

Should economic psychology care about personality structure?

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Since economic psychology is primarily interested in (a) how people in general react to the economic aspects of their environment, and (b) how these reactions change the economic components of their environment, as yet individual differences are not an important issue in economic-psychological research. After a brief look at how economic psychology used to deal with individual differences in the past, some suggestions are given, based on literature from social psychology, economic psychology, and personality research, on how economic psychology should deal with in the future. Information on personality structure can be used for predicting economic behavior in addition to attitude measures and as moderators of predictions from attitude measures. With respect to the applicability of the model of 'economic man' individual differences in emotionality vs. rationality are discussed. It is further stated that the development and change of socio-economic systems is very much dependent on the frequency distribution of personality structures in the social system and on the proper matching of role structures and personality structures. Finally, this paper points to differential effects of socio-economic conditions on people's well-being depending on their personality structure.

1. Introduction

'Should economic psychology care about personality structure?' 'Why not?' may be a psychologist's answer who is used to referring to people's attitudes and intentions in explaining why people respond to specific economic conditions or to changes of these conditions by some kind of economically relevant behavior.

An economist may immediately say 'For heavens sake, not!' and he/she will have good arguments for such an objection. The most convincing one may be that psychology offers already far too many

poorly defined concepts and highly divergent theories. Bothering about individual differences would make the dialogue between economists and psychologists even more difficult.

However, a closer look at some problems of economic psychology and economic policy will show that taking personality structures into account can substantially improve our understanding of how people react to socio-economic conditions.

2. Concept and classification of individual differences

From daily experience as well as from hundreds of psychological studies we know that people consistently differ in their responses to almost any objectively defined circumstances. 'Objectively defined' is understood in terms of social consensus with respect to the meaning of a situation. In the psychological sense we speak of individual differences if a person responds to specific events or circumstances regularly in a way which is different from the responses of other persons. There are inter-individual differences in cognitions (attributions, expectations), emotions, intentions, and actions by which a person in a certain mental state responds to what is going on in his/her environment.

It was George Katona in economic psychology, like Kurt Lewin in social psychology, who stressed the point that situations should be understood as subjective representations of person–environment constellations. Objectively the same circumstances and/or events as well as objectively the same personality characteristics (motives, abilities, and temperament) can be perceived by two persons in a quite different manner. The initiation of more or less deliberate actions follows directly from a person's subjective representations (of the objective characteristics) of himself/herself and (of the objective characteristics) of the environment. The outcome of actions, of course, depends more on the objective characteristics of the person (e.g., abilities) and of the environment (e.g., task difficulties). The continuously changing state of a person must be conceived as a complex function (a) of a person's rather stable characteristics (traits), (b) of response sets lingering from immediately preceding stimulation, and (c) of the stimulus characteristics of what is presently going on in the person's environment.

As to the relatively stable characteristics of a person it seems reasonable and for the present purpose sufficient to differentiate the structure of abilities, the structure of motives, and the structure of temperament (for a more elaborated classification of person characteristics in the perspective of economic psychology see Van Veldhoven, 1988). On the side of the environment we can find corresponding structures of tasks (demands), incentives (rewards and punishments), and social climate.

Structures of abilities, motives and temperament make up the breeding ground of attitudes and behavior intentions. The attitude construct refers to the elements of the subjective person–environment system (the life space in terms of Kurt Lewin). It is commonly defined as a person's disposition to perceive, to evaluate and to treat a meaningful entity of his/her life space in a characteristic way. Attitudes emerge from past interaction between personal and environmental structures. Behavior intentions are formed on the basis of attitudes under the influence of motives (needs), incentives and cognitions of personal abilities and environmental opportunities.

In explaining social behavior and economic behavior as a category of social behavior, we refer to attitudes, behavior intentions, and scripts (scripts in the sense of action programs) as the proximal internal cause/condition, and to abilities/motives/temperament as the distal internal causes.

People act according to their attitudes and their perceptions of opportunities/restrictions provided by the physical or social environment and according to their impressions of their abilities to act efficiently in the specific situation (self efficacy; Bandura and Cervone, 1983). The success of these acts depends on the correspondence between abilities/motives/temperament of the person and demands/incentives/social climate of the environment. Now, we can first ask whether in addition to attitudes more basic and more general personality constructs like introversion/extraversion or emotional stability contribute to a better understanding of how people experience economic conditions and how they react to them. And secondly, we can ask whether personality variables function as moderators of the predictive validity of attitude measures.

