SUMAR - CONTENTS - SOMMAIRE - INHALT

✳✳✳

THE ARCHITECTURE OF PERSONALITY[*]

DANIEL CERVONE[**]

ABSTRACT. This article presents a theoretical framework for analyzing psychological systems that contribute to the variability, consistency, and cross-situational coherence of personality functioning. In the proposed knowledge-and-appraisal personality architecture (KAPA), personality structures and processes are delineated by combining 2 principles: distinctions (a) between knowledge structures and appraisal processes and (b) among intentional cognitions with varying directions of fit, with the latter distinction differentiating among beliefs, evaluative standards, and aims. Basic principles of knowledge activation and use illuminate relations between knowledge and appraisal, yielding a synthetic account of personality structures and processes. Novel empirical data illustrate the heuristic value of the knowledge/appraisal distinction by showing how self-referent and situational knowledge combine to foster cross-situational coherence in appraisals of self-efficacy.

Psychological experience is marked by two features that appear to contradict. The first is change. The contents of consciousness change rapidly, shifting from moment to moment like a bird flitting from branch to branch (James, 1890). Actions and emotions can shift rapidly as well, particularly as people respond to changing circumstances of personal significance. The second feature is consistency. Across time and place, individuals are significantly the same. People exhibit unique patterns of thought, emotion, and behavior that are relatively consistent—consistent enough, at least, that these distinctive tendencies are easily recognized by social perceivers and form the basis of our contemporary conception of personality (Allport, 1937).

The variations and consistencies that distinguish individuals from one another reflect the workings of multiple mental systems. These systems interact dynamically with the conditions of people's lives. Scientific understanding thus requires that one explore whole persons and the contexts in which they live. Such investigation has been pursued in the science of personality (Cervone & Mischel, 2002), in which an overarching aim is to delineate psychological systems that explain the shifting dynamics and stable consistencies of personal functioning. This paper shares this aim. It presents a framework for analyzing personality systems and research showing how this framework can address the question of cross-situational coherence in response.

Overview

Among the psychological systems that contribute to the variability, coherence, and uniqueness of personal functioning are socially acquired belief systems that people use to interpret events, reflect on themselves, and plan courses of action. These cognitive systems are what make humans *persons* and thus are a natural centerpoint for analyzing personality (Harré, 1998; Kelly, 1955; Shweder & Sullivan, 1990; Valsiner, 1998). Belief systems have been analyzed in particular detail in social-cognitive theories of personality (reviewed in Cervone & Shoda, 1999a). The current article builds on these analyses. Specifically, the article features three main parts. First, assumptions and goals in personality theory and previous efforts in the social-cognitive tradition are reviewed. The review highlights questions that have received insufficient attention: What are the core structures and processes—the basic *personality variables*—in social-cognitive theory? Through what principles can one identify a system of basic variables?

These questions are addressed by presenting a *personality architecture*, that is, a model of within-person personality structures and processes. Social-cognitive variables are delineating according to two principles. The article's second section (A Knowledge-and-Appraisal Personality Architecture (KAPA)) introduces the first principle: a distinction between knowledge and appraisal (cf. Lazarus, 1991). Because of its centrality, the overall theoretical system is labeled a *knowledge-and-appraisal personality architecture* (KAPA). Empirical research is presented to illustrate the heuristic value of the distinction.

The article's third section (Distinguishing Among Types of Knowledge and Appraisal) addresses the task of differentiating among knowledge structures and appraisal processes. An analytical principle from the philosophy of mind (Searle, 1983) is shown to support a distinction among beliefs, evaluative standards, and aims—a distinction that holds at both the knowledge and the appraisal levels of the KAPA system. The role of KAPA variables within an overall architecture of personality that includes affective systems that interact with social-cognitive mechanisms is addressed.

Assumptions and Aims in Personality Theory

Starting with Freud (1923/1961), investigators have developed comprehensive analyses of mechanisms underlying personality consistency, variability, and uniqueness (Hall & Lindzey, 1957). In so doing, they generally have assumed that there exist qualitative distinctions among the psychological systems that constitute a person. Because persons may vary with respect to each system, the constructs that refer to them are the personality variables of the given theory[1].

---

[1] The term *personality variables* is used here to refer to the core units of analysis of a personality theory; for example, in psychoanalytic theory (Freud, 1923/1961) id, ego, and superego would be the structural variables, whereas constructs referring to instinctual drives and the expenditure of mental energy in objects would be process variables. A significantly different usage would restrict the term to between-person, interindividual-difference dispositional constructs. That is not the intention here; the personality architecture to be presented, and its associated system of personality variables, is a model of individual-level, within-person structures and dynamics. Between-person and within-person constructs differ fundamentally. As

4

Within this assumptive framework, theory construction generally involves three steps. First, to capture the two phenomena of psychological change and consistency, theorists posit personality variables of two types: process and structure variables (Pervin & John, 2001). Personality processes vary dynamically, are proximal determinants of behavior, and thus explain variability in functioning. Personality structures are enduring qualities that contribute to consistent personal tendencies and stable interindividual differences. Second, because neither processes nor structures may exist as one uniform type, theorists posit distinctions among stable structures and processing dynamics. The third step is to explain how processes and structures relate to one another. This has proven difficult (McAdams, 1996). Process and structure research often appear disconnected (Cervone, 1991). Some study what people "have"; others study what people "do" (Cantor, 1990). A synthetic account may be achieved by grounding the analysis of both structures and processes in the study of cognitive systems that develop in interaction with familial, interpersonal, and sociocultural contexts (e.g., Blanchard-Fields & Hess, 1999; Bugental & Johnston 2000; Kitayama and Markus, 1999; Mikulincer & Arad, 1999). One foundation for such an analysis is the family of social-cognitive theories of personality.

Social-Cognitive Theories of Personality

Three overarching principles guide the social-cognitive approach[2]. One is that personality is a complex system that features dynamic interactions among multiple, highly interconnected processes (Shoda & Mischel, 1998). The second is reciprocal interactionism (Bandura, 1978); people develop in interaction with environments that are partly shaped by their own actions (Bandura & Walters, 1963; Bugental & Johnston, 2000; Levine, Resnick, & Higgins, 1993). The third principle concerns personality variables. Personality is understood by reference to basic cognitive and affective systems that give rise to overt patterns of behavior (Bandura, 1986; Cantor & Kihlstrom, 1987; Dweck & Leggett, 1988; Mischel & Shoda, 1995).

These principles constitute a framework for studying personality but not a well-specified theory. What is needed is specification of the personality variables. In a social-cognitive approach, if one wanted to explain an individual's overt dispositional tendencies, one would do so in terms of basic social-cognitive and affective mechanisms. But which ones? What are the core personality variables in

Borsboom, Mellenberg, and van Heerden (2003) convincingly demonstrated, a convergence of philosophical and psychometric principles undermines the conclusion that psychological constructs that describe stable interindividual-differences in the population also can be assumed to exist and to have causal force at the level of the individual (see also Caprara & Cervone, 2000; Cervone, 1999, Harré, 1998; Lamiell, 1987, Rorer, 1990). Constructs "such as the factors in the Five Factor Model … abstract from the level of the individual … [to an] enormous degree" and thus "should … not be conceptualized as explaining behavior at the level of the individual" (Borsboom et al., 2003, p. 215) unless one can demonstrate the unlikely possibility that within-person structures and between-person structure are isomorphic.

[2] The effort here is to characterize features that are shared by a family of social-cognitive models of personality (Cervone & Shoda, 1999b). Individual theorists working within this tradition have made contributions that are conceptually distinct; nonetheless, the shared features are substantial, and the models thus constitute a conceptually coherent approach to the study of personality functioning and individual differences (Cervone, 1991).

social-cognitive theory? This question can be broken into two: (a) Through what principles can one distinguish among social-cognitive variables? and (b) How does the resulting variable system function as a "personality theory," that is, a framework for understanding enduring personality structures and dynamic personality processes?

Numerous investigators have distinguished among social-cognitive processes (e.g., Andersen & Chen, 2002; Austin & Vancouver, 1996; Cantor & Kihlstrom, 1987; Crick & Dodge, 1994; Dweck & Leggett, 1988; Higgins, 1990). They generally have addressed specific cognitions (e.g., goals, implicit theories, attributions) underlying specific phenomena of interest (e.g., motivation, emotion, aggression); in other words, most efforts have been middle-range rather than comprehensive formulations (Kruglanski, 2001). Two frameworks, however, feature comprehensive variable systems: Mischel's (1973; Mischel & Shoda, 1995) cognitive-social (or cognitive-affective) theory and Bandura's (1986, 1999) social cognitive theory.

Systems of Social-Cognitive Constructs

Mischel (1973) delineated five cognitive-social person variables, that is, five aspects of cognition, affect, and social learning that are basic to understanding individuals. These are (a) competencies for constructing thoughts and actions, (b) encoding constructs and strategies, (c) expectancies about oneself and the world, (d) subjective values, and (e) self-regulatory systems and plans. This system has been expanded to recognize not only values but a range of affective processes (Mischel & Shoda, 1995; see Table 1 of the current article). These variables are elements of a complex system (Mischel & Shoda, 1995, 1998) with *hot* and *cool* subsystems (Metcalfe & Mischel, 1999).

Bandura (1986, 1999) grounded his social cognitive theory in five basic capabilities, that is, cognitive capacities central to personal functioning (see Table 1). They are (a) symbolizing capability, or the capacity to store and manipulate symbolical representations; (b) vicarious capability, or the capacity to acquire skills and knowledge observationally; (c) forethought capability, or the capacity to anticipate events; d) self-regulatory capability, or the capacity to motivate and direct one's action through goal setting and self-evaluation; and (e) self-reflective capability, including the capacity to reflect upon one's efficacy for action (Bandura, 1977).

Table 1

Core Units of Analysis in Social-Cognitive Theories of Personality

Cognitive–affective person variables (Mischel, 1973; Mischel & Shoda, 1995)	Basic personal capabilities (Bandura, 1986)
Encoding categories	Symbolizing
Expectancies	Forethought
Affects	Vicarious
Goals/values	Self-regulatory
Competencies/self-regulatory systems	Self-reflection

Distinguishing Among Social-Cognitive Structure and Process Variables

These frameworks possess enormous heuristic value (see Bandura, 1986, 1997; Caprara & Cervone, 2000; Mischel, 1999). Yet neither fully answers the questions above (see *Social-Cognitive Theories of Personality* section): How are the variables delineated? How do they address personality process and structure?

Regarding the first question, the guiding principles behind the construct systems (see Table 1) are difficult to discern. This point can be illustrated if one considers the question of how different constructs are meant to relate to one another. In some cases, constructs reference phenomena that appear qualitatively distinct (e.g., expectancies vs. goals; vicarious vs. self-reflective capabilities). The principle, then, appears to be the identification of nonoverlapping phenomena. Yet, in other cases the constructs overlap highly. In social-cognitive theory, four of the capabilities are examples of the fifth (*symbolizing* capabilities underpin the others; Bandura, 1986). In cognitive-affective system theory (Mischel & Shoda, 1995), (a) competencies and self-regulatory plans and (b) goals and values are distinct variables despite referencing highly interrelated phenomena; self-regulatory systems generally incorporate values and goals for action (Carver & Scheier, 1998), and the setting of goals that are consistent with one's values can itself be viewed as a self-regulatory competency (Baltes, 1997).

The key limitation here is that principles through which variables are distinguished are not fully specified. What supports the claims that goals represent a class of phenomena that is qualitatively distinct from expectancies, or that forethought is distinct from self-reflection?

The second claim involves the distinction between structures and processes. Unlike traditional theories, social-cognitive variable systems do not explicitly distinguish process from structure variables[3]. Instead, individual constructs sometimes reference dynamic processes and sometimes refer to stable structures. Consider *expectancies*. Suppose someone conversing with a potential dating partner monitors signs of attraction versus rejection and begins to judge that the potential partner would reject his or her request for a date. This judgment changes dynamically over time and may serve as a proximal determinant of one's actions. It is, then, a prototypic personality process. Because this *if-then* cognition also is prototypical of the category of thinking called expectancies, *expectancy* refers here to a process variable. Now suppose this person also chronically believes that whenever he or she becomes involved in a relationship, it is sure to end with a rejection by the partner. This enduring belief may contribute to chronic dispositional tendencies (Downey & Feldman, 1996). The belief, then, functions as a personality structure. But because this *if-then* cognition also is prototypic of the category expectancy, *expectancy*

---

[3] Although the variable systems do not explicitly incorporate a distinction between process and structure variables, work in the social-cognitive tradition has, over the years, encompassed analyses of both enduring psychological structures and dynamic processing. The point here is that this distinction is not incorporated explicitly into the theories' core variable systems.

refers here to a personality structure. Expectancy then, is both a process and a structure variable. The same easily could be said for other social-cognitive constructs, such as goals.

In summary, previous social-cognitive variable systems are limited in that (a) no formal principles underlie the delineation of constructs, (b) relations among variables are insufficiently systematic (some are independent, others overlap), and (c) the distinction between personality process and structure is not explicitly addressed. That such limitations exist should not be surprising; for example, Mischel (1973) described his variable system as "tentative," "suggestive," and "open to progressive revision" (p. 265). This article aims to provide such a revision.

On the Need for Greater Theoretical Specification

This review suggests two possible conclusions. One possibility is that existing frameworks (see Table 1) are adequate, and traditional theoretical strategies are faulty. Cognitive features of personality may not be divisible into process and structure variables. "Webs" of personal and social information may be so "tangled" (Cantor & Kihlstrom, 1987, p. 101) that there are no joints in nature at which to cut. People may not have "parts" (Harré, 1998).

The alternative is that distinguishing more carefully among social-cognitive variables may yield gains. Three considerations support this view. First, superficially similar social-cognitive processes sometimes exhibit distinct properties; distinguishing among them is necessary to capture the findings. Consider beliefs about (a) capabilities for performance on a test of ability (e.g., an expected score) and (b) ability in the tested domain (e.g., beliefs about one's intelligence). After people compare themselves to high versus low standards, the former variable is assimilated to the standard, whereas the latter is contrasted away from it; behavior is predictable from the former cognition (Mussweiler & Strack, 2000; cf. Cervone & Peake, 1986). Distinguishing these alternative types of beliefs is required to capture such results. The second reason is pedagogical. Social-cognitive theories are sometimes misconstrued as neglecting stable personality structures (cf. Bandura, 1990; Meichenbaum, 1990). A more systematic formulation may clarify the scope of theorizing. The third consideration views a theory as a tool. A well-specified variable system may be a more valuable tool for analyzing personality coherence. The goal, then, is to formulate such a system.

The CAPS Model

Before turning to this goal, the relation between the present effort and past theoretical contributions deserves attention. In this regard, the cognitive-affective personality system (CAPS) of Mischel and Shoda (1995) is of particular note. In the CAPS framework, personality is a system of complexly interrelated cognitive and affective units (Mischel & Shoda, 1995). The qualities of the individual reflect both the content of these units and their interconnections or organization. Personality functions in interaction with the environment; different situational features activate different subsets of units. The personality system fosters coherent response patterns that include variations in response across contexts.

8

CAPS was developed explicitly as a metatheoretical framework for a social-cognitive/affective processing approach to personality, cast broadly to invite new questions about personality structure and dynamics. The present article shares this framework. This metatheory, however, was designed not to solve the problem of specifying personality variables but to furnish a framework within which solutions can be sought. In the CAPS model, personality is conceived as a complex, dynamic organization of cognitive and affective elements. The exact nature and content of these elements remain unspecified within CAPS. Mischel and Shoda (1995) explicitly invited future theory and research to meet this need, challenging investigators to build upon their metatheoretical conceptualization in pursuit of the field's "ultimate goal" of "[articulating] the psychological structure that underlies this organization within the personality system" (p. 259). It is this goal that is pursued in the present article, in which the aim is (a) to move from metatheory to a specific theoretical formulation by delineating a system of social-cognitive personality structures and processes within an overall architecture of personality and (b) to show how this personality architecture contributes to cross-situational coherence in psychological functioning.

The present work and the CAPS model, then, are not alternatives but complements. They differ not in their conception of the nature of personality but in the theoretical tasks they pursue. The present article embraces the CAPS metatheory and move forward from it by addressing a fundamental task in the formulation of a personality theory, namely, the specification of a system of core personality variables.

Specifying such a system of variables is of critical importance. It is required to obtain a theory with explanatory force. A metatheoretical framework alone does not constitute such a theory. Consider, in this regard, a finding that comes to us via the CAPS model: Individuals display distinctive, stable patterns of variability in response across contexts (Mischel & Shoda, 1995, 1998). This robust result poses a theoretical challenge: Explaining why one versus another individual displays one versus another response profile. Doing so requires that one identify psychological mechanisms with causal force that distinguish the individuals from one another and explain their different response profiles (cf. Harré & Secord, 1973). One might support such an explanation by assessing these mechanisms to predict profile shapes at the level of the individual. Note, however, that this is not done in the CAPS framework, which does not predict profile shapes or specify variables that explain a given individual's distinct profile. These are not aims or claims of the model. Such aims are a central concern of the present work.

A Knowledge-and-Appraisal Personality Architecture (KAPA)

The personality scientist's primary theoretical task is analogous to that of the cognitive scientist. The cognitive scientist hopes to understand the overall design and operating characteristics of mental systems, or the architecture of cognition (Anderson, 1983). The personality scientist hopes to understand the overall design and operating characteristics of persons—in particular, those features of

persons that contribute to coherent patterns of experience and action that distinguish individuals from one another. The goal of the personality psychologist, then, is to understand the architecture of personality.

Although the tasks are analogous, the architectures pursued by the personality versus the cognitive scientist naturally differ because of the different targets of investigation. The personality psychologist is not charged with explaining the microstructure of cognition but with identifying cognitive and affective systems that underlie broad patterns of experience and social behavior. This inherently requires a more molar analysis that specifies broad classes of personality variables and their functional interrelations.

Knowledge and Appraisal

It is proposed here that a necessary step in modeling the architecture of personality is to differentiate two aspects of cognition: knowledge and appraisal. The distinction is necessary because knowledge and appraisal mechanisms play qualitatively distinct roles in personality functioning: Knowledge is an enduring structural feature of personality, whereas appraisals are dynamic processes. The implications of this distinction for personality psychology have not been fully explored previously; however, the distinction itself has been articulated thoroughly in the study of emotion. Lazarus and colleagues (Lazarus, 1991; Lazarus & Smith, 1988; C. A. Smith & Lazarus, 1990) differentiated two aspects of thought that contribute to emotional experience. One is knowledge, which refers to "our understanding of the way things are and work" (Lazarus, 1991, p. 144). Knowledge consists of beliefs about actual or prospective attributes of persons or the environment. Elements of knowledge, then, are enduring mental representations of a feature or features of oneself, other persons, or the physical or social world.

