evaluated along with standardized composite scores representing each of the 11 O-S groups on the profile. The dimensionality of the BIS and O-S was similar, and similar in number to J. L. Holland's theory, but the components were only partially congruent. Some profile groups provided relatively good representations of BIS and/or O-S components, and the grouping of the O-S provided important

information not otherwise readily available. Fundamental problems of compatibility appeared to exist in relating the structure of this instrument to Holland's formulations.

Clearly, then, women do appear different in some ways not yet defined and one is reminded of Campbell's contention that it is very likely that women lawyers is a different occupational group than men lawyers (as far as their respective patterns of Likes and Dislikes demonstrate it).

D. W. Harvey and R. W. Whinfield (1973) in a replication of Harvey's 1971 study generated essentially the same results except that in addition to *Social* and *Artistic* types, *Realistic* types too appear to lack meaning and validity in a sample of adult women.

W. J. Di Scipio (1974) applied a principal components analysis to the 135 item pool of the VPI. The sample consisted of a cross-section of 100 male and 200 female university students under the age of 25 years. An eight factor structure was defined for each of the sexes which was discussed in relation to Holland's scales, sex differences and criterion groups as defined by choice of major subject. Results show that Holland's scales were partially upheld, with differences attributed to the characteristics of the sample and sociopolitical time context during which the test was administered (Watergate). A new scale emerged relating to an interest in professions involving law and politics.

What we have here finally is the classification's four limits: (a) cultural relativity, (b) intelligence relativity, (c) sex relativity and (d) historical time relativity. In what sense then are we justified in naming it a "personal typology"?

The following research review of the motivational aspect of

Holland's model will serve to throw further light on this use as well as to indicate the model's usefulness in predicting occupational behavior. Since we do not have much evidence on the differential behavior of black vs white students we may want to look more carefully at the differential behavior outcome effected by sex relativity and intelligence/ability relativity.

From a theoretical point of view, the capacity of motivational-related concepts within the model to predict occupational behavior is a powerful indication that the classification really captures personality dichotomies. If this capacity is not demonstrated the least we can say (in view of the classification's relative validity) is that we do not have a personality typology in the usual sense of the word.

APPENDIX III

Evidence Concerning the Weakness of the Motivational Aspects of J. Holland's Typology

Before we review the relevant research, the concepts of congruency, homogeneity/differentiation and consistency should be explained.

Congruency is used by Holland to refer not only to a situation where an individual type is choosing or actually working in a corresponding environment type, but also to a general drive of people to find and reach congruent work-environments. The concept of a "type" implies that an individual type is bound to be less successful and less satisfied in a task-environment which is incongruent to his type. Hence, the motivational aspect of the congruency concept.

Homogeneity which is operationally defined on the VPI as the difference between an individual's highest type score and the rest of his scales' scores is a measure of the proximity of this individual to Holland's description of a pure type. The more differentiated is his profile score the higher will be his intensity and drive toward a particular environment type.

Consistency is a measure that is operationally derived from the hexagonal structure and it indicates the compatibility of the two or three highest scale scores of an individual. An inconsistent three code profile will affect congruency and will account for fluctuation and indecision.

Achievement, satisfaction and persistence in jobs or studies are all valid measures of these interrelated concepts and according to the model they should have an additive effect.

There are fourteen relevant findings that are presented here that deserve a summary discussion.

1. J. M. Morrow (1970) tested the effectiveness of Holland's theory in predicting students' satisfaction with their college major choices. Three dimensions of personality interaction, as proposed by Holland, were intestigated - Congruence-incongruence, consistency-inconsistency, and homogeneity-heterogeneity. Also investigated were the effects of dissimilar environments and faculty members' personalities on the satisfaction of students classified according to Holland's six personality types.

The subjects for the study were 323 upperclassmen majoring in mathematics and sociology and 44 members of the faculties of the mathematics and sociology departments at the University of North Carolina at Chapel Hill. The VPI was used to assess the personality types of the students. The personality types of faculty members were assigned on the basis of their high VPI scale raw scores since the VPI norms were considered inappropriate for faculty members. A locally adapted questionnaire was used to measure students' expressed satisfaction with their college major choices.

Students were grouped according to their VPI personality types in the mathematics and sociology departments. The mean satisfaction scores of the groups were subjected, by department, to a one-way analysis of variance and a Duncan New Multiple Range Test to determine if students with congruent personality types had obtained significantly higher scores than students with incongruent types. In the mathematics department, the congruent group (*Intellectual*) obtained significantly higher satisfaction scores than four of the incongruent groups (*Social*,

Conventional, *Enterprizing* and *Artistic*). The congruent group in the sociology department scored higher, but not significantly higher, than four of the five incongruent groups (*Realistic*, *Conventional*, *Enterprizing*, and *Artistic*). The congruent group and the fifth incongruent group (*Intellectual*) obtained approximately equal satisfaction scores.

Congruent students in the mathematics and sociology departments were grouped according to consistency-inconsistency and homogeneity-heterogeneity. The mean satisfaction scores of the resulting groups were subjected to a two-way analysis of variance in each department to determine if the consistent groups obtained significantly higher mean satisfaction scores than the inconsistent groups, and if the homogeneous groups scored significantly higher than the heterogeneous groups. In the mathematics department, the consistent and homogeneous groups scored higher, respectively, than the inconsistent and heterogeneous groups, but the differences were not significant. The difference between the consistent and inconsistent groups, however, did approach significance. In the sociology department, the consistent group scored higher than the inconsistent group, but the homogeneous group, contrary to prediction, scored lower than the heterogeneous group. Neither difference was significant.

Differences in mean satisfaction scores obtained by students of the same personality types but with different majors, were analyzed by t-tests for each of the six personality types. Results of the six t-tests indicated significant differences in the predicted directions for the *Social*, *Enterprizing* and *Artistic* groups. The difference between the two *Conventional* groups approached significance.

Differences between the two *Realistic* groups and the two *Intellectual* groups were not significant.

Faculty members in both departments were classified predominantly as *Intellectual* types on the basis of their high VPI scale raw scores. On the assumption that these raw score personality type classifications were reasonably accurate, the pattern of satisfaction scores obtained by the students majoring in mathematics was considered supportive of theoretical predictions based on Holland's framework of personality interaction. The pattern of satisfaction scores obtained by students majoring in sociology was not interpreted as supportive of theoretical expectations.

It should be added too that mathematicians are a highly distinctive occupational group. They are the only group in the SVIB-SCII that is identified by their pattern of aversions rather than their "Likes".

