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by

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Abstract

MULTIPLE ROLE BEHAVIOR AND PERCEPTION OF AMBIGUOUS PICTURES IN MIDDLE-AGED WOMEN: SATISFACTION, FLEXIBILITY, AND CONTROL

by

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Adviser: Professor Florence Denmark

Women face various role changes between the ages of fifty and sixty, yet relatively few studies focus on this age group. The purpose of this study was to determine the relationship between (a) preference for, and capacity to cope with, multiple roles, and (b) flexibility and control in perceptual responses to ambiguous pictures. Both require shifting between conflicting perspectives, and were assumed to reflect personality.

College-educated women, with a mean age of 55 years, volunteered to participate in a study of role satisfaction and role shifts among women in their middle years. All were, or had been, married, with at least one child.

The 100 subjects were divided into four groups on the basis of their scores on two independent variables: (a) number of roles and role shifts, and (b) role satisfaction. These data were obtained from mailed questionnaires and structured interviews. The groups were composed as follows: I - more roles, higher satisfaction (N of 27); II - more roles,

lower satisfaction (N of 23); III - fewer roles, higher satisfaction (N of 23); IV - fewer roles, lower satisfaction (N of 27).

The dependent variables involved perceptual tasks using ambiguous pictures. They were: 1. time taken to recognize and report the second image; 2. number of voluntary fluctuations between the two images when set to shift; 3. number of involuntary fluctuations between two images when set to hold; 4. difference between Variables 2 and 3. The first two were measures of flexibility; the latter two, measures of control.

It was hypothesized that Group I, compared to Group III, would take less time to recognize the second image, fluctuate more rapidly when told to shift, and have a larger difference between voluntary and involuntary fluctuations; Group III would have fewer fluctuations when told to hold set. These were based on the premises that women who are satisfied with many roles are flexible, and can shift easily as needed; those satisfied with fewer roles can maintain original set longer, but cannot change point of view quickly. The less satisfied women were viewed as operating over or under capacity, so Group II was expected to respond perceptually like Group III, and Group IV like Group I.

The expected interaction of number of roles and satisfaction was not upheld. Groups above the median in number of roles, I and II, regardless of satisfaction, took significantly less time on Variable 1, but only for one picture. Higher satisfaction Groups I and III, regardless of number

of roles, had more voluntary fluctuations on Variable 2, and a wider spread on Variable 4. There were no significant differences on Variable 3.

Issues discussed included consistency in perceptual responses; influences on the rate of fluctuation; relation between rigidity, flexibility, and satisfaction; differences in satisfaction among sub-groups of widows, separated and divorced, and still married women; number of children and satisfaction with motherhood; changing daughter, wife, and mother roles; the role of self; behavior during the interview; and methods used to shift roles.

Two kinds of flexibility emerged: recognition of something novel, and ease in shifting between two known things. Women who perceived themselves as having more roles seemed more open to new things in certain situations. Evidence was stronger that higher satisfied women found it easier to shift between identified aspects of a picture, and perhaps among familiar roles. Qualitative differences in responses to interview questions suggested that (a) voluntary control in perception may be related to internal locus of control; and (b) the higher satisfied women tended to display flexibility in their reactions to expected and unexpected role shifts.

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I. STATEMENT OF THE PROBLEM

Almost all women must cope with various role changes between the ages of 50 and 60. Roles expand, contract, shift. Women who have maintained careers may be anticipating advancement or retirement; housewives may be preparing to enter the job market, or returning to school. Those with children still living at home, or whose children return intermittently to the "empty nest," may retain an active mother role. Responsibilities for aging parents increase. Spouses may retire, become ill, or die. Grandchildren are born. Sibling relationships become more salient. Some women broaden their horizons; others curtail their activities.

A pilot study conducted by the author in 1977[1] indicated that women of this age group varied not only in the number of roles they reported themselves as having, but also in their satisfaction with these roles. Some women appeared to thrive on multiple roles, while others were overwhelmed by them. Some women preferred to limit their roles; others felt dissatisfied when their roles were constricted. These differences seemed less directly related to external variables, such as number of children, than to certain qualities within

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[1]Among the 118 women in the pilot study were active mothers with the youngest child still at home, full-time working professionals with established careers, women juggling several part-time jobs, unsalaried wives helping their husbands in business, dedicated volunteers, and housewives proud of their cooking and homemaking skills.

the person. Were there identifiable personality characteristics which differentiated these women? Was flexibility such a characteristic?

The purpose of this dissertation was to determine the relationship between preference for, and capacity to cope with, multiple roles, and flexibility and control in perceptual responses. If personality represents the whole person, it should be reflected in perceptual responses as well as role behavior. Do women who shift visual focus easily, also find it easy to shift roles? Is there a relation between the perception of ambiguity, in which there is more than one way of seeing a picture, and the handling of multiple roles, where opposite or conflicting perspectives may be required?

For this study, the two variables of multiple role behavior, and perceptual responses to ambiguous pictures, were considered to be manifestations of personality. Personality has been defined as "the integration of all the roles that a particular person has to enact" (Murphy, 1947, p. 877). Contextual concepts of personality regard personal role definitions as determinants of behavior (Levy, 1970). Personality has also been described as a "dynamical system" in which "perception and . . . other restricted functions . . . are so related that some characteristics of the person as a whole might be inferred from the dynamics of one of these functions" (Thurstone, 1944, pp. 1, 3). A third variable, perceived satisfaction with one's roles, was used in this

study. It was assumed that people who rated themselves as highly satisfied with their various roles and life in general, were better able to cope with their roles.

The reason for focusing on women approximately 50 to 60 years of age was that relatively little scientific information exists for this age range. Research on aging tends to concentrate on persons over 65 years of age. Major studies of women at midlife, such as the one being conducted by Baruch and Barnett (1980), deal with somewhat younger women, 35 to 55 years old, with a median age of 43 years. The few researchers currently working with middle-aged women (Rubin, 1978, 1979) claim that life stage and other theories do not hold true for this population.

II. REVIEW OF THE LITERATURE

A review of the relevant literature on (a) multiple roles, especially among women in their middle years, (b) flexibility and shifting, (c) self-ratings of satisfaction and happiness, and (d) perception of ambiguity, helped to formulate the hypotheses.

Multiple Roles

The term role has been variously defined as "a character assigned or assumed . . . function" (Webster's Seventh New Collegiate Dictionary, 1965); "occupation, career, undertaking, what one is doing, policy, scheme, behavior, strategy, procedure" (Roget); the personal counterpart of status (Linton, 1936); "a patterned sequency of learned actions or deeds performed in an interaction situation" (Sarbin, 1954); "a social task or function carried out by the individual" (Murphy, 1947). Variations in the perception of role demands and the ability to meet these expectations, have been held accountable for differences in role behavior (Levy, 1970).

For this study, a role was defined as the enactment of a status incorporating certain behaviors and perceptions. These may have been prescribed externally by society, culture, others, the situation, or imposed by some internal standard or reference point. Roles may involve kinship (e.g. mother, wife, daughter), job (e.g. teacher, lawyer), nonsalaried activities (e.g. homemaker, cook, volunteer), or broader relationships (e.g. employer, friend, citizen).

Roles have been assumed to follow one another in sequence, and occur at different stages in the life cycle.

> Roles in terms of age, sex, occupation, etc. are assigned to the child, and through such serially enacted roles . . . he [sic] makes his way to old age. (Murphy, 1947, p. 559)

The expected roles of women have been invariably geared to child-rearing and family.

> First employment, marriage, birth of children, entry into school of last child, re-entry into paid employment, departure from home of last child, birth of grandchildren, retirement from paid employment, husband's retirement, husband's death. (Bromley, 1974)
>
> Pre-child stage, pre-school stage, school stage, post-child stage. (Levy, 1976)
>
> Middle motherhood, mothers of adolescents, late motherhood. (Bernard, 1975)
>
> Becoming a wife, becoming a mother, full house with community involvement, decrease when children leave, disengagement. (Lopata, 1966)

Although certain roles have been associated with certain ages (e.g. students are young, parents are middle-aged), people can and do maintain more than one role in any given phase. ". . . at any given moment he [sic] is actually engaged in playing numerous roles" (Levy, 1970, p. 358). Murphy (1947) wrote about "the complexity of roles to be enacted by one person within a given period of his life," and Neulinger (1979), in discussing time budget studies, noted "parallel activities are on the increase"; highly educated people living in an industrialized society with a high density of communication tend to crowd more than one activity into the same time span.

It is possible to maintain several roles concomitantly because a role may be active at one time and passive at another. A role becomes active when it affects behavior, perception, cognition. One way to determine whether a role is active is by the degree of involvement in the role. This implies centrality or salience of the role at any particular moment in time. It may be manifested by active behavior (observable and measurable by others), or by active thinking about the role (attitudes, plans for future behavior). The latter is an internal process, not necessarily observable by others, but of which the person is acutely aware. Both overt and internal involvement take up time.

For example, there may be occasions when one is able to function in role A, doing habitual or automatic tasks, while one's mind is actively engaged in decisions about role B. In such a case, role B was considered the more salient for this study. In order to cope with unusual demands of role A, one has to shift thoughts away from role B, and become actively involved in role A. Thus, one may attempt to solve a professional problem while routinely cooking supper at home, but when the carrots begin to scorch, or unexpected guests arrive, one must quickly shift to homemaker, cook, or hostess role. Likewise, one may bring family concerns to the office, but must put them aside when job demands become greater. Our concern was with shift among active roles.

How easy is it to shift roles? Murphy (1947) claimed that

> two or more incompatible roles may be worked out, each to be enacted in its own specific situation . . . the transition from one self to another self is effected abruptly, not gradually. One does not drift into another; there are . . . a finite number of mutually exclusive selves that follow in temporal sequence . . . some of the properties of selfhood are carried over from one role to another. (p. 559)

Yet, later, he states that

> not all roles are easily accepted; many require effort and put a strain on the individual. A given person must enact several different roles . . . at once, and their integration is not obvious or mechanical. (p. 794)

Komarovsky (reported in Scarf, 1980) made the point that society makes contradictory demands upon career-oriented and feminine women. Role behavior and fundamental personality traits required for each are diametrically opposed, so that in order to succeed at both, ambitious women must develop two personalities at the same time. This implies that women who are able to maintain careers and families must be able to fluctuate between their two selves at will.

Studies of the maintenance of multiple roles by women, particularly working wives and mothers, contend that it is either (a) a negative experience, or (b) a positive experience.

The negative aspects were attributed to role conflict (Murphy, 1947; Nevill & Damico, 1975), or insufficient time (Friedan, 1979), resulting in adjustment problems (Fields, 1974), and role strain, an unpleasant condition akin to anxiety (Levy, 1970). This may occur when role requirements are unclear or incompatible with one's self image. Sieber (1974) differentiated between role overload, involving

constraints imposed by time, and role conflict, in which roles have discrepant expectancies regardless of time pressures.

The positive, or potentially enhancing aspects of multiple roles for women were said to derive from feelings of self-esteem (Ferree, 1976), self-worth and competency (Bernard, 1975; Birnbaum, 1975; Hoffman, 1977), status enhancement and personality enrichment (Sieber, 1974), learning to cope with conflicting demands (Lowenthal, Thurnher & Chiriboga, 1975), and alleviating stress by giving a sense of mastery (Gal & Lazarus, 1975). Since roles provide privileges along with obligations, the rewards of role accumulation often outweighed the responsibilities (Sieber, 1974).

> The gratification provided by multiple role involvement usually outweighs any conflict and stress such involvement may entail. (Baruch & Barnett, 1978)

Career mothers were found to encourage independence in their children (Bernard, 1975), and mature women returning to graduate school were reported to be more autonomous and dominant than a matched group of college educated women who preferred the housewife role (Ratcliff, 1976). One cannot assume that the mere assumption of additional roles provided these qualities. It is possible that the women who possessed these qualities to begin with were the very women who sought and obtained additional roles.

These seemingly contradictory conclusions as to the merits or oppressiveness of multiple roles may be due to external factors, such as variations in the methods or

measures used, or to individual differences within the populations being studied.

There have been conflicting data on whether women increase or decrease roles with age. Some investigators stated that the demands of motherhood limited a woman's personal development and role acquisition in middle age, with involuntary role loss found among women anticipating retirement, or preparing for the postparental stage (Lowenthal et al., 1975), and lower role activity after the age of 55 (Neugarten, 1973). Other investigators claimed that mothers showed more role changes than fathers (Maas & Kuypers, 1974), healthy women over 55 years of age were active in more roles than men (Cumming & Henry, 1961), and women who maintained dual roles anticipated expanded activity at mid-life (Laws, 1976). In a study of job satisfaction among school teachers (Kuhlen & Johnson, 1952), married women over forty looked forward to retirement in ten years. This does not mean that all women are looking forward to shedding roles. The search for change is what makes women's life patterns so diverse. While these career women were anticipating retirement, some housewives within the same age range were preparing to enter the job market. Some of the discrepancies in the findings of role loss vs. role gain may have been due to differences in the samples, differences in criteria of middle age, and whether a shift in roles was counted as a loss or gain.

In the Kansas City Studies of Adult Life (Neugarten, 1973), men and women between the ages of 40 and 90 were

interviewed and given the Life Satisfaction Index, at regular intervals over a six year span. The researchers found that some personality types discarded roles happily as they aged, and others experienced a drop in life satisfaction as roles were shed. The varied responses to loss of roles may depend upon the perceived quality, not the quantity, of roles dropped, and whether role responsibilities were, or were not, outweighed by role privileges and rewards.

Flexibility, Shifting, and Adaptation

Long Term Shifting

As we go through life, we may change our self-concepts when our relations with others change. Among a group of 533 middle-aged women, hospitalized for depression, the over-involved mother-housewives who had lost their maternal roles showed the greatest depression. These women made no mention of their own accomplishments, did not see themselves as individuals apart from the family, and had rigid, martyrdom attitudes (Bart, 1970). Since our culture defines women in terms of motherhood, many women over 40 have lost their major role in middle age, and consequently may feel the effects of aging earlier than men (Bell, 1970).

Middle-aged mothers who are flexible are able to shift to other roles. Women who were able to shift from defining their roles in terms of others to fostering their own psychological growth, discovered ego strength through their ability to cope and survive (Davitz & Davitz, 1976). Or, conversely, those who were able to work through their identity problems

were free to shift roles if channels were open and there were no social or economic constraints (Lowenthal et al., 1975). The breadth of role scope in middle age was found to be related to flexibility in adapting to old age (Lowenthal et al., 1975).