Elements of knowledge vary in the degree to which they are generalized versus domain linked. Generalized knowledge references personal attributes that potentially apply to many contexts (e.g., *I am shy*, *I had a happy childhood*, *I want to be a better person*) or situational features of potential relevance to numerous specific encounters (e.g., *most life events are out of our control*, *people should be more courteous*, *God helps those who help themselves*). Knowledge that is more domain linked includes beliefs about personal attributes that pertain to delimited domains (e.g., *I usually get nervous when speaking in public, I hope to save more for my retirement, I'm perfectionistic about schoolwork*) or circumscribed features of persons and social settings (e.g., *successful men always reject me*, *our tuition should be lower*, *my friend cannot control his drinking when he is depressed*). In either case, knowledge consists of mental representations of current or prospective features of oneself, others, or the environment. Appraisals, in contrast, are not beliefs about isolated features of oneself or the world. They are relational judgments, that is, evaluations of the relation between oneself and occurrences within particular encounters. Specifically, appraisals are relational judgments that concern the meaning

of encounters for oneself; they are "continuing evaluation[s] of the significance of what is happening for one's personal well-being" (Lazarus, 1991, p. 144). In the appraisal process, people construct personal meaning by relating features of the self (one's concerns, aims, and capacities) to features of an encounter (its opportunities, threats, and constraints). People evaluate whether and how circumstances are relevant to the self and whether and how they can cope with those circumstances (Lazarus, 1991, 1999; Scherer, Schorr, & Johnstone, 2001). Appraisals can shift dynamically as people evaluate ongoing occurrences.

Appraisals, then, are not mere representations of information, but affectively significant evaluations of the personal implications of information. Knowledge is seen as insufficient to generate emotional response (Lazarus, 1991). People do not become anxious merely because they know they are *shy around strangers* or sad merely because *it's a cruel world*. Emotion results from appraising the personal meaning of such information—appraising, for example, that one's shyness will cause embarrassment in an encounter would foster anxiety. Appraisals are proximal determinants of emotional experience. Knowledge is a distal determinant: "cold cognitive stuff out of which personal meaning is made" (Lazarus, 1991, p. 145).

Research supports the claim that appraisals of the personal significance of encounters are the proximal determinants of emotional experience. C.A. Smith, Haynes, Lazarus, & Pope (1993) related emotional experience to (a) knowledge about the causes of events and (b) appraisals of the events' significance for personal well-being. Emotion related more strongly to appraisals than to knowledge; appraisals mediated knowledge-emotion relations. Knowledge and appraisal differentially predicted emotion despite being equivalent with respect to a factor that can affect predictive strength, namely, domain generality versus specificity; knowledge and appraisal were assessed with respect to exactly the same events and thus were equally domain specific.

The emotions literature is not the only domain where theorists distinguish (a) appraisals of the personal significance of one's relation to an encounter from (b) representations of facts about oneself and the world. Kreitler and Kreitler (1976, 1992) posited two levels of cognition underlying manifest personality. An operative level relates the self to a situation or class of situations. It involves an encounter's personal meaning: Does it "affect (or concern) my goals, my norms, my beliefs about myself, and my beliefs about the environment or any of its aspects?" (Kreitler and Kreitler 1976, p. 78). A foundational level, in contrast, consists of enduring knowledge that may influence processes of meaning construction. The operative level mediates knowledge-behavior relations Kreitler & Kreitler (1992). Ingram and Kendall (1986) distinguish cognitive propositions, or stored knowledge, from cognitive products, or thoughts resulting from interactions among knowledge elements. When these thoughts concern the meaning of encounters for well-being, they would constitute appraisals.

The Knowledge/Appraisal Distinction and the Architecture of Personality

The knowledge/appraisal distinction implies that the architecture of personality includes two classes of social-cognitive mechanisms: knowledge and appraisal mechanisms. A theoretical model of this personality architecture thus must incorporate two analytical levels. At an appraisal level, personality constructs refer to dynamic processes through which people determine the personal meaning of encounters by relating their concerns, goals, and capacities to features of the external world. At a knowledge level, personality variables reference enduring mental representations of features of oneself or the environment. Appraisal processes function as proximal determinants of experience and action in a given encounter. Knowledge structures are more distal determinants that influence emotion and action through their influence on appraisals.

Note that this distinction concerns cognitive content. Knowledge represents enduring features of a person, place, or thing, whereas appraisals concern the significance of encounters for one's well-being. A different distinction involves processing strategies through which appraisals are formed, which differ in the degree to which prior knowledge is accessed, a particular conclusion is desired, and processing is heuristic versus deliberate (Forgas, 1995). Because evaluations of the significance of encounters may have the same role in personality functioning irrespective of the processing strategy through which they are formed, the same term, *appraisal*, is used consistently to refer to them[4]. Of particular note is that appraisals need not involve conscious deliberation (Lazarus, 1991). They commonly occur spontaneously and outside of awareness (e.g., Zelli, Cervone, & Huesmann, 1996).

Implications of the Knowledge/Appraisal Distinction

The knowledge/appraisal distinction has implications for three aims: delineating a system of social-cognitive person variables, obtaining a synthetic account of personality structures and dynamics, and identifying and explaining cross-situational coherence in psychological response.

Social-Cognitive Structure and Process Variables

The knowledge/appraisal distinction resolves the problem noted above, that traditional social-cognitive constructs (e.g., expectancy, goal) function as both process and structure variables. This is problematic in that a given construct references psychological entities with distinct properties. In the KAPA framework, a term such as *goal* is recognized as referring to two different things. Some goals represent enduring knowledge. Others are appraisals of one's aims in an ongoing encounter, in which those aims may be formulated and reformulated as people evaluate dynamically

---

[4] This is not to say that there are no differences between appraisals that are formed through quick versus deliberate processing. People may express less doubt about the veracity of cognitions formed merely through automatic processes (Gilbert, 1991).

changing information (Bandura & Cervone, 1986). Without this distinction, a person's characterization with respect to a given social-cognitive construct may be ambiguous. Suppose someone notices that his or her boss is in such a surly mood that he or she aims not to mention anything related to a longstanding desire to ask for a raise. Does the individual, at that point in time, have the goal of talking to his or her boss about a raise? The knowledge/appraisal distinction removes the ambiguity. At the knowledge level, the answer is yes; the person enduringly possesses knowledge about this desired outcome. At the appraisal level the answer is no; the person's evaluation of the encounter creates the current intention of suppressing mention of the topic. The noun *goal* is insufficient to capture this distinction. In the natural language, it is better captured by verbs: "I *will try* to do X [someday]" versus "I *am trying* to do X [now, in this encounter]"; in philosophy, it is captured (using a language of intentions) by the terms *prior intention* versus *intention-in-action* (Searle, 1983).

A Synthetic Account of Personality Structures and Processes

A model of personality architecture must not only delineate structures and processes; it must also specify causal relations linking the two. One wants an account of processes and structures that is conceptually integrated, or synthetic. This is difficult when personality structures are conceptualized as abstract dispositions[5]. In the KAPA framework, achieving such an account is straightforward. Processes through which knowledge structures influence appraisals of encounters are relatively well understood (Fiske & Taylor, 1991; Higgins & Kruglanki, 1996). Knowledge constructs influence appraisal both through passive processes, in which accessible constructs are used to categorize a stimulus, and through active, strategic processes that occur when constructs receive conscious attention (Higgins & King, 1981). Preexisting knowledge influences not only the encoding of features of an encounter but also which features are noticed (Higgins & King, 1981; E. R. Smith & Zarate, 1992; Neisser, 1976). Determinants of whether a given element of knowledge is used to appraise an encounter include the availability of that knowledge to the individual; the accessibility of available knowledge; applicability, or the fit between stored knowledge and attended features of an encounter; and judgments of whether activated knowledge is relevant and appropriate to evaluate the encounter (Higgins, 1996).

---

[5] McCrae and Costa (1996, 1999) did link interindividual-difference constructs to social-cognitive systems by positing that all individuals possess psychological structures that correspond directly to the interindividual-difference variables (but cf. Borsboom et al., 2003) and that "dynamic processes" (McCrae & Costa, 1996, p. 76) emanating from these structures causally influence social-cognitive processes. A limitation of this model is that the dynamic processes, as well as the ways in which the posited structures causally influence these processes, are unspecified. One might view this as a temporary shortcoming to be overcome by further work (McCrae & Costa, 1996). However, an alternative view is that this is an enduring limitation because the structural variables are "abstract dispositions" (McCrae & Costa, 1996, p. 69) and one cannot construct explanatory scientific models in which abstract dispositional tendencies that serve taxonomic purposes also are treated as entities with causal power (see Harré, 1998). The conceptual status of dispositional constructs is addressed in a closing section of this article.

A schematic representation of knowledge and appraisal processes suggests a range of person-situation dynamics (see Figure 1). Fundamental to the KAPA model is that enduring knowledge structures contribute to appraisal processes through which people assign meaning to a given encounter. The model also suggests differentiations among four classes of situational influences. Two involve current situational features: First, current features activate enduring knowledge structures to which they are semantically linked (e.g., Higgins, 1990; Markus & Wurf, 1987). Second, situational features may foster particular appraisal processes; for example, behavioral norms and evaluative feedback prompt people to appraise the adequacy of their actions (Bandura & Cervone, 1983; Cervone, Jiwani, & Wood, 1991). The other two influences involve preexisting mental states. Either (a) expectations and goals for an upcoming encounter (Higgins & King, 1981) or (b) cognitive priming (Higgins, Rholes, & Jones, 1977) and residual affect (Bower, 1981; Singer & Salovey 1988) from a recently encountered situation may prime knowledge structures. Alternatively, affective states may directly influence appraisals of an encounter (Schwarz & Clore, 1983; Scott & Cervone, 2002; see also Lerner & Keltner, 2001).
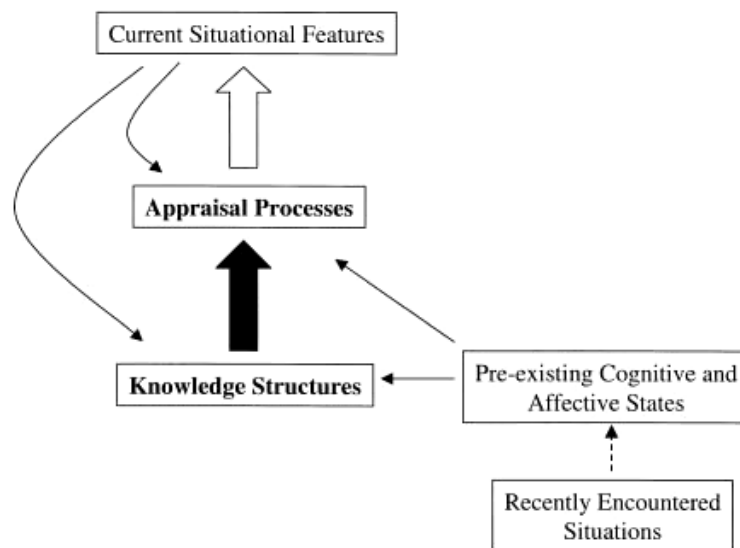
Figure 1. Schematic representation of relations among knowledge and appraisal mechanisms (indicated by a solid block arrow) of four classes of situational influence on knowledge-and-appraisal personality architecture (KAPA) mechanisms (indicated by smaller regular arrows) and of the influence of recently encountered situations on cognitive and affective states (indicated by a dashed arrow) that, in turn, may influence KAPA mechanisms. The open block arrow represents the assignment of personal meaning to situational features via appraisal processes.

Cross-Situational Coherence

The third aim is to understand cross-situational coherence in personality functioning. The KAPA system provides an account of mechanisms underlying patterns of personality coherence and a methodology for identifying those patterns.

The theory and methodology constitute a strategy of investigation that differs fundamentally from previous efforts.

Schema-driven cross-situational coherence. A given accessible knowledge structure can shape processes of meaning construction across numerous encounters (Bargh, Bond, Lombardi, & Tota, 1986). Chronically accessible constructs are used to appraise even vague stimuli with features that exhibit little overlap with the construct (Higgins & Brendl, 1995). Highly accessible knowledge, then, may foster cross-situational consistency in appraisal. Elaborate self-referent knowledge structures, or self-schemas (Markus, 1977), may be particularly influential. A self-schema organized around the belief that one is "an anxious person," for example, may shape appraisals across numerous encounters that feature potential threats.

Even highly developed self-schemas may influence appraisal processes in only a subset of situations. Any given situation may activate some elements of knowledge but not others (Markus, & Wurf, 1987). Even after a particular element of knowledge is activated, one may judge it to be irrelevant or inappropriate to the current circumstances (Higgins, 1996).

These considerations suggest a general model of knowledge and appraisal processes underlying cross-situational coherence in personality functioning (see Figure 2). Schematic knowledge structures may produce pervasive yet contextualized patterns of coherence in people's appraisals of their relation to encounters. Individuals, then, should exhibit coherence in personality functioning across clusters of schema-relevant situations.
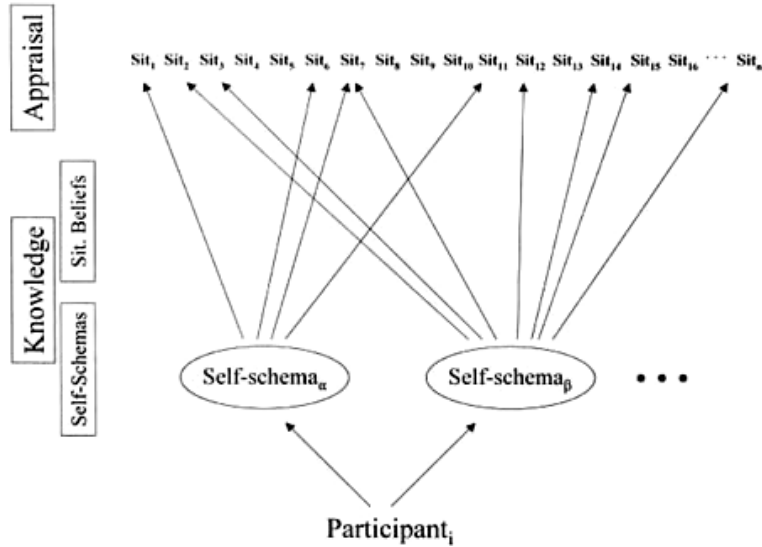
Figure 2. Representation of knowledge-and-appraisal personality architecture (KAPA) mechanisms underlying cross-situational coherence. The figure represents schematic knowledge structures as well as situational beliefs (represented as arrows) that link the self-schemas to social situations. The KAPA analysis predicts that cross-situational coherence in appraisal will be identifiable across clusters of schema-relevant situations. Sit or Sit. = situation.

This analysis dictates two methodological requirements for identifying cross-situational coherence. One must assess (a) chronically accessible knowledge and (b) circumstances in which that knowledge is likely to be activated and used. Extant findings indicate a third methodological requirement. The content of knowledge may vary idiosyncratically; chronically accessible constructs may be unique to the individual (Higgins, King, & Mavin, 1982). Not only the content of self-knowledge but its links to situational knowledge may vary idiosyncratically; people who describe themselves using the same construct may relate that construct to different circumstances (Cervone, Shadel, & Jencius, 2001; cf. E. R. Smith, 1990). Idiographic methods are required to capture this idiosyncrasy.

Strategies of explanation. This theory and methodology represent a fundamentally different strategy of investigation than is evident in prior work on cross-situational coherence (see Cervone, 1997, 1999; Cervone et al., 2001; see also Eliasz & Klonowicz, 2001; Zelli & Dodge, 1999). The differences can be understood via either of two highly similar distinctions.

Lewin (1935) distinguished Aristotelian from Galilean explanatory strategies. The former explains an object's behavior by reference to its essential nature. That nature is a statistical average; the object's nature is what the object typically does. In contrast, Galilean explanations cite dynamic interactions between the object and the environment. Causal constructs do not correspond to average tendencies; one does not explain why a body falls to Earth by saying that, on average, it tends to fall (Lewin, 1935). Instead, both typical tendencies and atypical occurrences are explained via a dynamic system of forces. The alternative distinction differentiates top-down from bottom-up explanatory strategies (Glennan, 2002; Kitcher, 1985; Salmon, 1989; Wylie, 1995)[6]. In top-down explanations, a simple set of overarching principles serves the purpose of organizing information about the world. Individual instances are explained by fitting them within the overarching framework; the individual object is a low-level example of an abstract high-level principle. Such explanations can be formulated without knowing the causal mechanisms underlying the high-level principles (Salmon, 1989). Bottom-up strategies, in contrast, specify causal processes: the "underlying mechanisms … that produce the phenomena we

---

[6] The terms *top-down* and *bottom-up* are used here in the manner that they are used in the philosophy of science (Salmon, 1989), namely, to refer to alternative strategies of scientific explanation. As noted elsewhere (Cervone, 1997, 1999; Cervone et al., 2001), this usage is not equivalent to the usage within information-processing models of thought, where top-down versus bottom-up refer to theory-driven versus stimulus-driven information processing. The philosophical literature referenced here concerns scientific explanation. Whether or not a theory has anything to do with information-processing models of thought, a question that can be asked is "What sort of explanation does the theory provide?" Two explanatory forms are (a) a top-down strategy of identifying a simple, overarching system of variables, each of which captures regularities in the phenomena observed, or (b) a bottom-up strategy in which phenomena are explained in terms of an underlying system of interacting causal elements (Glennan, 2002), in which no individual element independently produces the molar phenomena that are observed and where one strives to explain not only regularities in phenomena but idiosyncratic cases.

want to explain" (Salmon, 1989, p. 134). By exploring how these processes function in particular instances, one accounts not only for average tendencies but for idiosyncratic cases that violate statistical norms. The Aristotelian-Galilean and top-down-bottom-up distinctions converge when high-level constructs correspond to average dispositional qualities that define an object's essential nature (e.g., McCrae & Costa, 1996).

A top-down investigation of cross-situational coherence would describe consistency in response with respect to a high-level disposition. In contrast, a bottom-up investigation would begin by specifying underlying mechanisms that might causes responses to cohere.

Knowledge Structures and Coherence in Self-Appraisal

The history of study of cross-situational coherence in personality functioning is long (Hartshorne & May, 1928) and contentious (e.g., Block, 1977; Kenrick & Funder, 1988; Mischel, 1968). Curiously, investigators holding diverse theoretical views have shared a common investigatory strategy. Virtually all the field's classic studies have been top-down in their orientation. Investigators have selected for study high-level dispositional constructs—for example, honesty (Hartshorne & May, 1928), extraversion (Newcomb, 1929), punctuality (Dudycha, 1936), and dependency (Sears, 1963). They then have identified sets of acts that could be construed as low-level indicators of the high-level disposition and gauged the degree to which the performance of these acts, among a population of persons, is cross-situationally consistent.

