

Occupational socialization and psychological development: An underemphasized research perspective in industrial psychology

MICHAEL FRESE*

Department of Psychology, University of Pennsylvania

This article argues for consideration of occupational socialization as a research focus in industrial psychology: the changes that come about in a person through his or her participation in work. Research on occupational socialization takes a developmental perspective, and is a part of life-span developmental psychology. Specifically, the framework of occupational socialization calls attention to these research questions: The effects of work on a worker's actions outside of the workplace (e.g. the influence of the nature of work on the development of an active or passive approach to life generally); the effects of work on cognition; the effects on emotions; the effects of the work situation on the values of an employee who has just taken on a new role, etc. The perspective of occupational socialization is tied to the methodology of longitudinal research.

Argyris (1976) has deplored the fact that industrial psychology does not take 'change' into consideration. Even job satisfaction, supervisor behaviour, and organization variables are rarely seen within a change perspective. A developmental perspective within the realm of occupational socialization would emphasize the changes that take place in the person as a function of the job. This research perspective could also prove to be in better accord with recent developments in personality and developmental research.

Occupational socialization is not a theory but a perspective which may open up new strands of research and new ways of looking at industrial psychology. This does not mean that the perspective of occupational socialization has not been proposed before. In fact, early socio-economic thinkers like Adam Smith (1776) and Karl Marx (1890) have already pointed to some long-term effects of certain types of production on the person. There is also an array of sociological literature on organizational socialization (e.g. Van Maanen, 1976; Schein, 1980). Of particular importance is the developmental approach applied to vocational choice and careers by Super (e.g. Super & Bohn, 1970; Super, 1980). Within the realm of industrial psychology—especially within the tradition of improving the quality of working life (e.g. Davis & Cherns, 1975; Suttle, 1977; Ulich, 1978)—problems of occupational socialization have been at least implicitly considered. However, casting these problems into the framework of socialization theory may sharpen the focus even of these studies (cf., for example, Lempert *et al.*, 1979). The developmental impact of work has been more examined in industrial sociology than in industrial psychology, as any quick look into handbooks, textbooks and journals of industrial psychology will show. At the same time the sociological approach has more strongly emphasized the structural characteristics of the social organization than would be warranted within a psychological approach.

Occupational socialization can be defined as changes in the person which take place

*Requests for reprints should be addressed to Michael Frese, Department of Psychology, University of Pennsylvania, 3813–15 Walnut Street, Philadelphia, PA 19174, USA.

in and because of the work situation (Volpert, 1975). This perspective is in keeping with the perspective of life-span developmental psychology which has shown that the development does not end at a certain age, but is a continuous process encompassing the entire life-span (e.g. Baltes & Schaie, 1973). In their review of life-span developmental psychology, Baltes *et al.* (1980) have distinguished normative age-graded, normative history-graded, and non-normative influences on development. All three kinds of influences can take place in connection with occupational socialization. Normative age-graded influences are more or less the same for all persons related to certain stages of life, e.g. learning of skills, starting work at a certain age, retirement from work, etc. Normative history-graded influences, i.e. influences that are exerted at a certain historical time period for a certain cohort, include the influence of technological advance (e.g. through the use of microchips), periods of rapid rationalization of production and office work, economic depressions, the rise and fall of social movements (e.g. labour unions), etc. Finally, non-normative life-events pertain to life-events which are differentially distributed within a given population or cohort, e.g. unemployment, job changes, accidents, new supervisors and colleagues, etc. But apart from these major life-events which sometimes consist of relatively sudden changes, there are also the everyday non-normative experiences: the daily wear and tear as well as the daily use or non-use of skills, the daily stressors, and the intellectuality of the work tasks, etc. These aspects have to be included as important influences though they are not mentioned by Baltes and colleagues. Modern stress research has also emphasized how important everyday problems can be and suggests that they may be as significant developmental influences as the obvious and salient life-events.

This paper focuses on job socialization rather than the job selection hypothesis. According to the job selection hypothesis, the correlation of personal variables with certain job situations is due to people selecting the most 'suitable' jobs, or being selected for these jobs. The job socialization hypothesis proposes that differences in persons are sometimes due to influences of jobs. But job selection is not unimportant. Unfortunately the relative importance of selection vs. socialization processes cannot be adequately determined at this point. To do so would require longitudinal studies beginning at an age before the conscious selection of a specific job is made.