2. W. T. Lucy (1970) sought to answer the following questions: Will individuals classified as to personality type, on the basis of their major field of study at the time of graduation from the University of Maine, remain in this classification as they progress through their working career? Will individuals choose occupations consistent with their personality type? Will individuals who remain stable in their personality type as they progress through their working career show a consistent personality code?

The students were 2,373 University of Maine alumni from the following classes: 1935, 1940, 1945, 1950, 1955 and 1960. They were assessed by the VPI in 1970.

Findings of the study were reported as follows: a relationship significant at the .001 level of significance was found between personality

types derived from college major and 1970 VPI high point code; a relationship significant at the .001 level was found between personality type derived from 1970 VPI high point code and present or most recently held occupation; and a non-significant difference at the .05 level was found between the number of individuals who showed a stable personality type through their working career and the number of consistent personality codes shown by this individual.

3. W. R. Nichols (1971) sought to investigate whether Holland's theory offered a satisfactory means to predict and explain the educational (work) environments selected by college-bound students. Subjects for the investigation were 300 seniors randomly selected from the six senior high schools in Chesapeake, Virginia. Relationships between Holland's consistent-inconsistent personality patterns and the student's educational decisions were also investigated. Instruments used in the investigation were the VPI and a questionnaire constructed by the investigator. Results of the investigation offered only limited support for Holland's theory. The chi square test was used to provide the following specific findings: (a) A significant relationship ($p < .02$) existed between the dominant personality type of students, as measured by the VPI, and the environment, as classified by the Environmental Assessment Technique (EAT), which predominates at the college which the students plant to enter. (b) A significant relationship ($p < .02$) existed between student's dominant personality types, as measured by the VPI, and their selection of personality descriptions from paragraphs corresponding to Holland's six personality categories. (c) No significant relationship ($p > .05$) existed between having a consistent personality pattern (as defined by Holland) and choice of a college

having an environment consistent with dominant personality type. (d) No significant relationship ($p > .05$) existed between having a consistent personality pattern and selection of a personality description consistent with that provided by the VPI. (e) A significant relationship ($p < .01$) existed between student's perceived certainty of choice and stability of college choice. (f) No significant relationship ($p > .05$) existed between having a consistent personality pattern and stability of college choice. (g) A significant relationship ($p < .01$) existed between having early college choice congruent with personality type and having ultimate college choice congruent with personality type for students who changed college choices between October and April.

4. G. R. Livent (1971) attempted to determine whether Holland's theory is related to ego identity development. It has been suggested that knowledge of this relationship may provide the insight necessary to eventually produce an explanation of the influence of personal development on various vocational outcomes.

The present research investigation consisted of two highly related studies: a preliminary study, to examine specific outcomes in the vocational development-ego identity relationship, and a follow-up study to determine whether knowledge derived from the former study could be integrated into Holland's theory. The sample for the preliminary study consisted of 200 male students, randomly selected from the general population of incoming college freshmen who had participated in the 1969 summer orientation program at Niagra County Community College. The sample for the follow-up study consisted of 38 second semester male college freshmen, randomly selected from those who had participated in

the preliminary study.

All subjects in the preliminary study responded to two instruments: the first was a revised method of obtaining estimates of Holland's independent variables (HIV) and the second was Marcia's Ego Identity Incomplete Sentence Blank (EI-ISB), an 18 item, semi-structured projective survey which was employed to obtain a measure of overall ego identity. Each student in the follow-up study also responded to the Vocational Crisis Inventory (VCI), a semi-structured interview technique designed to gather information on how the subject "handled his vocational crisis."

The data from the preliminary study disclosed that: (a) When tested individually, only two of the three independent variables (congruency and homogeneity, but not consistency) were found to be significantly related to ego identity. (b) When tested collectively, only mixed support was found for the cumulative effect of the three independent variables on ego identity.

One of the conclusions drawn from the preliminary study was that the lack of a stronger relationship among these variables may be due, in part, to the static nature of Holland's variables. Based on this premise, the follow-up study attempted to determine how the addition of crisis, a new dynamic variable (thought to be part of the ego identity process) would affect Holland's theory.

The results of the follow-up study indicated: (a) When tested individually, the variables of congruency and homogeneity were each found to be independent of the crisis variable. (b) Crisis was found to be significantly related to vocational satisfaction, but not to academic achievement. (c) Homogeneity was found to be significantly associated

with both of the dependent variables. (d) Congruency was found to be significantly related to academic achievement but was not significantly associated with vocational satisfaction. (e) The effects of the three independent variables, when grouped in the specified ways, were not found to be cumulative with respect to either of the dependent variables.

5. C. D. Peterson (1973) examined the usefulness of several standardized tests for predicting college success among students enrolled in an equal opportunity program at a California state college. High School GPA and congruency between Holland's VPI and major field of study were significantly ($p < .05$ and $p < .01$ respectively) predictive of college units completed.

6. J. W. Florence (1973) examined the relationship of congruency, consistency and homogeneity within the framework of Holland's model. Specifically the concern was to determine whether individuals who were congruent in terms of the VPI and vocational choice, had consistent profiles on the VPI and presented homogeneous profiles on the VPI or achieved greater success in their vocational training programs and whether these individuals expressed greater satisfaction with their vocational choice.

The sample consisted of 506 male students enrolled in the second half of sixteen different vocational-technical programs which range in total training time from sixteen to twenty-four months. The VPI and Student Satisfaction Questionnaire was administered by the faculty and cumulative grade point averages and cumulative instructor ratings were obtained from student records. These data were used to classify the students on dichotomous levels of congruency-incongruency, consistency-

inconsistency, and homogeneity-heterogeneity. These dichotomies were then examined in a three way analysis of variance across the three dependent variables, grade point average, student satisfaction, and instructor ratings to determine whether these classifications lead to predictable effects.

The results of this analysis revealed (.05 level of significance) that students with VPI profiles which are congruent with their vocational choice achieve high grade point averages and are rated higher by their instructors on eleven personality factors. Similarly students with consistent VPI profiles have predictably higher grade point averages and are rated higher by their instructors on eleven personality factors. The interaction effects between congruency and consistency further indicate that these factors are additive in nature and that students who are both congruent and consistent have significantly higher measures of success than those who are congruent and inconsistent or incongruent and consistent. Those who are classified as both incongruent and inconsistent have significantly lower achievement in terms of grades and instructor ratings.

This study did not provide any evidence of significant relationship between homogeneous VPI profiles and student grades or instructor ratings. Additionally, student satisfaction as expressed on the Student Satisfaction Questionnaire was not significantly related to the constructs of congruency, consistency, or homogeneity.