This strategy survived Mischel's (1968) landmark critique. Rather than responding to his call for an analysis of underlying processing dynamics, investigators modified the traditional top-down approach. They aggregated low-level trait indicators (Epstein, 1979), examined subsets of low-level indicators (Jackson & Paunonen, 1985), eliminated persons to whom a high-level construct did not apply (Bem & Allen, 1974), studied singular high-level dispositions of relevance to individuals Kenrick & Stringfield, 1980), and searched for high-level variables that moderate consistency with respect to other high-level variables (reviewed in Hofstee & De Raad, 1992). Questions about causal systems underlying consistency in response rarely were voiced.

The KAPA framework inverts the traditional strategy. Instead of beginning one's investigation by selecting a high-level dispositional category, one begins by specifying a system of underlying structures and processes that might causally contribute to overt coherence in response. The assessment of this underlying system then guides the search for coherence.

This strategy (see Figure 2) could be instantiated with various knowledge structures and appraisal processes. The present investigation addressed one type of appraisal and two aspects of knowledge. Appraisals of capability for performance in an encounter, or self-efficacy appraisals (Bandura, 1997), were targeted because their causal contribution to behavior is firmly established (Bandura, 1997; Cervone,

Mor, Orom, Shadel, & Scott, in press; Stajkovic & Luthans, 1998). Knowledge included (a) self-schemas (Markus, 1977) and (b) situational beliefs, specifically concerning the relevance of situations to personal attributes. It was reasoned that, when appraising their efficacy in an encounter, people may draw on preexisting knowledge about personal attributes that bear on the encounter (cf. Cervone, 1989). Chronically accessible knowledge that is applicable to multiple encounters should foster consistency in self-appraisal in those settings. Knowledge structures, in other words, should cause those situations to function as an equivalence class (Allport, 1937; Bem, 1983) within which people exhibit relatively consistent appraisals. Specifically, it was anticipated that positively valenced self-knowledge would foster consistently high appraisals in situations that individuals judged as relevant to the personal attributes represented by that knowledge. The data set enabled tests of additional hypotheses.

Method

Participants

As part of course requirements, 122 undergraduates took part in three assessment sessions over a 1-month period. Sessions were separated in time so that responses would not be affected by temporary increases in cognitive accessibility of material encountered in a previous session. Seven participants failed to complete all sessions; their data were dropped[7].

Materials and Procedure

Session 1. After informed consent and a demographic questionnaire, participants completed self-schema measures. In open-ended assessments, they wrote two essays describing their personal strengths and personal weaknesses. Instructions encouraged writing whatever information came to mind first. A sheet of paper with 20 blank lines was provided for each essay. Participants could write for up to 5 min per narrative. To identify central elements of self-knowledge, participants identified and ranked the three attributes in each essay that were of greatest self-relevance. The analyses reported below focused on the singularly most relevant attribute from

---

[7] The present data set combines results from 90 participants, from whom data have not been reported previously, with that from 25 participants described in Cervone's (1997) study. The participants in the two data sets were run in identical procedures and are equivalent demographically. Data sets are combined to maximize sample size in tests of hypotheses that involve subsets of the participants. The combination of data sets introduces one statistical redundancy, which occurs in testing variations in self-efficacy as a functional of the relevance of situations to personality attributes, a test conducted here and in Cervone (1997). The redundancy is inconsequential because the predicted effect is extremely robust; the variations in self-efficacy with respect to positively valenced schematic attributes that are reported here for the full set of participants are highly significant for the subset of 90 participants considered separately. Note also that degrees of freedom vary slightly across the analyses conducted here because participants sometimes had "missing data" of a particular type. In the sorting task of Session 2, individuals occasionally did not sort any circumstances into a given relevance category for a given attribute; in analyses of self-efficacy appraisals, such a person would have missing data in the computation of self-efficacy appraisals in this situational category for this attribute.

each essay, referred to as each individual's schematic *personal strength* and *personal weakness*.

A third schematic attribute was identified by asking participants to rate themselves on 25 bipolar personality attributes (adapted from Markus's 1977, study), using 11-point scales, and then to categorize these attributes according to their degree of personal importance or self-relevance. The attribute categorized as "most important" constituted the third self-schema in our analyses, as long as the participant also rated him- or herself in a relatively extreme manner (1–4 or 8–11 on the 11-point scale) on that attribute (cf. Markus, 1977; see the Appendix).

Session 2. Session 2 assessed situational knowledge, specifically beliefs about the relevance of social circumstances to a series of personality attributes. Using idiographically tailored stimuli, participants made situational ratings with respect to five attributes: their three schematic attributes identified in Session 1 plus two common personality characteristics (e.g., helpful, creative, lazy, irritable), one positive and one negative. The latter two attributes, labeled here *experimenter-provided traits* (see the Appendix), enabled a test of the hypothesis that people would not display cross-situational coherence in appraisal in situations linked to aschematic attributes. The order of presentation of the attributes varied randomly for each participant.

For each attribute, participants rated the attribute's relevance to each of 81 situations. Relevance was defined as the degree to which, for people in general, the attribute influences the ability to perform the behavior in the given situation. Situation descriptions, printed on index cards, described both a general type of setting and a potentially challenging behavior (cf. Pervin, 1976) performed in that setting (e.g., "actively participate in class discussion sections," "avoid saying anything critical about a boyfriend's driving if he makes some mistakes"). Participants sorted each situation into one of five categories ranging from *not relevant* to *most relevant*.

Session 3. In Session 3, participants completed an 81-item multidomain self-efficacy scale (see the Appendix). Items featured concrete, self-referent sentences that described specific behaviors in specific encounters, with 10-point scales ranging from *certain I could* not *do it* (1) to *certain I* could *do it* (10). The items' highly concrete, detailed situational descriptions corresponded to the more general, abstract situational content included in the Session 2 stimuli; to illustrate, the Session 2 item "Actively participate in class discussion sections" corresponded to the Session 3 self-efficacy item "If you're in a class that has weekly discussion sections, how confident are you that you can actively participate in the discussion by making at least three or four comments in class every week?" This enabled us to identify, on the basis of the Session 1 and 2 assessments, idiographically defined clusters of schema-relevant situations.

Results and Discussion
Schematic Self-Knowledge

Participants' self-schemas, identified in Session 1, varied strikingly. Some described themselves using global dispositional terms: "dominant," "calm," "friendly," "disagreeable." Others described domain-linked self-knowledge: "help others as much

as possible," "go off on tangents when talking to people." Many self-schemas were organized around goals, skills, and coping strategies (cf. Shoda & Mischel, 1993): for example, "good listener," "don't perform to best of ability," "consider both sides before taking action," or "escape problems by daydreaming." Some cited personal values or religious beliefs (e.g., "religious," "strong Christian"). It is interesting to note that some participant's pairings of personal strengths and weaknesses were semantically inconsistent with respect to common act categories (cf. Hampson, 1997): for example, personal strength, "well prepared for the future" versus personal weakness, "procrastinates"; personal strength, "can have a good time naturally" versus personal weakness, "crabby and bitchy" (see also the Appendix).

Diversity also was found in the self-schemas identified in Session 1's most-important trait procedure. Only five attributes were rated as "most important" by 10 or more participants: "intelligent," "independent," "responsible," "self-assured," and "well educated." "Independent" ($n = 18$) was most common. Overall, the large majority of most-important traits were positively valenced (i.e., when participants indicated that a given bipolar trait dimension was most self-relevant, they generally rated themselves positively on that dimension). Thus, it was anticipated that participants would display high self-efficacy appraisals in situations relevant to the most-important traits.

Situational Beliefs

The Session 2 assessments of situational knowledge yielded detailed portraits of individuals' beliefs about the relevance of their attributes to social contexts. Idiographic portrayals of a select few participants are illustrative. Participant 37's (see Figure 3) self- and situational knowledge were significantly representative of the
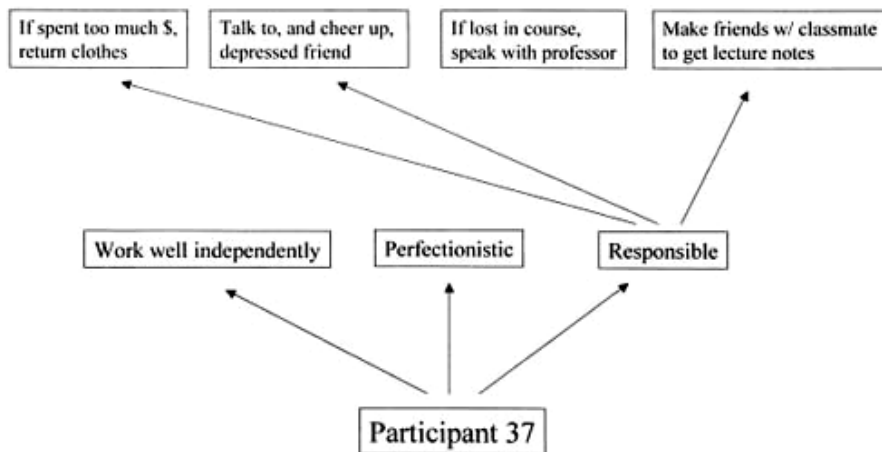

Figure 3. Diagrammatic representation of three schematic attributes of Participant 37, three situations that this participant believed to be maximally relevant to one of her self-schemas ("Responsible"), and one situation that might generally be seen as prototypical of responsibility among college students but that this participant judged to be irrelevant to the attribute. w/ = with.

20

group as a whole. Although her self-schemas concerned relatively common attributes, the situations to which she linked them were interestingly idiosyncratic. Some circumstances linked to her being responsible were prototypical of that term's traditional definition (e.g., saving money). However, she judged that a circumstance that might be construed as calculating (cf. Botwin & Buss, 1989)—making friends with someone who "looks smart" so you can get their lecture notes—was an instance of "responsible" action. In contrast, a potentially prototypic act of responsibility—speaking to a professor if one is lost in a course—was judged as irrelevant to this attribute by Participant 37.

The personal strength and weakness of Participant 48 (see Figure 4), who was noted above, appear contradictory. The contradiction is resolved by considering her situational beliefs. She linked her ability to have a good time to settings involving groups of friends or strangers. She saw her weakness, "crabby and bitchy," as bearing upon dating, work, and driving situations.
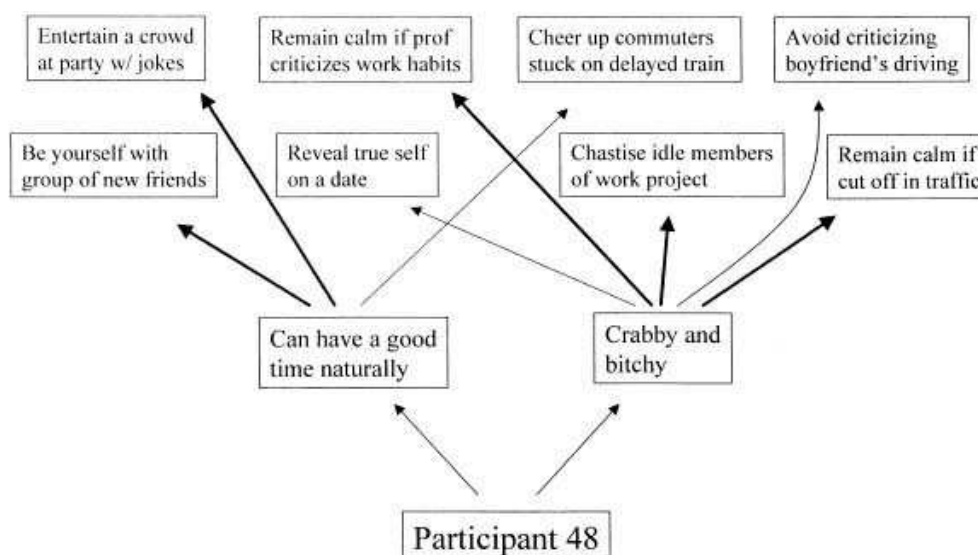
Figure 4. Diagrammatic representation of two schematic attributes of Participant 48 and eight situations that she believed to be relevant to one or both attributes. Regular and bold arrows indicate situations judged to be "highly" and "most" relevant, respectively, to the given attribute. w/ = with; prof = professor.

Participants 96 and 108 (see Figure 5) illustrate that different people who use similar terms to describe themselves may relate their attributes to different circumstances. Participant 96 related independence to circumstances in which one is challenged to defend, reveal, or compromise personal views and preferences[8].

---

[8] One of these circumstances, agreeing to a friend's social plans, is linked negatively to independence; it is more difficult to agree to accede to social plans if one has highly independent views.

Participant 108 related independence to achievement-related challenges. One can infer that *independence* had different meaning for the different people (cf. Grice, in press).
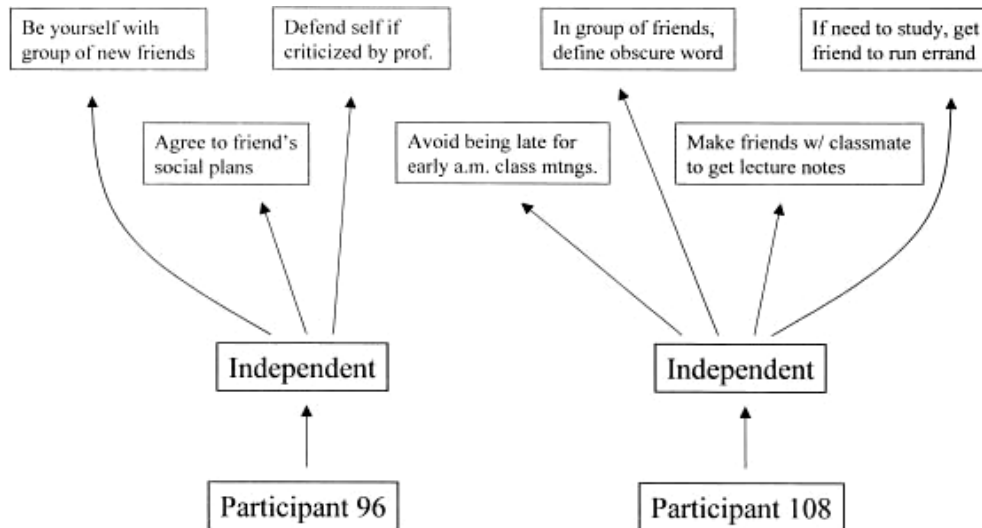
Figure 5. Diagrammatic representation of 2 participants whose schematic most-important trait was "Independent" and situations that the individuals believed to be maximally relevant to the attribute. prof. = professor; mtngs. = meetings; w/ = with.

At the group level, participants categorized an average of about 6–10 situations into each relevance category (slightly, moderately, highly, most) for each attribute. The most- relevant categorization was used to classify between 5.9 (personal weakness) and 8.6 (most-important trait) situations per attribute, with no significant differences among attributes. Comparison of mean appraisals across attributes thus are not confounded by numbers of situations analyzed.

Self-Knowledge, Situational Knowledge, and Coherence in Self-Efficacy Appraisals

It was hypothesized that efficacy appraisals would vary as a function of (a) beliefs about the relevance of situations to personality attributes and (b) the schematicity of those attributes (the three self-schemas vs. the two experimenter-provided, aschematic traits). For each participant, mean appraisals in those particular situations the individual judged as relevant to each of the five personality attributes were computed; in other words, appraisals were aggregated across situations that each individual categorized in Session 2 as falling within each of the situational relevance categories. Individual-level results were then combined for group-level analyses.

Figure 6 presents these mean self-efficacy appraisals. Very large differences were found across situations that participants believed to be highly related to positively valenced versus negatively valenced self-knowledge. Participants displayed higher appraisals across clusters of situations that related to their self-perceived personal strengths and most-important personality traits. Appraisals in these situations greatly exceeded appraisals in situations linked to schematic personal weaknesses. In contrast, null results were found with respect to the aschematic attributes (see Figure 6). Even when particular subsets of situations judged to be of most relevance to the positive versus negative aschematic traits were examined, self-efficacy appraisals did not differ.
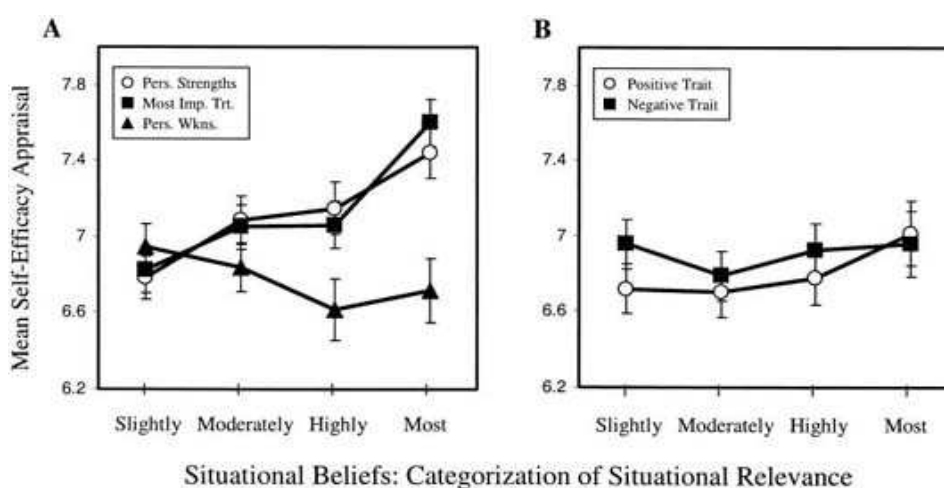
Figure 6. Mean self-efficacy appraisals (and standard errors of the mean) plotted as a function of type of personality attribute (schematic elements of self-knowledge vs. experimenter-provided aschematic attributes) and situational knowledge (whether situations were believed to be slightly, moderately, highly, or most relevant to each attribute). A: Schematic attributes. B: Aschematic attributes. Pers. = personal; Imp. = important; Trt. = trait; Wkns. = weakness.