Short Term Shifting

Flexibility is also essential in the short term shifting necessary in juggling multiple roles. Multiple roles can be overwhelming for some women, but provide challenges and satisfaction for others. For the latter, privileges may accrue faster than obligations, and they may find ego gratification in being needed by diverse role partners. Time and energy expand and contract, depending upon commitment and what is culturally acceptable (Marks, 1977).

Compartmentalization is a way of avoiding conflict by separating roles and relationships. Davitz and Davitz (1976) claimed that men can compartmentalize their lives but it is very difficult for women to do so. However, this cannot be true for all women, since this technique was used to alleviate role strain experienced by married women who were practicing lawyers, doctors, and college teachers (Poloma, 1972). The difference between the woman who thrives on multiple roles, and the one who wilts under them may lie in the former's ability to alternate roles, so that career becomes "figure" and family becomes "ground" while working in the office or laboratory; upon returning home, the pattern shifts, reverses,

so that the family role of wife or mother is perceived as dominant.

Adaptation, according to Neugarten (1973), is the key to successful aging. She believed it to be determined by personality type and coping style. Working professional women, who had graduated with distinction fifteen to twenty-five years earlier, reported a "sense of pleasure and freshness and renewal in shifting back and forth from wife and mother to worker" (Birnbaum, 1975). Ginzberg et al. (1966) identified four life patterns in a group of gifted women who were surveyed ten to fifteen years after graduate school. One group strove for goal attainment and refused commitments interfering with their plans; another group was able to adapt and compromise as needed; a third group was able to shift goals completely when interests changed or barriers appeared; the fourth group was unable to rearrange their lives when original plans did not work out. The women who derived satisfaction with their life patterns appeared to manifest flexibility, coping, and adaptation in some fashion.

These various studies revealed differences in flexibility among women of similar age ranges and intellectual ability. This suggested that differences in flexibility may be traced to differences in personality.

Flexibility

Flexibility was defined for this dissertation as more akin to a cognitive style than an ability; it is not value-directional or specific to a particular domain or function.

It encompasses "a person's typical modes of perceiving, remembering, thinking, and problem solving . . . extends to almost all human activities . . . including social and interpersonal functioning" (Messick, p. 2). It includes not only the capacity to range far and wide and notice peripheral elements, but also the capacity to direct shifts of attention voluntarily. Shapiro (1965) described cognitive flexibility as "a volitional mobility of attention." Thus, it implies an element of control. Without control or volition, one might continuously vacillate between both aspects of an ambiguous figure, and be unable to hold or control fluctuation when instructed to do so. Such a person might amass many roles and become involved in many activities, but never complete tasks or perform what the roles demand. Flexibility was defined as

(a) maintaining a wide and broad scan of attention

(b) being aware of more than one aspect of any issue or event

(c) being able to change one's point of view or direct attention as needed.

The first two points deal with deployment of attention, and the last deals with the volitional control of shifts in attention.

Satisfaction

This study examined not only the relative number of roles maintained by women, but also their degree of satisfaction with those roles. For purposes of this study, a person

who responded that she was satisfied with what she was doing, was assumed to be coping with her roles, and doing what was psychologically comfortable for her.

The literature contained conflicting evidence as to the factors related to satisfaction and happiness in middle aged women. Lowenthal et al. (1975) found that life satisfaction, as reported by women, was not directly related to the number of positive and negative emotional experiences reported. The happiest middle aged had few physical and psychological deficits, and intermediate levels of resources in terms of mental capacity, accommodation, hope, and growth. Those with greater resources may have had higher aspirations and broader experiences, but consequently may have been more disappointed if they were unable to attain their goals.

Satisfied mothers tended to have an internal locus of control (Maas & Kuypers, 1974), were healthy, still married, without serious problems or pressure from conflicting roles (Lopata, 1966), had no children under eighteen, or living at home, and were not retired (Borland, 1978). Low life satisfaction was reported by mothers with an external locus of control (Maas & Kuypers, 1974), and by middle class mothers of college students who sought external causes for their dissatisfaction (Rose, 1955). Havighurst (Troll, 1975) believed that each phase of life called for completion of a set of tasks. If one succeeded, the result was life satisfaction. The Havighurst article was published in 1953, when stage theories were popular.

Self-ratings of satisfaction do not always take expectations into account. Even when women were asked to compare their early goals with present attainments, retrospection may be biased by selective memory.

Higher life satisfaction was more frequently found in active, involved persons, but activity alone did not automatically bestow satisfaction. Other factors, and personality type, influenced responses to the Life Satisfaction Scale (Neugarten, 1973). Values, moods, and family support have been related to life pattern satisfaction (Frank, 1980).

Happiness has been defined as a complex concept and feeling, which may depend more on the psychological mechanisms of the person than the experiences to which the person is exposed. Freedman (1978) concluded that people were more likely to be happy if their needs were satisfied, they were self-confident, they believed life had meaning, they had an internal locus of control, they had a change for the better, and they had some "personal capacity" for happiness.

Campbell (1976) cautioned against using a single indicator of life satisfaction since the concept of happiness encompasses many domains. Campbell, Converse, and Rodgers developed three subjective measures of life experience: a cognitive index of life satisfaction, the affective quality of life experience (which used the semantic differential), and an index of perceived stress. Only married men and women with grown children gave consistently positive responses to

all three measures. Other groups showed varied patterns. Campbell suggested that other determiners of well being may be personality characteristics, psychological support systems, and unpredictable life events. These various studies imply that personality must be considered when ascertaining reasons for life satisfaction.

Since a single measure would not give a true picture, more than one measure of satisfaction was used in this study. Because the focus was on multiple roles, women rated themselves on their satisfaction with their different roles, as well as on an overall measure of happiness. Satisfaction is a cognitive measure, happiness is an affective measure; both comprise one's sense of well being.

Perception of Ambiguity

According to Davidoff (1975), we tend to organize perception. If there are conflicting forces in the organizational structure, the percept will vary. Ambiguity has been defined in various terms. Davidoff said that the world has an ambiguous element, and Gombrich (1960) remarked that ambiguity cannot be seen; we infer it by learning to switch from one reading to another, and realizing that both interpretations fit the image.

Fisher (1967, 1968) was more specific, and differentiated between reversible and ambiguous figures, which have been used interchangeably in studies of figure-ground and perceptual organization. Both have labile figural elements, and exhibit

ambiguity and reversibility, but reversible figures appear to be three-dimensional, so the same figure is seen from two viewpoints (e.g. the depth change in the Necker cube). Ambiguous pictures retain the same depth, but the subject matter changes; when first seen, the representation seems obvious, but with continued viewing, the spatial elements are transformed into a mutually exclusive alternative image. The figure and ground may be clearly divided by contour, or the alternating figures may interpenetrate spatially.

In designing ambiguous figures, Fisher used an operational definition--the probability of either aspect appearing spontaneously upon first exposure is equal. This was based upon Flament's (1959) indices of ambiguity; in a completely unambiguous figure, all observers make the same response; in a completely ambiguous figure, all responses are equally probable. If there are two alternative images, each will be seen first by approximately half of the observers, or half of the time. Ambiguity requires some form of restructuring by the perceiver because of competing or unexpected structures.

In ancient times, ambiguous figures were connected with magic, because of the possibility of more than one interpretation; modern artists, such as Beardsley, Dali, and Escher, used visual ambiguity to make the viewer rethink assumptions about the world. The concept of perceptual ambiguity was defined by Benussi in 1904, and developed by Rubin, a Danish psychologist. He used a design of twin profiles and a vase, as well as irregular nonsense shapes, to study subjects'

responses to figure-ground relationships (reported in Solley & Murphy, 1960; Epstein, 1967).

Various theories have been evoked to account for these perceptual anomalies. They fall into two main groups--perception oriented and personality oriented. Regardless of the explanation, the resolution of ambiguity necessitates some restructuring, a shifting of focus.

Perception Oriented Theories

The first group of theories focuses upon the physical attributes of the stimulus and the context in which it is perceived. Physiological functions, such as blinking, and environmental variables, such as room temperature and noise, have been employed to explain frequency, speed, and extent of fluctuation of the perceived reversible image. The Gestaltists believed people responded according to unlearned rules of grouping and closure; Brunswik noted that probability was a factor; and the transactionists emphasized the interplay of person and what is being viewed. It has been claimed that past experience affects the meaning of the stimulus, so that people from different cultures see what is most important to them. The following factors, said to affect perception of ambiguity, were considered in designing this study:

Age. Experimenters have reported some slowing of spontaneous reversal rate and time to identify incomplete pictures, and recognize concealed figures, among older people (Botwinick, Brinley & Robbin, 1958; Eysenck, 1952; Ramamurthi

& Parmeswaran, 1964; Speakman, 1954; Welford, 1973), possibly due to rigidity (Schaie, 1958), caution (Riley & Foner, 1968), and changes in scanning with age (Lewis, 1977). Others claimed that age related differences disappeared when the lighting was good, and there were no time restrictions. Welford (1973) reported no change in the ability to prevent reversals, and Korchin and Basowitz (1956) noted that if older subjects were instructed to shift, they did so earlier than younger subjects. Most of the subjects in this study were in the same decade of chronological age.

Set. Prior exposure to ambiguous pictures was found to hasten subsequent perception of such pictures (Bruner & Postman, 1949; Luchins & Luchins, 1955). This occurred both with specific practice (Djang, 1937; Francés, 1963; Hanawalt, 1942; Leeper, 1935), and general exposure. Adults were more apt to see the rat in the Rat-Profile figure after viewing animal pictures, and the profile after looking at a picture of a face (Bugelski & Alampay, 1961). Literate adults tended to see black as dominant over white regardless of pre-exposure, whereas pre-school children and illiterate adults were influenced by prior exposure to white on black (Botha, 1963). Set was found to be affected by memory as well as by the experimenter's instructions, expectations, need, and cultural habituation (Gombrich, 1960). Some people were unable to see alternatives even when told to do so.

Although the pictures used in this dissertation were relatively unfamiliar, subjects were asked if they had ever

seen them before. The use of a practice picture gave all subjects equal exposure to the instructions and methods of responding. For this study, the content of the image seen first was of less importance than the subject's ability to shift perspective so as to see the alternative image.

Stress. When shock was associated with one of two reversible faces, women students who rated the shock as unpleasant reported more shocked than unshocked faces, and those who did not mind the shock perceived more unshocked faces (Ayllon & Sommer, 1956). Subjects under stress were found to be intolerant of ambiguity, and needed more exposures to identify incongruous pictures (Smock, 1955). The redistribution of attention, during anxiety, may cause narrowing of vision (Ross, 1974). Since stress appears to affect perception, an attempt was made in the present study to keep subjects from feeling anxious or pressured during the perception tasks.

Drugs. Both depressant and stimulant drugs were found to increase the rate of reversal, possibly by affecting eye movement and blinking (Eysenck et al., 1957). LSD users were "less tolerant of ambiguity" (Naditch & Fenwick, 1977), and normal students, injected with Ditran, were unable to control attention, differentiate figure from ground, or shift focus (Cartwright, 1977). Subjects in this study were asked if they were taking any medication.

Personality Oriented Approaches to Perception

Another group of theories used personality oriented explanations to account for responses to perceptual ambiguity. Is the way we perceive, tolerate, and interpret perceptual ambiguity indicative of how we view and cope with life in general? Kaufer (Davidoff, 1975) observed that patients who were diagnosed as emotionally moving towards other people perceived objects as being nearer than patients diagnosed as emotionally moving away from others. Attempts have been made to associate perceptual responses to ambiguity with various personality types.

Extraversion vs. Introversion. Eysenck (1957) hypothesized that extraverts would show a faster rate of fluctuation, due to a quicker, stronger neural satiation effect, than introverts. McDougall (1929), on the other hand, believed that extraverts would have a slower rate of fluctuation of alternative perspectives because they had more of a biochemical "substance X," which prevented rapid conduction of impulses at the synapses. Franks and Lindahl's (1963) findings support McDougall's prediction, but other experiments have yielded contradictory results. Another explanation of the difference is that extraverts lose interest in this uninteresting task faster than introverts, and pay less attention (Davidoff, 1975).

Field Dependence vs. Field Independence. The perceptual difference between field dependence and field independence was supposedly due to different orientations to the world

(Newey, 1978). In ambiguous situations, field dependent people make greater use of external social referents to help remove the ambiguity (Witkin & Goodenough, 1977). Greater field dependence was associated with more rapid reversal of perspectives under passive instructions, and greater ability to resist reversal if instructed to do so (Loo, 1978).

Thurstone's Factors. Thurstone (1944) thought that individual responses to psychophysical tasks would reflect the general characteristics of the person, and have the advantage of objective scoring. Forty different perceptual tasks were given to college students. Among the 11 factors derived were an ability to perceive closure rapidly and maintain it during distraction, and the ability to be aware of two figures simultaneously, or be able to move easily from one to the other. The latter seems related to flexibility and shifting as used in this study. Thurstone found that certain persons seemed more adept at utilizing certain modes in specific situations, but it was not clear whether these differences were due to intelligence, education, or personality.

Flexible Control vs. Constricted Control. A person with flexible control on the Stroop Color Word Test responds to specified aspects of a field despite interferences, whereas a person with constricted control is distracted by overlapping stimuli and tends to avoid indefinite boundaries. Undergraduates with flexible control were more likely to integrate competing elements in verbal and visual ambiguity, while those with constricted control were more apt to keep

them separate and compartmentalize (Loomis & Moskowitz, 1958).

Reactions to Incongruities. College students varied in their responses to rapid tachistoscopic exposure of playing cards, some of which had color and suit reversed. A small group recognized and reported the incongruity; others denied it, were confused, persisted in giving incorrect answers, or were surprised when the new perception suddenly emerged (Bruner & Postman, 1949). Individuals differ in their responses to ambiguity and incongruity.

Tolerance vs. Intolerance of Ambiguity. Klein and Schlesinger (1951) postulated two perceptual types based on Rorschach responses. Form-bounded were constricted, intolerant of perceptual ambiguity, and preferred not to see uncertainty. Form-labile were freer, imaginative, less restricted, and showed "tolerance of perceptual ambiguity." Gardner and Moriarity (1968) used the term "tolerance for unrealistic experiences" to describe form-labile subjects.