Recent progress in personality research is characterized by a kind of convergence on the 'big five' basic and 'robust' personality dimensions (cf. McCrae and Costa, 1987; Norman, 1963) emotional stability,

extraversion, conscientiousness, agreeableness, and openness (intelligence). One is well advised to focus on these basic personality dimensions in the future and to locate any special purpose scale as a vector within this five-dimensional space, in order to improve the compatibility of the diversity of studies.

3. Micro-economic and macro-economic usage of information on individual differences

3.1. Temperament (personality structure) as predictor of economic behavior

There are many studies in which measures of attitudes, expectations, and intentions figure as predictors of saving, purchasing durable goods, evading taxes, etc. Ajzen's model of planned behavior (Ajzen, 1988) points to the conditions of correspondence between what people say in statements about their attitudes and what people actually do. According to Ajzen a person intends to perform and finally actually performs a behavior when he/she evaluates it positively [attitude], believes that important others think he/she should perform it [subjective norm], and is convinced that he/she can perform it [perceived behavioral control] (see also Fishbein and Ajzen, 1975).

Previous attempts of predicting specific behavior from rather general attitudes have often failed or given unimpressive results. The same was true for correlations between global personality measures and the occurrence of specific acts. However, Epstein and O'Brien (1985) among others have stressed that the predictive power of personality measures becomes remarkable if broader categories of circumstances and broader categories of acts performed by a person under these circumstances are defined for which an *aggregate score of act frequencies* is calculated. Thus, any single act of contractual or discretionary saving may have only a low positive correlation with scores on a personality dimension like self-control (cf. Wärneryd, 1989) and a low negative correlation with sensation seeking and risk taking (Sciortino et al., 1987, 1988; Sorrentino et al., 1992), whereas a composite indicator of saving activities of a certain psychologically meaningful category of saving may reach a much higher predictability, possibly in addition to the predictability given with attitude measures

alone. How the validity of personality measures in predicting consumer behavior can be improved by observing frequencies of behavior over a longer period of time was recently shown by Lastovicka and Joachimsthaler (1988).

Segmenting the market with respect to people's life styles or values comes close to the idea of tracing back economic behavior to personality structure. Sparks and Tucker (1971) as well as Kassarian and Sheffet (1981, cited by Clark, 1990) gave an overview on the use of personality traits in the field of marketing. What they found does not seem to be very encouraging. However, Kassarian and Sheffet, in particular, point to a number of methodological and theoretical flaws in this kind of study and they are convinced that personality constructs can indeed be useful for explaining consumer behavior, if selected on theoretical grounds and operationalized properly (cf. Foxall and Goldsmith, 1988). An example of how personality variables in addition to environmental attitudes can be taken into account in predicting ecologically responsible consumption patterns is given by Balderjahn (1988).

In *international marketing* the concept of national character has received some attention (Clark, 1990; Peabody, 1985). It is assumed that the manner of child rearing typical for a nation results in a distinctive pattern of behavior which can be described in terms of a modal personality structure. This modal personality structure is expected to be connected with characteristic ways of consumer behavior and of strategic decision making in marketing departments. In the second edition of the *Handbook of Social Psychology* Inkeles and Levinson (1969) discussed extensively the theoretical reasoning and empirical findings of the research on national characters. A variety of dimensions like 'unassertive vs. assertive' and 'loose vs. tight' (Peabody, 1985) or 'power distance', 'individualism', 'uncertainty avoidance' (Hofstede, 1980) have been suggested. These dimensions, however, could easily be related to and reconstructed by the big five robust personality factors (McCrae and Costa, 1987). A common reference system for describing individual personality structures as well as national characters (i.e., the modal personality structures in a nation) would allow a better integration of the research efforts in the two fields.

However, one should always be aware of the possibility that there may be cultural differences affecting even the basic construct of

personality. This is rooted in Western individualistic cultures and may be less applicable in cultures stressing the social relationships and the social dependence of the individual (cf. Kagitcibasi and Berry, 1989). In order to get the richness of cultures mirrored in the modal personality, without giving away the merits of measurement, Clark (1990) recommends a combination of quantitative and qualitative (psychometric and hermeneutic) approaches to the study of national characters.