Variations in self-efficacy appraisal as a function of situational relevance were analyzed with repeated measures analyses of variance, computed separately for each attribute; linear contrasts were used to evaluate the hypothesis that self-efficacy appraisals would vary monotonically as a function of situational relevance[9]. Findings robustly confirmed the prediction that self-appraisals would be increasingly positive in situations that were of increasing relevance to the two positively valenced self-schemas, personal strengths, $F(1, 99) = 30.52$, $p < .01$, and most-important

---

[9] A repeated measures MANOVA that simultaneously analyzes perceived self-efficacy as a function of situational relevance for all five personality attributes is not appropriate here because it would violate assumptions of independence of observations, in that a given situation can be judged as relevant to more than one personal attribute.

traits, $F(1, 103) = 34.00$, $p < .01$. The effect sizes (Tabachnik & Fidell, 2001) associated with the personal strengths and most-important traits were .245 and .323, respectively. Self-efficacy appraisals did not increase or decrease as a function of relevance to personal weaknesses, $F(1, 96) = 1.92$. In contrast to the robust results obtained with the positively valenced schematic attributes, appraisals did not vary as a function of the relevance of situations to the positively valenced aschematic characteristics, $F(1, 102) = 2.46$. Null results also were obtained with respect to the negatively valenced experimenter-provided traits, $F(1, 100) = 0.33$.

Schematic Attributes Versus Aschematic "High Level" Attributes

Traditional self-schema assessments (Markus, 1977) have been criticized (Burke, Kraut, & Dworkin, 1984; Nystedt, Smari, Boman, 1991) for combining two qualities: level and importance of an attribute. Their confounding raises the question of whether importance ratings add unique information. Findings might be replicable merely by identifying people with extreme trait levels. This can be addressed by comparing individuals with similar trait levels but differential importance ratings on an attribute. To our knowledge, this critical test of self-schema predictions has not been executed previously. It was executed here as follows: In 17 cases a participant (a) happened to receive an experimenter-provided trait that also appeared on the Session 1 trait rating task and (b) judged him- or herself as having a relatively high (8–11 on the 11-point scale) or low (1–4) level on that trait yet also (c) judged the attribute to be relatively unimportant. Self-efficacy results with these attributes were compared, among these participants, with results obtained with the schematic attributes; this was done for the subset of cases in which the self-schemas and most-important traits were both positively valenced. The comparison, then, involves attributes for which participants uniformly rated themselves as high on the attributes but judged them to be differentially important to their self-concept.

Even when controlling for trait level in this manner, self-ratings of the importance of personal attributes proved to be significant in predicting self-efficacy appraisals. Figure 7 reports mean levels of self-efficacy in situations judged as "most relevant" versus "not relevant" to the schematic versus aschematic attributes. For the schematic (high level plus personally important) attributes, self-efficacy appraisals differed significantly across the situations, $t(12) = 4.46$, $p < .01$. For the aschematic (high level plus not important) attributes, self-appraisals did not differ, $t(13) = 0.80$. Analogous results are obtained when using linear contrasts to test variations in self-efficacy appraisal as a function of situational relevance, as above.

Cognitive Complexity and Cross-Situational Consistency Versus Variability in Self-Appraisal

The above analyses examined individual aspects of knowledge. Another question is whether overall features of one's knowledge system relate to broad appraisal patterns. One such feature is cognitive complexity. It was anticipated that high complexity in knowledge would buffer people against extreme appraisals (Linville, 1985, 1987; cf. Rafaeli-Mor & Steinberg, 2002). A complex knowledge system may enable one to see the possibilities and difficulties in any given encounter,

24

thus attenuating extreme high or low appraisals. A less complex and nuanced knowledge system may lead people to encode circumstances as exclusively related to a personal strength or weakness, fostering extreme appraisals. We thus predicted an inverse relation between cognitive complexity and item-to-item variance on the self-efficacy scale.
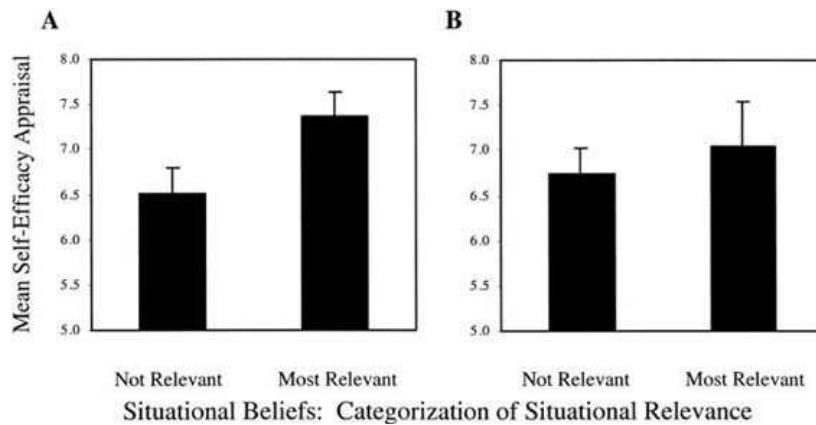
Figure 7. Mean self-efficacy appraisals (and standard errors of the mean) in situations judged as "most relevant" versus "not relevant" to schematic versus aschematic attributes. In these data, participants uniformly rated themselves as high on the attributes but judged the schematic versus aschematic attributes to be differentially important to their self-concept. A: Schematic attributes. B: Aschematic attributes.

Cognitive complexity was indexed using the Session 2 categorization task. If a person's categorizations were highly correlated—that is, similar across attributes—the individual was judged to possess a relatively simple knowledge system. Conversely, relatively independent situation sortings were interpreted as greater informational differentiation (Linville, 1985) that indicated higher complexity. Higher cognitive complexity was found to predict lesser situation-to-situation variability in appraisal (see Table 2). This occurred only when complexity was indexed with respect to the schematic attributes, as anticipated by the KAPA model.

Table 2

Correlations Between the Complexity of Situational and Self-Knowledge and Self-Efficacy Appraisal

Complexity of attribute-situation knowledge system	Self-efficacy appraisal	
	M	Variance
Schematic attributes	.260	−.461*
Experimenter-provided attributes	.155	−.057

* $p < .025$.

25

Different Underlying Routes to Similar Surface-Level Coherence:
A Case Example

Top-down personality assessment strategies, such as the strategy of assessing individuals with respect to universal high-level trait categories, equate people who obtain the same score on an assessment. Two people with roughly the same score on a personality scale are assumed to be roughly the same with respect to the psychological content tapped by the test. Without this assumption, the logic of many assessment practices would collapse because test scores could not be interpreted unequivocally as signs of psychological qualities of the individual.

The KAPA model's bottom-up strategy highlights a threat to this assumption. Different underlying qualities might give rise to the same test score. To illustrate, suppose one were interested in assessing, via self-report, the psychological quality of interpersonal agreeableness. Items might assess people's expectations about their behavior in circumstances in which a person could act in a manner that is good-natured and helpful. Figure 8 depicts five such items from the present study; they pertain to agreeableness in a context of relevance to our population: dating relationships. The figure reports the responses of two individuals to the items. They both judged that all five circumstances were highly relevant to their schematic personal strength. They obtained nearly identical mean scores on the items. Viewed from the top down, they appear similar. But viewed from the bottom up, a difference emerges. Participant 63 appraised herself as able to act effectively in these circumstances because she linked them to her being "nice." Participant 118 linked them to his capacity to manipulate others.

Such a result obviously raises a problem for top-down assessment strategies. It might be avoided if test items uniformly tapped underlying causes of surface-level tendencies in behavior. However, popular assessment devices frequently include items that tap overt action tendencies. A measure of agreeableness might ask whether one generally tries to act courteously (Costa & McCrae, 1992, cf. Buss & Craik, 1983). Other items inquire into social reputation, for example, by asking whether a person is liked by others (Costa & McCrae, 1992). The problem, using the present example, is that both nice people and skillful manipulative people may act courteously and be liked. Traditional testing strategies thus may equate people who differ[10].

---

[10] In principle, individuals such as those depicted here (Participants 63 and 118) could be differentiated if assessments were to include a measure of "straightfowardness," with test items designed to assess tendencies to be sincere versus deceptive and guarded with respect to one's own feelings (Costa & McCrae, 1992). However, in addition to the question of whether deceptive and guarded individuals will be open and honest when completing these items, in practice investigators commonly use briefer measures of global personality dispositions that fail to include such detailed indices of five-factor facets (Gosling, Rentfrow, & Swann, in press; John & Srivastava, 1999).
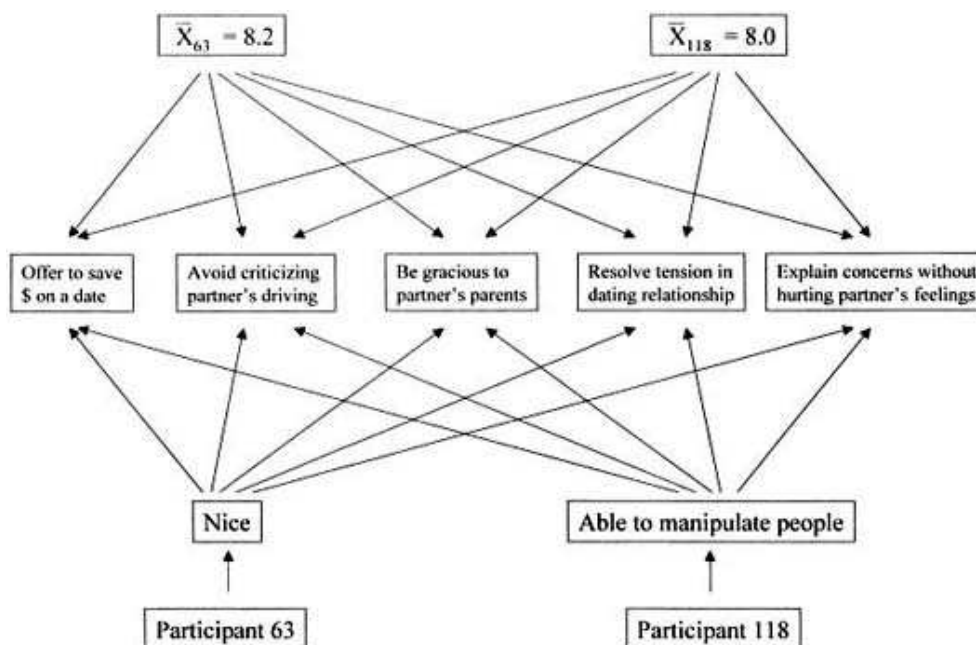
Figure 8. Diagrammatic representation of 2 participants who obtained nearly identical mean scores on a set of self-efficacy items concerned with agreeable behavior in situations related to dating. The figure also represents the schematic self-knowledge that the respective individuals linked to the five situations.

Summary

The results illustrate how the KAPA model can address cross-situational coherence in response. Situational knowledge and self-knowledge combined to foster coherent patterns of appraisal. People exhibited consistently high efficacy appraisals across situations judged as relevant to positively valenced self-schemas. Note that robust results were obtained despite the use of measures that involved little statistical aggregation, which increases reliability (Epstein, 1979). The schema measures essentially were one-item tests. Efficacy appraisals (see Figure 6) were aggregated across relatively few situations. Aggregation unquestionably is of value. But the search for personality coherence may benefit from identifying circumstances of particular significance to the individual, rather than by aggregating numerous generic trait indicators.

As expected, people exhibited high appraisals in circumstances linked to positive self-knowledge. Note, however, that personal strengths sometimes were seen as a hindrance, and weaknesses were sometimes seen as a virtue. The independent person may struggle to accede to others' desires (see Figure 5). Argumentativeness may enable assertive action. Variable appraisals may be coherent in that they reflect a common element of knowledge. The present methodology could not fully capture this; the Session 2 task was not sensitive to the possibility that different

27

circumstances judged as relevant to an attribute might be seen as helping versus hindering performance in the given setting. A more sensitive methodology would be useful[11].

The results support the claim that schematic self-knowledge causally contributes to appraisal patterns. An alternative possibility is that schema measures tap merely inert labels that people use to describe their typical behavior patterns; schemas, then, may merely reflect relations between chronic experience and associated appraisals. This can be addressed by experimentally manipulating the accessibility of one versus another aspect of self-knowledge as people appraise a fixed set of circumstances; if schemas are inert descriptors, the manipulation should have no affect. In an idiographic paradigm similar to that reported here, Shadel, Cervone, Niaura, and Abrams (in press) assessed multiple aspects of self-knowledge and primed one versus another aspect in subsequent experimental sessions. Priming speeded appraisals in situations that were consistent with the activated self-knowledge. That is, people responded more quickly to information consistent with the primed knowledge, as compared with their responses to precisely the same circumstances subsequent to the priming of other self domains (Shadel et al., in press)[12].

Distinguishing Among Types of Knowledge and Appraisal

The research presented above capitalizes on the KAPA model's distinction between knowledge and appraisal. This distinction is necessary but not sufficient for delineating structures and processes in the architecture of personality. The most obvious insufficiency is that there may exist qualitative distinctions among different types of knowledge structures and different types of appraisal processes. The question, then, is how best to draw these distinctions.

---

[11] A recent idiographic study of self-knowledge and self-efficacy beliefs among foreign exchange students coping with the transition to life in a new culture by Jencius (2002; summarized in Cervone, Jencius, & Shadel, 2002) did use a more sensitive methodology. Participants judged the relevance of situations to personal attributes, as in the present study, but also indicated whether the given attribute was felt to help or hinder performance in each given situation. Participants displayed lower efficacy appraisals in circumstances that they linked to schematic personal weaknesses and in which they judged that the personal weakness was a hindrance to performance rather than an asset. Null results were obtained when the same help-hinder analysis was performed with respect to aschematic negatively valenced traits. The use of the help-hinder index enabled tests of another prediction, namely, that the variance in efficacy appraisals would be smaller in situations linked to schematic than to aschematic attributes; smaller variability can be viewed as an index of consistency in response (Bem & Allen, 1974). This prediction was confirmed. In the large majority of cases (in a sample of 100 participants, 83 and 78 cases for positively valenced and negatively valenced attributes, respectively), variability in appraisal was smaller in situations linked to schematic attributes than to aschematic characteristics. However, such results should be viewed very cautiously. As has been noted (Paunonen & Jackson, 1985), statistical variances and means are systematically related, with extreme mean scores constraining variability. The variance thus is not an independent index of consistency in response.

[12] Shadel et al.'s (in press) study went beyond the methods of the present investigation in that the aspects of knowledge that were assessed and differentially primed were evaluative standards (Higgins, 1987) rather than beliefs about the self. As detailed in the immediately subsequent section of this article, standards are recognized as a distinct aspect of cognition in the KAPA model.

Answers to this question can be based only partly on empirical data. Theoretical distinctions surely must be evaluated according to their empirical utility. But the mere fact that, for example, measures of alternative constructs can be differentiated psychometrically is not sufficient to claim that the constructs represent a fundamental division in the architecture of personality. An unmanageably large number of constructs may be empirically differentiable in this manner; empirical results alone may provide little guidance for determining which distinctions are most fundamental. What is needed are conceptual principles for distinguishing among qualitatively distinct aspects of cognition that contribute to personality functioning.

Direction of Fit and the Distinction Among Beliefs, Aims, and Evaluative Standards
Direction of Fit
One such principle can be found in the philosophy of mind, specifically, in philosophical analyses of "intentionality" (Searle, 1983, 1998). The term *intentionality* has long been used (Brentano, 1874) to refer to a particular property of mental contents, namely, that mental states are directed beyond themselves to objects in the world. Not all conscious or potentially conscious mental states have the property of being intentional. Some experiences—for example, various feeling or affective states (Russell, 2003) —do not in and of themselves represent objects in the world. However, much conscious experience involves intentional thought, and the knowledge and appraisal mechanisms discussed here are intentional in that they are mental activities that are directed to objects and events in the world, including oneself and one's actions[13].

Searle (1983) identifies a valuable principle for distinguishing among intentional states that he labels *direction of fit*. Direction of fit involves the question of how one evaluates the relation between a proposition and that aspect of the world that it represents. Different "directions" refer to different relations between the contents of the mind and the actual properties of the world. Some mental propositions are true or false depending on whether the propositional content matches, or fits to, actual states of affairs in the world. "Someone named Bush is now President of the United States" is true only if the statement fits the current state of the U.S. presidency. "Someone named Bush was elected last time" (or "will be elected next time") is truthful if (or becomes truthful when) the mental content fits the past (or future) state of the world. Cases in which the contents of the mind must fit to states of the world for the proposition to be true are said to have *mind-to-world* direction of fit.

---

[13] The word *intentionality,* as used historically in the philosophy of mind, is not equivalent to the natural-language terms *intention* or *intentional.* An intention (i.e., a plan) to do something does have the property of intentionality, but a range of cognitive contents in addition to intentions (plans) also have the property of intentionality in that they are directed beyond themselves to objects in the world.

In contrast, other propositions are not true or false when stated. Instead, they represent intentions to bring about a future state of the world that implements, fulfills, or "fits with" the current mental content. There is an obligation on the part of the individual who holds the cognition to bring about a state that matches his or her mental content. "My goal is to become President" and "I plan to change my name to Bush" are propositions of this sort. Such propositions are said to have *world-to-mind* direction of fit (Searle, 1983).

Beliefs and Aims

Direction of fit identifies a natural division in cognitive contents that are central to the analysis of personality. A simple terminology that captures this distinction differentiates *beliefs* from *aims* (or *goals*). Contents with mind-to-world direction of fit include beliefs about current, past, or anticipated features of an entity. Contents with world-to-mind direction of fit include aims to bring about a future state of affairs or to maintain a desirable current state.

Both knowledge about an entity and appraisals that bear on the meaning of encounters for the self involve intentional cognition. The principle of direction of fit thus applies to both knowledge and appraisal. Knowledge includes both beliefs (e.g., "I go to pieces under stress") and aims ("I want to become a doctor"). Similarly, appraisals of encounters include beliefs ("At the rate I'm going, I won't finish this paper on time") and aims ("I'll try to answer this med school interviewer's question by talking about my high grades in organic chemistry").

Evaluative Standards

An interesting feature of the distinction between mind-to-world and world-to-mind directions of fit is that there exists an aspect of cognitive activity that resists easy classification according to this scheme and that happens also to be of central interest in the analysis of personality. This class of cognition is evaluative standards, that is, mental representations of criteria for judging the goodness (the quality, value, or appropriateness) of an entity or event. The role of standards for evaluating oneself and others has long played a significant part in theorizing about personality (e.g., Adler, 1927; Bandura, 1986, 1999; Carver & Scheier 1998; Freud, 1923/1961; Higgins, 1987, 1999; Horney, 1950; Lewin, 1935; Rotter, 1954).

Evaluative standards cannot easily be classified as having mind-to-world or world-to-mind direction of fit. They do not necessarily contain a belief with truth value that can be evaluated with respect to features of the world. The subjective standard that "a serious college student should study 20 or more hours a week" is neither true nor false. Furthermore, standards do not necessarily entail an aim that the person who holds the standard is committed to fulfill. A person who does not consider him- or herself to be a serious college student may hold the subjective standard noted above although having no intention of studying.