The impact of the job on the person is likely to be greatest in the initial period of a job or in direct preparation for a job. Longitudinal studies beginning at a later age, thus probably overrating the importance of job selection, show that job selection accounts for more variance than job socialization with one set of variables (e.g. intellectual flexibility, Kohn & Schooler, 1978). For a second set of variables, both influence processes account for about the same share of the variance (e.g. the importance of money as a goal of work, cf. Mortimer & Lorence, 1979a). With a third set of variables (e.g. distress, cf. Kohn & Schooler, 1982), job socialization seems to have a stronger influence than selection, even with older people.

Some selection effects can actually be seen as the effects of socialization *for work*. In fact some authors have suggested that familial and school socialization for work should be part of the concept of occupational socialization (Lüscher, 1968; Lempert & Franzke, 1976). Parents and schools also consciously socialize children for their future jobs. Moreover changes in personality may occur in anticipation of a job. A person may, for example, take up the values of a manager before actually becoming one. The direct preparatory activities include obtaining more knowledge about the future job, fantasizing what one will do in the job, and adjusting one's perspectives on what one will be able to achieve (Noeth & Prediger, 1978, and Howell *et al.*, 1977). Anticipatory socialization of this kind should be included in our definition of occupational socialization, because it *directly* prepares the individual for the job. *Indirect* preparatory activities in school and family should not be included in the definition of occupational socialization. Although it is useful to analyse familial and school socialization as indirect preparations for the job, the importance of

occupational socialization as a *perspective for industrial psychology* resides particularly in the research on the impact of work on the person.

The theoretical importance of work as a socializing force stems from the following conditions (cf. Frese & Mohr, 1978):

- (a) adults spend a very large part of their lives at work;
- (b) participation in the social endeavour of controlling and manipulating nature (the task of production) is mainly done at work;
- (c) work allows the individual to play an active part in production and meets the needs to be active and productive in creating socially valuable goods;
- (d) the action competence of a person is potentially fully developed at work, because production *per se* (not necessarily how it is organized at a given time) requires both hands and brains;
- (e) work provides a time structure to day, week, year, and even life;
- (f) financial compensation from work is the only way that the overwhelming majority of the population can meet their material needs;
- (g) the social worth of a person (prestige, social status) is mainly determined by the work a person is doing;
- (h) much of the social interaction of the adult occurs at work; and
- (i) a system of norms and social ideas is transmitted by work.

The importance of the work situation in socializing individuals does not mean that work has to be a central life interest (Dubin, 1956). Rather the central life interests themselves might be a result of the work situation. A situation does not have to be central to one's value system to be influential. The influence process does not have to be conscious either, though some first results show that people attribute changes in their personality mostly to their spouse and to their job (Heath, 1977).

The influence of the work situation is different for different persons. The reaction to the workplace depends partly on the personality. On the other hand, personality is not something static but something that is influenced by the work situation. Thus, there is a reciprocal interaction of the person and the work situation. The term 'personality' in this discussion of occupational socialization is used in a broad sense, including relatively enduring values, generalized behaviour tendencies, schemata and emotional reactions. At this stage of theory building in occupational socialization, a rather eclectic view of personality is appropriate, one which is broadly interactionist (Endler & Magnusson, 1976, and Magnusson & Endler, 1977). This implies first that personality and situational characteristics interact to bring about actions (and changes in the personality); second, that personality characteristics are to a certain extent stable but can be changed with feedback from the environment; third, that personality characteristics do not always generalize from one situation to another; and fourth, that one person is not just a reflex to the environment but is active by cognitively interpreting and actually changing the environment while being in turn influenced by it (Bowers, 1976; Mischel, 1979; Lantermann, 1980).*

*It should be added that some of the proponents of an interactional personality theory take a rather ahistorical, non-developmental view of personality. By describing situation variables interacting with personality variables to explain current behaviour, both personality and situation are assumed to be stable characteristics. It is our view, of course, that the interaction between person and environment results in the constant change of the environment by the person and the change of the person by the environment. A conceptualization such as this makes it extremely difficult to separate out selection and socialization effects because both interact with each other constantly (cf. Kohn & Schooler, 1982). On the other hand it should be noted that because of organizational and societal constraints at the job, the possibility of changing the work environment and the job may be minimal. The possibility of changing the workplace (and thereby adjusting the work situation to one's personality) thus becomes itself a job variable. So the selection effect is itself largely determined by the job (or by the opportunities the labour market provides for a particular person).