Cross-cultural studies on emotional experience and emotional expression, initiated by Klaus Scherer and his associates a few years ago (Scherer et al., 1986), will certainly give some additional insights into the national character of different countries.

3.2. Personality structure moderating the validity of expressed attitudes and behavior intentions

Predicting economic behavior in well-defined situations from individual or collective personality measures is often based on the assumption that people who share a personality characteristic or a personality structure (i.e., a pattern of personality characteristics) respond in a specific way to events or circumstances in their environment which is different from the response of people with a different personality structure. Having briefly looked at the additive usage of attitude and personality measures in explaining and predicting economic behavior, I will now consider possible multiplicative effects of attitude and personality, i.e., personality characteristics as conditions of the differential predictive validity of attitude measures.

The construct of attitudes relates to enduring subject-object relationships developed through prior direct or indirect experience of a person with the object. How attitudes develop and how they influence future behavior can only be understood as an interaction between characteristics of the person and characteristics of the object. Although attitudes are rooted in the personality structure and may be conceptualized as effects or even as components of it (Roth, 1967), their influence on behavior may be moderated by the personality structure into which the attitude is embedded.

Ajzen (1988, p. 67) is rather skeptical about the merits of using personality variables as validity moderators of attitudes. However, the

most recent empirical evidence suggests that the construct of self-monitoring (Snyder, 1987) is indeed quite useful in studying differential effects of advertising with slogans stressing the image appeal or the quality of the product (DeBono and Packer, 1991; DeBono and Snyder, 1989; Lennon et al., 1988; Snyder and DeBono, 1985, 1987). In these studies people high in self-monitoring (who easily adjust their behavior to the perceived social demands of a situation) compared to people low in self-monitoring (who follow their personal values and feelings) were more influenced by advertisements stressing the image rather than the quality and functions of the product. An earlier study on the moderating effects of self-monitoring has been performed by Becherer and Richard (1978).

Other dimensions which attracted the interest of marketing specialists are self-concepts of one's sex role (Bem, 1974; Stern, 1988) and need for cognition (Cacioppo et al., 1983; Petty and Cacioppo, 1986; Venkatraman et al., 1990). In the long run, however, it seems more efficient to look to the 'Big Five' very basic and general personality dimensions (Norman, 1963; Costa and McCrae, 1988) for moderators of the validity of attitude measures.

An example of a clear moderator effect of such basic personality dimensions (patterns of introversion/extraversion and emotional stability) on the realization of intentions can be seen in an experiment recently performed by V. Brandstätter (1992): the realization of an experimentally induced intention by unstable introverts and stable extraverts fell remarkably behind that of unstable extraverts and stable introverts. Her explanation is inspired by Eysenck (1967; Eysenck and Eysenck, 1985). It says that under the conditions of the experiment, the combined effects of autonomic activation and cortical arousal are too high with unstable introverts and too low for stable extraverts for optimal functioning. This reminds one of Berlyne (1960) whose ideas were resumed by Scitovsky (1976) when he stressed the importance of activities which are desired for their own sake because they provide the actor with the optimum level of arousal.

Another example of how a personality characteristic can modify the validity of attitude measures is given by Malhotra (1988). He assumed that people prefer those types of family houses which are perceived by them in a similar way as they perceive themselves. In Malhotra's study the main determinant of the preference is the correspondence between the subjective image of the self (self-concept) and the subjective

image of the house. With respect to attitude by personality interaction the crucial point is that he expected and found that the rank correlation between perceived self-object correspondence and object preference increased with the cognitive complexity of the subjects.

Sometimes simply exploring which personality dimension may moderate the validity of attitude measures can be a reasonable procedure. Generally, however, the personality dimensions have to be selected on theoretical considerations of person–environment correspondence. An example of the fruitfulness of theoretical reasoning is given by Fazio and Williams (1986). In their search for moderators of the predictability of behavior from attitude statements they found that attitudes had a higher predictive validity for subjects with a short response latency than for subjects with a long response latency. Response latency is the time between presentation of the attitude statement and the subject's response (on a Likert-scale). In their view, response latency is mainly a measure of attitude accessibility. However, they are aware of the possibility that response latency could be, at least in part, a function of a more general personality characteristic like self-monitoring (Kardes et al., 1986). People low on the self-monitoring dimension (Snyder, 1979, 1987) tend to behave with rather short response latencies in a way which is consistent with their attitudes and values, whereas people high on the self-monitoring dimension seem to be more calculating and opportunistic (with higher response latencies), to deliberately shape their behavior according to the demands and opportunities of the situation (DeBono, 1987), which means that their behavior is less predictable from attitude measures.

