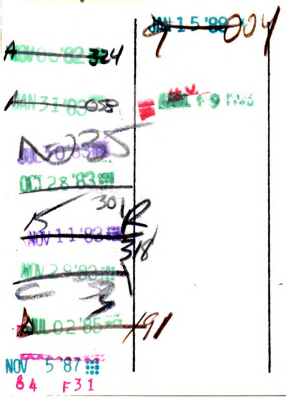

ASSESSING SOURCES OF INTRINSIC AND EXTRINSIC SATISFACTION IN THE CRAFTS EXPERIENCE: WOODWORKING

By

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ABSTRACT

ASSESSING SOURCES OF INTRINSIC AND EXTRINSIC SATISFACTION IN THE CRAFTS EXPERIENCE: WOODWORKING

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Three issues were investigated in this study: the nature of satisfaction potentially available from involved participation in the craft experience, the impact of extrinsic rewards on intrinsic satisfaction, and the satisfaction of those who did an activity as a job compared to those who did it as an avocation. The craft experience of woodworkers was focused upon in order to examine in detail the specific sources of intrinsic and extrinsic craft satisfaction.

Given the separate but related concerns of this investigation, it was necessary to use three different methods of analysis. In the first and major part of the study, a conceptual model of craft satisfaction was developed based on interviews of craftspeople and on an extensive review of literature from several disciplinary perspectives. Four potential intrinsic satisfaction sources (the process of making, self-determination, competence, and expression) and two extrinsic satisfaction sources (monetary and status) were delineated. Using the six conceptual constructs as a base, a questionnaire was developed. The Satisfaction

Assessment in Woodworking (SAW) questionnaire was completed by 297 conference-attending woodworkers in 1980 in New York and Chicago. The data were analyzed using an oblique multiple groups confirmatory factor analysis method. After some refinements in the SAW measurement instrument based on the initial results of the multiple groups factor analyses, the basic conceptual model of sources of satisfaction in the craft experience of woodworking was confirmed.

In the second part of the study, the correlational patterns between the six established SAW satisfaction scales were used to examine the relationship between extrinsic monetary satisfaction and sources of intrinsic satisfaction. No statistically significant negative correlations were found between extrinsic monetary satisfaction and the four intrinsic satisfaction variables. Such a result was contrary to what would be expected both from common opinion and theories that suggested that monetary rewards had a detrimental impact on the intrinsic satisfaction of an experience.

In the third part of the study, the group means of amateur and professional woodworkers were compared on each of the six SAW satisfaction scales. Multivariate analysis of variance (MANOVA) techniques were used to determine if the professional and amateur group means were different. When statistically significant results were found for the MANOVAs, ANOVAs were computed and the group means were examined to determine the direction of the differences. Based on these methods, it was found that professionals experienced more extrinsic satisfaction than amateurs. However, there was generally no difference in the level of intrinsic satisfaction experienced by professional and amateur

woodworkers. The findings were not only contrary to what would be expected, but when statistically significant differences did occur, they were in the opposite direction of what would be predicted.

The principal conclusions of the study were:

1. The conceptual model of craft satisfaction developed provides applicable indicants of potential intrinsic and extrinsic sources of satisfaction.

2. The process of making, self-determination, competence, and expression are distinct sources of intrinsic satisfaction.

3. The Satisfaction Assessment in Woodworking (SAW) questionnaire is a useful tool for measuring the sources of satisfaction experienced by woodworkers.

4. The act of earning money for woodworking does not in itself detrimentally affect any of the intrinsic sources of satisfaction.

5. Woodworkers in the defined population experience similar levels of intrinsic satisfaction from woodworking regardless of whether the craft is done as an occupation or as an avocation.

Since the conceptual model was based on the input from several crafts, and since the woodworkers in the sample were demographically similar to craftspeople in other surveys, it seemed likely that the conclusions might be applicable to the general population of craftspeople.

To Cecil

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CHAPTER I

INTRODUCTION

In recent years, there has been a strong resurgence of interest and participation in the crafts. The signs of this resurgence are abundant. In the commercial realm, craft fairs, tool and equipment retailers, and material suppliers have increased vastly in number and accessibility. Book publication has burgeoned, and several new craft periodicals are growing successfully. Craft courses have been so well attended that programs are being added to universities, schools enlarged, and new institutions developed. Government funding and support have increased dramatically, including the formation of a specific crafts division within the National Endowment for the Arts. Newspapers and magazines frequently have articles on crafts people--many of whom have left other occupations to pursue their craft full time. These and other signs provide clear evidence of a crafts resurgence.

There have been few investigations of the underlying causes of the increased interest and participation in the crafts. Even in the rare studies that exist, the explanations provided are generally only tangentially related to the crafts experience itself. For example, those who are vocationally oriented note the lack of satisfaction in many jobs or the decrease in physical activity in many twentieth-century occupations. Others, interested in recreation, cite the shortening work

week and the resultant increase in leisure time. Those concerned with aesthetics refer to the monotonous sterility or lack of quality of many mass-produced items. Behavioral scientists discuss such issues as the desire for personal expression, creativity, and nonconventional lifestyles.

Although these explanations are plausible or have merit, they also seem to be based more on the background or beliefs of the proponent than on the nature of the crafts experience. Each rationale attempts to account for the resurgence of participation in the crafts without focusing specifically on the crafts experience itself. In that respect, they all seem to suffer from the same deficiency. But is there something about the crafts experience itself that can account for the revival of interest and participation? Is there something inherent in the process which makes crafts satisfying? It is the lack of direct response to such questions that induced interest in this topic and suggested the need for further research.

The Problem and the Need

As stated above, there is clear evidence of a crafts resurgence, but few explanations are offered which are based upon a direct evaluation of the craft-making process. Although there is a general belief that the crafts experience is satisfying, there have not been many attempts to assess this satisfaction systematically. Even in the academic disciplines which might be interested in such a topic, there is a dearth of empirical investigations. This lack of research is quite surprising given the diverse range of disciplines which might

legitimately contribute to the study of satisfaction in the crafts. For example, areas such as art, aesthetics, creativity, need assessment, motivation, vocational theory, crafts, leisure time, quality of life measurement, satisfaction, and recreation all seem of relevance. A brief overview of some of these fields of interest enables further clarification of the problem and the need.

In the area of art, distinction is frequently made between fine art, applied art, and folk art. Although there is often disagreement about which activities belong in each category, crafts are generally considered applied or folk arts. The increasing academic interest in art and the artistic process in recent years has been focused, however, nearly exclusively on the fine arts (Arnheim, 1966; Gardner, 1973; Read, 1943). The situation is similar in studies of artistic creativity: concentration is almost entirely on the fine arts (Getzels & Csikszentmihaly, 1976; Morizot, 1978). In addition, studies in the aesthetic realms frequently focus upon the object rather than upon the maker or the process of making.

The increased interest in leisure time has brought some attention to the crafts experience, but usually only at a general level as one possible subdivision of recreational interest. Several researchers have noted the need for further investigation into the nature of particular craft activities, but such studies are not yet evident (Athletic Institute, 1954; Haun, 1965; Macdonald, 1976; Robinson, 1977). Similarly, there seem to be no attempts to discover what it is that makes specific crafts satisfying.

Studies of the process of vocational choice and work satisfaction could obviously be applied to those who have chosen crafts as a career. But despite the increase in the number and visibility of professional craftsmen, the few references in the literature tend to be short vignettes of lifestyles or anecdotal descriptions. The motivation for entry into or the satisfaction derived from a craft career is rarely reviewed or researched.

A similar situation exists in the study of motivation, which has been a major emphasis in psychology. The number of competing views and theories of motivation is immense (Deci, 1975; Hunt, 1971; Murray, 1964). Although there are some theories relevant to this study (as will be described below in more detail), concentration is on a level of concern that is still much broader than that of the topic considered here. Even in more specific investigations of intrinsic motivation, there tends to be a preoccupation with a few favorite theories and general approaches. Consideration of the motivation to participate in particular activities, such as woodworking or other crafts, is noticeably absent. Further delineation of the particular motives or the specific sources of satisfaction within a particular activity is also lacking.

There has been a marked increase in the measurement of both social indicators and perception of the quality of life in recent years. A useful model has been developed to assess satisfaction in various "domains" of life, but thus far there have been few attempts to delve into specific areas such as spare time. Nonetheless, the model which considers domains of interest and criteria for evaluating them is

useful and potentially applicable to the study of crafts in general or to the study of a particular craft (Andrews & Withey, 1976).

Clearly, there are several major academic areas that have potential bearing on satisfaction in the crafts, but thus far, there seem to be no direct considerations of this issue. Although many of the areas just outlined could contribute to such a study, what has been done to date is useful only inferentially or by extrapolation. This situation may be due in part to the tendency to stay within narrowly circumscribed disciplinary boundaries--a tendency which is unproductive given the interdisciplinary nature of the topic. But whatever the exact cause, there are few specific considerations of the nature of the crafts experience. It is this lacuna that suggests the need for further research.

Even within disciplinary confines, however, there is another problem: the absence of usable measurement instruments. As will be evident following the review of theory below, there are few measurement instruments applicable to assessing satisfaction in the crafts. Even in those infrequent instances where assessment has been attempted, investigators have relied on time-consuming interview schedules, complicated and often only partially relevant test batteries, or unsystematic general questionnaires (Csikszentmihaly, 1975; Evers, 1976; Hoffman, 1977; Sommer, 1977). In the literature reviewed, there is no evidence of a concise and minimally anxiety-arousing self-report instrument that is both accurate and reliable to assess sources of satisfaction in particular activities.

This is the context in which the current study exists: the resurgency of the crafts movement; the related but unspecific interdisciplinary concerns of art, creativity, motivation, leisure, and quality of life; the limited applicability of theoretical and empirical research; and the absence of useful measurement instruments. Given this context, the questions elicited, and the gaps delineated, the potential contribution of this study can be more easily seen.

An investigation of the sources of satisfaction in the crafts experience could address this situation and respond to the apparent gaps. The need for contribution to the knowledge in this area seems clear. But in addition to addressing an area of sparse understanding, it is hoped that there might be other potential benefits as well. Development of an assessment instrument could help operationalize knowledge and theory in this field and, thereby, facilitate application to practical pursuits. For example, if there was a means to delineate characteristic features of the crafts experience or a means to assess the sources of satisfaction in a particular craft, then vocational or leisure counseling might be assisted. Similarly, if it were possible to delineate sources of satisfaction in a particular activity, then it might be possible to consider ways to facilitate that enjoyment--for either professionals or amateurs. This clarification of the problem and the need makes it possible to specify the purposes of this study.

The Three Purposes of the Study

The purposes of the study are most accurately comprehended in view of the context depicted above. There are few explanations for

the crafts resurgence which are based on direct evaluation of the making process itself. Although the crafts experience is generally believed to be satisfying, there is no known attempt to assess the satisfaction empirically or to delineate the component parts. Given this situation, the first and predominant purpose of this study was to evaluate and describe the nature of the satisfaction potentially available from involved participation in the crafts experience of woodworking. Particular focus was placed upon the development and evaluation of a conceptual model of the intrinsic and extrinsic sources of craft satisfaction. The second purpose was to assess the relationship between intrinsic and extrinsic dimensions. Of particular interest was whether extrinsic monetary rewards had any impact on the level of intrinsic satisfaction. The third purpose of this study was to ascertain whether there was any difference between amateur and professional wood craftsmen on the types and level of satisfaction derived from participation in woodworking.

Hypotheses

There are three hypotheses which parallel the three purposes of this descriptive study of the nature of satisfaction potentially available from participation in the craft of woodworking. First, it is hypothesized that there are specific components of the woodworking experience that are recognizable by participants as sources of satisfaction. The implied testing of a conceptual model of craft satisfaction is more evident in a precise statement of the hypothesis:

1. Specific sources of satisfaction in the woodworking experience can be measured in the responses of woodworkers to a satisfaction assessment questionnaire.

An evaluation of the relationship between intrinsic and extrinsic satisfaction is made in the second part of the study. The impact of monetary satisfaction on intrinsic satisfaction is investigated by the second hypothesis:

2. There is no correlation between extrinsic monetary satisfaction and each of the sources of intrinsic satisfaction for woodworkers.

In the third part of the study, professional and amateur wood craftsmen are compared on the type and level of satisfaction derived from participation in the woodworking experience. "Professional" and "amateur" status is determined in three different manners: proportion of time spent, proportion of income earned, and self-designation on the job/hobby dimension. The specific hypothesis of interest in this third part of the study is:

3. Professionals and amateurs experience different amounts of satisfaction from woodworking.

Related Theory

Although there is no known research that has directly explored sources of satisfaction in the crafts experience, there are theoretical frameworks that can be fruitfully applied. Since conceptual models which deal with intrinsic motivation and enjoyment have particular pertinence to the present investigation, two of the most crucial theories are considered briefly.

In an attempt to account for aspects of motivation that he found inadequately covered by other theories, Robert White (1959) developed

the concept of "effectance." Noting individuals' persistence toward exploration, activity, and manipulation, White posited effectance or the attempt to produce an effect on the environment as a major motivational element. Efficacy, the feeling of impactfulness, can lead over time to a sense of competency.

Rather than one aspect of motivation, White saw the pursuit of competence as a central component. He later broadened the concept to such an extent that effectance or competence became the rubric under which all intrinsic motivation could be subsumed. Given the focus of the present study on the making process of woodworking, it seemed clear that assessment of the intrinsic aspects inherent in the experience was critical. White's concept of effectance provided one construct by which such an evaluation can be made and more fully understood.

Combining some of White's notions regarding effectance with Maslow's work on self-actualization and peak experiences, and with studies on play, Mihaly Csikszentmihaly (1975) investigated enjoyment in work and play. Suggesting that it was one's thoughts and feelings--the perception and interpretation--that made an activity enjoyable, Csikszentmihaly emphasized intrinsic or "autotelic" activities. Delineating aspects such as enjoyment of the experience, use of skills, discovery, and achievable challenge, a theoretical model of enjoyment or "flow" (as Csikszentmihaly referred to it) was developed. Although the model has been applied to selected play and work situations, it has not been used to evaluate the crafts experience.

Even in the applications of Csikszentmihaly's theory of enjoyment that have been made, problems exist. Aspects of flow seem to overlap

and, thereby, they are difficult to measure distinctly. The attempts at measurement that are cited are complicated, time-consuming, and of questionable usefulness (pp. 14-15, 111-112, 143-144, 161-179). Nonetheless, there are aspects of Csikszentmihaly's theory of enjoyment that can be used to assess the woodworking experience.

Both White's theory of effectance and Csikszentmihaly's theory of enjoyment can provide a useful framework and offer some suggestive directions. However, even with these conceptual models, there are still many unanswered questions. Both White and Csikszentmihaly link their neologistic concepts of "effectance" and "flow" to intrinsic issues. Are flow and effectance really the same? Does intrinsically satisfying behavior consist of more than competence? If so, is it possible to measure distinctly the other components inherent in intrinsic activity?

Questions are also generated in relation to the present study. For example, even if the crafts experience of woodworking is found to be intrinsically satisfying, there is still the question of what makes it so. How does it happen? What are the components, the mediating variables, the specific sources of satisfaction?

In conclusion, it is the theories related to intrinsic satisfaction that are most relevant to the present study--particularly those proposed by White (1959) and Csikszentmihaly (1975). But even these theories raise questions and need to be broken down into measurable behavioral units if they are to be applied to the present study. To respond to these and other related questions by assessing the sources of satisfaction in woodworking was the purpose of this research. Following a

brief overview of the contents of following chapters, the investigation undertaken and the results found are discussed.

Overview of the Dissertation

In the chapters which follow, the research context within which the current study exists, the construction and administration of a satisfaction instrument, the research methodology, the results of the hypotheses tested, and some conclusions generated by the study are reviewed. More specifically, in Chapter II, there is a detailed review of the most applicable theoretical studies and a general overview of other works pertinent to the development of intrinsic satisfaction constructs. The construction methods of the Satisfaction Assessment in Woodworking (SAW) questionnaire are specified in Chapter III, along with a description of the population sampled. Also in the third chapter are statements of the hypotheses tested, a delineation of the research design, a description of the data analytic techniques used, and a review of the research expectations. In Chapter IV, the results are reported for each of the three parts of the study: the factor analysis of the measurement instrument, the correlational patterns between extrinsic monetary and sources of intrinsic satisfaction, and the comparison of the amount of satisfaction of professional and amateur woodworkers. In the last chapter, conclusions are drawn from this study of the sources of satisfaction in woodworking and potential implications are considered.

CHAPTER II

REVIEW OF THE LITERATURE

The broad range of disciplines that might make a contribution to the assessment of sources of satisfaction in the crafts experience of woodworking were mentioned in the "Introduction." Given this inter-disciplinary breadth and the concomitant tangential relationship of most previous research to the present study, decisions regarding which literature to review are difficult. In order to deal with both the diversity and the scarcity, this review of the literature is divided into three sections. In part one, major theoretical contributions related to intrinsic motivation are reviewed. In the second section, research which contributed more specifically to the development of the four intrinsic satisfaction constructs is considered. Since this study is primarily about sources of satisfaction that are inherent in the experience of woodworking, only resources which added to an understanding of intrinsic satisfaction are reviewed. Finally, in the third part, research related to satisfaction assessment and questionnaire construction is reviewed. By taking such a three-pronged approach, it is hoped that both the breadth of related fields of inquiry and the paucity of specifically applicable research can be conveyed.

Part I. Intrinsic Motivation: An Overview

Much has been written about intrinsic motivation, but there is still little knowledge or agreement about what causes it. Even though sources of intrinsic satisfaction are investigated in the present study, there is much that is pertinent in the research on intrinsic motivation. A review of the major theoretical contributions can further clarify the conceptual context and, thereby, provide a helpful framework in which to consider this study. Once this general perspective is portrayed, conceptual resources used for construct development can be delineated.

Contributions to the understanding of intrinsic motivation have come from varied approaches and diverse theoretical perspectives. The breadth of approaches includes lab experiments on animals, assessment of humans (questionnaires and projective techniques), and electronic measurement of brain cell activity. Those with theoretical backgrounds in behavioral, psychoanalytic, developmental, experimental, and humanistic psychology have all investigated the area of intrinsic motivation. Given this immense range, consideration here is limited to works which both reflect that diversity and attempt some integration.

White's Effectance Theory

Although there were many prior conceptualizations about intrinsic motivation, Robert White (1959) brought several trends systematically together in the late 1950's. The numerous predecessors which he cited in his detailed review can best be conveyed by a simple listing (see Table 2.1).

Table 2.1: Conceptions Cited by White (1959) as Influential on the Development of His Theory of Intrinsic Motivation

Proponent and Date	Concept	Description or Elaboration
Groos, 1901	"joy in being a cause"	Analysis of children's play reveals their desire to produce effects.
Buhler, 1924	"funktionslust"	Pleasure in activity for its own sake.
Hendrick, 1942	"instinct to master"	"An inborn drive to do and to learn how to do."
Hebb, 1949	need for excitement and novelty	Organisms have a need for stimulation; some unfamiliarity is necessary to maintain novelty; there are optimal levels of frustration or risk.
Erikson, 1953	"sense of industry"	The need for "a sense of being able to make things and make them well," a sense of mastery.
Maslow, 1954	growth motivation	Need hierarchy--once "lower" needs met, motivation toward growth.
Mittelmann, 1954	motility urge	Activity oriented toward manipulation or examination of objects and development of motor skills.
Schachtel, 1954	focal attention and exploratory play	Exploration occurs when anxiety is low or other needs are in abeyance.
Woodworth, 1958	behavior primacy	In contrast to need primacy theories, "all behavior is directed primarily toward dealing with the environment."

White delineated shortcomings in some of these approaches but also extracted useful components in an attempt to develop a more integrated and complete theory of intrinsic motivation. To these conceptual understandings, White added analogies from animal and child development, especially from the experience of play. He noted that much of the child's physical manipulation of objects and exploratory behavior served the purpose of adaptation or "effective interaction with the environment" (p. 317). When he emphasized the learning which occurred as a result of such interaction, White labeled it "competence." When speaking even more inclusively of activities "motivated in their own right," White used the term "effectance" motivation. "Efficacy" was defined as the resultant satisfaction or feeling produced by effective interaction with the environment (1959, p. 329).

Deci's Intrinsic Motivation Theory

In his review of intrinsic motivation research about 15 years later, Edward Deci (1975) cited many of the same predecessors and issues. However, Deci's study added further understanding of past work and delineated yet another model of intrinsic motivation.

Deci began his study by defining intrinsically motivated activities as:

> ones for which there is no apparent reward except the activity itself. People seem to engage in the activities for their own sake and not because they lead to an extrinsic reward. The activities are ends in themselves rather than means to an end. (p. 23)

Having provided this general operational definition, Deci then surveyed some of the major conceptualizations about intrinsic motivation. He

divided past research into several broad categories: drive theory, optimal stimulation, reduction of uncertainty, and competence and self-determination. Following his review of research in each area, Deci noted limitations and suggested the need for further theoretical development. He then proceeded to address some of the problematic areas and other issues in his description of cognitive evaluation theory. After a brief discussion of the conceptual categories and the difficulties delineated by Deci, aspects of cognitive evaluation theory are considered.

Deci reviewed several studies that support "the notion that curiosity, manipulation, and exploration are intrinsically motivated behaviors" (p. 28). But he noted that typical attempts to account for such behavior were often little more than "drive naming." As he stated:

> Organisms were believed to have an exploratory drive (Montgomery, 1954), a manipulation drive (Harlow, 1953a), a sensory drive (Isaac, 1962), a drive for visual exploration (Butler, 1953), or an instinct to master (Hendrick, 1942, 1943). (p. 28)

Not only did drive naming offer little in the way of real explanation, it also did not produce "drives" which fulfilled the usual understanding or stipulations of the term.

The second group of studies which Deci reviewed were those that posited optimal stimulation as necessary for effective functioning. After distinguishing between optimal psychological incongruity and optimal physiological arousal, Deci discussed studies in each area. Of particular importance to his theory was Berlyne's (1971) work on

the needs of the brain and its information processing or collating function.

Third, Deci reviewed studies dealing with the reduction of uncertainty. The important difference between these studies and those just mentioned that dealt with optimal incongruity was that these studies proposed that organisms were motivated to reduce all uncertainty or dissonance. Deci noted the evidence that reduction sometimes occurred--but so did behavior to induce uncertainty or dissonance.

In his last category, competence and self-determination, Deci reviewed the work of Woodworth and White, but also went on to discuss de Charms' use of the concept of perceived locus of causality. As de Charms (1968) stated:

> Whenever a person experiences himself to be the locus of causality for his own behavior . . . he will consider himself intrinsically motivated. Conversely, when a person perceives the locus of causality for his behavior to be external to himself . . . he will consider himself to be extrinsically motivated. (p. 328)

Deci stated that this linkage between locus of causality and intrinsic motivation further clarified the competence and self-determination dimensions. More specifically, for someone who was striving to be a causal agent, it was necessary both to seek reasonable challenges (self-determination) and to conquer them (competence).

Having surveyed previous work, Deci delineated his own position. He defined intrinsically motivated behavior as "behavior which is motivated by a person's need for feeling competent and self-determining in dealing with his environment" (p. 100). Deci noted that this need is

not reduced by consummatory behavior, but rather is ever-present unless interrupted temporarily by a primary drive or strong affect.

Perhaps the main contribution made by Deci was as an exponent of cognitive evaluation theory. He assumed that cognitions were causal determinants of behavior. Given this assumption, he then posited several effects of extrinsic rewards on intrinsic motivation. Proposition I suggested that "a change in the perceived locus of causality from internal to external . . . will cause a decrease in intrinsic motivation" (p. 139). Deci stated that part of the impetus for this proposition came from the work of de Charms, who "suggested that external rewards cause a person to lose his feeling of personal causality and make him a 'pawn' to the rewards" (Deci, p. 131). Deci also believed that support for his proposition had come from the work of Festinger, who had "proposed that external rewards affect a person's concept of why he is working and lead him to believe that he is working for the rewards" (Deci, p. 131). But Deci emphasized that it was "the person's phenomenological evaluation of the reward" that determines its effect (p. 141).

Proposition II of Deci's cognitive evaluation theory stated that intrinsic motivation could also be altered by changes in feelings of competence and self-determination. To explain why a reward might have differential impact, Deci clarified that there were two aspects of rewards: control and feedback. If the controlling aspect was salient, then there would be a change in the locus of causality. On the other hand, if the informational aspect was salient, then there would be a change in feelings of competence and self-determination. Deci completed

his study by suggesting methods for assessing motivation and by reviewing several potential applications of his theoretical system.

Csikszentmihaly's Theory of Enjoyment

Csikszentmihaly used many of the same conceptual foundations as White and Deci but emphasized different features. Even though there was a plethora of studies on intrinsic motivation, Csikszentmihaly noted that there was still a lack of understanding about the underlying causes. Believing that enjoyment was the key to understanding intrinsic motivation, Csikszentmihaly stated that the problem was still not resolved because "we do not know how various activities make the experience of enjoyment possible" (p. 24). In an attempt to remedy the situation, Csikszentmihaly investigated intrinsic activity--the experience itself and the inherent enjoyment. His research provided useful theoretical background and instructive directional suggestions for the present study.

As evident in the title of his book, Beyond Boredom and Anxiety: The Experience of Play in Work and Games, Csikszentmihaly based some of his theoretical concepts on the observation of play. Believing that man at play was at the peak of freedom and dignity, he attempted to find out what made play so liberating and rewarding.

Csikszentmihaly did not stop with play, however, but rather wove several other major theoretical threads into the fabric of his study. He attempted to integrate White's work on novelty and competence; Maslow's study of self-actualization, peak experiences, and ecstasy; and his own research done with Getzels on artists and creativity.

Csikszentmihaly also dealt with work alienation but avoided the artificial work/play dichotomy by stressing that any activity could become rewarding. In this respect, he began to integrate ideas that were related to ones like Deci's cognitive evaluation theory mentioned above. Disagreeing with the position that observable data make inner experience unimportant, Csikszentmihaly stressed that thoughts and feelings were what gave meaning to life. "It is not so much what people do but how they perceive and interpret what they are doing that makes the activity enjoyable" (1970, p. x). Thus, distinctions such as "work" or "leisure" did not really matter. Whatever the activity was--from rock climbing to surgery--Csikszentmihaly emphasized its potential for intrinsic satisfaction.

Prior to his review of what made activities enjoyable, Csikszentmihaly differentiated "enjoyment" from "pleasure." Enjoyment was based on inner goals, abilities, and subjective evaluation whereas pleasure was a physiological response. Although Csikszentmihaly endeavored to delve scientifically into what enjoyment was and how it came about, he offered reminders that such investigation still might not reflect the vivacity of the actual experiences but rather only be an impoverished model. Steiner (1974) made a similar point: "To know analytically is to reduce the object of knowledge, however complex, however vital it may be, to just this: an object" (p. 106). Having provided this caution, Csikszentmihaly moved on to provide a model of enjoyment or "flow."

Csikszentmihaly began his study of enjoyment by asking people in "autotelic activities" simply why they were doing what they were doing. He provided this definition:

> An activity was assumed to be autotelic (from the Greek auto = self and telos = goal, purpose), if it required formal and extensive energy output on the part of the actor, yet provided little or no rewards of the conventional kind. (p. 10).

Although he found several "reasons for enjoyment," the most prominent patterns were "enjoyment of the experience and/or use of skills"; "the activity itself: the patterns, the action, the world it provides"; and "development of personal skills" (p. 14). Much of the remainder of his volume stressed these characteristic features in the context of several diverse activities.

Csikszentmihaly distinguished between "autotelic activities," "autotelic people," and "autotelic experiences." "Autotelic activities" were defined as:

> patterns of action which maximize immediate, intrinsic rewards to the participant. While presumably one may derive enjoyment from any activity, some forms are more suited to that purpose. (p. 21).

Although he was well aware of experimental studies that showed that extrinsic rewards could decrease the enjoyment of activities previously pursued for their own sake, Csikszentmihaly emphasized that in real life, extrinsic and intrinsic rewards did not necessarily have to conflict.

"Autotelic people" were described as ones who were able to enjoy what they were doing regardless of whether they would get external rewards for it. There was obviously some relationship between the structure of the activity and the amount of pleasure it enabled, but Csikszentmihaly noted that there were substantial individual differences. "Some people appear to be able to enjoy the least autotelic

of activities, whereas others need external incentives even to do things rife with intrinsic rewards" (p. 22).

Conceding that "strictly speaking, autotelic activities and autotelic personalities are conceptual abstractions without independent ontological reality" (p. 22), Csikszentmihaly then defined "autotelic experience" empirically. "An autotelic experience is a psycholgical state, based on concrete feedback, which acts as a reward in that it produces continuing behavior, in the absence of other rewards" (p. 23). Having discussed these concepts, he went on to delineate the structure of autotelic experiences.

Using past research as a base, Csikszentmihaly concluded that enjoyable activities must involve "a person's physical, sensory, or intellectual skills" (p. 25). Other dimensions of competency such as exploration, problem solving, and facing challenges were also central components in this model of intrinsically satisfying activities. Csikszentmihaly, like White, viewed challenge as a core concept: it was the careful calibrating or optimal matching of demand with skill that critically affected autotelic experience and enjoyment. The outcome was always open-ended but within the person's control. In this respect, this theory was also congruent with de Charms' theory of inner causality.

The other core concept that Csikszentmihaly included in his theoretical model of enjoyment was that of involvement in the process. As he described it, the sense of involvement in intrinsic activities was complete and without boredom or anxiety. Csikszentmihaly referred to this experience as "flow":

> It is the state in which action follows upon action according to an internal logic which seems to need no conscious intervention on our part. We experience it as a unified flowing from one moment to the next, in which we are in control of our actions, and in which there is little distinction between self and environment; between stimulus and response; or between past, present, and future. (p. 36).

As evident in that quotation, autotelic experience and flow were described as almost identical concepts. The main distinction that was made between them was that flow did not preclude the possibility of concomitant external rewards.

Basically, what Csikszentmihaly emphasized in the concept of flow was that "the doing is the thing" (p. 37). Flow was characterized as a merging of action and awareness, a concentrated involvement in tasks that were within one's ability to perform, and, thereby, a lack of contradictory demands or worry. Since it was not the reality of the demands but rather one's perception of them, it was possible to internally restructure environmental demands so as to create an optimal match between skill and demands.

After reviewing such varied experiences as chess playing, rock climbing, dancing, and surgery, Csikszentmihaly reported the results of his research on flow patterns in everyday life. Although it is not the intention to review those daily patterns or "microflow" styles here, it is important to note that he did find several intrinsic means by which people gave order to everyday life.

Csikszentmihaly attempted to shift the focus of intrinsic motivation research to analysis of the experience itself and the opportunity for inherent enjoyment. He portrayed vividly the "esprit de jeu" or spirit of playfulness that can be a part of any autotelic

experience. Csikszentmihaly also emphasized the need for further research, particularly the assessment of the amount and kind of intrinsic rewards in different activities.

Other Related Studies

The work of White, Deci, and Csikszentmihaly was useful both in portraying the general context of the present study and in suggesting useful concepts. These three theorists were clearly the ones with most breadth and of most significance for the assessment of sources of satisfaction in woodworking. Nonetheless, there were still some gaps and issues that could profitably be expanded further. By considering a few other studies, the contributions to this investigation from research areas such as creativity, leisure, play, and cognitive processing could be made more apparent. Following a brief review of these areas, attention is turned to research relevant to the specific constructs generated in this study.

In their investigation of artists and creativity, Getzels and Csikszentmihaly noted that it was impossible to overemphasize the importance of the intrinsic dimensions. Whether it was the process of production, the freedom to define what and how to do, or the concreteness of the products, the intrinsic dimensions were foremost (1976, p. 216). But it was their emphasis on problem finding that added significantly.

In contrast to studies of problem solving, Getzels and Csikszentmihaly believed that problem finding may be the most critical characteristic of creativity (pp. 77-106). The conception or

formulation of the problem was deemed a central element of creativity. Problems discovered or formulated by the individual were the ones most conducive to intrinsic creative expression. A questioning attitude, concern for discovery, investigatory impulse, heightened sense of curiosity, questing spirit, and tendency to delay closure were traits that typified the problem-finding, artistic personality. In short, Getzels and Csikszentmihaly made clear that the generation of problems was another apsect of intrinsic activity that needed to be taken into account.

As noted in the previous discussion of Deci's work, some researchers defined intrinsic motivation in such a way that it precluded concomitant extrinsic rewards. Such definitions raised issues about work and leisure. If a person got paid for working, did that eliminate the possibility of intrinsic satisfaction? Although there were some authors (like Walter Neff, 1977) who attempted to perpetuate the work/leisure dichotomy, many who were interested in intrinsic factors diminished the duality. A few examples make this more obvious.

In his book The Psychology of Leisure, John Neulinger suggested using the verb "to leisure" to emphasize that leisure is a way of being (1974, p. xi). He defined this verb "to leisure" as being engaged in an activity for its own sake. As obvious in such a definition, as well as in Neulinger's statements about doing what one chooses and participating in discretionary activities, he defined leisure almost identically to many definitions of intrinsic behavior. But even though he emphasized the intrinsic nature of leisure,

Neulinger stressed that work and play could be equivalent (p. 80). Havighurst (1961) expressed a similar viewpoint: "to a considerable extent people can get the same satisfactions from leisure as from work" (p. 320).

But did many people get as much satisfaction from work as from leisure? If Terkel's best-seller, Working (1972), is taken seriously as a representative cross-section, the experience seems to be rare. In his commentary and vignettes of working people, one gets little sense of intrinsic satisfaction. On the contrary, work was frequently described as "an alien matter" that did violence "to the spirit as well as to the body," and was viewed as a source of "daily humiliations." Terkel's statement "to survive the day is triumph enough for the walking wounded" raised serious doubt about whether many experience much intrinsic satisfaction in their daily occupations (p. xiii).

It is interesting to note, however, that what many alienated workers longed for or what "the happy few" described was frequently intrinsic elements. Terkel talked of a stone mason who enjoyed working with his hands and producing tangible products (pp. 17-22). Similarly, a carpenter was quoted who spoke of the satisfaction of the process and the materials:

> It's a real pleasure to work on it, don't get me wrong. Using your hand is just a delight in the paneling, in the good woods. It smells good and they shape well with the plane. Those woods are filled with the whole creative mystery of things. Each wood has its own spirit. (p. 670)

But such satisfaction was clearly the exception in Studs Terkel's survey of those who work.

Michael Ellis, in his book Why People Play (1973), also believed that either work or play could be intrinsically satisfying. "We are led into an artificial dichotomization of the behavior into work and play when clearly some behavior can be both" (p. 108). Ellis went on to delineate the "conditions for play" and to provide a useful schema for the evaluation of behavior (pp. 123-124). Of most importance here, however, was his clarification that intrinsic satisfaction depended on novelty, uncertainty, and arousing stimuli.

Arguing that White's theory of effectance was unnecessary since optimal arousal theory handled all the issues, Ellis pointed out that to test competency, it was necessary to have uncertainty (p. 111). Similarly, in order for activities to maintain their intrinsic potential, the interactions producing stimulation must increase in complexity with increase in experience (p. 142). Ellis stated that it was easiest to maintain the initial novelty by choosing situations which allow for continuous series of free choices and/or by elevating personal performance standards. Although Ellis' use of novelty was parallel to aspects of White's competency concept, Csikszentmihaly's optimal calibration of skill and demand, and Deci's seeking and conquering, the stress on its necessity to maintain intrinsic potential was a useful reminder.

Deci's explication of cognitive evaluation theory and its relation to intrinsic motivation was cited above. In his work Human Motivation and Emotion, Buck (1976) went in a similar direction. He stated that it was impossible to separate activation, feeling, and cognition

because they were all interrelated (p. 6). In his "developmental-interactionist view," Buck noted the influence of cognitive psychology on intrinsic motivation. Citing Piaget's theory of the development of reasoning and Schachtel's cognitive-physiological interaction theory of emotion as examples, Buck outlined some of the cognitive psychology underpinnings of current intrinsic motivation theory (pp. 16-17).

Although Buck noted the rational determinants of behavior and referred to the reception and processing of information by the brain, Hunt (1971) developed the historical perspective further. He noted that once the analogy was drawn between the brain and an electronic computer, cognitive theories of intrinsic motivation proliferated. In fact, Hunt cited research which referred to "intrinsic portions of the cerebrum" and even separated information storage and processing sectors from action or executive organization sectors (pp. 9-11). His review was useful in that it reflected the extent of influence of cognitive theory on intrinsic motivation theory. This influence was especially clear in the definition provided: "By intrinsic motivation, I mean that motivation that is inherent in information processing and action" (p. 1). Such a definition revealed yet another trend and emphasis in the research on intrinsic motivation.

Having reviewed the major research on intrinsic motivation pertinent to this study, it may seem that there is little need for further investigation. But although much has been written on intrinsic motivation in general, little has been done on either the sources of intrinsic satisfaction or the analysis of particular activities. Are

certain activities more conducive to permitting or eliciting intrinsic satisfaction? If so, why? What are the sources of such satisfaction? In which activities? To what extent is intrinsic satisfaction a personality attribute? These and many related questions are still generally unanswered in the previous literature.

In fact, many authors, including several of the ones cited above, have pointed to the need for further study. For example, Henry Murray noted that satisfaction, pleasure, contentment, and happiness were often eliminated from concern, both because of the Puritan ethic and because of the difficulty of measurement (1958, p. 196). Gardner emphasized the importance of making in the developmental process, but he noted that there was little related research (1973, pp. 8, 178-184). Even studies like those of Csikszentmihaly (1975, pp. 24, 202), Evers (1976, p. 129), and Begly (1979), that attempted to deal more directly with the process and the enjoyment of intrinsic experiences, suggested the need for further exploration.

In short, the work done thus far on intrinsic motivation raised important issues but also left many questions unanswered about intrinsic satisfaction. Having reviewed those studies that were most pertinent and having provided a general sense of the context, it is now possible to consider research that was useful in the formulation of constructs for the development of the assessment instrument.

Part II. Research Related to the Development of the Intrinsic Satisfaction Constructs

Aspects of some of the general theoretical studies of intrinsic motivation just reviewed were applicable to the generation of specific

intrinsic satisfaction constructs. Several other studies were also particularly useful in developing concepts of sources of satisfaction in the crafts. In this second part of the review of the literature, research that suggested or supported each of the intrinsic constructs is considered. Although some of the literature is relevant to more than one category, the references are considered in relation to each of the four intrinsic satisfaction constructs: process of making, self-determination, competency, and expression.

The Process of Making

There was an abundance of literature from many different disciplinary backgrounds that made reference to "the activity itself," "making," "the process," "doing," "direct experiencing," and "immersed involvement." Whether from the perspective of motivation research, vignettes of California craftsmen, study of the developmental process, personal philosophy of craft, scientific investigation of artists and creativity, case study of a chairmaker, or occupational therapy handbook, there seemed to be a common perception that satisfaction could be inherent in the process of making. A review of some of these specific sources substantiates this potential aspect of intrinsic satisfaction.

In his book The Handmade Object and Its Maker (1975), Michael Owen Jones described in detail the process of one craftsman's "making." Focusing on the "pleasure inherent in making things" (p. 21), Jones stressed that it was the act, the activity, the process--and not the product--that was most satisfying (pp. 12-13). Noting that "this

pleasure in making things is often called creativity," Jones delineated two major phases (p. 224). The objective creative phase was characterized by overt manipulation of raw materials while the subjective creative phase involved the translation of vision or idea into tangible form. Thus, objective creativity was typified by making or execution, whereas subjective creativity reflected inspiration or personal expression--concepts that are quite parallel to two of the intrinsic satisfaction constructs developed here. (Further consideration of the expressive dimension is made below.)

Jones went on to point out the sense of "commitment to the creative act" (p. 167) and tendency to become highly involved or absorbed by the process of making. This commitment to creating could easily become a consuming priority as was the case for the chairmaker he described: "Because craftwork is Charley's life and love he completely immerses himself in the task of making things" (p. 125). Satisfied involvement in the process of making was not unique to Charley the chairmaker, however. On the contrary, it was often the experience of makers--whether they were committed to the creative act full time or not.

For example, in her study of amateur craftsmen residing in Michigan's upper peninsula, Evers discovered that "regular practitioners" found satisfaction in the making process (1976, p. 80). Although she attempted to test "the belief that special benefits accrue to people involved in the creative art-making process," Evers found that her measures of well-being and quality of life were "not sophisticated enough" (pp. 26, 52). Nonetheless, the results of her

interviews were utilized to form a rudimentary typology based on variants of craft motivation and satisfaction. Although the typology merely reflected case material, it did suggest that amateurs experienced intrinsic satisfaction, including enjoyment from such aspects as novelty or problem solving (p. 98).

In Edward Murray's work, Motivation and Emotion, five categories of motivation were delineated that were useful in clarifying further the factors conducive to satisfaction in the process of making (1964, pp. 79-100). The five categories were sensory, curiosity, activity/ manipulatory, cognitive, and social. Citing observation of children at play and the McGill studies of stimulus deprivation as cases in point, Murray stated that sensory experiences were innately rewarding. But stimulation alone was not sufficient. Murray enumerated studies in the second category, curiosity, that demonstrated the search for novelty. For an activity to be satisfying, it was found that there was an optimal level of novelty.

Activity and manipulatory motivators were described as "the motivation to do" (p. 78). In his schema, Edward Murray noted that since novelty could wear off, there must be an underlying motive to master manipulatory problems. But Murray found no need to limit mastery to physical activity. Including cognitive variables, he noted the pleasurable use of perceptual, motor, and thinking apparatus in meeting challenges and solving problems. In that regard, Murray referred to Woodworth's and White's theories that dealt with effective interaction with the environment.