In the following pages the research perspective of occupational socialization is introduced in more detail. A presentation of principal areas of research is followed by a discussion of methods.

AREAS OF RESEARCH

It is not possible to describe all the areas which originate from a socialization perspective in industrial psychology. From the given definition of occupational socialization it follows that personality variables are the 'dependent variables'. Therefore the discussion should centre around those variables.

The following areas will be discussed: effects on activity and cognition and emotional effects. These, as well as role taking in work, can only be roughly separated and it is obvious that there are mutual interrelations between them, e.g. emotional effects of work are certainly related to the cognitive effects, both are related to activities, etc.

Effects on activity

In clinical psychology the concept of control (Rotter, 1972; Seligman, 1975) has become prominent. Repeated experiences of lack of control over aversive situations may lead to a passive, resigned attitude (and possibly to depression). This reasoning is particularly important with regard to the work situation (Frese, 1978). The environment and its stress cannot readily be changed or influenced by many workers. Tayloristic methods have minutely regulated jobs, and supervision is close. Since every facet of their activities is regulated, many workers have even lost control over their own activities.

Resigned and apathetic tendencies at work have often been reported (e.g. Kornhauser, 1965; Turner & Lawrence, 1965), and it seems that much of the research on job satisfaction has tapped an attitude which could correctly be labelled *resigned* job satisfaction. Because of the unavailability of other jobs and ways to change the job situation, a worker has reduced his aspiration level over time and has become resigned to his job (Bruggemann *et al.*, 1975; Fellmann, 1980).

Feelings of helplessness can be reduced if control over the job situation is increased, for example with semi-autonomous work groups (Frese & Greif, 1978; Ulich, 1978; Bruggeman, 1979; Rost-Schaude *et al.*, 1979). In a careful study on the effects of restructuring work so that higher group autonomy was achieved, Wall & Clegg, (1981) showed that the desire for information (as well as for promotion) was increased.

Spill-over from the work situation may also affect helplessness and passivity outside work (Ulich & Ulich, 1977). Karasek (1976, 1978) found this, in general, to be true in his longitudinal data: changes toward greater decision latitude in the job resulted in more active leisure time activities. This effect held even when education was controlled for. In another longitudinal study Kohn & Schooler (1982) found that the job situation, particularly the complexity of the job, influenced the 'self-directedness'; i.e. people with more complex jobs showed less fatalism and a lower authoritarian attitude in addition to viewing themselves as being more personally responsible for moral standards. There was also an interesting selection effect connected with self-directedness: In the long run persons with high self-directedness moved into jobs with less closeness of supervision, less 'heaviness' (in terms of physical exertion) of the job and higher income.

Active coping requires appropriate skills. In a broad sense, 'skill' means a well-practiced and effective way of interacting with the complex material and social environment. (For example, the capacity to empathize with somebody can be considered a 'skill' under this definition.)

This approach calls attention to how people acquire new skills at work. Hacker's (1978) general theory of work psychology is most important in this context. Briefly, Hacker starts with the Miller *et al.* (1960) notion that plans regulate goal-oriented behaviour. The

plans consist of TOTE units (test-operate-test-exit units); this means that there are consistent checks (feedback processes) to determine whether the goal or a subgoal has been achieved. Actions are continuously adjusted to changes in the environment. Plans are hierarchically organized and can, according to Hacker, be differentiated into three levels. The highest is an intellectual level at which complex analyses, problem solving strategies, heuristics, etc., are located. This level is conscious and can usually be verbalized. The lowest level is the sensorimotor level. This level consists of highly automatized (over-learned) skills which are not necessarily conscious and which are used if stereotyped responses are demanded. The middle level is dominated by flexible action patterns which are somewhat standardized but can take account of various changes in the environment.

While learning a new skill, work on the task must initially be intellectually regulated. After practice, the actions become more automatized and are delegated to lower regulatory levels. This has two advantages: first higher levels are 'free' to do some other tasks (which have to be regulated on an intellectual level) and second goal-oriented behaviour becomes smooth and well adjusted to the lawful environment. The empirical and theoretical evidence for this model is substantial (Volpert, 1974; Hacker, 1978). The model is not restricted to the action concerning inanimate objects, but it applies to actions in the social environment as well (Semmer & Pfäfflin, 1978).