Frenkel-Brunswik (1974) was one of the chief proponents of intolerance of ambiguity as a personality trait, having both emotional and cognitive forms. Prejudice was associated with perceptual rigidity, inability to change set, and tendencies to primitive and rigid structuring of ambiguous perceptual fields. Between 1946 and 1948, she conducted a series of experiments, using lower middle class children, aged 11 to 16, living in a restricted covenant area in California.

The first perceptual ambiguity experiment, involving a disk-shaped reversible figure-ground pattern, was given to 14 subjects. Prejudiced subjects were expected to show fewer spontaneous shifts, have longer reaction time in shifting, and tend to settle on one of the possible solutions; findings were not conclusive. In another experiment, subjects were shown a series of pictures in which a dog gradually turned into a cat. The prejudiced group was reluctant to give up the original unambiguous object, and responded slowly to changing stimuli. Frenkel-Brunswik inferred that they found external ambiguity as disturbing as their internal conflicts. Prejudiced subjects, required to name colors in a progressive series, seemed to perseverate longer with given color terms. When presented with numbers in transitional stages, ethnocentric subjects showed statistically significantly slower recognition of numbers, and tended to retain initial impressions even when incorrect (Livson & Livson, reported by Frenkel-Brunswik, 1974). Children high on ethnic prejudice were unable to change set when necessary for problem solving (Rokeach, 1943). These experiments give credence to the notion that some people find it difficult to switch and shift, and this inability seems to hold for different situations.

Rigidity often goes with exaggerated flexibility, resulting in chaos. The degree of extremity of a style may be psychologically more important than the content. Male students preferring order in art, tended to be stable and

trusting, but in the extreme could be rigid and refuse to see whatever did not fit into their preconceived system. The group that preferred complexity could be original, creative, and tolerant of unusual ideas, but if carried to excess, could display disorganized behavior, despair, and hostility (Barron, 1952). This suggests an inability to control flexibility, and might be similar to the concept of flexibility without control used in this dissertation.

Intolerance of ambiguity may include intolerance of fluctuation, since fluctuation prevents unambiguous organization of the perceptual field. Jones (1955) showed the Necker cube to Naval Aviation cadets who had been given the F Scale earlier. When set against reversal, both high and low authoritarians had low rates of fluctuation; when they were set toward reversal, the authoritarians continued to have low rates of fluctuation, while the non-authoritarians had high rates. Similar results were predicted in this study for women satisfied with fewer roles, and women preferring more roles.

A similar experiment was conducted by Sanders (1977) using college students, the Rokeach Dogmatism scale and two indicators of perceptual ambiguity--the Necker cube and binocular retinal rivalry alternations. The hypothesis that closed-minded persons cannot tolerate contradictory information and would have low rates of fluctuations because of non-recognition of ambiguity, was confirmed; the low order of magnitude was similar to that found in other studies of cognitive and perceptual relationships.

Some other interpretations of tolerance of ambiguity have been made. A Tolerance-Intolerance of Ambiguity Scale (Budner, 1962) was devised to measure whether novel, complex, or insoluble ambiguous situations were perceived as threatening or desirable by the rater, but this instrument did not involve visual perception. Guilford found tolerance of ambiguity correlated with self-confidence (reported in Frenkel-Brunswik, 1949). Eysenck, Barron and Welsh believed that persons who had difficulty tolerating anxiety from their own anti-social and sexual impulses would have difficulty facing ambiguity or complexity. The only way to deal with ambiguity is to face the conflict and cope directly (Berlyne, 1960).

Tolerance of ambiguity has been used as a label and as an explanation. Either way, restructuring of focus seems to be required. Is the ability to shift visual focus, whatever accounts for it, a quality found in women who shift roles easily and thrive on frequent change?

Figure-Ground Reversals

Since the perceptual tasks used in this study included fluctuation of alternating images, it was important to know what factors may affect fluctuation.

Figures differ from ground by being infused with meaning (Rubin, 1921; Gregory, 1970). In a "meaningless" figure, such as the Necker cube, the perceptual system oscillates between two equally acceptable interpretations of depth (Robinson, 1972). The Necker cube fluctuates significantly

faster than the Rubin vase-faces, possibly because it is simpler, more familiar, and relatively devoid of meaning (Flamm & Bergum, 1977).

Figure-ground reversals were found to occur spontaneously, when looked at steadily (Gregory, 1970), or by willfully altering attention. Persons can train themselves to switch more rapidly and oscillate between readings, but they cannot hold conflicting interpretations simultaneously (Gombrich, 1960), although with repeated viewing, fluctuations may be so rapid that subjects report seeing two alternatives at once (Davidoff, 1975). Some experimenters found that a change could be initiated by blinking, and others claimed eye movements were not necessary for reversals (Flamm & Bergum, 1977). One investigator believed that the maximum fluctuation rate was equal to the pulse rate of the subject (Lukiesh, 1965). Rate of fluctuation may be affected by practice (Kennedy, 1974), intermittent rather than continuous exposure (Olson & Ohrbach, 1965), brain lesions (Cohen, 1959), changing contrast (Harrower, 1936; Murray & Ragland, 1976), amount of light (Ross, 1974), hotness of the room, strenuous exercise, violent noise (Vickers, 1972), psychiatric illness (Robinson, 1972), and perceptual deprivation (Zubek, 1969). One explanation envisioned the alternatives being on different neural circuits, and when one circuit was fatigued, satiated, or adapted, it gave way to the other, which was fresher and more excitable (Attneave, 1974; Flamm & Bergum, 1977). Some pathological causes listed were Simultagnosis,

a defect of attention in which the victim cannot attend to two things at once; and Paredolia, in which the person receives continual multiple interpretations from unclear stimuli due to detached retina, retinal hemmorhage, or optical atrophy (Davidoff, 1975).

The diversity of findings suggests that many factors may be operating, ranging from individual differences to discrepancies in experimental design. Flamm and Bergum (1977) noted that the reversal rate of ambiguous figures increased in the first one to two minutes of passive viewing, so the length of sampling time may be a factor. However, in preliminary trials of this research, a two minute time span for active voluntary fluctuation induced fatigue and boredom, so a one minute limit was set.

Tenacity of the Image

Should the tenacity of the image be taken into account in an experiment dealing with reversals and alternations of percepts?

When Rubin reexposed his cards, nearly two-thirds of the subjects saw them the same way, one-third saw them with figure and ground reversed, and only 2% reported seeing them both ways. Rubin inferred that the current figure-ground would tend to persist, and previous experience in seeing figures would stabilize the figure-ground relationship. Rock and Kremer (1957) found no figural persistence when they modified Rubin's experiment, but other investigators believe that whatever is seen as figure on the first presentation is seen

that way on the second (Kennedy, 1974). Leeper found that after seeing an unambiguous version of the wife or mother-in-law figure, subjects were unable to achieve the alternative organization of the new configuration (Epstein, 1967).

If the first line identified as something gets locked in (Attneave, 1974), it becomes difficult to detach it; if the structure of a picture once established resists change (Davidoff, 1975), any alternative will be hard to find. Frenkel-Brunswik and her followers associated perceptual rigidity with a rigid personality. Yet, Davidoff implied that the structure resists change because it is the first to be entered into some central filing system, some schemata of the mind. Witkin (1977) suggested that differences in initial memory trace may play a part in disembedding figures. Since tenacity of the image is not found in all experiments, might it be more characteristic of rigid intolerant people? Do rigid persons have more difficulty shifting because of different physiological structures? How can we pull apart interrelated factors? Is one a cause and one an effect, or do they both reflect some central aspect of the person?

The answers to all of these questions lie beyond the scope of this study. Any "set" evoked by viewing an unambiguous picture first, should be diminished by the use of equiambiguous pictures. This dissertation was limited to examining the relationship between role shifts and shifts in perception required to recognize alternate aspects of ambiguous pictures. Both necessitate a change in orientation;

it was hypothesized that flexible people can make this change easily and quickly.

III. HYPOTHESES AND EXPECTATIONS

It was expected, based on the pilot data, that the subjects could be divided, by number of roles and role satisfaction, into four groups. General expectations regarding the perceptual responses of these four groups of subjects are listed below. The specific hypotheses to be tested follow. The latter predict differences between certain of the groups for each dependent variable.

General Expectations

1. Women who maintain multiple roles and are more satisfied and happy with their roles (Group I) tend to be flexible; they are able to switch roles easily and change perceptual set readily. They are able to see both sides of an issue and change points of view as needed; thus, they have control over their flexibility. They will see both aspects of an ambiguous picture spontaneously and quickly, and be able to hold set or fluctuate rapidly on demand. The latter two scores will be different.

2. Women with fewer roles, who are satisfied with their situation (Group III), are less apt to see the other side of an issue, or change points of view easily. They will take longer to recognize the alternate aspect of an ambiguous picture, tend to maintain their original set longer, and find it difficult to fluctuate rapidly on request. Fluctuation and hold scores will show less of a difference than in Group I.

3. Women who maintain multiple roles, but are less satisfied (Group II), may be psychologically attuned to handle fewer roles. If so, they may find it difficult to see the second aspect of an ambiguous picture, and be unable to hold set or fluctuate on demand.

4. Women with fewer roles, who are less satisfied (Group IV) may want to expand, but be unable to do so because of circumstances. If they are psychologically attuned to handle many roles, they might feel frustrated by the narrowness of their existence. If their dissatisfaction is due to role constriction, they may, like Group I, be able to see the second aspect of an ambiguous picture, and fluctuate between both alternatives.

The implication is that women who are more satisfied with the number and variability of their roles are doing what is psychologically comfortable for them; women who are less satisfied, are uncomfortable or frustrated because, for situational or personal reasons, they are operating over or under capacity. It is possible that the less satisfied women are chronic complainers, and their dissatisfaction is not related to the number of roles they maintain. An attempt was made to identify such women from the interview.

On the perception tasks, according to the general expectations, those who were less satisfied with more roles should respond like those who were more satisfied with fewer roles, and those who were less satisfied with fewer roles, should respond like those who were more satisfied with more roles.

Specific Hypotheses

The specific hypotheses to be tested were as follows:

1. Dependent Variable 1 - on the time taken to recognize and report the second aspect of an ambiguous picture

(a) Group I will take a significantly shorter time than Group III

(b) Group II will take a longer time than Group I

(c) Group IV will take a shorter time than Group III

2. Dependent Variable 2 - on the number of voluntary fluctuations between two aspects in a one minute interval, when instructed to shift

(a) Group I will have significantly more than Group III

(b) Group II will have fewer than Group I

(c) Group IV will have more than Group III

3. Dependent Variable 3 - on the number of involuntary fluctuations between two aspects in a one minute interval, when instructed to hold set

(a) Group III will have fewer than Group I

(b) Group II will differ from Group I

(c) Group IV will have more than Group III

4. Dependent Variable 4 - on the difference between the number of voluntary and involuntary fluctuations

(a) Group I will have a significantly larger difference than Group III.

On all four dependent measures, the greatest differences will occur between Group I and Group III. Group II will be

different from Group I on one or more variables, and similar to Group III. Group IV will be different from Group III on one or more variables, and similar to Group I.

IV. METHOD

Subjects

Subjects were 100 college-educated women, 48 to 67 years of age, who volunteered to participate in a study of role satisfaction and role shifts among women in their middle years. All were, or had been, married, with at least one child. Limiting the sample to women who were, or had been married with at least one child, increased the available roles to include wife, widow, divorcee, mother, and sometimes grandmother. Using college graduates reduced disparities due to intelligence.

Recruiting the Sample

Names of potential subjects were obtained from college alumnae lists, participants in a previous study of multiple roles, friends, acquaintances, colleagues, and the subjects themselves. Announcements of the study appeared in the Newsletter distributed by The Center for the Study of Women and Sex Roles of the City University of New York, and were posted on several bulletin boards in the Graduate Center, accessible to the public. Other names were solicited at a college alumnae reunion, and through personal contact.

The on-going process of recruiting subjects, until the requisite number were obtained, utilized a "snowball technique."[2] The first women contacted were asked to submit

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[2]This method of obtaining a subject pool also was used by Rubin (1979) in her study of middle aged women.

names of other women who met the criteria of age, education, marital status, and motherhood. These women, in turn, recommended other women, and so on.

Each potential subject, living in the greater New York metropolitan area, was sent a cover letter briefly describing the study and inviting her to participate, a two page questionnaire, an interview appointment form, and a stamped addressed envelope for returning the filled-in questionnaire and the appointment form. (See Appendix A.) Although participation was voluntary, a payment of $5 was offered to help pay for transportation to the interview site. An attempt was made to personalize the cover letter by noting, when applicable, the name of the person who had suggested the recipient's name.

Upon receipt of each completed questionnaire, the experimenter telephoned the subject and made an appointment for an interview at a mutually convenient time.

Instruments and Design

Subjects were classified into four groups on the basis of two independent variables, number of roles, and role satisfaction, and two levels of each. Subjects were ranked by assigned role scores, derived from their responses to the questionnaire and interview, and divided by a median split into those with more, and those with fewer roles. Subjects also were ranked by satisfaction scores, compiled from self-rating scales, and divided by a median split into those with higher, and those with lower satisfaction. The groups were

composed as follows:

Group I - More roles, higher satisfaction

Group II - More roles, lower satisfaction

Group III - Fewer roles, higher satisfaction

Group IV - Fewer roles, lower satisfaction

The dependent variables involved perceptual responses to ambiguous pictures. They were:

1. Time taken to recognize and report the second aspect of an ambiguous picture - flexibility score

2. Number of voluntary fluctuations between two aspects when told to shift rapidly - flexibility score

3. Number of involuntary fluctuations between two aspects when told to hold set - control score

4. Difference between Variables 2 and 3 - control score

Role Measures

The multiple role data were derived from the questionnaire and interview.

The Questionnaire. On the two page questionnaire, each subject checked and listed the roles which best described her, and circled those which were most important to her at this point in her life. She also supplied information about current employment, educational status, volunteer activities, homemaking, leisure, marital status, children, grandchildren, and responsibility for parents. The focus was on how the subject perceived her roles, rather than on how others perceived them.

The questionnaire role data were quantified by a weighted count, based on the number of roles checked, roles circled as important, number of jobs and other activities engaged in and time allotted to each, and involvement with children, grandchildren, and parents.