3.3. Fit and misfit between 'economic man' and real persons

We have looked first at the additive, second at the multiplicative (interactive) contribution of personality structure to the prediction of behavior from attitudes. We move now to individual difference aspects of the model of man as the rational, utility or profit maximizing actor in economic affairs.

The utility or profit maximizing economic man, the central figure in neo-classic micro-economic theory, has often been used by psychologists as target for fierce attacks. I sympathize with Frey and Stroebe (1980) who appreciate the *psychological* relevance of homo oeconomicus. However, what I want to stress here is that one of the most

conspicuous dimensions on which people show large individual differences is their affinity to rational or to emotional behavior. I will refrain from discussing the rationality concept and its ramifications and modifications in economic theory. Etzioni (1986), MacFadyen (1986) and Lea (1993) among others deal quite competently with this question and more competently than I could do here. What I mean should become sufficiently clear, however, by pointing to such long-standing polarities as heart and head, passion and reason, global intuition and analytic reflexion, drive and volition, the ego between id and super-ego, right hemispheric vs. left hemispheric, etc. Using a more familiar concept of personality theory we may talk of a dimension like impulsiveness vs. self-control (Gray, 1987). In Eysenck's (1967) terms, stable introverts would be low, and unstable extraverts would be high on impulsiveness. We would expect that people high on impulsiveness compared to people low on impulsiveness will use less time in collecting and processing information for and against the different alternatives. Furthermore, they will prefer immediate to delayed gratification, will more often follow their likes and dislikes for the partner rather than economic advantages of a social interaction, are not so much interested in saving, choose activities more because of their intrinsic value and less because of their instrumental value, are less consistent in their preferences, etc. In short, we may say that impulsive people behave less like *homo oeconomicus* than self-controlled (reflexive) people. Individual differences in the need for cognition (Cacioppo et al., 1983) may also be mentioned in this context.

There is some empirical evidence provided by Wilson and his associates that having people think of the reasons behind their attitudes, having them reflect on why they like or dislike the attitude object, can reduce the attitude-behavior consistency and the predictability of behavior from attitudes (Wilson et al., 1989). This happens if the attitudes are more strongly rooted in conditioned emotions (affects) than in evaluations based on reasons. I assume that people differ in the importance of the affective component of attitudes, and that these differences are a facet of the emotionality vs. rationality dimension. Any attempt to change people's attitudes would call for strategies adapted to the modal personality structure of the target group, which may be more emotional or more rational.

In 1959 Schmolders and his associates at the Institute for Empirical Socio-Economics in Cologne, inspired by Katona's work (cf. Katona,

1975), collected data from a large representative sample ($N = 1050$) of West-German households about how they spend and save money (Schmolders, 1966, 1975). In addition, the subjects described themselves on an adjective check list allowing the classification of people into 'rational' and 'emotional' persons (Verstandes- und Gefühls-menschen; disciplined, conscientious, introvert vs. impulsive, easy-going, extravert). There were clear relationships between type of personality and the way of dealing with money. It was surprising that age, sex, education, and even income made less of a difference in the reported saving behavior than personality (Schmolders, 1975). The rational people indeed behaved more like the rational economic model recommends or assumes. Unfortunately, the report says nothing about whether the rational people, who on the whole were financially better off, were also happier. I doubt it. Happiness may dwell somewhere between rational and emotional.

Without taking notice of the important study by Schmolders, published in German, the significance of personality characteristics (cautiousness, locus of control) for explaining saving behavior and in particular recurrent saving behavior has also been shown by a number of more recent studies (Dahlbäck, 1991; Lunt and Livingstone, 1991; Sciortino et al., 1987). Wärneryd (1989), reviewing the historical roots of the psychology of saving and recent research, makes it quite clear that people differ in self-control, which also means that they differ in how much they prefer having a pleasure now to having a possibly greater pleasure in the future.

