Work socialization of youth theoretical framework, research methodology and potential implications

Abstract
This paper presents the theoretical framework and the concepts included in the international comparative study of the socialization of youth to work (Wosy) project. We introduce the general cross-sectional research questions investigated in the remaining papers in this special issue. We also introduce the general longitudinal research questions that will guide our study following the collection of subsequent waves of data. We present the major features of the research design, and provide reasons for adopting the particular design features. Finally we discuss the theoretical and practical contributions that will potentially result from the Wosy project.

Résumé
Cet article présente le cadre théorique et les concepts de l'étude internationale concernant la socialisation des jeunes au travail (WOSY). Nous posons un certain nombre de questions générales concernant les données simultanées analysées dans la suite de ce numéro spécial. Nous posons également des questions concernant l'analyse longitudinale qui guideront notre travail dans les étapes ultérieures du recueil de données. Nous présentons les aspects essentiels du plan de la recherche et apportons les justifications pour l'adoption de tel ou tel aspect de la problématique. Enfin, nous évaluons les contributions théoriques et pratiques qui pourront résulter de cette recherche.

Industrial societies rest on a foundation partly represented by work role developmental processes (WRD) and the outcomes of these processes among new workers; that is the processes involved in youth becoming workers. We define WRD as the work environment processes and conditions that influence young people's personal attributes and behavior (socialization). In addition WRD includes the personal attributes and behavior of young people that influences their work environment (individualization). Beyond the immediate consequences there is gro-

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wing recognition of the relationship between WRD and general human development (Mortimer & Borman, 1988; Voydanoff, 1987; Wolman, 1982). Beginning with late adolescence an important part of cognitive, social, moral and personality development occurs in the work context or through unemployment (Dion, 1985; Henry, 1975; Kohn & Schooler, 1983; Steinberg, 1982). Yet our knowledge of WRD remains at a rather primitive level (Osipow, 1983; Super, 1985).

It was for these reasons that the Work Socialization of Youth (WOSY) International Research Team was established and the decision reached to conduct an eight country comparative study of WRD. The general purpose of the research is to study WRD among two occupational panels of late adolescents and early adults during the first three years of occupational training and labor force participation. The important need for research on WRD during this early period of work lives has been well recognized by psychologists and sociologists in different countries (Mortimer, Lorence & Kumka, 1986; Peiro, 1989; Sarchielli, 1984).

For this project we conceive of WRD as systematic, organized and successive changes (and stability) in youth work personality, behavioral strategies and work outcomes; and changes (or stability) in patterns of relationships and in processes connecting youth with their work environments. This definition of WRD is consistent with Staats (1981) theory of social behaviorism, Krumboltz’s (1979) learning theory, and Kohn and Schooler’s (1983) learning generalization model. Work personality changes, in particular, have been recognized as an important outcome of WRD (West, Nicholson & Arnold, 1988). Our major interest is with intraindividual and interindividual patterns of change and stability in WRD, and with explanations of the observed outcomes. We also have a particular interest in both the influence of young people’s work environment on changes that occur in them or their behavior (socialization), and on the influence of young people in bringing about changes in their work environment (individualization). Like others (e.g. Nemeth & Staw, 1989; Kohn & Schooler, 1983), we view development as involving both socialization and individualization effects.

The Role of Cross Sectional Analysis in Longitudinal Research

We view this opportunity to present our theory and some cross-sectional results as particularly important for our eventual longitudinal goals. Data collected cross-sectionally within a longitudinal design can be used to answer questions about current relationships among major concept domains in the theoretical framework, and the cross-national generalizability of those relationships. This is a particularly important endeavor in our pre-
sent interactionist framework because consistency in behavior is reflected in coherent, partially specific patterns of stable and changing work personality and behavior across successive time periods and work situations (Magnusson, 1988). Establishing these initial patterns of relationships among constructs within youth, and between youth and their work environments becomes crucial in understanding subsequent change or stability. In addition, explanations of relationships between time-ordered measures of two constructs must also always take into account the concurrent relationship between those constructs. Assessment of longitudinal change or stability is always made net of the concurrent relationships between measures of constructs.

The Cross-National Comparison of Work Role Development

Our project involves a common research design in order to make comparisons of work role development in different countries. By conducting a study that is international in scope we are able to observe a broader range of variability in our measures and in relationships between measures than we could observe in any single country. We are, therefore, more likely to observe a broader potential range of WRD processes and outcomes which can help contribute to general theories of human development.

A crucial consideration in comparative longitudinal studies of WRD is the time period when interaction occurs between youth and their work environments. The sociohistoric conditions in the eight countries will differ and will differentially change during the three year period. Different and differentially changing sociohistoric conditions in the eight countries will influence the parameters of developmental processes, alter the observed patterns of intra-individual and interindividual relationship between work personality, enhancing behaviors and work environments and influence the level or pattern of developmental outcomes. (Elder, 1974).