Edward Murray did not stop with the potentially satisfying sensory, curiosity, activity, and cognitive aspects, however. He stated that social motives often dominated daily behavior. Noting that these motives were often perceived as personal or coming from within oneself, Edward Murray (1964) listed Henry Murray's 20 psychogenic needs. As he described them, five of those needs (achievement, autonomy, order, play, and sentience) seemed particularly pertinent to the process of making. Achievement included the need to master, manipulate, and organize experience according to standards. Autonomy was delineated as the need to get free and shake off restraint. Order was characterized as the need to arrange, balance, or be precise. Play was defined as fun without further purpose. Sentience was described as the need to seek and enjoy sensuous impressions. Although the focus of Edward Murray's work was clearly not on the process of making, both the categories and needs described suggested applicable potential sources of inherent satisfaction. As he stated, many "activities may be intrinsically rewarding: they may be engaged in for their own sake, for some inherent pleasure or satisfaction" (1964, p. 74).

Howard Gardner, in his work The Arts and Human Development: A Psychological Study of the Artistic Process (1973), elaborated a conceptual schema that dealt specifically with making. Delineating the deficits in both Freud's psychosexual and Piaget's developmental theories and noting the frequent lack of attention to process in psychological studies of aesthetics (pp. 3-25), Gardner proceeded to

stress the developmental importance of participation in the artistic process.

Gardner discussed development in terms of three interacting systems: making, perceiving, and feeling (pp. 54-87). The making system included overt behaviors, motion, actions combined into sequences, and performance. Since problem solving involved acts on objects or operations, Gardner believed it was closely related to making. The perceiving system consisted of sense discriminations or distinctions. The feeling system was based on the phenomenal experience of the person. Although the three systems were believed to interact with little initial differentiation in the developing organism, usually one of the three systems came to predominate.

Gardner drew many comparisons between making, play, and art. For example, he viewed play "as the undisciplined operation of the making system" (p. 163). In the free experimentation or exhaustive exploration of play, acts were engaged in for their own sake--not for some end result. Having linked play and making quite closely, Gardner then defined art as "a goal-directed form of play" (p. 166). The imposition of rules or definition of a goal altered the experience of play--even though the main characteristics were clearly similar.

> As adults are not at ease with goalless activity, they tend to play relatively little; and when at play, they impose the kinds of restraints associated with formal games or with artistic activity. (p. 166).

Gardner's emphasis on the impact of participation in the artistic process and its playful aspects added further substantiation to the concept and features of making.

Herbert Read, in a work often viewed as a classic, Education Through Art, expressed a viewpoint quite consonant with the one elaborated by Gardner years later. Of particular interest to the present focus on making was Read's discussion of the "constructive instinct" or desire to make things (1943, pp. 8-10). Of all the arts, it was craft that he depicted as the most appropriate technique for "constructive education." Also of interest in Read's account was his belief that craft was the most suited of the arts for the development of the mental processes of thought. Read's delineation of the instinct to make or construct and his emphasis on the concomitant involvement of both physical and mental operations in the craft process clarified the act of making and gave it a central role in the artistic endeavor.

Certainly much of White's (1959, 1960) and Csikszentmihaly's (1975) work pertained to the process of making. As noted above, White's central concepts of competence and effectance were based on interaction with the environment and the production of impact or effect on it. Similarly, Csikszentmihaly focused upon "the activity itself: the pattern, the action, and the world it provides"; the heightened involvement in doing in the process of flow; and the full use of capabilities (pp. 14, 35-39). It was clear in Csikszentmihaly's work that autotelic activities did not themselves provide enjoyment; that depended on the person's interpretation. What they did provide, however, was the opportunity--the chance to act or make. As Csikszentmihaly stated: "Activities that reliably produce flow experiences are similar in that they provide opportunities for action,"

optimal challenge, decision, discovery, and enjoyment (pp. 49-50, 125-137).

The process of making was not just a theoretical concept discussed by academicians, however. On the contrary, it was often referred to by those who were actively involved in the craft process. For example, in the book Craftsmen Lifestyle: The Gentle Revolution, one commonality found in interviews with many leading California craftspeople was that "the act of doing supersedes the end result" (1977, p. vi). In her report of these interviews, Emery quoted numerous craftsmen who felt compelled to make things, who thrived on using their hands, and who got thoroughly engrossed in the process of making. The same point was made succinctly by Hall (1977) in her review of contemporary American craftsmen: whereas the "world works to live, craftsmen live to work" (p. 174).

Carla Needleman depicted the experience of making articulately and poetically in her book, The Work of Craft. Like Read, and Csikszentmihaly, Needleman noted that craft appealed to both body and mind and that it frequently enabled integration of these components of what was otherwise often a "disharmonious self" (1979, pp. 33-34). In her vivid description and introspective analysis of her own experience in pottery, weaving, and woodcarving, Needleman artistically portrayed the craft process of making and the recurring opportunities for integration, involvement, and satisfaction.

> People work well only when their interest is drawn, in one way or another, to the job at hand. My interest, I find, is attracted by the sensory pleasure of handling a tactilely satisfying material, or the intricacies of a problem that engages my mind, sometimes by looking forward to the finished

> product, sometimes by a kind of soothing repetitious movement, in all cases involving a personal pleasure now or an anticipation. (pp. 94-95)

Needleman further elaborated a few of the physical dimensions of making. Noting that craft could meet some of the frequent longing for direct experience, she stated: "The most accessible of the various modes of direct experiencing is physical, to touch, to work with one's hands, to move one's body" (p. 119). Thus, another aspect of the process of making was the physical exercise or patterned sense of movement.

Other authors have referred to some of the same aspects of making in the crafts. For example, in relation to sensory experiences with raw materials, Jones (1975) described Charley the chairmaker as "a man who tastes, smells, and feels the wood he works with, and who wants to be in contact with his materials" (p. 136). But Jones stated that such sensory enjoyment was not unique to Charley, since other chairmakers seemed to "obviously derive pleasure from manipulating raw materials to create forms that were satisfying both visually and practically" (p. 219). Similarly, Hall (1977) referred to craftsmen who were tactilely responsive to their medium, who gave form to things yet unshaped, who celebrated "the beauty of rugged, unpretentious materials," and who found the routine of craft enjoyable (pp. 168-177). Cane (1951, p. 21) and Emery (1977, p. 1) also discussed the potential for satisfaction in making a tangible object. Even though other authors discussed some of the same issues, it was Needleham (1979) who most expressively portrayed the simple pleasures, the absorption

in doing, the "Eden of the moment" (p. 101), and the special orientation to making characteristic of many craftsmen.

There was another aspect that was frequently referred to in the literature that was also evident in Needleman's book: the impact of the experience of making on the maker. As she stated: "A craft is not its objects; a craft is how I am when I am making them" (p. 123). Slivka (1978) made a similar point by quoting Thoreau: "It is not important what form the sculptor gives the stone. It is important what sculpting does to the sculptor" (p. 28). Whether scientific studies or anecdotal accounts, whether using the terminology of intrinsic satisfaction or everyday parlance, there was one feature that was unmistakable in the literature reviewed: the process of making often enabled enjoyment. Makers looked forward to working and to the opportunity for satisfaction inherent in making.

Many writers have referred to the potential benefit that making in general and craft making in particular could have on the participant. For example, in their study of artists, Getzels and Csikszentmihaly (1976) asked the question "Why do you do art?"

> They all responded in intrinsic terms--mentioning not rewards from the work but in the work, rewards not derived from the product but obtained in the process of production. . . . Making art is its own reward. (p. 19).

Similarly, Jones spoke of the chairmaker's "pleasure of making things" (1975, p. 113). Emery's survey of California craftspeople (1977) abounded with reports of satisfaction in the process. In short, there was ample evidence of enjoyment in the making process in the literature reviewed.

Several authors did not stop with the evidence of enjoyment, however, but rather went on to note further the psychological impact on the participant. In fact, much of the literature from fields such as occupational therapy, art therapy, recreational therapy, and leisure studies investigated such issues and generally found the crafts to be quite therapeutic. But although crafts could be inspiring, nourishing, or cathartic, they need not be offered as "therapy." For example, Joan Erikson and David and Joan Loveless (1976) advocated that "the growth-nourishing potential of an activity lies in involvement in the process and in experiencing the medium." If the activity is not allowed "just as activity," they believed it could lose its growth-nourishing potential (pp. 55-56). Haun, convinced that the need for fun was basic, took a similar stance in his book on recreation (1965, p. 19).

Earnon O'Sullivan's Textbook of Occupational Therapy (1955) discussed the comfort and solace that could result from craft participation. O'Sullivan provided a "psychological analysis" of various crafts in which he delineated both sedative and stimulative qualities (pp. 191-207). The sedative quality in craft came from simplicity, monotony, and repetition or pattern. The stimulative quality in craft was due to attention requirements, color, and variety. In his review of various crafts, O'Sullivan found woodworking (pp. 228-254) particularly enjoyable given the varying levels of complexity and the wide range of operations and tools: "There is probably no craft where stimulation of interest remains at such a high, continuous level to the extent it does in woodworking" (p. 254).

Reference to the calming and fulfilling as well as stimulating and invigorating aspects of making were not limited to therapeutic professionals, however. In Slivka's interview with craftspeople, there was frequent reference to "feeling the full self present in their work" (1978, p. 31). Coyne and Hebert also noted in their review of careers in the crafts the tranquility provided by involvement in the crafts and that "there is something about the material of crafts that keeps a person truthful" (1974, p. 15).

Perhaps the most expressive statements about the enjoyment inherent in making and the possible sense of well-being came from Needleman (1979). She attempted to work at her craft in such a way as to allow the experience of making to be the goal. If she could block out other distractions and allow complete involvement in the state itself, Needleman found it

> a great pleasure. When my hands, working together in perfect unison, move slowly up the side of an emerging pot, raising the walls higher and higher, and I see the marks of my fingers on the sides clearly and evenly spaced, I am happy. Then there is no other place I would like to be, no other activity I would prefer to engage in. (p. 9).

In summary, there was an abundance of literature from many diverse disciplines that referred to the activity itself or the making process. Although involvement in the making experience did not necessitate a concomitant feeling of satisfaction, the references cited suggested that enjoyment was often inherent--particularly in the craft process. In fact, some found the process so satisfying that it became an end in itself.

Self-Determination

The second aspect of intrinsic satisfaction derived from review of various literature sources was self-determination. Whether referred to as autonomy, independence, freedom, personal control, free choice, or individuality, there was frequent substantiation of this source of satisfaction. A consideration of some of the pertinent literature enables delineation of self-determination dimensions.

The importance of a personal sense of control was mentioned above in the discussion of Deci's Intrinsic Motivation (1975). Noting that Rotter's locus of control concept (1966) and de Charms' locus of causality concept (1968) often got confused, Deci distinguished between them. Basically, "when a person is intrinsically motivated, the locus of causality for that behavior is internal, whereas when the person is extrinsically motivated, the locus of causality is external" (p. 90). Locus of control, however, discriminated between people who believed that rewards followed from their own behavior (internal control) and people who believed that rewards were primarily determined by luck or fate (external control). Deci related the two concepts:

> The relationship of locus of control to intrinsic motivation is a bit confusing. Rotter's theory focuses largely on extrinsic rewards, i.e., on one's perceiving that he is able to obtain rewards if he attempts to get them. However, Rotter's theory also relates to one's believing that he is competent and self-determining. Therefore, we can see that someone who is an internal control may be motivated either intrinsically or extrinsically. Hence, the locus of causality may be either internal or external for someone who is high on internal locus of control. External-locus-of-control people tend not to be motivated for either intrinsic or extrinsic rewards, since they do not believe that the environment will respond to them or that rewards will follow their behavior.

> We can therefore view Rotter's concept of internal locus of control as being a necessary condition for intrinsic motivation. (pp. 90-91)

In short, Deci clarified that both internal locus of control and internal locus of causality were necessary concepts for an understanding of the intrinsic dimension of self-determination.

Although others used different terminology, many writers referred to the importance of personal control and freedom--in work, in play, and in the craft process. For example, in Wilensky's analysis of personal needs in the work situation, he found that freedom and personal responsibility were critical if alienation was to be avoided (1964, pp. 139-146). Opportunities for using one's own judgment, freedom from excessive supervision, and control over quality of the product were seen as crucial self-determination dimensions. Neff (1977) reviewed similar issues in his book, Work and Human Behavior, and noted that work generally was not found meaningful unless there was an opportunity to have control over the productive process or a chance for self-expression (p. 44).

The similarities between work and play for the intrinsic qualities of making were noted above. Comparable parallels existed for self-determination. The qualities of freedom and control necessary for meaningful or enjoyable work were also cited by different authors as crucial in play and leisure. For example, Neulinger (1974) stated that "freedom is the primary determinant of leisure"--freedom to choose without constraint or compulsion (p. 15). He believed that it was the free or discretionary aspect that most distinguished leisure from work (pp. 15-21). Noting that "freedom is the essential criterion

of an enjoyable act," Csikszentmihaly (1975) said it was for that reason that philosophers such as "Heraclitus, Plato, Nietzsche, and Sartre have held play in such high esteem" (p. 25).

Studies of those involved in the process of making also referred to the importance of freedom, control, and self-determination. For example, in their study of artists, Getzels and Csikszentmihaly (1976) noted that the intrinsic rewards came from the free use of talent and control over materials (p. 23). The focus the researchers placed on the creative process of generating problems led to a natural emphasis on self-initiated problem formulation. The freedom to define what to do and how to do it and the inherent enjoyment was sharply contrasted to the assignment of tasks and the unsatisfying sense of external control (p. 52). The enjoyment of personal control over the process expressed by many of the artists was also explicitly referred to by a California wood craftsman quoted by Emery: "I find greater satisfaction not only in working with my hands, but in working an idea clear through from start to finish" (1977, p. 56).

Having control over the process or having opportunity to implement one's own ideas enabled autonomous action and expression of individuality. Although there was often overlap in the literature reviewed between the closely related issues of self-determination and self-expression, the need for personal impact of one's own choosing was reported repeatedly. Joan Mondale, in her role as vice-presidential family member and arts spokesperson, made the point succinctly: "Crafts put us in touch with our own individuality in an age of mass-produced, machine-made products" (Craft Horizon, 1978, p. 42).

Elyse Sommer expressed a similar opinion in Career Opportunities in Crafts (1977). Having stated that "forty percent of all Americans over sixteen engage in some form of craft activity," Sommer then specified reasons for craft involvement:

> a basic disenchantment with mass-produced merchandise, cog-in-the-wheel meaningless work, and business operations that sacrifice ethics and quality at the altar of the big buck. (p. 4).

The commonality underlying many of Sommer's reasons seemed clearly to be self-determination and individuality.

One way to make a personal impact on the environment or express one's unique individuality in a society filled with mass-produced items was to make by hand. Although the making process has already been discussed, the personal causality aspect inherent in making was not. Arnheim expressed the point strongly: "To make things by hand is almost indispensable for a person to contemplate the image of his own individuality, without which he loses his place in the world of humans" (American Craftsmen's Council, 1961, p. 11).

David Pye clarified, however, that it was not handwork per se that was the critical variable. In his book, The Nature and the Art of Workmanship (1978), Pye used the self-determined qualities of judgment, dexterity, and care to distinguish "the workmanship of risk" from "the workmanship of certainty" (pp. 4-26). The quality of the result was predetermined in the workmanship of certainty since it was done by precisely programmed procedures and machines. It was only the workmanship of risk that allowed for personal impact on the process. Although the workmanship of risk often involved handwork, Pye

emphasized that it was meaningless to classify work done by hand or by machine, since it was really the degree of risk that was the distinguishing factor. Pye's concept of the workmanship of risk highlighted the impact of the person on the process of making and, thereby, emphasized the elements that were determined or controlled by the individual.

Lifestyle. The sense of personal causality and freedom was not just limited to the process of making, however. Indeed, there was frequent reference to control over a style of life in general. Certainly that was a major point in Emery's book, as suggested in the title: Craftsman Lifestyle: The Gentle Revolution (1977). Speaking about a California craftsman, she stated:

> Instead of working toward five o'clock, a weekend, or a time when he can do what he REALLY wants to do, Gerald McCabe begins there, not without discipline and hard work, but without any discrepancy between what he wants and believes is worthwhile and what he does with himself each day. (p. 31).

Emery went on to quote another furniture maker who revealed both the importance of self-determination and the resultant enjoyment:

> "I used to put a lot of value on my being a craftsman--much more than I do now. I thought it was really extraordinary that I was doing something I enjoyed and that I could make money at it. I've always felt I wanted to be my own person and do something I chose to do, not what someone else decided I was going to do. . . . What I do for a living is not that special. Now I've sort of taken my place in society and stopped thinking I was better than other people. Just having something to do that I enjoyed didn't make me a better person. It just made me happy." (p. 161).

Working alone. Part of the enjoyment associated with self-determination was often related to the opportunity to work alone. The Athletic Institute was aware of such needs in modern society, even in the early 1950's, as was evident in the statement:

> There are times when most everyone seeks to capture the joys of meditation and solitude in order to shut out the pressures and excitement and to slacken the pace of present-day living. Evidence of this urge to find a retreat is manifested in the nation-wide sale and use of home workshop equipment. (p. 17)

In their view, the opportunity for solitude was another source of satisfaction available in the crafts in addition to the enjoyment inherent in making and self-expression.

Similarly, as one aspect of his perceptive analysis in the chapter "Meaning in Arts and Crafts," Jay Shivers and Clarence Calder (1974) remarked that some individuals sought out crafts especially as an outlet for solitary activity. Noting that group events or social experiences did not satisfy everyone's needs, Shivers and Calder stressed that recreational and educational programs should promote frequent opportunities for individual learning and skill development. As they stated: "Being along may very well be utilized as a means for self-development" (p. 19). To emphasize the point further, Mary Chase (1940) was quoted:

> If we really want to recapture the essence of experiences, if we want to restore color to our faded personalities and vitality to our languid minds, then we must learn to do things, to think things, to become someone, alone. For in order to gain from the world of experience and of people what the world has to offer us, we must frequently withdraw from it to find new experiences within ourselves. (Chase, p. 132)

Thus, it seemed that some worked alone to retreat or find solitude, and others to develop more self-awareness. Working alone certainly enabled control over the process, but for many it also seemed to provide independence from others' agendas and demands. The enjoyment in autonomy or self-determination was frequently expressed both by various authors and by many of the craftsmen they surveyed.

In summary, opportunities for personal choice and responsibility and chances to use one's own judgment and be in control of decisions were significant factors in making and enjoyment. These opportunities to impact the process and the freedom to determine one's whole life-style were seen as important in providing satisfaction. Zehring's survey of careers in the crafts (1977) provided a useful summary and overview. He found that many craftsmen referred to self-determination issues when asked about their initial career choice. The most often cited

> reasons for entering the field were the control they have on their own vocations; the freedom to choose, design, and plan; the fulfillment of doing what they want to be doing; and the ability to come and go, when and how they want. . . . In terms of job satisfaction, this seems to be an overwhelmingly fulfilled group of workers, for obvious reasons--they are doing what they want to be doing. (p. 37).

The central importance of control, freedom, choice, autonomy, and self-determination was obvious not only in this account of career craftspeople, but also in the other studies reviewed.

Competence

The third source of intrinsic satisfaction extracted from a review of the literature was competence. Although authors used such varied terms as mastery, optimal challenge, effective performance, skill, and effectance, there seemed to be essential agreement that individuals pursued and enjoyed opportunities that enabled a feeling of competency. A review of the major references reflects some of the dimensions of competency and its central role in the understanding of intrinsic satisfaction.

The prominent role of competence was initially mentioned above in the consideration of studies of intrinsic motivation done by White, Deci, and Csikszentmihaly. Although repetition of the previous review seems unnecessary, a summary of the main issues related specifically to competence provides a reminder of the centrality of the concept in their respective theories.

As noted above, it was White who combined the contributions of a variety of previous studies and integrated the commonalities under the concept of competence (1959, pp. 299-333). The major components he drew on were Hendrick's (1942) instinct to master, Groos' (1901) joy in being a cause, Woodworth's (1958) behavior to produce effects, and Erik Erikson's (1953) sense of industry (that is, the need for a "sense of being able to make things and make them well, even perfectly," p. 311). White defined "competence" as "the organism's capacity to interact effectively with the environment" (p. 297) and "efficacy" as the feeling of satisfaction inherent in exploratory or impactful transactions with the environment (p. 329).

Believing that competence was not only central to intrinsic behavior but rather "an aspect of many experiences," White extended the concept to apply to developmental stages (1960, pp. 97-137). He suggested supplementing Freud's psychosexual and Erikson's psychosocial theories of development with the competence model. For example, White combined the oral phase with exploratory play, the anal phase with self-determination, the phallic phase with concern over capability in the family, the latency phase with social competency, and the genital phase with issues about work performance. In short, White emphasized

that competence played a central role both in intrinsic motivation and in ego psychology.

Deci also gave competence a prominent position in his definition of intrinsically motivated behavior as "behavior which is motivated by a person's need for feeling competent and self-determining in dealing with his environment" (p. 100). As clarified above, he believed it was necessary both to seek reasonable challenges and conquer them if one was to feel competent as a causal agent (p. 57). In that respect, opportunities for problem solving were often sought in order to test skill and evaluate competency.

Deci also noted that rewards could be perceived as either predominantly controlling or as primarily providing information about personal effectiveness (pp. 141-146). He theorized that intrinsic motivation would be decreased if the controlling aspect was salient, whereas the feedback component generally contributed to competency evaluation. However, the researcher pointed out that unless the feedback was coming directly from the activity itself, it was possible to perceive the information as controlling. As an example of the latter, Deci cited studies which showed that positive verbal reinforcement often decreased intrinsic motivation for women. In short, Deci also emphasized the importance of competency in intrinsic motivation.

Csikszentmihaly (1975) linked competency and enjoyment even more explicitly. Building on his research finding that the use or development of skill was frequently cited as a source of satisfaction by participants in autotelic activities (p. 14), Csikszentmihaly outlined a method for structuring enjoyable experiences. Since it was not the

reality of the demands but rather one's perception of them that determined enjoyment, it was possible to attempt to match "personal skills against a range of physical or symbolic opportunities for action that represent meaningful challenges to the individual" (p. 181). This optimal matching or calibration of challenge facilitated deep involvement without contradictory demands or anxiety. Once tasks were established within one's ability to perform, Csikszentmihaly emphasized that it was possible to get great enjoyment from facing the challenges, fully using one's abilities, and further developing one's skills. It was this enjoyable experience of acting with the fullness of one's abilities in challenging situations that he referred to as "fully functioning" or "flow" (p. 36).

As seen in this overview, there was a clear parallel between White's concept of effective interaction with the environment, Deci's idea of seeking and conquering challenges, and Csikszentmihaly's optimal calibration of skill with demand. Other authors have also been cited above which contribute further to the understanding of competency as a potential source of satisfaction. For example, Ellis (1973) noted that there was no stimulation or resulting sense of competence unless the potential outcome was uncertain. He also stated that interest or optimal stimulation could only be maintained by increased complexity or elevated standards of performance (pp. 100-148).

Edward Murray's review of the need for achievement (mastering, manipulating, and organizing experience) and need for order (arranging, balancing, and working precisely) likewise suggested potentially satisfying aspects of competence (1964, pp. 96-98). Although he noted

that there was real pleasure in meeting challenges and solving tough problems, he also referred to experiments that suggested that "the pleasure can be taken out of intrinsically motivated cognitive processes by making them a means to serve an extrinsic end" (p. 79). Implied in such a statement was the idea that it was the process of meeting challenges, not the product made, that was most conducive to intrinsic satisfaction.

As suggested by some of these studies, the establishment of challenge or interaction with the environment was not itself always sufficient to produce satisfaction. Testing of skill or seeking of challenge was generally found more intrinsically satisfying when the consequences were positive. Thomas Gilbert emphasized this in his book Human Competence: Engineering Worthy Performance (1978). Noting that many confused behavior with performance, he clarified that performance could only be evaluated in terms of both behavior and the effect or accomplishment. Gilbert defined worthy performance as the creation of valuable results at minimal cost. In his schema, competence was viewed as a function of worthy performance and thereby consisted of the creation of worthy results without excessively costly behavior. Gilbert stressed that it was neither behavior nor people that were competent but only performance (pp. 15-40).

As a corollary to his concepts of competence and worthy performance, Gilbert defined "the potential for improving performance" or PIP (pp. 30-40). PIP was measured by comparing the worth of any particular performance to the worth of the performance of an exemplar. Since competence was based on worthy performance, it was seen as

inversely proportional to PIP. Stated more directly, Gilbert believed that as competence increased, the potential for improvement decreased. Basically, Gilbert's work was useful in its emphasis on performance and standards for evaluating accomplishment.

Shivers and Calder (1974) specifically applied some of the concepts discussed above to arts and crafts. Although activity in general could meet some needs, they noted it was effective performance of some task that was even more satisfying. Since crafts offered a variety of opportunities at many skill levels, Shivers and Calder believed crafts were especially conducive to potential satisfaction and sense of accomplishment (pp. 18-19). They also noted that gradation of crafts activities was easy to facilitate--an aspect which further enabled assessment of competence. According to Shivers and Calder, the resultant knowledge of personal capability or knowledge of progress "was often more satisfying than the performance itself" (pp. 52-66). This belief that competence in craft or personal feedback regarding craft skill could be inherently enjoyable was consistent with many of the previous studies of intrinsic motivation and satisfaction.

Like Erikson's (1953) emphasis on making well, even perfectly, and Pye's (1978) concept of workmanship involving judgment, care, and dexterity, Jones (1975) also focused on skill. In fact, he believed that competence and craft were so closely related that he defined "art" in terms of mastery and skill:

> For present purposes, I am using the word "art" mainly in the sense of skill in the making or doing of that which functions as a stimulus to appreciation of an individual's mastery of tools and materials apparent in what he has made; the output of that skill; and the activity manifesting the use of that skill. (p. 15)

As evident in such a definition, Jones perceived mastery and skill as integral to the art-making process--even though he knew that it was rare for the makers themselves to refer to it as art. However it was labeled, Jones stated that making things commonly "resulted in a sense of accomplishment and pleasure in the outcome" (p. 167).

Although several of the authors just considered noted that satisfaction could be immanent to competence, there was little evidence in the literature reviewed of the enjoyment inherent in accomplishment or completion. One recreation manual mentioned tangentially "the minor satisfactions that surround the realization that 'I made it!'" (The Athletic Institute, 1954, p. 16), but the satisfaction inherent in the act of completion per se was seldom referred to directly. John Dewey (1934) came closest to such an idea in what he called "a completed experience."

> We have an experience when the material experienced runs its course to fulfillment. Then and only then is it integrated within and demarcated in the general stream of experience from other experiences. A piece of work is finished in a way that is satisfactory; a problem receives its solution; a situation . . . is so rounded out that its close is a consummation and not a cessation. Such an experience is a whole and carries with it its own individualizing quality and self-sufficiency. It is an experience. (p. 35)

Although Dewey's concept approached the issue, the full sense of satisfaction in accomplishment or completion was still not conveyed. Shivers and Calder (1974) also verged on the topic when they noted that the object produced could serve as "tangible evidence of mastery" (p. 65). However, once the product was mentioned, it became easy to confuse it with the process of completion per se and the concomitant satisfying sense of accomplishment or competence.

In sum, competence was a central concept in many of the major theories related to intrinsic motivation and satisfaction. Although some of the theorists cited used different terminology, there seemed to be substantial commonality in the research reviewed regarding the challenge of the problematic and the use of personal skills at an optimally meaningful or stimulating level. It was also found that the craft-making process was highly conducive to experiences of competence and enjoyment.

Expression

The fourth and final dimension of intrinsic satisfaction that was derived from a review of the literature was expression. Authors referred to various aspects of expression that were often found enjoyable such as the externalization of internal images, the communication of personal style or individuality, and the sharing of aesthetic values. By reviewing some of the most relevant resources, these aspects can be further explicated.

Creative expression. Many discussions of expression seemed inevitably to include consideration of creativity. As previously noted in the review of literature on making, Jones (1975) made a distinction between the subjective and objective phases of creativity (p. 224). The subjective phase involved the translation of vision into tangible form whereas the objective phase involved the overt manipulation of raw materials. Other authors referred to the same differential qualities in terms such as inspiration and elaboration (Lindzey, 1958, p. 126), ideational and motoric (Stein & Lenrow,

1970, p. 656), or problem finding and problem solving (Getzels & Csikszentmihaly, 1976, p. 79). Having considered the latter of each of these pairs as part of the process of making, emphasis is now focused on the inspirational, ideational, or subjective phase of creativity.

There have been many studies of these aspects of creativity--usually from the perspective of the "fine arts." For example, in The Psychology of Art (1966), Rudolf Arnheim dealt with the unconscious roots of inspiration and the role of active contemplation (pp. 285-298). Howard Gardner (1973) reviewed prior psychological studies on aesthetics including artistic imagination and divergent thinking (pp. 8-13). The work by Getzels and Csikszentmihaly (1976) which emphasized the questing personal attitude and the importance of problem generation has been referred to previously.

Several authors also considered these aspects of the creative or birth-giving process in direct relation to the crafts. Shivers and Calder mentioned the drive of the creative spirit "to externalize internal perception" (1974, p. 63), and Pye discussed the pleasure of designing (1978, pp. 69-70). Similarly, Hall (1977) spoke of giving form to things yet unshaped and bringing order to chaotic visions that would otherwise remain invisible and intangible (p. 177). Jones (1975) added further clarity by emphasizing that creativity often involved innovative integrations of previously expressed ideas. As he stated:

> Part of the originality in what people do is knowing when and how to employ the proper modes of behavior and codes of communication on the appropriate occasion in an acceptable

> fashion. . . . "So I took the main ideas from both and I created something different." (p. 69-70)

Jones was also the one who most directly conveyed the satisfaction in the "subjective" creative aspect of the craft experience of woodworking. As cited above, he stated that the "pleasure in making things is often called creativity" (p. 224). As an example of this creativity applied to the activity of chairmaking, Jones cited Charley because he was especially devoted "to objectifying images" (p. 97).

> Chairmaking is . . . the only work he enjoys, for it provides the opportunity to develop and present to others the images with which he is chiefly concerned. . . . I saw Charley wander about the yard from one piece of work to another, usually oblivious to the presence of others, preoccupied with the visions in his mind to which he was trying to give physical shape. (p. 88)

> [This process often] began with an inspiration and a dream, developed into a more detailed mental image, and finally ended with spontaneous modifications during the actualization of the mental vision. (p. 74)

> But to Charley his work impatiently awaits him, and his task in life--his goal, his reason for existence--is to create things and give his ideas to others. (p. 92)

Several authors made clear, however, that creativity was not just the prerogative of artists or craftsmen or of skilled full-time professionals. The work of Gardner (1973) highlighting the role of art in the developmental process, and Csikszentmihaly's (1975) application of his theory of enjoyment to any person or activity, have already been mentioned above. Shivers and Calder (1974) stated that there was an increased need by many in contemporary society for creative self-expression and that "involvement in crafts offers at least one outlet in a world of mass production and piecemeal contributions" (p. 12). Agreeing with Shivers and Calder's opinion that

"today, craftsmanship is more avocationally oriented than vocational" (p. 17), Jones also emphasized that making and creative self-expression were common in the daily activities of regular people (1975, p. 167). As he stated:

> Because much of what people make and do, which may have been called art by someone somewhere at some time, is an integral part of human life in daily experience, objects are produced by many people with no thought to occupational specialism. (p. 218)

Thus, according to Jones, creative expression could be involved whether the person was vocationally or avocationally involved; it was just that in order to be a lifelong occupation, "it requires considerable interest in and commitment to the creative act" (p. 169).

There seemed to be no doubt in these and other references that there was a drive to create and that the inspirational or formulating process was often perceived as satisfying. This appeared to be true regardless of whether the person was full-time or part-time or whether referred to as artist, craftsman, or creator. Sometimes the enjoyment seemed to come from the inventive idea or the new combination of components in an integrative design. Often, however, it was the communicative or shared aspect that produced satisfaction.

Communicative expression. Indeed, there was an abundance of references to the central importance of the communicative aspect of expression. Some authors suggested that the creative idea, often perceived by the individual as unique, demanded to be communicated. For example, Carl Rogers stated: "It is doubtful whether a human being can create without wishing to share his creation" (1962, p. 59). Jones expressed a similar view as was evident in the quote above

regarding Charley's compelling drive to create things in order to share his ideas (p. 92).

Gardner (1973) had a comparable view about the importance of communication. In fact, he saw this expressive dimension as so crucial that he defined art as "the communication of subjective knowledge" (p. 30). As he elaborated further, the "desire to express discriminations, feelings, and beliefs" and the attempt to fashion "something that would have an effect on someone else" was not just characteristic of artists but rather was typical of normal individuals--especially children (pp. 30-31). This attempt to communicate was seen by Gardner as the critical element in the meaning, specialness, and enjoyment in human creations or objects. Objects were viewed as analogies from personal experience; as vital reflections of the maker; and as personal manifestations of the creator's knowledge, beliefs, and feelings (pp. 115-116).

After stating that "people everywhere require some medium for self-expression and satisfaction" (1974, p. 3), Shivers and Calder proceeded to delineate the components of the crafts experience that could contribute such opportunities. Having delineated the sensual, unique, utilitarian, and creative aspects of crafts, they then mentioned the communicative and self-expressive features.

> Crafts represent a particular mode of expression and are a vehicle for the inherently human desire to manipulate, fabricate, or experience the satisfaction of creativity. Indeed, the production of crafted objects may be likened to the process of communication where there is an attempt to transmit (or transform) ideas into concrete or synthesized entities. (pp. 5-6)

> Self-expression occurs in those satisfying activities which permit the individual to give full and personal vent to his feelings.

> It is, in a sense, the idea of that participant actually giving a part of himself, his personality, to the creation of some object. That this can occur in any recreational activity, more particularly in the performing arts, is certain. But to the extent that interested individuals take the time and make the effort to shape some substance or design an object with the intent of forever placing the stamp of their personality or emotional needs upon it, it is self-expression. The results of this effort need not be perfect. It is sufficient that the individual has permitted his vision of an ideal or real objective to be consumated.
>
> The ability of any person to identify himself with the work that he does probably assists in the process of communicating ideas, attitudes, or traits. The characteristic mark of ego will inevitably appear in the finished product. (p. 11)
>
> Self-expression means recognition of self and awareness of those emotions, concepts, and attitudes which represent us to others. When an individual finally undertakes the task of trying to tell the world about himself through a plastic or graphic medium, a much-needed outlet will be furnished. Here is a way to communicate. (p. 12)

It seemed obvious in these remarks that crafts offered clear opportunities for expression and enjoyment. As Shivers and Calder stated: "Expression by aesthetic experience, particularly through crafts, has been a significant source of satisfaction to individuals since man devised the first tool" (p. 12).

Even more directly applicable to the present study of sources of satisfaction in woodworking was the book focusing on chairmakers by Michael Jones (1975). Jones considered art and craft a communicative process which often generated an appreciative response in the percipient (pp. 16-17). "Artistic transaction" was another term he used that emphasized this quality of communication exchange even more fully (p. 206). Throughout his book on The Handmade Object and Its Maker, Jones emphasized that making was expressive behavior related to the creator's problems, beliefs, and experience. As Jones stated:

"An object cannot be fully understood or appreciated without knowledge of the man who made it" (p. vii).

Believing that "even the most simple work of individual manufacture is an expression of self," Jones proceeded to "discuss the way in which several craftsmen's work procedures, notions about themselves, and products are entwined" (p. 39). However, it was the life and work of one chairmaker, Charley, that received most attention. As Jones commented:

> Some of his expressive behavior is related to the process of grieving, and the grief finds its resolution in the act of making things. . . . Some of Charley's chairs, then, express the same feelings of fear, despair, and distrust which were common themes in his conversations, in many letters, and in a song he composed. (p. 39)

In short, Jones pointed to many examples of how making enabled personal expression of feelings and facilitated order, meaning, and resolution of problems.

Expression of values. The satisfaction inherent in communication was not limited solely to the expression and resolution of feelings, however. On the contrary, the craft experience often offered opportunities to provide personal interpretation, share values, and suggest meaning. Issues frequently referred to in the literature were the meaning of making something by hand, the importance of quality craftsmanship, appreciation for natural materials, and valuing of aesthetic qualities such as function and beautiful form. In citing the references that follow, the intention was to outline some of the vehicles used for expression in the crafts and, thereby, to suggest potential sources of satisfaction.

As was mentioned above, Pye (1978) pointed out that the term "handmade" was misleading and inadequate as a technical description. He suggested that the element of risk was the only common factor in the various branches of craftsmanship. Thus, Pye used the term the "workmanship of risk" to denote work in which the quality was not predetermined but rather depended upon judgment, dexterity, and care.

In contrast to some other authors, Pye did not view crafts as a protest against the multitude of mass-produced items manufactured by modern industry. Rather, he saw one-of-a-kind and limited-production pieces as a complement. As he stated: "The crafts ought to provide the salt--and the pepper--to make the visible environment more palatable when nearly all of it will have been made by the workmanship of certainty" (p. 76). In short, Pye believed that it was craft objects that could emphasize the best--the best in quality, design, surface detail, and individuality.

Shivers and Calder referred to similar issues of craftsmanship and underlined the inherent satisfaction in producing quality work (1974, pp. 16-17). Remarking that much of the pride of workmanship seemed to have vanished, they also mentioned the occasional dedication to excellence in both vocational and avocational pursuits. When it existed, craftsmanship was evident and satisfying:

> It is the delight of making the best effort possible by exerting whatever talent or ability innately held on the article crafted. It means the time taken for design, the energy expended in carrying out the design with quality, and the satisfaction derived only when form and function, together with such surface or decorative design as is necessary, are brought to fruition. (p. 17).

However, the significance of quality, excellence, and craftsmanship was just one aspect of craft that was communicated. Pye's concept of the "workmanship of risk" emphasized the human dimension or input (1978). Likewise, other literature was filled with references to the humanizing, enlivening, and enriching aspect of craft. For example, in a discussion sponsored by the American Crafts Council, one panelist remarked that the meaning of a piece of craft was related to contemporary needs: "Maybe we have the need in our daily lives to surround ourselves with objects that have more human qualities than a sleek, industrially made object" (1961, p. 137). Richard Bender (1978) also valued the craftsman's "efforts to humanize, soften, personalize, and make more comfortable and useful the . . . environments in which we live" (p. 21). Like Pye, however, Bender advocated craft not as an escape from a ruptured and unstable world but rather as a way to find and share meaning.

This valuing of the human and individualizing qualities communicated by craftsmen also permeated much of the literature previously reviewed under the constructs of making, self-determination, and competence. More explicitly, craft emphasized the man-made (making), the unique personal contribution (self-determination), and the demonstration of skill in craftsmanship (competence). As Shivers and Calder (p. 5) and numerous others pointed out, the values and benefits communicated by craftsmen and their creations could substantially enhance daily living and the overall quality of life.

Rose Slivka (1979) affirmed and praised many of these communicative aspects and humanistic values. As she stated, "the good making of good

things is a communicable act--a palpable chain through which each human being touches the other and is known" (p. 50). Slivka then went on to enumerate some of the values that craftsmen convey:

> Modern craftsmanship identifies work with selfhood and the process of self-creation. The transformation of life into things and things into life is the concern of the craftsman. The craftsman has new value in a new time when young people are searching for meaning, not importance; selfhood not status; aspiration not ambition, responsibility and response to oneself and one's fellow. . . .
>
> The cry is for a new humanism and resistance to increasing mechanization of thought, of feeling, of work. The presence of the craftsman in this emerging new humanism is crucial. (p. 88)

Slivka continued this litany of values in her explication of:

> the ethics, aesthetics, and economics of the craft principle--on craft as the ethical way of doing and selling, on craft as an art form accessible, viable and necessary in daily usage, on craft as aesthetic pleasure, on craft as humanizing experience, on craft as responsible work creating responsive and responsible lives. (p. 88)

In short, Slivka's articulate presentation served as a useful summary of some of the value placed upon the human dimension of craft.

Values regarding the materials were also mentioned frequently as another feature of expression. Several authors conveyed the inherent enjoyment that craftsmen had in sharing a special sensitivity to and appreciation for the materials and especially for wood. It seemed as though this was often a dualistic satisfaction: the makers received enjoyment from working with the materials (as discussed previously under "making") and they enjoyed expressing the nature of and heightening others' awareness of the qualities and beauty of the materials. Many of these features were conveyed in Hall's (1977) statement that craftsmen celebrated the beauty of raw materials (p. 168). Similarly,

Shivers and Calder spoke of "the development of perceptual sensitivity," awareness of substance and condition, susceptibility to texture, and "appreciation of materials through manipulation" (1974, p. 10).

According to Needleman (1979), part of the special attraction of wood as a material was due to its human-like qualities (pp. 87-107). Noting that "each piece of wood has a personality," she then spoke of its complexity, stubbornness, vitality, warmth, and approachableness. Wood, like every material, "has a tolerance. . . . The craftsman's job is to investigate that tolerance" and "to listen to the material" (pp. 91-92). This responsiveness to the individual nature of the wood material was also mentioned by Christopher Williams (1974):

> Wood is perhaps the material closest to man's own temperament--infinite in its variety, vital and filled with imperfections. Each species, each tree, each limb, each trunk is an individual and should be so treated. The woodworker adjusts his pace to the individual, at times asserting his strength, at times following the needs of the material. (p. 53)

Pye (1978) also spoke of the uniqueness of individual species and pieces of wood and, thereby, its diversity as a material (pp. 36-38). Although he valued materials, Pye also stressed that it was the human input that gave them quality: "Material in the raw is nothing much. Only worked material has quality, and pieces of worked material are made to show their quality by men" (p. 2). But Pye also knew that workmanship and materials interacted adventiously. "The delight which has always been felt in things made of wood . . . rests mainly on the contrast between the regularity of their design and the diversity of the material" (p. 36).