Experimental economics, often inspired by the rationality assumptions of game theory (cf. Güth and Tietz, 1990), may also profit from including short versions of basic personality scales in their designs, in order to find out why people often do not behave as the rational (economic) model would suggest.

This section started with the idea that some people's purchasing and saving behavior might be quite well represented by a rational economic model, whereas for others the model's validity could be quite poor. Does this have any macro-economic significance? Most economists will say that for basing macro-economic models on micro-economic rationality postulates it is sufficient if part of the subjects behave rationally or if all people occasionally behave rationally. This may be true to a certain degree, but serious problems arise if self-controlled and impulsive people react to specific changes in the individual

and/or in the nation-wide economic conditions in widely different ways. If so, one would need to know the relative frequencies of, let us say, self-controlled and impulsive people in a population, in order to explain, to predict and, if necessary, to influence what happens on the macro-economic level. The distribution of relevant personality characteristics in the population may be no less important than the distribution of demographic variables.

I agree with Van Veldhoven (1988) in the emphasis of the importance of cognitive processes regulating the household's financial management. However, because information processing and decision making is strongly influenced by a person's temperament, a major focus of research should be on the interplay between a person's way of thinking and his/her way of striving and feeling.

3.4. Social dynamics of frequency distributions of 'temperaments' in a society

Small group research tells us that the composition of a group with respect to the personality characteristics of the members has a big influence on processes and outcomes of group activities (cf. Levine and Moreland, 1990). I expect that in larger social systems the distribution of personality structures is important, too, and that hypotheses can be formulated and tested which refer to the function of specific personality structures (as critics, innovators, followers, stabilizers, etc.) in a society. It should be clear that the number of creative people, the number of people who want to be independent, the number of people who are high on need for achievement, affiliation, or power (McClelland, 1985), or the number of people who are optimists or pessimists, determine to a certain degree how a society with its national economy will function. I am not talking here of simple additive effects of people's optimism or pessimism, of their need for intrinsically enjoyable activities in science, art, and business (cf. Keynes, 1936, cited by Scitovsky, 1986, p. 170). Additive effects appear for example in the consumer sentiment index or in aggregate measures of values. What we have to consider here are synergetic and interactive effects: the influence that people with a specific personality structure can have on people with a similar or with a different structure if certain socio-economic conditions are given. Examples

would be the effects of people with an entrepreneurial spirit on the economic development in periods of deregulation or transition from a centrally planned economy to a market economy, the poisoning effects of people prone to hostility in periods of economic depression, or the influence that liberal or conservative people (in part a personality characteristic, too!) have in periods favorable to public purpose or private interest (Schlesinger, 1986, cited by McCann, 1992).

McCann's (1992) explorations of the determinants of the U.S. presidents' 'greatness' give surprisingly strong support to the largely discredited 'great man' model of leadership: Achievement drive, intelligence, absence of tidiness, absence of physical attractiveness and height (order of effect sizes) contributed significantly to the presidents' greatness (index developed by Maranell, 1970; cited by McCann, 1992). The zeitgeist variable (private interest-transition-public purpose), if included in the prediction equation, had a positive weight, too. Unfortunately, the study does not tell us whether the interactive effects of zeitgeist and personality characteristics have been checked. One would expect that the zeitgeist should have some moderating effects on the weights of the personality characteristics in predicting the influence of political leaders.

I refer to this leadership study because it suggests that personality structure may have remarkable effects on a society's fate not only if the persons hold outstandingly powerful positions, but to a certain degree also if they hold less exquisite positions vested with less opportunities for social influence. The greater number of people characterized by a specific personality structure should give the smaller individual effects an importance comparable to the importance of the great man's or great woman's importance.

There is no doubt that setting up a small private business is also a question of personality structure. This is clearly shown by a recent study with a representative sample of owners of small private businesses in the province of Upper Austria (cf. Brandstätter, 1992b). Some of these small-scale entrepreneurs had inherited the business, the others had founded the business. A third group was made up of mostly younger men and women who intended to start a private business. Fig. 1 gives an impression of differences and similarities between the three groups with respect to personality structures.