For example, in many countries, the youth labor market has been transformed considerably in recent times, largely as a result of demographic changes, economic decline, and structural economic changes away from manufacturing to service industries (London & Stumpf, 1986). The resulting rise in unemployment, which particularly affects young people, led to the introduction of special work experiences and training programs. There was also a considerable degree of expansion in the number of young people who extended their education after age 16 (the minimum school leaving age). The net result is that early careers are now much more diverse (Driver, 1985). It is increasingly rare for young people to directly move from school to work without
some intervening vocational training, especially in economically
deprived areas (Banks, 1988; Banks & Ullah, 1988; Brown &

CONCEPTUAL FRAMEWORK

Figure 1 shows the conceptual framework and major domains of
concepts and relationships for this project. The framework
adopts an interactionist approach similar to those proposed by
Magnusson (1988), Sherrod & Brim (1986) and Vondracek,
Lerner & Shulenberg (1986). There are seven major sets of
concepts, relations and epistemological properties included in
the framework. The epistemological properties include the
holistic view of work personality, dynamic and reciprocal interaction between young people and their work environment, the
sochohistoric time in which this research is being conducted,
and the timing of the interaction between young people and
their work environment. The seven major properties are:

1. Work personality (P) By work personality we mean the work
focused values, beliefs, norms and competencies of young
people that reflect their past development and which facilitate
or constrain the nature, extent of and direction of their future
development. The pattern of P influences what a young person
observes or attends to, how and what information they process
about their environment. P both influences and is influenced by
the young person's work environment and their enhancing behaviors. P can also influence the response of others. For
example, positive work values can have a favorable effect on
decisions of employers who tend to reject youth as employees
for work value reasons (Osterman, 1980). We adopt a holistic
person approach to work personality; youth entering work
develop and function as total, more or less integrated organ-
isms. While seemingly new, the concept work personality has
a rather lengthy history in theories of vocational development
though we include some different elements of P than in past
conceptual approaches. (See Holland, 1985 for a review of the
history and various formulations of this concept).

2. The multidomain work environment (E) which includes societial conditions, employer conditions and organization social-
ization practices, and immediate social or job conditions as
influences on WRD.

3. Behavioral enhancing strategies (B) which represent selec-
tion/attraction strategies used by youth to influence relations
with others in their work environments and to foster the attain-
ment of different outcomes. These strategies can also be out-

WOSY THEORETICAL FRAMEWORK - W. WHITLEY, J.-M. PEIRO, G. SARCHIELLI
Figure 1: Dynamic Conceptual Framework of the Work Role Developmental Process

Three Data Collect Points Eight Countries
(7) Sociohistoric Time and Development Timing of Relationships During the Two Years Period
comes of interactions between P and E or the product of other outcomes. As inputs into WRD processes they represent ways by which youth actively construct and produce their own developmental content and direction.

4. Youth P-E mismatches (M) which represent the problematic nature of WRD. Mismatches indicate a lack of fit between attributes of youth and features of their work environment. These mismatches can vary in terms of their importance for each young person (Edwards, 1988; West & Rushton, 1989). Mismatches have cognitive and motivational properties that affect WRD through choices of enhancing strategies to gain resolution. Enhancing strategies can also mitigate or inhibit the occurrence of mismatches. Mismatches have important influences on subsequent outcomes and on changes (or stability) in P and E. Mismatch increases or decreases can be an outcome of changes that occur in P or E from one time period to another. Hence, one outcome is that the work environment stays the same but the young person now assigns less importance to a work value and cognitively eliminates the mismatch.

5. Outcomes of WRD processes (O) include the results of the accommodation achieved between P, B and E. Our long list of outcomes recognizes that accommodation to mismatches and other work role developmental processes can take many forms. Young people may seek accommodation by 1/ task innovation, 2/3/ attempting to change relevant aspects of their job content or social relationships; 4/ changing aspects of their work personality; 5/ by altering their level of effort; 6/7/ by improving or diminishing their general health and satisfaction; 8/ by adjusting desires which either reduces or increases mismatches; 9/ by altering career plans, or job search practices; or 10/ by changing directions in their careers. This list of outcomes parallels those discussed by Edwards (1988). Like Edwards we also expect that these outcomes can act as important determinants of subsequent developmental processes and outcomes. Hence, the outcomes feedback into the WRD process and influence subsequent states of P, B, E and mismatches.

6. Dynamic and reciprocal interactions within P and between P, B and E. For example, the characteristic way in which the work role of a young person develops may depend on continuous reciprocal interactions among components of P and B. For example, changes in one aspect of work personality may change its pattern of relationships with other aspects of work personality. Included here also are interactions between subsystems of work personality.

7. Time and timing of interactions between P, B and E which recognizes the probabilistic and sociohistoric nature of work
role development. All WRD involves differential changes-within-ranges established by societal conditions and the observed parameters of P, B and E variables. Socio-historic time reflects the general cultural, political and economic, occupational labor market conditions and employer contexts occurring in each country during the three year period of this study. These socio-historic conditions will influence not only variable parameters, but the nature and direction of WRD as revealed through national comparisons. Timing refers to the developmental period in which interaction occurs between people and their work environment. The timing of interaction can influence particular work personality - work environment relations. For example, the novelty of new work situations may temporarily suppress the normal functioning of a young person's preferences for job features, such as autonomy, until he or she has learned to satisfactorily perform tasks (Katz, 1978; West & Rushton, 1989). Toffler (1981) found that during the role-developmental process the causal determinants of some outcomes are different at different times. She also found that negative mismatches (actual situation was worse than expected) had their greatest influence on role outcomes either early (one month prior to graduation from training) or late (after six months of work). In general she found that a new employee moves from a period in which the major predictors of outcomes are subjective to a period when objective work environment properties are most predictive of role outcomes.