30

On these grounds, then, evaluative standards can be considered as a class of social cognition that is qualitatively distinct from beliefs and aims (cf. Boldero & Francis, 2002). Evaluative standards, in other words, can be seen to represent a distinct class of social-cognitive personality variable. Once again, the distinction holds at both the knowledge and the appraisal levels of the KAPA system. People possess enduring knowledge of criteria that constitute worthy or unworthy attributes of persons and environments (e.g., "I should quit smoking," "people in our country work too hard"). Similarly, people appraise ongoing interactions in terms of dynamically shifting standards through which they assign meaning to events and regulate their actions ("that last sentence I wrote was not good enough," "I shouldn't be working this late").

The differentiation among intentional states with different directions of fit, then, supports a distinction among beliefs, evaluative standards, and aims. The route through which these distinctions were drawn is relatively novel within personality psychology. Yet the resulting distinctions are not surprising. They support a view in which persons are actors who hold (a) beliefs about the self and the world, (b) goals for the attainment of future desired states, and (c) evaluative standards that specify personally and ethically acceptable and unacceptable forms of behavior[14]. This three-part division is consistent with earlier work, including analyses of dynamic appraisals underlying goal-directed motivation (Bandura & Cervone, 1983; Cervone et al., 1991).

The Knowledge and Appraisal Architecture

Two principles for distinguishing among social-cognitive personality variables have been presented. The knowledge/appraisal distinction differentiates knowledge structures from appraisal processes, and the directions-of-fit distinction differentiates among beliefs, evaluative standards, and aims. In combination, they yield a well-specified variable system featuring six classes of social-cognitive constructs (see Figure 9). This system addresses our initial question of how one can identify basic constructs for analyzing cognitive features of personality. It circumvents the limitations of previous systems (see Table 1), namely, that principles underlying the delineation of variables were unspecified, variables were not interrelated systematically, and the distinction between personality process and structure was not addressed explicitly.

The proposed variable system (see Figure 9) addresses a primary task in modeling the architecture of personality: specifying personality structures and processes. It inherently entails an approach to a second task, namely, specifying

---

[14] Related distinctions have a particularly long history. Writing in the 13th century, Aquinas, in his *Summa Theologica,* distinguished three reasons for choosing a course of action. They included beliefs about its inherent pleasantness, aims that are served by the action, and standards of virtue that designate the act as one that a person should perform (Vogler, 2002).

causal relations among structure and process variables. Basic principles of knowledge activation and use (Higgins, 1996) illuminate relations between personality structures and processes in the KAPA model. The overall theoretical system thus addresses the coherent interrelations among distinct personality variables.

Intentional States with Alternative Directions of Fit
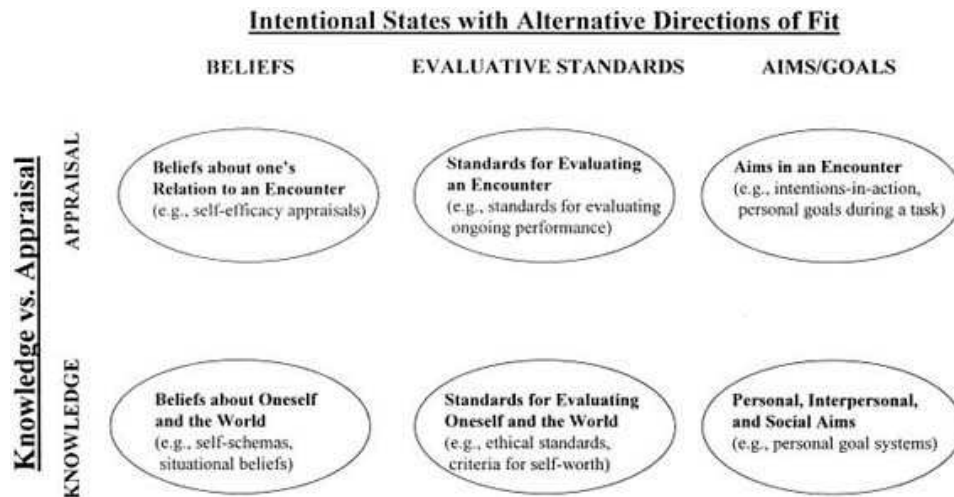
Figure 9. The knowledge-and-appraisal personality architecture system of social-cognitive personality variables. In the variable system, the distinction among beliefs, evaluative standards, and aims holds at both the knowledge and the appraisal levels of the personality architecture, yielding six classes of social-cognitive variables.

These six social-cognitive variables should not be construed as essential qualities that people possess in certain amounts. They represent classes of cognition that differ qualitatively. For many purposes, more fine-grained distinctions also will prove useful (Bandura, 1977, 1997; Dweck and Leggett, 1988; Grant & Dweck, 1999; Higgins, 1990, 1999; Lambie & Marcel, 2002); the present distinctions are seen as necessary but not necessarily sufficient to model the architecture of personality. More molar conceptualizations also will have utility. The construct "strategies" (Norem & Cantor, 1990), for example, usefully captures integrated systems of goals and subgoals, as well as beliefs, standards, and preferences regarding alternative paths to goal achievement. Enduring mental representations of strategic knowledge may foster cross-situationally and temporally coherent styles of goal pursuit (Sanderson & Cantor, 1999).

Personality functioning involves skills, which rest partly on procedural knowledge rather than the declarative representations analyzed here. Yet skilled performance generally involves more than merely procedural representations. With expertise, procedural knowledge is redescribed into formats that are increasingly accessible to consciousness and verbal reasoning (Karmiloff-Smith, 1994). These new representations, which enable people to reflect on their capacities and deploy them strategically, constitute knowledge/beliefs in the KAPA framework.

32

KAPA Mechanisms Within the Overall Architecture of the Person

Our premise was that the study of personality must center on socially acquired cognitive systems. As noted, these systems have the quality of intentionality (Searle, 1983); they are directed beyond themselves to objects in the world. Yet personality also includes "core affective" qualities that are nonintentional (Russell, 2003). What, then, is the place of KAPA mechanisms within an overall personality architecture that includes these affective systems?

A complete answer is beyond the scope of this article. Yet a schematic representation of KAPA mechanisms within a comprehensive model of personality systems can be provided (see Figure 10). It includes affective structures that, in interaction with environmental cues, contribute to chronic and transient experiences and actions. These include subcortical neural systems (Gray, 1991; LeDoux, 1996) and biochemical systems that project to cortical regions (see, e.g., Edelman & Tononi, 2000). In the model, appraisal processes and affective experiences are linked reciprocally because appraisals shape emotions (Scherer et al., 2001) and affect may prime appraisal dimensions (Lerner & Keltner, 2001). Cognitive appraisal and emotional experience partly overlap because, at some processing levels, cognitive and affective signals are integrated (Gray, Braver, & Raichle, 2002). Downward causal arrows from appraisal to affective structures and from affective experience to knowledge structures represent the facts that appraisals activate biological systems (Lazarus, 1991) and affective states prime cognitive contents (Forgas, 1995). As represented, affective systems may contribute directly to decisions and actions (Damasio, 1994; Lowenstein, Weber, Hsee, & Welch, 2001).
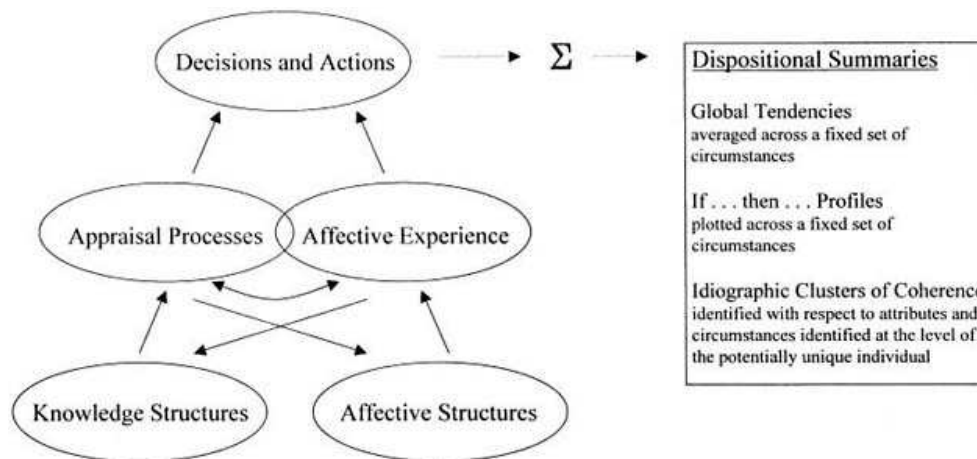
Figure 10. Schematic representations of knowledge-and-appraisal personality architecture (KAPA) processes within a broader architecture of personality that includes affective structures that contribute directly to psychological experience. The figure also represents the KAPA perspective on personality dispositions, which are treated as descriptive summaries of individual's recurrent tendencies, in which different types of dispositional summaries can be constructed for different assessment purposes.

Dispositions

Figure 10 also represents the KAPA view of personality dispositions. It has two key features. First, dispositions are descriptions (cf. Buss & Craik, 1983; Harré, 1998; Mischel, 1973; Wright & Mischel, 1987). They are summaries of psychological tendencies. It follows that dispositions are not also explanations; one cannot use dispositional constructs as descriptions and explanations without violating principles of scientific explanation (Cervone, 1999; Hanson, 1961; Harré, 1998; Nozick, 1981). Second, dispositional summaries are social constructions. They are constructed by investigators for particular purposes. To summarize global between-person differences, investigators aggregate psychological tendencies across situations (John & Srivastava, 1999). To obtain more individualized and contextualized summaries, investigators plot individual response profiles across fixed sets of circumstances (Mischel & Shoda, 1995). To obtain even more individualized summaries, one can explore circumstances of particular relevance to central attributes of the particular individual, as in the research presented above.

The latter idiographic strategy, advanced here, entails fewer assumptions about the structure of psychological characteristics at the level of the individual case. By comparison, describing within-person functioning via between-person constructs is problematic because the different levels of analysis may fail to correspond (Borsboom et al., 2003). *If-then* profile methods (Mischel & Shoda, 1995) also entail assumptions that sometimes may not hold. Investigators select a response class and a set of circumstances to study, chart each individual's actions within this fixed situation-response framework, and interpret the resulting profiles as signatures of each individual's personality. This interpretation is valid if the situations and responses selected by the investigator are relevant to, and thus representative of, the personality of each individual. This sometimes may be the case (see Shoda et al., 1994). However, the present findings imply that nomothetically defined situation-response frameworks commonly will be inadequate to characterize each individual because the attributes, responses, and circumstances of relevance to individuals vary idiosyncratically. Furthermore, people may display not only similar mean tendencies (see Figure 8) but similar profile shapes for different reasons; in principle, different underlying dynamics may give rise to similar surface-level profiles[15]. A bottom-up KAPA strategy circumvents such limitations by analyzing potentially idiosyncratic self- and situational knowledge that underlies coherent patterns of appraisal that, in turn, function as proximal determinants of experience and action.

---

[15] The finding that *if-then* profiles are temporally stable (Mischel & Shoda, 1995) does not speak to the limitations noted here. Because many individual acts exhibit temporal stability (Mischel & Peake, 1982), even a haphazard collection of acts may, if charted within an *if-then* profile, exhibit temporal stability. The issue is that the traditional *if-then* profile method does not tackle the problem of identifying which *if*s and *then*s are most relevant for characterizing the personality system of the potentially idiosyncratic individual.

Summary

Two questions were considered in this article: (a) With what "basic units" (Allport, 1937, p. 235) should one model personality systems? and (b) How can one use those units to understand cross-situational coherence in personality functioning? Both questions were addressed at two levels of analysis. One level was strategic, or metatheoretical. It was proposed that the units-of-analysis question be answered by specifying an architecture of personality, that is, a model of the overall design and operating characteristics of those psychological features of persons that contribute to coherent patterns of experience and action that distinguish individuals from one another. Cross-situational coherence was addressed through a bottom-up strategy of explanation in which the search for coherence begins by specifying psychological systems with causal power that might contribute to coherent patterns of response. The second level of analysis involved specific theory and methods. Cognitive elements of personality were modeled by a knowledge and appraisal personality architecture (KAPA). A central theoretical task, delineating a set of core personality structures and processes, was accomplished by combining two principles: distinctions (a) between knowledge and appraisals and (b) among intentional cognitions with varying directions of fit. Cross-situational coherence was addressed by research demonstrating how two aspects of knowledge/beliefs— self-schemas and situational beliefs—give rise to cross-situational coherence in one aspect of appraisal/beliefs: appraisals of self-efficacy.

REFERENCES

Adler, A. (1927). *Understanding human nature*. New York: Greenberg.

Allport, G. W. (1937). *Personality: A psychological interpretation*. New York: Holt.

Andersen, S. M., & Chen, S. (2002). The relational self: An interpersonal social-cognitive theory. *Psychological Review, 109,* 619-645.

Anderson, J. R. (1983). *The architecture of cognition*. Cambridge, MA: Harvard University Press.

Austin, J. T., & Vancouver, J. B. (1996). Goal constructs in psychology: Structure, process, and content. *Psychological Bulletin, 120,* 338-375.

Baltes, P. B. (1997). On the incomplete architecture of human ontogeny: Selection, optimization, compensation as foundation of developmental theory. *American Psychologist, 52,* 366-380.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84,* 191-215.

Bandura, A. (1978). The self system in reciprocal determinism. *American Psychologist, 33,* 344-358.

Bandura, A. (1986). *Social foundations of thought and action*. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1990). Some reflections on reflections. *Psychological Inquiry, 1,* 101-105.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

Bandura, A. (1999). Social cognitive theory of personality. In D. Cervone & Y. Shoda (Eds.), *The coherence of personality: Social-cognitive bases of consistency, variability, and organization* (pp. 185–241). New York: Guilford Press.

Bandura, A., & Cervone, D. (1983). Self-evaluative and self-efficacy mechanisms governing the motivational effects of goal systems. *Journal of Personality and Social Psychology, 45,* 1017-1028.

Bandura, A., & Cervone, D. (1986). Differential engagement of self-reactive influences in cognitive motivation. *Organizational Behavior and Human Decision Processes, 38,* 92-113.

Bandura, A., & Walters, R. (1963). *Social learning and personality development.* New York: Holt, Rinehart, and Winston.

Bargh, J. A., Bond, R. N., Lombardi, W. J., & Tota, M. E. (1986). The additive nature of chronic and temporary sources of construct accessibility. *Journal of Personality and Social Psychology, 50,* 869-878.

Bem, D. J. (1983). Constructing a theory of the triple typology: Some (second) thoughts on nomothetic and idiographic approaches to personality. *Journal of Personality, 51,* 566-577.

Bem, D. J., & Allen, A. (1974). Predicting some of the people some of the time: The search for cross-situational consistencies in behavior. *Psychological Review, 81,* 506-520.

Blanchard-Fields, F., & Hess, T. (1999). The social cognitive perspective and the study of aging. In T. M. Hess & F. Blanchard-Fields (Eds.), *Social cognition and aging* (pp. 1–14). San Diego, CA: Academic Press.

Block, J. (1977). Advancing the psychology of personality: Paradigm shift or improving the quality of research. In D. Magnusson & N. S. Endler (Eds.), *Personality at the crossroads: Current issues in interactional psychology* (pp. 37–63). Hillsdale, NJ: Erlbaum.

Boldero, J., & Francis, J. (2002). Goals, standards, and the self: Reference values serving different functions. *Personality and Social Psychology Review, 6,* 232-241.

Borsboom, D., Mellenbergh, G. J., & van Heerden, J. (2003). The theoretical status of latent variables. *Psychological Review, 110,* 203-219.

Botwin, M. D., & Buss, D. M. (1989). Structure of act-report data: Is the five-factor model of personality recaptured? *Journal of Personality and Social Psychology, 56,* 988-1001.

Bower, G. H. (1981). Mood and memory. *American Psychologist, 36,* 129-148.

Brentano, F. (1874). *Psychologie vom empirischen Standpunkte* [Psychology from an empirical standpoint]. Leipzig, Germany: Meiner.

Bugental, D. B., & Johnston, C. (2000). Parental and child cognitions in the context of the family. *Annual Review of Psychology, 51,* 315-344.

Burke, P. A., Kraut, R. E., & Dworkin, R. H. (1984). Traits, consistency, and self-schemata: What do our measures measure? *Journal of Personality and Social Psychology, 47,* 568-579.

Buss, D. M., & Craik, K. H. (1983). The act frequency approach to personality. *Psychological Review, 90,* 105-126.

Cantor, N. (1990). From thought to behavior: "Having" and "doing" in the study of personality and cognition. *American Psychologist, 45,* 735-750.

Cantor, N., & Kihlstrom, J. F. (1987). *Personality and social intelligence.* Englewood Cliffs, NJ: Prentice-Hall.

Caprara, G. V., & Cervone, D. (2000). *Personality: Determinants, dynamics, and potentials.* New York: Cambridge University Press.

Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior*. New York: Cambridge University Press.

Cervone, D. (1989). Effects of envisioning future activities on self-efficacy judgments and motivation: An availability heuristic interpretation. *Cognitive Therapy and Research, 13,* 247-261.

Cervone, D. (1991). The two disciplines of personality psychology. *Psychological Science, 2,* 371-377.

Cervone, D. (1997). Social-cognitive mechanisms and personality coherence: Self-knowledge, situational beliefs, and cross-situational coherence in perceived self-efficacy. *Psychological Science, 8,* 43-50.

Cervone, D. (1999). Bottom-up explanation in personality psychology: The case of cross-situational coherence. In D. Cervone & Y. Shoda (Eds.), *The coherence of personality: Social-cognitive bases of consistency, variability, and organization* (pp. 303–341). New York: Guilford Press.

Cervone, D., Jencius, S., & Shadel, W. G. (2002). Personality assessment: Implications of a social-cognitive theory of personality. *Psychology: Journal of the Hellenic Psychological Association, 9,* 226-240.

Cervone, D., Jiwani, N., & Wood, R. (1991). Goal setting and the differential influence of self-regulatory processes on complex decision-making performance. *Journal of Personality and Social Psychology, 61,* 257-266.

Cervone, D., & Mischel, W. (2002). *Advances in personality science*. New York: Guilford Press.

Cervone, D., Mor, N., Orom, H., Shadel, W. G., & Scott, W. D. (in press). Self-regulation: The role of perceived self-efficacy within social-cognitive personality systems. In R. Baumeister & K. Vohs (Eds.), *Handbook of self-regulation research.*

Cervone, D., & Peake, P. K. (1986). Anchoring, efficacy, and action: The influence of judgmental heuristics on self-efficacy judgments and behavior. *Journal of Personality and Social Psychology, 50,* 492-501.

Cervone, D., Shadel, W. G., & Jencius, S. (2001). Social-cognitive theory of personality assessment. *Personality and Social Psychology Review, 5,* 33-51.