Founders are more frequently emotionally stable and socially independent than heirs, and those who want to become entrepreneurs are

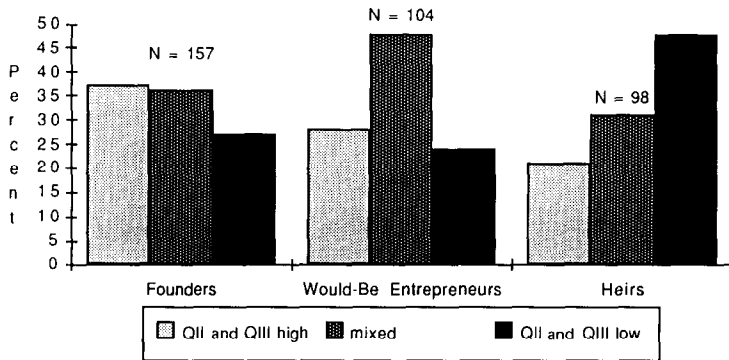


Fig. 1. Personality structure (QII = emotional stability and QIII = independence) related to entrepreneurship.

similar to founders. For reasons not to be discussed here, it can be assumed that personality structure is more of a cause than of an effect of entrepreneurial activities.

One is reminded here of McClelland's studies on entrepreneurial success as a function of a specific structure of the achievement, power, and affiliation motives (McClelland and Boyatzis, 1982).

3.5. Personality structure and role structure

The social systems are made up of coordinated and complementary roles which are taken by individuals whose personality structures are more or less congruent with the demands and opportunities of their respective roles. Since people make up and sustain social and economic structures, personality structures are not only in some way functions of social structures (a fact which has been completely omitted here), but social structures are also functions of personality structures and of the distribution of personality structures across a society's social positions. Social roles provide the framework within which personality structures become effective. Therefore, one has to care about accidental as well as about deliberate placement processes matching personality structures with role structures in the society to the happiness/unhappiness of persons and to the benefit/damage of the society. Social roles modify and channel the effects of the personality structure of the incumbants; if vested with power (in the family,

in the work organization, in the political party), they magnify these effects. Designing roles to the benefit of the social system is a good thing to do, and watching the way in which people take over these organizational or societal roles should protect us against poor or even dangerous misfit.

3.6. The socio-economic conditions as a differential source of pleasure and pain

Having dealt with personality structure as a cause of economic behavior, we will turn now to person–environment fit as a condition of happiness or, if one prefers a more moderate expression, of subjective well-being. After more than two decades of controversial discussion about the usefulness of personality constructs in explaining behavior, researchers in the field of personality agree upon the assumption that behavior in general, and subjective well-being and achievement in particular, is often a multiplicative effect of environmental and personal characteristics: the influence of personality characteristics on a specific kind of behavior depends very much on the environmental stimulus and context. Or, turning it around, the influence of the environmental stimulus and context depends very much on the relevant personality characteristics. An economic policy meant to improve the standard of living of the citizens in general can be advantageous for some segments of the population and detrimental for others. Usually, people are classified according to demographic and/or socio-economic characteristics like sex, age, income, education, family status, etc. We are used to thinking of the welfare of different age groups, of salaried or self-employed, of the poor and the sick, of the unemployed, etc. (cf. Groenland, 1989). These characteristics are closely tied to the social roles and social groups that people identify with and policy makers care about. However, why should we not also think of the differential welfare of introverts and extraverts, of the self-controlled and impulsive people, of those high or low in achievement, affiliation, or power motivation, high or low in intelligence, high or low in social skills? I am quite sure that in some societies and in some periods of a society's history, anxious and shy people have a particularly hard time, in others independent and dominant people may be afflicted by special hardships. Should economic and social policy