In addition to the valuing of quality, craftsmanship, and materials, there was a clear emphasis on the aesthetic dimensions of form and function. As Shivers and Calder (1974) pointed out, crafts generally utilized materials for useful or decorative purposes (p. 6). If the functional purpose was foremost, then structural design (basing form or shape on intended use) was primary. According to Shivers and Calder, "the more an object approaches the function for which it was originally designed, the more harmonious are the components and the greater is the beauty of expression" (p. 16). On the other hand, decorative design attempted to enhance the form or make the object more interesting.

Like Shivers and Calder, several other authors noted the importance of both the functional and decorative purposes--but also went on to emphasize the distinctive interaction in the crafts of utility and beauty. Thus, phrases indicative of aesthetic expression such as "beautiful form," "pleasing to look at," and "engendering an appreciative response" were frequent in the literature reviewed. Although there was an abundance of literature on these aesthetic aspects, the intention here was not to provide a complete review but rather merely to suggest that aesthetic values were another dimension of communication that was often inherent in craft expression. That such aesthetic expression was also satisfying--for all those involved in any part of the "artistic transaction"--was adeptly stated by Jones:

> The primary effect of what has been called art is that of giving pleasure: to the person who makes or does something taken to be ordered and balanced and harmonious, to the percipient who empathizes with that individual in his satisfaction at having

> mastered the necessary techniques to produce a pleasing form, and to anyone who finds enjoyment in using an object that resulted from skillful control of tools and materials and form. (pp. 241-242)

As evident in this overview, expression offered opportunities for creativity, communication, and the sharing of values. It also seemed clear that many of these expressive activities were inherently satisfying. Jones provided a useful summary of some of these issues as well as an emphatic reminder that expression and its enjoyment were limited neither to full-time workers nor to those who used aesthetic terms such as "art" or "craft" to describe their behavior.

> There is still a need, too, to manufacture for one's own use practical objects serving utilitarian purpose, to express oneself and deal with personal problems by making things, and to satisfy a creative urge by producing something that is pleasing to look at and use. Only a few individuals now or in the past have engaged in such behavior occupationally, however, because the vocation of making things by hand, which is also a mode of expressive behavior, requires commitment to and involvement in the creative art.
>
> Many people . . . participate in some kind of creative behavior--whether dancing, singing, storytelling, or making things--as a vehicle of social interaction, a mode of personal expression, or a way of solving practical problems. A few people even become specialists in these activities. More often the needs and the activities are sporadic: the satisfaction derived from ordering what is random or scattered or seemingly chaotic, the pleasure resulting from shaping things into balanced and harmonious and appealing forms, are achieved by engaging in many kinds of behavior, without necessarily conceiving of the activity as either an occupation or as art. (pp. 200-201)

In summary, this second part of the review of the literature has focused on research which suggested potential sources of intrinsic satisfaction in the crafts experience. References were considered in terms of the four hypothesized constructs of making, self-determination, competence, and expression. Component aspects of each of these four

intrinsic satisfaction source areas were also delineated and described. Having reviewed this literature related to theories and sources of intrinsic satisfaction, it is now possible to consider other attempts to assess these dimensions quantitatively.

Part III. Assessment of Satisfaction

As was noted in the introduction, there have been few attempts to systematically assess satisfaction and its sources. There was, however, a major measurement model that was pertinent. There were also some previous attempts to survey craftsmen on a general level. This third part of the review of the literature considers the previous measurement models and devices that are pertinent to assessing sources of satisfaction in the crafts experience of woodworking.

Satisfaction and the Quality of Life

As Andrews and Withey explicated (1976), the social indicators movement focused on the measurement of factors that affect the quality of life. In contrast to the measurement of economic indicators such as income or gross national product, this assessment was of social factors or "life concerns." Although one group of researchers tended toward counting of objective indices such as the number of parks or museums in a city or the number of concerts attended, the main focus of measurement centered on perceived satisfaction and sense of personal well-being.

Speaking of these subjective or perceptual attitudes and feelings of well-being, Andrews (1974) stated:

> Well-being is broadly conceived to mean the "level" of life quality--i.e., the extent to which pleasure and satisfaction characterize human existence and the extent to which people

> can avoid the various miseries which are potentially the lot of each of us.
>
> Relatively little is scientifically known about such broadly conceived well-being--either in the make-up of its constituent parts or in the conditions and influence which bring it about. (p. 2).

Andrews' statement provided further clarity about the similarity and clear interaction of concepts such as well-being, quality of life, and satisfaction.

Andrews and Withey began their research by generating a list of 123 "life concerns" which they defined as "aspects of life about which people have feelings" (p. 11). By means of a factor analysis of the items on this extensive questionnaire, several major "domains" of life importance were delineated such as family, job, house, community, and spare time. Andrews and Withey theorized that these domains could be evaluated by various standards or "criteria" such as the opportunity for achieving success, the amount of beauty, or the possibilities for having fun (pp. 27-57).

The researchers noted that the measurement of quality of life done by Campbell, Converse, and Rodgers (1976) using a satisfaction response scale produced strongly skewed results (pp. 18-20). In an attempt to improve the dispersion, Andrews and Withey used a seven-point scale that ranged from "delighted" to "terrible" to elicit responses for both domains and criteria. Referring to it as an "affective evaluation" scale, they believed that it incorporated both affective and cognitive components. They also proposed that their system distinguished more active enjoyment rather than mere satisfaction (pp. 19-24).

Andrews and Withey developed a conceptual schema to reflect their affective evaluation model. They generated a grid by placing domains along one axis and criteria along the other. A condensed adapted version is presented in Figure 2.1. As clarified by the individual "cells" (or E_{ij}) of their schematic representation, Andrews and Withey expected people to use various specific criteria to evaluate various specific domains. The model also suggested that it would be possible to determine a summary evaluation for individual domains (the row total, $E_{i.}$), a summary evaluation across domains (the column total, $E_{.j}$), and an overall evaluation of quality of life ($E_{..}$).

		CRITERIA							
		Success	Beauty	Safety	Fun	.	.	.	
D	House	E_{ij}							$E_{i.}$
O	Job								
M	Spare Time								
A	Family								
I	.								
N	.								
S	.								
		$E_{.j}$							$E_{..}$

Figure 2.1. Domains by criteria conceptual model adapted from Andrews and Withey (1976, p. 12).

Thus, in addition to providing a general model for assessing well-being, Andrews and Withey's theory seemed applicable to further specification. For example, the domain of spare time could be considered in terms of each of the criteria. In fact, in a longitudinal study done by Bubolz (1975), that was exactly what was done. It also seemed possible to delineate further and to take one of the subdivisions of spare time, such as crafts, and evaluate it by criteria as Evers (1976) has done.

Even though the model seemed useful for further extrapolation, Andrews and Withey noted the results raised important questions. Using a graphic "mapping" format to represent spatially the relationship of domains and criteria, the researchers found little heterogeneity of criteria. As they stated: "Respondents who felt positive about the fulfillment of one criterion having to do with themselves . . . tended also to feel positive about other criteria" (p. 46). It was unclear whether the lack of expressed respondent distinction was due to some general sense of fulfillment or due to the assessment methods. Whatever the source, however, respondents seemed to respond in terms of more general "topics" rather than in terms of the predicted domains and criteria (p. 48).

Although the results reflected both a different pattern and less specificity than originally anticipated, Andrews and Withey still concluded that "affective evaluations play a major role in governing the organization of people's perception about life concerns" (p. 57). Assuming the researchers were not ignoring their findings, this statement seemed to suggest that domains and criteria might be useful

concepts to suggest prior mental processes but that the responses to their questionnaire did not reflect similar degrees of specificity or independence. In short, the Andrews and Withey model suggested a method for evaluating people's satisfaction in various areas of life concerns, but it also raised questions as to whether respondents actually used or were aware of such specific components as domains and criteria.

Tom Atkinson attempted to resolve some of these problematic issues as evident in the title of his 1977 presentation: Is Satisfaction a Good Measure of the Perceived Quality of Life? He began by outlining several previous measurement attempts:

> The major controversy in this research, however, does not involve what areas or objects are to be evaluated but what measures are best suited to the task. Four types of measures have been suggested to tap perceived quality of life: a) cognitive measures such as satisfaction used by Campbell, Converse and Rodgers, and by Abrams in England, b) affective measures such as happiness used by Bradburn and in the Gallup Poll, c) measures which combine the two such as the Andrews-Withey Delighted-Terrible scale and d) self-anchoring measures such as Cantril's Ladder Scale and George Gallup's modification of it--the Mountain Scale. (p. 13)

Having delineated these previous types of measures, Atkinson then reviewed some of the problematic features. Campbell's seven-point satisfaction-dissatisfaction continuum resulted in "a very serious skew toward the positive end of the scale" (p. 14). In fact, the modal response was the highest option, "completely satisfied." Since these results had neither much variance nor much credibility given the belief that quality of life had declined in recent years, the study "did not have major impact on the direction of social indicators" research (p. 15).

Atkinson portrayed the Andrews and Withey delighted-terrible scale as "an attempt to 'improve' the shape of the response distributions" (p. 15). He noted that although this scale reduced the skew, the variance remained low.

Before delineating his suggested approach, Atkinson made an important clarification between quality of life and satisfaction. Remarking that "the poor or other disadvantaged groups are too often satisfied with bad lot while the middle and upper classes are discontent with a good one," he noted the discrepancy between quality of life and satisfaction (p. 20). Atkinson contended that the scales just discussed were

> not measures of the perceived quality of life--rather they are responses to the perceived quality of life. Satisfaction measures result, in large part, from the comparison of aspirations and expectations with one's current situation. Thus it is possible, if not probable, that individuals could assess their quality of life as high yet be dissatisfied, and [assess their quality of life] as average or low and be satisfied. (p. 20)

Thus, according to Atkinson, satisfaction involved cognitive comparison of aspirations or expectations to one's current situation whereas quality of life involved a comparison to some standard of excellence. To emphasize this distinction further, he went on to discuss his use of both an 11-point scale to measure satisfaction and a self-anchoring ladder scale to measure quality of life (pp. 20-27). In sum, Atkinson's work provided both further clarity about satisfaction and useful analysis of response scales.

Other Satisfaction Measures

In contrast to these studies of perceived satisfaction, John Robinson investigated How Americans Use Time (1977). Using time as behavioral evidence or a "hard measure of human preferences and values" (p. 5), he noted that there was still difficulty getting accurate measurements. However, even when extremes of high and low time spent were considered, Robinson stated it was difficult to interpret the meaning: Was time use due to a sense of obligation or was it an expression of inner motivation?

To decipher the meaning of time use, Robinson also used a five-point satisfaction scale to assess 18 facets of everyday life. Although he found a correspondence between satisfaction and time expenditure (p. 119), Robinson also discovered that there was "limited variation in satisfaction between activities" (p. 129). Even though this was true generally, it was found that hobbies were consistently associated with the most enjoyment (pp. 121-130). However, the specific kind of activity seemed to matter less than participation per se. It was the amount or frequency of participation, not the type, that seemed the most crucial factor for satisfaction (pp. 165-192).

This lack of specificity led Robinson to suggest that there might be a "satisfaction syndrome" (p. 118). It seemed that there was a general sense of satisfaction across events. Robinson also proposed that there was a general "spillover" of satisfaction from one area to another rather than a compensatory mechanism (pp. 170-172). Thus,

according to this research, people who were more satisfied in one area of their lives were more likely to be satisfied in other areas.

Although Robinson seemed to suggest that satisfaction was predominantly a personality characteristic, Csikszentmihaly (1975) and Begly (1979) suggested that there was a person/activity interaction. As referred to several times above, Csikszentmihaly's model of enjoyment attempted to determine the sources of satisfaction in a variety of activities. Although the researcher used various assessment techniques (interviews, rankings, checklists, projectives, and deprivation experiments), he also emphasized that the results of such measurement should not be confused with the enjoyable experience itself. As he stated:

> Dancer and dance are one at the pre-reflective level. When the dancer reflects on the experience in order to describe it, the dynamism of the experience is gone and the dance is a different experience; that is, thinking about the dance is a different experience from dancing the dance. These difficulties limit the possibilities of any analysis which is based upon phenomenological data, as we have pointed out again and again. (p. 110)

Having provided this caution, Csikszentmihaly still proceeded to gather as much useful information as possible in interviews and questionnaires. To measure his concept of flow in dance experiences, he used two concepts: experiencing a greater number and intensity of flow elements, and perceiving a balance of challenge and skill (pp. 111-112). Although he developed checklists and questionnaires for these purposes, it was not the actual instrument, but rather the use of a numerical system that was suggestive for the present study.

Glenn Begly adapted some of Csikszentmihaly's concepts in A Self-Report Measure to Assess Flow in Physical Activities (1979). Since he believed that "the structure of an activity may influence the potential

for flow experience by virtue of its spatial and temporal limitations and the susceptibility to interference by external-reward structures" (p. 5), Begly selected a variety of outdoor and athletic activities so as to avoid potential bias. Although he had factored the essential dimensions of flow into six constructs, Begly's results revealed that "flow was more unitary than expected" (p. 23). This finding led the researcher to wonder whether intense involvement caused some tendency "to integrate the various elements of flow" and, thereby, blur the mediating components" (p. 23). Begly concluded by stating that the component variables were still not understood and that further research was warranted.

Other Measurement Devices

There were other general attempts at measurement that also had relevance to the current study. Stein and Lenrow (1970) attempted to measure expressive styles by use of the Motoric Ideational Sensory Test (MIST). The three main expressive types delineated partially correspond to aspects of the constructs developed above: motoric and sensory with making, and ideational with creative expression. Stein and Lenrow found, however, that pure types did not exist but rather only various overlapping combinations.

Marvin Zuckerman et al. (1964, 1972) developed a Sensation Seeking Scale in an attempt to quantify the construct of optimal stimulation. Characteristics of the sensation seeker such as preference for novelty, variety, and complexity were suggestive of potential components in the craft experience. Zuckerman's summary of some of these traits as

"openness to new experience" seemed to correspond closely to concepts such as exploration and effectance.

Although the previous assessments of quality of life, satisfaction, flow, and expression contributed some useful directions and ideas, they were still not specifically oriented toward the craft experience. There were, however, three other attempts to measure the craft experience in general that were somewhat more applicable to the current study.

Sandra Evers' (1976) investigation of amateur craftsmen was the study most related to the present research, though still quite different. She used aspects of Andrews and Withey's domain by criteria model for assessing quality of life that was described above. Evers attempted to test "the belief that special benefits accrue to people involved in the creative art-making process" (p. 26). Since she utilized three new instruments to assess overall quality of life, importance of life concerns, and satisfaction from life concerns, Evers' study was descriptive and exploratory. As she stated, the measures were not sophisticated enough to merit complex statistical analysis (p. 53). Nonetheless, Evers' research was useful in suggesting aspects of the crafts process and issues to consider in measuring it. Given the diversity of different craft processes, Evers also recommended controlling for the type of medium in order to get further clarification (pp. 117, 129).

Carol Hoffman developed a questionnaire to survey "the background and personality of the modern-day craftsman" (1977, p. 1). Using a variety of response continua, Hoffman assessed the importance of different aspects and explored opinions and values. Of particular

usefulness to the present study was her attempt to analyze what craftsmen perceived as "professionalism." The tabulated results of her craftspeople survey, expressed in percentages, gave further support to ideas such as the importance of making, technique, and skill; the value of quality and function; sensitivity to physical sensations in the craft process; and the meaning craftsmen experienced in their lifestyle.

As part of her book Career Opportunities in Crafts, Elyse Sommer (1977) mailed out a short questionnaire. Three of her questions dealt with the issue of satisfaction--and it was the replies to those three questions that provided "a unifying key" or "the common identity" (pp. 11-14). Although Sommer did not numerically tabulate the results from the 178 respondents, there was considerable agreement regarding issues of satisfaction. For example, in response to the question "What do you find most gratifying about your craft work?" the most frequent response was creative problem solving. When asked to compare satisfaction in craft to that in other areas, there was nearly unanimous agreement that craft satisfaction was at the top of the scale. Sommer cited some of the responses made to the question "What, if any, is the chief difference between what you do and noncrafts work?":

> Again and again respondents used phrases such as "I love what I'm doing." "I do it because I want to and not because I have to." . . . "There is freedom to plan my working schedule." . . . "I'm self-motivated." . . . "I am seldom bored." . . . "Every day brings new challenges, new problems to solve." . . . "It's a constant learning process." . . . "Working for myself and doing what I want to do in the manner I choose." . . . "The daily problem solving is exciting." . . . "Having control of one's work . . . being able to see one's accomplishments." . . . "It's much more creative than any other type of work." . . . "Crafts

> are alive!" . . . "I'm my own boss. I make all the critical decisions myself." . . . "My work is self-expressive; it leads to complete involvement, my own and with others." (p. 15)

Needless to say, such a list offered both suggestions and support for sources of satisfaction in woodworking.

Sommer went on to note the marked contrast between those who hated their work and the typical craftsman. As she stated:

> Not one person I spoke to, not one questionnaire I received showed any connection with the alienated worker. . . . Whether the craftsperson is going the rather arduous route of selling at numerous consumer shows or established with studio commissions, he rates his work satisfaction as tops. He feels in charge of what he does and experiences the stimulation of continuous learning. (p. 16)

Such responses added further substantiation for some of the intrinsic sources of satisfaction previously discussed.

Although many of the authors just cited used questionnaires, Lindzey (1958) noted that direct measurement techniques made assumptions about awareness or understanding on the part of the respondent. But there was often a discrepancy between behavior and personal accounting of it as was evidenced in his statement that questionnaires "account for no more than 10 percent of the variance in most significant domains of behavior" (p. 22). However, since satisfaction was generally considered to involve a cognitive evaluation, it was unclear whether the same lack of correspondence would occur.

Andrews and Withey (1976) addressed a similar issue in their statement that "the feeling of satisfaction is important in itself" since it was the perception of quality of life that ultimately defined one's sense of well-being (p. 10). Deci (1975), Csikszentmihaly

(1975), and many of the other authors reviewed previously likewise seemed to stress the importance of the personal evaluation component.

Although frequently a proponent for proper and accurate statistical technique, Angus Campbell also supported measurement of subjective factors even though it might mean a loss of precision. In his speech, Poor Measurement of the Right Thing (1977), Campbell reviewed the options:

> Our alternatives seem to be to use the established measures of economic products as our measure of quality of life and set aside the whole concept of subjective well-being . . . or to argue that subjective well-being is an indispensable attribute of quality of life and that the objective indicators measure it so poorly we are compelled to use the less precise subjective measures because they are at least attempting to measure the right thing. (p. 5)

Campbell concluded by noting the important influence on behavior of values, enjoyment, and satisfaction and, thus, the need to measure them--even recognizing the lack of precision or elegance.

In sum, there have been some previous measurement approaches that were suggestive or useful to the present investigation. The general quality of life measurement model delineated issues and suggested potential scales. Several more specific studies provided applicable dimensions for consideration or substantiation for construct development. However, there was no measurement instrument that systematically investigated satisfaction in the crafts.

Having provided this overview of previous pertinent assessment as well as the review of other literature, it is possible to integrate some of the resources and discuss the central issues.

Discussion of the Literature Reviewed

The pertinent literature was reviewed at length to convey both the potential contributions of studies from diverse disciplines and the concomitant scarcity of directly applicable systematic research. In addition, the second part of the review was included to reflect some of the literary background resources that were used to develop both the intrinsic satisfaction constructs and the items for the assessment questionnaire. Having reviewed some of the literature and related both the breadth of related fields and the tangential relationship of much previous study, it is now possible to discuss the issues raised and the implications for the present research. In order to discuss the implications of the research reviewed as cogently and succinctly as possible, the evaluative commentary that follows has been divided into eight substantive issues. The eight issues included in the discussion of the previous literature are considered under the following headings: definitional difficulty; delineational difficulty; approaching construct validity; measurement controversy; personality and activity; intrinsic and extrinsic dimensions; satisfaction, meaning, and values; and broad applicability.

Issue I: Definitional Difficulty

The statement was made in the introduction that assessing sources of satisfaction in the crafts experience of woodworking was clearly an interdisciplinary topic. As evident in the review of the literature just made, work of contributory significance came from a variety of disciplines and perspectives. Even within defined academic fields,

there was a diversity of approaches and opinion. Although such breadth had an enriching and vitalizing impact, it also complicated the comprehension of concepts and terminology.

What is intrinsic satisfaction? Whose definition should be used? How is satisfaction related to motivation? Is there any difference between satisfaction, pleasure, and enjoyment? What is meant by craft? Can it be distinguished from art? If so, how? And what of all those special terms like "flow," "autotelic," and "effectance"? Do they refer to some distinct and substantive issue or are they just neologisms?

These and numerous other questions suggest that one issue raised by the review of previous literature was difficulty in determining the definition of terms. This is not meant to suggest that definitions were not provided. Quite the contrary: so many definitions and individual perspectives were provided that linguistic meaning and conceptual clarity were blurred. Although extensive review of such topics is neither appropriate nor intended, a clarification of usage in this work seems warranted.

The controversy about definitions of art and craft has been considerable. It has involved philosophers and artists, psychologists and government officials. There were numerous volumes dedicated to the discussion and debate of such issues. But as Michael Jones (1975) pointed out, there was still little agreement. Frequently, usage of these terms appeared to be linked more with social status than meaningful or demonstrable distinctions. The common core of creativity and making seemed so substantial that slight and arguable distinctions

became insignificant. Given this situation, "art" and "craft" are used interchangeably in this volume. Support for such a position seemed evident in some of the references cited above--particularly those of Jones (1975), Evers (1976), and Shivers and Calder (1974).

With regard to satisfaction, the situation was noticeably different. Several authors were cited above (Begly, 1979; Evers, 1976; Murray, 1958, for example) who noted the lack of research on satisfaction. Csikszentmihaly's study of enjoyment was a noticeable exception. Given this lack of literature, there was less idiosyncratic usage and, thereby, less confusion.

Webster's New World Dictionary (Guralnik & Friend, 1964) defined "satisfy" as "to fulfill the needs, expectations, wishes, or desires of; content; gratify; to suffice, fulfill; . . . to free from doubt or anxiety." Although pleasure and gratification are close synonyms for satisfaction, it seemed that there was slightly more emphasis on the cognitive evaluation component in satisfaction. Pleasure, on the other hand, seemed to have more of a sensual connotation. Certainly, such distinctions would fit well with many of the theories described above given their inclusion of a cognitive or evaluative component as part of intrinsic behavior. In short, the definition in Webster's of satisfaction seemed consistent with the usage in the literature and in this study.

Complications also arose with the meaning of the term "intrinsic." The dictionary was useful again: "belonging to the real nature of a thing, not dependent on external circumstances; essential; inherent." Most usage in the literature reviewed began in agreement with such a

definition, but there was some tendency to extrapolate further. Although the relationship of intrinsic and extrinsic dimensions is discussed shortly, suffice it to say here that the intrinsic aspects can be considered separately. More specifically, consideration of inherent dimensions is not pre-empted by the possible concomitant existence of external dimensions. Extrinsic rewards may or may not affect intrinsic satisfaction--the focus here begins with an assessment of the inherent elements. In the current study those intrinsic elements are generally related to the process, not the product; to the ends, not the means; to the internal locus of causality, not the external.

In sum, there was an abundance of words and specialized definitions that arose in the review of previous literature. Some of the terminology was useful in drawing awareness to specific features, but often the coinage of new words seemed like further "drive naming" which offered little substantive advancement or understanding. Given this situation, dictionary definitions seemed to provide useful and jargonless clarity.

Issue II: Delineational Difficulty

Closely related to the issue of definition and usage but distinct from it was the issue of delineating or separating aspects of intrinsic satisfaction. As evident in the consideration of the four intrinsic satisfaction constructs, there was a close relationship among the dimensions. Even though making, self-determination, competency, and expression seemed to be distinct and descriptive of different aspects, a closer investigation revealed that overlap could only be avoided

with care and precision. Some examples reflect the problem and enable further clarification.

In the schema of sources of intrinsic satisfaction that was proposed, where was the proper place for the satisfaction connected with creativity? If one emphasized the act of creation or actual problem solving with concrete physical materials, then the category of making seemed the best fit. On the other hand, if one focused on the inspirational, ideational, or problem-raising component of creativity, then expression seemed the appropriate category. Although placement in two categories required precise labeling, such distinction was clearly supported by previous literature. Studies by Jones (1975), Getzels and Csikszentmihaly (1976), Lindzey (1958), and Stein and Lenrow (1970) were especially pertinent in this regard.

Similarly, there was potential overlap between making and competence. In terms of White's (1959) notion of competence as having an impact on the environment, it seemed that the process of making was specifically about such events. Likewise, Csikszentmihaly's (1975) autotelic experiences included both intense involvement in the activity (making) and a matching of skills with demands (competence). Csikszentmihaly also provided a useful delineation in his clarification that autotelic activities provided the opportunity for action and enjoyment. In short, if it was the opportunity for action or the making process that was the main focus, then producing impact seemed to fit best in the making construct; but if it was the resultant feeling that was predominant, then competence was the preferred category.

Another potential overlap existed between self-determination and expression on the issue of uniqueness or individuality. Deci's (1975) explication of locus of causality was useful in this regard. If it was the personal control issue that was salient, then the self-determination dimension seemed most appropriate. On the other hand, if it was the uniqueness of a design or the portrayal of some individually identified trait that was predominant, then the expression construct was the most fitting.

Although there did seem to be frequent overlap in the usage of some of the intrinsic elements by many authors, such blurring of boundaries did not have to exist. Based on review of more precise studies, a distinction could be made between the various components of intrinsic satisfaction.

Issue III: Approaching Construct Validity

Although personal experience and interviews with craftsmen were also sources of information for the derivation of the intrinsic satisfaction constructs, previous literature was used to articulate and substantiate the hypothesized sources. Although the process of evaluating the legitimacy of the constructs is discussed in the next chapters, the literature reviewed in part two of this chapter offered strong supporting evidence for the intrinsic satisfaction components.

The literature corroborating the intrinsic satisfaction sources did not come from any one discipline, but rather from a wide variety of fields. Sources cited came from researchers and participants, professionals and amateurs, scientific surveys and informal interviews,

psychologists and artists, and therapists and recreators. Such breadth of resources seemed both to substantiate more fully the commonalities and give them further creditability.

Issue IV: Measurement Controversy

As mentioned several times previously and as clear from the assessment instruments discussed in part three above, there were no known prior attempts to systematically assess sources of satisfaction in the crafts in general or in woodworking in particular. Related approaches used open-ended questions, imprecise instruments, general survey devices, or overlapping categories. It was possible to derive ideas for items or topical areas from some of the more pertinent assessment instruments, but little more. In fact, the variety of approaches and clear debate over methods raised many questions.

Even with the more systematic attempts at measurement, there were two major problems: overlapping categories and response scales. Although both Csikszentmihaly (1975) and Begly (1979) delineated potential constructs, there seemed to be considerable overlap in the categories. The typology of craftsmen presented by Evers (1976, p. 98) also did not present distinct conceptual or measurable classes. However, even when categories were clear and distinct, as in much of the quality of life research, there was still disagreement as to how best to measure satisfaction. As noted above, each method seemed to have some inherent limitations. Although Atkinson's distinction between satisfaction and quality of life provided significant direction (1977), the question of an adequate response scale was still not settled.

Csikszentmihaly's (1975) counting of the number of flow instances or measurement of the intensity suggested another direction. Robinson's finding that it was not really the type of activity but rather the amount of participation that resulted in satisfaction seemed similar (1977, pp. 172-192). Other studies measuring the use of time provided less direct or "head-on" assessment of satisfaction. Although none of these approaches used a frequency scale per se, they lent some support to the germination of the development of such a response continuum.

In spite of many recommendations for further research and measurement, some of the authors reviewed left doubt as to whether distinct sources of satisfaction could actually be assessed. First, there was the question of whether discussion or evaluation altered the enjoyable experience too drastically so as to make it unrecognizable. Although several authors mentioned this possibility, they still believed that assessment could meaningfully approach and clarify some of the components.

Even if the issue regarding veracity or representativeness was minimized, there were still other problems. The finding of Andrews and Withey (1976) that affective evaluations were not present in the awareness of respondents but were only suspected as pre-reflective perceptual organization systems was one example (pp. 48-57). Similarly, Begly's (1979) attempt to delineate the aspects of flow found a unitary structure rather than the mediating components. As noted above, he hypothesized that the intense involvement typical of flow experiences might facilitate so much integration that the intrinsic elements would

not be distinguishable. Such a possibility seemed to have the support of theories of development as evident in Gardner's (1973) findings and Buck's (1976, pp. 299-300) statement that intrinsic dimensions were initially undifferentiated in children. Although such studies raised questions, it was still unclear whether the difficulties of assessment were due to the specific methods utilized or rather due to the nature of intrinsic satisfaction per se.

There were no ready-made resources for assessing sources of satisfaction in the crafts reported in the previous literature. There were, however, instruments that were useful--either in suggesting items or in demonstrating unproductive scales. There was also some question as to whether sources of satisfaction could be delineated.

Issue V: Personality and Activity

Much of the literature on quality of life, leisure, and work dealt with broad patterns of satisfaction. A frequent issue discussed was whether there was a general personality predisposition that some people had toward satisfaction or whether different activities were significant determinants of satisfaction. A brief review clarifies both positions.

There was some evidence that people who were satisfied with one "domain" of their life also expressed satisfaction in other areas (Andrews & Withey, 1976, p. 46). Robinson (1977) referred to that tendency as a "satisfaction syndrome" (p. 118). He noted, for example, that leisure did not compensate for lack of work satisfaction, but rather there seemed to be a "spill-over" from one realm of life to

another (p. 170). Neff (1977, p. 60) also noted the "carry-over"--that is, if one was not satisfied in work, generally one would not be satisfied in leisure and vice versa. These and other studies seemed to support the notion that satisfaction was a characteristic attribute of some people.

But if satisfaction was solely determined by personality, how did one account for the differential enjoyment of generally satisfied people in various activities? Similarly, given the frequent reference to alienated workers, how did one account for the overwhelming satisfaction of craftsmen? As Sommer (1977) stated: "Not one person . . . showed any connection with the alienated worker" (p. 16). Zehring's comment following his survey of craftsmen was similar: "In terms of job satisfaction, this seems an overwhelmingly fulfilled group" (1977, p. 37). Was it just circumstantial that so many satisfied people were engaged in craft? Or was there something about the nature of the activity?

Csikszentmihaly (1975) suggested that both personality and activity dimensions were involved. His delineation of autotelic people and autotelic activities made the importance of both dimensions clear. As he stated: "Some people appear to be able to enjoy the least autotelic of activities, whereas others need external incentives, even to do things rife with intrinsic rewards" (p. 22). Begly (1979) also suggested that the nature of the activity could be influential:

> The structure of an activity may influence the potential for flow experience by virtue of its spatial and temporal limitations and the susceptibility to interference by external-reward structures. (p. 5)

The respective role of personality and activity could also be evaluated in terms of consensus, distinctiveness, and consistency information as suggested by Kelley (1967). Since most craftsmen expressed satisfaction, there appeared to be considerable consensus. Such satisfaction did not seem to be a rare event, but rather was quite typical of or consistent with daily experience. The question that still seemed unanswered in the literature was whether such satisfaction was distinctive to the crafts experience or whether craftsmen were generally satisfied people no matter what they were doing.

An observation by Buck (1976) may have provided some clues, however. He noted that observers often attributed causality to the actor whereas the participant often attributed causality to the environment (p. 344). Such an opinion raised questions as to whether some of the person and activity distinction was really more an issue of who was doing the evaluating: the participant or an observer.

In short, there seemed to be evidence that supported both personality and activity positions. Since certain activities appeared to enable or facilitate "the opportunities for action and enjoyment" (Csikszentmihaly, 1975, p. 126) and since certain people seemed able to find enjoyment in almost any activity, it seemed fruitless to eliminate either dimension. Fur the purpose of this paper, satisfaction was considered to be the result of the interaction of person and activity.

Issue VI: Intrinsic and Extrinsic Dimensions

The review of previous literature revealed a considerable number of definitions of intrinsic motivation and behavior. As mentioned above, the conceptual variations for the same term complicated the comprehension process. For example, whereas some used the dictionary definition of "inherent" or "essential," others used special definitions which confined intrinsic to competence and self-determination (Deci, 1975, p. 100), to information processing (Hunt, 1971, p. 1), or to the absence of external rewards (Csikszentmihaly, 1975, p. 23; Deci, 1975, pp. 23, 133). Several studies placed considerable concentration on the interrelationship of intrinsic and extrinsic dimensions. Given these specialized definitions and the prevalent consideration of extrinsic factors, further clarification seems necessary.

As discussed above, Deci (1975) cited experimental findings that extrinsic rewards reduced intrinsic motivation. Although he went on to discuss the control and information components of rewards, there were still situations in which external rewards were detrimental to intrinsic satisfaction. Csikszentmihaly (1975) also noted the potential impact of external rewards, so to clarify the situation he defined autotelic experience as "a psychological state, based on concrete feedback, which acts as a reward in that it produces continuing behavior, in the absence of other rewards" (p. 23).

However, if viewpoints which excluded extrinsic dimensions were taken seriously, then much behavior could no longer be considered for potential intrinsic components. For example, since people normally

got paid for "work," the presence of the external reward would disqualify occupations as a realm of intrinsic activity. Although it was noted that some authors did perpetuate a work/leisure dichotomy, many did not. In fact, the large majority of authors suggested directly or implied that consideration of the intrinsic dimension could be made almost regardless of the external rewards. For example, it was for this reason that Csikszentmihaly (1975, p. 36) distinguished autotelic experiences (absence of external rewards) from flow experiences (intrinsically enjoyable activities whether or not external rewards were also available).

Such a stance had important implications for the present research. If work and leisure were quite dichotomous or if extrinsic rewards had a detrimental effect, then one would expect substantial difference in the amount of intrinsic satisfaction experienced by professionals (occupational) and amateurs. On the other hand, if it was not just the presence of external reward but rather the salience or controlling aspect that was critical, then it seemed conceivable that extrinsic dimensions could be independent of intrinsic dimensions or relatively insignificant. In the latter instance, the level of intrinsic satisfaction might be quite comparable whether the activity was done as a job or as a leisure activity.

Several studies were reviewed that supported the viewpoint that intrinsic satisfaction could occur in either work or leisure. Csikszentmihaly (1975) remarked that enjoyment was possible in any activity (1975, p. 21) and then proceeded to review experiences of intrinsic satisfaction in a variety of work and leisure activities.

Neulinger also noted that one could get the same satisfaction from work or leisure (1974, p. 80). In addition, the discussion of locus of causality (Deci, 1975) had bearing on this issue: if internal causality was operant, the presence of external rewards could be immaterial. But perhaps it was Jones (1975) who put these issues most clearly and simply. As he stated, there was a variety of reasons for undertaking an activity--it just depended which one was placed in prominence:

> What is suggested . . . is that there are specialists as well as amateurs, that some individuals are motivated by economic considerations and others by the pleasure of making things to the best of their ability, and that the objects produced are things to look at as well as to use but some producers are concerned more with one purpose than with another. (1975, p. 217).

Just as work and leisure may not be polarities, so too might intrinsic and extrinsic dimensions have gradations that approached one another. For example, Deci's (1975) experimental studies revealed that rewards which functioned as feedback could be either intrinsic (supplying information about competency) or extrinsic (perceived as external evaluations). Similarly, completion could be viewed as an intrinsic process or as an external manifestation or product. However, even in these areas of proximity, delineation of the predominant or salient aspects assisted determination of the intrinsic and extrinsic elements.

In sum, the review of previous literature raised questions about the exact nature of the intrinsic dimension and about its relationship to extrinsic elements. Although there was varied opinion, basically two major viewpoints existed. First, there was the model that

extrinsic rewards reduced intrinsic satisfaction, which is referred to for the purposes of this paper as the "extrinsic detriment model." Second, there was the viewpoint that activities could involve both intrinsic and extrinsic components, which is referred to for the purposes of this paper as the "intrinsic independence model." Since behavior was seen as potentially multidetermined by intrinsic and extrinsic dimensions, the crucial issue was to ascertain the relative importance or salience of the respective features. Thus, it was the emphasis or controlling aspect that determined evaluation of the overall nature of a behavior or activity. Because one of the purposes of this study was to investigate the impact of earning money on intrinsic satisfaction, the extrinsic detriment model and intrinsic independence model are discussed further in the following chapters.

Issue VII: Satisfaction, Meaning, and Values

The importance of meaning and values in determining satisfaction was evident in much of the previous research. Time and time again, intrinsic satisfaction was related to cognitive evaluations, perceived comparisons of skill and demands, personal determination of competency, and worthy performance. The section on expression also revealed the numerous literature sources that stressed the importance of various personal and aesthetic values.

Although the expression of values could provide satisfaction, values were also the "yardstick" or criteria which which satisfaction was assessed. The central importance of values was evident both in the model of Andrews and Withey (1976) in which criteria were used to

evaluate domains and in Atkinson's emphasis on personal standards to determine satisfaction (1977). Rescher (1969) also noted the importance of values:

> Values are intangibles. They are, in the final analysis, things of the mind that have to do with the vision people have of "the good life" for themselves and their fellows. A person's values represent factors that play a role in his personal welfare function, the yardstick by which he assesses the extent of his satisfactions in and with life. (pp. 4-5)

Thus, satisfaction was closely related to values, both in terms of determining enjoyment and in terms of the pleasure in expressing personal beliefs or attitudes. Although the role of values was sometimes obvious (as in the Andrews & Withey model), at other times it seemed the role of values was partially or totally hidden from either the participant's conscious awareness or from the external evaluator's view. Nonetheless, values seemed a central component in satisfaction.

Issue VIII: Broad Applicability

Perhaps self-evident from the diverse disciplinary sources and the references cited was the unmistakable applicability of the issue of intrinsic satisfaction to many areas of life. Although some activities (such as crafts) and some realms of behavior (such as play or leisure) may be more conducive to facilitating the possibility of intrinsic satisfaction, any activity could be inherently enjoyable. Focus upon one area such as woodworking enabled clarification of the components, but the elements seemed applicable to a broad range of activities and behavior.

As evident in the literature reviewed, there was a frequent merging of disciplinary concerns. Play and leisure, art and craft, developmental process and theory of enjoyment, artist and average citizen, creativity and making, professional and amateur, researcher and craftsman all became linked. There were many commonalities expressed--regardless of the background or the audience addressed. In short, intrinsic satisfaction was a central issue that permeated a wide variety of fields and issues, at many times almost imperceptibly. The implication in the previous literature reviewed was that intrinsic dimensions were both understudied and potentially applicable to many realms of daily life.

Thus, several broad issues were derived from a review of pertinent previous literature. Although there was clearly some resolution of problematic areas or discrepant viewpoints in the literature reviewed, there was still considerable vagueness. In short, initial directions were suggested and critical areas were outlined by previous research. An attempt was made in the eight issues just discussed both to summarize some of the crucial areas and to point out implications for the present investigation. Having completed the review of past literature, it is now possible to summarize the major trends and then move to a description of the research conducted which investigated the sources of satisfaction in the crafts experience of woodworking.

Summary

Having just outlined several broad issues and implications, this summary concentrates on the major individual contributions in the

literature reviewed. Because this chapter was broken into three parts in order to deal with the breadth of previous studies, those same divisions are used here.

Investigations of intrinsic motivation were considered in Part I of the "Review of the Literature" with particular focus on the work of White, Deci, and Csikszentmihaly. Robert White (1959) integrated systematically several trends of past conceptualizations related to intrinsic motivation. Stressing aspects such as exploration, novelty, and mastery, White developed his concept of competence. Crucial components of competence were the production of an impact on the environment and the inherent satisfaction of activity itself. White used the term "effectance" to emphasize these features and to convey that this was a comprehensive theory of intrinsic motivation.

Edward Deci (1975) built on White's concept and extended the model of intrinsic motivation further by delineating the components of competence and self-determination. Deci's main contribution, however, was his examination of the relationship between intrinsic motivation and external rewards. In that regard, he quoted the work of de Charms (1968) regarding the locus of causality. Deci distinguished locus of causality from locus of control and stated that both internal control and internal causality were necessary for a sense of intrinsic motivation. External rewards were viewed as potential sources for altering the locus of causality, particularly if they were perceived by the individual as controlling.

Csikszentmihaly (1975) used many of the same conceptual foundations as White and Deci but emphasized some different aspects of intrinsic

motivation. Csikszentmihaly attempted to understand the underlying causes and to elucidate "how various activities make the experience of enjoyment possible" (p. 24). Such an approach, focusing on the activity itself and the inherent satisfaction, provided useful theoretical background and instructive suggestions for the present study.

In addition to reviewing sources of enjoyment in both play and work, Csikszentmihaly outlined how any activity could become "autotelic" or rewarding in itself. He emphasized that it was people's perceptions that determined enjoyment rather than solely the nature of the activity. By matching one's skill level to the perceived demands, Csikszentmihaly believed that most situations could be made enjoyable. Such calibration not only led to optimal challenges but also to deep involvement in the process itself. This experience, where the doing was the thing, was labeled "flow."

Also included in Part I was a review of other more general literature that was related to intrinsic motivation. The lack of satisfaction with work that many people expressed was cited as well as several studies that noted the opportunity for intrinsic dimensions in either work or leisure. Other definitions of intrinsic motivation were also considered, including one which stressed the information processing of the brain. The summary of the major theoretical research related to intrinsic motivation in Part I was concluded with reference to several studies that suggested the need for further research into the sources of satisfaction and the analysis of particular activities.

Having provided an overview of the major theoretical issues in the first section, research related to the development of the four intrinsic satisfaction constructs was considered in Part II. Literature from a variety of perspectives that suggested or supported each of the hypothesized sources of intrinsic satisfaction was reviewed. A summary of the major contributing resources to the areas of making, self-determination, competence, and expression provided both further background and pointed in the direction of the present research.