Cervone, D., & Shoda, Y. (1999a). *The coherence of personality: Social-cognitive bases of consistency, variability, and organization.* New York: Guilford Press.

Cervone, D., & Shoda, Y. (1999b). Social-cognitive theories and the coherence of personality. In D. Cervone & Y. Shoda (Eds.), *The coherence of personality: Social-cognitive bases of consistency, variability, and organization* (pp. 3–33). New York: Guilford Press.

Costa, P. T., & McCrae, R. R. (1992). *Revised NEO personality inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual.* Odessa, FL: Psychological Assessment Resources.

Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social information-processing mechanisms in children's social adjustment. *Psychological Bulletin, 115,* 74-101.

Damasio, A. R. (1994). *Descartes' error: Emotion, reason, and the human brain.* New York: Grosset/Putnam.

Downey, G., & Feldman, S. I. (1996). Implications of rejection sensitivity for intimate relationships. *Journal of Personality and Social Psychology, 70,* 1327-1343.

Dudycha, G. J. (1936). An objective study of punctuality in relation to personality and achievement. *Archives of Psychology, 29,* 1-53.

Dweck, C., & Legget, E. (1988). A social-cognitive approach to motivation and personality. *Psychological Review, 95,* 256-273.

37

Edelman, G. M., & Tononi, G. (2000). *A universe of consciousness: How matter becomes imagination.* New York: Basic Books.

Eliasz, A., & Klonowicz, T. (2001). Top-down and bottom-up approaches to personality and their application to temperament. In A. Eliasz & A. Angleitner (Eds.), *Advances in research on temperament* (pp. 14–42). Lengerich: Pabst Science Publishers.

Epstein, S. (1979). The stability of behavior: I. On predicting most of the people much of the time. *Journal of Personality and Social Psychology, 37,* 1092-1126.

Fisher-Beckfield, D. F., & McFall, R. M. (1982). Development of a competence inventory for college men and evaluation of relationships. *Journal of Consulting and Clinical Psychology, 50,* 697-705.

Fiske, S. T., & Taylor, S. E. (1991). *Social cognition.* New York: McGraw-Hill.

Forgas, J. P. (1995). Mood and judgment: The affect infusion model (AIM). *Psychological Bulletin, 117,* 39-66.

Freud, S. (1961). *The ego and the id* (J. Riviere, Trans.). New York: Norton. (Original work published 1923)

Gilbert, D. T. (1991). How mental systems believe. *American Psychologist, 46,* 107-119.

Glennan, S. (2002). Rethinking mechanistic explanation. *Philosophy of Science, 69,* S342-S353.

Gosling, S. D., Rentfrow, P. J., & Swann, W. B. Jr. (in press). A very brief measure of the big-five personality domains. *Journal of Research in Personality.*

Grant, H., & Dweck, C. (1999). A goal analysis of personality and personality coherence. In D. Cervone & Y. Shoda (Eds.), *The coherence of personality: Social-cognitive bases of consistency, variability, and organization* (pp. 345–371). New York: Guilford Press.

Gray, J. A. (1991). Neural systems, emotion and personality. In J. Madden IV (Ed.), *Neurobiology of learning, emotion and affect.* New York: Raven Press.

Gray, J. R., Braver, T. S., & Raichle, M. E. (2002). Integration of emotion and cognition in the lateral prefrontal cortex. *Proceedings of the National Academy of Sciences, 99,* 4115-4120.

Grice, J. W. (in press). Bridging the idiographic-nomothetic divide in ratings of self and others on the big five. *Journal of Personality.*

Hall, C. S., & Lindzey, G. (1957). Theories of personality. New York: Wiley.

Hampson, S. E. (1997). Determinants of inconsistent personality descriptions: Trait and target effects. *Journal of Personality, 65,* 249-290.

Hanson, N. R. (1961). *Patterns of discovery: An inquiry into the conceptual foundations of science.* Cambridge, England: Cambridge University Press.

Harré, R. (1998). *The singular self: An introduction to the psychology of personhood.* London: Sage.

Harré, R., & Secord, P. F. (1973). *The explanation of social behaviour.* Totowa, NJ: Littlefield, Adams, & Co.

Hartshorne, H., & May, M. A. (1928). *Studies in the nature of character: Vol. 1. Studies in deceit.* New York: Macmillen.

Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review, 94,* 319-340.

Higgins, E. T. (1990). Personality, social psychology, and person-situation relations: Standards and knowledge activation as a common language. In L. A. Pervin (Ed.), *Handbook of personality: Theory and research* (pp. 301–338). New York: Guilford Press.

Higgins, E. T. (1996). Knowledge activation: Accessibility, applicability, and salience. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (133–168). New York: Guilford Press.

Higgins, E. T. (1999). Persons and situations: Unique explanatory principles or variability in general principles? In D. Cervone & Y. Shoda (Eds.), *The coherence of personality: Social-cognitive bases of consistency, variability, and organization* (pp. 61–93). New York: Guilford Press.

Higgins, E. T., & Brendl, C. M. (1995). Accessibility and applicability: Some "activation rules" influencing judgment. *Journal of Experimental Social Psychology, 31,* 218-243.

Higgins, E. T., & King, G. (1981). Accessibility of social constructs: Information processing consequences of individual and contextual variability. In N. Cantor & J. F. Kihlstrom (Eds.), *Personality, cognition, and social interaction* (pp. 69–121). Hillsdale, NJ: Erlbaum.

Higgins, E. T., King, G. A., & Mavin, G. H. (1982). Individual construct accessibility and subjective impressions and recall. *Journal of Personality and Social Psychology, 43,* 35-47.

Higgins, E. T., & Kruglanski, A. W. (1996). *Social psychology: Handbook of basic principles.* New York: Guilford Press.

Higgins, E. T., Rholes, W. S., & Jones, C. R. (1977). Category accessibility and impression formation. *Journal of Experimental Social Psychology, 13,* 141-154.

Hofstee, W. K. B., & De Raad, B. (1992). Personality structure through traits. In G. V. Caprara & G. Van Heck (Eds.), *Modern personality psychology: Critical reviews and new directions* (pp. 29–55). London: Harvester Wheatsheaf.

Horney, K. (1950). *Neurosis and human growth.* New York: Norton.

Ingram, R. E., & Kendall, P. C. (1986). Cognitive clinical psychology: Implications of an information processing perspective. In R. E. Ingram (Ed), *Information processing approaches to clinical psychology* (pp. 3–21). New York: Academic Press.

Jackson, D. N., & Paunonen, S. V. (1985). Construct validity and the predictability of behavior. *Journal of Personality and Social Psychology, 49,* 554-570.

James, W. (1890). *Principles of psychology.* New York: Holt.

Jencius, S. (2002, July). *Measuring persons in context: An idiographic approach to personality assessment.* Paper presented at the 11th European Conference on Personality, Jena, Germany.

John, O. P., & Srivastava, S. (1999). The big-five factor taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 102–138). New York: Guilford Press.

Karmiloff-Smith, A. (1994). Précis of Beyond modularity: A developmental perspective on cognitive science. *Behavioral and Brain Sciences, 17,* 693-745.

Kelly, G. (1955). *The psychology of personal constructs.* New York: Norton.

Kenrick, D. T., & Funder, D. C. (1988). Profiting from controversy: Lessons from the person-situation debate. *American Psychologist, 43,* 23-34.

Kenrick, D. T., & Stringfield, D. O. (1980). Personality traits and the eye of the beholder: Crossing some traditional philosophical boundaries in the search for consistency in all of the people. *Psychological Review, 87,* 88-104.

Kitayama, S., & Markus, H. R. (1999). Yin and Yang of the Japanese self: The cultural psychology of personality coherence. In D. Cervone & Y. Shoda (Eds.), *The coherence of personality: Social-cognitive bases of consistency, variability, and organization* (pp. 242–302). New York: Guilford Press.

Kitcher, P. (1985). Two approaches to explanation. *Journal of Philosophy, 82,* 632-639.

Kreitler, S., & Kreitler, H. (1976). Cognitive orientation and behavior. New York: Springer.

Kreitler, S., & Kreitler, H. (1992). The cognitive view of personality: The approaches of meaning and cognitive orientation. In G. V. Caprara & G. L. Van Heck (Ed.), *Modern personality psychology: Critical reviews and new directions* (pp. 255–281). New York: Harvester Wheatsheaf.

Kruglanski, A. W. (2001). That "vision thing": The state of theory in social and personality psychology at the edge of the new millennium. *Journal of Personality and Social Psychology, 80,* 871-875.

Lambie, J. A., & Marcel, A. J. (2002). Consciousness and the varieties of emotion experience: A theoretical framework. *Psychological Review, 109,* 219-259.

Lamiell, J. T. (1987). *The psychology of personality: An epistemological inquiry.* New York: Columbia University Press.

Lazarus, R. S. (1991). *Emotion and adaptation.* New York: Oxford University Press.

Lazarus, R. S. (1999). *Stress and emotion: A new synthesis.* New York: Springer Publishing Company.

Lazarus, R. S., & Smith, C. A. (1988). *Cognition and Emotion, 2,* 281-300.

LeDoux, J. (1996). *The emotional brain.* New York: Simon & Schuster.

Lerner, J. S., & Keltner, D. (2001). Fear, anger, and risk. *Journal of Personality and Social Psychology, 81,* 146-159.

Levine, J. M., Resnick, L. B., & Higgins, H. T. (1993). Social foundations of cognition. *Annual Review of Psychology, 44,* 585-612.

Lewin, K. (1935). *A dynamic theory of personality: Selected papers.* New York: McGraw-Hill.

Linville, P. (1985). Self-complexity and affective extremity: Don't put all your eggs in one basket. *Social Cognition, 3,* 94-120.

Linville, P. (1987). Self-complexity as a cognitive buffer against stress-related illness and depression. *Journal of Personality and Social Psychology, 52,* 663-676.

Lowenstein, G. F., Weber, E. U., Hsee, C. K., & Welch, N. (2001). Risk as feelings. *Psychological Bulletin, 127,* 267-286.

Markus, H. (1977). Self-schemata and processing information about the self. *Journal of Personality and Social Psychology, 35,* 63-78.

Markus, H., & Wurf, E. (1987). The dynamic self-concept: A social psychological perspective. *Annual Review of Psychology, 38,* 299-337.

McAdams, D. P. (1996). Personality, modernity, and the storied self: A contemporary framework for studying persons. *Psychological Inquiry, 7,* 295-321.

McCrae, R. R., & Costa, P. T. Jr. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology, 52,* 81-90.

McCrae, R. R., & Costa, P. T. (1996). Toward a new generation of personality theories: Theoretical contexts for the five-factor model. In J. S. Wiggins (Ed.), *The five-factor model of personality: Theoretical perspectives* (pp. 51–87). New York: Guilford.

McCrae, R. R., & Costa, P. T. (1999). A five-factor theory of personality. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 139–153). New York: Guilford Press.

Meichenbaum, D. H. (1990). Paying homage: Providing challenges. *Psychological Inquiry, 1,* 96-100.

Metcalfe, J., & Mischel, W. (1999). A hot/cool-system analysis of delay of gratification: Dynamics of willpower. *Psychological Review, 106,* 3-19.

Mikulincer, M., & Arad, D. (1999). Attachment working models and cognitive openness in close relationships: A test of chronic and temporary accessibility effects. *Journal of Personality and Social Psychology, 77,* 710-725.

Mischel, W. (1968). *Personality and assessment.* New York: Wiley.

Mischel, W. (1973). Toward a cognitive social learning reconceptualization of personality. *Psychological Review, 80,* 252-283.

Mischel, W. (1999). *Introduction to personality* (6th ed.). Fort Worth, TX: Holt, Rinehart, & Winston.

Mischel, W., & Peake, P. K. (1982). Beyond deja vu in the search for cross-situational consistency. *Psychological Review, 89,* 730-755.

Mischel, W., & Shoda, Y. (1995). A cognitive-affective system theory of personality: Reconceptualizing situations, dispositions, dynamics, and invariance in personality structure. *Psychological Review, 102,* 246-286.

Mischel, W., & Shoda, Y. (1998). Reconciling processing dynamics and personality dispositions. *Annual Review of Psychology, 49,* 229-258.

Mussweiler, T., & Strack, F. (2000). The "relative self": Information and judgmental consequences of comparative self-evaluation. *Journal of Personality and Social Psychology, 79,* 23-38.

Neisser, U. (1976). *Cognition and reality.* San Francisco: W. H. Freeman.

Newcomb, T. M. (1929). *Consistency of certain extrovert-introvert behavior patterns in 51 problem boys.* New York: Columbia University Press, Teachers College, Bureau of Publications.

Norem, J., & Cantor, N. (1990). Cognitive strategies, coping, and perceptions of competence. In R. J. Sternberg & J. Kolligian Jr. (Eds.), *Competence considered* (pp. 190–204). New Haven: Yale University Press.

Nozick, R. (1981). *Philosophical explanations.* Cambridge, MA: Belknap Press of Harvard University Press.

Nystedt, A., Smari, J., & Boman, M. (1991). Self-schemata: Ambiguous operationalizations of an important concept. *European Journal of Personality, 5,* 1-14.

Paunonen, S. V., & Jackson, D. N. (1985). Idiographic measurement strategies for personality and prediction: Some unredeemed promissory notes. *Psychological Review, 92,* 486-511.

Pervin, L. A. (1976). A free-response description approach to the analysis of person-situation interaction. *Journal of Personality and Social Psychology, 34,* 465-474.

Pervin, L. A., & John, O. P. (2001). *Personality: Theory and research* (8th ed.). New York: Wiley.

Rafaeli-Mor, E., & Steinberg, J.(2002). Self-complexity and well-being: A review and research synthesis. *Personality and Social Psychology Review, 6,* 31-58.

Rorer, L. G. (1990). Personality assessment: A conceptual survey. In L. A. Pervin (Ed.), *Handbook of personality: Theory and research* (pp. 693–720). New York: Guilford.

Rotter, J. B. (1954). *Social learning and clinical psychology.* Englewood Cliffs, NJ: Prentice-Hall.

Russell, J. A. (2003). Core affect and the psychological construction of emotion. *Psychological Review, 110,* 145-172.

Salmon, W. C. (1989). Four decades of scientific explanation. In P. Kitcher & W. C. Salmon (Eds.), *Minnesota studies in the philosophy of science, Vol. XIII. Scientific Explanation* (pp. 3–219). Minneapolis: University of Minnesota Press.

Sanderson, C. A., & Cantor, N. (1999). A life task perspective on personality coherence: Stability versus change in tasks, goals, strategies, and outcomes. In D. Cervone & Y. Shoda (Eds.), *The coherence of personality: Social-cognitive bases of consistency, variability, and organization* (pp. 372–392). New York: Guilford Press.

Scherer, K. R., Schorr, A., & Johnstone, T. (2001). *Appraisal processes in emotion: Theory, methods, research.* New York: Oxford University Press.

Schwarz, N., & Clore, G. L. (1983). Mood, misattribution, and judgments of well-being: Informative and directive functions of affective states. *Journal of Personality and Social Psychology, 45,* 513-523.

Scott, W. D., & Cervone, D. (2002). The impact of negative affect on performance standards: Evidence for an affect-as-information mechanism. *Cognitive Therapy and Research, 26,* 19-37.

Searle, J. R. (1983). *Intentionality: An essay in the philosophy of mind.* New York: Cambridge University Press.

Searle, J. R. (1998). *Mind, language, and society: Philosophy in the real world.* New York: Basic Books.

Sears, R. R. (1963). *Dependency motivation.* In M. R. Jones (Ed.), Nebraska symposium on motivation (pp. 25–64). Lincoln: University of Nebraska Press.

Shadel, W. G., Cervone, D., Niaura, R., & Abrams, D. B. (in press) Developing an integrative social-cognitive strategy for personality assessment at the level of the individual: An illustration with regular cigarette smokers. *Journal of Research in Personality.*

Shoda, Y., & Mischel, W. (1993). Cognitive social approach to dispositional inference: What if the perceiver is a cognitive social theorist? *Personality and Social Psychology Bulletin, 19,* 574-585.

Shoda, Y., & Mischel, W. (1998). Personality as a stable cognitive-affective activation network: Characteristic patterns of behavior variation emerge from a stable personality structure. In S. J. Read & L. C. Miller (Eds.). *Connectionist models of social reasoning and social behavior* (pp. 175–208). Mahwah, NJ: Erlbaum.

Shoda, Y., Mischel, W., & Wright, J. C. (1994). Intraindividual stability in the organization and patterning of behavior: Incorporating psychological situations into the idiographic analysis of personality. *Journal of Personality and Social Psychology, 67,* 674-687.

Shweder, R. A., & Sullivan, M. (1990). The semiotic subject of cultural psychology. In L. A. Pervin (Ed.), *Handbook of personality: Theory and research* (pp. 399–416). New York: Guilford.

Singer, J. A., & Salovey, P. (1988). Mood and memory: Evaluating the network theory of affect. *Clinical Psychology Review, 8,* 211-251.

Smith, C. A., Haynes, K. N., Lazarus, R. S., & Pope, L. K. (1993). In search of the "hot" cognitions: Attributions, appraisals, and their relation to emotion. *Journal of Personality and Social Psychology, 65,* 916-929.

Smith, C. A., & Lazarus, R. S. (1990). Emotion and adaptation. In L. A. Pervin (Ed.), *Handbook of personality: Theory and research* (pp. 609–637). New York: Guilford.

Smith, E. R. (1990). Content and process specificity in the effects of prior experiences. In T. K. Srull & R. S. Wyer, Jr. (Eds.). *Advances in social cognition* (Vol. 3, pp. 1–59). Hillsdale, NJ: Erlbaum.

Smith, E. R., & Zarate, M. A. (1992). Exemplar-based model of social judgment. *Psychological Review, 99,* 3-21.

Stajkovic, A. D., & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological Bulletin, 124,* 240-261.

Tabachnik, B. G., & Fidell, L. S. (2001). *Understanding multivariate statistics* (4th ed.). Needham Heights, MA: Allyn & Bacon.

Valsiner, J. (1998). *The guided mind: A sociogenetic approach to personality.* Cambridge, MA: Harvard University Press.

Vogler, C. (2002). *Reasonably vicious.* Cambridge, MA: Harvard University Press.

Wright, J. C., & Mischel, W. (1987). A conditional approach to dispositional constructs: The local predictability of social behavior. *Journal of Personality and Social Psychology, 53,* 1159-1177.

Wylie, A. (1995). Unification and convergence in archaeological explanation: The agricultural "wave of advance" and the origins of Indo-European languages. *Southern Journal of Philosophy, 34*(Suppl. *Explanation in the Human Sciences*) 1-30.