In the context of this model a workplace to enhance personality has to allow the use of the intellectual level, the opportunity to learn new skills and solve new problems. In other words, a personality-enhancing workplace has to allow the individual to use his complete potential for actions, his intellectual potential as well as his well-learned sensorimotor skills.

A work strategy in which the worker uses his full potential has been called a 'planning strategy'. This means that the worker is able to know far in advance when to use a certain type of skill and when to interrupt an ongoing process. At the same time he can use his intellectual regulation level to solve problems (Duscheleit *et al.*, 1978; Hacker, 1978). Workplaces which allow this type of action strategy provide the opportunity to learn new skills, to retain old skills and to use intellectual talents.

These workplaces can be contrasted with jobs in which planning of the work is done outside the working person, as in a Tayloristic work setting where the worker is told exactly what he has to do.

Planning actions involves certain heuristics which can be generalized across situations. How much they are generalized and under what conditions we do not yet know. (It is important to note, however, that generalizing heuristics in no way means generalizing the same kind of actions; it is the structure of the action that may generalize, but not the action itself.)

Those general heuristics may be called 'general action competence'. The latter could be defined with Volpert (1974, p. 64) as a 'system for generating realizable plans'. In the long run, such competence can be restricted by partialized actions at the workplace, because these general heuristics are not developed and trained. This could be one reason for the lower participation in clubs and organizations of those workers whose actions at work may be called partialized (Meissner, 1971; Karasek, 1978).

These general remarks about action competence are particularly important in regard to social competence. Social competence is dependent on the capacity to generate realizable plans. However, such plans can be disturbed by pressures at work. In situations of high pressure—e.g. because of quantitative overload—social problems can arise more quickly because one is not able to attend to social cues and because social actions are performed under time pressure.

People who have to work under continual time pressure may not be able to enhance their social skills. The same may be true for socially isolated work, for work under high noise level, for work that does not allow one to leave the workplace for short periods of

time, etc. The social support one gets may be dependent on one's social skills as well. Social support has been shown to reduce stress at work and possibly buffer the effects of stress (cf. Cobb, 1976; House & Wells, 1978).

On a different level social support and solidarity can be seen as skills needed to change the situations. Therefore we can ask: How much is the worker, individually as well as collectively, able to develop skills to *change* the work situation, and which aspects of the work situation and the social environment are conducive to the development of such skills?

Fricke (1975) has advanced the hypothesis that any work situation contains some degree of freedom to improve it. The skills that are necessary to do this have been called 'innovatory qualification' by Fricke. There are probably four prerequisites for this type of skill (cf. Dunkel, 1980; Weber & Zapf, 1980).

1. perceived collective control by the workers;
2. knowledge necessary for change, e.g. knowledge of laws and regulations applicable to the situation;
3. solidarity of the workers;
4. judgement that the work situation has to be changed in a collective way (vs. individualistic approaches).

Cognitive effects

Intellectual capacity is usually regarded as the strongest selection factor in industrial jobs; i.e. more intelligent people move into more complex jobs. Even though this is not to be doubted, there may also be a long-term effect of job complexity on intelligence. Schleicher (1973) carried out one of the first studies in this area, finding that people working in repetitive jobs showed lower intelligence at higher ages; this relationship was not true for workers with intellectually demanding jobs. The downward curve of intelligence with age in workers with repetitive jobs was found regardless of level of education. Since this study was not longitudinal, there may be some doubt as to the causal interpretation. On the other hand; Kohn & Schooler (1978) have shown in a longitudinal study that job complexity has a small but consistent effect on intellectual flexibility (higher job complexity led to higher intellectual flexibility). This effect was about as large as the effect of education. As can be expected, there was a much larger selection effect, i.e. intellectually flexible persons choose or are chosen to work in more complex jobs. Kohn & Schooler's results are remarkable in that the men in the sample were at least 26 years old and had at least 10 years of job experience at the outset of the study. Thus the socialization effects of the first years of work were not tested. Even though their measure of intellectual flexibility did not cover the whole breadth of the concept and job complexity was assessed only by self-reported data (Greif, 1978), the hypothesis that the job situation influences intelligence is well supported.