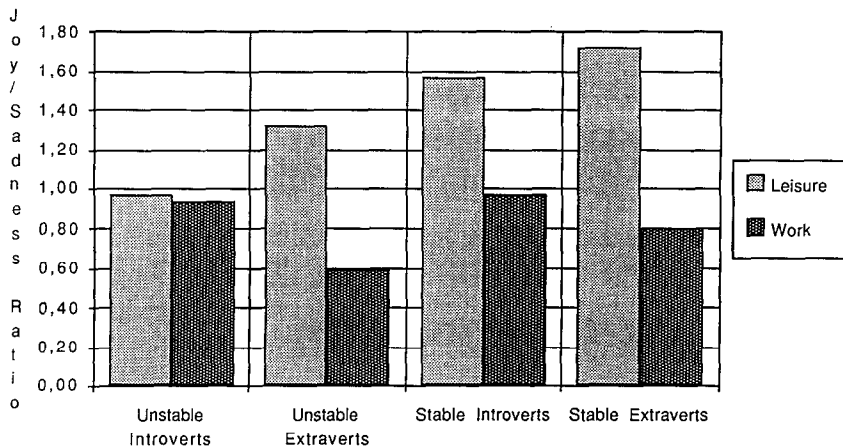


Fig. 2. Joy/sadness ratio depending on personality structure and behavior setting. (1,20 means that the frequency of joy is 120% of the frequency of sadness. Each ratio is based on 1000 observations at least.)

not be better aware of the possible differential effects taxes, subsidies, or other regulations have on segments of the population characterized by a specific personality structure? Women and men, young and old, poor and rich people are different, but in many important aspects of their perceiving, feeling and acting they are much more similar than easy-going and conscientious people, emotionally unstable and emotionally stable, dependent and independent, introvert and extravert people. Adding a fifth dimension, intelligence, gives a version of the big five basic personality dimensions by which any other dimension can be reconstructed.

It is common sense that objectively the same circumstances can be a source of contentment for some people and a source of worry for others, depending on abilities, motives, and temperament. However, only recent time sampling studies on the motivational person–environment correspondence (fit) as a condition of subjective well-being (Brandstätter, 1992a,b) have it made possible to describe and to explain this phenomenon more precisely.

As Fig. 2 shows, there is need for change in work conditions, a change which could take basic differences in personality structure into account in an attempt to decrease the leisure–work discrepancy in well-being.

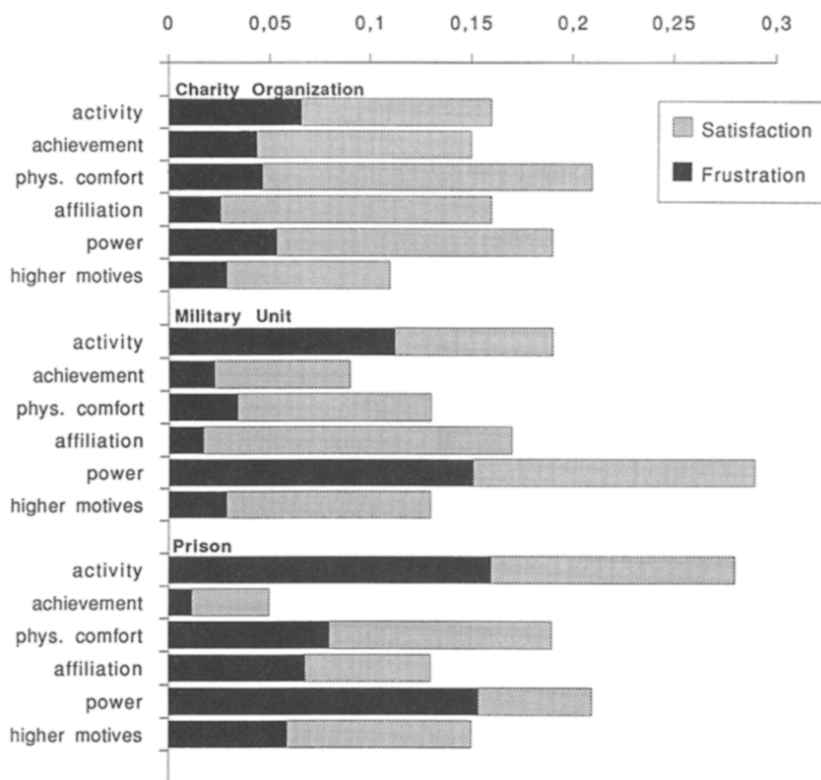


Fig. 3. Relative frequencies of frustration and satisfaction of motives in three organizations.

Organizations largely differ in the profiles characterizing the frequencies by which the motives of the members are satisfied (Fig. 3). As has been shown elsewhere (Brandstätter, 1989), the structure of motives is in some way tied to the structure of personality.