7. T. A. Danket (1971) studied predictions based on the measures of consistency and homogeneity to determine their effectiveness in differentiating between persons with regard to their degree of self-actualization. Self-actualization was measured by the Personal

Orientation Inventory. Subjects were 84 male juniors and seniors at the University of North Carolina at Chapel Hill. The dimensions were found not to differentiate effectively between persons when the seven employed measures of self-actualization were analyzed simultaneously by multivariate analysis of variance. Univariate analyses of variance revealed that the Consistency dimension may discriminate between persons who differ as to the spontaneity of their behavior, suggesting that further research would be appropriate to examine specifically the relationship of Consistency to behavioral spontaneity.

Results generally were not supportive of theory-based predictions, and the following conclusions were drawn: the Consistency and Homogeneity dimensions do not effectively discriminate--either when employed individually or in combination--between relatively efficient and relatively inefficient personalities in a normal population; and the VPI patterns denoting interest compatibility (Consistency), and interest intensity (Homogeneity) should not be regarded as effective in designating which clients warrant more extensive personality assessment.

8. J. L. Cain (1973) examined the relationships, the consistency, congruency and homogeneity variables have to vocational choice and academic achievement of disadvantaged college freshmen.

The population used for this study consisted of 724 freshmen enrolled in Special Services Programs at the Ohio State and Central State Universities. A random sample of 133 students was drawn from this population with proportionate representation according to sex and college major choice.

Congruent, incongruent, consistent, inconsistent, homogeneous, and heterogeneous were defined using the VPI. Students' second quarter

accummulative grade point averages were used as the achievement index. ACT scores were also obtained and used as a covariance control because of the known relationship between these two variables.

The findings of the study indicated: (a) That students tend to choose majors which fall into categories consistent with the category of their personality type as measured by the VPI. (b) There was significant interaction effect in which incongruent women had significantly higher G.P.A.'s than congruent women (although no G.P.A. differences were found between men and women). (c) Inconsistent students obtained significantly higher G.P.A.'s than consistent students. (d) Heterogeneous students obtained significantly higher G.P.A.'s than homogeneous students. (e) Students who were inconsistent, incongruent, and heterogeneous obtained higher G.P.A.'s than students who were consistent, congruent, and homogeneous.

9. J. L. Capehart (1973) investigated the relationship of vocational maturity to Holland's dimension of adequacy of choice.

The criteria for establishing adequacy of choice were Holland's congruency-incongruency, and explicit role preference - no explicit role preference. The students were 148 first-year full-time students enrolled in occupational programs at a technical institute. The vocational maturity variable was measured by Crites' Vocational Development Inventory-Attitude Scale (VDI). The congruency-incongruency variable was established by the primary summary code of the SDS and the primary code of Holland's Occupational Classification. The explicit role preference-no explicit role preference variable was measured by a format from Holland's 1968 study.

A two-way analysis of variance and the Scheffe test of multiple

comparisons indicate a clear support for explicit role preference as an effective predictor of vocational maturity. However, congruency does not predict vocational maturity.

(It should be mentioned that vocational maturity has been demonstrated to be developmental in previous research.)

10. R. A. Lombarch (1973) hypothesized that students whose majors are congruent with their Holland typologies will: (a) earn a higher grade point average; (b) be more persistent in continuing their studies; (c) participate in campus activities, including student affairs and student government; and (d) have a more positive response toward instruction.

To explore the above, the writer collected data from the freshman class at Moorpark College. Each freshman was given the VPI in the fall semester during his initial counseling interview. From the population were selected students whose indicated majors were congruent with their VPI scales. The inventory results, when scored, indicate that the testee has a major or primary interest, a secondary interest, and a tertiary interest.

To test the hypothesis, only the primary interest was considered when determining congruence. The test groups were categorized into the six Holland typologies, forty subjects in each category having congruent majors and forty students whose majors were not congruent. Treatment of data was by analysis of variance.

The results in general did not support the hypothesis. However, for the *Enterprizing* and *Artistic* typologies, a significant result (at the .05 level) was established.

11. T. T. Frantz and E. P. Walsh (1972) using faculty and students

of six graduate departments as subjects tried to predict satisfaction and achievement in graduate school on the basis of congruence, consistency and homogeneity.

It was concluded that: (a) regardless of their theorized orientation most all departments constituted primarily an intellectual environment, (b) satisfaction and achievement were unrelated, and (c) while neither congruence and consistency, nor homogeneity were predictive of graduate school outcomes, the three variables combined were indicative of satisfaction and achievement in graduate school.

12. D. M. Johnson and J. C. Moore (1973) administered the VPI to 232 male students majoring in six technical and vocational fields. Analysis of VPI codes indicated support for the model as it relates to occupational classification and Holland's scheme of consistent patternings. However, no evidence was found to support the hypothesis that congruent, consistent, and homogeneous personality patterns are more closely related to high training achievement than are noncongruent, inconsistent and heterogeneous patterns.

13. D. M. Johnson (1971) also investigated lower average ability students of technical training. A sample of 393 students majoring in eleven different technical and vocational fields were administered the VPI. All students in the sample were enrolled in, and had completed a substantial portion of their training in technical, vocational, and beauty schools. The VPI assessment provided a major interest classification for each student as well as a profile for each of the six personality types measured by the VPI. Grade point average from student records served as the index for academic success.

One area of investigation involved testing classification efficiency

for the selected sample of students. Profiles for the six types were determined. Multiple discriminant analysis and analysis of variance techniques were utilized to test for relative discriminating efficiency of the six VPI scales for the technical-vocational sample of students. Further, a comparison of the profiles with classifications from an earlier study which utilized divergent data sources and assessment instrument was made.

Secondly, correlational techniques were used to investigate the concept of personality consistency for the technical-vocational sample. Inter-correlation coefficients between each pair of the six scales were examined in order to compare consistent personality types of inconsistent categories.

Finally, relationships between the interest patterns defined in terms of consistency, homogeneity, and congruency and academic achievement were investigated employing point biserial correlations, product moment correlation, and analysis of variance statistical techniques. Findings indicated that the student responses to the various scales on the VPI were relatively effective for discriminating between technical and vocational training major areas. The Classification discrimination for the female groups was less adequate than for the male groups. The classification according to the six types were in general agreement with theoretical assumptions for the male groups, but not for the female groups.

Holland's conception of consistent and inconsistent personality patterns were supported by the results of the study with one exception. The *Realistic-Enterprizing* scales appeared to represent a consistent pattern which contradicts the theoretical hypothesis.

On the other hand, no evidence was found to support the hypothesis that congruent, consistent, and homogeneous personality patterns are more closely related to high academic achievement than the noncongruent, inconsistent, and heterogeneous patterns.