Emotional effects

Since the work of Kornhauser (1965), the area of mental health and job content has been extensively researched. This research will be touched upon only briefly (for overviews see Cooper & Marshall, 1976; Frese, 1981; Udris, 1981). The following job characteristics are negatively associated with mental health:

- (a) little or no control (sometimes referred to as autonomy over the work situation and over the pace of work; Gardell, 1971; Hackman & Lawler, 1971; Margolis *et al.*, 1974; Frankenhaeuser & Gardell, 1976; Gardell, 1978; Broadbent, 1978; Mortimer & Lorence, 1979b; Semmer, 1982);
- (b) small variability and little complexity at work (Kornhauser, 1965; Caplan *et al.*, 1975; Marstedt & Schahn, 1977);
- (c) quantitative overload (Caplan *et al.*, 1975; Marstedt & Schahn, 1977; Pearlin & Lieberman, 1977; Karasek, 1979; Semmer, 1982);

- (d) excessive overtime (Rissler & Elgerot, 1978; reported in Frankenhaeuser, 1978);
- (e) role ambiguity and role conflict (French & Caplan, 1973; Kahn, 1974; Caplan & Jones, 1975; Caplan *et al.*, 1975; Beehr, 1976);
- (f) social stressors at work and low social support (Cobb, 1976; Pinneau, 1976; House & Wells, 1978; Ilfeld, 1977; Marstedt & Schahn, 1977);
- (g) fear of unemployment (Langer & Michael, 1963; Kohn & Schooler, 1973; Semmer, 1982);
- (h) shiftwork (Agervold, 1976).

Karasek (1979) has shown in a longitudinal study that the interactive effect of control and job demand (high demand, low control) is an important predictor of reduced mental health. Changes in job content led to the hypothesized changes in mental health. In a similar way high demand and low control in the job predicted death from myocardial infarction (Karasek *et al.*, 1981). The importance of control appears not only in self-reported data but becomes clear when trained observers rate the workplace as well. Stress at work was more related to psychosomatic symptoms when control was low than when it was high (Semmer, 1982).

In another longitudinal study (Kohn & Schooler, 1982) it was shown that psychological distress is connected to the following characteristics of work; closeness of supervision, lower positions in a hierarchy, dirtiness and lower job protection. Contrary to other studies, the authors find furthermore that fewer working hours and higher income are associated with distress. Kohn & Schooler also tested the influence of distress on the job situation (or the perception of the job situation). This was generally somewhat lower than the job socialization effects. A true selection effect, i.e. the influence of distress on what jobs are selected at a later time, could only be shown for 'heaviness' (the more distress the less physically heavy was the later job).

Wall & Clegg (1981) also showed the positive effect of changes in which the work-group began to make many of the decisions the supervisors had made before. After the changes were introduced, the mental health of the group improved considerably. Of particular importance is their finding that the already improved mental health improved even more after the scientists had left (in a follow-up 1½ years after the jobs had been redesigned).

Gardell (1978) has reported that workers who were chosen by the factory for their health and who have a good leisure life in a rural area are still subject to the negative effects of work on mental and physical ill-health. Mäkinen (1975) has addressed himself to the question of whether or not self-reported mental health is seen differently in different life sectors (e.g. in work, family life, and leisure activities). He showed that the generalization model is probably adequate; i.e. self-reported mental health results were similar in the various life sectors.

In summary there are clear effects of the work situation on the emotional functioning of workers. However, it should be repeated that it would be a gross misunderstanding to see work only from its negative side. Work—even the most repetitive assembly line work—also has positive consequences. This view is substantiated when one looks at studies of people who are not allowed to work—the unemployed. Very clear long-term negative effects of unemployment can be seen (Frese & Mohr, 1978; Frese, 1979).

Role taking and the development of values

A person who starts a job takes on a role and learns a new set of values. This has been emphasized repeatedly in the social sciences (Lüscher, 1968; Moore, 1969; Van Maanen, 1976).

Learning a job means acquisition of a role with all the values associated with it. For example, people who become teachers learn to identify with the teacher viewpoint. Thereby they often change some of their more progressive values they had as students (cf.

Koch, 1972). Similarly, rank-and-file workers who became foremen change to a more management-oriented position (Lieberman, 1956).

One of the famous studies in this regard has looked at the development of cynicism in medical students (Becker & Geer, 1958; Becker *et al.*, 1961). While students begin medical school with a high degree of idealism, they concentrate more and more on technical aspects and therefore develop a certain cynicism towards their 'cases'. At the end medical school students develop a more realistic, pragmatic kind of idealism.