The framework indicates that the evolving pattern of differential relationships at time one between a young person and his or her work environment generates or reduces mismatches, enhancing behavior and influences the direction and nature of work role developmental outcomes. Continued developmental and differential reciprocal relations between P, B and E throughout the three year period provide a basis for further individuality. This individuality may be observed in two general ways. First, by differential change (or stability) intrindividually (in relationships between specific components of P or B as would be revealed by changes in factor structure or retest-reliability). Second, interindividually through change (or stability) in structure as revealed by factor or cluster analysis, through changes (or stability) in the pattern of relationships between P, B and E for different persons and through changing relationships with outcome variables. (Mortimer, Finch & Kumka, 1982).

**General Research Questions**

The general research questions we seek to address in investigating youth work-role development are presented below. We have organized the questions into those we seek to address with
the cross-sectional data in this special issue and major longitudinal questions we will address following the collection of the second and third waves of data.

**Cross-sectional questions**

1. Paper two. What are the preparatory career patterns observed among young people leading up to this initial period of work? What similarities and differences in these patterns are observed between the occupational groups and between the countries?

2. Paper three. What are the national and occupational differences in the work content and in the characteristics of the initial work environment experienced by young people? How do the characteristics differ in terms of favorableness of labor market opportunities, the content of their jobs, quality of their employing organizations; socialization tactics they experienced; nature of their interpersonal relations; and experienced role conflict and ambiguity? What are the similarities or differences in the initial work environments experienced by young people in the various countries?

3. Paper four. What are the initial characteristics of the work personalities, particularly the meaning of working, of young people? How central or important is working in their lives? How strong are their normative beliefs concerning their obligations and entitlements? What is the relative normative orientation of young people (e.g. more obligation oriented, more entitlement oriented or a balanced orientation)? What are their preferences for work outcomes? How do they define working as an activity? What are the observed country and occupational similarities or differences?

4. Paper five. What are the initial interrelationships between the behaviors young people exhibit (enhancing strategies, effort level) and characteristics of their role (conflict, disambiguity), social relations, and socialization experiences? To what extent are these initial personal behaviors and situational properties related to young people's job satisfaction, experienced mismatches and general health? To what extent do the occupational groups differ in their use of these behaviors and in their role, social relations and socialization circumstances? Are there initial occupational differences in the relationships between the behavioral and situational variables and outcomes?

5. Paper six. What is the nature of the initial outcomes young people experience in their first few months of working? What
kinds of mismatches do they experience and do these tend to be positive (experience better than expectations) or negative (experience worse than expectations) mismatches? What is the initial relationship between the mismatches young people experience, and their job satisfaction and general health? What is the relationship between initial mismatches and work personality or work environment variables? What is the initial relationship between mismatches and career enhancing strategies? Are there occupational differences in these initial relationships?

6. Paper seven. What is the initial structural relationship of work personality and work environment variables with career enhancing strategies and general health? To what extent are these relationships mediated by positive mismatches and role conflict? Do work personality and work environment variables interact with each other in relationships with the mediating variables, career enhancing strategies and general health? If so, what is the nature of the interaction and what are the implications for work role development?

**Longitudinal questions**

1. What are the major patterns of change and stability within youth in relationships between measures of different work personality and enhancing behavior constructs? What are the major patterns of change and stability between youth in relationships between measures of different work personality, enhancing behavior and work environment constructs? How do these patterns of relationships within youth and between youth change or remain stable and hence increase or decrease the individuality of WRD? Are there differences between youth in terms of the timing or magnitude of changes or in the timing of particular environmental interactions which help to explain the direction and extent of WRD?

2. What are the major work environment patterns and processes with which youth interact? Are different identifiable subsets of youth (in terms of P or B) more or less likely to interact with different work environment patterns? What are the consequences of these differential patterns of youth-work environmental interactions? What explanations can be offered for the greater or lesser propensity of particular kinds of youth to be concentrated in different work environment patterns?

3. What are some of the important processes linking work personality, enhancing behaviors and work environments? How, for example, do youth who possess particular enhancing behaviors influence their own WRD? What particular features of work environments and developmental outcomes seem to be
most influenced by these patterns of work personality or by particular enhancing behaviors?

4. How similar or different are the patterns of results in different countries? Since a common research design is used in all countries, we can conduct a form of quasi-experiment to investigate the cross-national generalizability of WRD processes and outcomes. The common panels in the eight countries provide a natural and efficient simulation of the manner in which different parameters and combinations of developmental influences interact to influence outcomes. The socio-historic periods can effect the extent of generalizability in WRD; especially the extent and direction of early development. These natural differences in sociohistoric conditions provide an opportunity to observe the changes-within-ranges due to the particular time related parameters of P, B and E variables observed in each country. By making comparisons between the common panels in different countries we can make statements about the extent of WRD possible under different sociohistoric conditions, and identify sufficient conditions for WRD during the two year period.