The resultant cumulative score provided a rough measure of the number of roles engaged in by the subject, but did not indicate, except by indirect implication, the amount of shifting between roles. The latter was obtained in the interview, using a modification of a time diary called a "yesterday" interview. Neulinger (1979) suggested this technique as a compromise between a recall interview, based on memory, and keeping a detailed written account of each activity engaged in over a specific period of time. In the "yesterday" interview, the short time between behavior and recall allows for more accurate reporting on the length of time spent in diverse activities.

The Interview Session. All interviews were originally scheduled to take place in an office at the Graduate Center of the City University of New York. However, a railroad strike made it difficult for some women to travel to Manhattan, so an alternate site was provided at Mercy College in the Cross County Center, Yonkers, New York. The availability of a place in Westchester County made it possible to interview 20 women who were unable or unwilling to travel into mid-town New York City for an interview. The other 80 interviews took place at the Graduate Center.

During the interview, the subject was asked to describe her activities for the 24 hour day preceding the interview, in terms of roles and role shifts. After greeting the subject, and making her comfortable, the experimenter said:

> When we take on a role, we act or think in a particular way that is expected of someone in that role. The expectations may come from other people, the culture, or we may set them ourselves. A role may be active or passive at any time, and change from one state to the other. When a role is active, you are conscious of being in that role, either by the way you act, or think, or plan something. You can be aware of any specific role at any moment in time, and change roles when you need to, or want to. A role diary lists the active roles and role changes occurring in a 24 hour period. For yesterday, try to remember your activities and the time spent in each, in terms of roles, and role changes. Some role changes may be planned, as when you go from a homemaking role to a job, but others may be unplanned, such as a phone call or a letter causing you to shift to active mother or daughter role. (If the subject did not have a living parent, daughter role was not mentioned.)
>
> For yesterday, begin with the time you woke up in the morning. What did you do or think, and what role were you in, while performing that activity?

Note was made of the time, the activity, and role specified by the subject for each activity mentioned. A few subjects claimed that they could not remember, but with patient prodding they were able to reconstruct their day. Once they began to talk, there was no problem in recall. Several women consulted their appointment books to refresh their memories.

After describing her previous day's roles, the subject was asked:

> Was yesterday a typical day?

If the role diary did not represent a typical day, the subject

was asked to describe a typical day. This usually happened when a working woman was interviewed on a Monday, so that the previous day, Sunday, was a nonworking, and therefore, not a typical day.

The data given by the subject in the "yesterday" interview were quantitatively scored, taking into account (a) the number of different roles mentioned per 24 hour period, and (b) the total number of role shifts per 24 hour period. When information was provided for more than one day, a weighted average was used for the score. The total number of role shifts and roles listed per 24 hour period was incorporated in the subject's role score.

The total role score assigned to each subject was a composite of the number of roles, plus daily role shifts, as perceived and expressed by the subject in a mailed questionnaire and a structured face-to-face interview. It was a subjective score, since it represented how the woman saw herself in terms of roles and role changes. Subjects were ranked according to their role scores, and divided by a median split into those with more, and those fewer, roles.

After the role diary portion of the interview was completed, the subject was asked the following questions:

> How do you respond to an unexpected shift in roles, or an unplanned shift?
>
> How do you shift from one role to another?
>
> Does it take you a while to get into a role or can you flip instantly?

> Do you keep your various roles apart, or do you combine them? Do you keep your job (or student, or volunteer) role separate from your home roles? How?
>
> If you had a choice, would you like to add more roles, drop some roles, or change some roles? Which ones?
>
> In what year were you born?
>
> When did you graduate from college?

Responses to the above questions were not used to test the hypotheses, but it was hoped that they would shed some light on how women shifted roles.

Satisfaction Measures

The questionnaire contained self-rating scales of satisfaction with specific roles: work, student, volunteer, homemaker, leisure, marital status, mother, and grandmother. Subjects rated themselves on scales relevant to their current roles. In addition to these eight specific roles, subjects rated themselves on a general happiness scale. The scales were linear, with five equidistant check points, ranging from Very Unsatisfactory (Very Unhappy) to Very Satisfactory (Very Happy). The happiness scale was keyed in the opposite direction from the satisfaction scales. Although there were five checkpoints, ratings were scored on a nine point range, to allow for subjects who marked the spaces between the checkpoints. Very Unsatisfactory, or Very Unhappy, was scored as 1, Unsatisfactory or Unhappy as 3, Neutral or Neither Happy or Unhappy as 5, Satisfactory or Happy as 7, and Very Satisfactory or Very Happy as 9. A ruler-type scoring key was devised to ascertain the exact numerical

score for subjects who marked the spaces between the checkpoints.

A mean satisfaction score was compiled for each subject, based on her self-ratings on these scales. When a role scale was not applicable, as when a subject was not a student or a volunteer, it was not included in tabulating the mean. By using several indicators of satisfaction and happiness, one is more likely to obtain a true picture of subjective well-being (Campbell, 1976). Subjects were ranked by mean satisfaction scores, and divided by a median split into those with higher, and those with lower satisfaction.

Any gaps or unclear responses on the questionnaire were clarified in the interview session.

Perception Measures

The perception tasks were administered after the interview. Four pictures, plus a practice picture, were used. All were described by Fisher (1967, 1968) as being equiambiguous, meaning that there was a 40-60% chance of seeing either of the two aspects first. During the preliminary stages of this research, a number of Fisher's equiambiguous pictures were sampled, to determine whether viewers varied in the time taken to change perceptual set and report the alternate image. No obvious bias in content was evident in the pilot testing. As a result of the preliminary testing, it was decided to limit the number of pictures shown to four, plus a practice picture. This was done to avoid possible fatigue and boredom while performing the fluctuation tasks.

The practice picture was Rubin's vase-faces. It has been reproduced frequently, and some subjects had seen it before. The practice picture was used to familiarize subjects with ambiguous figures, and demonstrate the technique for responding. After making sure that the subject understood the instructions, and saw both images, the experimenter informed her that the other pictures to be shown also had two possibilities.

The four pictures used in the experiment proper were relatively unfamiliar. They have been titled 1. man - seated woman; 2. duck - rabbit; 3. man's face - girl with mirror; and 4. young man- old man (see Appendix B). It did not matter what name the subject gave the picture, as long as she identified the image seen; the study was concerned with the time needed to shift set so as to see the alternate image.

The selected pictures were professionally photographed from the original journal articles, enlarged, printed on 3 inch by 5 inch white matte finish paper, and mounted between non-reflective glass panels. They were displayed, one at a time, on a small desk easel set at a comfortable viewing distance for the subject, approximately two feet away. If the subject normally wore eyeglasses for viewing images of that size, she was encouraged to use them. The experimenter attempted to make the subject feel comfortable and relaxed before proceeding with the tasks.

Some of the physical factors that have been reported to affect figure-ground reversals were controlled, to some

extent, in this study. The room was well lit, non-reflective glass covered each picture, and the door was closed to eliminate loud and distracting noise. Room temperature was not excessively hot or cold.

The experimenter said:

> I am going to show you some pictures, and I would like you to tell me the first thing that you see. Just a word or two will do. Tell me just as soon as you see something clearly. If you are able to see another image, tell me what else you see just as soon as you see it clearly. Do you understand? When I say "Ready," you can start to look.

When the experimenter said "Ready?" she started timing and simultaneously uncovered the picture. Timing was done with an electronic stopwatch (Canon Quartz LC 61 T) with a lap time feature, calibrated in minutes, seconds, and tenths of seconds. Two times were recorded for each picture, Time 1 was the time until the subject reported the first image seen, and Time 2 was the time until the subject reported the alternate image. Both were timed from the initial presentation of the picture. The difference between Time 1 and Time 2 was the length of time needed to shift focus. This score was Dependent Variable 1. If the subject did not name the second aspect after a period of one minute had elapsed since recognition of the first aspect, the experimenter gave the first clue: "Some people see a ____." If the subject was still unable to recognize the alternate aspect, a second clue was given after another minute had passed: "Here is the ____." The experimenter identified the second image by telling the subject where it was located. When necessary, the outline

of the alternate image was traced for the subject. Subjects who said they could not find the second image before the minute was up, were encouraged to keep trying; in many instances they were successful without needing a clue.

After the subject identified both aspects of each picture, and response times were recorded, she was asked "Have you ever seen this picture before?" This was done to determine whether familiarity was a factor biasing results of any subject whose scores deviated widely from others in the group. Four subjects were familiar with picture 2, and their scores, while not unusual, were eliminated.

When all of the pictures were viewed, the second part of the task was given. The subject was instructed to (A) fluctuate, shifting from one aspect to the alternate aspect, and back, as rapidly as possible.

Instruction A (voluntary fluctuation, set to shift, flexibility measure):

> Now let's try something else. You have named the two different aspects of this drawing. (E named the two aspects, using S's terms.) When I say GO, try to make them fluctuate, go back and forth. Tell me what you see first, but after that don't bother to name it. Just tap (E demonstrated, then gave the pencil and board to S) each time it shifts to one, and tap when it shifts to the other, and so on. Try to make it change as quickly as you can, but remember, accuracy is very important, so only tap when one image actually changes to the other. Do you understand? This will be done for a time span of one minute. Okay? GO.

The number of fluctuations reported by the subject within the set time period of one minute were recorded. Then, the picture was covered, and the subject given a rest period

of one minute before the second instruction was given. During the rest period, the experimenter asked the subject what method she used to make the pictures shift.

The subject was then instructed to (B) hold one image as long as possible, reporting when the image shifted involuntarily.

Instruction B (involuntary fluctuation, set to hold, control measure):

> This time I am going to ask you to hold one image and try to keep it from changing. Even if you are trying to hold one image, the other image may suddenly appear involuntarily. If that happens, tap (E demonstrated, then gave the pencil and board to S) to signal a change, and try to hold the second aspect as long as possible. Tap whenever the image actually changes from one to the other, but try to keep the images from changing. Remember, accuracy is very important, so tap if the image actually changes. Do you understand? This will be done for a time span of one minute. Okay? GO.

The fluctuate or hold instructions were presented in ABBA order for the first subject, in BAAB order for the second subject, in ABBA order for the next, and so on. This was done to control for order effects.

The experimenter tallied the taps made by the subject under each condition. The number of fluctuations reported under the fluctuate instruction A, and under hold condition B, were the sources of Dependent Variables 2 and 3. The fourth dependent variable was derived from the difference in the number of fluctuations reported under each instruction, or Variable 2 minus Variable 3. These instructions were repeated for each of the four pictures, starting with the practice picture.

At the end, a note was made of whether the subject was on any medication, since some drugs may affect the speed of reversal of alternate images.

Subjects were debriefed after the perception tasks, and told what the hypotheses were regarding perceptual shifts and role shifts. At the conclusion of the interview-perception task sessions, subjects were offered five dollars, as promised in the cover letter, to pay for their carfare. Sixteen women refused payment. Several other women accepted payment after determining that the money came from research funds, and not directly out of the experimenter's pocket.

To avoid bias, the perceptual responses were recorded and scored before the satisfaction and role scores were computed. To preserve anonymity, each subject was assigned an identification number when she arrived for the interview. This number was entered on the questionnaire, interview sheets, and perception forms.

V. RESULTS

Responses to the Mailed Questionnaire

A total of 358 letters and questionnaires were mailed. Six letters were not delivered because the addressee was unknown. The low rate of undeliverable letters was probably due to the fact that addresses were checked in current telephone directories wherever possible. One hundred and nineteen women returned filled-in questionnaires, and 100 of these followed through with the interview. There were only two "no-shows" for the interview; one never returned the follow-up telephone calls, and the other made a second appointment which she did not keep. Seventeen subjects cancelled their interview appointments because of illness or other circumstances, or indicated that they were unable or unwilling to come in for an interview.

Some women who did not participate sent notes expressing interest in the study, but regretted that they did not meet the criteria of age or college graduation. A few returned the blank questionnaire and stamped envelope, to be used again, and enclosed names of potential subjects. Two women gave their questionnaires to friends; one responded and was a subject in the study. Several women replied that they were not interested, or unable to participate at the time. One wrote, "the questions didn't work for me because I'm a free lance writer." That was a personal opinion, since several subjects were writers. Another woman felt she "could not add to the study," but wanted to know the results.

A somewhat better rate of response occurred when there was some personal contact with the prospective subject, either in the past (the experimenter had served in volunteer organizations with three subjects), or the present (the experimenter spoke to alumnae attending a college reunion and provided paper for them to sign up if interested). The highest rate of return came from people who requested questionnaires, after reading the announcements in the Newsletter or on bulletin boards. However, those that went to the trouble of writing to the experimenter were probably a tiny proportion of the total number who read the notices.

Even without direct contact, the personal touch was helpful in obtaining subjects. Some women said they participated because they liked or respected the person who had suggested their names; others came because the experimenter had attended their college. A few women participated after ascertaining that the study was being done to fulfill requirements for a doctorate; they had been in similar situations and were empathetic with the problems of finding subjects for research.

Characteristics of the Sample

Age

The subjects ranged in age from 48 to 67 years of age, with 87% between 50 and 60 years of age. The mode and median ages were 56 years, and the mean age was 55½ years.

Subjects were asked "In what year were you born?" rather than "How old are you?" The question was answered without

hesitation, except for one subject, who said that she was "ashamed" of her age. However, she did give her correct year of birth. This woman had recently earned an advanced degree, and was currently employed in her field. There was no overt explanation for her feelings of shame, and she did not know why she felt that way.

A couple of subjects wanted to participate in the study even though they were not yet 50. Others refused to participate, indignantly noting that they were under 50 years of age. A few of the older women admitted that their friends, who had submitted their names, did not know how old they really were.

Education

All the subjects were college graduates; one had just received her B.A. Fifty-eight subjects had one or more graduate degrees, including two M.D. degrees, and 22 Ph.D. or Ed.D. degrees; one subject was a certified psychoanalyst. Three women were currently enrolled in doctoral level programs, and two were in M.A. level programs. Seventeen women had amassed credits beyond the M.A. level, but had no higher degrees.

Current Marital Status

Seventy-three women were married, six were separated, seven were divorced, ten were widowed, and four indicated that they were remarried. One widow, and one remarried woman noted that they had previously been divorced.

Current Employment

Eighty-four subjects were employed on a full- or part-time basis in the field of education, the helping professions, managerial and administrative positions, as librarians, editors, writers, secretaries, artist, accountant, realtor, and importer. Three subjects were actively seeking work. Three helped their husbands but were unsalaried. One was a full time graduate student, and one had just graduated from college. Eight women had no job listed, or any indication that they were seeking employment.