Through role ascription and role taking, individuals learn to describe themselves as a teacher, physician, blue-collar worker, etc. This process is accompanied by learning new values through the job. Kohn (1977) has shown that people have different attitudes towards the education of their children and toward the importance of obedience depending upon the type of work they do. Inkeles & Smith (1974) have presented results which indicate that through work experience the values of 'modern man' are generated in people of developing countries. Lempert *et al.* (1979) have even hypothesized—referring to the theories of Haan and Kohlberg—that in the early years of work as an adolescent or young adult, the work experience influences the development of the conscience. Taking on social responsibility when starting work is hypothesized to be one of the crucial factors for developing higher forms of morality.

In a longitudinal study Mortimer & Lorence (1979a) looked at the development of extrinsic values relating to money and prestige, social values relating to people, and intrinsic values pertaining to the work content itself (valuation of autonomy, challenge, etc.). They showed:

- (1) 'People value' and 'intrinsic value' are not very stable over the 10 years of the study; only 'extrinsic value' is stable to any considerable extent;
- (2) a generalization model is substantiated: people with higher income value money more (extrinsic value), persons with more socially oriented jobs value interactions with people more, and people with higher work autonomy have higher intrinsic values; and
- (3) job selection and job socialization influence factors are about of equal strength with regard to extrinsic and intrinsic value. Only with regard to 'people value' do job selection influences seem to be higher.

Since Mortimer & Lorence's research covered the period from College Senior to becoming established in work, they probably included the most important period in occupational socialization—the first period of paid employment.

Van Maanen (1976) and Van Maanen & Schein (1979) described the first period in a new organization as the most influential period of 'organizational socialization'. They postulate that the socialization is more intense and powerful just before and after a particular boundary in the organization. On the other hand the influence of the individual on the organization is highest at points farthest away from these boundaries. These authors are particularly interested in the organizationally intended and non-intended strategies of socializing new members into the organization. In fact, it is useful to ask what long-range socializing effects certain management strategies have on the personality of the workers who are subjected to these strategies. So the question arises whether Tayloristic forms of work organization lead not only to higher feelings of monotony, lower job satisfaction, extreme division of labour (Work in America, 1973) but also to a completely new outlook on work. The experience of participating in the production of a socially needed use value may be replaced by the perspective that work is primarily undertaken to earn the means to support one's life outside work (the instrumental attitude toward work described by Golthorpe *et al.*, 1968). In this outlook work becomes simply the exertion of mere effort to produce exchange value without relation to the use of the product; it is then the responsibility of management to see to it that a use value is produced as well (Braverman, 1974; Mendner, 1975).

It is an important question within the realm of occupational socialization whether

particular management techniques help or hinder the worker in developing knowledge of how to change his situation ('innovatory qualification', etc.), or whether these techniques lead towards passive acceptance of management strategies, even if they are against the workers' interest.

In summary, occupational socialization implies research into the effects of the job on activities, on cognitive skills, on emotional problems and on the development of roles and values. Thereby, this approach is worker-oriented in so far as the emphasis is on the effect of work on the worker. I will take up this point later, but will first discuss what kind of methodology is needed.

METHODS OF RESEARCH

The methods briefly discussed here are not new, but the concept of occupational socialization may result in a reassessment of which research models are to be most preferred in industrial psychology. I will briefly touch upon the following points: the problem of multicausality, the concomitant need for longitudinal research and case studies, and the necessity for psychologically meaningful assessment procedures in the work situation.

The problem of multicausality

The interaction of the environment and personality is certainly very complex. Therefore, it is necessary to use research strategies which are able to reflect multicausality. Occupational socialization must take into account the complex work environment (product, social environment, company policy, etc.), the home situation (relation to spouse and friends, leisure time activities, skills) activities (e.g. in the labour union, etc.), general strategies of the person and biographical variables, to name but a few. Because of this multicausality one would not expect high correlations between any single variable and criterion variable. Quite the contrary: high correlations may be an indicator of some methodological artifact (e.g. both variables are measured by similar questions).