**Work Personality Constructs (P)**

The constructs chosen for inclusion in this study represent important ways youth influence their own WRD. They are sensitive to developmental change and they have historical significance in the social sciences. To some extent WRD is internally influenced because youth work personalities are coherent, lawful and predictable in their influence even if they are not necessarily consistent in either absolute or relative terms (Lerner, 1984). The internal states of youth serve as an important stimulus for their perception, interpretation and response to their work environments (O’Reilly, Parlette & Bloom, 1980). Further, as work environments change, these active processes of youth anchored in temporally and cross-situationally stable dispositions (eg. Staw, Bell & Clausen, 1986; Staw & Ross, 1985), remain a source by which youth interpret these changes and influence their own WRD.

What follows is a brief description of the work personality constructs, all but the last of which are drawn from the meaning of working project and extensively discussed elsewhere (MOW International Research Team, 1987).

These constructs are:

1. **Work centrality.** The extent of psychological and actual involvement and commitment to working as a major life activity in both an absolute and relative sense.

2. **Norms of entitlement and obligation.** The felt standards of youth concerned with the rights of workers and claims on
employers or society and their standards concerned with the
duty or responsibility of workers to these collective units.

3. Work goals and valued working outcomes. The nature of
what youth feel are desirable outcomes of working including
intrinsic, extrinsic, social conditions and physical working condi-
tion goals or values.

4. Work definitions. The concept «work» is complex and defini-
tions of the concept vary widely among workers according to
their developmental experiences. We include fourteen indicators
of three broad classes of definitions concerned with reasons for
working, personal outcomes from working and controls or
constraints on behavior.

5. Personal competencies which are broad cognitive, behavioral
and motor skills that youth perceive themselves as possessing to
varying degrees and which, in varying combinations, are neces-
sary for task performance.

The work environment (E)

We conceive of youth as being embedded in a multidomain
work environment consisting of societal, external labor market,
organization quality, social and immediate job components.
Because the work environment is dynamic, complex and replete
with potential sources of influence, WRD is a highly probabilistic
process. The timing of interaction between youth and work envi-
ronments will affect the observed patterns of relationships of
WRD. For example, youth with similar work personalities and
trained in the same occupation may confront quite different
labor market conditions in the various countries. These condi-
tions will, in turn, affect the content and direction of their WRD.
The particular work environment constructs included are:

1. Society which is made an important construct by the common
conceptual framework and research design which facilitates
cross-national comparisons. Similar occupational panels in simi-
lar industries and organizations are investigated, a common
interview schedule is employed in all countries, and the timing
of each wave of data collection (three in all) is standardized.
With this approach we adopt a «youth within society» orientation
akin to approaches used by Gallie (1978) and discussed by
Brossard and Maurice (1976). Cross-national differences in E
may be particularly acute in preferred social processes such as
socialization practices and social relations (Child, 1981). There
are, of course, wide differences in youth unemployment, quality
and duration of military service obligations and the use of prac-
tices such as temporary labor contracts between the countries which affects WRD.

2. Occupational labor market conditions can vary greatly (Raffe, 1983) and are particularly important in accounting for differences in early career patterns, experienced job properties and relations with superiors (Katz, 1978). Both hiring standards and employer training provided also vary between occupations and organizations (Lester, 1954; Bills, 1987). Finally youth’s perceptions and beliefs regarding labor market opportunities also vary between occupations (Malm, 1954; Dreher & Dougherty, 1980).

3. Organization quality and internal labor market conditions have a major influence on WRD experiences (Andrisani, 1980; Kalleberg & Sorensen, 1979). Two important properties of this construct are job sequencing and training/socialization practices. Within and between jobs sequencing or progression facilitates the transfer of skills, abilities and work personality attributes (Nicholson, 1984). Early investment in training or institutional/individual socialization practices also facilitates WRD processes and outcomes (Osterman, 1980; Jones, 1986).

4. Socialization practices distinguish between the various ways social others structure and organize learning experiences for youth in order to communicate or withhold information (Van Maanen & Schein, 1979). These practices in particular seem to be related to task innovation behavior, role conflict, work centrality, mismatches and career pattern variables such as turnover. For example, highly structured situations may foster role and job learning. In the process role conflict and mismatches may decrease. But task innovation is not likely to be great under these circumstances. We would note that we do not restrict socialization influences to these practices. There is substantial research evidence which shows that job properties, social relations and almost any of their work environment variables have potential socialization effects for young people (Dion, 1985; Kahn & Antonucci, 1980; Kahn & Schooler, 1983; Karasek, 1981). Individual differences in P or in previous work or military experiences could also influence the particular kinds of socialization practices young people experience.