Medication

A total of 25 women reported that they were taking one or more substances, ranging from vitamins and aspirin to thyroid, estrogen, and hypertension drugs. Some of these were for chronic conditions, and others were for relief of temporary ailments, such as bursitis. The perception scores of the women on the various medications were not overtly different from the women not on medication, so they were retained in the study. When the groups were formed, 8 of the subjects currently on some medication were found to be in Group I, 4 were in Group II, 4 were in Group III, and 9 were in Group IV.

The Independent Variables - Forming the Groups

The design called for dividing the subjects into four groups, based on their role scores and satisfaction ratings. These were designated:

Group I - More roles, higher satisfaction

Group II - More roles, lower satisfaction

Group III - Fewer roles, higher satisfaction

Group IV - Fewer roles, lower satisfaction

An operational definition for group selection would be women who scored above or below the group medians in role scores and satisfaction ratings.

Role Scores

The role scores used were composites of number of roles and role shifts taken from the questionnaire and interview material. The total role scores (questionnaire plus interview) ranged from 20.14 to 105.05. Only one subject had a score above 81.07. When a median split was made, 50 subjects had total role scores of 44.5 and over (more roles), and 50 had total role scores of 44.37 and below (fewer roles).

Satisfaction Scores

Women rated themselves on relevant scales, i.e. a woman who was not a grandmother, did not rate her satisfaction with being a grandmother. All subjects rated themselves on general happiness, satisfaction with marital status, motherhood, and homemaking; 98 rated their satisfaction with leisure activities (the other two claimed they had no leisure activities), 87 rated satisfaction with employment, 49 rated satisfaction with volunteer activities, 32 rated satisfaction with being a grandmother, and 24 rated their satisfaction with being a student. The mean number of scales utilized was 6.9 per subject, out of a possible 9 scales.

For each subject, the satisfaction and happiness ratings were added up, and divided by the number of scales utilized, to obtain a mean satisfaction score. The mean satisfaction scores ranged from a high of 9 to a low of 2.67. Only one subject had a satisfaction score below 4.39. When a median split was made, fifty subjects had satisfaction scores of 6.94 and above (higher satisfaction), and fifty subjects had satisfaction scores of 6.93 and below (lower satisfaction).

Composition of the Four Groups

Subjects with role and satisfaction scores above the median were placed in Group I, those with role scores above the median and satisfaction scores below the median were placed in Group II, subjects with role scores below the median and satisfaction scores above the median were placed in Group III, and those with both role and satisfaction scores below the median were put in Group IV. The number of subjects who fell into each group was as follows:

Group I - Role scores 44.5 and over; satisfaction 6.94 and over. N of 27

Group II - Role scores 44.5 and over; satisfaction 6.93 and under. N of 23

Group III - Role scores under 44.5; satisfaction 6.94 and over. N of 23

Group IV - Role scores under 44.5; satisfaction 6.93 and under. N of 27

The Dependent Variables

Each subject had a total of 16 perception scores, 4 scores for each of the four pictures. Each of the four scores stood for one of the dependent variables:

1. Time taken to recognize and report the second aspect (Time 2 minus Time 1)

2. Number of voluntary fluctuations in one minute (set to shift)

3. Number of involuntary fluctuations in one minute (set to hold)

4. Difference between 2 and 3

The first two variables were considered to be related to flexibility; the last two were considered to be related to control.

A priori hypotheses were made about expected differences between group means for the four dependent measures. Each dependent variable was assumed to be a measure of flexibility or control in and of itself; the weighting of each was not deemed to be crucial for this study.

An attempt was made to collapse the 16 perception scores (4 per picture) into a more manageable number, by converting them into mean scores, one for each of the four dependent variables. ANOVA of the four pictures showed that for some of the variables, there was a greater difference between the pictures than within the pictures. The Scheffé test revealed that the fourth picture (young man-old man) was significantly different from the first three on Variables 1, 2, and 4.

Subjects had a difficult time identifying the second aspect, and even after it was pointed out, five women were unable to find it again in the fluctuation task. Another woman saw an amalgam of the two images. The difficulty subjects had in finding the second image made it easy for them to hold the first image, so that the score on Variable 3 was not a valid measure for picture 4. Because of these problems, picture 4 was eliminated from the analyses.

On Variables 2, 3, and 4, the other pictures were not significantly different from each other, so the means of pictures 1, 2, and 3 were used as the perception scores for those variables.

On Dependent Variable 1, one subject initially had trouble seeing the second aspect of picture 1, but she was able to recognize it when called upon to perform the fluctuation tasks. A significant difference between pictures 1 and 3 made it advisable to consider each picture separately when examining Variable 1, the time taken to report recognition of the second image.

Six perception scores per subject were used to test the hypotheses and perform various group analyses. They were:

Variable 1 - Picture 1

Variable 1 - Picture 2

Variable 1 - Picture 3

Variable 2 - Mean of Pictures 1, 2, and 3

Variable 3 - Mean of Pictures 1, 2, and 3

Variable 4 - Mean of Pictures 1, 2, and 3

The group means for the perception measures can be found in Table 1.

Time 1

Time 1, the time taken to see and report the first aspect of each picture, was examined to make sure there were no gross differences in initial perception among the four groups of subjects.

ANOVA, followed by the Sheffé test, for the four pictures, indicated that picture 4 was contributing the differences between the pictures. There were no significant differences among pictures 1, 2, and 3, so their mean was used as a Time 1 measure when comparing the four groups.

ANOVA of the four subject groups showed no significant differences between the groups in the time taken to report the first image seen in an ambiguous picture. The group means, in seconds, were: Group I - 3.17; Group II - 3.01; Group III - 3.38; Group IV - 3.64. The nearly identical means, and an *F* ratio that did not reach an acceptable level of significance, suggest that any differences found among the four groups on Variable 1 arose after the initial perception, and were probably related to perceptual shift, the time taken to reconstruct and report a shift in image.

Testing the Hypotheses

The study was designed with general expectations about the four groups of subjects, and specific hypotheses to be tested. The hypotheses will be presented first.

Table 1

Group Means for the Perception Measures

Perception Measures	Group I N of 27	Group II N of 23	Group III N of 23	Group IV N of 27
Time 1	3.17	3.01	3.38	3.64
Variable 1-Picture 1	34.10	23.18	38.63	30.9
Variable 1-Picture 2	14.15[a]	15.02	35.88	26.98[a]
Variable 1-Picture 3	17.43	21.85	23.87	17.96
Variable 2	75.93	59.75	72.41	64.15
Variable 3	6.38	8.59	6.44	7.79
Variable 4	69.54	52.36	66.11	56.36

Note. For Time 1 and Variable 1 - mean number of seconds taken to report image.

For Variables 2, 3, and 4 - mean number of fluctuations reported per minute.

[a]Eliminated two subjects who were familiar with picture. N of 25.

1. Variable 1

(a) Group I will take a significantly shorter time to identify the second aspect of each picture than Group III. Group means were in the predicted direction, but only one mean difference, on picture 2, was significant with a *p* less than .05, two tailed. The *t* of 2.40 barely reached the .02 level of significance (*t* of 2.41 required for *df* 46, *p* less than .02, two tailed). Four subjects indicated that they had seen picture 2 previously. Since familiarity could affect the time needed to recognize the alternate aspect of an ambiguous picture, the scores of those four subjects were not used in comparing Variable 1 responses to picture 2.[3] This hypothesis was confirmed for picture 2 only, at the level of significance noted above.

(b) Group II will take a longer time to identify the second aspect of each picture than Group I. This hypothesis was not confirmed. On picture 1, the group means were not in the predicted direction.

(c) Group IV will take a significantly shorter time to identify the second aspect of each picture than Group III. The means of Group IV and III were in the predicted direction, but none of the differences reached an

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[3]Two of the women were from Group I; they reported seeing both images simultaneously. The other two were from Group IV. One reported seeing both images simultaneously, and one took 2.7 seconds to report seeing the second image. For Variable 1, picture 2, the total *N* was 96, with 25 subjects in Group I, 23 in Group II, 23 in Group III, and 25 in Group IV.

acceptable level of significance. The hypothesis was not confirmed.

2. Variable 2 - Based on the mean of pictures 1, 2, and 3

(a) Group I will have significantly more voluntary fluctuations per one minute interval than Group III. The mean of Group I (75.93) was slightly more than the mean of Group III (72.41), but the difference was not significant. The hypothesis was not confirmed.

(b) Group II will have fewer voluntary fluctuations per one minute interval than Group I. The Group II mean of 59.75 was significantly lower than the Group I mean of 75.93, with a t of 2.52, p less than .02, two tailed. This hypothesis was confirmed at the .02 level of significance, two tailed.

(c) Group IV will have more voluntary fluctuations per one minute interval than Group III. The Group IV mean of 64.15 was actually less than the Group III mean of 72.41, but the difference was not significant. The hypothesis was not confirmed.

3. Variable 3 - Based on the mean of pictures 1, 2, and 3

(a) Group III will have fewer involuntary fluctuations per one minute interval than Group I, when instructed to hold one image. Both means were similar; Group III was 6.44 and Group I was 6.38. The hypothesis was not confirmed.

(b) Group II will differ from Group I in the number of involuntary fluctuations reported in a one minute interval, when instructed to hold one image. Group II had more

involuntary fluctuations (mean of 8.59), than Group I (mean of 6.38), but the mean difference did not reach the acceptable level of significance. This is suggestive, but the hypothesis, as stated, is not confirmed.

(c) Group IV will have more involuntary fluctuations per minute than Group III. The means were in the predicted direction, with a mean of 7.79 for Group IV, and a mean of 6.44 for Group III, but the difference was not significant. The hypothesis was not confirmed.

4. Variable 4 - Based on the mean of pictures 1, 2, and 3

(a) Group I will have a significantly larger difference between the number of voluntary and involuntary fluctuations than Group III. The mean of Group I was 69.54, and of Group II was 66.11. The difference was not significant. The hypothesis was not confirmed.

Examining the Expectations

It was expected that the greatest differences would occur between Group I and Group III on all four variables. The only significant difference between these groups was on Variable 1, picture 2. There were no significant differences for that variable on the other two pictures, or for the other variables.

It was expected that Group II would be different from Group I on one or more variables, and be similar to Group III. Group II was significantly different from Group I on a single variable, Variable 2. As far as similarity between Group II and Group III, they were significantly different on

Variable 1, picture 2 (t of 2.26, p less than .05, two tailed). On all the other comparisons, except for Variable 1, picture 3, where the means were close (21.85 for Group II, and 23.87 for Group III), the means of the two groups were not alike. The differences were not significant, but neither were the two groups very similar. These expectations were not fulfilled.

It was expected that Group IV would differ from Group III on one or more variables. The groups were not significantly different on any of the variables. It was expected that Group IV would be similar to Group I on one or more variables. The means of the two groups were similar on Variable 1, picture 3 (mean of 17.96 for Group IV, and mean of 17.43 for Group I). On the other pictures, and for the other variables, the means were further apart, although none of the differences reached an acceptable level of significance. These expectations were not strongly fulfilled.

Two Way ANOVA

In order to determine whether degree of satisfaction, number of roles, or an interaction of the two was related to any of the four dependent variables, a two by two ANOVA was applied, based on median splits in satisfaction ratings and total role scores. A Spearman rank correlation (r_s of .083) indicated that the satisfaction and total role scores were independent of each other, and thus could be used in a two-way classification. According to McNemar (1969), the two independent variables in a two-way classification must be

uncorrelated with each other. This restriction is met when they are manipulable, but when they are characteristics of the subjects, such as personality traits or abilities, there is a risk of association, which would blur the interpretation of significant effects. The design of this study was based upon the assumption that the two independent variables would not be related. If they had been related, the stipulated four groups could not have been formed.

The four dependent variables were examined, with the following results:

Variable 1, Picture 1 - No observed F ratio reached the .05 level of significance.

Variable 2, Picture 2 - The observed F ratio of 8.52 for number of roles was larger than the critical value for a .005 level test. Subjects who perceived themselves as having role scores above the median took significantly less time to report seeing the alternate image than subjects with role scores below the median. Scores of two subjects from Group I and two subjects from Group IV, who were familiar with this picture, were not included in the analysis.

Variable 1, Picture 3 - No observed F ratio reached the .05 level of significance.

Variable 2 - The observed F ratio of 5.1 for satisfaction was greater than the critical value for a .05 level test. Subjects who rated themselves above the median in satisfaction reported significantly more fluctuations between two aspects of an ambiguous picture, when instructed to shift

rapidly, than subjects with self-ratings below the median in satisfaction. Role score and interaction of roles and satisfaction did not appear to be associated with this variable. The perception scores used were based on the means of pictures 1, 2, and 3.

Variable 3 - No observed F ratio reached the .05 level of significance. The factors examined were not significantly related to the number of involuntary fluctuations reported when instructed to hold one image as long as possible, although satisfaction seemed to be contributing more than roles or the interaction of roles and satisfaction. The perception scores used were the means of pictures 1, 2, and 3.

Variable 4 - The observed F ratio of 6.11 for satisfaction was greater than the critical value for a .025 level test. Subjects who rated themselves above the median in satisfaction had larger spreads between the numbers of voluntary and involuntary fluctuations reported, than subjects with satisfaction self-ratings below the median. Role scores and the interaction of roles and satisfaction did not seem to have any relation to this variable. The perception scores used were the means of Variable 2 minus Variable 3 for the three pictures.

Serendipitous Findings

Lack of Equiambiguity

The wide variations, between and within individuals, in time taken to report the second aspect of the ambiguous pictures, suggest that other, unmeasured, factors may be operating.

Although the pictures were found to be equiambiguous when tested in England by Fisher (1967, 1968), they were not so for the participants in this study. Fisher described a picture as being equiambiguous when the probability of perceiving either aspect of which was observed to be approximately equal. When responses in this study were tallied, it was found that, in each picture, one of the aspects tended to be reported more often than the other.

Picture	First Image Reported	Number of Subjects
1	Man	85
	Seated woman	14
	Both seen simultaneously	1
2	Duck	89
	Rabbit	1
	Both seen simultaneously	10
3	Man's face	76
	Girl holding mirror	20
	Both seen simultaneously	4
4	Young man	79
	Old man	20
	Both seen simultaneously	1

The percentages given above indicate which aspect was identified first, not the particular name given to that image by the subject.