In the section on the process of making, there were several critical contributions. Michael Jones' book, The Handmade Object and Its Maker (1975), was cited frequently for its elucidation of the making process and the commonness of creative expression in everyday life. Since Jones' work focused on a chairmaker, it was particularly relevant to this investigation of sources of satisfaction in the crafts experience of woodworking. Evers' research (1976) into the benefits accrued by people involved in the art-making process and Howard Gardner's theory of development (1973) that emphasized the critical role of making were reviewed as well. The section on making also included frequent reference to statements by craftspeople themselves, particularly from Needleman (1979) and from a survey of California craftsmen entitled Craftsmen Lifestyle: The Gentle Revolution (1977).

In the second section, self-determination, there was a review of sources which discussed the satisfaction that arose from independence, personal control, free choice, and individuality. Deci's (1975) discussion of personal causality was mentioned again. The study by Getzels and Csikszentmihaly (1976) which stressed the intrinsic

importance of problem formulation by the participant was discussed. Other references were cited from three surveys of career craftsmen, from a recreation text, and from craftspeople themselves that referred to issues such as aloneness, expressing one's individuality, and control over lifestyle in general.

In the competence section, which was the third of the intrinsic satisfaction dimensions, research by White, Deci, and Csikszentmihaly that had been discussed in Part I was briefly reconsidered. White's concept of competency, Deci's outline of seeking and conquering challenge, and Csikszentmihaly's proposal of optimally matching personal skills with perceived demands all contributed to the competence construct. The distinction made between accomplishment and behavior by Gilbert in his book on engineering worthy performance (1978) was also discussed. The review of research related to competence was concluded with a quotation from John Dewey on the importance of completion.

In the section on expression, there was a review of the literature that discussed satisfaction derived from creativity, from communication of personal style or individuality, and from the sharing of aesthetic values. Jones' (1975) case study of a chairmaker contributed substantially to this section as well. Likewise, Shiver and Calder's (1974) elucidation of the opportunities in craft for involvement, creativity, expression, and release were discussed. Slivka's (1979) articulate enumeration of values conveyed by craftsmen and her delineation of the craft principle offered an overview of some of the expressive concerns. This section on satisfaction in expression was concluded with several

references to craftsmen's sensitivity to and appreciation of materials, emphasis on quality, and concern for aesthetic elements such as form and function.

Having reviewed the previous literature pertinent to sources of intrinsic satisfaction, prior attempts at assessment were considered in the third part of the review of the literature. The work by Andrews and Withey (1976) was outlined to provide an overview of research on the quality of life. They proposed a model for evaluating domains of life importance by various criteria. Although satisfaction was important in their study, limitations of the model's applicability and response scale were also evident.

Several other attempts at assessing satisfaction were also discussed in Part III. Atkinson's (1977) discussion of the difficulties in assessing satisfaction was summarized. Although he suggested two other measurement response scales, there was still some question as to the most useful assessment continuum. Several other approaches, such as measurement of usage of time, counting the number of enjoyment instances, or measuring the amount of satisfaction, were also reviewed. Part III was concluded with the review of three general questionnaires about craftsmen that provided ideas for assessment areas or suggested individual items. In spite of these past resources, however, no instrument was found that was useful for systematically assessing sources of satisfaction in the crafts experience of woodworking.

Following the review of previous literature, several major issues were discussed. Eight areas dealing with definition of terms, clarification of constructs, measurement problems, the nature of satisfaction,

the types of rewards, the importance of values, and the breadth of applicability of intrinsic dimensions were reviewed. An attempt was made in the discussion section both to provide an integration of the previous literature and to suggest some implications for the present investigation.

In conclusion, there was a variety of resources that contributed to an understanding of intrinsic sources of satisfaction. Although many of the studies had only tangential bearing on the present research, it was possible to extract fragmentary conceptual suggestions or rudimentary direction for methods of approach. Beyond this general applicability, however, there was not much else. There was, for example, no clear operational delineation of sources of intrinsic satisfaction. Nor was there evidence of any usable assessment instrument or adequate response scale. In short, the previous literature reviewed provided a general context and suggested the need for further study. With this conceptual perspective and research framework as a background, the nature of the present investigation can now be described.

CHAPTER III

DESIGN OF THE STUDY

The evidence of a crafts resurgence and the lack of explanation for it were discussed in the "Introduction." Even in the few studies that did consider the increase in crafts participation, response was seldom based on an examination of the crafts experience itself. Although there was a general belief that the crafts experience was satisfying, the review of the previous literature revealed that there have been few attempts to assess that satisfaction systematically or to delineate the component parts. Thus, it was suggested that there was a need for investigation into the crafts experience in order to describe and evaluate the nature of the satisfaction that could result from participation in the activity. The purpose of the present chapter is to delineate the approach and design used to assess sources of satisfaction in the crafts experience of woodworking.

Several aspects of the nature and scope of the investigation undertaken are considered in this chapter. First, the instrument used to assess sources of satisfaction in woodworking is reviewed, including the methods by which it was constructed. Second, there is a description of the population and a summarization of the demographic data on the woodworkers in the sample. Finally, the design of the study is portrayed and the specific hypotheses and analysis techniques

are delineated. Once the nature of the present investigation has been clarified, the results of the research can be discussed more meaningfully.

Construction and Administration of Assessment Instrument

As stated several times previously, there was no known measurement device for systematically assessing sources of satisfaction in the crafts experience. Given this lack, it was necessary to develop an instrument for that purpose. Since the usefulness of any questionnaire was highly dependent on the method of construction, it is important to describe the development of the instrument devised.

The development of a questionnaire to assess sources of satisfaction in the crafts experience of woodworking was a complicated process with several major stages. The steps involved included:

1. Review of theories of satisfaction, literature on the crafts experience, research on leisure time, studies of the process of making, and literature about woodworking.

2. Interviews of selected woodworkers, craft teachers, and researchers regarding sources of craft satisfaction and measurement techniques.

3. Development of a questionnaire to assess sources of satisfaction in the woodworking experience.

    a. Derivation of dimensions from the literature review and from personal interviews to develop hypothesized constructs for a conceptual model of intrinsic satisfaction in the crafts.

    b. Selection of an appropriate response scale.

    c. Generation of items for each construct and for the demographic issues, and evaluation of item clarity and content.

    d. Administration of the instrument to a pilot group.

e. Evaluation of the questionnaire in terms of perceived item clarity and adequacy of alternative response categories.

f. Revision of the questionnaire as necessary.

4. Administration of the instrument to a sample of the population.

5. Analysis of the survey data and further revision of the conceptual model.

In order to convey some of the specific issues and the approaches decided upon, each of the steps just outlined is considered except for the data analysis, which is dealt with in the next chapter.

Review of Theories and Literature

To determine whether satisfaction in woodworking was an isolated personal phenomenon or rather an experience more consensually agreed upon, various resources were consulted. Because people who were involved in woodworking came from a variety of vantage points, it also seemed important to investigate those different perspectives. Thus, literature representing this diversity was explored, literature about occupational professionals and avocational amateurs, committed experts and spasmodic "hackers," recreational crafts and therapeutic activity, anecdotal accounts and survey summaries, and scientific research and personal philosophies. Because areas such as leisure, play, and art seemed to have pertinence, they were also investigated. In short, a wide variety of resources were consulted from diverse disciplinary perspectives in order to determine whether there were commonalities of experience and sources of satisfaction inherent in the craft experience.

Interviews

In addition to reviewing written accounts, several personal interviews were conducted. Basically, the main approach was to ask participants why they did their craft or what they found satisfying about it. Although there were abundant responses, these were typical:

> I like to make things.
>
> I used to work in a plant. Besides all the noise and confusion, I never got to use my head. Nobody even wanted my idea. Now, at my shop, I'm in control of how things get done. I like working for myself.
>
> I was tired of working in a kitchen shop--plastic, particle board, staples, and screws. I wanted to do some quality work, to learn skills and be a true craftsman. I was sick of doing shoddy, repetitious, and meaningless work. I wanted to be good at something, but something I could be proud of.
>
> Anybody can make a box. As a commercial cabinetmaker I was getting bored, sick of rectangles and squares. I wanted to do something different--create my own designs, play with shapes and lines, express my ideas. Until I got my own place, there was never really time.

These and many other statements by craftsmen involved in woodworking suggested specific dimensions of the experience that were satisfying.

In addition to craftspeople and craft teachers, several others were interviewed about how best to assess satisfaction. In phone conversations or personal correspondence, Csikszentmihaly (1980) suggested ranking or a format like Begly's (1979), Hoffman (1980) suggested using a mixture of scales, and Atkinson (1980) preferred an 11-point satisfaction scale. Others proposed a 5-point strongly agree/ strongly disagree continuum, a 4-point satisfaction scale, and a self-anchoring ladder scale. In short, there were almost as many

ideas about appropriate measurement response scales as there were people consulted. Although some proponents were able to offer a rationale for a particular response scale and its advantages, generally few had any hard evidence for their preferred approach. Thus, not only were there few previous pertinent resources or assessment instruments, but there was also a scarcity of informed opinion or consensus about applicable measurement techniques per se.

Questionnaire Development

Once it was clear that there was no previous attempt at assessing sources of satisfaction in the crafts experience and that there were no useful measurement instruments, the necessity for developing a conceptual model and a questionnaire was obvious. Crucial aspects of each of the instrument construction steps outlined above can now be considered.

Derivation of dimensions. Two points have been made repeatedly in reference to the potentially applicable literature: its diverse breadth and its tangential relevance. Given these qualities, the attempt to ascertain and delimit common sources of satisfacion in the craft experience entailed a lengthy and repetitious process of assimilation, integration, trial, and revision. Although there were core elements that began to emerge in both literary resources and personal interviews, it was difficult to develop constructs that were simultaneously descriptive and distinct. A list of potential sources that might seem adequate would frequently be called into question by a new statement from an interview or from the literature. After many

jugglings, revisions, and re-trials, potential constructs were delineated with increasing precision.

A conceptual model consisting of five sources of satisfaction was formulated on the basis of the literature reviewed and the personal interviews. The model was comprised of four intrinsic sources of satisfaction: making, self-determination, competence, and expression. One extrinsic dimension of satisfaction was also posited initially. The prominent component features included in each of the respective constructs are outlined in Table 3.1.

The literature which seemed to lend support to each of the hypothesized dimensions has been considered in Part II of the "Review of the Literature." Clarification of some of the issues and potential overlaps was made in the discussion of previous literature section in Chapter II. The lengthy review of literature in the second chapter pertinent to each of the potential sources of intrinsic satisfaction and the precise delineation and separation of constructs was undertaken for two purposes. First, delineation of the four intrinsic dimensions provided an organizational schema which was useful for making the myriad resources manageable and for conveying their content in an integrated manner. Second, and most important, detailed reference to the previous literature was provided in order to offer support for and clarification of the four intrinsic constructs in the conceptual model of sources of craft satisfaction.

Such emphasis seemed to fit with the opinion of many research designers that concern with content clarity and construct development was crucial. For example, Borg and Gall (1971) mentioned that:

Table 3.1: Conceptual Model of Hypothesized Sources of Satisfaction: Constructs and Components

I. Intrinsic Sources of Satisfaction

A. The Process of Making (While Working)

--the opportunity for action, enjoyment, decision, discovery, and exploration
--involvement
--overt manipulation of raw materials
--producing an impact on the environment

B. Self-determination

--autonomy, independence
--freedom
--responsibility
--personal control and causality, making choices, using judgment
--solitude

C. Competence (Resultant Feeling)

--optimal challenge (tasks and skills equivalent)
--problem solving
--capability, efficiency
--mastery, dexterity, accuracy

D. Expression

--aesthetic--beauty, quality workmanship, utility, materials
--creative (in idea): design, imagination, synthetic combination, problem finding
--communicative: invest meaning, give personal interpretation, share values

II. Extrinsic Source of Satisfaction

--financial rewards
--status, recognition, praise

> As is the case with most research, however, the quality of correlational studies is determined not by the complexity of the design or the sophistication of the correlational techniques used, but by the level of planning and depth of the theoretical constructs going into the development of the hypotheses. (p. 318)

Basically the issues of definitional clarity and elucidation of conceptual meaning emphasized the central importance of content validity. However, having provided the foundation of support in the previous review of the literature and in the preliminary delineation of constructs, further discussion of the derived dimensions seems unnecessary.

Response scale selection. The controversy over how best to measure satisfaction was mentioned in the second chapter. Various previous approaches were discussed as well as some of the limitations of each. Since most of the prior assessments had dealt with a rather broad level of satisfaction, many of the techniques were not applicable. In addition, there was considerable debate even over the response continua. Although an attempt was made to resolve the latter problem by several phone interviews, such an approach only led to a proliferation of possibilities.

Given this lack of clear direction, some of the more likely response scales were tried. However, once applied to potential items for each of the intrinsic constructs, Andrews and Withey's delighted/terrible scale, a 5-point agree/disagree scale, and a 5-point satisfaction scale were all found unworkable. The basic problem with these and other similar response continua was that item generation was detrimentally affected. A few examples can clarify the problem.

To use the delighted/terrible scale required item formulation around the common stem "How do you feel about . . .?" Although such a format could be applied to general life concerns, as Andrews and Withey (1976) did, once the focus was narrowed to one particular domain, such a stem provided limiting constraints. For example, it was extremely difficult to construct items that did not seem repetitious even though they were attempting to delve into different areas. The common stem also made it difficult to write items that seemed unbiased. For example, in either the question "How do you feel about the amount of satisfaction you get from making a wooden object" or "How do you feel about the opportunities for generating projects in woodworking," there appeared to be an inherent implication that the respondent got satisfaction or had opportunities. Such implications seemed unfounded or suggestive. There was also objection to using "feeling" for more cognitive issues. Thus, the delighted/terrible scale seemed unsuitable.

There were problems with the 5-point very satisfied/very dissatisfied response scale as well. Generating items without an implicit bias and avoiding repetition was difficult with this scale too. There were also doubts as to whether the 5-point satisfaction scale would elicit much response variance. Since several previous studies (Atkinson, 1977) had found a positive skew, that seemed an important consideration.

Other response continua were also tried but with little success. After much searching, debate, consultation, and frustration, it was decided to use a 5-point frequency scale: "almost always," "often,"

"sometimes," "seldom," and "almost never." With this scale, it was possible to write varied items that were still specific to the respective source of satisfaction. No prejudicial implications seemed suggested by the "almost always" to "almost never" continuum. The use of this frequency scale also seemed to allow a less "head-on" or direct approach. Rather than some socially desirable feeling, it was a more neutral numerical count that was being requested. In short, the "almost always" to "almost never" frequency continuum was used because it seemed most conducive to unbiased assessment of sources of satisfaction in woodworking.

Generation and evaluation of items. Once the constructs were developed into a coherent conceptual model (see Table 3.1) and the response continuum was decided upon, it was possible to write items for each of the hypothesized sources of satisfaction. Several items were written for each component aspect and then reviewed for clarity and meaning. Items which seemed confusing or which overlapped construct boundaries were refined or eliminated. Once this process had been done several times, other people were consulted to rate items, evaluate content validity, and select among parallel alternatives. An attempt was made to cover each area sufficiently but also not to be repetitious.

Considerable care and frequent evaluation was used at this stage because of the critical impact of item content on the meaning of constructs, the validity of the instrument, and the usefulness of the findings. The pivotal importance of item meaning was frequently

conveyed by Ebel (1972), Babbie (1973, pp. 141-142), and Hunter and Gerbing (1979, pp. 9, 17).

Four different types of items were constructed for the pilot questionnaire. The first group of items constructed to assess sources of satisfaction employed the "amost always" to "almost never" frequency response continuum. Most of these questions used some form of the word "satisfaction" or a closely related alternative ("enjoyment" or "pleasing"). There were also a few items for each source area that used related terminology such as "importance," "involvement," or "accomplishment." In addition to the 83 questions using the frequency response scale, 9 items were constructed using an importance scale (very high importance to no importance at all) and 2 items were developed using a ranking format. Thus, there was a total of 94 questions in the first part of the questionnaire which attempted to determine sources of satisfaction.

For the second part of the questionnaire, 30 items were developed to elicit background information. Usual data regarding sex, age, race, place of residence, education, and income were requested. Standard gradation categories, such as those used by the United States national census, were used as response options whenever possible (Miller, 1977, p. 110; Van Dusen & Zill, 1975). There were also questions about specific woodworking issues: amateur or professional status (using several different criteria), years of experience, specialty area, tool investment, specific training, wood-related income, and career decision-making history. Some of these questions were an attempt to elicit additional useful measures of interest and satisfaction in woodworking,

such as time spent, money invested, and years of involvement. Thus, in addition to the usual demographic items, there were other background questions used to procure pertinent information about the respondents in the sample.

Several of the items in the "Background Information" section of the SAW questionnaire were constructed to elicit information for evaluating the professional or amateur woodworking status of the respondents. This information was of particular importance because one of the purposes of the study was to compare amateur and professional woodworkers on the SAW satisfaction scales. But in order to compare amateur and professional woodworkers, it was first of all necessary to delineate the membership of these two groups. It was difficult to construct items to dichotomize craftsmen, however, because the terms "professional" and "amateur" had many connotations. In the varied usage of the terms, sometimes the reference was to occupational designation as a job or avocation, sometimes to skill or technical expertise, and sometimes to the level of commitment to quality craftsmanship. Given these varied usages, several questions were constructed for the background section of the SAW questionnaire to deal with the dilemma of determining professional and amateur woodworking status.

The potential pilot questionnaire was then constructed. Items from different source areas were mixed in random sequence to provide variety. The pilot questionnaire, entitled Satisfaction Assessment in Woodworking or SAW, was then given a trial run on both woodworkers and nonwoodworkers to check again for item clarity, understandability of instructions, time needed, and overall reactions. The pilot

instrument was also submitted to the University Committee on Research Involving Human Subjects and was approved.

Piloting of the instrument. The SAW questionnaire was taken to a three-day weekend wood conference in July 1980. A short speech was made on the opening day to explain the purpose of the study and to appeal for cooperation. The 175 woodworkers in attendance were requested to complete the assessment instrument sometime before the end of the conference. They were also asked to comment on any of the items and to give any feedback they desired about the questionnaire. On the last day of the conference, an option of taking a stamped and addressed return envelope was also provided. Seventy-two completed the questionnaire at the conference and 17 returned it by mail shortly thereafter.

Evaluation of the pilot questionnaire. The responses made by the 89 woodworkers were used both to evaluate perceived item clarity, to make decisions about the adequacy of the various response scales used, and to develop initial impressions about constructs and the overall conceptual model.

Perceptions about item clarity were determined both directly and indirectly. Since respondents had been asked for feedback, comments on specific items were tabulated. It was also possible to get indirect commentary by noting which items were not responded to at all.

The responses to the SAW questionnaire by the pilot group were also used to determine the adequacy of the several response scales that were used. There were two major concerns: Did the frequency scale suggest different results than the importance scale or ranking scale?

Did the various scales provide enough useful information to warrant their inclusion in the already lengthy assessment instrument? These questions were both answered in the negative following analysis of the findings from the pilot group. The responses on the importance scale reflected that the woodworkers sampled found the source areas delineated to be important. Similarly, the ranking of areas by importance and by satisfaction produced a similar rank order. Thus, these items appeared to provide redundant information.

Initial revision of questionnaire. One purpose of the pilot had been to evaluate the performance of the newly constructed SAW questionnaire. Given the feedback from respondents and a tabulation of frequencies for each of the response options on each item, there were several items that were deemed to be unproductive. Once it was found that the areas measured were of importance to woodworkers, it seemed that there was insufficient basis for retaining an importance scale. Similarly, the ranking scale items were also deemed unnecessary due both to the comparable findings and the relative methodological weakness of such scales.

Decisions were made to drop 10 of the 83 satisfaction items, all of the importance and ranking items, and one of the demographic items. Of the 102 questions that remained, there were a few which could have been altered in minor ways. For example, a word might be added for further clarification. However, if any items were altered between the pilot group and the next sample group, the results could not legitimately be combined because respondents would have answered different

(albeit very similar) items. Thus, there was a crucial decision to be made.

The precision and clarity of a few items could be improved by minor alterations but that would mean disqualifying the responses of 89 respondents. On the other hand, the items could be left unchanged which would allow the responses of the 89 in the pilot group to be included with those in the next sample. Because the primary purpose of this study was to determine sources of satisfaction in the crafts experience of woodworking, and because statistical analysis of questionnaire responses was to use a factor analysis technique that depended on large sample size for reliable results, it was decided to leave the remaining items unchanged. It should be emphasized that any major flawed items had already been dropped. Therefore, although this decision involved a trade-off, the benefits for the major purpose of reliably determining sources of satisfaction seemed to far outweigh the minor cost of slight imprecision in a minimal number of items. An abbreviated questionnaire also seemed to have beneficial potential for eliciting increased cooperation and item completion by respondents. Because the items had been randomly ordered initially, the deletion of items from various constructs was deemed unlikely to have any negatively biasing impact. A table of the distribution of items using each type of response scale in both the pilot instrument and the shortened Satisfaction Assessment in Woodworking questionnaire is presented in Table 3.2.

A copy of the revised (abbreviated) questionnaire is presented in Appendix A. The cover letter which accompanied the SAW questionnaire

and explained the project is also presented. The items deleted from the pilot questionnaire appear in Appendix B.

Table 3.2: Distribution of Items in the Pilot and Revised Satisfaction Assessment in Woodworking (SAW) Instrument

Type of Response Scale	SAW pilot instrument	Revised version of SAW
I. Frequency of Satisfaction		
A. Making	31	27
B. Self-determination	10	9
C. Competence	15	14
D. Expression	15	13
E. Extrinsic	12	10
II. Importance	9	0
III. Ranking	2	0
IV. Background	30	29
Totals	124	102

Administration of SAW questionnaire. The shortened Satisfaction Assessment in Woodworking instrument was assembled and presented at a second wood conference in Chicago in early October 1980. A similar speech explaining the purpose and requesting cooperation was given to approximately 450 attending woodworkers. Of those, 106 responded before leaving the conference and 102 returned completed questionnaires in the stamped and addressed envelopes provided. The answers of these 208 respondents were added to those of the 89 prior respondents.

Analysis of the results of these 297 completed questionnaires is presented in the fourth chapter.

Population and Sample

In addition to assessing sources of satisfaction in the craft experience of woodworking and evaluating the relationship of intrinsic and extrinsic satisfaction, part of the purpose of this study was to determine whether there were any differences between amateurs and professionals with regard to woodworking satisfaction. Given this interest in group comparison, it seemed important to attempt to find a population of woodworkers that was substantially involved with and committed to the activity. If there were not some reason to expect active interest in or commitment to the craft of woodworking, then it would be difficult to draw meaningful conclusions from the results of comparing professionals and amateurs. Although other evidence of commitment was considered, it was decided that wood craftsmen who paid to attend a woodworking conference would be a suitable population.

Woodworkers who paid to attend a conference were deemed suitable for several reasons. First of all, attendance at a woodworking conference demonstrated an active level of interest and commitment. Participation in a conference generally involved advance registration, monetary payment, travel, and expenditure of weekend time. Secondly, conference attendance suggested at least enough familiarity with the field to be aware of such special events. Thus, attendance implied that the participant must be in contact with specialty journals or

some woodworking communication network just to have learned of the existence of the conference.

The last reason that woodworkers who attended conferences seemed suitable was because of their availability. Given that assessment involved response to a questionnaire of several pages, the opportunity to personally request participation from woodworkers in one place at one time offered many advantages: personal rather than mail contact which increased the likelihood of response, comparable instructions and the potential reduction of confusion about procedures, reduced administrative costs, and rapid return time. Thus, in view of their suitability on these respective issues, conference-attending woodworkers were chosen as the population of interest.

A sample of woodworkers from this population was measured at two conferences: one near New York City in July 1980 and one in Chicago in October 1980. These conferences were selected because of their prior promotional advertising, large attendance, close proximity in time, representativeness, availability, location, and likely draw of participants from both the local region and beyond. The survey population consisted of the approximately 625 craftsmen who were requested to answer the assessment instrument. The sample included the 297 woodworkers who completed the 10-page Satisfaction Assessment in Woodworking (SAW) questionnaire.

Characteristics of the Respondents in the Sample

As was noted above, a substantial portion of the assessment instrument was devoted to gathering data about the respondents.

Therefore, considerable detail can be provided regarding demographic descriptors and background characteristics of the woodworkers in the sample. Although an inclusive breakdown of the percentages for each of the response categories on each item is presented in Appendix C, the intent here is to summarize the main characteristics of the sample. The vast majority of the craftspeople in the sample were white, well-educated males. In fact, as presented in Figure 3.1, a surprising number had college (37%) or graduate (28%) degrees (B19).* However, this education was generally in fields other than woodworking as only 1 out of 5 had had such formal training (B21). Although there were respondents from all quadrants of the United States, the majority were from the Northeast and Midwest (B25), as is reflected in Figure 3.2.

About 42% of those who returned the questionnaire considered their woodworking a job or occupation (B1). Although more than half received income for their craft work (B14), less than one-third reported income over $3,000 (B15). In fact, only 15% of all the woodworkers surveyed earned more than $10,000 per year from their craft. The majority who did earn income were self-employed (B12). Whether a job or not, responses to item B2 revealed that 73% worked 8 to 12 hours per week or more (see Table 3.3).

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*References to specific background questions are included in the text with a "B" denoting background followed by the number of the item.

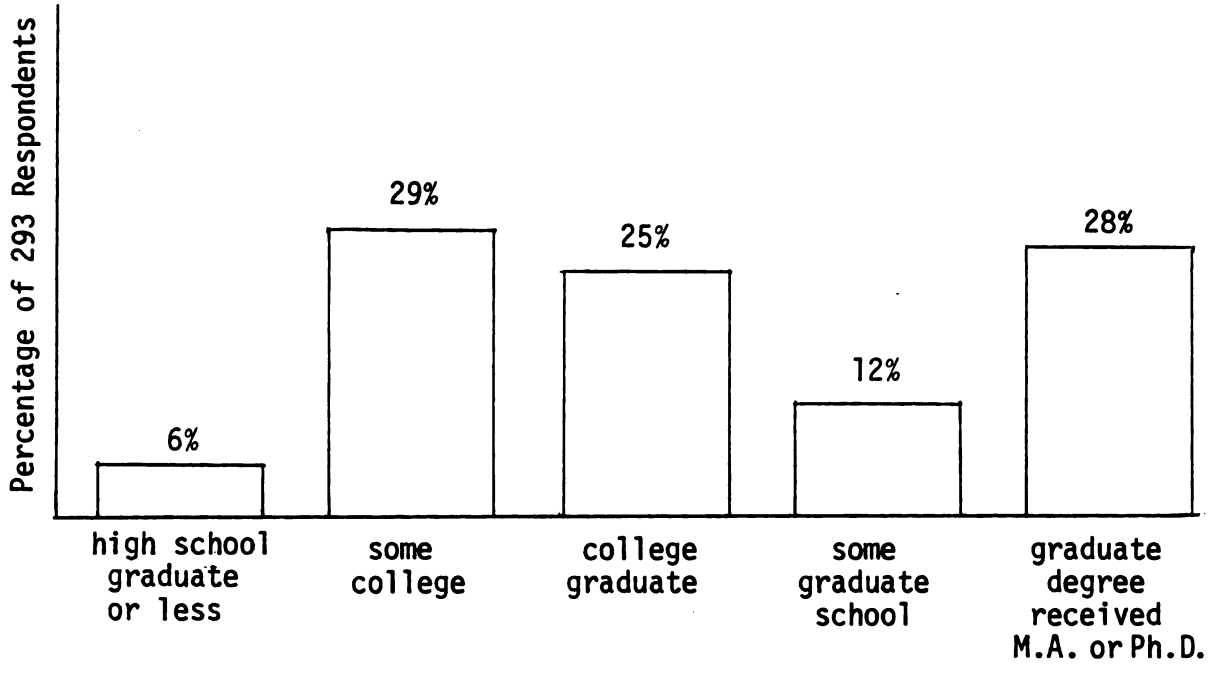


Figure 3.1: Educational level of woodworking respondents.

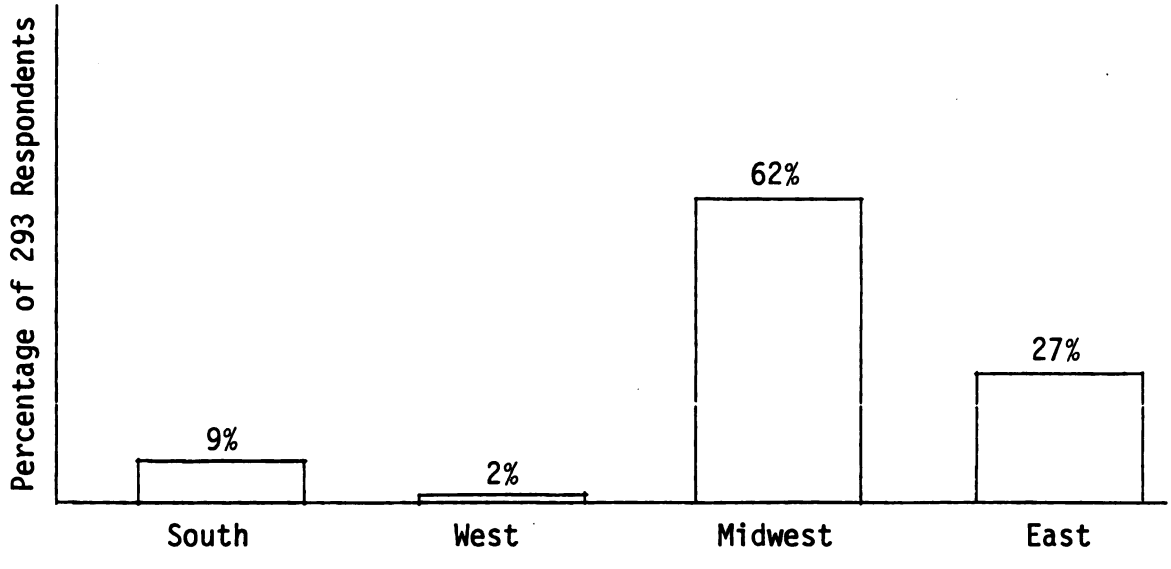


Figure 3.2: Geographic distribution of woodworking respondents.

Table 3.3: Hours Reported Spent Woodworking Per Week

Hours	Number of respondents	Percentage
0- 3.9	27	9.1
4- 7.9	53	17.8
8-11.9	31	10.4
12-15.9	18	6.1
16-19.9	21	7.1
20-29.9	27	9.1
30-39.9	17	5.7
40-49.9	38	12.8
50-59.9	36	12.1
60+	29	9.8
Total	297	100.0%

Regardless of their ages (B23), which were quite representatively distributed (see Table 3.4), woodworking was not a new experience for the majority of the respondents: over 70% had been working at their craft for 6 to 10 years or longer (B4) as is shown in Figure 3.3. In fact, many (32%) had been involved in woodworking since before high school (B9). For almost half of the woodworkers in the sample, parents, siblings, or grandparents had been involved in woodworking (B10). Although some of those who chose to enter woodworking as a career had made the decision in high school (6%) or college (25%), half of the craftsmen had chosen a woodworking career while working at another occupation (B11).

Table 3.4: Age Distribution of Woodworking Respondents (N = 293)

Age	Number of respondents	Percentage of respondents
Under 21	7	2.4
22-29	55	18.8
Thirties	122	41.6
Forties	47	16.0
Fifties	43	14.7
Sixties	16	5.5
Seventies	3	1.0
Totals	293	100.0%

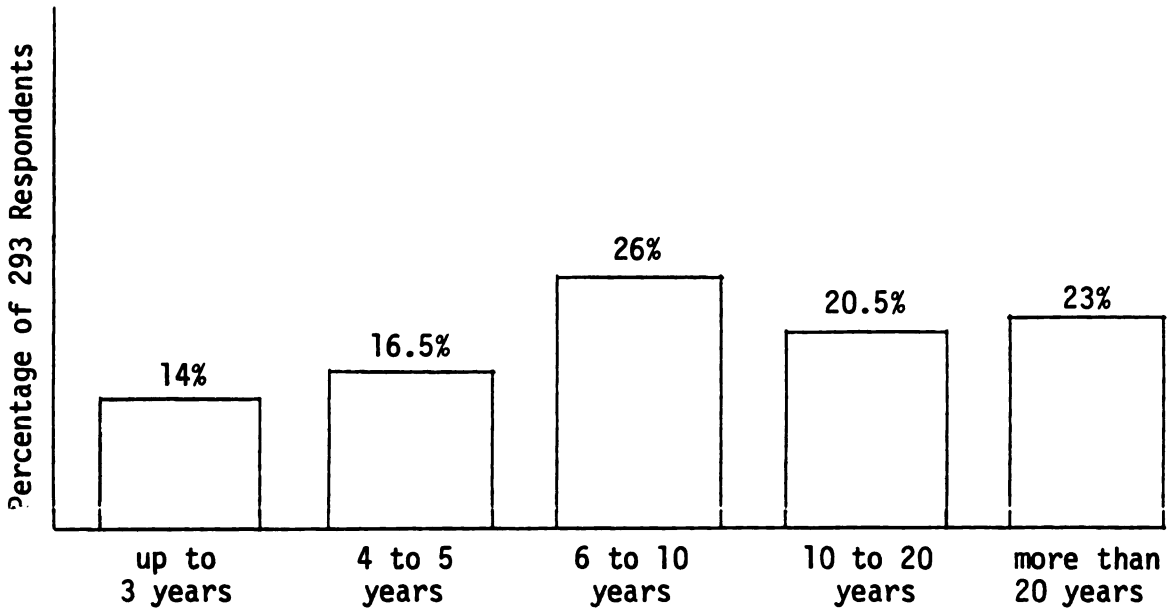


Figure 3.3: Years of experience in woodworking.

All of the woodworking specialty areas were represented, but most of the respondents were involved with furniture or cabinets, turning, architectural work, or accessories (B8). Three out of four worked in their own house or on their own property (B26), and almost one-half had $4,000 or more worth of equipment (B27).

Professional and amateur status. Although a few summary statements have already been made in this section about the responses of the 297 woodworkers in the sample to some of the items eliciting information pertinent to the determination of professional or amateur status, further clarification is possible. As stated previously, several items were included in the background section of the SAW questionnaire to assess the potentially different dimensions inherent in the varied connotations of the terms "professional" and "amateur." These items were included because of the importance of the professional and amateur categories for the third part of the study.

In an attempt to ascertain how the respondents in the sample interpreted "professionliasm," one background item (B6) asked: "What do you think is the one most important factor determining 'professionalism' in woodworking?" Nearly two-thirds of the sample answered "the quality of the product" and one-quarter answered "the skill of the craftsman." Although this was an interesting finding, it would be extremely difficult to accurately ascertain the quality of a woodworker's product or the skill of a craftsman in a self-report questionnaire. Even if useful items could be constructed, measurement of quality or skill dimensions would be quite subjective. Therefore,

several alternative approaches were used to determine amateur and professional status.

Although there were other possibilities, the woodworking respondents in the sample were dichotomized using three criteria: self-designation as a job or hobby (B1), percentage of total working time spent woodworking (B3), and percentage of total income earned from woodworking (B17). Even though there were other items which elicited similar information such as actual hours worked (B2) or actual income earned (B15), the three criteria chosen were both meaningful and in a form conducive to unambiguous dichotomization. The percentage of professionals and amateurs in the sample as determined by each of the independent variable criteria is presented in Table 3.5.

As portrayed in the data presented in Table 3.5, it seemed clear that the percentage of amateur and professional woodworkers in the sample was quite similar when the criterion was either self-designation (B1) or the percentage of total working time spent woodworking (B3): 58% amateur and 42% professional, and 61% amateur and 39% professional, respectively. However, the sample was dichotomized somewhat differently when the criterion was the percentage of total income from woodworking (B17): 70% amateur and 30% professional. Although these findings suggested similarities among the three criteria for the independent variable, they also suggested that the total income from woodworking criterion was a more stringent determinant of professionalism. The statistical results of a further comparison of the three criteria for determining professional and amateur status are reported in the next chapter.

Table 3.5: Professional and Amateur Woodworkers in the Sample as Determined by Self-designation, Percentage of Total Working Time, and Percentage of Total Income

	Self-designation (B1)	Percentage of total working time spent woodworking (B3)	Percentage of total income from woodworking (B17)
Amateur	hobby n = 172 (58%)	less than 20 hours per week n = 179 (61%)	less than 25% of total income n = 203 (70%)
Professional	job n = 123 (42%)	more than 20 hours per week n = 116 (39%)	25% or more of total income n = 89 (30%)
Total	n = 295 (100%)	n = 295 (100%)	n = 292 (100%)

Legend: B = Background item
n = Number of respondents

As portrayed by the summary statistical data in this section, the respondents in the sample did have substantial woodworking experience and considerable commitment to the craft regardless of whether the activity was done as an occupation or an avocation. There was diversity in age, number of hours, and woodworking specialty, but similarity in race, sex, and level of education. Having depicted the development and construction of the assessment device and having described the population and the sample, the design of the research investigation can now be considered.

Design of the Study

There were three parts of this study: the testing of a conceptual model describing sources of satisfaction in the crafts experience of woodworking, an evaluation of the relationship between the intrinsic and extrinsic dimensions, and a comparison of the amount of satisfaction of amateurs and professionals. Included in the first part of the study were the derivation of satisfaction constructs, the development of an assessment instrument, and a factor analysis of the responses. The delineation of the intrinsic sources of satisfaction and the development of the SAW instrument have already been reviewed. The confirmatory factor analysis techniques used to evaluate the instrument constructed and to test the proposed conceptual model are discussed further in this and the following chapter.

The second part of the study was designed to evaluate the impact of extrinsic monetary satisfaction on sources of intrinsic satisfaction. The relationship between intrinsic and extrinsic dimensions was considered by an investigation of the correlational patterns between the sources of satisfaction which had been previously established by the confirmatory factor analysis. Confidence intervals were also considered for each of the correlation point estimates.

The third part of the study was designed to compare professional and amateur woodworkers on the type and level of satisfaction derived from participation in the woodworking experience. "Professional" and "amateur" status was determined on the basis of three criteria: proportion of time spent, proportion of income earned, and personal designation as a job or hobby. Using the SAW instrument developed and

tested in the first part of the study, a comparison of the responses of professionals and amateurs was made using scores on the intrinsic and extrinsic satisfaction scales. Specifically, professionals and amateurs were compared on the respective group means for each of the six SAW satisfaction scales. The statistical design of the third part of the study can be diagrammatically represented as in Figure 3.4. The independent variable was professional or amateur woodworking status. Three different criteria were used to dichotomize woodworkers into professional and amateur categories, so there were actually three comparisons of the respective group means. The dependent variables were the group scores on the SAW sources of satisfaction scales. A multivariate analysis of variance was used for each of the three criteria to determine if the professional and amateur group means were different.

Hypotheses Tested

There were three hypotheses of interest which paralleled the three parts of the design of the research. For the first part of the study, it was hypothesized that there were specific components of the woodworking craft experience that were recognizable by participants as sources of satisfaction. In order to make the testing of the conceptual model explicit, the working hypothesis was precisely stated as:

Hypothesis I: Specific sources of satisfaction in the woodworking experience can be measured in the responses of woodworkers to the Satisfaction Assessment in Woodworking questionnaire.

WOODWORKERS	
Professionals	Amateurs
Satisfaction Measurements $\bar{X}_{I_m}$ $\bar{X}_{I_{sd}}$ $\bar{X}_{I_c}$ $\bar{X}_{I_e}$ $\bar{X}_{E_\$}$ $\bar{X}_{E_s}$	Satisfaction Measurements $\bar{X}_{I_m}$ $\bar{X}_{I_{sd}}$ $\bar{X}_{I_c}$ $\bar{X}_{I_e}$ $\bar{X}_{E_\$}$ $\bar{X}_{E_s}$

Legend: $\bar{X}$ = Mean on SAW satisfaction scale
I = Intrinsic scales
E = Extrinsic scales
m = Making
sd = Self-determination
c = Competence
e = Expression
$ = Money
s = Status

Figure 3.4: Design of the multivariate analysis of variance: A comparison of amateurs and professionals on the SAW intrinsic and extrinsic satisfaction measures.

Abbreviated format: H: Woodworking sources of satisfaction can be measured by SAW.

An evaluation of the relationship between intrinsic and extrinsic satisfaction was made in the second part of the study. The impact of monetary satisfaction on intrinsic satisfaction was investigated by the second hypothesis, which is presented in several forms in Table 3.6.

In the third part of the study, professional and amateur wood craftspeople were compared on the type and level of satisfaction derived from participation in the woodworking experience. "Professional" and "amateur" status was determined in three different manners: proportion of time spent, proportion of income earned, and self-designation on the job-hobby dimensions. The specific hypothesis of interest for the third part of the study is presented in several forms in Table 3.6.

Methods of Analysis

Given the separate but related parts of this investigation, it was necessary to use three different methods of analysis. The SAW questionnaire and the constructs upon which it was based were refined and evaluated by means of a confirmatory factor analysis technique. Once the conceptual model of satisfaction was affirmed, correlational patterns of intrinsic and extrinsic sources of satisfaction were analyzed. After the validity and reliability of the questionnaire were determined, it was legitimate to use the SAW instrument to measure the amount of satisfaction experienced in woodworking. Amateurs and professionals were compared using the SAW satisfaction

Table 3.6: Presentation of Hypotheses for the Second and Third Parts of the Study

Hypothesis number	Null form of hypothesis	Symbolic representation of null	Alternate form of hypothesis	Symbolic representation of alternative
Hypothesis II	There is no correlation between extrinsic monetary satisfaction and each of the sources of intrinsic satisfaction for woodworkers.	$H_0: \rho_{E,I} = 0$	There is a negative correlation between extrinsic monetary satisfaction and sources of intrinsic satisfaction for woodworkers.	$H_1: \rho_{E,I} < 0$
Hypothesis III	Professionals and amateurs experience no difference in the amounts of satisfaction from woodworking.	$H_0: \mu_P = \mu_A$	Professionals and amateurs experience different amounts of satisfaction from woodworking.	$H_1: \mu_P \neq \mu_A$

Legend: H_0 = Null hypothesis
H_1 = Alternate hypothesis
ρ = Correlation coefficient
E = Extrinsic monetary factor
I = An intrinsic satisfaction factor
μ = Population group mean
P = Professional
A = Amateur

scale scores and multivariate analysis of variance techniques. A consideration of each of these methods of analysis enables further clarification.