5. Social relations with superiors and co-workers includes both developmental functions and social support. These social sources can provide advice and clarify expectations or task requirements. Supervisors have a major influence on development through the sequencing and allocation of tasks and training. Co-workers also are an important source of information which reduces role conflict and influences work centrality and
work norms (Ziller, 1964). In doing so co-workers help to define and validate social reality. They provide a comparison point for the validation of personal beliefs. This work group influence is likely to be particularly great in novel work situations. Theories of social attachment and role theories identify supportive relationships in new situations as an important influence for socialization (Kahn & Antonucci, 1980), and particularly for career pattern variables (e.g. turnover) or socially oriented enhancing strategies used by young people. These social relations may increase obligation norms. But positive social relations are likely to decrease the use of task innovation as a career enhancing strategy.

6. *Job and work properties* include objective content, subjective content, temporal conditions and negative conditions. In the present study *objective content* includes the extent of the data, people and things composition of jobs with each dimension consisting of a partially ordered set of increasingly complex activities. This measure of job properties has been widely used in past comparative longitudinal research (e.g. Kohn & Schooler, 1983; Spenner, Otto & Call, 1982). *Subjective conditions* consist of psychological characteristics of jobs thought to facilitate WRD and include the decision making content and feedback from other properties of the youth’s work. These properties of jobs have a cross-sectional and longitudinal relationship with work personality constructs such as preference for work autonomy (Kohn & Schooler, 1983). In jobs with higher decision autonomy and where old job incumbents are not present or do not help a young person learn their role the influence of social relations on developmental outcomes will likely be mitigated. In situations like this we would also expect to find weaker obligation norms. *Temporal conditions* include work schedule, job chronology and duration and length of work week which relate to measures of work centrality, mismatches, enhancing behaviors and are used to construct career patterns. *Negative* working conditions are restricted to role conflict which appears to be prevalent in jobs staffed by youth (Greenberger & Steinberg, 1981).

**Work Role Enhancing Behaviors and Strategies (B)**

Our choice to include this domain of constructs was based on the view that youth are active producers of their own development. Our desire was to include constructs which were not only inputs to the developmental process, but also outcomes of that process. Finally, we wanted to include constructs that aid in offering process explanations for how youth influence their own development in ways other than through work personality dispositions.
We include three classes of behavioral enhancing strategies:

1. Those that involve attempts to gain employment or to shape future opportunities such as job search and career planning.

2. Competence based strategies such as increased effort-involvement and task innovation that are attempts to act on their social environment or work content. Individuals engaging in these strategies may have high obligation norms, but low job satisfaction or significant mismatches (Staw & Bell, 1988).

3. Social strategies such as networking, seeking advice or help. These strategies are influence attempts used by youth to structure their social environment, to operate more effectively within it in order to provide a definition of the situation, and to increase job knowledge or task understanding.

**Work Role Developmental Outcomes (O)**

We include several outcomes in addition to the behavioral enhancing strategies and work personality for three reasons. First, we have sought to reduce the criterion deficiency or underspecification problem that continues to plague much WRD research. Second, with several outcomes we are more likely to observe the probabilistic, multidirectional nature of WRD and avoid the teleological bias of final ends for all individuals as in past research (e.g. Kohn & Schooler, 1983; Greenberger & Steinberg, 1981). Finally, we are more apt to observe both positive and negative outcomes which seems to us to be more descriptively accurate of WRD during this early period of young people's work histories.

We have included three general categories of WRD outcomes:

1. **Personal outcomes** which accrue largely to youth including:

   a) Work personality where our interest is in what is the effect of prior behavioral strategies and work environment on subsequent work personality net of earlier personality states. We expect that youth who experience the largest mismatches between their work goals and commensurate work environment will show the most work personality change.

   b) Career plans and job search practices which are poorly articulated initially but which may become clearer. We expect that the clarity and extent of plans is influenced by the amount of social support they receive; when their jobs have substantial complexity in terms of data, people and decisions making content; when they experience a low level of role conflict; and
when employers emphasize the future through a developmental sequencing within and between jobs or through formal training. The job search practices used can influence the quality of the work environment experienced and the extent of mismatches a young person confronts.

c) **General health** includes recent changes in sleeping habits, enjoyment of activities, depressed mood, feelings of self-worth, experienced psychological strain and ability to concentrate and make decisions. *We expect* that work personality dispositions such as work centrality and interpersonal contact values, work environment features such as socialization practices and social support are related to general health. In addition, the interaction between P and E as it affects mismatches and role conflict is likely to affect general health. Finally, general health may, in turn, influence career pattern variables such as turnover.