In pictures 1 and 3, where the images appeared to be of different genders, the male image was the first one identified in more than three-quarters of the cases. Even though the pictures, in preliminary testing, seemed to be innocuous, rather than provocative, content may have been a factor for some subjects, thus diminishing the equiambiguity of these pictures for this group of subjects.

Possible reasons for the lack of equiambiguity are discussed in Appendix C.

VI. DISCUSSION

The Two Way ANOVA

The results of the two by two ANOVA helped clarify some of the findings in the hypothesis testing.

On Variable 1, picture 2, the number of roles and role shifts seemed to be highly associated with the time taken to identify the second image. This may explain why Hypothesis 1a was confirmed for picture 2, while Hypotheses 1b and 1c were not confirmed. The former compared two groups similar in satisfaction level, but different in number of roles, whereas the latter two hypotheses compared groups similar in roles but varying in satisfaction.

On Variable 2, satisfaction seemed to be a key factor in voluntary fluctuation. This may explain why Hypothesis 2b was confirmed. Groups I and II differed in level of satisfaction, but not in number of roles. It may also account for the lack of significant differences found between Groups I and III in Hypothesis 2a. They had similar levels of satisfaction. However, it does not account for the non-confirmation of Hypothesis 2c, which compared two low role groups with differing levels of satisfaction.

On Variable 3, none of the factors seemed highly related to the number of involuntary fluctuations reported when instructed to hold one image. This finding replicates the findings for Hypotheses 3a, 3b, and 3c.

On Variable 4, satisfaction was significantly associated with the spread between the number of voluntary and involun-

tary fluctuations reported. This may explain the lack of confirmation of Hypothesis 4. Perhaps no significant differences were found between Groups I and III because they both had similar levels of satisfaction.

These findings suggest that women who perceive themselves as having relatively more roles and role shifts may, in some situations, take less time to shift perceptual set than women who perceive themselves as having fewer roles and role shifts. Since this was not related to degree of satisfaction, and only applied to one out of the three pictures analyzed, it does not confirm the original hypothesis. However, it hints at a tenuous relationship between role shifts and perceptual shifts, and might be worth replicating, using the same picture and a similar group of subjects.

Once the second image was identified, the more satisfied women reported more voluntary fluctuations per minute than the less satisfied women. This may have been due to greater flexibility in perceptual shifting, or willingness to follow instructions to shift rapidly, or both. One measure of control, being able to hold one image or fluctuate upon demand, also seemed to be related to satisfaction. Women who rated themselves above the median in satisfaction, had a significantly wider spread between voluntary and involuntary fluctuations, suggesting greater control in this area than women with self ratings of satisfaction below the median.

Women who see themselves as having many roles may, in some situations, take less time to recognize a new, and second, aspect of an ambiguous picture than women who view

themselves as having relatively few roles. However, once both aspects of the picture were identified, and the initial level of ambiguity declined, satisfaction, rather than number of roles, was more strongly associated with the flexibility required in voluntary fluctuation. The more satisfied women shifted back and forth between the two identified aspects more frequently than the less satisfied women, and displayed a wider discrepancy between voluntary and involuntary fluctuations.

When faced with something new and ambiguous, women with relatively more roles may, in certain circumstances, take less time to change set and recognize the alternate aspect. But once the newness was gone, and the unknown was replaced by the known, women with relatively high levels of satisfaction seemed to change set more rapidly, on demand, than women with lower levels of satisfaction.

This implies that women who perceived themselves as having relatively more roles, and rated themselves relatively higher in satisfaction--Group I in this study--had the greatest potential for flexibility and control, whether dealing with the new or with the familiar.

Responses to Perception Tasks

Some subjects displayed wide variation in their responses to the different pictures. There was no consistent pattern, such as order of presentation. These pictures, however, were not devoid of content, and for some subjects, the variation in response time, based on the subject's oral report, or

willingness to say what she saw, may have been affected by the content of a particular picture. Since individuals respond differently to different things, some women were consistent in their response time, whereas others showed larger variations.

Several women thought that the content of the pictures was crucial, and asked whether they represented passive versus aggressive themes, or female versus male. They were reassured that the focus of the study was on the shift between the two images, rather than on which image was seen first. Eight subjects identified a portion of picture 1 as a "penis" or "phallic symbol." Others may have had such thoughts, but not expressed them.

The four variables seemed to be tapping different things, and the instruction to hold one image, measured by Variable 3, did not seem to be the converse of the instruction to fluctuate rapidly, measured by Variable 2. Women who fluctuated rapidly on demand, whether due to "ability" or willingness to follow instructions, did not necessarily find it hard to keep from fluctuating when instructed to hold. Likewise, women who were able to hold set successfully, did not necessarily have low rates of fluctuation when directed to shift rapidly from one image to another.

Consistency on the Perceptual Variables

There appeared to be more consistency in individual responses to Variables 2 and 3 than there was in the time required to shift initially from the first to the second

image, Variable 1. The time taken to shift to the second aspect of an unfamiliar ambiguous picture varied with the picture, possibly because of the content of the picture, and what it evoked for a particular subject.

When consistency was defined as scoring above or below the median on each of the three pictures used in the analyses, a total of 39 subjects showed such consistency on Dependent Variable 1. Twenty-one had scores consistently below the group median, and 18 had scores consistently above the group median on each of the first three pictures.

More subjects displayed this kind of consistency in their responses to the three pictures in the fluctuation and hold conditions. Thirty subjects had scores consistently below the median, and 31 had scores consistently above the median on Variable 2, making a total of 61 subjects consistent in this task. Twenty-nine subjects had scores consistently below, and 30 had scores consistently above, the median, for Variable 3, a total of 59 subjects consistent in responding to the hold condition.

Variable 1 dealt with flexibility upon first exposure to an ambiguous stimulus. Variables 2 and 3 required manipulation of two identified aspects. It may be easier to be consistent when dealing with the known, than with the unknown and unfamiliar.

Rate of Fluctation and Practice

Kennedy (1974) noted that the rate of fluctuation may be affected by practice. If general practice in fluctuating

between two alternatives in any ambiguous picture has an effect, the rate of fluctuation should have become progressively faster with each succeeding picture, since the pictures were shown in the same order to all the subjects. The means for Variable 2 were inspected. The mean number of fluctuations per picture, when instructed to fluctuate as quickly as possible, were 65.2 for picture 1, 71.6 for picture 2, and 67.9 for picture 3. The fourth picture, which was eliminated from the analyses because it was significantly different from the other three pictures, had a mean fluctuation rate of only 50.9 per minute. For these subjects, viewing these pictures, the rate of fluctuation did not get progressively faster with each successive picture.

If practice on the same picture over a longer period of time increases the speed of fluctuation, the data obtained in this study were unable to confirm or refute it. Flamm and Bergum (1977) stated that the reversal rate of ambiguous pictures increased in the first one to two minutes of passive viewing. The perception tasks in this study were based on active viewing; subjects were instructed to make the two images alternate rapidly, or told to keep them from fluctuating. Pre-testing revealed that a two minute interlude of voluntary fluctuation induced fatigue and boredom, so the time span was set at one minute. There was no measure of whether the rate of fluctuation increased within that one minute span.

Fluctuation and Simplicity of the Stimulus

Flamm and Bergum (1977) found that the Necker cube fluctuated more rapidly than the Rubin vase-faces picture, and attributed this to the fact that the Necker cube was simpler, more familiar, and relatively devoid of meaning. While none of the pictures used in this study were devoid of meaning, picture 2, the duck-rabbit, was simpler than the others, in that it required a left-right shift in orientation to view the alternate image. Picture 2 had a mean fluctuation rate of 71.6 fluctuations per minute. This was slightly greater than the mean fluctuation rates of the other pictures, although the difference was not significant.

The relative simplicity of picture 2, when compared to the other pictures, may be related to the finding that picture 2 was the only picture that differentiated the groups on Variable 1. Picture 2 also may have been more devoid of meaning for this group of subjects than pictures 1 and 3, in which the alternate images were of different genders.

When fluctuation is very rapid, viewers tend to report seeing both alternatives at once (Davidoff, 1975). This happened on occasion when, during the fluctuation task of Variable 2, subjects said that they were unable to keep the two images apart, or they saw both at the same time. When this happened, the subject was advised to "try to separate the two images." It was interesting to note that in the initial presentation, when Variable 1 was being measured, ten subjects claimed that they saw both aspects of picture 2

simultaneously. Only one subject reported simultaneous recognition of both aspects for picture 1, and four did so for picture 3.

Fluctuation and Drugs

Depressant and stimulant drugs were reported to increase the rate of reversal (Eysenck et al., 1957), ostensibly because of their effect upon blinking. Seven subjects in this study, who said they were taking valium, librium, seconal-barbitol, other drugs for depression, or a hunger depressant, did not have mean fluctuation rates higher than subjects not on those medications. Since the dosages and frequency of intake were not known in any of the studies, no comparisons could be made.

Stress and Perception

Stress and anxiety have been found to narrow vision (Ross, 1974), thus extending the time required to identify incongruous pictures (Smock, 1955). In this study, subjects were made to feel relaxed and comfortable during the interview, and while the perception tasks were administered. There was no attempt to measure stress. On Variable 1, Group III took longer than any of the other groups to report the second image in each of the three pictures, but the differences were not statistically significant. As a group, they displayed no overt manifestations of stress. Since they rated themselves above the group median in satisfaction, it seemed unlikely that stress was the cause of their slower response time.

Fluctuation and Rigidity

On Variable 3, when subjects were instructed to hold one image and keep from fluctuating, there were no significant mean differences among the groups. They all had low rates of fluctuation. However, when they were instructed to shift rapidly, as in Variable 2, group differences appeared, although not as expected. Satisfaction seemed to be the crucial element, and subjects who rated themselves above the median in satisfaction, regardless of their role scores, reported significantly more fluctuations than those who rated themselves below the median in satisfaction. This was analogous to what Jones (1955) found with groups of high and low authoritarians. When set against reversal of the Necker cube, both groups showed low rates of fluctuation, but when the instructions were set toward reversal, the non-authoritarians increased their rate.

Holding set means keeping something from happening, whereas trying to fluctuate rapidly involves activity. The latter necessitates doing something; the former necessitates not doing something. The non-authoritarian Naval cadets in the Jones study responded like the more satisfied middle-aged women of this study. Even though age, sex, and stimulus differed in the two studies, there may be some association between satisfaction and non-authoritarianism. People who manifested one or the other also seemed able to shift perceptually, with ease.

Rigidity and flexibility may be contributing to these findings. Rigidity goes with authoritarianism; a rigid person would probably find it easier to hold something than shift back and forth. Perhaps the more satisfied subjects in this study were able to shift when required to do so, because they were more flexible than the less satisfied subjects. The same flexibility may have helped them cope, and thus contributed to their feelings of satisfaction with their various roles. According to Sangiuliano (1978), greater satisfaction has been reported by older women to have role flexibility; women who age successfully are flexible, and able to integrate and harmonize conflicting roles. They may also be able to move easily between their various roles.

Reactions to the Study

The interview session was a positive experience for most of the women. Some subjects, who had never seen ambiguous pictures before, found them fascinating. One woman asked whether the experimenter was making the image shift; another wanted to buy a book of ambiguous pictures to send to her grandchildren.

The interview itself had an unplanned therapeutic effect for some subjects. One woman announced that she didn't want to talk about herself, and almost cancelled the appointment at the last minute. Another was "afraid" that the experimenter was going to tell her to change her life, something she didn't want to do. Both of these women relaxed during the interview, and admitted, at the end, that their fears had

been unfounded. Another woman wrote, "I enjoyed the experience of having someone actually want to hear what I had to say! Thank you for giving it to me." Women found it helpful to know that other women shared similar problems; many women expressed an interest in the final results. In one instance, a subject felt that she had gotten more out of the interview session than the experimenter had. In another case, a woman said that filling out the questionnaire had inadvertently made her aware of some unresolved problems, and had helped her realize that she was holding on to a role which she should have discarded.

Common Concerns

There seemed to be concerns common to women in this period of their lives, which were expressed spontaneously during the interview.

The Daughter Role. In some cases, aging mothers were perceived by their daughters as being excessively demanding. Some of these mothers may have been mentally and, or, physically ailing; in a few instances they were viewed as being insatiable, all-devouring. Women reacted differently to this kind of situation. Some women expressed hatred and resentment, while continuing to cater to the demands. Others found a way to cope with the situation by setting limits to their expenditure of time and energy spent on behalf of their mothers. This problem was also mentioned in father-daughter, and mother-in-law - daughter-in-law relationships. Not all women felt this way about their parents. Some of the women

were able to maintain good relationships with elderly parents, partly due to the personality and mental and physical health of the parent.

The Wife Role. Some women resented the fact that their husbands did not help at all in the house, even though the women were employed outside the home. "He'll wait till nine at night for me to make dinner, rather than make it himself." Some women were able, over time, to re-educate their husbands. A working wife of a retired husband said, "I only cooked on the days I specified I would--and then, one evening, when I came home, he had made delicious apple pancakes."

For others, the change evolved naturally. "We do things differently since I've been working. He meets me and we go shopping together." Women who felt they had good relations with their husbands often referred to themselves as "companion" rather than "wife." Others referred to their roles in relation to their husbands as "housemaid," "husband's mistress," or "husband's teddybear."

The Changing Mother Role. Among the subjects were women who were trying to shed the mother role--"I'm all burnt out"--but their children would not let them. These adult children continued to make childhood demands upon their increasingly resentful mothers. Some women continued to foster the mother-demanding infant relationship, while expressing anger and hostility. Others were in the process of re-educating their adult children to view their mothers as adults with needs of their own, rather than as the all-bountiful mommy.

The fortunate women were those who seemed to enjoy their adult children, and who were able to maintain a relationship of mutual interest and respect with them.

Another group of women did not want to give up the controlling mother role. They were actively involved in making decisions for their children, about jobs, or furnishing apartments--"I know I should let go, but she can't make her own decisions."

Positive Versus Negative Women

The satisfaction and happiness scales on the mailed questionnaire were completed by the subject prior to the interview session, but they were not examined or tabulated until after all the data were collected. The experimenter did not rate, or formally judge the subjects on satisfaction, happiness, or mood. However, during the interview session, some women conveyed a positive, optimistic image, and others conveyed a more negative, pessimistic image. These differences were evident in their non-verbal and verbal behavior--manner, demeanor, affect, tone of voice, facial expression, way of speaking, and content of what they said.