The need for longitudinal studies

Socialization is certainly not adequately researched within cross-sectional studies. The results of the process of socialization grasped in a cross-sectional study may mask the real situation as assessed longitudinally. A negative correlation between social support and overload at work may, for example, be the result of low solidarity at work and correspondingly little resistance against intensification of work. On the other hand, low social support may be the result of quantitative overload of work. Similarly, the hope of getting a new job soon may be seen as a depression reducing aspect for the unemployed in a cross-sectional study but may turn out to be depression inducing for a long-term unemployed worker when it is not fulfilled (Frese, 1979).

To investigate these processes it is necessary to design longitudinal studies. This demand has, of course, already been put forth by proponents of life-span developmental psychology (Baltes & Schaie, 1973; Nesselroade & Reese, 1973).

Psychologically meaningful methods of job analysis

All too often job analysis methods only record job behaviour without reference to psychologically important variables or a psychological theory. This does in no way mean that the job dimension has to be measured subjectively. On the contrary, it seems to be a problem in the relevant literature that questionnaire items are in and of themselves very subjective (e.g. How do you feel about your co-workers?) although it is possible to ask in a more objective fashion (e.g. Do your co-workers help you when you have difficulties in your

job?). Furthermore, it is necessary to develop measures that are independent of the respondent's idiosyncratic responses. On the other hand, the study of occupational socialization implies the need for job analysis instruments that are embedded in psychological theories relevant for the study of development.

An attempt has been made by a project at the Technical University of Berlin to develop a relevant instrument for the analysis of work tasks (Frommann *et al.*, 1979). The main goal is to develop something like an objective 'index of restrictivity of the job', i.e. an index of the opportunity to learn new skills on the job. This is dependent on the different levels of cognitive complexity the task demands.

There have been numerous attempts to develop measures of stress at work. With reference to Turner & Lawrence (1965), Hackman & Oldham (1975) developed the 'Job Diagnostic Survey' which provides measures of skill variety, task identity, task significance, autonomy, and feedback, which cover the job and the critical psychological states (meaningfulness of the work, experienced responsibility for outcomes of the work, and knowledge of the actual results of the work activities).

At the Technical University and the Free University of Berlin, a team of researchers including the author have been using Lazarus (1966) as a starting point for the development of comprehensive measures of stress at work (Projekt: Psychischer Stress am Arbeitsplatz, 1981). The emphasis is upon the development of measures to be used by trained observers of the workplace. The same questions that form the observational scheme are also included in a questionnaire for the workers themselves. Thus observer ratings as well as job holder ratings exist in the following aspects of the instrument (Semmer, 1982): control at work, complexity, variety, intensity, physical load, environmental stressors (e.g. noise), co-operation, safety, and localized body strain. Another part of the instrument consists of self-reported dimensions including: social support, social stressors, control over work and company policies, alternatives in the job market (at the time they took their present job and alternatives that are open now), coping with job stress, and the change-knowledge of the job holder.

Another approach to studying stress at work in a psychologically meaningful way is the adaptation of the repertory grid to this area (Crump *et al.*, 1980). Based upon Kelly's theory of personal constructs, the individual is asked what kinds of stressors exist on the job (the elements) and how he or she differentiates between them (the constructs). In so far as this approach makes a comparison between answers of the same individuals at different times (the question of occupational socialization) it may reveal the intra-individual changes regarding the importance of various stressors and constructs. The same technique has also been used to analyse individuals' coping strategies.

In summary, it is necessary to develop measures of job characteristics which are psychologically meaningful and theoretically consistent so that they can be used to measure the independent variables in research on occupational socialization. Some newer measures in the area of stress at work and learning potential of work may be useful.

CONCLUSION

A developmental perspective in industrial psychology may well lead to new research questions. These questions may prove to be important for the field of personality development and industrial psychology both from the viewpoint of psychology as a science and the social relevance of research.

In industrial psychology, some of the often used dependent variables may gain a different significance within the developmental view. Three of those variables are job satisfaction, well-being and productivity.