2. **Person-situation outcomes** have positive and negative features that accrue to both the youth and to significant others. They include:

a) **Superior and co-worker relations** which include both cooperative or conflictful elements. More positive relations affect the feedback received and presage the absence of negative mismatches or the presence of positive mismatches, affect career pattern and increase competency. But particularly positive social relations may actually have the effect of decreasing the use of social enhancing strategies. Young people may have little need to change the situation when they already have good social relations (Edwards, 1988; West & Rushton, 1989). *We expect* that these relations are particularly related to socialization practices and social support, and to work personality dimensions such as obligation norms and the valuation of social contact.

b) **Mismatches** occur because youth often lack information about their work environment or lack insights into themselves. These mismatches may be particularly acute among new workers or new employees and often center around intrinsic job features such as variety, autonomy or the fit between personal attributes and job requirements (Wanous, 1980). Mismatches are not only an outcome, of P, B and E interactions, but are also a motivating force in influencing subsequent WRD (Nicholson, 1984). *We expect* that work personality and work environment interact in defining mismatches and that enhancing strategies may mitigate against or increase the size of mismatches and surprises. We do not assume that for all young people the mismatches are necessarily a negative outcome. For some young people mismatches may lead to more positive subsequent outcomes. Additionally, for some young people mismatches may be a chronic condition that they have learned to live with (Driver,
We also include job satisfaction as a young person's cognitive-affective response to their work situation.

c) Career patterns can be viewed as both a sequence of personal roles and from the point of view of the job, offer a structuralist interpretation. For us career pattern includes both; that is, patterns of work, training, military service, employment and unemployment, but also recognition of occupation, employer and industry factors. These latter factors can differ in terms of number of youth, their quality or power to attract and hold youth and in the continuity they provide between different roles (Spender, et al., 1982). Career patterns also involve boundary passages between different employers, work units and hierarchical levels thus enhancing opportunities for new work socialization experiences (Nicholson, 1984; Van Maanen & Schein, 1979). We expect that concurrent and longitudinal reciprocal relations between P, B and E provide the major determinants of career patterns.

3. Situation modifying outcomes represent ways by which youth learn to explore and experiment in their work environments. We include three types of situation modifying outcomes:

a) Effort-initiative above the minimum expected, relative to co-workers or in comparison to the youth's past levels represents a spontaneous outcome subject to personal choice and influenced by work centrality, obligation norms, social relations and support, and job properties.

b) Task innovation involves attempts to try out new methods or procedures, and making suggestions for different ways of accomplishing tasks. Interpersonal support is a positive influence on this outcome, while institutional socialization practices tend to inhibit this outcome (Feldman, 1976; Van Maanen & Schein, 1979). We expect as well that intrinsic work values are related to this outcome.

c) Interpersonal innovation recognizes that activities like social network building is a proactive outcome that has several sources of influence. We expect that this outcome is influenced by the interaction between obligation norms and the valuation of social contact, and work environment features such as jobs that involve high people content and considerable social support/socialization practices. As noted earlier, this type of innovation can reduce mismatches and experienced role conflict, and may be related to general health.
Dynamic and Reciprocal Causal Relations

In addition to our holistic view of work personality dynamic, reciprocally causal relationships between P, B and E are crucial to understanding the highly individual nature of work role development. Each of these three conceptual domains is dynamic and requires adjustments by the other two. It is this adjustment and readjustment that forms the overarching outcome of WRD as patterns of relationships change. Hence we view the WRD process as continuous; it begins upon entry into the work force and continues throughout the three year period. We recognize, as well, that the patterns of relationships change or remain stable not only between these conceptual domains, but also within each conceptual domain.

Consequently, analytic procedures must recognize certain conceptions of stability and change which become crucial in studying WRD. In particular, we recognize four conceptions of stability and change: structural, normative, level and ipsative (Mortimer, Finch & Kumka, 1982). Structural stability or change refers to the similarity or difference in the factor loading structure of the constructs at different time periods and in the pattern of relationship between dimensions over time. Analysis of factor structures necessarily precedes other types of analysis because any changes require different interpretations of indicators.

Normative stability refers to the persistence or change of P, B and E ranks on dimensions of interest. Here the relevant issue is: given structural invariance, does the ordering of youth with respect to work personality, enhancing behaviors, work environment or outcomes persist or change across time periods. The observed correlation between constructs, i.e. the pattern of relationships, provides an indicator of normative stability.

Level stability refers to the persistance or change in magnitude over time as indicated through a comparison of means or standard deviations on successive occasions. Increases or decreases in individual scores are also considered. Procedures such as the use of non-standardized index scores for each of the pairs of measures of the same construct for each youth at different time periods form one type of analysis.

Finally, ipsative stability refers to intraindividual or intraincontext stability or change in the organization of work personality and behavior over time. What is examined is the relative importance of different attributes at successive time periods. This type of stability or change is critically important in describing differences between youth in changes or stability that occur in their individuality (eg. interindividual differences in intra-individual changes and stability).
RESEARCH DESIGN AND METHODOLOGICAL CONSIDERATIONS

In this section we would like to discuss four features of our research design: 1/ the sample design and rationale; 2/ the project timetable and rationale for the data collection points; 3/ procedures used to establish measurement equivalence in different countries; and 4/ procedures we will use to facilitate cross-national comparisons and to determine the generalizability of research findings. Our reason for discussing these details here is because we view issues of theory, data collection and data analysis as highly related.

Samples and Sample Rationale

We include two occupational panels of young people with a total sample size of 300-400 individuals in each country (except France) in this study. The French panel size initially was about half the size of those in the remaining countries. The first occupational panel, evenly divided in gender, are operators of office technology (OT). The second panel consist of all male machine operators (MO) in production/manufacturing in the metal industry. Occupational examples of the first panel include work in positions involving office automation. These positions involve substantial activity with data or information entry, collating, manipulation and organization of data. Example positions include word processing operators, micro or mini computer operators and data entry workers.