Some women appeared able to surmount problems, radiate enthusiasm and pleasure, find something good in life's experiences, turn obstacles into challenges to be overcome. Others were miserable, and seemed to draw unhappiness like a magnet, finding only the "bad" things in their circumstances. There did not seem to be any simple direct relation to the situations in the subject's life, such as job, number of children,

marital status. A striking example was provided by two women, interviewed on the same day. Both had "problem" mothers. One subject spoke with great anger, hostility, and hatred of her mother, and of the intolerable situation she was caught in, yet she continued the pattern, building up fury, and guilt, but not doing anything constructive about it. The other woman found herself falling into a similarly intolerable situation with an insatiable, demanding mother. Instead of turning her energy into fuel for anger, she was able to extricate herself from the situation, break the pattern, and set limits. She informed her mother exactly what she would, and would not, do, and adhered to those limits. It was not always easy, since her mother continually tested those limits, but the woman was able to maintain a working relationship with her mother that was not guilt-ridden, and that left her time for her own family and for herself. Two women, with similar problems, yet one handled it constructively, and one in a destructive manner.

The Role of Me

The role of "me" or "self" was not mentioned at all in the role diaries of 24 women. Others defined it as "just me--no role," or "I was not anybody." Some women tagged it with guilt, calling it "self-indulgence," or indicated that there were very few times when they could be themselves--"in the shower" or "on the subway." One woman said she felt she had to "earn" the luxury of soaking in a bath.

At the other extreme was the woman who had enough ego strength to reply, when asked about her role, "That was me, me, me."

There was somewhat more mention of the role of self in the interview by women in Group I than in the other three groups, suggesting that women who view themselves as having more roles, and more satisfaction, may have a stronger sense of self.

Differences in Satisfaction

Although the higher and lower satisfaction groups were formed by a median split of the entire group's ranked mean satisfaction scores, individuals within each group did not attribute similar degrees of satisfaction to each of their roles. Thus, there were no significant differences in satisfaction with the volunteer role among the higher and lower satisfaction groups, but comparisons of other roles across groups, or sub-groups, such as widows, revealed some interesting differences.

Satisfaction With Marital Status

Scarf (1980) states that role transition involving a change in status accompanied by emotional loss, such as a move from wife to widow, may be a source of depression. How many women in the lower satisfaction groups were widows? Did Groups II and IV have a higher proportion of widows than the other two groups?

Divorce, or separation, might also result in a change in status accompanied by emotional loss. Did the two lower

satisfaction groups contain a higher percentage of divorced and separated women than the groups with satisfaction ratings above the median?

Satisfaction, like anxiety, might be state or trait induced. One subject illustrated this when she stipulated that she was sad now, due to the death of her mother, but she was essentially a happy person. Her self-rating on general happiness was 7; she was in Group I with a mean satisfaction rating of 7.38.

The majority of women in the study, 77%, were married or remarried at the time they filled out the questionnaire. When the percentage of each group that fell into the married versus the separated and no longer married were inspected, there were more separated, divorced, and widowed subjects in Groups II and IV than in Groups I and III.

Current Marital Status	Group I N of 27	Group II N of 23	Group III N of 23	Group IV N of 27
Widowed	4%	17%	9%	11%
Separated	4%	13%	0	7%
Divorced	7%	9%	0	11%
Married	78%	61%	87%	67%
Remarried	7%	0	4%	4%

If widowhood per se was a source of depression, the satisfaction ratings of the ten widows in this study should have been similarly low. The group means for self-ratings by widows of satisfaction-with-marital-status scale showed wide differences between the higher and lower satisfaction groups.

Mean Rating of Satisfaction with Marital Status

	Group I	Group II	Group III	Group IV
Widowed	7.25	2.75	7.5	2.58
Separated and Divorced	8.38	6.75	---	5.33
Married and Remarried	8.26	6.8	8.32	6.91

A t test comparing widows in Group I plus Group III with widows in Groups II plus IV showed that the higher satisfaction groups rated themselves significantly higher on satisfaction with marital status (t of 4.56, df of 8, p less than .01, two tailed) than the lower satisfaction groups. This suggests that the three widows in Groups I and III have been able to cope and adjust to their change in status to a greater degree than the seven widows in Groups II and IV. Lopata (Datan & Ginsberg, 1975) found that widowhood caused less disruption in the life styles of women who were involved in jobs, family relations, and voluntary organizations, than in the life styles of women who were more involved in the wife role.

The ten widows in this study were all working, and the mean satisfaction-with-work ratings were similar for those in the higher satisfaction Groups I and III (7.42) and lower satisfaction Groups II and IV (7.43). Family relations might include relations with children, so their ratings on satisfaction-with-motherhood were examined. The three widows

in the high satisfaction groups had a nonsignificantly higher satisfaction-with-motherhood mean rating (7.92) than the seven widows in the lower satisfaction groups (6.96). Job satisfaction was not enough to offset the very unsatisfactory ratings of marital status for the seven widows in Groups II and IV, and consequently, their overall happiness was significantly lower than that of the three widows in Groups I and III. General happiness ratings were 4.57 and 7.5 respectively, t of 4, p less than .01, two tailed. Many factors may have been contributing to this difference, including the length of time they had been widowed. For these seven women, there is no way of knowing from the data at hand whether they were always less than satisfied with their various roles, and widowhood made them more so, or whether the loss of the wife role deeply affected their overall happiness.

There were no significant differences among the groups on satisfaction with marital status for separated and divorced women, although the three women from Group I who fell into this category had somewhat higher self-ratings in satisfaction on the marital status scale than the ten women in Groups II and IV. None of the women in Group III were separated or divorced. ANOVA yielded an F of 1.94, below the critical ratio for a p of .05.

Overall, the separated and divorced subjects had higher satisfaction ratings on the marital status scale than the widowed subjects. One explanation may be that separation and divorce contain an element of choice. If the subject is

the initiator of the action, shedding the role of wife may be desirable and therefore satisfying. Widowhood rarely involves choice; losing the role of wife through the death of a spouse is not usually associated with a high degree of satisfaction. But other factors may intervene, and enable the person to adjust to the situation. One of these factors may have been flexibility.

Marriage per se does not automatically guarantee satisfaction and happiness, although married women have been found to be happier than single women (Freedman, 1978). The quality of the marriage is important. How do the still married women in this study rate their satisfaction with their marital status? Are there group differences on this scale for the currently married subjects?

ANOVA of the four groups, using only currently married and remarried subjects, was done. The F ratio of 8.17 (df 3, 73) indicated a significant difference, with a p of less than .001. The Scheffé test demonstrated that the significant differences occurred between the means of the higher satisfaction and lower satisfaction groups, regardless of number of roles. The quality of marriage was perceived as subjectively less satisfying for married subjects in Groups II and IV than for married subjects in Groups I and III.

These findings suggest that marital status in and of itself does not wholly account for differences in satisfaction ratings among the groups. Women who rate themselves

above the median in satisfaction, whether they are wives or widows, are more satisfied with their marital status than women who rate themselves below the median in satisfaction. Since flexibility and control have been associated with higher satisfaction in this study, it is possible that women who are more satisfied with their marital status also tend to be more flexible, and, or, view themselves as having some control over their marital roles.

Satisfaction With Motherhood

ANOVA, followed by Scheffé, was used to compare the four groups on their ratings of satisfaction with being a mother.

	Group I	Group II	Group III	Group IV
Satisfaction with Motherhood	8.31	6.73	8.1	6.99
Mean number of Children	3.04	2.43	2.35	2.22

Group II had the lowest mean rating, and was significantly different from Groups I and III. Group IV was significantly less satisfied with motherhood than Group I, and barely reached the critical level of difference when compared with Group III. Women with mean satisfaction ratings below the median were significantly less satisfied with the mother role than subjects with mean satisfaction scores above the median.

The group with the highest satisfaction with motherhood rating, Group I, also had the most children, significantly more than Group IV. The higher role, higher satisfaction group had from one to seven children per subject, with a mean

of 3.04 children for the group. This contrasts with two studies reported by Broverman et al. (1972) in which women with high competency self-concepts had, or planned to have, fewer children than women who perceived themselves as less competent. In this study, the women who perceived themselves as having more roles and more role shifts, and a higher degree of satisfaction with their roles, also had more children. The flexibility that these women demonstrated in the perception tasks may have been part of their repertoire, enabling them to shift roles as needed.

It should be noted that women who rated themselves as highly satisfied with motherhood were not always devoid of worry about their children; however, their worries tended to be realistic. An example was demonstrated by a mother in Group III, who was concerned that her daughter had to drive many miles daily, after a hard day spent as a surgery resident.

Satisfaction With Employment

Each of the four groups had a similar number of women who rated their satisfaction with employment.

Satisfaction with Employment

	Group I	Group II	Group III	Group IV
Number working	22	22	22	21
Percent of group working	81%	96%	96%	78%
Mean satisfaction rating	7.62	6.15	7.74	6.08

ANOVA, followed by Scheffé test, revealed a significant difference in satisfaction with the work role between women with mean satisfaction ratings over and under the median. The former rated themselves significantly more satisfied with their work roles than the latter. ANOVA yielded an F of 6.00 (df 3, 83), greater than the critical ratio for a p of less than .005.

Sanguiliano (1978) commented that work alone, whether it be salaried or volunteer, does not automatically enhance self-confidence or self-image; risk and responsibility are needed. Risk implies making a change, and responsibility implies having control. The qualities that enable a woman to meet change positively, as a challenge, may be similar to those needed to tolerate and deal with ambiguity--self-confidence (Guilford, in Frenkel-Brunswik, 1949), and coping directly with the conflict (Berlyne, 1960). These may be characteristics of the more satisfied, more flexible women.

Satisfaction With Homemaking

Pearlin (Datan & Ginsberg, 1975) found no difference between employed women and full time homemakers, in depression. Among the former, depression was related to conflicts between job and family roles; among the latter, the more depressed homemakers had children still living at home, lacked social networks to lend support, and felt endlessly trapped.

Did the non-employed women in this study find homemaking satisfying? The six non-employed women in the higher

satisfaction groups rated themselves more satisfied with homemaking than the seven non-employed women in the lower satisfaction groups (mean satisfaction with homemaking ratings of 6.46 and 4.75). Homemaking satisfaction ratings, for both working and non-working women, were lower than satisfaction with job, motherhood, or marital status. But, homemaking was even less satisfactory for women with mean satisfaction scores below the median; the women in Groups II and IV had significantly less satisfaction with homemaking than the women in Groups I and III. The F ratio of 10.44 (df 3, 98) was greater than the critical ratio for a p of less than .001.

Satisfaction with Homemaking

Group I	Group II	Group III	Group IV
6.66	5.0	6.86	5.15

Two women in Group IV, one an unpaid husband's assistant, and the other, an intermittently employed researcher with a doctoral degree, expressed resentment toward housecleaning, yet did not want to give up control. "If someone could do it as well as I can" was the excuse given for not hiring someone to help with housecleaning chores. This suggests a lack of flexibility, but also, it may be the only area where these women feel they have control. They cannot fall back on gratifying careers, or even recognition for work done outside the home, so they continue doing something they abhor, and perhaps see themselves as martyrs.

Qualitative Differences

Compartmentalization Versus Integration of Roles

Davitz and Davitz (1976) claimed that men could compartmentalize their lives, keeping their roles and relationships apart, but it was difficult for women to do so. Yet, married women, active in their professions, alleviated role strain by the technique of compartmentalization (Poloma, 1972). Pearlin (Datan & Ginsberg, 1975) found that middle class women who could separate work and home roles were less apt to have conflict and resultant depression. On the Stroop Color Word Test, compartmentalization was associated with constricted control, keeping competing elements apart, whereas integration of competing ambiguous elements was more likely to be found in subjects with flexible control (Loomis & Moskowitz, 1958).

When the women in this study were asked, "Do you keep your various roles apart, or do you combine them?" approximately 62% said that they combined them. Only 8% claimed that they kept them apart. The others stipulated that they combined certain roles, but not others, or combined roles in certain situations. A few women noted that they formerly compartmentalized, when they worked full time and had children living at home, but now they combined roles, presumably because of a simpler schedule. Six of the eight subjects who claimed that they kept their roles apart were from the lower satisfaction groups.

Some of the comments made suggest that whether one combines or compartmentalizes roles may be associated with personality factors, one's modus operandi. One subject from Group II, who tended to keep her roles apart, said she would like to combine some. Another, from Group I, made an effort to keep her roles separate, but found it impossible to keep them totally apart. Other responses, illustrating differences among the women, follow:

Group I - "To combine is the only way to survive--a breakdown if you compartmentalize."
"They're all combined, like a beach ball with compartments."
"My roles are physically disparate, but not psychologically."
"Combine--I think about one while doing another."
"I'm essentially all mother."

Group III - "Keep them separate. It's harder to interweave. I do one or the other."
"I combine, but it's simpler not to."
"I don't know how not to combine."

Group II - "I mesh my school and home lives, to my detriment."
"I try to combine but I'm not sure it's a good idea to integrate."

Group IV - "I don't try to keep them apart; that can lead to irritation."
"I think they're apart, but they're really lumped together."
"Combination is natural."
"There's no way of keeping them apart; they spill over."
"The teacher role is into everything. The housewife never goes away."
"Professional and personal are always intertwined. I take a mother role with friends and in-laws, but resist the mother role with my children."

The choice of whether to compartmentalize or integrate roles seemed to vary with the individual and the situation. What is comfortable for one woman may not be so for another woman, or for the same woman in other circumstances. This study does not provide evidence that one technique is better than the other, in and of itself.

Bower (1981) in an article on mood and memory, mentioned that roles may become invested with distinct emotions, so that events occurring during enactment of that role would be partially dissociated from, and inaccessible to, other states of the person. Thus, women who are emotionally different in their different roles would tend to keep them separate and distinct (e.g. a woman who is authoritative in her job but passive in her wife role), whereas women who are emotionally similar in their various roles would tend to combine and integrate them (e.g. the subjects who said they were "all mother" or "always teacher").