14. G. D. Williams (1975) used measures of type-environment congruency to study the perceptions of 118 male and 121 female high school students. Four levels of person-environment congruency were established from the hexagonal ordering of the types and students' perceptions of congruent activities, values, interests, traits, and competencies were measured with the Occupational Attitude Questionnaire. It was hypothesized that: (a) students would perceive congruency with types of occupations that corresponded to their personalities, and (b) the amount of congruency perceived would parallel levels empirically derived from the hexagon.
Results show that males perceived congruency in activities, values, interests, and traits when occupations corresponded with their personality type. The highest level of congruency was perceived when person and environment types were identical. The hypotheses were not supported for females in any instance.

This set of findings confirms and sharpens our previous conclusions. It is quite clear that any relativity of the classification is made more pronounced once motivational predictions are examined. Women, to take an example, emerge clearly as different creatures, and our suspicion about the classification's ability-relativity has been confirmed too. It seems that the motivational aspect of the model is a more sensitive measure of the classification's weaknesses in view of the quite few studies where the classification's validity was supported

while its motivational measures were not.

Since the weight of findings do not support motivational predictions the claim of the classification to be a personality typology is not warranted. At the very least, we do not have here personality variables in the usual sense of the word. However, one should not underestimate the power of the classification to categorize the population of male above-average-ability students and to mate them with specific categories of environment. The usefulness of the classification can be seen from one of Livent's (1971) findings that we have reviewed: The fact that an incongruent choice is linked to ego identity measures. It is an important guide line. It is clear that unless the classification would have captured real dichotomies in a given population such a finding could not have been possible. At the same time it is equally clear that there is no one concept in the model that would have suggested such a link.

We might understand now why the model seems to be divorced from the usual personality-motivation concepts in psychology and why we feel robbed of our orientation when we use it.

APPENDIX IV

Evidence Concerning the Unrelatedness of J. Holland's Factors to Dynamic Personality Factors

Clarifying the links between the personality typology and other personality measures compels us to state again the extent of the typology's representation of the vocational structure. This fact has been demonstrated by F. D. Westbrook's (1975) study. He compared the arrays of high-interest occupations produced by the SVIB and the Kuder when the instruments were administered to the same students (60 male college students.) Holland-type summary codes were devised from the arrays of occupations and were analyzed by correlated t-tests and Pearson r correlations. A frequency percentage count showed 85% of the pairs of summary codes had two identical characteristics.

This kind of evidence bears on the one hand all the interests' related body of knowledge a direct relationship to Holland's typology and on the other hand makes any evidence of personality link with the typology to bear on our understanding of the structure of interests.

Our reasons to expect any personality links with the typology to be of a certain nature receive some support from the contrast of the two following studies: (a) D. L. Schuldt and R. F. Stahman (1971) validated the reported pattern for clergymen in the VPI with a sample of 55 randomly selected active Methodist pastors. Results show that the pastors' highest scores were on the *Social* scale, indicating a *Social* personality type. Pastors scored lowest on *Realistic* and *Conventional* scales. (b) T. V. Gilbridge (1973) administered a biographic inventory, Holland's VPI and the Adjective Check List (ACL) to

50 active and 50 resigned priests. Resigned priests could not be differentiated from those who remained based on personality variables and person-environment interaction factors as expressed in Holland's model or by demographic data. On the ACL resigned priests scored significantly higher on confidence, achievement, dominance, endurance and order.

Comparison of these two studies in terms of what the VPI can and cannot measure may give one an initial idea of two separate classes of personality variables operating here. We can sense that personality traits such as confidence, achievement, etc., are more amenable to change, learning, development, or therapy while those qualities that make clergymen - a social type - are less amenable and more enduring.

We may get a further idea of the dimensions of personality that the typology is independent from and the VPI do not measure by two other studies: (a) D. R. Whitney and R. R. Whittlesey (1972) investigated two hypotheses about Holland's personality types: (1) counseling outcomes are likely to be different for clients with different personality types and (2) counseling is likely to be more effective for clients with consistent personality patterns. One hundred college-student counseling clients completed the VPI and were analyzed on five measures of counseling outcome (e.g. counselors rating of client goal achievement.) Results show little support for either hypothesis on three outcome measures. Exceptions were in the number of counseling interviews (where *Intellectuals* had the most sessions) and the degree of counselor's personal liking for client (counselors liked clients with moderately consistent profiles better than those with inconsistent profiles.) (b) P. J. Kernen (1971) tried to determine if there were

any significant differences between groups of counselees and non-counselees when compared on the personality characteristics of dependency, consistency, homogeneity and on the basis of Holland's six personality types as assessed by the VPI.

The subjects were incoming freshmen students. The counselee group was composed of 174 freshmen who sought counseling at the University Counseling Center. Non-counselees were a random sample of 174 students from the remaining freshmen (1918) who had been tested. There were 77 males and 97 females in each group.

The Research Questions investigated were:

1. As a group, do those who seek counseling have significantly more inconsistent profiles, as assessed by the two high codes of the VPI, than students who do not seek counseling?

2. As a group, do those who seek counseling have significantly more heterogeneous profiles, assessed by the magnitude of difference between high and low codes on the VPI and using a median split (keeping males and females separate), than students who do not seek counseling?

3. Do the personality types of counselees differ significantly from the personality types of the non-counselees; i.e., are counselees more often of one type(s) while non-counselees are more often of other types as assessed by the VPI?

4. Is there a significant correlation between dependency-proneness and willingness to seek counseling?

5. Are there significant correlations between dependency-proneness and the six personality types?

6. Are there any significant correlations between dependency-proneness and consistent profiles and between dependency-proneness and

inconsistent profiles?

7. Are there any significant correlations between dependency-proneness and homogeneous profiles and between dependency-proneness and heterogeneous profiles?

The level of significance for all questions was set at 0.05.

The instruments used were the VPI and the Dependency Proneness Scale developed by Flanders, Anderson and Amidon and revised for use in this study.

All subjects (N = 348) were then classified as counselees or non-counselees, consistent or inconsistent, homogeneous or heterogeneous, dependent or independent, and as one of Holland's six personality types.

Chi-square analyses were performed for each research question. There were no significant differences found between any of the groups. Obviously, these researchers had been mislead by the term "personality type".

Holland himself voiced the warning that any research concerning developmental variables related to his typology is a journey into a treacherous minefield. Probably as a result we have only one such study of background variables and its results contain what I would call by now "the expected twist". T. G. Grandy and R. F. Stahmann (1974) conducted interviews with 487 college freshmen (who were decided on their occupational choices) about parental educational backgrounds, political orientations, religious preferences and other background variables. Students were then classified according to Holland's typology. A stepwise discriminant analysis was performed to evaluate the relative importance of the family variables in the typology, and four categories of similarity or consistency between personality and

occupational choices were formed (exact, adjacent, intermediate, and opposite). Personality types were exactly predicted in 45.3% of the cases by the occupational choices; for 26.7% predictions corresponded to personality types adjacent to expressed occupational choices. Family variables were most successful in predicting personality types (exact and adjacent choices) for the *Social* and *Enterprizing* groups. Least successful in predicting *Investigative* types. Five of the eight best predictors were related to parent's occupations.