The (MO) panel consists of all males who primarily work with things such as metal parts. Example positions include lathe and milling machine operators, machine tool operators and welders. We exclude auto mechanics or electronics assemblers, and robot operators from this panel. The occupational prestige scores of positions in the two panels are similar (Murry, 1974), as are the length of vocational training necessary for the positions.

There were three reasons why we selected these two occupational panels. First, for both occupational categories the labor market future is positive in all countries. Second, ours is a study of work role development, rather than a study of the effects of unemployment. Our intent is to include occupations with significant opportunities which have historically employed many youth, but where unemployment remains one career pattern variable for some members of each panel. Finally, our inclusion of two occupational panels with varying gender composition acknowledges the gender-based nature of occupations and labor markets in most countries. By selecting occupations varying in gender composition our intent is to be descriptively accurate in mirroring actual occupational conditions. This procedure also increases the external validity of our research.
<table>
<thead>
<tr>
<th>Question Number and Construct Measured</th>
<th>Wave 1 6 months following initial employment Fall-Summer 88-89</th>
<th>Wave 2 One year following initial employment Fall-Summer 89-90</th>
<th>Wave 3 Two years following initial employment Fall-Summer 90-91</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Personal data</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>2. Career pattern</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>3. Job Search and perceived labor market opportunities</td>
<td>x</td>
<td>if employment situation changes x</td>
<td>if employment situation changes x</td>
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<tr>
<td>4. Job ability requirements</td>
<td>–</td>
<td>x</td>
<td>x</td>
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<tr>
<td>5. Societal norms of obligation and entitlement</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>6. Important work aspects</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>7. Valued working outcomes</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>8-9. Work centrality</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>10. Work definitions</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>11. Work effort</td>
<td>x</td>
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<td>x</td>
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<tr>
<td>12. Personal abilities</td>
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<tr>
<td>13. Career enhancing strategies (planning, interpersonal innovation, seeking help from others)</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>14. Career enhancing strategies (decision autonomy and content innovation)</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>15. Roles conflict and ambiguity</td>
<td>x</td>
<td>–</td>
<td>x</td>
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<tr>
<td>16. Superior and co-worker relations</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>17. Organization quality</td>
<td>x</td>
<td>–</td>
<td>x</td>
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<tr>
<td>18. Socialization practices</td>
<td></td>
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<tr>
<td>19. Objective job content-functional job analysis</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>20. Person-environment mismatches</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>21. General job satisfaction</td>
<td></td>
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<tr>
<td>22. General health-well being</td>
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</table>

1. x = data collected; – = data not collected.
including the gender-typed nature of occupations we can measure gender-related differences in work environment conditions and processes which are characteristic of the wider occupational structures in the eight countries.

**Timetable and Rationale for Data Collection Points**

Figure 2 shows the data collection timetable for the three waves of data collection. This timetable is common in all countries. Shown in the figure are the particular work personality, enhancing behavior, work environment and developmental outcomes measurements collected in each of the three waves. The Xs signify data collection while a minus (-) indicates no data collection for that measure during the particular wave of data collection. Note that on certain measures data collection will occur two rather than three times. For example, we only measure job ability requirements and some career enhancing behaviors twice. The reason for this modification is that respondents would lack the knowledge to make accurate judgements or the experience to engage in particular forms of behavior. We also only measure role conflict and ambiguity, organization quality and socialization practices at the first and third collection points because we did not feel these features of the work environment would change very much between the first and second time periods.

We should mention that there is an important reason why we chose to include three waves of data collection rather than two waves which is a frequent choice in longitudinal research. With three waves of data collection we can reduce regression effects as a major threat to internal validity (Cook & Campbell, 1979). Discriminating developmental change from regression effects requires a minimum of three measurement occasions, in which case regression effects are reduced as a threat to internal validity (Nesselroade, Stigler & Baltes, 1980).

There are two primary reasons for the particular timing of data collection points indicated in figure 2. First, research indicates that six months is the mean duration considered appropriate between beginning work and initial data collection for jobs included in our two occupational panels (Katz, 1980; Schmidt and Schneider, 1983). With shorter time durations relationships between variables from different conceptual domains can be quite unstable. Second, since WRD is probabilistic, developmental timing must be explicitly recognized in establishing data collection points. Otherwise patterns of relationships and outcomes could potentially differ (Ghiselli & Haire, 1960). Since youth and work environments are continuously interacting and undergoing change, the timing of data collection becomes a superordinate parameter in developmental research.
Timing Effects on Observed Relationships with Cross-Sectional and Longitudinal Data

Personal and environmental variables probably have differently timed influences on each other and have different rates of change. For example, personal attributes of youth (P or B) probably have a lagged effect, but very little cross-sectional effect on features of work environments. In contrast, work environments are more likely to have both concurrent and lagged effects on personal attributes. Thus, with the present focus on cross-sectional findings we expect a greater relationship of E on P than the opposite. Additionally, different domains of the work environment (eg. job properties, social interactions, organization training) can vary in the timing of their influence on youth and in their magnitude of change during the two year period. Occupational labor market conditions or organization practices may, for example, change more slowly than social relationships with coworkers or superiors. Given these temporal considerations, our best estimate is that the three waves of data collection are timed to occur at theoretically relevant points with sufficient spacing to capture timing and natural time constants necessary for observing the unfolding of complex WRD processes.