Confirmatory Factor Analysis

Each part of this primarily descriptive study was based upon the development of a conceptual model of sources of satisfaction in the crafts. The model proposed was operationalized in the construction of the Satisfaction Assessment in Woodworking (SAW) instrument. Because this was a newly developed measurement device, it was necessary to test the fit of the model proposed or, more precisely, to determine the legitimacy and distinctness of the hypothesized sources of satisfaction. Evaluation of the SAW questionnaire and the constructs upon which it was based was made by using a confirmatory factor analytic technique, specifically the one proposed by Hunter and Gerbing (1979). Further modification of the SAW questionnaire was also facilitated by the methods and findings of the confirmatory factor analysis.

There has been extensive development of confirmatory factor analytic techniques in recent years (Hunter & Gerbing, 1979, pp. 7-13; Kim & Mueller, 1978, pp. 46-59). Some of the appropriate applications and advantages of this approach can best be discussed in relation to traditional exploratory or "blind" factor analysis methods. After a brief review of confirmatory methodology, the application of this factor analytic technique to the present study can be more easily understood. (Factor analytic techniques have a broad range of

usefulness, but the following discussion only considers the methods in relation to questionnaires.)

Although there was a variety of statistical techniques referred to as "factor analysis," the common objective was to represent a set of observed variables or items by a smaller number of hypothetical dimensions or constructs. The process involved an examination of the correlational relationships among the manifest variables and the hypothesized dimensions to determine if patterns or groupings existed. As Borg and Gall (1971) stated: "A factor is a mathematical construct that represents a basic behavior pattern or characteristic" (p. 336).

Basically, there were two major factor analytic approaches: exploratory and confirmatory. If there was little understanding of the nature of the underlying dimensions or source traits, then purely statistical procedures would be used to explore and determine groupings of similarly acting observed variables. This exploratory method was based solely upon computational procedures done on the data after they had been gathered. Because the structure was determined only by the correlational pattern of the variables or items, with no regard to meaning, this approach was often referred to as "blind" factor analysis (Hunter & Gerbing, 1979).

In contrast, the researcher may have specific hypotheses about underlying dimensions and even potential contributing variables. Whether based on a priori analysis of item content or hypotheses about underlying structure, confirmatory factor analysis permitted specification of a model which could then be tested for the goodness of fit on a set of data. In this approach, factor analytic techniques were

used to confirm a conceptual model rather than to explore underlying dimensions.

Beyond these basic differences in approach, there were other issues of importance. One of the problems with blind factor analytic techniques was the frequent difficulty in determining the substantive meaning of a cluster of items which were found to be highly correlated. As Babbie (1972) noted, one of the disadvantages of blind factor analysis was that it always produced factors, even if they were meaningless (p. 329). Because confirmatory factor analysis began with the input of significant content, the risk of statistical findings devoid of conceptual meaning was nonexistent for confirmed patterns.

Second, exploratory factor analytic techniques required the assumption of independent or orthogonal factors in order to be able to solve the mathematical equations inherent in the procedures. However, such an assumption often seemed unwarranted--particularly in instances involving personal attributes or measurement of restricted domains of behavior. There were confirmatory factor analytic methods, such as the oblique multiple groups technique, that did not require the factors to be independent.

Third, exploratory methods required very large samples to be useful. Because blind factor analysis allowed the factor structure to be determined by the statistical computations, the size of the sample was important. Basically, the methods used searched for optimal statistical solutions, but since such solutions were based solely on the sample data, they capitalized on the idiosyncrasies of the particular sample. In order to make the findings less subject to

sampling error and, thus, more subject to cross-validation, huge sample sizes were required. Because confirmatory techniques began by supplying an hypothesized factor structure based on psychological theory, the factor solutions were less affected by sampling error. Although a large number was still useful, smaller sample size could be adequate for cross-validating the results of confirmatory factor-analytic findings (Hunter & Gerbing, 1979, p. 33). More specifically, rather than huge samples (preferably the number of subjects 4-20 times the number of items), moderate samples (subjects 3-4 times the number of items) were adequate. A summary of these three differences between blind and confirmatory factor-analytic techniques is presented in Table 3.7.

Table 3.7: Comparison of Exploratory and Confirmatory Factor-Analytic Techniques

Issue	Exploratory factor analysis	Confirmatory factor analysis
Substantive meaning	Questionable given sole reliance on statistical computations	Inherent in model supplied by researcher
Orthogonal factors	Required	Unnecessary
Sample size required for likely cross-validation	Huge	Moderate

Regardless of whether exploratory or confirmatory methods were used, Hunter and Gerbing (1979) suggested that a critical issue was whether the derived clusters of items corresponded to a single

underlying variable or trait. Noting that researchers frequently ignored the question of whether all the items in a factor measured the same thing, Hunter and Gerbing stated that the cluster scale representing the construct was only interpretable if the factor was unidimensional (pp. 6-7). Nunnally (1978) expressed a similar view in his statement that "Items within a measure are useful only to the extent that they share a common core--the attribute which is to be measured" (p. 274). Hunter and Gerbing went on to outline a measurement model whereby traits were assessed by partitioning items into unidimensional clusters. Because the predominant portion of the present investigation used Hunter and Gerbing's methodology, their approach is considered in some detail.

Oblique multiple groups factor analysis. In order to estimate the parameters of the predicted measurement model, Hunter and Gerbing used a particular factor-analytic procedure called "oblique multiple groups factor analysis." The procedure, which allowed traits to be correlated with one another, used sample correlations between questionnaire items and the designated partitioning of items into clusters to provide parameter estimates. The estimates of parameters were also useful for evaluation of the unidimensionality of respective clusters. The output of multiple groups analysis provided estimates of population item-factor correlations, factor-factor correlations, factor reliabilities, and communalities. Communalities were defined as an item's reliability, which was the square of an item's loading on a factor. Oblique multiple groups analysis used communalities to replace the 1.00 values in the diagonal of the original item-item correlation

matrix. According to Hunter and Gerbing (1979), use of that procedure enabled estimation of parameters to be based on "cluster true scores" (pp. 15-16). As defined by Hunter and Gerbing, the cluster true score was the score that "would be obtained if the underlying variable were measured without error." More specifically:

> the cluster true score is the average score of the entire indefinitely large domain of items, instead of only the few items appearing in the questionnaire. The use of communalities implicitly corrects for attenuation and hence eliminates the effect of error of measurement from the estimated correlations. (p. 16)

Although the process of estimating parameters using a multiple groups analysis has just been outlined, further explanation may be useful. The format or output of this confirmatory factor-analytic technique was a large correlation matrix. However, as Hunter and Gerbing pointed out, it was possible to divide it into three matrices: an inter-item correlation arranged by cluster, an item-factor correlation (actually two identical matrices, one for rows and one for columns), and a factor-factor correlation (pp. 14-15). A graphic representation of this partitioned correlation matrix as adapted from Hunter and Gerbing is presented in Figure 3.5.

Once the original conceptual model had been constructed, the data gathered, and the inter-item correlation matrix computed, it was possible to use the confirmatory oblique multiple groups factor analysis to estimate the population parameters. But it was the testing of the fit of the model that Hunter and Gerbing emphasized. As they specified, there were three criteria of unidimensionality: homogeneity of content, internal consistency, and parallelism.

Homogeneity of content was based on the meaning of the items. Even though Hunter and Gerbing were describing a measurement model and describing the use of their computer program for multiple groups analysis (PACKAGE), they stressed that analysis of item content and meaning was the most important criterion for unidimensionality (pp. 9, 17-18).

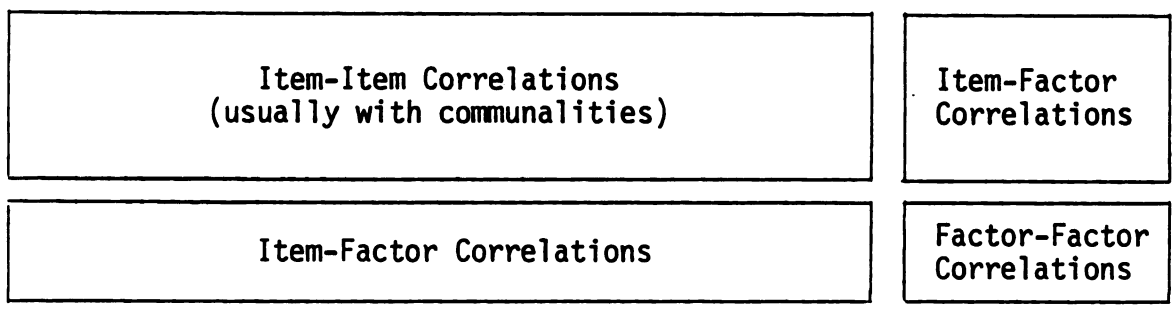


Figure 3.5: Divisions of the correlation matrix produced by oblique multiple groups factor analysis.

The unidimensionality of each cluster was also statistically evaluated: internal consistency tested the correlations between items in the respective clusters, and parallelism or external consistency tested the estimated correlations of the items in a cluster with variables outside of the cluster. Hunter and Gerbing developed computer programs both to partial out the trait variable in order to test internal consistency and to calculate the "similarity coefficients" to test parallelism. In order to remain in a cluster, an item had to meet each of the three criteria for unidimensionality (pp. 17-32).

Assumptions of confirmatory factor analysis model. There were three assumptions stated or implied by the confirmatory oblique multiple groups factor-analytic measurement model: linear relationship between items and constructs, unidimensional clusters, and use of a measurement model. Hunter and Gerbing stated that the use of cluster scale scores combining item responses was only optimal if the relationship between item responses and traits was approximately linear (p. 6). This was a customary assumption for factor-analytic techniques. Unless the relationship was extremely nonlinear, linear relations often provided close approximations.

Secondly, clusters were assumed to be unidimensional. The statistical techniques and estimates of parameters were based on unidimensional clusters. Because Hunter and Gerbing's multiple groups analysis provided methods for specifically testing this assumption based on the three criteria of unidimensionality just discussed, there was no logical problem in ascertaining whether this assumption was justified.

The third assumption was that items were related to traits as specified by the measurement model. The measurement model required that all items be partitioned into unidimensional clusters. In addition to the features just discussed in the second assumption on unidimensionality, the measurement model assumption implied that items could only be placed in mutually exclusive clusters. Because items had been specifically written for single constructs, this assumption seemed to have been met.

Application of confirmatory model. Prior to describing the use of Hunter and Gerbing's multiple groups factor analysis program, it should be noted that this particular confirmatory technique, unlike blind factor-analytic methods, allowed for oblique or correlated factors. Because it was expected that several of the factors would be related (the respective intrinsic sources, and the respective extrinsic sources), this was an important feature.

As described above, confirmatory factor-analytic methods permitted the researcher to specify in advance the constructs on which the performance measures loaded and then to test the fit of this hypothesized structure on a set of data. A delineation of the steps involved in using Hunter and Gerbing's multiple groups factor analysis methods to evaluate the conceptual model of sources of satisfaction in the crafts experience of woodworking clarifies the analysis techniques used in the first part of this study. First, the conceptual model of hypothesized sources of satisfaction was developed. Although the instrument construction process has already been discussed, it should be stated that both the broad review of the literature and the personal interviews were stressed in order to provide clear conceptual constructs and meaningful item content. Once the instrument was constructed, it was administered to respondents to collect data. The third step was to use Hunter and Gerbing's computer program, PACKAGE, to compute the inter-item correlations. Once the correlation matrix from the data was available, an oblique multiple factors analysis was computed. The output of that confirmatory factor-analytic method enabled

estimates of communalities, item-factor correlations, factor-factor correlations, and factor reliabilities.

The information provided by the oblique multiple groups analysis was used to make minor revisions in the measurement model. As Hunter and Gerbing suggested:

> Given the goals of unidimensionality and reliability, there will invariably be modifications of the original model. Items are deleted and reorganized, usually by dividing clusters into smaller groupings. (p. 34)

In order to provide the best measurement of the sources of woodworking satisfaction, 11 multiple groups analyses were performed. After the refinement process was completed, the final step involved testing the fit of the measurement model on the three criteria of unidimensionality.

Correlational Relationship of Constructs

The second part of the study was designed to evaluate the impact of extrinsic monetary satisfaction on sources of intrinsic satisfaction. Once the unidimensionality and the reliability of the constructs had been established by the confirmatory factor analysis, it was possible to legitimately inspect the relationship between intrinsic and extrinsic dimensions. The factor-factor correlation matrix, which was one part of the output of the oblique multiple groups factor analysis, enabled examination of the estimated correlational patterns between the extrinsic monetary and intrinsic sources of satisfaction. By calculating the confidence intervals for each of the correlation

point estimates, it was possible to evaluate more completely the meaning of the findings.

Comparison of Professionals and Amateurs

The third part of the study was designed to compare professional and amateur woodworkers on the type and level of satisfaction derived from participation in the woodworking craft experience. Three different indices of professional and amateur status were obtained from responses to questions in the demographic section of the SAW instrument: proportion of time spent, proportion of income earned, and self-designation on the job/hobby dimension. Using each of these criteria to dichotomize woodworkers into professional and amateur categories, the two groups were then compared on the SAW satisfaction scales developed and confirmed in the first part of the study. A multivariate analysis of variance (MANOVA) method was used because it was the most appropriate and powerful statistical technique for comparing two groups on six dependent variables.

The basic research model used to compare amateurs and professionals has been referred to by Borg and Gall (1971) as "the causal-comparative method" (pp. 297-316). Because many behavioral issues did not permit experimental manipulation, this method was deemed useful to identify possible causes. However, Borg and Gall emphasized that causality could not be established in causal-comparative studies. If a relationship between variables was found to exist, then potential causes might be suggested, but determination of causality required other methods. Stating that "causal-comparative studies bridge the gap

between descriptive research studies and experimental studies" (p. 299), Borg and Gall believed comparison methods were most useful when based on precisely defined groups. Ideally, the groups compared would be similar except for the variable being studied.

Multivariate analysis of variance model. Multivariate analysis of variance (MANOVA) was chosen as the appropriate statistical model because it allowed comparison of professional and amateur group means on the several satisfaction scales simultaneously. Statistically, the MANOVA technique was similar to ANOVA in that both were based on F ratios (the ratio of between-groups variance to within-groups variance). However, the MANOVA techniques, which also analyzed the way the means covaried, used a different form of the F test, the approximate F.

One problem with the MANOVA method was that even if the F test was found to be statistically significant, it was impossible to determine what substantive difference existed. However, this problem could be resolved by following a three-step process. First, the MANOVA was computed for the data. If the F test was significant, then univariates or ANOVAs were computed and scrutinized. If the comparison of group means on a single dependent variable (univariates) revealed a statistically significant F test, then the respective group means were consulted. It was only by comparing the means that the difference of the groups could be meaningfully determined. Thus, it was necessary to go through a three-step process if substantive meaning was to be derived from the statistical results.

Assumptions of MANOVA. There were four assumptions that were made in order to legitimately use the MANOVA method. First, it was assumed that population scores on the dependent measures would be normally distributed. Since this assumption was robust (that is, violation of the assumption did not critically affect the F test) for large sample sizes, there was no difficulty. Second, it was assumed that population groups had equal variance on each dependent measure. There was no reason to believe this was not true from the sample data. Third, it was assumed that the scores would be independent from person to person. Because each woodworker was given an individual questionnaire which they were observed to complete on their own, this assumption seemed justified. Finally, it was assumed that there was a multivariate normal distribution of scores on all the dependent variables. There was no reason to believe that this condition was unmet. Thus, violation of the four assumptions for the MANOVA method seemed quite unlikely.

Application of the MANOVA method to the comparison of amateur and professional woodworkers. Scores on each of the SAW satisfaction scales were derived for each respondent. On the basis of the proportion of time spent, the proportion of income earned, and the self-designation on the job/hobby dimension, the 297 woodworkers who responded to the assessment instrument were divided into professional and amateur groups. Thus, there were actually three separate determinations of the independent variable. An evaluation of group differences on the six SAW satisfaction scales was made using each of the three indices of professional and amateur. MANOVA tests were computed and when

statistical significance was found, the univariates were considered. When the ANOVA tests were significant, the group means were examined to determine the direction of the differences.

The alpha level was set at the .05 level of significance. The alternate hypothesis could legitimately be stated in a directional form based on common opinion and previous theory, but MANOVA was a nondirectional or two-tailed test by definition. Therefore, at the .05 level of significance, the alternate hypothesis that professionals and amateurs experienced different amounts of satisfaction from woodworking would be accepted if the F ratio was found to exceed the tabled critical value.

Theoretical Issues and Research Expectations

Research expectations and outcomes that would be predicted if various alternative viewpoints were accurate are discussed for each of the parts of the study in this section. Although there are theoretical issues and predicted results that were specific to each part of this investigation, there are central underlying conceptual issues that had impact on the design of the entire study. Therefore, prior to discussing the issues and anticipated outcomes particular to each of the three hypotheses tested, critical intrinsic and extrinsic satisfaction concepts are examined. Once the central theories have been outlined, the implications for each part of the study are considered separately. Other theoretical issues related to each of the research questions are also reviewed.

Two Conceptual Viewpoints of the Relationship Between Intrinsic and Extrinsic Satisfaction

Underlying each of the three hypotheses investigated in this study was the issue of the relationship between intrinsic and extrinsic satisfaction. Items for the SAW questionnaire were specifically written to elicit information about intrinsic and extrinsic satisfaction. Factor analysis techniques were used to investigate extrinsic monetary and intrinsic sources of woodworking satisfaction. Professional and amateur woodworkers were compared using the scores from the SAW intrinsic and extrinsic scales. Given the central importance of the intrinsic and extrinsic satisfaction dimensions to this study, clarification of these underlying concepts is crucial for an understanding of the research expectations.

Although several theories related to intrinsic and extrinsic satisfaction were discussed in the "Review of the Literature," two major viewpoints were highlighted in the summary to that chapter. The first viewpoint, referred to for the purposes of this study as the "extrinsic detriment model," proposed that extrinsic rewards reduced intrinsic satisfaction. Actually several related views were combined under this general rubric. For example, one component of the extrinsic detriment model included the theories of Festinger (1967) and de Charms (1968) which suggested that the mere receipt of external rewards could be detrimental to intrinsic satisfaction. These theories were consistent with the popular belief and research view that earning income for doing a task in some way ruined or detracted from enjoyment of the experience itself. For descriptive

purposes in this paper, this group of theories and beliefs is labeled the "money detriment theory" or "first component" of the extrinsic detriment model.

Secondly, much of Deci's (1975) theory and experimental research also suggested that intrinsic satisfaction could be reduced by extrinsic rewards, but he proposed that it was not the reward per se but rather the cognitive evaluation that determined whether extrinsic rewards had detrimental impact. In Deci's theory, the extrinsic reward was a necessary condition, but it was not a sufficient condition. Only if the extrinsic reward was perceived as the salient controlling feature (a situation referred to as "external locus of causality") would intrinsic dimensions be reduced. Given this qualification, Deci's theory also fit the extrinsic detriment model. For the purposes of this study, Deci's theory is referred to as the "attitude detriment theory" or the "second component" of the extrinsic detriment model. Thus, although several views contributed to the extrinsic detriment model, there were actually two main components which suggested that intrinsic dimensions would be decreased.

The outcome that intrinsic dimensions would be decreased suggested by both components of the extrinsic detriment model could be contrasted to a viewpoint labeled the "intrinsic independence model." Mihaly Csikszentmihaly (1975) was one of the authors included in this grouping because his theory of enjoyment suggested that activities could be intrinsically satisfying whether or not extrinsic rewards were involved. Like Csikszentmihaly, Neulinger (1974) also noted that intrinsic satisfaction was possible in either work or leisure. The

implication of these authors' concepts was that extrinsic rewards need not be detrimental to intrinsic satisfaction and that extrinsic features might even be irrelevant to intrinsic dimensions. The belief that earning money was not necessarily related to intrinsic satisfaction was also implied in the satisfaction measurement model developed in this study. Therefore, the sources of craft satisfaction concept could be considered consistent with the intrinsic independence viewpoint. It should be noted, however, that the intrinsic independence model did not address the issue of why the decrease in intrinsic dimensions occurred; it only suggested that there was no necessary connection between intrinsic and extrinsic dimensions.

Application to the study. Although the extrinsic detriment model and intrinsic independent model contributed to the conceptual development of items for the construction of the SAW measurement instrument, the two viewpoints were most important to the second and third parts of the study. In addition to other issues, the second and third parts of the study included two different approaches for investigating whether the extrinsic detriment model or the intrinsic independence model was accurate. The specific approaches used for testing the adequacy of these two viewpoints are discussed below for each of the applicable parts of the study.

Having outlined the two major theoretical viewpoints pertinent to the relationship between extrinsic and intrinsic satisfaction, the research expectations for each of the hypotheses tested can now be considered.

Measurement of Sources of Satisfaction: Issues and Expectations

The first hypothesis was that specific sources of satisfaction could be measured by the responses of woodworkers to the Satisfaction Assessment in Woodworking questionnaire. There were two broad issues underlying this hypothesis. Assuming that specific sources of satisfaction existed, it was first of all expected that they were recognizable to woodworkers. Second, it was expected that it was possible to construct an assessment device to measure the level of satisfaction woodworkers experienced from various sources. The concerns related to both the recognizability and the measurability of sources of satisfaction are clarified further in this section.

Recognizability. There were two issues embedded in the expectation that specific sources of satisfaction were recognizable to woodworkers: possession of distinct concepts, and retrospective evaluation. First, although there was no expectation that woodworkers would use exactly the same terminology as in the SAW instrument, it was believed that woodworkers possessed comparable concepts or opinions about specific parts of the woodworking experience that were satisfying. Some woodworkers might have clearer conceptualizations than others, but it was predicted that all woodworkers would have at least enough ideas about different satisfying aspects of woodworking to enable them to respond adequately to SAW questionnaire items.

As mentioned in the "Review of the Literature," there were contrary viewpoints regarding whether people could actually delineate components of satisfaction. By testing the first hypothesis, it was expected that

the question regarding possession of distinct satisfaction concepts could be further clarified. But even if separate satisfaction constructs were statistically confirmed, the techniques used would not resolve the question of causal relationships. More specifically, it could be possible for woodworkers to distinguish separate sources of satisfaction, but still have those sources be related through a common underlying cause. In order to determine if that situation existed, it would be necessary to employ techniques which examined the causal pathways, but those issues were outside the scope of this study.

Second, it was expected that respondents could adequately and accurately recollect their experience of satisfaction from woodworking. It was clear in Csikszentmihaly's statement that "thinking about the dance is a different experience from dancing the dance" (1975, p. 110) that there was some question whether retrospective analysis altered the fundamental nature of the experience. But because satisfaction was believed to be the result of a cognitive evaluation, it seemed that self-report of satisfaction might be less subject to interference from either the evaluation process or the temporal distance from the activity than retrospective reports of other behavior.

Measurability. The second issue underlying the assessment of specific sources of woodworking satisfaction was directly evaluated by the construction of a measurement instrument, the Satisfaction Assessment in Woodworking (SAW) questionnaire. The basic research expectation was that a measurement instrument could be constructed to adequately elicit self-reports of woodworkers' satisfaction.

Implied in this expectation was the belief that the hypothesized constructs could be behaviorally defined and presented in a manner that would be understandable to woodworkers. Because the construction process of the SAW questionnaire has already been discussed, it is unnecessary to discuss the measurement instrument in detail. It is sufficient to note that the SAW questionnaire was based on a broad and substantial conceptual foundation, a careful construction process, a sufficient number of items, and strong and appropriate statistical techniques. Given these features, it was expected that if specific sources of woodworking satisfaction existed, then the Satisfaction Assessment in Woodworking instrument could adequately measure woodworkers' experience of them.

Factor-Factor Correlations: Theoretical Issues and Research Expectations

The relation between extrinsic and intrinsic satisfaction was dealt with in the second hypothesis of the study by examining the correlational patterns between the SAW extrinsic monetary and intrinsic sources of satisfaction scales. This particular concern was of interest both because of conceptual and practical issues. Conceptually, testing this hypothesis offered one way to assess the accuracy of the extrinsic detriment model in relation to monetary rewards. Practically, receiving money was both frequently involved in experimental situations and related most closely to assessment of monetary satisfaction as measured by the SAW scale. Further explanation can clarify the conceptual and practical issues.

There was a common belief that "doing it for love" was very different than "doing it for money." As evident in the frequent polarization of work and leisure, there was also a popular belief that receiving money for doing a task in some way ruined or detracted from the enjoyment of the experience itself. This was not just a widespread popular opinion, however, but rather it was a viewpoint that had empirical support. In fact, this popular belief was consistent with the group of research studies previously discussed as the money detriment component of the extrinsic detriment model.

Practically, receiving money was frequently used in extrinsic detriment experimental situations to test two situations. In money detriment experiments, receiving money was used to determine whether extrinsic rewards per se had a detrimental impact on intrinsic dimensions. In attitude detriment experiments, receiving money was used to determine whether extrinsic rewards were perceived as the controlling reason for involvement in an activity. In an attempt to get at similar issues, one of the SAW scales had been constructed to measure monetary satisfaction. Obviously, neither receiving monetary rewards nor being primarily oriented toward receiving them could be construed as identical to experiencing extrinsic monetary satisfaction as measured by the SAW scale. However, it was assumed both that woodworkers who received money and woodworkers who perceived money as the salient control would experience satisfaction from it. It was also assumed that receiving more money would correspond to higher extrinsic monetary satisfaction scores and vice versa. Given these assumptions, the applicability of the extrinsic detriment theory to monetary rewards

could be tested by examining the correlational patterns between the SAW extrinsic monetary and intrinsic sources of satisfaction scales.

As mentioned previously, the outcome predicted by the money detriment component of the extrinsic detriment model was that an increase in extrinsic rewards would be accompanied by a decrease in intrinsic dimensions. An identical result would be predicted by the attitude detriment theory only if the external rewards were perceived as the salient control. Under these conditions, if the extrinsic detriment model was true, negative correlations would be expected on measures of extrinsic and intrinsic dimensions. Thus, when applied to the SAW measures, negative correlations between extrinsic monetary and each of the intrinsic satisfaction scales would be anticipated if the extrinsic detriment model was accurate. The correlational relationship predicted by the extrinsic detriment position was represented by the alternate form of the second hypothesis (as was presented previously in Table 3.6).

Contrarily, if there was no negative correlation, only the money detriment component of the extrinsic detriment model would be unambiguously shown to be inaccurate. Specifically, only the lack of detrimental impact of earning money on intrinsic satisfaction could be suggested from a no-correlation finding. For the attitude detriment component of the extrinsic detriment model, it had been necessary to assume the presence of money-controlled woodworkers and then investigate the predicted results. A lack of anticipated results could convey either the inaccuracy of the theory or the nonpresence of woodworkers in the sample who perceived money as the salient controlling

reason for doing woodworking. Although either situation was of interest, a no-correlation result could only legitimately be interpreted conditionally: if there were respondents who did perceive woodworking as the salient controlling reason for doing woodworking in the survey population, then the attitude detriment component of the extrinsic detriment model was inaccurate. An absence of significant correlations was the outcome that would be expected if the extrinsic independence model was true. The no-correlation outcome was represented by the null form of the second hypothesis (as was presented previously in Table 3.6).

Although the nature of causality could not be established in this study, relationships could be suggested or, contrarily, relationships could be shown to be unlikely. For example, if the extrinsic detriment model applied, one would expect either a decrease in intrinsic satisfaction directly caused by extrinsic satisfaction or a decrease in intrinsic satisfaction caused by some unknown third source (such as a psychological construct like motivation for financial success). The two possible causal pathways that might apply if extrinsic and intrinsic satisfaction were correlated are presented in Figure 3.6. Regardless of whether the causal pathway was direct (causal path A) or indirect (causal path B), if the extrinsic detriment model predicting a decrease in intrinsic enjoyment was accurate, one would expect a negative correlation between extrinsic and intrinsic satisfaction. On the other hand, if no such relationship between extrinsic and intrinsic dimensions was found, the extrinsic detriment model would be refuted irrespective of which causal path existed. In short, causal pathways would only

be an issue if there was a statistically significant and substantively meaningful correlation between extrinsic and intrinsic dimensions. In the absence of such correlations, causal pathways would not be a concern for this study. However, even if extrinsic satisfaction and sources of intrinsic satisfaction were found to be negatively correlated, determination of the exact causal relationships would be beyond the scope of this study. Thus, regardless of which satisfaction conceptual viewpoint was supported, further research would be necessary to determine underlying causal relationships.

(A) Direct causal path between extrinsic (E) and intrinsic (I) satisfaction

(B) Indirect causal path between some unknown third source and extrinsic (E) and intrinsic (I) satisfaction

Figure 3.6: Possible causal pathways for extrinsic and intrinsic satisfaction when they are correlated.

To conclude, neither the extrinsic detriment satisfaction model nor the intrinsic independence satisfaction model could be proved by the design and methods of analysis used in this study. However, either viewpoint could be shown to be doubtful, thereby suggesting directions for further study. Whatever the precise causal relationship between extrinsic monetary and intrinsic satisfaction, if the extrinsic

detriment model was true, a meaningful negative correlation would be expected. If no substantive negative correlation was found, the monetary detriment theory which predicted a decrease in intrinsic satisfaction due to the mere receipt of extrinsic rewards would be shown to be inaccurate. However, only if there were woodworkers in the sample who perceived money as the salient control would the attitude detriment theory be refuted. For this study, given an absence of a meaningful negative correlation, particular causal pathways would be immaterial because all possible pathways pertinent to the extrinsic detriment model would be excluded. If extrinsic monetary and intrinsic sources of satisfaction were found to be uncorrelated, the intrinsic independence model would be supported.

Comparison of Amateur and Professional Woodworkers: Issues and Expectations

The third hypothesis of the study that professionals and amateurs experienced different amounts of satisfaction from woodworking was of interest for several reasons. However, prior to discussing the underlying issues of interest, it is first of all necessary to clarify the criteria used to dichotomize woodworkers. Because the independent variable of professional or amateur status was determined on three different criteria, this section begins with a discussion of those criteria. Once the reasoning behind the selections has been reviewed, theoretical issues and research expectations for the hypotheses examining the means of the two groups of woodworkers on the SAW satisfaction scales can be discussed.

Professional and amateur woodworking status. As was noted previously in this chapter, "professional" and "amateur" were terms that had several connotations. The most frequent usages suggested evaluation of skill or occupational employment. Although it did not seem possible to assess the technical woodworking expertise of respondents in a questionnaire, it was possible to measure likely indicants of the potential results of skilled craftsmanship. It was reasoned that those who spent a majority of their working time doing woodworking or those who earned a substantial portion of their income from woodworking would be the ones most likely to possess the level of technical expertise designated as professional. Similarly, the occupational connotation of professionalism could be assessed by investigation of hours worked, income earned, or claimed employment status. Thus, in order to provide several likely indicators of professional and amateur status, three criteria were chosen to dichotomize the woodworkers in the sample: self-designation as a job or hobby, percentage of total working time spent woodworking, and percentage of total income earned from woodworking. Based on these dimensions, three alternate forms of professional and amateur status were employed as the independent variable in the third hypothesis of the study. The use of three criteria enabled both clarification of specific terminological meanings and investigation of conceptual issues of interest.

Comparison issues and expectations. There were several conceptual issues of interest underlying the hypothesis in the third part of the study that professionals and amateurs experienced different amounts of satisfaction from woodworking. A few studies were mentioned in

the "Review of the Literature" that suggested that work and leisure were often perceived as polar opposites. It was clear in Terkel's book, Working (1972), that many Americans perceived work as an unsatisfying hassle and leisure as a desired goal. In addition, some theorists defined "intrinsic" in such a way as to exclude extrinsic rewards. The implication of such definitions was that since one got paid for work, there could be no intrinsic satisfaction in the activity. One method for evaluating such views that work and leisure were opposites was to compare those who did a similar activity, such as woodworking, as a job and as an avocation.

Borg and Gall (1971) suggested that one way to identify potential causal relationships was to compare two groups that were similar except on a particular variable of interest. A thorough investigation of the demographic traits of the respective amateur and professional groups was not made, but the sample had been chosen from a rather narrowly defined specific population which provided some evidence of common characteristics. Although there may have been other differences, distinct variation among the subjects definitely existed on each of the three criteria of professional and amateur status: self-designation, hours, and income. Thus, by comparing the professional and amateur groups of woodworkers in the sample, it was possible to derive data that would provide further information about the satisfaction experienced from those who did an activity as work as compared to those who did it for leisure.

The general issue of enjoyment experienced in work and leisure could be investigated by comparing the satisfaction of professional

and amateur woodworkers. However, the third hypothesis also permitted another method for testing the specific implications of the extrinsic detriment model outlined previously. Application of the extrinsic detriment model could be made to all three professional and amateur status dimensions, but the discussion which follows is limited to consideration of the monetary criterion. Because money was frequently used in experimental situations as a representative extrinsic reward, and because the conceptual issues are parallel for all the criteria, this specific focus seems legitimate. Thus, the extrinsic detriment model and its implications for the third hypothesis are now discussed.

Implications of the extrinsic detriment theory. As noted in previous discussion, there were really two components included under the rubric of the extrinsic detriment model. First, popular belief and some previous research suggested that receiving money for doing a job in some way ruined or detracted from the enjoyment of the experience itself (money detriment theory). Secondly, Deci (1975) clarified that it was not merely the earning of money that decreased intrinsic features, but rather, it was the person's perception of money as the salient controlling feature that had a diminishing effect on intrinsic dimensions (attitude detriment theory). Although the outcomes that would be suggested by both theories were the same, the attitude detriment theory clearly provided a more stringent criterion.

The critical feature of the popular belief aspect of the extrinsic detriment theory was the receiving of or earning of money for the task. Because one of the independent variable criteria had used income to dichotomize the sample into professional and amateur groups, a

comparison of the amount of satisfaction of professionals and amateurs could provide the information necessary to test the money detriment component of the extrinsic detriment theory. By using the other two criteria of professional and amateur status, it would be possible to make more general statements (not just limited to income) about those who did woodworking as a job as compared to those who did woodworking as a leisure activity.

The second component of the extrinsic detriment model, perception of money as the salient control or the "locus of external causality," could not be assessed as directly. Perception of control was difficult to measure, both because it was an internal cognitive process and because of the potential social desirability bias which might arise if one were asked directly if woodworking was done mainly for the money it provided. Nonetheless, there seemed to be a way to investigate this second more stringent component of the extrinsic detriment model as well.

If money was perceived as the salient controlling reason for doing woodworking, then unless a woodworker earned a substantial portion of income from the craft, it seemed unlikely that the person would remain involved in the activity. Therefore, it was reasoned that any woodworker who was primarily oriented toward earning money would be in and only in the group of respondents who earned at least 25% of their total income from woodworking. Succinctly stated, it was reasoned that any woodworker who perceived money as the salient control for doing woodworking would be a member of the professional group as determined by the percentage of total income criterion. Although no direct

equivalence between professionalism and external causality could be assumed, it did seem that earning money from woodworking was a necessary condition for perceiving money as the salient control. In short, professional status was used as an operational definition of the external causality concept. Thus, a comparison of professionals and amateurs was also potentially a comparison of respondents who perceived money as the salient controlling reason for doing woodworking to those who did not.

If the extrinsic detriment model was true, it would be expected that perceiving money as the salient control for doing woodworking would detract from the intrinsic enjoyment of the experience. As reasoned above, if respondents perceived money as controlling, they would be members of the professional group. According to the extrinsic detriment model, measures of intrinsic satisfaction would be expected to be smaller for all such professionals whose locus of causality was external. On the other hand, it could be implied from the extrinsic detriment model that the level of intrinsic satisfaction for craftsmen who did not do their work primarily for the money would not be detrimentally affected. More specifically, external rewards would not be expected to affect those whose locus of causality was internal.

If satisfaction measures for the two groups were compared, the outcome predicted for the extrinsic detriment model would be that professionals would have lower intrinsic satisfaction mean scores than amateurs. It would also be expected that professionals would have higher or equal extrinsic mean satisfaction scores. Contrarily, if professionals and amateurs experienced similar amounts of intrinsic

satisfaction, it was untrue that earning money for woodworking was detrimental to potential enjoyment of the process. Although it would be unclear whether money was perceived as the salient control by any of the woodworkers in the sample, if it was, perception of money as controlling would be shown to have no detrimental impact on intrinsic satisfaction. Thus, if professionals and amateurs were found to have similar amounts of intrinsic satisfaction, only the first part of the extrinsic detriment theory could be definitively refuted.

Intrinsic independence theory. In contrast, according to the intrinsic independence theory discussed previously, it was believed that intrinsic satisfaction was possible in either work or leisure activities. If the intrinsic independence theory was true, no substantial difference between professional and amateur group means would be expected.

Comparison of results predicted. The extrinsic detriment model and the intrinsic independence model generally would lead to opposite predictions. Applying the extrinsic detriment model, it would be expected that earning money would have a detrimental impact on intrinsic satisfaction either in itself or when perceived as the salient controlling reason for doing woodworking. Therefore, if professional and amateur woodworkers were compared, it would be anticipated from the extrinsic detriment theory that professionals would have less intrinsic satisfaction than amateurs. In contrast, if the intrinsic independence theory was applied, no necessary impact of earning income on intrinsic satisfaction would be expected. More specifically, the outcome predicted by the intrinsic independence

viewpoint would be a similarity in the level of intrinsic satisfaction for professionals and amateurs.

The research expectations for each of the two viewpoints are diagrammatically represented in Figure 3.7: the outcomes predicted by the extrinsic detriment model in Part A and the outcomes predicted by the intrinsic independence model in Part B. Although it was the comparison of professionals' and amateurs' levels of intrinsic satisfaction that was the dominant interest in the study, expected extrinsic findings for each viewpoint are also listed. Because the comparison of interest was between professional and amateur groups in the third part of the study, it is only those relationships that have bearing. More specifically, the third hypothesis involved the comparison of the professional and amateur groups (independent variable) on the six SAW satisfaction scales which were the dependent variable measures. Thus, in Figure 3.7, the critical relationships are those between horizontal cells, not vertical cells.

Before concluding, it should be noted that although both the second and third hypotheses enabled testing of the extrinsic detriment model, they were not equivalent. The methods of analysis used different information: correlations for the second hypothesis and group means for the third hypothesis. The two approaches also investigated different issues: the relationship of intrinsic and extrinsic satisfaction scales in the second part and the comparison of professional and amateur groups in the third part.

In conclusion, there were two theoretical viewpoints that affected many parts of this study: the extrinsic detriment model and the

	Professional	Amateur
Extrinsic satisfaction	More extrinsic satisfaction	Less extrinsic satisfaction
Intrinsic satisfaction	Less intrinsic satisfaction	More intrinsic satisfaction

(A) Findings expected from application of the extrinsic detriment model

	Professional	Amateur
Extrinsic satisfaction	More extrinsic satisfaction	Less extrinsic satisfaction
Intrinsic satisfaction	Similar intrinsic satisfaction	Similar intrinsic satisfaction

(B) Findings expected from application of the intrinsic independence model

Figure 3.7: Findings anticipated on the SAW satisfaction scales if the extrinsic detriment model were accurate versus findings anticipated on the SAW satisfaction scales if the intrinsic independence model were accurate.

intrinsic independence model. There were two components to the extrinsic detriment model: the money detriment theory that suggested that extrinsic rewards reduced intrinsic satisfaction and the attitude detriment theory that suggested that perception of external rewards as controlling resulted in a decrease of intrinsic satisfaction. On the other hand, the intrinsic independence model suggested that activities could be intrinsically satisfying whether or not extrinsic rewards were involved. Consideration of the implications of these two satisfaction conceptual viewpoints for the three hypotheses investigated in this study enabled clarification of research expectations.

CHAPTER IV

RESEARCH RESULTS

The results of each of the three hypotheses tested in this study are reported and discussed in this chapter. First, the results of the oblique multiple groups factor analysis are described both in terms of the revision and final confirmation of the model of sources of satisfaction in the crafts experience of woodworking. Second, the correlational patterns between extrinsic monetary satisfaction and the four intrinsic satisfaction dimensions are inspected. Finally, the results of the comparison of professional and amateur woodworkers on the satisfaction measures using multivariate analysis of variance are enumerated. Following the report of findings in each of these three areas, there is a brief discussion of the outcomes.

Confirmatory Factor Analysis Results

The first hypothesis was that specific sources of satisfaction could be measured in the responses of woodworkers to the Satisfaction Assessment in Woodworking (SAW) questionnaire. This hypothesis was tested using an oblique multiple groups factor-analytic method. The results of this technique were used for two purposes: to further revise the SAW measurement instrument and to evaluate the hypothesized conceptual model of sources of satisfaction. Although the revision and evaluation tasks were clearly interconnected aspects of a unified

process, the results of each of these procedures are considered separately in order to provide clarification of the methods and findings. Since several refinements were made in the model before the final evaluation, the revision process is considered first.