Zelli, A., Cervone, D., & Huesmann, L. R. (1996). Social inference and individual differences in aggression: Evidence for spontaneous judgments of hostility. *Social Cognition, 14,* 165-190.

Zelli, A., & Dodge, K. A. (1999). Personality development from the bottom up. In D. Cervone & Y. Shoda (Eds.), *The coherence of personality: Social-cognitive bases of consistency, variability, and organization* (pp. 94–126). New York: Guilford Press.

APPENDIX A

Details of Experimental Stimuli and Supplementary Study

In the research presented here, results obtained when participants categorized situations with respect to idiographically identified self-schemas were contrasted with results obtained using experimenter-provided attributes. As a supplement to the description of research procedures in the body of the text of this article, additional details of the methodology are provided here.

The categorization task used in the identification of most-important schematic traits consisted of two stages. Participants first divided the traits into groups of 12 relatively important and 13 relatively unimportant attributes and then categorized these groups according to a forced-distribution procedure that yielded (1) *most important* and (2) *very important* attributes. If the participant had a moderate self-rating or if the most-important attribute was identical to or synonymous with the personal strength or personal weakness identified previously, one of the two very-important attributes was analyzed.

The content of the experimenter-provided traits was determined as follows. Because these traits were included to test the hypothesis that differential results would be obtained with respect to schematic versus aschematic attributes, it was important to identify experimenter-provided traits that were semantically distinct from each individual's self-schemas. This required a system for identifying semantically independent experimenter-provided attributes. To this end, the five-factor model of personality dispositions was used (McCrae & Costa, 1987). After Session 1, each participant's three schematic personality attributes were mapped onto the most highly related factor from the five-factor model, using McCrae & Costa's (1987) enumeration of trait adjectives. One negative and one positive attribute were selected randomly from lists of dispositional terms associated with the two remaining five-factor dimensions; these served as positive and negative experimenter-provided traits. This procedure does not, of course, ensure that experimenter-provided and schematic traits are unrelated from the perspective of each individual participant. Even if factors are relatively independent in the population, they may be semantically linked for a given individual; hypothetically, a person may think that being extraverted and open-minded are both ways of being agreeable (cf. McCrae & Costa, 1987). Note, however, that any such semantic overlap between experimenter-provided and schematic attributes would work against the present hypotheses. Note also that the present work was in no way intended to evaluate the five-factor model of interindividual differences; the model merely provided a useful, nonarbitrary criterion for selecting items.

43

To construct a self-efficacy scale that tapped a diverse range of behavioral acts and social contexts, I drew on Botwin and Buss's (1989) analysis of 11 act categories associated with the five-factor model. For each category, items representing each of five interpersonal settings (same-sex friend, opposite-sex friend, authority figure, group of peers, or stranger) were written. Example items are "If a guy you have just met is interested in the arts, impress him by talking about contemporary art or classic music" (a cultured / opposite sex item) and "If you're driving and someone cuts you off in traffic, avoid getting angry or yelling at them; instead, just concentrate fully on your driving" (an emotional stability / stranger item). Items representing academic, athletic, and interpersonal activities of relevance to college-student populations (see, e.g., Fisher-Beckfield & McFall, 1982) were then added. Traditional population-level psychometric analyses, including efforts to recover the five-factor model, were not conducted because it was not our goal to create a nomothetic individual-differences instrument that could be evaluated in this manner. The research was idiographic. The scale was designed merely to furnish a heterogeneous set of items to be used in individual-centered analyses.

Supplementary Study

Psychological attributes naturally differ in the degree to which they bear on people's capabilities to perform social behaviors. Some attributes may bear strongly on personal capabilities (e.g., "I am creative"), whereas others may not (e.g., "I like watching movies"). It is important to determine, then, whether the schematic and experimenter-provided attributes were comparable in this regard; if not, variations in self-efficacy appraisal in situations related to these traits could be explained in terms of the differential semantic content of the attributes rather than to differences in schematicity.

A supplementary study was conducted to examine this issue. An independent sample of participants was presented with a list of personal attributes that included the full set of experimenter-provided traits (a pool of 20 items) and all the schematic personal strengths, personal weaknesses, and most-important traits enumerated by the first 25 participants in the main study. This included 25 different personal strengths (i.e., the first 25 participant's personal strengths were nonoverlapping), 22 personal weaknesses and 12 most important traits (due to overlapping content). For each attribute, participants rated whether a person who possesses the given attribute would be relatively *less capable* or *more capable* of performing everyday social behaviors, with the middle of the 9-point scale labeled *neither more nor less capable.*

Positive versus negative attributes of course were found to differ significantly. More important were analyses that compared schematic attributes and experimenter-provided attributes of the same valence. When participants rated the relevance of psychological characteristics to performance capabilities, schematic most-important traits did not differ significantly from positively valenced experimenter-provided traits, $t(39) = 1.79$, *ns,* and schematic personal weaknesses did not differ from negatively valenced experimenter-provided traits, $t(39) = 0.37$, *ns.* Schematic personal strengths and positively valenced experimenter-provided traits did differ, $t(39) = 2.63$, $p < .02$, but in a direction opposite to the one that might produce our predicted pattern of results: The experimenter-provided traits were seen as more relevant to a person's capabilities than were the schematic attributes. Overall, then, the experimenter-provided traits were not any less relevant to people's efficacy for action than were the schematic characteristics.

PERCEPȚIA COMUNICĂRII CU PERSONALUL ADMINISTRATIV: UN STUDIU AL SUBIECTIVITĂȚII

SMARANDA BOROȘ[∗]

ABSTRACT. The aim of this research is to investigate shared knowledge in a community by using Q-methodology. We are interested in students' perception of the communication between them and the administrative staff of a faculty. The paper presents initially the theoretical background of Q-method, its core concepts and procedures of data collection and analysis, summarizing in the end the advantages and limits of this method. The detailed description of the application is aimed at being an illustration both of the procedure of this methodology, of how it works and of its utility in the investigation of shared knowledge in a community.

Metodologia Q este prin excelență o metodă de studiu a subiectivității. Spre deosebire de metodologia R (R fiind o generalizare a coeficientului de corelație r al lui Pearson), care desemnează acea metodologie care „se referă la o populație selectată de n indivizi, fiecare din ei măsurați pe baza a m teste", metodologia Q „se referă la o populație de n teste diferite (sau eseuri, trăsături sau orice material măsurabil), fiecare din ele aplicat unui număr de m indivizi" (Stephenson, 1935)

Relația dintre metodologia R și cea de tip Q nu se reduce, așa cum susținea Burt (1939, 1972) la o matrice de date transpusă, ci e vorba de abordări esențialmente diferite, pornind din paradigme diferite. Metodologia R, bazată pe ideea de „operaționalizare a conceptelor" izvorăște din asumpțiile epistemologice și ontologice ale pozitivismului logic, în timp ce metodologia Q, așa cum spune și numele ei, e legată de teoria cuantică și de o perspectivă constructivistă.

Asumpții epistemologice

Metodologia Q pornește dintr-o perspectivă constructivistă. Fondatorul ei, Stephenson, adera la o perspectivă radicală, considerând subiectivitatea individului ca o parte integrantă a realității (Stephenson, 1982). El pornește în argumentația sa de la primul principiu al teoriei cuantice, care postulează că fenomenele observate interacționează cu observatorul. În baza acestei asumpții, el consideră că lumea reală și nu doar percepțiile noastre individuale asupra ei, sunt unice pentru fiecare dintre noi. Mai mult, el spune că subiectivitatea este baza realității (Stephenson, cit. în Brenner & al, 1998, p. 140).

[∗] *Facultatea de Psihologie și Științe ale Educației; SmarandaBoros@psychology.ro*

La ora actuală însă, adepții metodologiei Q aderă mai degrabă la un constructivism epistemologic, care postulează că oamenii acționează în funcție de reprezentările pe care le au asupra realității, nu în funcție de realitatea obiectivă (Iliescu, 2003). Această viziune este mai apropiată de concepția cognitivistă, conform căreia un comportament este determinat de prelucrările informaționale determinate de stimulii din mediu, nu de stimulii înșiși.

Dintre teoriile clasice ale comunicării, viziunea lui Peirce, care a revoluționat acest domeniu, pare foarte asemănătoare viziunii lui Stephenson. Peirce afirmă că „nici o interpretare a cuvintelor dată de o persoană nu e bazată pe aceeași experiență personală ca a oricărei alte persoane" (Peirce, cit. în Brenner & al, 1998, p.148). De altfel, teoria lui Stephenson asupra comunicării suferă influențe evidente ale Școlii de la Chicago, cu ai cărei reprezentanți el a fost coleg o perioadă.

Metodologia Q—descriere procedurală

Metodologia Q are în practică două etape: sortarea Q și analiza factorială de tip Q, sortarea Q fiind utilizată mai des, și în cadrul altor metodologii și paradigme. Vom defini în continuare conceptele-cheie aferente acestui demers, pentru ca în final să redăm pe scurt pașii demersului.

„Concourse" sau discursul relevant al unei comunități (trad. apud. Iliescu, 2003) este ceea ce o anumită populație are de spus despre un anumit subiect, suma tuturor propozițiilor emise pe o anumită temă ele purtau inițial denumirea de „univers de trăsături" (*trait universe* – Stephenson, 1953), trecându-se apoi la termenul „concourse" pentru a desemna „convergența ideilor în gândire" (Brown, 1996). Sunt opiniile personale, subiective ale oamenilor, așa cum apar ele în realitate. Fiecare afirmație dintr-un asemenea discurs circumscrie cunoștințe împărtășite în cadrul comunității și este familiară fiecărui membru al ei, chiar dacă are semnificații diferite pentru persoane diferite sau chiar pentru aceeași persoană în contexte diferite (Brenner & al, 1998). Discursul relevant al unei comunități se obține prin interviuri individuale sau de grup de la membrii acelei comunități. Ce este interesant de precizat despre acest discurs relevant, e că el nu trebuie cu necesitate să fie verbal, putând include orice act uman care cuprinde semnificații: tablouri, picturi, sculpturi, fotografii, muzică etc. (Brown, 2003).

Din acest discurs se alege eșantionul de sort-uri (declarații, itemi) cu care se va opera mai departe. Acest eșantion de enunțuri se face de obicei după principiile fisher-iene ale design-ului experimental., luându-se pe cât posibil enunțuri pentru toate modalitățile variabilelor implicate în studiu.

„Q-card" este cartonașul pe care este trecut un enunț. Spre deosebire de chestionarul clasic, aici fiecare enunț are cartonașul lui. Aceste enunțuri se păstrează în forma în care au fost ele culese în concourse, în limbajul celor care le-au elaborat. Din această cauză, ele nu mai trebuie să respecte constrângerile impuse itemilor de chestionar: simplitatea, lungimea, evitarea a două întrebări într-una. Cei care evaluează sort-urile trebuie să le poziționeze în funcție de preferința lor, de gradul

de acord cu ele, de cât de mult consideră că se aplică situației lor. Trebuie evaluată o situație exprimată de cei imersați în ea, nu o situație creată de cercetător, conform unei teorii. Din acest motiv raportarea metodologică e diferită.

„Q-deck" este setul de cartonașe care sunt incluse în cercetare. În general, numărul de Q-sort-uri variază între 20-100, cu un optim de 50-60. La alegerea numărului de sorturi e important de luat în considerare timpul necesar de operare cu ele, dar și să fie acoperită o cât mai mare parte din discursul relevant.

„Distribuție forțată" este modalitatea în care de obicei se alege sortarea cartonașelor. Astfel, subiectul trebuie să grupeze cartonașele, în funcție de gradul de acord-dezacord, pe o scală de la –x la ,+x, unde –x înseamnă dezacord total cu respectiva afirmație, iar +x acord total. Distribuția forțată înseamnă că pentru fiecare punct de pe scală există un număr delimitat de sort-uri care pot fi arondate, ceea ce duce de obicei la formarea unei distribuții cât mai apropiate de cea normală. Cu alte cuvinte, sortarea Q este o tehnică ipsativă, adică suma scorurilor brute este constantă (în cazul Q, zero) pentru fiecare respondent (Baron, 1996).

„Analiza factorială de tip Q" este modalitatea de prelucrare statistică a sortării obținute. Specific acestui tip de analiză e matricea inversată cu care operează, coloanele și liniile fiind transpuse, în raport cu matricea de corelații cu care operează analiza factorială clasică. Ca rezultat al acestei prelucrări se obțin așa numiții factori Q, care reprezintă în fapt tipologii, agregate de convingeri, atitudini, valori. În realizarea analizei factoriale de tip Q se preferă extracția centroidă și rotația manuală a factorilor, tocmai pentru această metodologie nu este adepta unei soluții matematic optime, dar fără sens pentru cercetător. Această limită a soluției matematice optime în defavoarea teoriei și a cunoașterii a fost adesea adusă în discuție la tratarea diferitelor metode statistice, cum ar fi analiza factorială sau regresiile (Sava, 2003).

Așadar, procedura de aplicare a metodologiei Q implică următorii pași (Brown, 1993):

1. Pregătirea aplicației:

Extragerea discursului relevant (concourse) al unei comunități;

Eșantionarea enunțurilor din concourse și formarea q-deck-ului;

Alegerea formei distribuției.

2. Aplicația propriu-zisă:

Respondentului i se prezintă cartonașele și în primă fază i se cere să le parcurgă o dată și să le împartă în trei grupe: enunțuri cu care e de-acord (care i se potrivesc), cu care nu e de-acord (nu i se potrivesc) și asupra cărora nu se poate hotărî;

În al doilea pas, i se cere să plaseze toate cartonașele în distribuția forțată stabilită de cercetător.

3. Prelucrarea statistică a rezultatelor și extragerea factorilor Q.

Subiecți și metodă

Demersul urmărit de noi în cadrul cercetării a fost: evidențierea discursului relevant al comunității, extragerea declarațiilor pentru cartonașele Q, aplicarea procedurii de sortare Q.

Pentru evidențierea discursului relevant (concourse) al comunității studiate – studenții unei fdacultăți – am organizat 51 dintre studenții anului II în 9 grupe de discuții pe tema comunicării studenți—administrativ. Grupele erau alcătuite din 5 sau 6 persoane, și aveau o jumătate de oră pentru a discuta liber pe această temă, instrucțiunea care le-a fost dată fiind să abordeze tot ce cred ei că e important legat de subiect. După o jumătate de oră, li s-a cerut să exprime în câte o frază principalele idei dezbătute. După acest pas, au fost strânse toate foile cu ideile rezultate și au fost citite tuturor participanților la discuții. Apoi au fost alese ideile cele mai importante. Criteriul importanței a fost unul compozit: pe de o parte am păstrat acele fraze care erau recurente în prezentările participanților (deci frazele care apăreau într-o formă similară la mai multe grupuri de discuții); în plus am ales acele declarații care în discuția liberă de după au fost considerate de participanți ca fiind foarte importante pentru ei. Motivul alegerii procedurii din urmă a fost că în cadrul unor discuții deschise cu grupul pot să apară aspecte care nu ar fi reieșit ca relevante în urma unei cuantificări matematice. S-a îmbogățit astfel conținutul cartonașelor și cu acele idei care nu au fost reactualizate de unele grupuri, dar care au fost considerate importante și de acestea.

În urma acestei etape am rămas cu 24 de itemi, care au fost citiți din nou participanților. Dintre aceștia participanții au optat pentru păstrarea a 20 de itemi, ceilalți fiind, într-o formă sau alta, conținuți parțial sau integral de itemii rămași. Cele 20 de declarații trecute apoi pe cartonașele Q sunt redate în tabelul 1.

În continuare am aplicat procedura de sortare a cartonașelor Q la 65 de subiecți, toți studenți ai aceleiași facultăți, din toți patru anii de studiu (18 anul I, 23 anul II, 18 anul III și 4 anul IV). Doi subiecți au fost eliminați din studiu, nefinalizând procedura de sortare.

Tabel 1

Conținutul cartonașelor Q aplicate în studiu

1. Sunt ignorat când solicit o informație. Informațiile sunt date superficial și expeditiv.
2. Programul secretariatului este prea scurt pentru a face față cererilor.
3. Nu mi se oferă informațiile cerute prin telefon. Mi se închide telefonul înainte să apuc să fiu lămurit.
4. Informațiile, răspunsurile la anumite solicitări sunt oferite cu întârziere sau deloc.
5. Nu există transparență în deciziile administrative.
6. Informațiile de interes major se oferă doar în urma unor solicitări insistente.
7. Informațiile la afișier despre problemele studenților sunt puține.
8. Îndrumătorul de an nu se ocupă de problemele studenților. Există doar la nivel teoretic.
9. Secretarele prezintă dezinteres în problemele și rugămințile studenților (carnete vizate, liste nominale, adeverințe).

10. Din clădirea nouă a facultății lipsesc afișierele.
11. Comunicarea este deficitară între secretariat și profesori, unele note fiind trecute greșit.
12. Modul de afișare a rezultatelor, examenelor este haotic.
13. Secretarele nu acceptă întârzieri după program (nu înțeleg că nu poți fugi de la curs ca să ajungi la timp).
14. Secretarele spun că nu au afișat anumite liste pentru că nu mai este loc pe afișier, dar de fapt pe afișier sunt anunțuri expirate de săptămâni întregi.
15. Există o dezorganizare în cadrul secretariatului, adică o secretară spune ceva și alta altceva.
16. Bibliotecarii sunt plictisiți, nu vin când sunt așteptați la gemuleț.
17. Comunicarea dintre studenți și decanat este aproape inexistentă.
18. Anunțurile nu sunt lăsate la afișier o perioadă de timp necesară pentru informarea studenților.
19. Site-ul nu este actualizat.
20. Ofertele pentru bursele în străinătate nu au fost afișate la timp.

Pentru sortarea cartonașelor Q am ales o distribuție forțată de la -3 la +3, după cum urmează: -3 și +3 – câte 1 cartonaș, -2 și +2 – câte 2 cartonașe, -1 și +1 – câte 4 cartonașe, iar pentru 0 – 6 cartonașe.

Rezultate și discuții

După etapa de sortare a cartonașelor, am procedat la gruparea subiecților în funcție de preferințele lor, optând pentru o extracție de tip centroid. După realizarea extracției centroide, am realizat o rotație de tip varimax ca primă rotație, după care am continuat cu rotații manuale ale factorilor.

Criteriile după care am rotit factorii au vizat:

Suma factorilor reținuți extrage cât mai multă varianță inițială (în cazul nostru, aceasta a fost de 63,5%);

Subiecții sunt cât mai clari – adică au încărcătură foarte mare pe un factor și cât mai mică pe cât mai mulți din (pe cât posibil toți) ceilalți;

Nu există/sunt cât mai puțini subiecții nefactorizați (deci care nu aparțin la nici un factor) – subiecții diferiți de ceilalți, teoretic one-person-factors.