Voluntary Control and Flexibility

Subjects with a wide discrepancy between voluntary and involuntary perceptual fluctuation, Variable 4, have more voluntary control; they can fluctuate rapidly upon request, Variable 2; and keep from fluctuating when instructed to hold set, Variable 3. Variable 2, a measure of flexibility, and Variable 4, a measure of voluntary control, were significantly related to the independent variable of satisfaction. Women who rated themselves above the median in satisfaction, regardless of the number of roles and role shifts they

perceived themselves as having, displayed a greater degree of flexibility and voluntary control in the perception tasks.

Freedman (1978) noted that people who believe they have control over their lives are more likely to be happy. Are these women also more flexible in their role behavior? Is voluntary control in perception analogous to some internal locus of control of role shifts--a belief that one is the doer, not merely the object of external forces?

"How do you respond to an unexpected shift in roles?" Women revealed themselves in their answers to this question. Some of their replies, arranged by higher and lower satisfaction groups, were as follows:

Group I - "I like exciting, new, different, stimulating things, although I don't like it if someone is sick."
"I slip right in."
"Easy when I know the expectations."
"Problems may be hard, but they don't throw me."
"Naturally."
"I know who I am and can take over."
"I can accommodate to anything."

Group III - "Easily; I'm used to shifts."
"Shifts are not unexpected--all part of the same person."
"Surprised, but delighted to change."
"I don't cope too well, but I do it."
"I'm pretty flexible."

Group II - "I tend to be rigid. It bothers me to shift gears."
"I'm uncomfortable when I'm not sure of my role."
"Embarrassed because of intrusion."
"Like it when I arrange it; curt when not."
"Irritated."

Group IV - "Resentful."
"Easily, but I may get annoyed."

"Hate it."
"Depends. I do well in a crisis, then fall apart."
"In a panic."
"If pleasant, great. If not, resentment."

These examples illustrate what seem to be qualitative differences in flexibility as it applies to unplanned role shifting, between the groups above, and those below, the median in satisfaction.

"Does it take you a while to get into a role, or can you flip instantly?" Responses to this question also indicate qualitative differences in role behavior among the groups.

Group I - "Instantly; I have a multi-level consciousness. Women are very resilient."
"Flip instantly, because I'm comfortable in all roles."
"I'm a good quick change artist."
"Instantly--a sense of continuity in a core self."

Group III - "Natural. No buffer zone."
"No problem shifting because of my long experience."

Group II - "Longer to shift if out of context."
"When anxious, there is anxiety over all I do."
"Harder to go from my own life--my job, to a shared life--my family."

Group IV - "I need the outside stimulus of others to get started on my job in the morning."
"Usually takes a while."
"I'm more comfortable dealing with one thing at a time. Anxiety if there are too many roles."

Women in the higher satisfaction groups seemed to demonstrate greater flexibility in ease of shifting, and a sense of control, whether due to "long experience" or a "core self."

"How do you shift from one role to another?" Many of the responses to this question could be sorted into several broad categories. These included (a) automatic, unconscious, smooth, natural shift, due to years of practice or habit; (b) conscious overt shift by change of clothes, body movement, voice, expression, name, play-acting, action; (c) mental shift by mind-set, cognitive assessment, thoughts, outlook, internalization, personality; (d) time related, such as transition period, schedule, clock, structure, lists, private time; (e) imposed by the situation and, or, interaction with others, power shift; (f) place related, including place and time, place and other persons.

More of the responses indicating that the shift was automatic, unconscious, natural, were made by subjects who were above the median in satisfaction (38 of their responses fell into this category), especially by those in Group I, than by subjects in the less satisfied groups (27 of their responses fell into this category). Another category of responses involved a conscious overt change of clothing, voice, body movement, expression. Taking on a role was akin to "play acting." One woman described herself as "playing school" when she was in her teacher role. More of these responses were made by subjects below the median in satisfaction (21), particularly those in Group II, than by those above the median in satisfaction (14). The higher satisfaction groups gave more of the time related responses (18) than the lower satisfaction groups (11), whereas the latter gave

more of the place related responses (5 for the lower satisfaction groups and 2 for the higher satisfaction groups). The other two categories were more evenly distributed between the higher and lower satisfaction groups. While these differences were not statistically significant, they suggest interesting relationships.

Sangiuliano (1978) notes that depression in women may be related to lack of internal locus of control. In this study, some of the qualitative differences apparent in responses to the various questions noted above, suggest that the more satisfied, more flexible women tend to have an internal locus of control. They shift roles easily, automatically; they are slightly more apt to change internally, by mental or psychological resetting. The less satisfied, less flexible women are more apt to change roles by making overt external changes, in their clothes, voice, posture, movements. They are more aware of "playing a role," and they are more likely to be influenced by place.

VII. CONCLUSIONS

Flexibility was defined, for this study, as (a) maintaining a wide and broad scan of attention, (b) being aware of more than one aspect of any issue or event, and (c) being able to change one's point of view or direct attention as needed. The first two points dealt with deployment of attention, an attribute that was related to Variable 1. The last point dealt with the volitional control of shifts in attention; this was associated with Variables 2 and 4. The findings showed that the factor of satisfaction was significantly related to Variables 2 and 4. Women who were more satisfied, regardless of number of roles and role shifts, were also, by this definition, more flexible, and able to change point of view as needed.

It does not seem to matter how a woman defines herself in terms of roles--whether she checks off every role listed, or sees herself solely as "a person"--as long as she is satisfied with what she is doing. Satisfaction with her job, or with not working, with educational status, volunteer and leisure activities, homemaking, marital status, motherhood, grandmotherhood, and general happiness, seem to be related to flexibility and control in the perception of ambiguous pictures. Perhaps the more satisfied women are more willing and, or, able to follow instructions. Perhaps flexibility and control in the perceptual domain reflected aspects of their personality which enabled them to be satisfied with their behavior.

There is a slight indication that subjects with more than the median number of roles may, in some situations, as in picture 2, Variable 2, maintain a broad span of attention, and be aware of more than one aspect of an issue. This suggests that the higher role group may also display flexibility on occasion.

The findings of this research study lead to the conclusion that within a group of women, those with relatively higher roles and higher satisfaction, Group I, are more apt to display greater flexibility, and thus be better able to cope with the new as well as with the familiar.

Two kinds of flexibility seem to be operating. One is manifested by recognition of something new, and hitherto unknown. This is associated with broad scanning of attention, being able to break set, and look for a different way of structuring one's perception. Once this new viewpoint is acquired, whether spontaneously through internal restructuring, or with help from external sources, another kind of flexibility may be manifested. This is related to ease in fluctuating between two known things. The person who has voluntary control over fluctuations, who can shift or not, as the situation demands, is more likely to be able to cope with changing circumstances, and thus be more satisfied.

Results of this study suggest that people who perceive themselves as having relatively more roles may be more open to new things, find it easier to change the known for the unknown. The evidence is stronger for the other finding--

that women who consider themselves relatively more satisfied find it easier to shift between several known identities. Voluntary control over this fluctuation between two familiar things, between identified aspects of a picture, and perhaps among one's recognized familiar and accepted roles, seems to be associated with a sense of self and an inner locus of control.

Since the sample is not purely random or representative, it would be presumptuous to generalize the findings to an entire population. This would be true of most studies relying on volunteers as subjects. However, the results reveal some of the ways women of this age group perceive themselves and their roles, and can form the bases for further research.

APPENDIX A

Cover Letter

Department of Social- Personality Psychology
Graduate Center of the City University of New York
33 West 42 Street
New York, New York 10036

Dear

I am expanding my research on multiple roles of women in their middle years to focus on role satisfaction, and the methods women use in shifting from one role to another. This information should be helpful to women facing role changes at this period in their lives.

You are invited to take part in this study provided you

are a college graduate, and
are or have been married, with at least one child, and
are approximately 50 to 60 years of age.

Participants are asked to complete the enclosed questionnaire, and come to the Graduate Center for an interview involving related material. The interview will last about an hour, and will be held at 33 West 42 Street, between Fifth and Sixth Avenues, in New York City. Although participation is entirely voluntary, I will be able to give you a small payment of $5.00 for your carfare. The Graduate Center is centrally located in Manhattan, and can be reached by subway, bus, and commuter railway lines.

If you would like to contribute your experiences to this study of women in their middle years, please return the completed questionnaire and interview appointment form in the stamped envelope provided. An appointment for an individual interview will be made at a mutually convenient time.

All information will remain confidential, and your anonymity will be guaranteed.

I look forward to your early reply.

Sincerely yours,

Joan Mankin Gerver

P.S. Should you have any further questions, you may write to me at the Graduate Center, or telephone me at (914) 664- 7889.

QUESTIONNAIRE

1. Of the following roles, check those which best describe you:

___wife	___employee	___homemaker
___mother	___employer	___cook
___mother-in-law	___student	___laundress
___grandmother	___teacher	___cleaner
___daughter	___volunteer	___chauffeur
___daughter-in-law	___friend	___counselor
___sister	___citizen	___woman
___sister-in-law		
___others (specify)_____		

2. Of the above roles, circle the role which is most important in your life now.

3. If you are now working, list each job on a separate line. Indicate time spent in each.

Job Description	Hrs. per day	Days per week	Other
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
Looking for work; actively job hunting_____	_____	_____	_____

4. If now working, check your degree of satisfaction with your work on the scale below:

Very Unsatisfactory / Unsatisfactory / Neutral / Satisfactory / Very Satisfactory

5.

Present educational status (check)	Hrs. per day	Days per week	Other
___not in school now			
___taking courses for interest or pleasure	_____	_____	_____
___studying for degree or certification	_____	_____	_____

6. If now in school, check your degree of satisfaction with being a student on scale below:

Very Unsatisfactory / Unsatisfactory / Neutral / Satisfactory / Very Satisfactory

7. List each volunteer activity you do on a separate line. Indicate time spent in each.

Present Volunteer Work	Hrs. per day	Days per week	Other
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

8. If now a volunteer, check your degree of satisfaction with volunteering on scale below:

Very Unsatisfactory / Unsatisfactory / Neutral / Satisfactory / Very Satisfactory

9.

Who does the following homemaking chores?	List time YOU spend on each chore. Hrs. per day	Days per week	Other
cleaning_____	_____	_____	_____
cooking_____	_____	_____	_____
laundry_____	_____	_____	_____
shopping_____	_____	_____	_____
washing dishes_____	_____	_____	_____
chauffeuring_____	_____	_____	_____
minor household repairs_____	_____	_____	_____
household finances (budget, checkbook)_____	_____	_____	_____
other (specify)_____	_____	_____	_____

10. Check your present degree of satisfaction with homemaking on the scale below:

Very Unsatisfactory / Unsatisfactory / Neutral / Satisfactory / Very Satisfactory

11. List your leisure activities & time spent in each:

	Hrs. per day	Days per week	Other
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

12. Check your present degree of satisfaction with your leisure activities on scale below:

Very Unsatisfactory / Unsatisfactory / Neutral / Satisfactory / Very Satisfactory

13. Circle present marital status: married separated divorced widowed remarried

14. Check your present degree of satisfaction with your marital status on scale below:

Very Unsatisfactory / Unsatisfactory / Neutral / Satisfactory / Very Satisfactory

15. List CHILDREN. Indicate time spent in contact with each(visit,phone,etc.)

Age	Sex	Where living(with you;school;own home)	Hrs.per day	Days per week	Other
____	____	_____	_____	_____	_____
____	____	_____	_____	_____	_____
____	____	_____	_____	_____	_____
____	____	_____	_____	_____	_____
____	____	_____	_____	_____	_____

16. Check your present degree of satisfaction with being a mother,on scale below:

Very Unsatisfactory / Unsatisfactory / Neutral / Satisfactory / Very Satisfactory

17. List GRANDCHILDREN. Indicate time spent in contact with each(visit,baby sit,phone,etc.)

Age	Sex	Where living(with you; own home)	Hrs. per day	Days per week	Other
____	____	_____	_____	_____	_____
____	____	_____	_____	_____	_____
____	____	_____	_____	_____	_____
____	____	_____	_____	_____	_____
____	____	_____	_____	_____	_____

18. Check your present degree of satisfaction with being a grandmother on scale below:

Very Unsatisfactory / Unsatisfactory / Neutral / Satisfactory / Very Satisfactory

19. If you are responsible for the care of a relative or friend,indicate whether person lives with you, and how much time you spend caring for the person.

	Hrs. per day	Days per week	Other
_____	_____	_____	_____
_____	_____	_____	_____

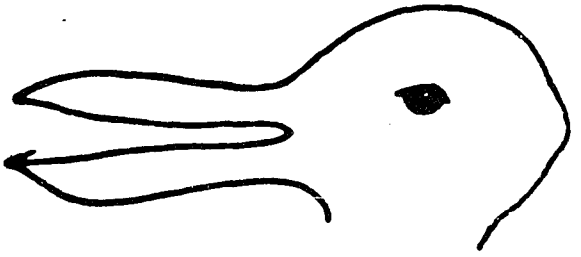
20. Taking all things together these days, would you say you are (check on scale below):

Very Happy / Happy / Neither Happy or Unhappy / Unhappy / Very Unhappy

APPENDIX B

Ambiguous Pictures

Picture 1



Picture 2

Picture 3

Picture 4

Note. Each of the figures reproduced above was centered on a white background five inches wide by four inches high.

APPENDIX C

Lack of Equiambiguity

The lack of equiambiguity of the pictures may have been due to one or more of several factors.

1. Different Population. Fisher's 200 subjects ranged from 16 to 72 years of age, 131 were men, and 69 were women. They represented a cross-section of the population of Northumberland and Durham counties in England. The 100 subjects in this study were women, 48 to 67 years of age, all college graduates, married or previously married with at least one child, currently living in the greater New York metropolitan area.

The narrower age range, lack of male subjects, and different culture may have contributed to the lack of equiambiguity.

2. Different Method of Presentation. Fisher's subjects viewed slides of the pictures projected on a screen, and wrote down what they saw. There was more anonymity in the situation.

In this study, the pictures were printed on 3 inch by 5 inch matte finish paper, mounted between non-reflective glass, and displayed, one at a time, on a small desk easel. Subjects were seated at a "comfortable viewing distance," approximately two feet away. Responses were given orally to the experimenter.

3. Different Milieu. Fisher's subjects viewed the pictures in an anonymous group situation.

In this study, the perception tasks were presented immediately after an individual interview session focusing on roles and role shifts. For some subjects, the interview may have evoked emotions that influenced which aspect was perceived, or acknowledged, first. The lack of equiambiguity was not evident in the pre-testing of the pictures.

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