Revisions of the SAW Questionnaire

One of the benefits of using a confirmatory factor analysis approach was that the impact of minor alterations in the model could be evaluated. Once the initial set of correlation matrices had been produced by the first multiple groups factor analysis, there were several sources of information useful for testing the fit of the conceptual model of sources of satisfaction in woodworking. Refinement of the measurement model was based both on the content criterion and on the statistical results of the multiple groups analysis: item-item correlations, item-factor correlations, the two statistical tests for unidimensionality, and the reliability coefficients for the respective satisfaction scales. Further clarification of the revision process can be made by considering the results on each of these criteria.

The importance of item meaning has been stressed repeatedly throughout this study. In spite of the abundance of statistical results produced by the multiple groups analysis, the pre-eminent consideration for alterations in the measurement model continued to be content. If revision of the Satisfaction Assessment in Woodworking (SAW) instrument was suggested by the statistical data, that change was made in a manner that was consistent with the content. More

specifically, if an item did not meet the statistical criteria for inclusion in a cluster, it was not moved into another cluster unless the meaning was appropriate--even if such an alteration would be allowable given the statistical data. Items that did not fit meaningfully into any of the sources of satisfaction constructs were deleted and placed in a cluster of unusable or "residual" items.

The results of the multiple groups factor analysis provided several statistical aids for determining the proper placement of items in clusters. First, the inter-item relationships in each factor were inspected for patterns of low item-item correlations. If an item had several low item-item correlations with other items in the factor, then it was moved out of the factor. The decision whether to delete the item or move it to another cluster was based initially upon content, consideration of the item-total correlations, and inspection of the inter-item correlations in the prospective factor. Because the model of satisfaction proposed was based on a conceptual structure that related intrinsic sources of satisfaction due to their substantive nature, occasionally it was difficult to determine in which of two highly correlated factors an item fit best. If the results revealed that the woodworkers who were surveyed had not responded to an item as predicted, then the statistical findings were used to initiate appropriate alterations.

Throughout the evaluation and revision process, item-total correlations were used as another source of information upon which to base decisions. Although it was mathematically possible for the highest item-total correlation to be on a cluster other than its own

due to sampling error, an attempt was made to keep items in the factors where they actually loaded the highest.

After several alterations in the composition of clusters based on the initial findings of the multiple groups analyses, there were indications on both the item-item and item-factor matrices that the extrinsic construct contained two related but distinct groupings. Given these findings, the extrinsic dimension was divided into a monetary construct and a status construct. Although there were only three items in the newly formed status cluster, it still functioned quite well on all the statistical indices.

Hunter and Gerbing had noted that the reliability coefficients produced by the oblique multiple groups factor analysis were only unbiased estimates if the clusters were unidimensional (1979, p. 34). Although the statistical tests for unidimensionality were not evaluated until the final pattern was established, examination of the reliabilities or Cronbach "coefficient alphas" provided another source of information during the revision process. Changes in the composition of factors were evaluated by the impact on the respective reliability coefficients.

Thus, the alteration of the location of several items in the SAW measurement model on the basis of the outcomes of preliminary multiple groups factor analyses led to refinements in the assessment of sources of satisfaction. There were a total of 53 satisfaction items in the refined version of the SAW instrument that was submitted for the final factor analysis. There were 12 items for making, 10 items for self-determination, 12 items for competence, 10 items for expression,

6 items for monetary, and 3 items for status. The exact item composition of each factor is presented later in this chapter in Table 4.2. A list of the items deleted from each satisfaction scale because of the multiple groups factor analysis findings is presented in Appendix D.

Results of the Evaluation of the Final Model

Eleven multiple groups factor analyses were performed to evaluate and revise the conceptual model of sources of satisfaction in the crafts experience of woodworking. Having just discussed the revision decisions based upon the preliminary findings, it is now possible to specify the results of this complicated and involved process. The outcomes of the data-analysis procedures at each stage of the multiple groups factor analysis were meaningful in themselves and crucially related to other portions of the sequence. Therefore, it is important to consider each part. The inter-item correlation matrix, the item-factor correlation matrix, the results of the statistical tests for unidimensionality, and the reliability coefficients are all considered in this section.

Inter-item correlation matrix. The data gathered from administration of the SAW questionnaire were submitted to computer analysis using Hunter and Gerbing's PACKAGE program (1979). The inter-item correlation matrix was computed initially and then used as a basis for the oblique multiple groups factor analysis to estimate the parameters of the conceptual model. In actuality, however, the item-item matrix was just one part of the large correlation matrix produced in one output by the computer in Hunter and Gerbing's PACKAGE program. The

complete correlation matrix, which includes the item-item, the item-factor, and the factor-factor regions, is presented in Appendix E. Because the matrix displayed in Appendix E is based on the structure of the eleventh multiple groups analysis, the items are ordered numerically by the respective final sources of satisfaction factors.

Several features of the inter-item correlation matrix were noteworthy. Most importantly, items were generally more highly correlated with other items within their scale than with items in other scales. Although there was an occasional exception, the item-item correlations within respective intrinsic clusters generally ranged from the mid-twenties to lower forties. In the few cases of item-item correlations below .20, there were no consistent patterns for individual items. In the extrinsic monetary factor, most of the correlations were in the forties, fifties, and sixties, whereas in the status factor the mode was in the thirties. Because correlations greater than .11 would be rare (probability less than .05) if the correlation was really zero for the size of the sample tested, all such observed correlations indicated nonzero population correlations (Snedecor, 1946, p. 149). The distribution of item-item correlations for each cluster is presented in Table 4.1. As evident in these figures, items in the respective extrinsic scales were generally more highly correlated than items on the respective intrinsic scales.

Item-factor correlations. One result of the use of communalities in the diagonal of the item-item correlation matrix in the oblique multiple groups factor analysis was that the item-factor correlations were corrected for the attenuation due to the measurement of the

Table 4.1: Distribution of Inter-item Correlations in SAW Satisfaction Constructs Based on Data From 297 Respondents

	0-.09	.10-.19	.20-.29	.30-.39	.40-.49	.50-.59	.60+
Making (I)	0	8	35	19	3	0	1
Self-determination (I)	0	7	14	20	3	1	0
Competence (I)	1	3	30	28	4	0	0
Expression (I)	0	9	17	16	2	0	0
Monetary (E)	0	0	0	2	5	5	3
Status (E)	0	0	0	2	0	0	1

Legend: I = Intrinsic
E = Extrinsic

respective constructs with only a small number of items. Thus, the item-factor correlations reported were for "the estimated correlations between items and cluster true scores" (Hunter & Gerbing, 1979, p. 16). A list of the estimated parameter item-factor correlations for the items in each cluster is presented in Table 4.2.

There were noticeable patterns in the estimates of parameters in the item-factor matrix. First, an item was always in the cluster on which it actually had the highest loading except for five cases in which the loading was within sampling error of being the highest. Second, as evident in Table 4.2, the first four (intrinsic) factors had similar ranges of loadings. As was the case in the item-item correlation matrix, the two extrinsic factors generally had higher loadings than the intrinsic factors.

Table 4.2: Estimated Parameter Item-Factor Correlations Derived From Oblique Multiple Groups Factor Analysis

I-F Cor.	Item No.	Item
		FACTOR 501: THE PROCESS OF MAKING (While Working) (N = 12)
.46	19	I enjoy being able to shape wood materials into an object.
.49	22	The pattern or sense of rhythm in woodworking is enjoyable.
.58	26	The variety and diversity in doing woodworking is satisfying to me.
.55	30	When I am involved in the process of making something, I feel creative.
.58	31	I feel more satisfied while woodworking than I do in most other activities.
.54	32	Woodworking materials are satisfying to work with.
.39	43	I get so involved in making something that I lose track of time.
.56	45	The process of making in woodworking is satisfying.
.54	47	Making something in wood leaves me emotionally restored or revitalized.
.53	50	The opportunity to use my hands is satisfying.
.60	60	Constructing something out of wood is a fulfilling experience.
.48	65	I get more intensely involved in woodworking than I do in other activities.
		FACTOR 502: SELF-DETERMINATION (N = 10)
.40	10	Being able to improvise or be resourceful is one thing that makes woodworking satisfying to me.
.53	12	I enjoy woodworking because of the freedom it allows.
.54	20	When I am making something, there is a satisfying sense of independence.
.60	24	I enjoy woodworking because it enables me to make many choices.
.64	25	Part of my enjoyment in making something out of wood comes from the chances to explore and experiment.
.49	39	Being able to make changes in wood products is important to me.
.60	53	Woodworking provides enjoyable opportunities for individuality.
.63	58	Using my own judgment is a satisfying aspect of woodworking.
.51	69	I enjoy woodworking because I am responsible for what I make.
.50	71	I like the solitude or privacy that woodworking enables.

Table 4.2: Continued

I-F Cor.	Item No.	Item
		FACTOR 503: COMPETENCE (Resultant Feeling) (N = 12)
.53	1	Woodworking gives me a chance to do the things I do best.
.45	6	I enjoy the challenge of woodworking.
.55	13	When I am making something, I feel as if I am in control.
.57	14	Woodworking is satisfying because it enables me to test my skill.
.57	29	When I'm woodworking, I feel like I have "got it all together."
.59	40	Demonstrating my skill in a project makes me feel satisfied.
.59	46	Woodworking gives me a sense of accomplishment.
.51	51	I have an enjoyable sense of mastery in woodworking.
.58	54	Being able to solve problems in wood is satisfying to me.
.45	55	Being able to make something that elicits an appreciative attitude in another gives me satisfaction.
.63	57	When I am woodworking, I feel competent.
.48	64	Doing a project with precision gives me a sense of satisfaction.
		FACTOR 504: EXPRESSION (N = 10)
.47	3	Expressing the nature of the materials in a way that helps others appreciate them gives me satisfaction.
.40	27	It is enjoyable to make something of wood that is pleasing to look at.
.52	35	Finding new problems to solve in wood is something that makes the activity enjoyable.
.62	36	I enjoy being able to put my own personal touch on a piece of woodwork.
.41	42	I enjoy being able to shape the surroundings in which I work with wood.
.55	44	Creating a new design gives me much enjoyment.
.61	61	To create a piece of work that has beautiful form is a satisfying experience.
.58	62	I can use both my physical and mental abilities in woodworking.
.49	67	Helping others to understand and appreciate quality workmanship gives me satisfaction.
.59	73	Communicating my ideas through wood makes me feel good.

Table 4.2: Continued

I-F Cor.	Item No.	Item
		FACTOR 505: MONETARY (N = 6)
.68	15	I woodwork the number of hours I do because if I worked any less I would not be able to earn a living.
.66	23	The rewards I get from woodworking are more outside me (like money) than inside me (like satisfaction).
.86	37	The money I receive is more important than the process of making the object.
.61	49	Earning more money from my products would make woodworking much more enjoyable.
.72	59	The most enjoyable part of woodworking is the income it provides.
.68	70	Basically, woodworking is a job for me--a means of earning a living.
		FACTOR 506: STATUS (N = 3)
.75	8	I am dissatisfied unless I can enter my woodworking in shows or competitions.
.80	38	Getting awards or prizes for my woodworking is a major source of satisfaction.
.49	56	I am concerned with receiving the proper recognition for my work.

Legend: I-F Cor. = Item-factor correlation

Statistical tests for unidimensionality. The accuracy of the parameter estimates derived from oblique multiple groups analysis was dependent on the fit of the model. Thus, although the two statistical tests for unidimensionality were sequentially the last step in the confirmatory factor-analytic method used, they are reviewed next to enable a more logical presentation. There were actually three tests for unidimensionality: content meaning, internal consistency of items,

and parallelism or external consistency of items. The content criterion has already been discussed in this and previous chapters, and it was not statistically measurable. However, Hunter and Gerbing's (1979) PACKAGE program had specific techniques for assessing both the internal and external consistency of factors.

The statistical test for internal consistency of clusters of items was based on the assumption that if a cluster was truly unidimensional, then the errors for each item should be uncorrelated with one another (Hunter & Gerbing, 1979, p. 20). Thus, if the correlation in each item-item relationship that was due to the underlying factor was "partialed out," then the "residual" which remained would be predicted to be zero. As Hunter and Gerbing stated, if the cluster was unidimensional, each partial correlation should be zero to within sampling error (p. 26). The correlation matrix that was the output of Hunter and Gerbing's PARTIAL computer program for this statistical test of unidimensionality is displayed in Appendix F. A perusal of the PARTIAL correlation matrix revealed that out of 239 correlations of interest there were only 9 that were not within sampling error of zero. Because it was not individual values per se but rather patterns of values that were critical, these exceptions were not deemed to be disqualifying. Thus, the delineated factors met the first test of unidimensionality; that is, they were internally consistent.

The second test for unidimensionality was external consistency or parallelism. Basically, this statistical criterion evaluated whether the items in a cluster behaved similarly in relation to other factors. Using Hunter and Gerbing's (1979) SQRR computer program,

"similarity coefficients" were computed as a means to test the parallelism of the items within a cluster. If the cluster was unidimensional, the similarity coefficients would be expected to be 1.00 or -1.00 if the two items were perfectly parallel. The results of this test for external consistency are presented in Appendix G. Of the 239 correlations of interest, all but 2 were above the .85 level. As evident from the magnitude of these correlations, the items formed unidimensional clusters based on the statistical test for external consistency.

Reliability coefficients. Finally, once the factors were found to be unidimensional, the Cronbach "coefficient alphas" or reliability coefficients were used to provide another indication of the strength of the model. More specifically, the reliability coefficients provided estimates of the degree to which the scales measured the underlying factors. The estimated parameter reliability coefficients for the five major factors ranged from .79 to .85 as is portrayed in Table 4.3. The reliability for the status factor formed in response to the multiple groups analysis was .72. Given that all these findings were based on a self-reponse attitude questionnaire, the magnitude of the coefficients was quite adequate.

The results reported from the final factor analysis reflect that following the revisions in the structure of the SAW assessment instrument, the items in each cluster met several criteria: meaningful and consistent content, absence of low inter-item correlation patterns, and highest item loading on the appropriate factor within sampling error. The factors also met the internal consistency and external consistency

tests for unidimensionality, and the reliability coefficients were of substantial magnitude. Thus, once multiple groups factor analytic methods had been used to sharpen the SAW measurement device, the basic conceptual model of sources of satisfaction in the crafts experience of woodworking was confirmed. Given this confirmation, the first hypothesis of the study, that sources of satisfaction could be measured in the responses of woodworkers to the SAW questionnaire, was accepted.

Table 4.3: Estimated Parameter Reliability Coefficients for the SAW Satisfaction Scales[a] (Data from 297 respondents)

Satisfaction scale	Reliability coefficient
Making	.82
Self-determination	.83
Competence	.83
Expression	.79
Monetary	.85
Status	.72

[a]Reliability coefficients were computed using Cronbach alpha technique.

Factor-Factor Relationships

The second purpose of this study was to investigate the relationship between extrinsic and intrinsic sources of woodworking satisfaction. The specific hypothesis of interest was that there was a negative correlation between extrinsic monetary satisfaction and each of the sources of intrinsic satisfaction for woodworkers. The hypothesis was tested in this form for several reasons. First, the monetary dimension of extrinsic satisfaction was focused upon because it was

what common opinion and previous research believed was detrimental to intrinsic satisfaction. Second, the extrinsic monetary scale was more substantial and more reliable than the status scale. Finally, although a negative correlation was stated in the alternate hypothesis, it was expected that this would be rejected.

The results of the estimated population factor-factor correlation matrix produced by the eleventh multiple groups analysis were used to test the hypothesis about the impact of extrinsic monetary satisfaction on sources of intrinsic satisfaction. Although the complete factor-factor matrix is displayed as one part of the large correlation matrix presented in Appendix E, the correlations of interest for testing the second hypothesis are presented in Table 4.4.

Table 4.4: Estimated Parameter Factor-Factor Correlations for Extrinsic Monetary and Intrinsic Sources of Satisfaction (Data from 297 respondents)

	Intrinsic sources of satisfaction				Extrinsic source of satisfaction
	M	SD	C	Ex	$
Process of making (I)	1.00				
Self-determination (I)	.81	1.00			
Competence (I)	.83	.77	1.00		
Expression (I)	.78	.78	.80	1.00	
Monetary (E)	-.09	-.03	.02	.05	1.00

Legend:
M = Making
SD = Self-determination
C = Competence
Ex = Expression
$ = Monetary
I = Intrinsic
E = Extrinsic

The results shown in the estimated factor-factor correlation matrix support the rejection of the alternative hypothesis that there was a negative correlation between extrinsic monetary satisfaction and sources of intrinsic satisfaction. Allowing for sampling error of .11 (at a .05 alpha level for a sample size of 297), the confidence intervals of the correlations between the extrinsic monetary factor and each intrinsic factor always included zero correlation. Since the extrinsic monetary factor appeared uncorrelated with each of the four intrinsic factors, the alternate hypothesis that intrinsic and extrinsic monetary factors were negatively correlated was rejected. These findings provided substantial support for the null hypothesis that there was no correlation between extrinsic monetary and intrinsic sources of satisfaction.

Although not officially a part of the second hypothesis, there was another noticeable characteristic of the estimated factor-factor correlations. As evident in Table 4.4, the four intrinsic factors were highly correlated. The possible meaning of these higher intercorrelations between the intrinsic factors is discussed further in a following section of this chapter. It is sufficient to state here that there was a high correlation among the first four factors and an absence of relationship between them and the extrinsic monetary factor.

Results of the Comparisons of Professionals and Amateurs

The third hypothesis of interest was that professionals and amateurs experienced different amounts of satisfaction from woodworking. This broad hypothesis was tested using a multivariate analysis of variance (MANOVA) technique. Because the independent variable of professional or amateur status was determined on three different criteria, there were actually three MANOVAs. The approximate F ratios, degrees of freedom, and levels of significance for each MANOVA test are presented in Table 4.5. As evident from the data in Table 4.5, no matter which criterion was used to define professional/amateur status, the MANOVA F-tests were statistically significant at the .05 alpha level. Thus, on each determination of the independent variable, the alternate hypothesis that professionals and amateurs experienced different amounts of satisfaction from woodworking was accepted.

However, in order to determine the substantive meaning of statistically significant MANOVA F ratios, univariate analyses were computed and group means were inspected. Analysis of variance (ANOVA) techniques were used to compare professional and amateur group means on each of the six SAW satisfaction measures. Since there were three ways of determining professional and amateur status, there were actually 18 ANOVAs. For every ANOVA F test that was significant at the .05 alpha level, the group means were examined in order to determine the direction of the difference. Although there is a complete listing of all the data for the 18 ANOVA tables in Appendix H and for all the group

Table 4.5: Statistical Results of the MANOVAs Comparing Professional and Amateur Group Means on SAW Satisfaction Scales[a]

Professional and amateur as determined by	Number of cases	Approximate F[b]	Hypothesis degrees of freedom	Error degrees of freedom	Significance of computed F
Self-designation (B1)	290	29.88	6	283	.00001
Percentage of total work time (B3)	290	25.32	6	283	.00001
Percentage of total income (B17)	287	27.69	6	280	.00001

[a]Tested at the .05 alpha level.

[b]This procedure employed a Wilks lambda approximate F ratio.

means in Appendix I, a summary of the results at each stage of this three-pronged approach is presented in Table 4.6.

As evident in the results reported, on all three independent variable criteria, the F tests comparing the professionals' and amateurs' group scores on the extrinsic monetary and status satisfaction scales were statistically significant at the .05 alpha level. On two of the criteria, self-designation and percentage of total work time, amateurs and professionals also differed on the amount of intrinsic satisfaction from expression. When the group means on each of the dependent variable measures were inspected, it was found that in every case of statistical significance, professionals scored higher than amateurs. Specifically, professionals reported more satisfaction from money, status, and expression than did amateurs on the SAW questionnaire. These differences were all significant at the .05 alpha level.

Comparison of the Three Criteria for Professional and Amateur Status

The three criteria used to determine the professional or amateur status of the woodworkers in the sample have been referred to frequently. The similarity of both the frequencies reported for each of the pertinent background items and the MANOVA results for each of the criteria suggested that the three independent variables might actually have dichotomized the respondents in a quite comparable manner. To examine the relationship between the self-determination, total time, and total income criteria, three cross-tabulations were computed. The advantage of this technique was that it revealed the percentage

Table 4.6: Summary of the Statistical Results of the Comparison of Amateur and Professional Woodworkers Using MANOVAs, ANOVAs, and Directionality of Group Means[a]

Source of data	Independent variable criteria		
	B1 Self-designation	B3 Percentage of total work time	B17 Percentage of total income
MANOVAs	S	S	S
ANOVAs			
Making (I)	NS	NS	NS
Self-determination (I)	NS	NS	NS
Competence (I)	NS	NS	NS
Expression (I)	S p>a	S p>a	NS
Monetary (E)	S p>a	S p>a	S p>a
Status (E)	S p>a	S p>a	S p>a

Legend: B = Background item number
I = Intrinsic
E = Extrinsic
S = Significant at the .05 alpha level
NS = Not significant
p = Professional woodworkers
a = Amateur woodworkers
> = Greater than

[a]The 18 complete ANOVA tables are presented in Appendix H and the 18 pairs of professional and amateur group means are presented in Appendix I.

of agreement between each pair of variables on how the respondents in the sample were dichotomized. The three cross-tabulation tables are presented in Table 4.7.

For each of the pairwise comparisons in Table 4.7, the percentage of woodworkers who were classified as amateurs on one criterion who were also classified as amateurs on the other criteria is displayed in cell W. Similarly, in cell Z of each cross-tabulation, the percentage of professionals on one criterion who were also classified as professionals on the other criteria is displayed. By adding the percentages in the diagonal cells (W and Z) together, it was possible to determine the total percentage of respondents who were categorized identically as professional and identically as amateur on each of the pairwise item criteria. This total was actually the percentage of agreement between each of the three possible pairs of professional and amateur criteria.

For each of the possible pairwise comparisons of the criteria for professional and amateur status presented in Table 4.7, 85% of the respondents were categorized identically. Specifically, the three background items of the SAW questionnaire (B1, B3, and B17) used for classifying woodworking respondents as professional or amateur produced groups that were in agreement 85% of the time. This finding suggested that the criteria were actually quite equivalent. More precisely, usually craftsmen who spent much working time woodworking earned a substantial portion of their income from the craft and thought of themselves as career woodworkers. Similarly, it was

Table 4.7: Cross-tabulation of Three SAW Criteria for Dichotomizing Woodworkers in the Sample Into Professional (P) and Amateur (A) Groups

I. Self-designation as a job or hobby (B1) cross-tabulated with percentage of total working time spent woodworking (B3)

		Item B3		
		Less than 20 hours per week (A)	More than 20 hours per week (P)	Row totals
Item B1	Hobby (A)	154 (52%) [cell W]	18 (6%) [cell X]	172 (58%)
	Job (P)	25 (9%) [cell Y]	98 (33%) [cell Z]	123 (42%)
	Column totals	179 (61%)	116 (39%)	295 (100%) Diagonal totals: W + Z = 85% X + Y = 15%

II. Self-designation as a job or hobby (B1) cross-tabulated with percentage of total income from woodworking (B17)

		Item B17		
		Less than 25% of total income (A)	25% or more of total income (P)	Row totals
Item B1	Hobby (A)	165 (57%) [cell W]	7 (2%) [cell X]	172 (59%)
	Job (P)	38 (13%) [cell Y]	82 (28%) [cell Z]	120 (41%)
	Column totals	203 (70%)	89 (30%)	292 (100%) Diagonal totals: W + Z = 85% X + Y = 15%

Table 4.7: Continued

III. Percentage of total time spent woodworking (B3) cross-tabulated with percentage of total income from woodworking (B17)

		Item B17		Row totals
		Less than 25% of total income (A)	25% or more of total income (P)	
Item B3	Less than 20 hours per week (A)	170 (58%) [cell W]	9 (3%) [cell X]	179 (61%)
	More than 20 hours per week (P)	33 (12%) [cell Y]	80 (27%) [cell Z]	113 (39%)
	Column totals	203 (70%)	89 (30%)	292 (100%) Diagonal totals: W + Z = 85% X + Y = 15%

generally true that those who spent few hours woodworking earned little income and considered woodworking a leisure activity.

Interpretation and Discussion of the Research Findings

Interpretation and discussion of the statistical results from each of the three different parts of the study is made in this section. Discussion of the confirmatory factor-analytic process, the patterns in the findings of the multiple groups analysis, and the direction of the differences between professionals and amateurs is included in order to elucidate the meaning of the mathematical figures.

Dual Use of Confirmatory Factor-Analytic Results

As evident from the description of the process and from the number of oblique multiple groups analyses done, the confirmatory techniques specified by Hunter and Gerbing (1979) were used both to revise and to evaluate the fit of the sources of satisfaction model. In fact, one of the strong advantages in this particular method was that it allowed for an approach that combined some of the best features of both blind and confirmatory factor-analytic methods. By using the results of the first several multiple groups analyses to refine the measurement model, it was possible to arrive at a stronger instrument with conceptually tighter constructs. Once the SAW questionnaire had been refined, it was then possible to test the fit of the model. Thus, maximum use was made of the results of the multiple groups factor analyses by employing them in a dualistic manner.

Multiple Groups Results

There were several patterns that were noticeable in the findings of the final confirmatory factor analysis. First, the subgroupings of extrinsic monetary and status items were noticed in the results of the initial multiple groups analyses. Although the conceptual model was revised to account for the separation of these two groups, not much attention was paid to the status dimension. There were several reasons for this lack of consideration. Because this was a study focusing primarily on intrinsic satisfaction, less energy was put into development of the extrinsic constructs. In addition, it was the impact of earning money on intrinsic satisfaction that was of

particular interest in this research. Since the status construct had not been intentionally developed from the beginning but rather was a derivative of the statistical analysis, it was not of primary substantive interest. Thus, although the status scale functioned statistically quite well in spite of a limited number of items, it was not deemed appropriate for critical consideration in this study.

The second pattern evident in the results of the multiple groups analysis was the lack of a statistically significant or meaningful correlation between extrinsic monetary and intrinsic sources of satisfaction. As outlined previously, according to the extrinsic detriment model, a decrease in intrinsic satisfaction would be expected either from receiving monetary rewards per se or from perceiving money as the salient controlling reason for involvement in the activity. The SAW extrinsic monetary satisfaction scale had been considered a measure of extrinsic satisfaction from either possible extrinsic detriment condition: satisfaction resulting from earning income per se or satisfaction from perceiving income as the salient control. Although it was believed that neither of the extrinsic detriment conditions was accurate for wood craftspeople, the strength of the results made the rejection of the alternate hypothesis unambiguous. More specifically, the lack of correlation between the SAW extrinsic monetary scale and each of the intrinsic satisfaction scales provided support for the interpretation that the act of earning money for woodworking did not in itself detrimentally affect intrinsic satisfaction. Secondly, either there were no respondents who perceived money as the controlling reason for doing woodworking, or if there were,

perception of money as control did not have a detrimental impact on intrinsic satisfaction. Each of the possibilities in the second instance is discussed further in the final chapter.

Given the lack of correlation between intrinsic and extrinsic sources of satisfaction, the issue regarding the causal pathway was resolved for the purpose of this study. As delineated in the previous chapter, if the extrinsic detriment model applied, a reasonably strong correlation would be expected regardless of whether the causal pathway was direct from extrinsic to intrinsic dimensions or indirect through some common underlying third source. But since no significant correlation was found, all possible causal pathways pertinent to negatively correlated extrinsic monetary and intrinsic satisfaction relationships were excluded.

The last pattern observed in the results of the multiple groups analysis was the high correlations among the intrinsic factors. Because items had been written to specifically measure intrinsic sources of satisfaction, there was an expectation that these factors would correlate substantially. However, the magnitude of the correlations between the factors did raise some concerns about whether woodworkers had clear ideas about the distinct sources or whether there was really one common underlying factor. This concern, suggested by the high intrinsic factor-factor correlations, did not reflect a problem with the measurement instrument. Rather, it raised further questions about what was the underlying cause of craft satisfaction. As stated previously, the techniques used in this study did not specifically examine causal pathways, so further research would be

necessary to clarify this issue. There is additional discussion of this concern and specification of some of the potential implications in the next chapter.

MANOVA Results

The results of the comparison of professional and amateur group means on the dependent variable measures of sources of woodworking satisfaction were also not those predicted by popular belief or previous theory. As was discussed in the last chapter and represented in Figure 3.7, if the extrinsic detriment model was accurate, one would expect there to be a difference between the level of intrinsic satisfaction experienced by professionals and amateurs. However, on 10 of the 12 univariate comparisons of means on the respective dependent variable intrinsic satisfaction measures, there were no statistically significant differences between amateurs and professionals. On two separate criteria for determining professional and amateur status, there was a difference in group means for the intrinsic satisfaction dimension of expression--but the differences were in the opposite direction of what would be predicted from the extrinsic detriment model. Specifically, professional woodworkers experienced more intrinsic satisfaction than amateurs due to expression. Thus, there were generally no differences in the level of intrinsic satisfaction experienced by professional and amateur woodworkers and when there was a difference, it was in a direction contrary to that suggested by popular opinion and some prior research.

There may be many possible ways to account for such findings. However, the most obvious explanation seems to be that it was possible to get intrinsic satisfaction from the craft of woodworking as either an amateur or a professional. It did not matter whether "professional" and "amateur" were defined by self-categorization as a job or hobby, by the earning of substantial or inconsequential income, or by working many hours per week as opposed to few. In fact, each of the independent variable criteria produced similar results. Possible explanations for the 2 cases out of 12 in which professionals actually reported more intrinsic satisfaction than amateurs might be that woodworking full time actually provided more opportunities for intrinsic satisfaction or that professionals were more driven to create and thus got more satisfaction from creative expression. Whatever the reasons, there was a strong and unambiguous finding that professionals did not experience less intrinsic satisfaction than amateurs. The research results were not only contrary to popular beliefs, but they also discredited previous research that external rewards had a detrimental effect on intrinsic satisfaction.

In addition to the findings on the intrinsic measures, the results of the MANOVAs also revealed that no matter which professional/amateur criterion was used for the independent variable and no matter which extrinsic satisfaction measure was used for the dependent variable, professionals experienced more extrinsic satisfaction from woodworking than did amateurs. Although comparisons of professional and amateur woodworkers on the extrinsic dimensions were not the focus of this investigation, the outcome appeared congruent with what

one might expect. Since amateurs probably had other sources for getting extrinsic satisfaction in their regular occupations, it seemed likely that professional woodworkers would experience more satisfaction from earning money or receiving recognition for their woodworking. These results that professional woodworkers experienced more extrinsic satisfaction than amateurs and still experienced similar amounts of intrinsic satisfaction added further logical support to the rejection of the extrinsic detriment theory.

Summary

The results of each of the three hypotheses tested in this study were reported and discussed in this chapter. The findings of the initial oblique multiple groups factor analyses were used to refine the measurement model. Once the SAW instrument was revised, the clusters of items were evaluated and found to meet several criteria. The confirmed factors were composed of items that had: meaningful and factor-consistent content, few low item-item correlations, the highest loadings on their respective cluster within sampling error, internal consistency, and external consistency. Thus, once multiple groups factor-analytic methods had been used to sharpen the SAW measurement device, the factors were found to be unidimensional and the conceptual model was confirmed. Given these findings, the working hypothesis that specific sources of satisfaction could be measured in the responses of woodworkers to the Satisfaction Assessment in Woodworking questionnaire was affirmed.

The second hypothesis of interest, that there was a negative correlation between extrinsic monetary satisfaction and sources of intrinsic satisfaction, was rejected. Using the results from the estimated factor-factor correlation matrix produced by the multiple groups analysis, it was found that there was no statistically significant relationship at the .05 probability level. This result was contrary to the common belief and the previous research that suggested that earning money ruined or detracted from the intrinsic satisfaction of an experience.

The third hypothesis of interest was that professionals and amateurs experienced different amounts of satisfaction from woodworking. Based on the results of MANOVAs, ANOVAs, and comparisons of group means, it was found that professionals experienced more extrinsic satisfaction than amateurs. However, there were generally no differences in the level of intrinsic satisfaction experienced by professional and amateur woodworkers. In the 2 instances out of 12 where a statistically significant (at the .05 alpha level) difference occurred, professionals actually experienced more intrinsic satisfaction due to expression than amateurs. Once again, these findings were contrary to those suggested by the extrinsic detriment model. Thus, the alternate form of the third hypothesis was accepted but the univariate follow-ups to the MANOVA techniques revealed that professional and amateur woodworkers generally experienced similar amounts of intrinsic satisfaction.

In short, the conceptual model of sources of woodworking satisfaction was confirmed and the extrinsic detriment theory was shown to be

inaccurate for woodworkers in two different ways: first, using a correlational method and second, using a MANOVA method. Having reported these results of the research undertaken, it is now possible to state some conclusions and note the implications of this investigation.

CHAPTER V

SUMMARY AND CONCLUSIONS

In this chapter, the conclusions drawn from the study of sources of satisfaction in the craft experience of woodworking and the implications for further research are enumerated. First, the results of the three hypotheses tested are briefly summarized. Second, the conclusions of the investigation are outlined and discussed within the context of previous research. Third, the potential generalizability of the results of the study is reviewed. Finally, the implications of the investigation are considered, and suggestions for further research are offered.

Summary of Research Results

The three parts of this study investigating intrinsic and extrinsic sources of satisfaction in the craft experience of woodworking included:

1. the development of a conceptual model of craft satisfaction and the construction of the Satisfaction Assessment in Woodworking (SAW) questionnaire to measure the hypothesized satisfaction constructs;

2. the examination of correlational patterns between the SAW sources of intrinsic and extrinsic monetary satisfaction which were computed using an oblique multiple groups factor analysis method; and

3. the comparison of amateur and professional woodworkers on the six SAW satisfaction scales using multivariate analysis of variance (MANOVA) techniques.

The results of the testing of the hypotheses related to each of these three parts of the study are briefly summarized in this section.

Craft Satisfaction Model and SAW Questionnaire

Based on both personal experience and review of the literature from fields such as art, recreation, occupational therapy, and psychology, a conceptual model of potential sources of craft satisfaction was developed. The Satisfaction Assessment in Woodworking (SAW) self-report instrument was constructed to measure the hypothesized sources of craft satisfaction. Following administration of the questionnaire to a pilot group of 89 woodworkers, unproductive items were deleted from the initial SAW instrument. The revised format was given to a sample of conference-attending woodworkers. Including the respondents to the pilot instrument, 297 woodworkers completed the SAW questionnaire. Using the data gathered, further alterations were made in the measurement instrument based on the results of the oblique multiple groups factor analysis methods (Hunter & Gerbing, 1979).

After some refinements in the SAW measurement instrument based on the initial results of the oblique multiple groups factor analysis method, the items in each factor met several criteria: meaningful and consistent content, absence of low inter-item correlation patterns, and highest item loading on the appropriate factor within sampling error. The item-item and item-factor correlation coefficients were found to be of sufficient magnitude, the factors met the internal consistency and external consistency tests for unidimensionality, and the reliability coefficients were of

substantial magnitude ($\rho \geq .79$). Thus, once multiple groups factor analytic methods had been used to sharpen the SAW measurement device, the basic conceptual model of sources of satisfaction in the crafts experience of woodworking was confirmed. Six sources of satisfaction were substantiated in the multiple groups factor analytic process: four intrinsic sources (the process of making, self-determination, competence, and expression) and two extrinsic sources (monetary and status). Given the confirmation of the measurement model, the first hypothesis of the study that sources of satisfaction could be measured in the responses of woodworkers to the SAW questionnaire was accepted.

Factor-Factor Correlation Patterns

In the second part of the study, the hypothesis of interest that there was a negative correlation between extrinsic monetary satisfaction and sources of intrinsic satisfaction was rejected. Using the results from the estimated factor-factor correlation matrix produced by the multiple groups analysis, the confidence intervals of the correlations between the extrinsic monetary factor and each intrinsic factor always included zero correlation at the .05 alpha level. The absence of a statistically significant relationship was a result that was contrary to the common belief and the extrinsic detriment model that earning money or perceiving money as the salient control detracted from the intrinsic satisfaction of an experience.

Comparison of Amateur and Professional Woodworkers

In the third part of the study, the hypothesis of interest that professionals and amateurs experienced different amounts of satisfaction from woodworking was accepted. Multivariate analysis of variance (MANOVA) techniques were used to test this hypothesis, but since the independent variable of professional or amateur status was determined on three different criteria, there were actually three MANOVAs. Based on the results of each of the three MANOVAs, which were followed by univariate analyses (ANOVAs) and examination of the direction of difference of the group means, it was found that professionals experienced more extrinsic satisfaction than amateurs. However, there were generally no differences in the level of intrinsic satisfaction experienced by professional and amateur woodworkers. In the 2 instances out of 12 where a statistically significant difference (at the .05 alpha level) occurred, professionals actually reported more intrinsic satisfaction on the expression scale than did amateurs. Thus, the findings were not only contrary to what would be expected by the extrinsic detriment model, but when statistically significant differences did occur, they were in the opposite direction of what would be predicted. In summary, the alternate form of the third hypothesis was accepted, but the univariate follow-ups to the MANOVA techniques revealed that professional and amateur woodworkers generally experienced similar amounts of intrinsic satisfaction. Such outcomes made the accuracy of the extrinsic detriment model doubtful. It also raised questions about whether any craftsmen who perceived money as the salient controlling reason for doing woodworking existed in the sample.

Conclusions and Discussion

Given the hypotheses tested in this study and the magnitude of the data gathered from the questionnaire, there were ample research findings from which to draw conclusions. In an attempt to limit the discussion, only the major conclusions and implications are considered. As Cornfield and Tukey (1956, pp. 912-913) clarified, inferences can be made on both statistical and logical grounds. Logical inference extends the findings to the population that is strictly "'like those observed.'" Following their reasoning regarding logical inference, the conclusions in this section are applied to the population of conference-attending woodworkers that is similar on major demographic and background characteristics to the woodworkers in the sample. After conclusions have been stated for the population investigated in this research, the legitimacy of generalizing to other populations is discussed in the following section. To highlight the significant findings for each part of the study and place them in the context of previous research, a tripartite approach is used again.

Conceptual Model of Craft Satisfaction and SAW Measurement Instrument

The confirmation of the six SAW satisfaction scales as unidimensional and reliable measures of the hypothesized underlying constructs led to the conclusion that:

> the conceptual model of craft satisfaction provides useful indicants of potential intrinsic and extrinsic sources of satisfaction.

Although the extrinsic dimensions of monetary and status satisfaction were noted, it was the intrinsic factors that were of predominant

interest. Because the factors had satisfactorily met several statistical criteria in the multiple groups factor analysis techniques, it was concluded that:

> the process of making, self-determination, competence, and expression are distinct sources of intrinsic satisfaction.

There were two implications embedded in the conclusion of distinct intrinsic sources of satisfaction: recognizability (possession of concepts and recollectability) and measurability. As mentioned in the "Review of the Literature" and in the discussion of research issues and expectations, there was some question as to whether people could actually delineate components of satisfaction. Andrews and Withey (1976) had posited awareness of only pre-reflective perceptual organization systems and Begly (1979) had found a unitary structure. Gardner's (1973) findings and Buck's (1976) statements based on theories of development could also be used to support the potential lack of distinguishability because they believed that intrinsic dimensions were initially undifferentiated in children. Although such studies raised questions, it was still unclear whether the difficulties of assessment were due to the specific methods utilized or rather due to the nature of intrinsic satisfaction per se.

The outcome of the multiple groups factor analysis used in this study allowed support for the contrary viewpoint that distinct intrinsic components were both recognizable and measurable. More specifically, woodworkers in the sample did seem to possess enough ideas about different satisfying aspects of woodworking to enable them to adequately respond to SAW questionnaire items. Although either the process of evaluating the experience or retrospective analysis may

have altered the reported assessment of satisfaction, these possibilities were deemed unlikely because satisfaction was believed to be the result of a cognitive evaluation.

It should be noted, however, that even though the SAW intrinsic satisfaction scales were found to be distinct, they were also found to be strongly intercorrelated (as was portrayed in Table 4.4). Although it was expected that the scales would correlate substantially given that items had been written to specifically measure intrinsic sources of satisfaction, the magnitude of the correlations did raise some concern. Statistically, distinct scales had been found, but did this correspond to distinct sources of satisfaction in the experience of woodworkers? Was there really one common underlying source that predominantly determined specific sources?

As stated previously, delineation of the causal relationships could not be answered by the techniques used in this study but could be examined by investigating the causal pathways. The results of this study suggested that there were four distinct intrinsic satisfaction sources that were strongly related. A potential causal model which incorporated both a common general intrinsic source and respective specific sources (making or self-determination or competence or expression) seemed quite conceivable, but further research using other techniques would be necessary to substantiate such causal relationships.

The causal issue just raised should not be confused with the measurement issue. Because the SAW instrument was based on a broad and substantial conceptual foundation, a careful construction process, a sufficient number of items, and an appropriate statistical

methodology, it was expected that if specific sources of woodworking satisfaction existed, the SAW instrument could adequately measure woodworkers' experience of them. From both the verbal and written comments of respondents and from the statistical analysis of the more than 33,000 questionnaire item responses, it seemed clear that the hypothesized satisfaction constructs were behaviorally defined and presented in a manner that was understandable to woodworkers. Thus, it was concluded that:

> The Satisfaction Assessment in Woodworking (SAW) questionnaire is a useful tool for measuring the sources of satisfaction experienced by woodworkers.

Relationship of Extrinsic Monetary and Intrinsic Sources of Satisfaction

In the second part of the study, the alternate hypothesis that there was a negative correlation between extrinsic monetary and intrinsic sources of satisfaction was rejected. Because the confidence intervals of the estimated correlations between the extrinsic monetary factor and each intrinsic factor always included zero correlation, the null hypothesis that there were no correlations was supported. Based on these research findings that there were no statistically significant correlations between extrinsic monetary and any of the intrinsic sources of satisfaction, it was concluded that:

> extrinsic monetary satisfaction did not negatively affect the making, self-determination, competence, or expression intrinsic sources of satisfaction.