An impressive proof of the emotional consequences of person-environment mis-fit is given by Kette (1991): The degree of unhappiness in prison is largely a function of the mis-fit between motivational structure of the person and the reward structure of the environment. What is true for organizations may also be true for larger socio-economic systems, and it is worthwhile reflecting on the motive structures to which a social system is rewarding and on the motive structures to which the specific social structures are more of a cause of frustration.

4. Conclusion

It was not my intention to play down the importance of socio-economic structures in explaining human behavior of individuals and collectives. Of course, those structures determine the constraints and possibilities of individual and collective action. Neither am I underestimating the fruitfulness of general psychological or general economic models of human behavior. However, there are good theoretical reasons and many empirical findings which suggest that taking personality differences into account improves our understanding of individual and collective economic behavior.

Right from the beginning individual differences are effective in terms of what is perceived, what kind of motives and emotions are provoked, and what kind of actions are taken. Even if we assume that social conditions have contributed to half of the variance of individual differences (in intelligence and other basic personality dimensions) in each developmental stage of a person's life (cf. Loehlin, 1989), the acquired components of individual differences are quite stable, too, and determine to a large extent the beliefs, feelings, and actions of people.

Summing up, one could say that personality structure (temperament) should be taken into account in economic psychology whenever at least one of the following conditions is given.

(1) People have to be influenced in order to get them to adopt new approaches to solving economic problems and social conflicts, to use public goods properly, to change inefficient habits in production and consumption. How effective a specific influence strategy will be, is supposed to depend not only on the content and the style of the message, but also on the personality structure of the target persons. One has to have an idea about the modal personality structure of certain interest groups exerting social pressure, of groups of consumers in the private and public sector, and of nations (in the case of international marketing, conflict prevention, or conflict resolution) for a more accurate prediction and a more efficient change of behavior.

(2) Attitudes and behavior intentions toward specific objects are measured under the assumption that people will behave according to their attitudes. However, knowledge of people's attitudes remains superficial if one does not care about the personality structure in which the attitudes are rooted. Whether verbally expressed attitudes

and intentions convert into actions is not only a question of opportunities and incentives, but one of personality structure. The differential validity of conclusions from attitudes to actions, dependent on personality structure (as yet a neglected aspect in research and policy making) is worthy of closer attention.

(3) Since the rationality concept is central in economic models and quite popular also in psychological theories, it seems reasonable to look at the conditions of the applicability of the rationality construct. Experimental economics with game theory (based on rationality assumptions) as background is well advised to determine which personality structure or personality dimension is compatible with the rationality postulate and which make rational behaviour less likely.

(4) Social research has a long tradition of considering the role and function of opinion leaders in the process of innovation and change. Such a perspective can be widened by speculating about how the distribution of certain temperaments (combined with motives and abilities) in a group, organization, or nation is a prerequisite of specific (productive or destructive) social dynamics within them. Depending on the history of a social system and on the type and salience of problems the social system has to cope with, different personality structures are supposed to be in the center of social movements for the better or the worse of the in-group and the out-groups.

(5) Each social system has to rely on some reasonable matching between the structure of the social roles and the structure of the persons who take over these roles. Innovators, entrepreneurs and political leaders, all initiate actions and keep things going. They facilitate or impede the necessary changes and adjustments, calm down social conflicts or stir the troubles up. Therefore, watching carefully the process of emergence of leadership and designing social structures and procedural rules which can be expected to secure or improve the quality of selection (election) and placement strategies is of foremost importance in any socio-economic system.

(6) There is a theoretically sound idea of the correspondence between the structure of the person and the structure of the environment as a prerequisite of feeling good and performing well. If this is true, economic policy as well as marketing strategies can become more efficient by considering the differential effects of public and private goods and services. Generally, one can assume that responses to emotionally arousing events or circumstances will depend very much

on the temperament. The design of the workplace, of the housing conditions, of public transport, of work incentives and social security systems, etc., need information on their differential effects. Often this will mean more diversification in offering opportunities and incentives and more flexibility in imposing rules and regulations.

In conclusion, research in economic psychology is well advised to look more seriously at personality structure, particularly at how personality structure moderates the effects on individuals and collectives of economic conditions and of economic policy intended to improve these economic conditions.

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