What the findings of this study mean is that we are about to be correct almost seven out of ten times in predicting what kind of "personality type" a person is if we just know his expressed choice of occupation; at the same time we will know close to nothing about his upbringing but we may have some vague idea what type of occupations his parents had in case he is a *Social* or *Enterprizing* type. Interestingly enough, both independent and dependent variables here are static in nature.

In view of this, one may expect that a person's "personality type" may be alien to and remote from his everyday's experience and consciousness, but here we are in for some surprise. The three following studies demonstrate the relation of the typology to people's consciousness:

1. J. L. Holland and G. D. Gattfredson (1974) examined the psychological meaning and predictive value of a person's vocational aspirations by applying Holland's typology to the vocational aspirations of 1,005 high school juniors, 140 employed adults and a second sample of 624 college students studied over a seven year interval. The aspirational data was obtained from the Daydream section of the SDS. Categorical and correlational analyses show that a person's retrospective

vocational aspirations have coherence and yield efficient predictions. The degree of coherence or similarity among an individual's vocational aspirations provides a potentially useful index of his decision-making ability.

2. I. D. Peck (1970) administered the VPI to 318 community college students (193 male, 125 female) to determine its predictive efficiency against three different types of criteria: idealistic vocational choice, practical vocational choice and major field of study. Idealistic vocational choice was defined as that work a student would like to do if all restrictions were removed from obtaining such work. Practical vocational choice was defined as that work a student felt was most practical for him to do. Major field of study was the student's major in school.

The data taken across all six personality types indicated a strong relation between Holland's six personality types and vocational choice. Some vocational choices were not consistent with the theory and this inconsistency was more characteristic of some personality types than of others. One characteristic indicated by the data was a preponderance of *Social* type vocational choices, especially by women.

It was determined that the VPI was an effective instrument in predicting the type of vocational choice made by the students for the three vocational criteria. In addition it was found that the VPI predicted the type of vocational choice for the criteria of idealistic choices and major fields of study significantly better than it predicted practical vocational choices.

3. L. J. Gross and E. L. Gaier (1974) studied whether the previously established relationship between vocational choice and

self-ratings on Holland's personality stereotypes among college freshmen would be strengthened with male college seniors sampled on the basis of major field choice. One hundred and nine students completed a questionnaire to select career stereotypes which described them best. Significant relationships were obtained for four stereotypes (*Realistic*, *Conventional*, *Enterprizing*, and *Artistic*) on the basis of both major and vocational choice, although significant stereotypes were not identical in both major and vocational choice. Three of these significant relationships based on vocational choice matched those obtained previously. An additional finding suggested that vocational choice was slightly more valid than major field as a basis for utilizing this technique. However, the more restricted class sample emphasized did not produce a more substantial relationship between stereotypic self-ratings and occupational choice as expected.

Tying an individual's occupation type (and for that matter his personality type) with his daydreams, with his conception of an ideal occupation for himself and with his capacity to describe himself with predictable stereotypes, implies that we have here a set of variables that are very much part of the individual conscious personality dynamics. The fact that these variables are relatively unchangeable does not imply that they are outside of the individual's self-description and ongoing dynamic. We have gained from Parson's (1974) comprehensive study (which we have cited earlier) that psychological concepts seem to be even more important in changing jobs than in selecting initial jobs (granting the structure of the labor market demand.)

P. G. Banikiotes' and S. P. McCabe's (1972) attempt to link Holland's personality types with Eysenck's introversion-extroversion and

neuroticism has been largely a failure. They compared summary codes from Holland's SDS scales with scale scores on the Eysenck Personality Inventory for 113 male undergraduates. Students were categorized as high, middle and low on both Eysenck scales. A chi-square analysis compared the distribution of summary codes in each Eysenck category with that of the entire group. Low extroverts were higher on conventional and intellectual and lower on social scales in the only significant relationships. Thus, personality dimensions which were considered by Eysenck and others to be the basic personality dimensions have little to do with Holland's personality typology.

The same goes for Murray's comprehensive list of fifteen basic needs (which serves as a basis for his widely known formulations of personality development.) The EPPS - the measurement instrument of Murray's needs - was utilized by L. Navran and L. M. Kendall together with the SVIB and Holland's VPI to examine the relationships between these inventories. The three inventories were administered to 227 first and second year cadets at a military college and canonical correlation analyses were used to explore their relationships. The overlapped variance of the SVIB, given the VPI, was placed between 26 and 38%. The overlapped variance of the VPI, given the SVIB, was between 34 and 54%. The EPPS and the VPI shared much less variance. In fact the overlapped variance was low enough to compell the authors of this study to suggest that the VPI is more an interest than a personality measure.

Curiously enough, K. J. Ivers (1971) demonstrated that the EPPS could differentiate art major students from music major students; two groups that the VPI would classify as *Artistic* types.

APPENDIX V

Evidence Concerning the Relationship between J. Holland's Typology, other Personality Measures and the Present Study

The last part of this review is devoted to all the evidence that is relevant to my hypothesis within the framework of Holland's typologies research. It simply consists of the remainder of studies that examined the relation of Holland's typology with other personality instruments.

We shall first review three studies that employed the CPI.

1. C. H. Folsom (1971) studied two aspects of Holland's position: (a) the extent to which subjects categorized among the six types reported personality characteristics consistent with Holland's descriptions of the types, and (b) the magnitude of the relationships between scores on the eleven scales of the VPI and the eighteen scales of the California Psychological Inventory, (CPI), as well as between the VPI scales themselves.

The subjects consisted of 191 males and 175 females who were enrolled in grades nine through twelve in a Maine public secondary school.

In order to examine the personality characteristics of subjects categorized within Holland's six types, two procedures were utilized. First, subjects were categorized among the personality types on the basis of their VPI high point codes. Then, the mean ranks of subjects within each personality category were computed on each of the eighteen CPI scales. Kruskal-Wallis One-Way Analysis of Variance by Ranks was utilized to determine whether observed differences between mean ranks

were statistically significant. In those cases where statistical significance was achieved, paired comparison procedures were utilized to determine where the mean rank differences occurred. A total of eighteen directional hypotheses were tested for statistical significance. Separate analyses were computed for males, females, and the total group of subjects.