Because the SAW extrinsic monetary satisfaction scale had been considered a measure of extrinsic satisfaction from either possible extrinsic detriment condition (satisfaction resulting from earning

income per se or satisfaction from perceiving income as the salient control), the results of the hypothesis tested could be legitimately applied to evaluation of the applicability of the extrinsic detriment model. Given that the research results actually found were contrary to those predicted by the extrinsic detriment model, it was concluded that:

> the extrinsic detriment model is inaccurate for the defined population of woodworkers.

More specifically, the lack of significant correlations between the SAW extrinsic monetary scale and each of the intrinsic satisfaction scales provided support for the interpretation that:

> the act of earning money for woodworking does not in itself detrimentally affect intrinsic satisfaction.

Thus, the money detriment theory was refuted for the previously defined population of woodworkers. With regard to the attitude detriment theory, it was concluded that:

> either there were no respondents in the survey population who perceived money as the controlling reason for doing woodworking or if there were, perception of money as the salient control does not have a detrimental impact on intrinsic satisfaction.

Thus, there was no detrimental impact on intrinsic dimensions as would be predicted from the extrinsic detriment model. Because these outcomes were actually consistent with those that would be suggested by the intrinsic independence theory, it was concluded that:

> the intrinsic independence model is accurate for the defined population of woodworkers.

Comparison of Amateur and Professional Woodworkers

Several conclusions were drawn from the findings in the third part of the study that professionals and amateurs experienced different amounts of extrinsic satisfaction and generally experienced similar amounts of intrinsic satisfaction. Prior to discussing the differences on the dependent measures, however, a few comments are made about the three criteria used for determining professional and amateur status.

Although there was initial concern over careful delineation of professional and amateur status, the results of both the cross-tabulated comparison of the criteria and the MANOVA-ANOVA-direction-of-means process provided support for the conclusion that:

> self-designation, percentage of total working time spent woodworking, and percentage of total income earned from woodworking were criteria that dichotomized the woodworkers in the sample into very similar professional and amateur groups.

Implied in this conclusion was the view that even though there were various criteria for determining professional or amateur status, in actuality, they all seemed to be reflecting common core features.

The results of the multivariate analyses and the univariate and direction-of-means follow-ups provided the data for several conclusions. First, given the results for the respondents in the sample, it was concluded that:

> woodworkers in the defined population experience similar levels of intrinsic satisfaction from woodworking regardless of whether the craft is done as an occupation or as an avocation.

Since the level of intrinsic satisfaction was similar for professionals and amateurs in the sample on each of the money, time, and self-perception criteria, it was also concluded that:

> being involved in woodworking as a professional is not detrimental to intrinsic satisfaction.

These conclusions were interesting in themselves because of the frequent polarization of work and leisure. At least for the woodworkers in the population, the stereotypic view that work and leisure led to opposite amounts of satisfaction was shown to be fallacious.

The results of the statistical comparisons of professional and amateur group means could also be applied to theoretical models of satisfaction. Woodworkers in the sample had been divided using income as the criterion such that the professional group contained those earning more than a minimal amount of money from woodworking and the amateur group contained those who earned little or no money from woodworking. Given this dichotomization on the independent variable, the comparison of professionals and amateurs provided a way to evaluate the money detriment theory of the extrinsic detriment model. The statistical results that the professional and amateur group means were similar or in a quantitative relationship opposite to what would be predicted from the theory made it clear that receiving money did not have the anticipated detrimental impact on intrinsic satisfaction. In view of these findings, it was concluded that:

> the money detriment theory of the extrinsic detriment model is inaccurate for the woodworkers in the population.

As was discussed in the section on research expectations at the end of the third chapter, the only way to test the attitude detriment theory was to assume its veracity and then look for the predicted results. In order to test the theory, it had been reasoned that if

there were woodworkers in the survey population who perceived money as the salient controlling reason for doing woodworking, then they would be in and only in the professional group. Similarly, it was reasoned that the amateur group would contain those who did not perceive money as the controlling reason for doing woodworking. Employing this reasoning, it was possible to use the results of the comparison of professionals and amateurs to test the attitude detriment theory of the extrinsic detriment model. The statistical results that amateurs experienced the same or more intrinsic satisfaction than professionals was contrary to what would be expected if there were woodworkers in the sample who perceived money as the salient control and if the attitude detriment theory was true. But since there was no way to determine in this study whether there actually were woodworkers in the sample who perceived money as the salient control, only conditional conclusions could legitimately be drawn:

> if there were any woodworkers in the survey population who perceived money as the salient controlling reason for doing woodworking, then the attitude detriment theory of the extrinsic detriment model is refuted for the woodworkers in the population.

Although the possibility that there were no woodworkers in the survey population who perceived money as the salient control for their woodworking would prevent the refutation of the attitude detriment theory, it was, nonetheless, a possibility that was of interest. As mentioned previously, perception of money as the salient control was not easy to determine. However, it seemed conceivable that there were actually few, if any, "external causality" woodworkers in the survey population. Because occupational woodworking was a labor-intensive

business, it was rare for even the highly skilled craftsmen to earn more than a moderate income. Therefore, if earning money was the primary goal, it seemed unlikely that many would continue to pursue an activity which was by nature contrary to their goal.. But if money was not the predominant interest or the major source of satisfaction for woodworkers, what was? Although the answer to this question is considered further in the next section, the scope of this study and the results reported have suggested unmistakable evidence that woodworkers experienced considerable intrinsic satisfaction.

Even though the results were contrary to those that would be predicted by the extrinsic detriment model, they were exactly consistent with those suggested by the intrinsic independence model. Thus, it was concluded that:

> the theory that is suggested by the intrinsic independence model, that intrinsic satisfaction is not necessarily affected by extrinsic rewards, is accurate for the woodworkers in the population.

Before ending this section it can be noted from the conclusions drawn from the second and third parts of the study that the extrinsic detriment model was refuted in this study in two different ways. The results of the testing of the second hypothesis disconfirmed the extrinsic detriment model because the negative correlation patterns that would be predicted between extrinsic monetary and each of the intrinsic satisfaction scales were not found. In the third hypothesis, professional and amateur group means were compared and found to be related contrary to what would be predicted from the extrinsic detriment model. Thus, two different methodological approaches substantiated

the same conclusion that the extrinsic detriment model is inaccurate for the woodworkers in the defined population.

Having outlined the specific conclusions related to the research results of the three parts of this study, it is now possible to make some broader statements regarding the potential generalizability of the findings.

Generalizability of Results

The results reported and the conclusions drawn from the investigation have been limited in reference up to this point to the population of woodworkers demographically similar to the respondents assessed. In this section, generalizations that might be warranted given the design methodology and the characteristics of the sample are discussed. After the applicability of the findings to other groups has been reviewed in this section, the broader implications are considered in the next section.

In an attempt to reach those who were interested in and involved with woodworking, craftsmen who paid to attend a woodworking conference were selected as the population of interest. Strict survey research methods were not used, but the survey population did include woodworkers from two different woodworking conferences held in two different geographical regions of the United States. Although a claim of representativeness of all American conference-attending woodworkers was not warranted from the sampling methodology, there were reasons to suggest that it was likely that the results of the study were applicable to such a population. In fact, there was a sound logical basis for

suggesting that the conclusions might be applicable not only to conference-attending woodworkers, but also to woodworkers in general and even to craftsmen using other media. Given the breadth of inclusion suggested, explication of the underlying reasoning seems necessary.

Conclusions regarding sources of satisfaction in the craft experience, the lack of negative relationship between extrinsic monetary and sources of intrinsic satisfaction, and the generally similar amounts of intrinsic satisfaction experienced by professionals and amateurs seem potentially applicable to woodworkers in general and other craftspeople for two major reasons: conceptual and demographic. The conceptual reasoning involves the development of the craft satisfaction model, whereas the demographic reasoning involves the background data.

In the myriad resources used as a basis for the development of the sources of satisfaction constructs, distinctions were rarely made between various crafts. Whatever the medium--wood or clay, fiber or glass, metal or some other material--it did not seem to alter significantly the common craft experience. Basically, the same core issues kept appearing in the variety of literary resources reviewed. Given that the development of the sources of craft satisfaction conceptual model was based on the input from several crafts, it seemed quite likely that the model might be applicable to any craft. Although this first reason applies only to the findings from the first hypothesis, it does suggest that the conclusions regarding sources of craft

satisfaction might be generalizable to woodworkers in general and other craftspeople based on the shared common origin of the conceptual model.

Second, the conclusions stated for the survey population might be generalizable to other groups thought to be similar. Because evaluation of the legitimacy of such extrapolation to other populations is based upon an analysis of the similarity of the sample to the proposed group of interest, demographic descriptions and background characteristics of both groups are of central importance. With this use in mind, a substantial portion of the SAW questionnaire was constructed to elicit useful background data.

A description of the characteristics of the woodworkers in the sample has already been provided in the third chapter and in Appendix C, so further review is unnecessary. When the background characteristics of the respondents in the sample were compared to the traits reported in more general surveys for other groups, there was a high degree of similarity. For example, Zehring found that the career craftsmen he interviewed were generally well-educated people "who would succeed in any endeavor" (1977, p. 37). They were also "willing to do hard work for long hours" (p. 38). The results of Hoffman's "Craftspeople Survey" (1977) revealed that there were many similarities between the people from various crafts she surveyed and those in the SAW sample. Specifically, percentages of the sample were closely equivalent on issues such as race, age, educational level, total income, and valuing of quality

craftsmanship. As might be expected, the percentage of females in her sample was considerably greater given her inclusion of other, traditionally female-dominated crafts such as ceramics and weaving. Sommer's survey (1977) also found results for craftsmen in general that were consistent with the findings of this study: general lack of formal training, family history of craft involvement, and low or middle income. In sum, in the three previous general descriptions of craftspeople most pertinent to this study, there were clear and consistent patterns: the woodworkers in the SAW sample usually had demographic characteristics and backgrounds similar to craftspeople in general.

Thus, on the basis of common conceptual grounds and on the basis of background characteristics similar to other groups of craftspeople surveyed, it seemed reasonable to conclude that the woodworkers in the sample of this study shared common core characteristics with other craftspeople. Given these similarities, it was reasoned that the conclusions drawn in this study might be applicable to woodworkers in general and to other craftspeople.

Implications and Research Suggestions

In this final section, implications of the study for several of the issues raised previously are discussed and research suggestions are offered. The issues include the crafts resurgence, sources of craft satisfaction, personality and activity determinants of satisfaction, intrinsic and extrinsic satisfaction, and broad applicability. A consideration of these topics enables a gradual change of focus

from the particularities of the present investigation to the broader perspective of the research context and everyday life concerns.

The Crafts Resurgence

As mentioned in the first chapter, one of the issues which induced interest in the topic of craft satisfaction was the lack of explanations for the craft resurgence. Explanations which considered the nature of the craft experience itself were particularly absent in the literature. Given this dearth, one of the underlying purposes for this study was to investigate the satisfaction potentially available in the crafts to see if it might aid in understanding the increased interest and participation in craft. Having completed that investigation, response can now be made to the motivating concern.

Both in the literature reviewed and in the responses to the Satisfaction Assessment in Woodworking questionnaire, it was unmistakably clear that craftsmen experienced considerable intrinsic satisfaction from involvement in their craft. Thus, although there may be other explanations for the crafts resurgence, the most parsimonious and central explanation seems to be based on the intrinsic satisfaction available in the crafts experience. Four potential sources of intrinsic satisfaction were delineated in this study for the craft of woodworking: the process of making, self-determination, competence, and expression. Although it was believed these aspects might be applicable to other crafts, further investigation of such an expectation would be necessary. Thus, the suitability of the sources

of satisfaction model to other crafts involving different media is one possibility for further research.

Sources of Craft Satisfaction

In describing the gaps in both theory and understanding regarding craft satisfaction, several needs were mentioned in the first chapter. The need for a unified but interdisciplinary approach which used the resources of various fields of inquiry, the need for the development of theories related to satisfaction in general and to specific sources of satisfaction, and the need for assessment devices to measure enjoyment in particular domains of behavior were reviewed. Development of the sources of craft satisfaction conceptual model was intended to address some of these needs. By using the input of studies from several disciplines, the craft satisfaction concept was based on an interdisciplinary foundation. Theories of intrinsic motivation, development, creativity, and reward detriment were applied to the craft experience and put in behaviorally measurable form. The conceptual model was also used to construct an assessment instrument of satisfaction in the craft of woodworking. Thus, the conceptual model of craft satisfaction and the accompanying research and results can be used to address a realm that was previously only tangentially considered and little understood.

In this study, intrinsic sources of satisfaction were the primary focus. However, it should be noted that an option for further research would be the extrinsic sources of satisfaction. The status source of extrinsic satisfaction might be of particular interest because there

were some indications that it may fill an intermediate position between intrinsic and extrinsic monetary sources of satisfaction.

Distinct sources. Six potential sources of satisfaction were delineated in the conceptual model of craft satisfaction developed in this study and measured in the SAW questionnaire. The four intrinsic sources of satisfaction (process of making, self-determination, competence, and expression) were found to be distinct but also highly correlated. Similarly, the extrinsic sources of satisfaction (monetary and status) were also separate but related. Given the mixture of discrete sources and high intercorrelations, some of the theoretical concerns regarding measurability and personality characteristics were only partially resolved. A summarization of these two issues in relation to the research findings enables further clarification of the implications of the study and elucidation of researchable issues.

The question of the measurability of distinct sources of satisfaction was answered by the results of the multiple groups factor analysis of the responses to the SAW instrument. Even though discrete scales were upheld statistically, however, the issue of underlying causal relationships was still unresolved. Was there really one common underlying source that determined responses to questions about separate aspects of satisfaction? Was there really a general sense of enjoyment of the activity which had a "halo effect" on the assessment of specific sources of satisfaction? As mentioned previously, these questions about causality could only be accurately dealt with by employing techniques which investigated causal pathways. Although such an investigation was outside the scope of this study, the examination of the causal

relationships pertinent to sources of satisfaction is another possible area for further research.

Personality and Activity Determinants of Satisfaction

Almost synonymous with the measurement issue was the personality issue. As mentioned in the discussion of the literature reviewed, it was suggested in several studies that satisfaction was a personality characteristic that was nonspecific (Neff, 1977; Robinson, 1977). On the other hand, Csikszentmihaly (1975) and Begly (1979) suggested that both the nature of the activity and personality traits were involved in determining the enjoyment derived from an experience. Although the personality "satisfaction syndrome" (Robinson, p. 118) question could clearly not be settled by this study, there were findings and approaches that were suggestive.

First, it was abundantly clear in both the literature reviewed and in the responses to the SAW questionnaire that in terms of job satisfaction, craftsmen were "an overwhelmingly fulfilled group" (Zehring, 1977, p. 37). Sommer had also noted that the high satisfaction of craftsmen was in marked contrast to the general public: "Not one person . . . showed any connection to the alienated worker" (1977, p. 16). Similarly, the mean scores on the SAW satisfaction scales for both professionals and amateurs reflected that craftsmen frequently experienced satisfaction. These findings suggested that almost all craftsmen surveyed were exceptionally satisfied. It seemed highly unlikely, however, that the satisfaction could be attributed solely to personality. Such a claim would imply that, for some unknown

reason, people who were by nature highly satisfied gravitated toward craft careers. There was no evidence cited in the literature which supported such an improbability. Far more likely was the possibility that the activity itself possessed features that were inherently enjoyable or conducive to satisfaction.

By combining Kelley's criteria (1967) and some of the findings of this study, preliminary suggestive responses were made to the question of whether both personality and the activity affected satisfaction. In the discussion of the review of the literature, it was remarked that Kelley's criteria of consensus, distinctiveness, and consistency were useful for evaluating the respective role of personality and activity dimensions. As just noted above, both in the literature reviewed and in the sample measured, most craftsmen experienced satisfaction from the activity so the consensus criterion seemed met. As evident in the frequency of satisfaction reported by the woodworkers in the sample, such satisfaction did not seem to be a rare event, but rather was quite typical of or consistent with daily experience. However, the question that was still unanswered was whether such satisfaction was distinctive to the crafts experience or whether craftsmen were generally satisfied people no matter what they were doing. Therefore, another possibility for further research would be to assess satisfaction in other domains of life or over-all life satisfaction and compare that to the level of satisfaction reported in craft. However, even if other research found that there was a general "satisfaction syndrome," it would still be necessary to determine causal origins: did general satisfaction determine craft

satisfaction or did craft satisfaction determine general satisfaction? Again, research methods investigating causal pathways would be necessary if these issues were to be explored.

In conclusion, the findings of this study and the literature reviewed about the experience of craftsmen suggested that there was an interaction between personality and the activity in determining satisfaction. Although some few people may have been satisfied no matter what they did and although others would never be satisfied no matter what they did, generally it seemed that the nature of the activity had a bearing on the enjoyment experienced.

Intrinsic and Extrinsic Satisfaction

A major portion of this study was focused on the relationship between intrinsic and extrinsic satisfaction. Respective groups of theories pertaining to these two dimensions were considered for the purposes of this investigation under the labels of the "extrinsic detriment model" and the "intrinsic independence model." Two of the hypotheses tested in the study enabled evaluation of the applicability of each of the satisfaction models. The research results led to the conclusion that intrinsic satisfaction is not detrimentally affected by earning money for woodworking or doing it as an occupation for the woodworkers in the population. Although the generalizability of the results has already been discussed, the implication of the results on several broader issues can be mentioned.

Definitions which limit intrinsic dimensions to realms which are devoid of extrinsic rewards seem both inaccurate and unhelpful. By excluding intrinsic dimensions to nonwork realms, the view has been

perpetuated that work must remain an unsatisfying hassle or a daily drudgery to be endured. Such a viewpoint was not only contrary to a growing amount of research evidence (to which can be added the results of this study), but it was clearly unproductive to personal satisfaction to the extent that people believed in its supposed "truth." In short, work and leisure did not seem polar opposites. As Csikszentmihaly made clear and as the woodworkers in the sample substantiated, the critical factor was the opportunity for satisfaction--not whether the activity was done as work or leisure.

Broad Applicability

Perhaps self-evident in the diverse sources cited in the "Review of the Literature" and in the nature of the constructs in the craft satisfaction model was the unmistakable applicability of the issue of intrinsic satisfaction to many areas of life. The craft experience provided a domain in which to investigate actual experiences of intrinsic satisfaction, but the core concepts seemed to have considerably broader implications. Mentioned throughout this study has been the relation of intrinsic satisfaction to areas such as leisure, art, the process of development, work, creativity, and everyday behavior. Although there are many areas which could be focused upon, this final section concludes with a consideration of the facilitation of enjoyment.

Several authors were cited who discussed the possibility of increasing satisfaction or facilitating enjoyment. Csikszentmihaly (1975) referred to the optimal matching of demand with skill as the calibration of challenge which could enable deep involvement and

enjoyment. Since it did not matter whether the opportunities for action were real or symbolic, it was clear that many activities could be made enjoyable--whether work or play. Similarly, White (1959) spoke of effective interaction with the environment, and Deci (1975) discussed seeking and conquering challenges. Such statements implied that enjoyment could be determined to a large extent by the individual and could occur in any activity, but there was still an apparent gap between the theoretical possibility and the experience of satisfaction itself. Although only a step, it did seem that the conceptual model of sources of satisfaction could reduce the distance between theory and practice and, thereby, perhaps increase the possibility of experiencing increased fulfillment.

Delineation of four possible ways to derive satisfaction from an experience further elucidated possible avenues toward enjoyment. By specifying components of satisfaction, it seemed that attainment could be facilitated. Whether in everyday life or in a therapy context, the concepts of the process of making, self-determination, competence, and expression could function as tools for evaluating activities that frequently seemed unfulfilling, as indicants of potential realms within which to seek satisfaction, or as typical personal styles for obtaining enjoyment. In an era which frequently seems preoccupied with dissatisfaction and distress, attention to issues like intrinsic satisfaction offers a welcome relief and even the possibility of richer and more enjoyable living.

APPENDICES

APPENDIX A

SATISFACTION ASSESSMENT IN WOODWORKING (SAW) QUESTIONNAIRE

AND ACCOMPANYING COVER LETTER (REVISED FORM FOLLOWING PILOT DELETIONS)

MICHIGAN STATE UNIVERSITY

COLLEGE OF EDUCATION
DEPARTMENT OF COUNSELING AND EDUCATIONAL PSYCHOLOGY

EAST LANSING · MICHIGAN · 48824

October, 1980

Dear Woodworker:

In recent years there has been an increase of interest and participation in art and craft. Although there have been some attempts to study these trends generally, there have been few, if any, that have focused on specific crafts. In studies of art or creativity, craftsmen have been ignored. Not much is known about the kind of people we woodworkers are.

We are doing a study to look specifically at the experience of woodworking. The results will be used as part of a larger national study. In this research, an attempt will be made to answer several questions: Is the experience of woodworking satisfying? If so, what are the sources of that satisfaction? Is the experience of woodworking different for those who do it as an occupation as compared to those who do it for leisure? Does getting money change the nature of the enjoyment?

To gather the above information, the attached questionnaire has been constructed to inquire about your experience of woodworking. Since these questions can only be accurately answered by people like you who are involved in woodworking, your assistance is crucial. Effort has been taken to keep the questionnaire as short as possible but still obtain necessary and useful information. Hopefully most of the questions will be interesting since they are about your life and experience with wood. Please respond to all of the questions as well as you can. There are no "right" or "wrong" answers. This is not a personality test. It is your experience and opinion that is most important. Your completion of the questionnaire before leaving the workshop would be very helpful. If you cannot do it today, please do it within one week and return it by mail in the stamped and addressed envelope provided.

By filling out the questionnaire, you give your permission to use the answers for research purposes. Your responses will be dealt with confidentially and you will remain anonymous. As soon as your responses are received, they will be assigned a code number and your name will be removed.

We sincerely appreciate your participation in this study and thank you in advance for your time, effort, and interest. This is a new area of research and we need your help. Any comments or suggestions you have would also be valued. If you are interested in the results of this study or in participating further, please mark the appropriate box at the end of the form. As woodworkers ourselves, we enjoy the process greatly and hope to learn more about it. Thanks for your cooperation and patience.

Sincerely,

William W. Farquhar
William Farquhar, Ph.D
Professor

John Bellingham
John Bellingham
Project Coordinator

SATISFACTION ASSESSMENT IN WOODWORKING (S.A.W.)

This questionnaire is about your experience of woodworking. Read each statement and put an "X" in the ONE box that best represents your experience or opinion regarding woodworking. There are no right or wrong answers. Do not spend too much time on any one question. Please be sure to answer each item.

		1. Almost Always	2. Often	3. Sometimes	4. Seldom	5. Almost Never
1.	Woodworking gives me a chance to do the things I do best.	[1]	[2]	[3]	[4]	[5]
2.	I enjoy making objects that are useful	[1]	[2]	[3]	[4]	[5]
3.	Expressing the nature of the materials in a way that helps others appreciate them gives me satisfaction	[1]	[2]	[3]	[4]	[5]
4.	The completion of a wood project gives me enjoyment	[1]	[2]	[3]	[4]	[5]
5.	When I am woodworking, I prefer to work alone	[1]	[2]	[3]	[4]	[5]
6.	I enjoy the challenge of woodworking	[1]	[2]	[3]	[4]	[5]
7.	It is more satisfying to make an object when I have designed it.	[1]	[2]	[3]	[4]	[5]
8.	I am dissatisfied unless I can enter my woodworking in shows or competitions	[1]	[2]	[3]	[4]	[5]
9.	I feel "at home" and comfortable in the workshop area in which I woodwork	[1]	[2]	[3]	[4]	[5]
10.	Being able to improvise or be resourceful is one thing that makes woodworking satisfying to me	[1]	[2]	[3]	[4]	[5]
11.	I get so involved in the process of making something in wood that I am not attentive to other things	[1]	[2]	[3]	[4]	[5]
12.	I enjoy woodworking because of the freedom it allows	[1]	[2]	[3]	[4]	[5]
13.	When I am making something, I feel as if I am in control.	[1]	[2]	[3]	[4]	[5]
14.	Woodworking is satisfying because it enables me to test my skill.	[1]	[2]	[3]	[4]	[5]
15.	I woodwork the number of hours I do because if I worked any less I would not be able to earn a living	[1]	[2]	[3]	[4]	[5]

		1. Almost Always	2. Often	3. Sometimes	4. Seldom	5. Almost Never
16.	I woodwork the number of hours I do because I like the work.	[1]	[2]	[3]	[4]	[5]
17.	The natural beauty of wood makes it an enjoyable material to work with	[1]	[2]	[3]	[4]	[5]
18.	I enjoy and appreciate quality workmanship	[1]	[2]	[3]	[4]	[5]
19.	I enjoy being able to shape wood materials into an object	[1]	[2]	[3]	[4]	[5]
20.	When I am making something, there is a satisfying sense of independence	[1]	[2]	[3]	[4]	[5]
21.	I enjoy using tools.	[1]	[2]	[3]	[4]	[5]
22.	The pattern or sense of rhythm in woodworking is enjoyable	[1]	[2]	[3]	[4]	[5]
23.	The rewards I get from woodworking are more outside me (like money) than inside me (like satisfaction).	[1]	[2]	[3]	[4]	[5]
24.	I enjoy woodworking because it enables me to make many choices	[1]	[2]	[3]	[4]	[5]
25.	Part of my enjoyment of making something out of wood comes from the chances to explore and experiment.	[1]	[2]	[3]	[4]	[5]
26.	The variety and diversity in doing woodworking is satisfying to me.	[1]	[2]	[3]	[4]	[5]
27.	It's enjoyable to make something of wood that is pleasing to look at.	[1]	[2]	[3]	[4]	[5]
28.	Being able to use tools skillfully gives me satisfaction	[1]	[2]	[3]	[4]	[5]
29.	When I'm woodworking, I feel like I have "got it all together"	[1]	[2]	[3]	[4]	[5]
30.	When I'm involved in the process of making something, I feel creative	[1]	[2]	[3]	[4]	[5]
31.	I feel more satisfied while woodworking than I do in most other activities	[1]	[2]	[3]	[4]	[5]
32.	Woodworking materials are satisfying to work with.	[1]	[2]	[3]	[4]	[5]

		1. Almost Always	2. Often	3. Sometimes	4. Seldom	5. Almost Never
33.	It is satisfying to me to be able to work in a shop or studio	[1]	[2]	[3]	[4]	[5]
34.	In woodworking, the physical activity itself is important to me	[1]	[2]	[3]	[4]	[5]
35.	Finding new problems to solve in wood is something that makes the activity enjoyable	[1]	[2]	[3]	[4]	[5]
36.	I enjoy being able to put my own personal touch on a piece of woodwork.	[1]	[2]	[3]	[4]	[5]
37.	The money I receive is more important than the process of making the object.	[1]	[2]	[3]	[4]	[5]
38.	Getting awards or prizes for my woodworking is a major source of satisfaction	[1]	[2]	[3]	[4]	[5]
39.	Being able to make changes in wood projects is important to me	[1]	[2]	[3]	[4]	[5]
40.	Demonstrating my skill in a project makes me feel satisfied	[1]	[2]	[3]	[4]	[5]
41.	The amount of danger in woodworking is more of a challenge than anxiety producing.	[1]	[2]	[3]	[4]	[5]
42.	I enjoy being able to shape the surroundings in which I work with wood.	[1]	[2]	[3]	[4]	[5]
43.	I get so involved in making something that I lose track of time	[1]	[2]	[3]	[4]	[5]
44.	Creating a new design gives me much enjoyment	[1]	[2]	[3]	[4]	[5]
45.	The process of making in woodworking is satisfying	[1]	[2]	[3]	[4]	[5]
46.	Woodworking gives me a sense of accomplishment.	[1]	[2]	[3]	[4]	[5]
47.	Making something in wood leaves me emotionally restored or revitalized	[1]	[2]	[3]	[4]	[5]
48.	I do not get to use my intellectual capabilities enough when involved in woodworking	[1]	[2]	[3]	[4]	[5]
49.	Earning more money from my products would make woodworking much more enjoyable.	[1]	[2]	[3]	[4]	[5]
50.	The opportunity to use my hands is satisfying	[1]	[2]	[3]	[4]	[5]

		1. Almost Always	2. Often	3. Sometimes	4. Seldom	5. Almost Never
51.	I have an enjoyable sense of mastery in woodworking	[1]	[2]	[3]	[4]	[5]
52.	I find myself getting quite bored while woodworking	[1]	[2]	[3]	[4]	[5]
53.	Woodworking provides enjoyable opportunities for individuality	[1]	[2]	[3]	[4]	[5]
54.	Being able to solve problems in wood is satisfying to me	[1]	[2]	[3]	[4]	[5]
55.	Being able to make something that elicits an appreciative attitude in another gives me satisfaction.	[1]	[2]	[3]	[4]	[5]
56.	I am concerned with receiving the proper recognition for my work.	[1]	[2]	[3]	[4]	[5]
57.	When I am woodworking, I feel competent.	[1]	[2]	[3]	[4]	[5]
58.	Using my own judgment is a satisfying aspect of woodworking	[1]	[2]	[3]	[4]	[5]
59.	The most enjoyable part of woodworking is the income it provides.	[1]	[2]	[3]	[4]	[5]
60.	Constructing something out of wood is a fulfilling experience.	[1]	[2]	[3]	[4]	[5]
61.	To create a piece of work that has beautiful form is a satisfying experience	[1]	[2]	[3]	[4]	[5]
62.	I can use both my physical and mental abilities in woodworking	[1]	[2]	[3]	[4]	[5]
63.	I feel nervous while working on a project	[1]	[2]	[3]	[4]	[5]
64.	Doing a project with precision gives me a sense of satisfaction.	[1]	[2]	[3]	[4]	[5]
65.	I get more intensely involved in woodworking than I do in other activities	[1]	[2]	[3]	[4]	[5]
66.	Others' judgments of success or failure in woodworking are more important than participation.	[1]	[2]	[3]	[4]	[5]
67.	Helping others to understand and appreciate quality workmanship gives me satisfaction	[1]	[2]	[3]	[4]	[5]

	1. Almost Always	2. Often	3. Sometimes	4. Seldom	5. Almost Never
68. In the process of making an object, I learn something new	[1]	[2]	[3]	[4]	[5]
69. I enjoy woodworking because I am responsible for what I make	[1]	[2]	[3]	[4]	[5]
70. Basically, woodworking is a job for me--a means of earning a living	[1]	[2]	[3]	[4]	[5]
71. I like the solitude or privacy that woodworking enables	[1]	[2]	[3]	[4]	[5]
72. There are still many things I want to learn or explore in woodworking	[1]	[2]	[3]	[4]	[5]
73. Communicating my ideas through wood makes me feel good	[1]	[2]	[3]	[4]	[5]

BACKGROUND INFORMATION

Finally, it would be useful to know about the background of the woodworkers who respond to this questionnaire. For the remaining items, please mark the ONE answer that best describes you.

B1. Do you consider your woodwork primarily
[1] a job or occupation?
[2] a hobby, avocation, or leisure-time activity?

B2. On the average, how much time do you spend woodworking (including related activities such as planning, designing, purchasing, and maintaining machinery) each week?

[1] less than 4 hours per week	[6] 20.0 - 29.9 hours
[2] 4.0 - 7.9 hours	[7] 30.0 - 39.9 hours
[3] 8.0 - 11.9 hours	[8] 40.0 - 49.9 hours
[4] 12.0 - 15.9 hours	[9] 50.0 - 59.9 hours
[5] 16.0 - 19.9 hours	[0] over 60 hours per week

B3. What percent of your total working time is spent in woodworking?
[1] 0 - 24.9%
[2] 25 - 49.9%
[3] 50 - 74.9%
[4] 75 - 100. %

B4. How many years have you been involved in woodworking?

[1] 0 - 1	[6] 16 - 20
[2] 2 - 3	[7] 21 - 25
[3] 4 - 5	[8] 26 - 30
[4] 6 - 10	[9] 31 - 35
[5] 11 - 15	[0] over 35 years

B5. Would you like the amount of time you spend woodworking to change significantly in the next year?
[1] no
[2] yes, more time in the future
[3] yes, less time in the future

B6. What do you think is the one most important factor that determines "professionalism" in woodworking?
[1] selling one's work
[2] the skill of craftsman
[3] the quality of product
[4] the number of hours spent
[5] the ability to be self-supporting from income received
[6] the number of years of experience
[7] recognition by others through juried shows or media coverage

B7. Do you consider your work with wood primarily as
[1] an art?
[2] a craft?
[3] a trade?

B8. Do you have a woodworking specialty? (Please choose the one you spend most time at.)
[1] No specialty
[2] Yes, large scale or architectural (including built-in cabinets)
[3] Yes, furniture and/or free standing cabinets
[4] Yes, turning
[5] Yes, accessories: small objects and ornamental work
[6] Yes, toys or games
[7] Yes, wood carving or sculpture
[8] Yes, tools and/or equipment
[9] Yes, musical instruments
[0] Other_____

B9. At what point in your life did you first become involved in woodworking?
[1] before high school
[2] high school/vocational school
[3] college or graduate school
[4] while working at another occupation
[5] when out of school but not working

B10. Were other family members (parents, siblings or grandparents) involved in woodworking?
[1] No
[2] Yes, father
[3] Yes, mother
[4] Yes, brother
[5] Yes, sister
[6] Yes, grandfather
[7] Yes, grandmother
[8] Yes, more than one of these

B19. What is the highest level of formal education you have achieved?
[1] some elementary school (1-7 years)
[2] elementary school graduate (8 years completed)
[3] some high school (9-12 years)
[4] high school graduate (12 years completed)
[5] some college (13-16 years)
[6] college graduate (16 years completed)
[7] some graduate school (more than 16 years)
[8] graduate degree received (M.A., Ph.D.)

B20. Are you currently a student or in an apprenticeship?
[1] yes
[2] no

B21. Have you had any formal training in woodworking?
[1] no
[2] yes, academic schooling
[3] yes, vocational/technical schooling
[4] yes, apprenticeship or on the job training
[5] yes, both school and apprenticeship/job experience

B22. What is your racial origin?
[1] Indian
[2] Black/Negro/Afro-American
[3] Chicano
[4] Oriental
[5] White
[6] Other_____

B23. What is your age?
[1] under 21
[2] 22 - 29
[3] 30 - 39
[4] 40 - 49
[5] 50 - 59
[6] 60 - 69
[7] 70 - 79
[8] over 80

B24. What is your sex?
[1] male
[2] female

B25. What is your geographical region?
[1] South (Alab., Ark., D.C., Del., Fla., Ga., Ky., La., Md., Missi., N.C., Ok., S.C., Tenn., Tx., Va., W.Va.)
[2] West (Alas., Ariz., Cal., Colo., Haw., Ida., Mont., Nev., N. Mex., Ore., Utah, Wa., Wyo.)
[3] Mid-West (Ill., Ind., Iowa, Ks., Mich., Minn., Mo., Neb., N.D., Ohio, S.D., Wisc.)
[4] Northeast (Conn., Maine, Mass., N.H., N.J., N.Y., Penn., R.I., Ver.)

B26. Where do you do the majority of your woodworking?
[1] inside your home
[2] outside your home but on your property (a shop or studio)
[3] away from your home and property in a place you rent alone
[4] away from your home and property in a place you own alone
[5] away from your own home and property in a place you share with others (whether own or rent together)
[6] away from home in a shop or business owned by someone else

B11. If crafts is a career for you, at what point did you make that decision?
[1] not applicable--it is not a career
[2] before high school
[3] high school/vocational school
[4] college or graduate school
[5] while working at another occupation
[6] when out of school but not working

B12. In woodworking, are you
[1] self-employed?
[2] hourly wage earner (employee)?
[3] salary wage earner (employee)?
[4] generally not involved with money-producing woodworking?

B13. What is your primary occupation?
[1] woodworking
[2] another craft field
[3] wood or other craft teaching
[4] blue collar
[5] education (other than craft area)
[6] white collar - business or professional
[7] homemaker or parent
[8] student
[9] unemployed
[0] other _____

B14. Do you earn income from your woodworking?
[1] yes
[2] no

B15. Approximately how much net income (profits after expenses) do you generate from woodworking alone?
[1] none
[2] $ 001 - 3,000
[3] $ 3,001 - 5,000
[4] $ 5,001 - 8,000
[5] $ 8,001 - 10,000
[6] $10,001 - 12,000
[7] $12,001 - 15,000
[8] $15,001 - 20,000
[9] $20,001 - 25,000
[0] over $25,000

B16. Do you find it necessary to supplement your income from woodworking?
[1] yes
[2] no

B17. What percent of your total income comes from woodworking?
[1] none
[2] under 24.9%
[3] 25 - 49.9%
[4] 50 - 74.9%
[5] over 75%

B18. If there are other income-producers in your household, what percent of the total immediate family income comes from woodworking?
[1] not applicable (no other income producers in immediate family)
[2] none (other income producers in immediate family but no one does woodworking for income)
[3] under 24.9%
[4] 25 - 49.9%
[5] 50 - 74.9%
[6] over 75%

B27. Approximately how much money do you have invested in tools and related equipment?

[1]	$ 0 - 499	[6]	3,000 - 3,999
[2]	500 - 999	[7]	4,000 - 4,999
[3]	1,000 - 1,499	[8]	5,000 - 7,499
[4]	1,500 - 1,999	[9]	7,500 - 9,999
[5]	2,000 - 2,999	[0]	over $10,000

B28. Are you a member of a formal woodworking organization or club?
[1] yes
[2] no

B29. Do you own books on woodworking or subscribe to woodworking publications?
[1] yes
[2] no

-- -- -- -- -- -- -- -- -- -- -- --

*NAME_____

STREET_____

CITY_____STATE_____

ZIP CODE_____

PHONE Area ( ) _____

*As stated in the accompanying letter, your name and address will be detached from your questionnaire as soon as it is received. The responses will be treated with strict confidentiality and a code number will be assigned to guarantee your anonymity.

-- -- -- -- -- -- -- -- -- -- -- --

[ ] I would be willing to participate in future research on woodworkers.

[ ] I have a woodworking friend who might be willing to complete this questionnaire.

Name_____ Address_____

[ ] I would like a summary of the final results of this study when completed in several months.

Please be sure you have answered <u>each</u> question.

If you have any comments or reactions, they will be welcomed. Please use the back of this page.

Please try to complete the questionnaire before leaving the workshop. However, if you need more time, get a stamped and addressed envelope. Return the questionnaire <u>within one week</u> to:

John Bellingham
336 North Fairview
Lansing, Michigan 48912

THANK YOU VERY MUCH FOR YOUR EFFORT AND COOPERATION.

APPENDIX B

SAW ITEMS DROPPED FROM QUESTIONNAIRE FOLLOWING ANALYSIS OF PILOT DATA[1]

I. Items deleted from the section using the frequency response scale:

A. From the process of making construct
(11) Making a wooden object is more satisfying than designing it.
(21) The texture, smell, and sounds in woodworking are satisfying to me.
(26) The physical work and exercise in woodworking is dissatisfying.
(57) The process of making something in wood is more satisfying than the final product.

B. From the self-determination construct
(33) Woodworking is frustrating because of all the decisions I have to make.

C. From the competency construct
(77) Just finishing a project gives me enjoyment.

D. From the expression construct
(32) I enjoy discussing woodworking with others.
(82) The structure and the freedom that wood provides makes it pleasing to work with.

E. From the extrinsic construct
(5) Collecting tools is one of the most satisfying parts of woodworking.
(62) I like woodworking because it fills up my time.

---

[1]The numbers in parentheses are the original numbers from the initial SAW pilot instrument.

II. Items deleted from the section using the importance scale (very high importance, high importance, some importance, little importance, no importance at all):

HOW IMPORTANT TO YOU
(84) is woodworking?
(85) is feeling satisfied with your woodworking?
(86) is the process of making something in wood?
(87) is learning as much as you can about woodworking?
(88) is it to be able to determine your own woodworking projects and techniques?
(89) is feeling competent as a result of your woodworking?
(90) is it to be able to express your values and design ideas through woodworking?
(91) is getting money for your work?
(92) is getting recognition or awards for your work?

III. Items deleted from the section using the ranking scale:

(93) Please RANK (from 1 to 5) all of the following in terms of the satisfaction you get from them in relation to woodworking:

____ The process of making
____ Self-determination
____ Competence
____ Expression or communication of values and designs
____ Rewards such as money or recognition

(94) Please RANK (from 1 to 5) all of the following in terms of their importance to you in woodworking:

____ The process of making
____ Self-determination
____ Competence
____ Expression or communication of values and designs
____ Rewards such as money or recognition

IV. Item deleted from "Background Information" section:

(B5) Has the amount of time you spend woodworking varied substantially in the past year?

a. no
b. yes, more time spent now
c. yes, less time spent now

APPENDIX C

BACKGROUND DATA DERIVED FROM THE SATISFACTION ASSESSMENT IN WOODWORKING QUESTIONNAIRE FOR THE 297 RESPONDENTS IN THE SAMPLE[1]

Legend: Item = SAW background question number
N = Number of respondents
T = Total number of respondents
% = Percentage of actual respondents to each item (those who did not answer were omitted from the computed total percentage)

Item	N	%	Question
B1			Do you consider your woodwork primarily
	123	41.7	[1] a job or occupation?
	172	58.3	[2] a hobby, avocation, or leisure-time activity?
T	295		
B2			On the average, how much time to do you spend woodworking (including related activities such as planning, designing, purchasing, and maintaining machinery) each week?
	27	9.1	[1] less than 4 hours per week
	53	17.8	[2] 4.0 - 7.9 hours
	31	10.4	[3] 8.0 - 11.9 hours
	18	6.1	[4] 12.0 - 15.9 hours
	21	7.1	[5] 16.0 - 19.9 hours
	27	9.1	[6] 20.0 - 29.9 hours
	17	5.7	[7] 30.0 - 39.9 hours
	38	12.8	[8] 40.0 - 49.9 hours
	36	12.1	[9] 50.0 - 59.9 hours
	29	9.8	[0] over 60 hours per week
T	297		

[1]The content of the 29 items is identical to that of the original questions in the "Background" section of the SAW questionnaire. The format has been altered slightly to permit the presentation of the summary statistical data.