Job satisfaction. The problem that job satisfaction instruments measure only a superficial

attitude has often been recognized. But the more important argument, that the development of job satisfaction has implications for the very concept has not so often been made. One of the best conceptualizations that take into account the development has been the one by Bruggeman *et al.* (1975). According to these authors job satisfaction is developed through the following processes. Depending upon the match between the expectations and needs of the person and the job situation, the person develops either some type of satisfaction or a diffuse dissatisfaction with the job. Depending upon the changes in the aspirations level, the following forms of satisfaction (or dissatisfaction) can develop:

- (1) progressive work satisfaction, i.e. the level of aspiration is enhanced. New possibilities of development are sought;
- (2) stabilized job satisfaction, i.e. the level of aspiration is kept constant;
- (3) resigned job satisfaction, i.e. the original diffuse dissatisfaction is lowered by decreasing one's level of aspiration;
- (4) pseudo-job satisfaction, i.e. the aspiration level is kept up, even though one was unsatisfied. Through defence mechanisms one develops some kind of job satisfaction;
- (5) fixated work dissatisfaction, i.e. one does not try to change the situation, no new problem solving is attempted and the diffuse dissatisfaction becomes stabilized; and
- (6) constructive job dissatisfaction, i.e. the level of aspiration is kept up, but one tries to change the work situation to match the aspirations.

The often reported high percentage of highly satisfied workers has been claimed to be due to the large proportion of workers who are passively resigned to their situation (Fellman, 1980).

Well-being. As with job satisfaction, the developmental viewpoint may emphasize different aspects of the meaning of well-being, at least giving hints as to what well-being is *not*:

(1) Well-being is not a static concept, i.e. well-being does not imply that once and for all a person feels well. But it implies that a person has the capacity and the opportunity to modify the environment to produce a state of well-being.

(2) Well-being should not be conceived as a short-lived phenomenon. To use an extreme example, a drug addict feels well each time he gets his drug, but not when he is in the withdrawal period. This view, that well-being is something to be achieved over a longer time period, also implies that sometimes things have to be done which are effortful and difficult. Well-being must include this long-range perspective.

(3) Well-being is not something passive. It cannot come about by benevolent dictatorship. Two arguments are important here: (a) benevolent dictatorship can change into a malevolent one if there is no control by those administered under this dictatorship, and if some other threat to the dictatorship comes up; (b) people who are given everything without having any input have more difficulty adjusting to a changing situation, and may even become helpless in situations of challenge (cf. Seligman's argument, 1975, on the 'golden girl').

Productivity. A developmental viewpoint may also emphasize the difference between short-term and long-term productivity. Long-term productivity means that an individual or a work-group has developed its full potential and is showing an active approach to work, raising the level of aspiration in this process and readjusting the work accordingly. Short-term productivity on the other hand, may mean that a maximum profitability is achieved without regard to the development of the full potential of the worker and often even reducing the chances to use the skills that the worker already possesses.

Space does not permit me to go into details on these issues and on other research possibilities that occupational socialization implies. There are clearly wide gaps in the field. For example, research is needed into which mechanisms lead to the positive effect of social support; also on what kinds of interactions exist between mental health variables and work

situation variables (certain specific psychological disturbances and their relations to work have not been studied at all). A differentiated picture of the interactions among various personality characteristics and job characteristics has not yet been developed. Furthermore, a theory and the concomitant data which explain how work-related problems generalize (or do not generalize) to situations outside work and what mechanisms are responsible for this are definitely needed. The same applies for the development of skills: how are skills learned at work carried over to non-work situations (and vice-versa)? Is there a general core of skills—a general action competence, which can be impaired and enhanced by the work situation? These are just a few questions of the many that can be asked fruitfully within the framework of occupational socialization.

The influences of the job situation are probably most pronounced in periods of change. Therefore it is promising to look at the effects of the work at these times: the period of learning for the job, the beginning of work as a young adult, the beginning of a new job, unemployment, demotion and promotion, new responsibilities at the job, change of work content (e.g. through new machinery and new organization of work), new supervisor, new colleagues, new work group, and retirement. In each of these change situations one can ask to what degree earlier work experiences have led to some characteristic way of interacting with the new situation, how much the person is changing in this process, and how much this in turn affects future interactions of the person with job situations and situations outside the job. Short-term and long-term effects have to be distinguished because some personality characteristics apparently take a longer time to be affected than others (cf., for example, Frese, 1979; Wall & Clegg, 1981).

The study of these questions may also prove to be important for personality theory; by answering these questions the population bias (student population) of most of research in personality may be overcome. Furthermore, the ecological validity of studies within the framework of occupational socialization is higher than in many studies of personality today. At the same time the study of occupational socialization is a worker-oriented industrial psychology.

Therefore the interchange between personality theory, socialization theory, and industrial psychology may prove to be important for all of these disciplines.

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