In order to examine the relationships between the VPI and CPI scales, Pearson product-moment correlation coefficients were computed between subjects' scores on the scales of those two instruments. Separate analyses were computed on the scores of male and female subjects as well as on the scores of subjects with high and low mental ability and reading scores. In addition, separate intercorrelations among VPI scales were computed.

Kruskal-Wallis and paired comparison procedures resulted in five of the eighteen directional hypotheses being statistically supported at the .05 level of confidence. The CPI scales on which the predicted outcomes occurred were: Achievement via Conformance, Achievement via Independence, Intellectual Efficiency, Flexibility, and Femininity.

The results of linear correlation analyses between VPI and CPI scales showed that statistically significant relationships exist among several of those scales. However, the magnitude of the coefficients obtained in the majority of the analyses suggested that the amount of common factor variance existing between the scales of the two instruments may be quite minimal. The analyses also suggested that different trends may exist between the scores of males and females on the two instruments. Such differences were suggested by variations in the magnitude and direction of the correlation coefficients obtained between scores of

male and female subjects on certain of the VPI and CPI scales. Finally, the correlation analyses suggested that subjects' mental abilities and reading skills may influence the magnitude and direction of the correlation coefficients obtained between the VPI and CPI scales.

Linear correlation analyses among VPI scales showed that the obtained coefficients were relatively consistent among male and female subjects. However, for the subjects in this study, the correlation coefficients were generally higher than those reported by Holland for a group of National Merit Finalists. In addition, the results suggested that subjects' mental abilities and reading skills may affect the magnitude of the correlation coefficients obtained among VPI scales. The data indicated that intercorrelations among VPI scales may increase in magnitude as the mental abilities and reading skills of subjects decrease.

2. B. W. Walsh and C. A. Barrow (1971) explored the differences reported on personality variables between freshmen students who made congruent and incongruent college major choices. The personality variables were operationally defined by the CPI. Congruent and incongruent college major choice groups were defined operationally using the VPI. The analysis of variance of the personality scale scores did not reveal the main effect of congruence to be significant. The test for the main effect of sex and the test for interaction were each found to be significant on six different personality scales, with one exception. Findings suggest that students in the congruent female group tended to have more stable college major choices than students in the congruent male group.

3. K. F. Taylor and G. I. Kelso (1973) employed male sample of

188 students and so the effect of sex could not be explored in this study. The total sample consisted of students from six College of Advanced Education and Teachers' College courses which corresponded accurately with Holland's typology. They completed the six main scales of the VPI and the CPI.

The results indicated that highest means on all VPI scales were obtained by the predicted courses. Distributions of high and second point VPI codes were in accordance with theoretical expectations within four of six groups. The order of VPI means was in agreement with the hexagon structure on 30 of 36 occasions.

With regard to the CPI, only 8 of 18 CPI scales discriminated significantly between the six courses and only two between the six VPI scales. The two latter scales were Femininity and Intellectual Efficiency.

In interpreting these three studies' outcomes the crucial finding is to be found in Folsom's study which indicated that "the magnitude of the coefficients obtained in the majority of the analyses suggested that the amount of common factor variance existing between the VPI and the CPI may be quite minimal". Once again, then, Holland's typology demonstrates relative independence as a personality measure. One has to remember that the typology is based on the six factors produced by Guilford in his huge factor analysis study of interests. Since such factors express more basic dimensions they enhance our hypothesis on the one hand and on the other hand it makes it very unlikely that the CPI scales which were not produced by factor analysis have much in common with the typology. The same will probably apply even to the MMPI; after all, both men and women can equally be depressive, hypochondriac, psychopathic, psychotic, etc.; even homosexuals exhibit all the range

of mental health. The fact that the CPI did not differentiate between congruency-incongruency, together with the finding cited earlier that this measure is related to ego-identity measures is another indication of the relative independence of identity formation processes from other personality processes.

A further note concerning these studies is that we have witnessed again the strong interaction effect of sex and the sometimes opposing trends for males and females on the CPI, although the hexagonal patterns demonstrated validity for both sexes. We should note too the scales of Femininity, Intellectual Efficiency, Achievement through Independence, Achievement through Conformance, and Flexibility. They should not be considered more than an indication in view of the low common variance. However they are positive indications.

Studies done with the 16PF offer the first clear evidence that Holland's typology is indeed a personality classification. C. M. Williams (1972) employed the 16PF together with the VPI, the Alport-Vernon-Lindzey Study of Values and the Miller Occupational Values Indicator. His analysis of the relationship of scores on these instruments to the male graduate students' major area of concentration indicated that not only personality characteristics but also work values and life values were significantly related to occupational choice.

By reference to the masculinity-femininity modes' descriptions, most of the 16PF factors are asexual (e.g., trusting vs suspicious, expedient vs conscientious, forthright vs shrewd, relaxed vs tense, placid vs apprehensive, undisciplined vs controlled, group dependent vs self-sufficient, serious vs happy-go-lucky, reserved vs outgoing and intelligence.). It is therefore fascinating to see in Ward, Cunningham

and Wakefield's study (1976) the significant factors that were picked by them from the 16PF in relation to the VPI. In a canonical analysis of the scores of 425 undergraduates, three pairs of related components were identified to be contained in the two instruments. The participating factors from the 16PF were: (a) tough minded vs tender minded, (b) practical vs imaginative, (c) humble vs assertive, (d) shy vs venturesome, and (e) conservative vs experimenting.

In the first canonical correlation (.56) high scores on *Enterprizing* and *Artistic* were characterized as "tender minded" and "imaginative". In the second canonical correlation (.50) high scores on *Enterprizing* and *Status* were characterized as "assertive" and "conservative". In the third canonical correlation (.37) high scores on the *Enterprizing* scale were characterized as "assertive" and "venturesom"; and conversely, high scorers on the *Conventional* scale were characterized as "humble" and "shy".

This study indicates that Holland's typology and the 16PF are only partially overlapping and with the *Enterprizing* type - the most thoroughly captured by the 16PF.

The *Enterprizing* type is one of the most adaptive types and its profile on the 16PF reveal the masculine-feminine modes factors that enter into the integration of this type: tender minded, imaginative, assertive, conservative, and venturesome.

The relationship of the 16PF to Holland's typology seems not to be stable. S. D. de Voge (1975) failed to predict college majors from the students' scores on the 16PF in their freshmen year. She succeeded however to identify these students' majors from their 16PF scores in their senior year. (In the same study she found significant continuity

between academic major and later employment.) These results suggest that the 16PF measure somewhat changeable qualities in comparison to the VPI. In de Voge's study the three 16PF factors with highest discriminative power were intelligence, tough mindedness vs tender mindedness and conservative vs experimenting.