Item	N	%	Question
B3			What percent of your total working time is spent in woodworking?
	145	49.2	[1] 0 - 24.9%
	34	11.5	[2] 25 - 49.9%
	57	19.3	[3] 50 - 74.9%
	59	20.0	[4] 75 - 100.0%
T	295		
B4			How many years have you been involved in woodworking?
	3	1.0	[1] 0 - 1
	38	12.8	[2] 2 - 3
	49	16.5	[3] 4 - 5
	77	25.9	[4] 6 - 10
	39	13.1	[5] 11 - 15
	22	7.4	[6] 16 - 20
	16	5.4	[7] 21 - 25
	17	5.7	[8] 26 - 30
	9	3.0	[9] 31 - 35
	27	9.1	[0] over 35 years
T	297		
B5			Would you like the amount of time you spend woodworking to change significantly in the next year?
	93	31.6	[1] no
	183	62.2	[2] yes, more time in the future
	18	6.1	[3] yes, less time in the future
T	294		
B6			What do you think is the one most important factor that determines "professionalism" in woodworking?
	12	4.1	[1] selling one's work
	75	25.6	[2] the skill of craftsman
	186	63.5	[3] the quality of product
	1	.3	[4] the number of hours spent
	18	6.1	[5] the ability to be self-supporting from income received
	0	0.0	[6] the number of years of experience
	1	.3	[7] recognition by others through juried shows or media coverage
T	293		
B7			Do you consider your work with wood primarily as
	73	24.9	[1] an art?
	174	59.4	[2] a craft?
	46	15.7	[3] a trade?
T	293		

Item	N	%	Question
B8			Do you have a woodworking specialty? (Please choose the one you spend most time at.)
	78	26.3	[1] No specialty
	21	7.1	[2] Yes, large scale or architectural (including built-in cabinets)
	96	32.3	[3] Yes, furniture and/or free standing cabinets
	30	10.1	[4] Yes, turning
	24	8.1	[5] Yes, accessories: small objects and ornamental work
	5	1.7	[6] Yes, toys or games
	20	6.7	[7] Yes, wood carving or sculpture
	6	2.0	[8] Yes, tools and/or equipment
	5	1.7	[9] Yes, musical instruments
	12	4.0	[0] Other _____
T	297		
B9			At what point in your life did you first become <u>involved</u> in woodworking?
	93	31.7	[1] before high school
	43	14.7	[2] high school/vocational school
	40	13.7	[3] college or graduate school
	91	31.1	[4] while working at another occupation
	26	8.9	[5] when out of school but not working
T	293		
B10			Were other family members (parents, siblings or grandparents) involved in woodworking?
	150	51.0	[1] No
	71	24.1	[2] Yes, father
	0	0.0	[3] Yes, mother
	4	1.3	[4] Yes, brother
	0	0.0	[5] Yes, sister
	32	10.8	[6] Yes, grandfather
	1	.3	[7] Yes, grandmother
	36	12.1	[8] Yes, more than one of these
T	294		
B11			If crafts is a career for you, at what point did you make that decision?
	176	59.9	[1] not applicable--it is not a career
	1	.3	[2] before high school
	7	2.4	[3] high school/vocational school
	30	10.2	[4] college or graduate school
	60	20.4	[5] while working at another occupation
	20	6.8	[6] when out of school but not working
T	294		

Item	N	%	Question
B12			In woodworking, are you
	114	38.8	[1] self-employed?
	11	3.7	[2] hourly wage earner (employee)?
	27	9.2	[3] salary wage earner (employee)?
	142	48.3	[4] generally not involved with money-producing wood-working?
T	294		
B13			What is your primary occupation?
	87	29.3	[1] woodworking
	10	3.4	[2] another craft field
	21	7.1	[3] wood or other craft teaching
	7	2.4	[4] blue collar
	21	7.1	[5] education (other than craft area)
	101	34.0	[6] white collar--business or professional
	2	.7	[7] homemaker or parent
	11	3.7	[8] student
	2	.7	[9] unemployed
	35	11.8	[0] other _____
T	297		
B14			Do you earn income from your woodworking?
	159	53.9	[1] yes
	136	46.1	[2] no
B15			Approximately how much net income (profits after expenses) do you generate from woodworking alone?
	199	68.4 <	[1] none
			[2] $ 001 - 3,000
	19	6.5	[3] $ 3,001 - 5,000
	16	5.5	[4] $ 5,001 - 8,000
	12	4.1	[5] $ 8,001 - 10,000
	10	3.4	[6] $10,001 - 12,000
	10	3.4	[7] $12,001 - 15,000
	10	3.4	[8] $15,001 - 20,000
	8	2.7	[9] $20,001 - 25,000
	7	2.4	[0] over $25,000
T	291		
B16			Do you find it necessary to supplement your income from woodworking?
	135	45.9	[1] yes
	159	54.1	[2] no
T	294		
B17			What percent of your total income comes from woodworking?
	214	69.5 <	[1] none
			[2] under 24.9%
	11	3.8	[3] 25 - 49.9%
	13	4.5	[4] 50 - 74.9%
	65	22.3	[5] over 75%
T	293		

Item	N	%	Question
B18			If there are other income-producers in your household, what percent of the total immediate family income comes from woodworking?
	240	81.9	[1] not applicable (no other income producers in immediate family) [2] none (other income producers in immediate family but no one does woodworking for income)
	10	3.4	[3] under 24.9%
	14	4.8	[4] 25 - 49.9%
	29	9.9	[5] 50 - 74.9%
T	293		[6] over 75%
B19			What is the highest level of formal education you have achieved?
	0	.0	[1] some elementary school (1-7 years)
	0	.0	[2] elementary school graduate (8 years completed)
	3	1.0	[3] some high school (9-12 years)
	14	4.8	[4] high school graduate (12 years completed)
	84	28.7	[5] some college (13-16 years)
	74	25.3	[6] college graduate (16 years completed)
	36	12.3	[7] some graduate school (more than 16 years)
	82	28.0	[8] graduate degree received (M.A., Ph.D.)
T	293		
B20			Are you currently a student or in an apprenticeship?
	25	8.5	[1] yes
	268	91.5	[2] no
T	293		
B21			Have you had any formal training in woodworking?
	160	54.6	[1] no
	65	22.2	[2] yes, academic schooling
	26	8.9	[3] yes, vocational/technical schooling
	17	5.8	[4] yes, apprenticeship or on the job training
	25	8.5	[5] yes, both school and apprenticeship/job experience
T	293		
B22			What is your racial origin?
	1	.3	[1] Indian
	2	.7	[2] Black/Negro/Afro-American
	0	.0	[3] Chicano
	0	.0	[4] Oriental
	286	97.9	[5] White
	3	1.0	[6] Other _____
T	293		

Item	N	%	Question
B23			What is your age?
	7	2.4	[1] under 21
	55	18.5	[2] 22 - 29
	122	41.6	[3] 30 - 39
	47	16.0	[4] 40 - 49
	43	14.7	[5] 50 - 59
	16	5.5	[6] 60 - 69
	3	1.0	[7] 70 - 79
	0	.0	[8] over 80
T	293		
B24			What is your sex?
	279	92.5	[1] male
	14	4.8	[2] female
T	293		
B25			What is your geographical region?
	26	8.8	[1] South (Alab., Ark., D.C., Del., Fla., Ga., Ky., La., Md., Missi., N.C., Ok., S.C., Tenn., Tx., Va., W. Va.)
	5	1.7	[2] West (Alas., Ariz., Cal., Colo., Haw., Ida., Mont., Nev., N. Mex., Ore., Utah, Wa., Wyo.)
	182	62.2	[3] Mid-West (Ill., Ind., Iowa, Ks., Mich., Minn., Mo., Neb., N.D., Ohio, S.D., Wisc.)
	80	27.3	[4] Northeast (Conn., Maine, Mass., N.H., N.J., N.Y., Penn., R.I., Ver.)
T	293		
B26			Where do you do the majority of your woodworking?
	133	45.4	[1] inside your home
	71	24.4	[2] outside your home but on your property (a shop or studio)
	14	4.8	[3] away from your home and property in a place you rent alone
	4	1.4	[4] away from your home and property in a place you own alone
	24	8.2	[5] away from your home and property in a place you share with others (whether own or rent together)
	47	16.0	[6] away from home in a shop or business owned by someone else
T	293		

Item	N	%	Question
B27			Approximately how much money do you have invested in tools and related equipment?
	24	8.1	[1] $ 0 - 499
	15	5.1	[2] $ 500 - 999
	22	7.4	[3] $1,000 - 1,499
	30	10.1	[4] $1,500 - 1,999
	27	9.1	[5] $2,000 - 2,999
	45	15.2	[6] $3,000 - 3,999
	23	7.7	[7] $4,000 - 4,999
	44	14.8	[8] $5,000 - 7,499
	16	5.4	[9] $7,500 - 9,999
	51	17.2	[0] over $10,000
T	297		
B28			Are you a member of a formal woodworking organization or club?
	45	15.5	[1] yes
	246	84.5	[2] no
T	291		
B29			Do you own books on woodworking or subscribe to woodworking publications?
	289	99.3	[1] yes
	2	.7	[2] no
T	291		

APPENDIX D

RESIDUALS

Items deleted from the SAW questionnaire during the revision process based on the results of the multiple groups factor analyses:

501 The Process of Making

(9) I feel "at home" and comfortable in the workshop area in which I woodwork.
(11) I get so involved in the process of making something in wood that I am not attentive to other things.
(16) I woodwork the number of hours I do because I like the work.
(21) I enjoy using tools.
(33) It is satisfying to me to be able to work in a shop or studio.
(34) In woodworking, the physical activity itself is important to me.
(41) The amount of danger in woodworking is more of a challenge than anxiety producing.
(52) I find myself getting quite bored while woodworking.
(63) I feel nervous while working on a project.
(68) In the process of making an object, I learn something new.
(72) There are still many things I want to learn or explore in wordworking.

502 Self-determination

(5) When woodworking, I prefer to work alone.

503 Competence

(4) The completion of a wood project gives me enjoyment.
(28) Being able to use tools skillfully gives me satisfaction.
(48) I do not get to use my intellectual capabilities enough when involved in woodworking.

504 Expression

(2) I enjoy making projects that are useful.
(7) It is more satisfying to make an object when I have designed it.
(17) The natural beauty of wood makes it an enjoyable material to work with.
(18) I enjoy and appreciate quality workmanship.

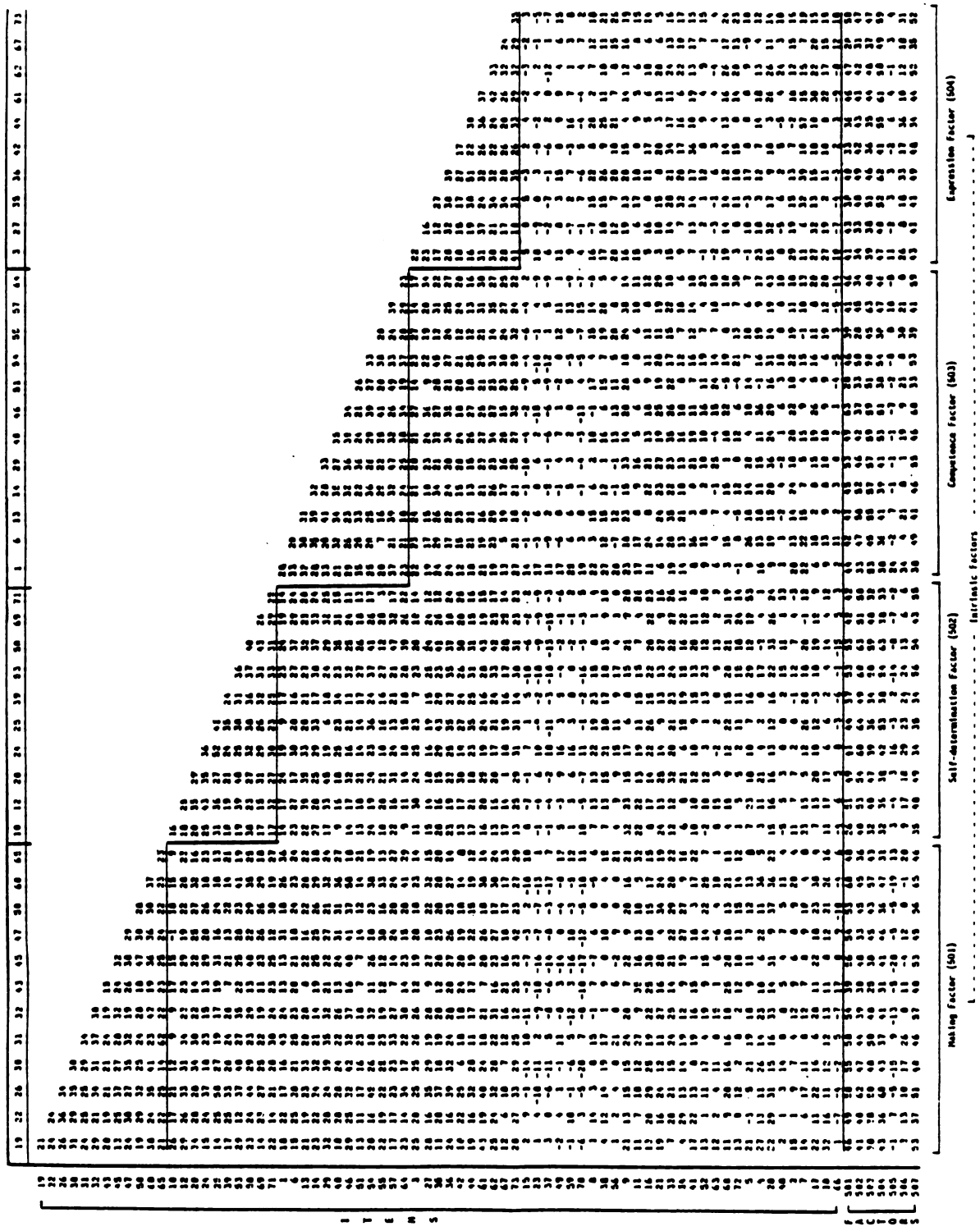
506 Status

(66) Others' judgments of success or failure in woodworking are more important than participation.

APPENDIX E: INTER-ITEM, ITEM-FACTOR, AND FACTOR-FACTOR CORRELATION MATRICES PRODUCED BY OBLIQUE MULTIPLE GROUPS ANALYSIS

Part I: Intrinsic Factors

(Identities in diagonal replaced with communalities and decimal points omitted)



APPENDIX E: INTER-ITEM, ITEM-FACTOR, AND FACTOR-FACTOR CORRELATION MATRICES PRODUCED BY OBLIQUE MULTIPLE GROUPS ANALYSIS

Part II: Extrinsic Factors, Residuals, and Factor-Factors

(Identities in diagonal replaced with communalities and decimal points omitted)

		15	23	37	49	59	70	8	38	56	9	11	16	21	33	34	41	52	63	68	72	5	4	28	48	2	7	17	18	66	501	502	503	504	505	506	507
ITEMS	15	47																																			
	23	42	44																																		
	37	57	60	74																																	
	49	39	41	58	38																																
	59	43	49	61	50	52																															
	70	61	43	53	33	50	46																														
	8	26	35	27	35	39	19	57																													
	38	19	29	28	37	41	19	62	63																												
	56	24	21	31	45	34	29	36	39	26																											
	9	-10	2	-3	3	-1	5	1	7	-3	12																										
	11	10	3	11	18	8	2	15	16	13	10	6																									
	16	-31	-25	-23	-19	-14	-24	-11	-3	-10	18	8	8																								
	21	-8	-10	-8	-5	-11	-3	-11	-10	-4	19	6	19	20																							
	33	10	-4	-5	0	3	9	7	11	8	11	5	10	24	12																						
	34	23	13	9	14	14	18	11	15	16	-3	9	-4	9	28	4																					
	41	-2	-9	-7	3	-2	-2	4	2	6	11	12	6	9	10	13	8																				
	52	-15	-12	-17	-15	-12	-25	-7	1	-8	12	-2	12	15	12	4	11	15																			
	63	-15	-10	-13	-16	-13	-10	-6	-11	-13	22	2	10	7	-3	-11	1	17	0																		
	68	-3	-21	-18	-7	-15	-11	-1	3	2	2	8	13	10	11	18	18	16	-13	17																	
	72	-3	-18	-12	-3	-9	-6	-7	-1	2	-1	5	1	7	5	5	8	13	-6	33	6																
	5	-15	-12	-15	-21	-14	-11	1	-3	-8	11	19	16	6	11	-2	7	8	6	8	18	4															
	4	-12	-11	-13	1	-7	-18	-1	4	8	13	4	7	6	8	0	5	20	5	15	3	-1	10														
	28	-1	-10	-14	-4	-11	-3	-16	-16	-6	20	6	18	58	15	10	17	13	5	16	19	11	5	25													
	48	8	-5	-7	-7	-2	6	-11	-4	8	8	4	5	6	3	8	-1	22	1	17	17	5	13	1	3												
	2	-5	1	-3	-2	-1	-7	-7	-4	8	19	4	4	11	5	8	17	18	8	12	9	8	21	15	-3	18											
	7	7	-3	3	7	12	3	25	22	11	-1	13	3	-6	9	20	5	8	-1	4	-3	18	7	-4	-6	-5	1										
	17	-12	-11	-7	-8	-11	-14	-15	-5	-4	5	9	17	26	15	5	13	12	2	18	7	2	23	25	11	24	3	23									
	18	5	8	6	5	5	8	4	18	7	17	7	4	19	4	3	5	7	-4	10	0	0	16	22	4	16	1	35	18								
	66	11	15	16	21	14	7	19	20	24	-5	9	-7	-16	-2	8	-7	-11	-11	13	1	-12	-6	-11	-14	1	-6	-8	8	3							
FACTORS	501	-4	-12	-9	-1	-1	-13	7	17	11	32	29	39	37	38	31	27	25	9	31	18	23	32	47	18	17	18	35	38	1	100						
	502	-2	-7	-11	4	7	-2	23	26	15	30	28	35	30	40	26	22	19	10	30	19	34	11	35	8	8	28	20	17	-1	81	100					
	503	-4	1	-6	8	8	1	15	24	16	49	18	26	37	42	25	24	20	19	17	15	22	27	44	6	32	21	25	21	-4	83	77	100				
	504	2	-1	-5	15	9	3	23	30	29	28	19	19	20	35	38	31	13	2	32	24	11	24	33	10	27	48	39	27	1	78	78	80	100			
	505	68	66	66	61	72	68	43	41	43	-1	12	-32	-11	3	22	-5	-23	-18	-18	-12	-21	-14	-18	-3	-4	7	-15	9	20	-9	-3	2	5	100		
	506	34	41	42	57	56	33	75	80	49	2	21	-11	-13	12	21	6	-7	-15	2	-3	-5	1	-18	-7	-6	28	-11	10	31	17	31	27	40	62	100	
	507	-12	-22	-22	-6	-12	-14	-1	10	6	35	24	29	45	35	21	28	38	7	42	25	20	32	50	17	32	9	48	32	-16	96	82	86	84	-21	7	100

Monetary Factor (505) | Status Factor (506) | Residual Items (507) | Factors

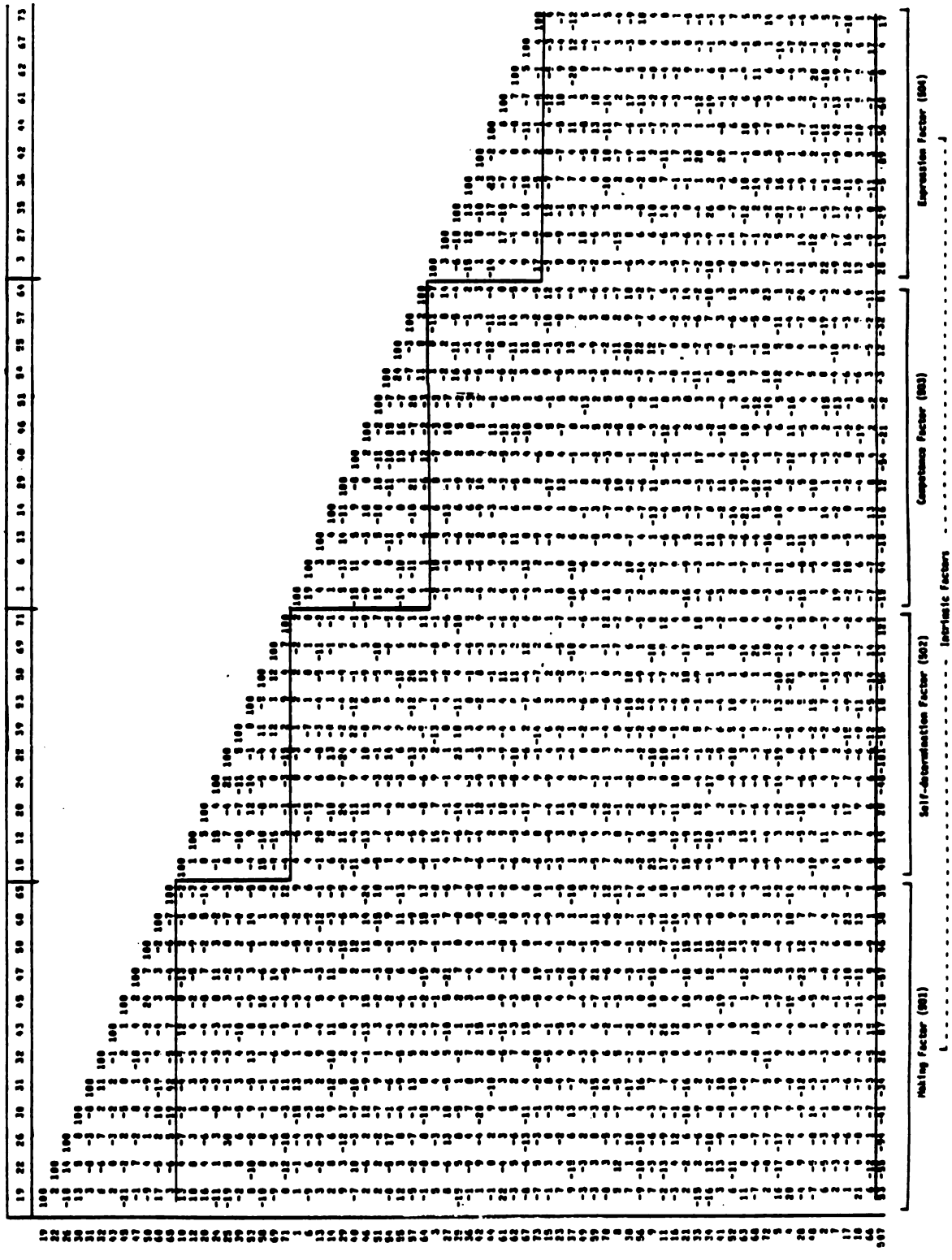
← -Extrinsic Factors- →

APPENDIX F: CORRELATION MATRIX WITH FACTORS PARTIALLED OUT

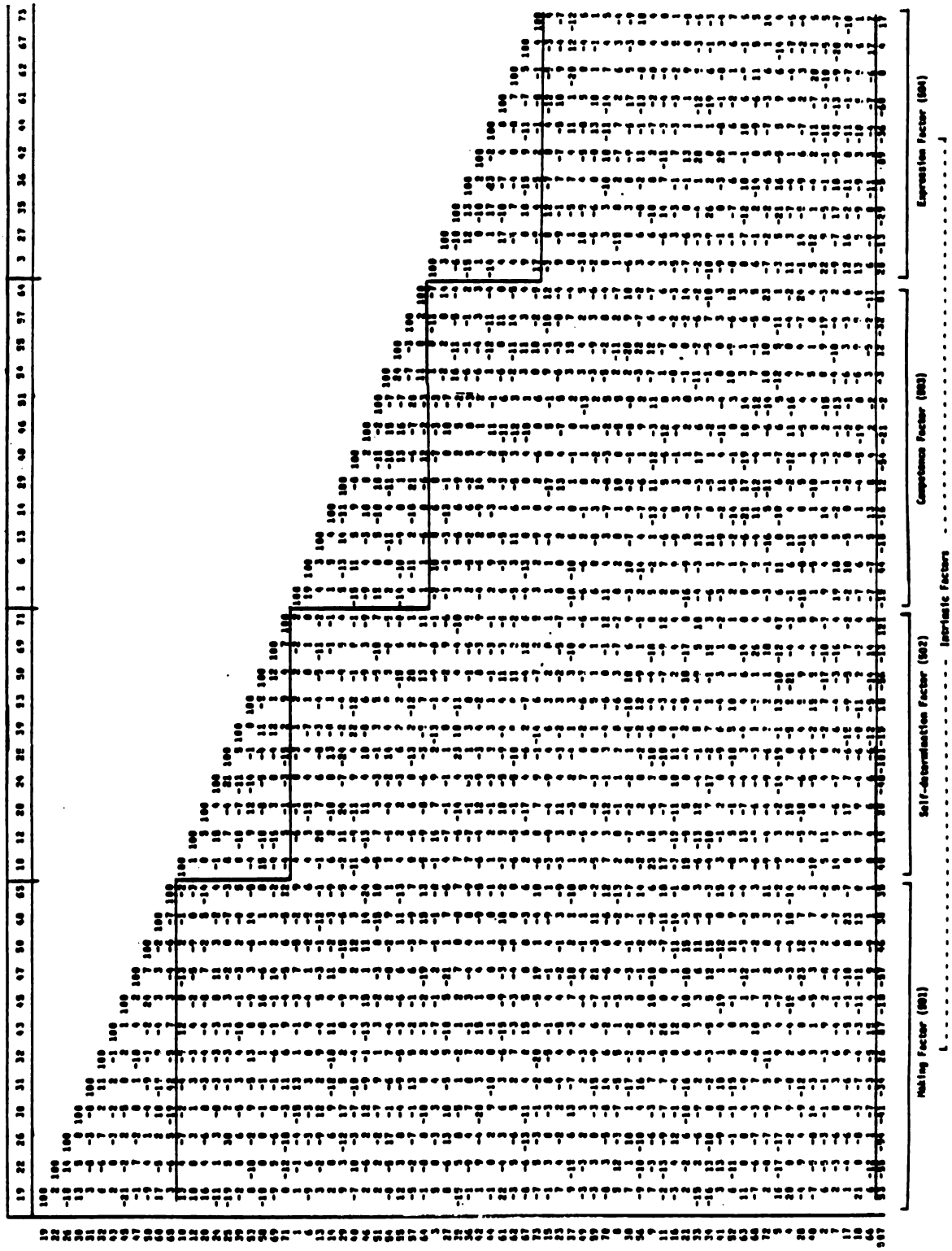
Part I: Intrinsic Factors

Produced Using Hunter and Gerbing's (1979) Oblique Multiple Groups Factor Analysis PARTIAL Program

(decimal points have been omitted)



APPENDIX F: CORRELATION MATRIX WITH FACTORS PARTIALLED OUT
Part I: Intrinsic Factors
Produced Using Hunter and Gerbing's (1979) Oblique Multiple Groups Factor Analysis PARTIAL Program
(decimal points have been omitted)



APPENDIX F: CORRELATION MATRIX WITH FACTORS PARTIALLED OUT

Part II: Extrinsic Factors and Residuals

Produced Using Hunter and Gerbing's (1979) Oblique Multiple Groups Factor Analysis PARTIAL Program
(decimal points have been omitted)

	15	23	37	49	59	70	8	38	56	9	11	16	21	33	34	41	52	63	68	72	5	4	28	48	2	7	17	18	66	507
15	100																													
23	-3	100																												
37	-13	11	100																											
49	0	1	24	100																										
59	-10	2	2	6	100																									
70	28	-5	-14	-11	6	100																								
8	-9	13	-1	-12	-3	-6	100																							
38	-2	2	9	-11	3	2	1	100																						
56	-6	-11	-5	17	0	3	3	7	100																					
9	-13	3	0	5	-3	6	2	0	-6	100																				
11	0	-4	2	11	-8	-2	-1	-5	4	5	100																			
16	-17	-3	11	1	10	2	-6	3	3	9	-14	100																		
21	-3	-3	1	7	-6	4	-1	-4	4	2	-2	1	100																	
33	15	-7	-11	-6	-3	9	-2	1	1	-7	-7	-5	9	100																
34	11	2	-22	-1	-5	8	-3	2	1	-14	-5	-11	2	19	100															
41	1	-6	-3	4	0	3	3	-4	0	3	7	-2	2	0	4	100														
52	2	5	6	-3	3	-11	-4	5	-1	4	-8	-6	3	4	2	6	100													
63	0	1	7	-5	0	0	7	-4	-3	14	5	1	-6	-12	-9	0	11	100												
68	10	-8	-2	0	-6	6	-2	2	0	-3	-1	-4	5	2	12	-3	9	-14	100											
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28	4	-2	-19	12	-4	3	4	-2	-2	0	-3	-2	34	-6	-3	6	0	-8	7	12	-2	-13	100							
48	1	-2	-10	-4	3	10	-6	6	1	-3	3	1	2	-1	5	-5	23	1	13	14	5	13	-8	100						
2	1	4	5	-1	7	-13	2	3	-4	6	12	6	1	-6	-4	10	0	-1	13	3	3	12	-2	-7	100					
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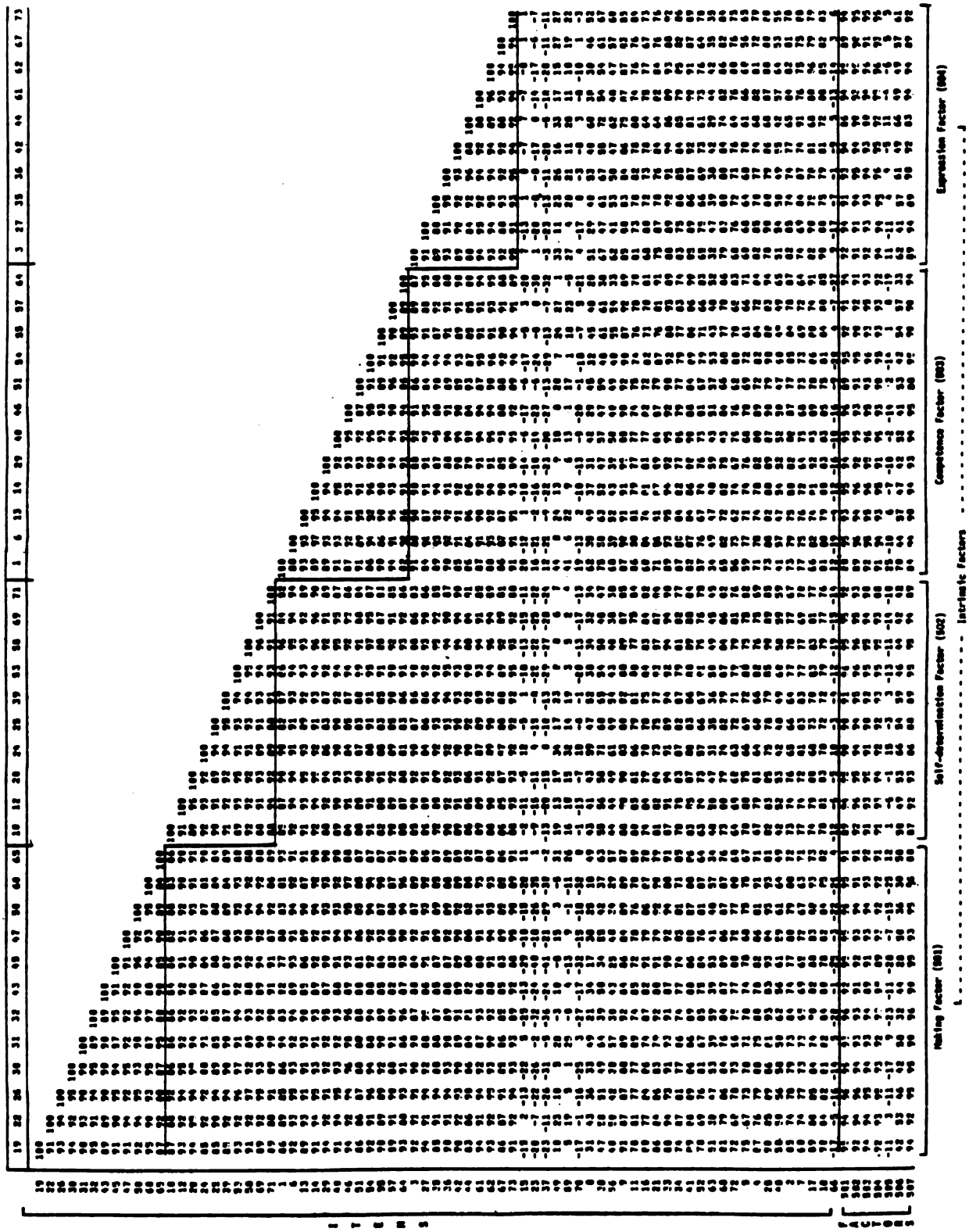
Monetary Factor (505) | Status Factor (506) | Residuals (507)

Extrinsic Factors

APPENDIX G: CORRELATION MATRIX WITH "SIMILARITY COEFFICIENTS"

Part I: Intrinsic Factors

Produced Using Hunter and Gerbing's (1979) Oblique Multiple Groups Factor Analysis SQRR Program
(decimal points have been omitted)



APPENDIX G: CORRELATION MATRIX WITH "SIMILARITY COEFFICIENTS"

Part II: Extrinsic Factors and Residuals

Produced Using Hunter and Gerbing's (1979) Oblique Multiple Groups Factor Analysis SQRR Program

(decimal points have been omitted)

ITEMS / FACTORS	15	23	37	49	59	70	8	38	56	9	11	16	21	33	34	41	52	63	68	72	5	4	28	48	2	7	17	18	66	501	502	503	504	505	506	507
15	100																																			
23	91	100																																		
37	91	93	100																																	
49	88	89	86	100																																
59	91	91	88	94	100																															
70	91	92	91	87	88	100																														
8	67	68	65	86	85	66	100																													
38	60	59	54	82	79	56	93	100																												
56	70	66	64	87	83	65	91	93	100																											
9	-15	-17	-21	8	4	-12	29	44	37	100																										
11	21	12	11	41	38	18	61	71	64	76	100																									
16	-53	-60	-63	-34	-37	-55	-4	13	-1	79	58	100																								
21	-29	-37	-40	-14	-19	-29	3	20	13	88	62	84	100																							
33	-2	-10	-15	18	15	-3	42	56	49	86	78	77	85	100																						
34	32	18	16	46	44	27	63	72	68	68	79	51	65	89	100																					
41	-12	-22	-25	10	3	-15	30	46	41	84	75	77	81	88	76	100																				
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28	-28	-38	-39	-12	-17	-29	4	23	16	87	63	85	95	86	67	85	81	58	82	79	72	79	100													
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7	18	11	6	38	37	13	66	74	63	62	75	48	49	74	77	68	44	20	58	49	51	53	50	29	47	100										
17	-33	-42	-44	-14	-21	-37	1	20	16	80	56	81	87	78	60	82	83	50	85	78	64	88	91	64	87	50	100									
18	4	-1	-3	25	18	1	34	50	48	83	73	63	79	79	71	88	64	34	72	64	54	80	81	53	83	57	86	100								
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501	-14	-22	-26	10	5	-16	34	51	42	90	80	84	87	94	81	90	79	49	86	77	76	84	90	59	82	72	87	85	-14	100						
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503	-7	-14	-18	17	12	-8	40	56	48	92	80	79	86	94	83	90	75	49	81	73	71	81	88	55	82	74	83	84	-11	96	96	100				
504	-2	-10	-14	23	18	-5	47	62	54	87	81	76	81	93	85	89	72	41	83	75	68	79	84	54	79	79	82	84	-4	95	95	96	100			
505	91	93	89	91	92	91	74	66	73	-10	24	-51	-29	0	30	-10	-51	-54	-30	-32	-38	-28	-29	-32	-19	21	-33	6	68	-11	-4	-4	1	100		
506	65	64	60	83	81	62	92	92	95	39	67	5	14	52	70	41	2	-20	25	16	12	23	17	3	25	69	15	46	59	45	51	50	56	70	100	
507	-20	-28	-32	2	-3	-23	26	43	35	90	77	87	90	93	78	91	82	54	86	80	78	85	92	63	83	70	88	85	-18	96	94	94	93	-18	37	100

Monetary Factor (505) | Status Factor (506) | Residual Items (507) | Factors

←--Extrinsic Factors---→

APPENDIX H

ANOVA TABLES

I. ANOVA tables when professional and amateur woodworking status was determined by self-designation as a job or hobby (from background item B1). The alpha level was set at .05 and therefore the null hypotheses that $\mu_p = \mu_a$ were rejected whenever the probability of the computed F was $\leq .05$. The six ANOVAs which follow were based on an N of 290.

Dependent Variable	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F	Probability of Computed F
Making	Between	.01	1	.01	.07	.79
	Within	55.13	288	.19		
	Total	55.14	289			
Self-determination	Between	.59	1	.59	2.34	.13
	Within	72.20	288	.25		
	Total	72.79	289			
Competence	Between	.10	1	.10	.51	.47
	Within	57.83	288	.20		
	Total	57.93	289			
Expression	Between	1.02	1	1.02	4.88	.03
	Within	60.44	288	.21		
	Total	61.46	289			
Monetary	Between	79.29	1	79.29	170.06	.00001
	Within	134.27	288	.47		
	Total	213.56	289			
Status	Between	26.23	1	26.23	38.77	.00001
	Within	194.82	288			
	Total	221.05	289			

II. ANOVA tables when professional and amateur woodworking status was determined by the percentage of total working time spent woodworking (from background item B3). The alpha level was set at .05 and therefore the null hypotheses that $\mu_p = \mu_a$ were rejected whenever the probability of the computes F was $\leq$ .05. The six ANOVAs which follow were based on an N of 290.

Dependent Variable	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F	Probability of Computed F
Making	Between	.34	1	.34	1.80	.18
	Within	54.31	285			
	Total	54.65	286			
Self-determination	Between	.00	1	.00	.00	.97
	Within	72.48	285			
	Total	72.48	286			
Competency	Between	.01	1	.01	.02	.86
	Within	57.53	285			
	Total	57.54	286			
Expression	Between	.30	1	.30	1.39	.23
	Within	60.74	285			
	Total	61.04	286			
Monetary	Between	76.78	1	76.78	161.66	.00001
	Within	135.36	285			
	Total	212.14	286			
Status	Between	15.58	1	15.58	21.80	.00001
	Within	203.71	285			
	Total	219.29	286			

III. ANOVA tables when professional and amateur woodworking status was determined by the percentage of total income from woodworking (from background item B17). The alpha level was set at .05 and therefore the null hypotheses that $\mu_p = \mu_a$ were rejected whenever the probability of the computed F was $\leq$ .05. The six ANOVAs which follow were based on an N of 287.

Dependent Variable	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F	Probability of Computed F
Making	Between	.05	1	.05	.28	.60
	Within	55.09	288	.19		
	Total	55.14	289			
Self-determination	Between	.02	1	.02	.07	.80
	Within	72.79	288	.25		
	Total	72.79	289			
Competence	Between	.01	1	.01	.04	.84
	Within	57.92	288	.20		
	Total	57.93	289			
Expression	Between	.96	1	.96	4.58	.03
	Within	60.50	288	.21		
	Total	61.46	289			
Monetary	Between	70.88	1	70.88	143.07	.00001
	Within	142.68	288	.50		
	Total	213.56	289			
Status	Between	18.97	1	18.97	27.04	.00001
	Within	202.07	288	.70		
	Total	221.04	289			

APPENDIX I

PROFESSIONAL AND AMATEUR GROUP MEANS[1]

Legend: * = Difference in group means found to be statistically significant on ANOVA test at the .05 alpha level.
I = Intrinsic
E = Extrinsic
P = Professional
A = Amateur

I. Professional and amateur group means as dichotomized on the <u>self-designation</u> criterion (from background item B1). N = 290.

Dependent Variables	Mean for Professionals	Mean for Amateurs	Direction of Difference
Making (I)	1.75	1.77	P > A
Self-determination (I)	1.87	1.96	P > A
Competence (I)	1.75	1.79	P > A
*Expression (I)	1.65	1.77	P > A*
*Monetary (E)	3.34	4.40	P > A*
*Status (E)	3.50	4.11	P > A*

[1]Because numerical values of 1 to 5 were assigned respectively to the categories in the "almost always" to "almost never" response continuum, smaller numerical means denote greater frequency of experienced satisfaction.

II. Professional and amateur group means as dichotomized on the percentage of total working time spent woodworking criterion (from background item B3). N = 290.

Dependent Variable	Mean for Professionals	Mean for Amateurs	Direction of Difference
Making (I)	1.78	1.75	A > P
Self-determination (I)	1.91	1.93	P > A
Competence (I)	1.77	1.78	P > A
*Expression (I)	1.65	1.76	P > A*
*Monetary (E)	3.34	4.36	P > A*
*Status (E)	3.53	4.06	P > A*

III. Professional and amateur group means as dichotomized on the percentage of total income from woodworking criterion (from background item B17). N = 287.

Dependent Variable	Mean for Professionals	Mean for Amateurs	Direction of Difference
Making (I)	1.82	1.74	A > P
Self-determination (I)	1.92	1.92	A > P
Competence (I)	1.77	1.78	P > A
Expression (I)	1.67	1.74	P > A
*Monetary (E)	3.19	4.31	P > A*
*Status (E)	3.51	4.02	P > A*

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