Measurement Equivalence

Lack of equivalence is a major threat to internal validity in longitudinal, comparative research. We can distinguish four aspects of equivalence that have been or will be investigated in this study to determine the extent of this threat. We have partly established measurement and psychological equivalence by using several measures of work personality drawn from comparative research in several countries which have known psychometric properties (MOW International Research Team, 1987). We will additionally examine the factor structures and latent variables of our measures of work personality, enhancing behaviors and work environment. We assess functional equivalence by examining relationships between constructs found in past comparative and cross-sectional research with youth. Finally, we have already established the linguistic equivalence of our measures through the repeated use of back translation procedures.

Cross-National Comparisons of Panel Data

In making cross-national comparisons one procedure we intend to use is meta-analysis (Hunter, Schmidt & Jackson, 1982). Our sample sizes are rather modest and will be made more so by some loss of subjects. The meta-analysis procedure recognizes seven sources of error variance that can occur and threaten
cross-national comparisons. Meta-analysis offers a set of rational procedures for determining the nature and extent of error in each national data base. By initially correcting for these errors, subsequent results can be more confidently compared between countries to determine both the generalizability of findings and to provide a more valid estimate of the range of work role development processes experienced by youth.

**POTENTIAL CONTRIBUTIONS OF THE WOSY PROJECT**

We believe that there are both theoretical and practical contributions of this project and therefore we will, in the future, attempt to disseminate our findings to both the theoretical and practitioner communities.

For the theoretical and comparative communities the greatest contributions may result from our view that youth and work environments reciprocally and continuously interact to influence the direction and trajectory of WRD. In this respect our findings should support and extend those of other research based on similar conceptual properties (e.g., Magnusson, 1988). Additionally, our recognition that WRD is both internally and externally caused. It is our recognition that WRD is both a process of individualization and socialization that provides some potentially valuable contributions. Rather than being deterministic we seek to contribute by recognizing the diverse and probabilistic nature of the process and the outcomes.

These conceptual properties and the central role of time and process will allow us to provide findings which address some crucial questions. These questions include *how* and *when* work role developmental outcomes emerge from the interaction of youth and their work environments. We will also be able to observe *which* outcomes and which *levels* of outcomes occur for similar or different youth interacting with similar and different work environments.

The extent to which youth work personality and enhancing behaviors influence work environments, and the extent to which particular patterns of these variables are found with differential frequency in particular work environments remains an important research question. One result of this process of interaction may be that particular work personalities and behaviors will be found in a restricted set of work environments (Holland 1985; Magnusson & Endler, 1977). Other potential theoretical contributions of this research can include the extent of stability and coherence of work personality and behavior, the situational dependence of particular work role developmental processes,
and the range of contrasting patterns of work environments youth experience within and between countries. In particular, the international scope of the research allows for maximum variability of observed WRD processes and outcomes. With this cross-national scope and the inclusion of a broad range of positive and negative outcomes, this research reduces the teleological bias implicit in studies which examine a limited set of outcomes in one, or at most, a small number of fairly homogeneous national settings.

**Practical Implications**

We believe our research will have important implications for policy makers, vocational counselors, parents and for vocational education as well. Neugarten (1979) emphasizes that development tends to increase individual variability in both individuals and the particular environments in which people are found. In these circumstances a broad framework of normative vocational theories may continue to be useful in training and counseling youth. But it will be important to observe and understand the increased variability that exists so that individual behavior and work setting variability can be plotted and specific intervention strategies tailored to particular youth-work environment combinations (Driver, 1988).

Holland (1985) uses the concept of congruence or match of work personality types and work environment types. The concept of congruence or match is useful because it helps counselors when they work with clients. The present research will help us examine the concurrent and longitudinal causes of, and longitudinal consequences of, matches and mismatches. What, for example, may be sources of congruence or match between work personality and work environments at one point in a youth’s early work experience may not be so at a subsequent time. We also must repeat that mismatches are not necessarily bad or matches necessarily good. We hope to observe instances where negative mismatches do lead to positive outcomes (e.g. task innovation) and where matches or positive mismatches lead to negative outcomes (e.g. little role or interpersonal innovation among satisfied young people).

Super (1984) described career development in terms of normative development tasks at different time periods. We suspect that while there may be some general tendencies with regard to tasks youth experience during this early career period, the tasks vary greatly between identifiable sub-groups of youth. It will be important for practice to try to identify how tasks vary between these sub-groups of youth interacting with similar or divergent work environments.

Finally, the identification and description of the behavioral strategies used by youth, and the consequences of these strategies
in different work environments will provide practical impli-
tions. These strategies, the conditions for their usage, and poten-
tial consequences can then be incorporated into vocational plan-
ing. Given this information and equipped with these behavi-
ors, new young workers should be able to better adapt to, or modi-

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