Studies done with the Omnibus Personality Inventory sharpens everything that we suggested thus far and deserves some comparative evaluation.

The studies that employed the OPI in a straightforward fashion generally indicate not more than partial response to the typology or the complementary indication that the VPI is insensitive to some phenomena that are measured by the OPI. G. D. Yonge and M. C. Regan (1975) in a male only sample of 833 freshmen and seniors have found that students' scores on the OPI and the Scholastic Aptitude Test (including those of "immigrants" from one major to another) were related to senior major field of study, classified into the six Holland types. Thus, we have indication that the types are differentiated by their scholastic ability apart from personality differences. However, the populations within types were far from being homogeneous. There were differences in both personality and ability among those who persisted in the same type of major for four years and also among those who changed to a different type of major from the freshman to the senior year. There was limited evidence that within certain types of major, particularly the *Realistic* type, persisters and "immigrants" resembled each other more on some personality characteristics than did persisters and "emigrants" (those who left this type of major), but concerning the within-type differences, the authors concluded that Holland's model

is not adequate to the task of shedding much light on the obtained results. This conclusion is of course in line with our contention that Holland's types are fixed by integration of a relatively independent dimension of identity formation, but these results suggest the further possibility that the same type may determine a second order typology along consistently dichotomous lines. One is reminded at once of a model such as Erickson's polar stages of identity formation, but this possibility will not be pursued in this paper, because there is no other evidence to support it. One should be always aware in science that what is perceived as relatively independent phenomena may actually be relative ignorance. I shall, therefore, leave open the possibility that what may account for consistent differences in ability and personality within one type are the submerged factors that might be represented by a three-code type. I also suggest for further study the exploration of differences in ability as a function of different combinations of code types. (H. A. Andrews (1975) has already shown a more refined method of using the two point code in predicting occupational movement.)

A. H. Rose and C. F. Elton have produced two further studies with the OPI which demonstrates that this instrument may be a particularly useful one in connection with Holland's typology. In the (1971) study that we have cited, it may be remembered that the OPI in a sample of 275 males and 248 females recorded significant personality differences between types and sexes. However, it was the significant interaction effect that supported the authors' conclusion that separate theories of occupational choice for males and females are required if the theories are to be based on personality constructs. Our hypothesis

does not call for separate theories for males and females although it may certainly allow for different performance of males and females. The authors' conclusions in this study are somewhat amusing since we feel that they had failed to consider the implications of the results of their earlier study. We consider the Elton and Rose (1970) study to be the most ingenious and sophisticated study produced thus far in connection with Holland's typology; its results compelled us to our present theoretical formulations.

We shall therefore quote quite extensively from this study.

The freshman and senior occupational choices of 530 University of Kentucky male students were classified according to Holland's scheme. This University has a relatively open admission policy and these 530 males represented the entire male graduating class of 1969 for whom freshman test data was available.

The Omnibus Personality Inventory form C factor scores of these students as entering freshmen became the independent variables in several different discriminant analyses. In addition the American College Testing Program (ACT) Composite score for each student was used as an independent variable.

This sample's scores from twelve scales of the OPI were subjected to a principal components analysis from which five factor scores were extracted for each student. Thus the extraction of factor scores rather than the use of the ordinary scale scores was in line with the search for more basic personality dimensions that may be associated with Holland's typology. The twelve scales used from the OPI to extract the five factors are as follows: (a) Thinking Introversion, (b) Theoretical Orientation, (c) Estheticism, (d) Complexity, (e) Autonomy,

(f) Impulse Expression, (g) Schizoid Functioning, (h) Social Introversion, (i) Religious Liberalism, (j) Masculinity-Femininity, (k) Lack of Anxiety, and (l) Couch-Kenniston. The OPI scales of Developmental Status, Repression-Suppression, Social Maturity, and Nonauthoritarianism were omitted from the factor analysis because of their large item overlap with other OPI scales. The five factors, rotated to a varimax criterion, were labelled as follows: I. Nonconformity; II. Scholarly Orientation; III. Nonauthoritarianism; IV. Social Discomfort; and V. Masculine Role.

The sample was divided into two groups: "persistors" and "immigrants" according to whether the student persisted in his occupational choice expressed in his freshman year or moved to another major. The five factor scores were used together with ability scores to predict seniors' occupational scores. Prediction efficiency was greater for "persisters" alone and for "immigrants" alone than for the total all-senior group. Efficiency range of prediction was similar to the one Holland reported for his VPI. Both measures were inferior to the predictive power of expressed choice as a freshman - a known phenomena in interest measurement.

In the next phase of the study the attempt was made to determine the personality and ability differences between the Holland categories.

For the "all-senior", the predictor variables are presented in the order in which they emerged in the stepwise analysis: (1) Masculine Role, (2) Scholarly Orientation, (3) ACT Composite, (4) Nonauthoritarianism, (5) Social Discomfort, (6) Nonconformity. That is, Masculine Role accounted for most of the variance, and the addition of Scholarly Orientation to Masculine Role provided the greatest reduction

of the remaining unexplained variance, etc. Although many of the between group differences in personality mean scores in the stepwise analysis were statistically significant ($p < .01$) only those defined in the following paragraph added significantly to the discriminations between groups.

Masculine Role differentiated *Artistic* choices from all others; *Conventional* choices from *Artistic, Enterprizing,* and *Social* but not from *Realistic* and *Intellectual*; *Social* and *Enterprizing* choices from *Intellectual, Realistic, Conventional* and *Artistic,* but not from each other; and *Realistic* and *Intellectual* choices from *Artistic, Social* and *Enterprizing* but not from *Conventional* and not from each other. The addition of Scholarly Orientation provided the distinction between *Intellectual* choices and those occupations comprising *Realistic* and *Conventional* groups. It also sharpened the differences between the following groups: *Enterprizing* from *Intellectual* and *Artistic*; *Conventional* from *Social* and *Artistic*; and *Artistic* from *Social*. ACT scores sharpened the distinction between *Social* and *Conventional* choices and between *Social* and *Intellectual* choices.

The authors then proceeded to place the six groups on a two dimensional space according to this data. The horizontal dimension devised from a combination of ability and personality variables took its identification from high scores on Masculinity Role and ACT and was named "Scientific Orientation". The second dimension dominated by high scores on Masculinity Role and low scores on Scholarly Orientation, represented a "Practical Orientation". When the six groups were located on this space a remarkable approximation to Holland's hexagonal arrangement was recreated, both in the circular order and space

distance.

These results were almost identically replicated for the "persisters" group. The predictor variables emerged in the stepwise analysis in identical order. Only the last two - Nonconformity and Social Discomfort - which added nothing to the discrimination in either case, were reversed. For the "persisters" group the six Holland categories were located in a slightly different dimensional space. The Scientific Orientation dimension was retained but the second dimension was devised from low scores on Masculine Role and ACT, and high scores on Scholarly Orientation and Represents Humanistic Orientation. The authors suggested that these two dimensions might also represent a things vs people continuum and a spontaneity vs structure continuum. The space thus created provided even a richer discrimination and recreated the hexagonal structure.

The immigrant groups were differentiated only by the ACT scores and it was concluded that differential difficulty of university majors account for the main motivation of their movement.

Thus the personality variables which contribute most to the differentiation between groups are Masculine Role and Scholarly Orientation. Students choosing *Intellectual* occupations earn relatively high mean scores compared with others on the Masculine Role and Scholarly Orientation. Those with *Conventional* and *Realistic* choices earn relatively low mean scores compared with others on Scholarly Orientation and relatively high mean scores on Masculine Role. *Artistic* and *Social* choices earn higher mean scores on Scholarly Orientation and lower mean scores on Masculine Role compared with others while those choosing *Enterprising* occupations have low scores on both Masculine Role and

Scholarly Orientation.

Masculine Role takes its character principally from the Masculinity-Femininity scale of the OPI. High scorers on this factor express interests in practical science and problem solving; they admit to few adjustment problems or feelings of anxiety or personal inadequacy. This scale then is the best approximation to our conception of the masculine mode of existence. The OPI factor of Scholarly Orientation takes its principal meaning from the scales of Thinking Introversion and Theoretical Orientation. High scorers on this factor indicate an interest in thinking and dealing with abstractions; they are independent thinkers who like dealing with a broad range of problems. The principal components of this factor: Thinking Introversion and Theoretical Orientation represent the inward and outward orientation of thought processes and their integration in the factor of Scholarly Orientation attest to our masculine-feminine balance rationale underlying high cognitive processes.

This study then substantiates both Holland's personality claims for his typology and our rationale for its explanations.

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY
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The following questionnaire is part of a research that is designed to answer the following question: is there a relationship between a person's choice of an occupation and his early relationship with his parents.

An answer to this question will link types of occupations chosen, confusion, and difficulty in making decisions with the early feelings of a child towards his parents. Understanding these relationships may help us, among other things, in the direction and assistance of young people who are uncertain about their future professional life.

The questionaire consists of a few very short descriptions of early relationships in a family. You are asked to check the one description which - more than others - resemble your feelings as a child (age 3 to 6 years old) towards your parents.

Many people do not recall their relationship with their parents at that early age; on the other hand, if drastic change had occured in such relationship, most people will have no difficulty in recalling it. Therefore, if you neither recall your early relationship with your parents, nor are aware of any marked change in these relationships, the best approach in answering this questionnaire, is to assume that your present relationship with your parents, as far back as you can remember, truly reflects the same basic attitudes that you experienced as a child.

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Some of the descriptions are fairly similar so please read all the nine descriptions before deciding on the one that most resembles your situation as a child.

Make your decision by drawing a circle around the description's number.

1. As a child (age 3-6) I had a somewhat distant relationship with my father. Although I respected him in a lot of ways, I was not very attached to him. I was much more attached to my mother at that time and there was much affection between us although I did not look up to her as someone to mold myself after.

2. As a child (age 3-6) I did not have a close relationship with either of my parents.

3. As a child (age 3-6) I regarded both my parents as two very impressive people; besides there was much affection between me and the two of them. I cannot remember that I was much more my father's child than my mother's or vice versa. I was equally quite close to both of them.

4. As a child (age 3-6) I was very close to my father but I could not respect him. My mother on the other hand, commanded my respect in many ways but I did not feel very close to her.

5. As a child (age 3-6) I was near to admiring my mother and we had an intimate relationship. I did not admire my father as much, however, I was quite close to him also.

6. As a child (age3-6) my father probably seemed to me close to perfection. Apart from the warmth between us I felt him as someone I can learn from. The relationship with my mother was not very warm but I had respect for her.

7. As a child (age 3-6) I felt warmth toward my parents; I loved them both. My mother, though, was clearly less influential on my life than my father. I felt his impression on me much stronger and I looked up to him in many ways. I gues that in spite of my affection towards my mother I took her much more for granted.

8. As a child (age 3-6) I guess I loved my parents but I did not have much respect for either of them. I did not feel that I was getting what I needed and I was somewhat disappointed with them.

9. As a child (age 3-6) I feel that my mother had much more impact on me than my father; not only could I share and discuss with her many things but she was also a model to me in many ways. I was not that close to my father although as a child I held him in due respect.

Part II

In order to validate and to assess more accuratley your choice of family descriptions, the following two dimensions are employed with regard to your feelings as a child (age 3-6) to each of your parents. Please indicate with an "x" your standing as a child on these dimensions.

CLOSENESS TO MY MOTHER	Very close	Close	Not very close	Distant
RESPECT TO MY MOTHER	Admired her	Respected her in many ways	Respected her in a limited sense	Took her for granted
CLOSENESS TO MY FATHER	Very close	Close	Not very close	Distant
RESPECT TO MY FATHER	Admired him	Respected him in many ways	Respected him in a limited sense	Took him for granted

Part III

In this part we will try to assess the degree of confidence you have in your present plan or choice of occupation. Please indicate with an "x" your standing on the following "confidence - confusion" dimension. (Please note that the term "indecision" here does not refer to a minor conflict in deciding between, say, Elementary school teacher or High school

teacher; Electrical Engineer or Mechanical Engineer. "Indecision" will be more properly referred to as a conflict between a Teacher and an Engineer.)

1. _____
I feel fully confident in my choice of occupation.

2. _____
Apart from feeling some remote indecision, I otherwise feel quite secure in my choice of occupation.

3. _____
Although my basic inclination toward a specific occupation is set, I feel strong attraction to some other occupation(s) as well.

4. _____
I feel torn and undecided between two or more choices of an occupation.

5. _____
I do not feel myself attracted to any occupation in particular. I have only vague notions of what I want to do.

6. _____
I have not got the faintest idea of what occupation I shall choose.

Part IV

In this part we would like to validate your response on the previous part. Please regard the following dimension, as a scale, that indicate in a general way the degree of confusion and vagueness or clarity and confidence you have when you think of plan or choice of an occupation for yourself.

Please indicate your standing on this scale with an "X".

_____ _____ _____ _____ _____ _____ _____

Very clear & confident — Very vague & confused

Part V

If you feel fairly confident in the type of occupation that you may choose (or have chosen) please indicate it here:

I have chosen to be _____.

If you experience some form of indecision, please indicate the various types of occupations that you have considered:

I have considered the following types of occupations _____

_____, _____, _____