Programul utilizat pentru prelucrarea datelor, PQ-METHOD oferă trei seturi foarte importante de date: scorurile normalizate Z ale fiecărui sort pentru fiecare factor, sort-urile (declarațiile) caracteristice fiecărui factor (tabelele 4-8), precum și declarațiile de consens, și, în ordine descrescătoare, sort-urile care diferențiază, doi câte doi, toți factorii. Important de menționat în acest punct este output-ul oferit referitor la declarațiile asupra cărora se întrunește consens între cele 5 tipologii, output pe care-l redăm în continuare: „Sorturile/declarațiile de consens – cele care nu disting (diferă) între nici o pereche de factori. Toate sorturile luate în considerare prezintă consens nesemnificativ la P>.01, iar cele însemnate cu * sunt și ele nesemnificative la P>.05". vom reveni asupra acestui aspect la discuția tipologiilor.

Datorită numărului mic de sort-uri utilizate, tipologiile obținute în această cercetare nu vor fi foarte clar distinse. Din acest motiv, am recurs la o prelucrare suplimentară a sort-urilor, și anume, la o analiză de conținut a lor. Categoriile alese au fost: diateza în care este formulat sortul (activă/pasivă), actorul vizat de sort-ul respectiv (secretariat, decanat, bibliotecari, profesori, alții/nu e cazul), instrumentul/mijlocul (media) comunicării (față-în-față: FTF, telefon, afișier, site, altele/NC), cauzele care determină acțiunea redată în sort (relaționare, organizare, neprecizat), sorturi centrate pe (informații, relaționare, altele/NC), atribuirea vinei (difuză/nespecificată, specifică: actori: secretare, bibliotecari, decanat, profesori).

Voi justifica în continuare alegerea categoriilor menționate. Prima categorie – diateza în care e formulată fraza, este importantă fiindcă formularea aparține subiecților intervievați, nu cercetătorului. De la bun început, formularea relevă un mod de raportate la probleme, un stil de atribuire (intern vs. extern): lucrurile sau „se întâmplă", sau există actori care fac ca ele fac să se întâmple. Această categorie se leagă de următoarea – actorii acțiunii. Pentru actorii acțiunii am ales două variante: în care actorul acțiunii e și subiectul propoziției (caz în care se folosește diateza activă), deci se exprimă clar cine este cel care realizează acțiunea; și în care actorul (subiectul acțiunii) se subînțelege din context. Actorii acțiuni redau și cele patru domenii în care studenții percep comunicare cu latura administrativă: secretariatul, decanatul, profesorii (pe latura administrativă, și anume trecerea notelor, și îndrumătorul de an), și bibliotecarii. Media de comunicare oferă o nouă clasificare a interacțiunilor, uzuală în studiile de comunicare. În cazul nostru, va fi un indicator al tipului de comunicare important pentru studenți, precum și al tipului de informații relevante pentru ei. Aceste două aspecte sunt dezvoltate mai departe cu ajutorul categoriilor „cauze" (care disting din nou un tip de atribuire: relaționare, deci care depinde de actori și organizare, care depinde de „sistem", deci este exterior actorilor) și „centrare pe" (informații vs. relaționare, categorie ce distinge oarecum între un stil de comunicare tranzacțional și unul transformațional). Ultima categorie utilizată, atribuirea vinei, vine să specifice și să completeze câteva categorii anterioare, și anume diateza și actorii.

Tabel 3

Rezultatele analizei de conținut realizată pe sorturi

Diateza	Activă—**6**	Pasivă—**14**			
	8, 9, 13, 14, 15, 16	1, 2, 3, 4, 5, 6, 7, 10, 11, 12, 17, 18, 19, 20			
Actori	Secretare—**4**activ/**12**total	Decanat—**0/3**	Profesori—**1/3**	Bibliotecari—**1/1**	Alții/NC—**0/3**
	9, 13, 14, 15	— (5, 17, 20)	8 (11, 12)	16 —	(7, 10, 19)

	(1, 2, 3, 4, 6, 11, 12, 18, 20)				
Instrument /mijloc	Comunicare FTF—**17**	Telefon—**1**	Afișier—**6**	Site—**1**	Altele/NC—**5**
	1, 2, 8, 9, 13, 15, 16	3	7, 10, 12, 14, 18, 20	19	4, 5, 6, 11, 17
Cauze	Relaționare—**8**	Organizare—**11**	Neprecizat—**1**		
	1, 3, 6, 8, 9, 13, 16, 17	2, 5, 7, 10, 11, 12, 14, 15, 18, 19, 20	4		
Centrat pe	Informații—**10**	Relaționare—**9**	Altele/NC—**2**		
	1, 3, 4, 6, 7, 10, 12, 18, 19, 20	2, 3, 5, 8, 9, 11, 13, 16, 17	14, 15		
Atribuirea vinei	Difuză/ nespecificată—**12**	Specifică: actori secretare—**?**	Specifică: actori bibliotecari—**?**	Specifică: actori decanat—**?**	Specifică: actori profesori—**2**
	1, 2, 5, 6, 7, 10, 12, 15, 17, 18, 19, 20	3, 4, 9, 11, 13, 14	16	—	8, 11

Ceea ce se remarcă din categoriile propuse e că toate asumă o conotație negativă a declarațiilor, o centrare pe probleme. Acest fapt e cauzat de conotația negativă a tuturor sort-urilor utilizate. Nu numai că această focalizare unilaterală nu este o limită în cercetarea de față, ea este un indicator al stării de fapt. Alegerea sort-urilor negative nu a fost la latitudinea cercetătorului, ci a fost dată de discursul relevant al comunității, care a fost preponderent negativ, în toate ideile inițiale prezentate (peste 90) existând doar 2 cu conotații pozitive.

Tabelul 3 redă distribuția sort-urilor în categoriile menționate.

În cele ce urmează vom prezenta tipologiile obținute în urma analizei factoriale de tip Q. În descrierea tipologiilor am luat în considerare atât datele oferite de output-ul programului PQ-METHOD menționate anterior (scorurile normalizate Z ale fiecărui sort pentru fiecare factor, sort-urile (declarațiile) caracteristice fiecărui factor precum și declarațiile de consens, și, în ordine descrescătoare, sort-urile care diferențiază, doi câte doi, toți factorii), cât și caracteristicile sorturilor preferate de respondenții ce aparțin unei anumite tipologii, caracteristici descrise mai sus. Caracteristicile sorturilor semnificative pentru respondenți au fost analizate în două etape: pe de o parte s-au analizat caracteristicile acelor sorturi față de care s-a manifestat un acord pronunțat, pentru a vedea ce este important pentru respondenții din acea tipologie și care este poziția lor; apoi s-au

luat în considerare toate sorturile semnificative, atât cele față de care și-a manifestat acordul, cât și dezacordul, pentru a extrage de aici un stil de abordare al problemelor în general (de ex., tip de relaționare, stil atribuțional).

Tipul 1 – Căutătorii de informații

Sort-urile caracteristice acestui factor sunt 2, 3, 7, 11 și 19 pentru acord și 1, 5, 8, 12, 13 și 20 pentru dezacord.

Căutătorii de informații, cum le spune și numele, sunt persoane centrate mai puțin pe relații, căutând rezultate clare, obiective. Problemele lor majore sunt pe o paletă mai largă decât în cazul altor tipologii: de la relația cu îndrumătorul de an, la modul de afișare a examenelor și transparența deciziilor decanatului. Ei vor să știe totul, vor să fi informați, cer un stil de relații cu publicul centrat pe problemă, nu pe relație. Nu sunt interesați de modul în care este organizat departamentul administrativ, nu consideră că asta justifică rezultatul final, care-i privește. Le este relativ indiferent modul de relaționare (itemii de relaționare cu secretariatul și bibliotecarii sunt plasați la 0), dar sunt foarte interesați de tot ce înseamnă informații. Acest interes se regăsește atât în centrarea principală pe informații, cât și în faptul că sunt cei care menționează toate mijloacele de comunicare (atât la acord, cât și la dezacord), neavând o preferință anume pentru un mijloc de comunicare. Ei sunt dealtfel și singurii foarte interesați de transparența deciziilor decanatului. De asemenea, ei nu sunt interesați de cine poartă vina pentru problemele de comunicare care apar – preferă frazele din diateza pasivă, iar în ceea ce privește atribuirea vinei, frecvența cea mai mare se regăsește la nivelul categoriei difuză/nespecificată.

Tabel 4

Factori: No. Statement RNK SC.	1 No.	2 RNK SCORE		3 RNK SC.		4 RNK SC.		5 . RNK SC.	
8 Indrumatorul de an nu ... 1.04	8	3	2.22*	0	0.07	2	1.33	-3	-2.41	2
12 Modul de afisare a rez ... 0.61	12	2	1.56*	-1	-0.61	0	-0.22	1	0.58	-1 -
5 Nu exista transparenta ... 1.04	5	2	0.83	-2	-1.27	0	-0.09	0	0.19	-2 -
16 Bibliotecarii sunt pli ... -0.76	16	0	0.00*	2	1.52	3	1.69	3	1.89	-1
7 Informatiile la fisier ... 0.65	7	-2	-1.64*	-1	-0.49	1	0.52	-1	-0.42	1
11 Comunicarea este defic .. 1.12	11	-3	-1.80*	0	0.10	1	0.60	2	1.26	2

Sorturile (declarațiile) specifice (distinguishing) pentru factorul 1; (P < .05 ; asterisc (*) Indică valori semnificative la P < .01). Sunt prezentate poziția ideală a sortului și scorul normalizat

Pe scurt, căutătorii de informații sunt cei care merg direct la țintă; ei vor rezultate – prin care ei înțeleg informații –, au un stil de relaționare tranzacțional, ceea ce implică atât faptul că nu sunt interesați de calitatea relațiilor, de felul în care sunt tratați, atâta vreme cât află ce au nevoie. O altă latură a stilului lor de relaționare e faptul că nu caută vinovați, contând doar rezultatul, nu și procesul. De asemenea, ei caută informațiile prin toate mijloacele care li se pun la dispoziție, neaxându-se pe unul în mod deosebit, comunicarea directă având pentru ei aceeași importanță ca și celelalte modalități de informare.

Tipul 2 – Relaționalii supărați

Sort-urile caracteristice acestui factor sunt 9, 16, 18 și 15 pentru acord și 5, 10, 12, 14 și 19 pentru dezacord.

Relaționalii supărați sunt în conflict deschis cu departamentul administrativ. Consideră că secretarele sunt dezinteresate, bibliotecarii plictisiți, anunțurile lăsate prea puțin timp pe afișier ca să permită o bună informare. Majoritatea plângerilor lor se leagă direct de secretariat, atât de comunicarea directă, cât și de eficiența acestora.

Nu sunt interesați de aspecte mai generale legate de administrativ de ex., transparența deciziilor, aspecte logistice, cum ar fi amplasarea afișierelor, actualizarea site-ului. Nu vor să fie informați despre tot; de fapt, nu se focalizează aproape deloc pe informații, fie ele generale, cum ar fi cele menționate, sau specifice, cum ar fi afișarea examenelor, oferta de burse de studiu, informațiile legate de problemele studenților.

Ei sunt centrați pe relații, în special pe cele cu secretariatul, care pentru ei e reprezentantul administrativului – și sunt profund nemulțumiți de aceste relații. Preferă formulările în diateza activă, dar atribuie vina atât actorilor, cât și organizării. Ei văd și rea-voință în această organizare, sau în rezultatul care ajunge la ei – „anunțurile nu sunt lăsate la afișier o perioadă de timp necesară pentru informarea studenților", „o secretară spune ceva și alta altceva", „secretarele sunt dezinteresate de problemele și rugămințile studenților (carnete vizate, adeverințe)". Cu alte cuvinte, ei redau imaginea unor secretare care în relațiile cu studenții nu-și fac datoria, iar atitudinea lor este una ostilă.

Tabel 5

Factori: No. Statement RNK SC.	1 No.	RNK	2 SCORE	RNK	3 SC.	RNK	4 SC.	RNK	5 SC.	.
9 Secretarele prezinta d ... 0.22	9	0	-0.01	3	2.03*	0	0.25	-2	-1.18	0
3 Nu mi se ofera informa ... -1.04	3	-2	-1.14	0	0.15*	-2	-1.39	-2	-1.57	-1
11 Comunicarea este defic ... 1.12	11	-3	-1.80	0	0.10	1	0.60	2	1.26	2

53

8 Indrumatorul de an nu ... 1.04	8	3	2.22	0	0.07*	2	1.33	-3	-2.41	2
20 Ofertele pentru bursel ... 0.85	20	1	0.60	0	-0.17*	-3	-2.07	1	0.45	1
6 Informatiile de intere ... 0.20	6	0	0.18	0	-0.45	-2	-1.62	0	0.10	0
10 Din cladirea noua a fa ... 0.25	10	1	0.36	-3	-2.29*	0	0.36	-1	-0.88	0

Sorturile (declaraţiile) specifice (distinguishing) pentru factorul 2; (P < .05 ; asterisc (*) Indică valori semnificative la P < .01). Sunt prezentate poziţia ideală a sortului şi scorul normalizat

Consideră că organizarea logistică este bună, că există suficiente afişiere, că site-ul este la zi. Deci sunt relativ mulţumiţi de informaţiile primite – în măsura în care acest lucru îi interesează, după cum spuneam. Ceea ce îi nemulţumeşte sunt relaţiile cu reprezentanţii administrativului, în speţă cu secretarele.

Tipul 3 – Relaţionalii învinuitori

Sort-urile caracteristice acestui factor sunt 2, 8, 13, 16, 11 şi 19 pentru acord şi 3, 6, 20, 1, 4 pentru dezacord.

Ca şi căutătorii de informaţii, relaţionalii învinuitori au treabă cu toţi şi toate: secretariat, îndrumător de an, bibliotecari, trecerea notelor, programul secretariatului, updatarea site-ului. Spre deosebire de cei dintâi însă, ei nu sunt interesaţi atât de mult de finalităţi – aflarea de informaţii necesare, cât de chiar procesul comunicării. Sunt puternic orientaţi spre calitatea relaţiilor, pentru ei contează foarte mult felul în care sunt trataţi.

Optează pentru fraze formulate în diateza activă – acţiunea e în mod ferm realizată de cineva, nu e un fapt plutind în eter. Pentru toate problemele există cauze precise şi cineva de învinuit. Acel cineva e reprezentat de actori singulari (secretare, profesori, bibliotecari) şi în egală măsură de modul de organizare. Spre deosebire de nehotărâţii îngăduitori şi interesaţii relativ mulţumiţi, ei nu consideră că organizarea e un dat exterior actorilor, ci că aceştia sunt direct responsabili de ea. Fiind preponderent orientaţi spre relaţii, pun mare accent pe comunicarea directă.

Tabel 6

Factori: No. Statement RNK SC.	1 No.	2 RNK SCORE		3 RNK SC.		4 RNK SC.		5 . RNK SC.	
2 Programul secretariatu ... -1.17	2	-1	-0.88	-1	-0.52	2	1.16*	-1	-0.39	-2
11 Comunicarea este defic ... 1.12	11	-3	-1.80	0	0.10	1	0.60	2	1.26	2
15 Exista o dezorganizare ...	15	0	0.18	1	0.89	-1	-0.52*	1	0.62	0

0.31											
1 Sunt ignorat cand soli ...	1	1	0.74	1	0.39	-1	-0.83	-1	-0.28	-3	-1.80
6 Informatiile de intere ...	6	0	0.18	0	-0.45	-2	-1.62*	0	0.10	0	0.20
20 Ofertele pentru bursel ...	20	1	0.60	0	-0.17	-3	-2.07*	1	0.45	1	0.85

Sorturile (declarațiile) specifice (distinguishing) pentru factorul 3; (P < .05 ; asterisc (*) Indică valori semnificative la P < .01). Sunt prezentate poziția ideală a sortului și scorul normalizat

Interesant la acești respondenți e că ei nu sunt profund nemulțumiți, nu se simt prost tratați și nu văd rea-voință în aceste interacțiuni: itemii de genul „sunt ignorat când solicit informații", „mi se închide telefonul", „informații oferite după solicitări insistente; cu întârziere sau deloc" întrunind un grad puternic de dezacord. Acesta e punctul principal de diferență între ei și relaționalii supărați.

Așadar, relaționalii învinuitori văd o cauzalitate precisă în procesul de relaționare, fac atribuiri interne, având deci clară concepția că relațiile depind de oamenii implicați în ele, și nu de factori exteriori. Preferă comunicarea față-în-față și dau mai mare importanță procesului decât rezultatului lui. Faptul că sunt focalizați pe relații, în cazul lor nu corelează cu o nemulțumire profundă față de starea actuală de fapt, în speță față de modul în care decurge relația lor cu latura administrativă.

Tipul 4 – Organizatorii

Sort-urile caracteristice acestui factor sunt 11, 16, 18, 12, 15 și 17 pentru acord și 3, 8, 9, 10 pentru dezacord.

Persoanele din această tipologie văd probleme de organizare peste tot: la nivelul comunicării profesori—secretariat, în comunicarea dintre secretare și organizarea secretariatului, în organizarea afișierului. Interesul cel mai mare e relativ la organizarea afișierului, de care se leagă cele mai multe afirmații cu care sunt de-acord („mod haotic de afișare a rezultatelor", „anunțurile lăsate insuficient pentru informarea studenților"). Interesant, ei consideră că sunt suficiente afișiere, ceea ce confirmă problema lor cu organizarea acestora.

Modul de relaționare li se pare acceptabil, ceea ce îi deosebește de interesații relativ mulțumiți, tipul cu care se aseamănă cel mai mult. Asta și faptul că cei din urmă sunt interesați de toate formele și mijloacele de interacțiune, în timp ce primii sunt mai degrabă centrați pe interfețe.

De asemenea, ei nu se centrează pe latura emoțională a relațiilor (le sunt mai degrabă indiferente declarații de genul „sunt ignorat când solicit o informație", „secretarele nu înțeleg că nu poți fugi de la curs ca să ajungi la timp") și sunt singurii foarte mulțumiți de interacțiunea cu îndrumătorul de an.

Deși relativ difuze, din răspunsurile lor se remarcă faptul că văd ca și cauze ale acelor fapte care îi deranjează probleme organizatorice, și ale celor cu care sunt împăcați sau care le sunt indiferente aspectele relaționale.

În lumina tuturor acestor date, putem afirma că acest mod de răspuns e mai degrabă datorat unei focalizări pe aspecte de organizare, în special de organizare a interfeței pentru public, decât de o mulțumire față de relații, relații care le par mai puțin importante. Am putea rezuma această tipologie ca cei care cred că „verba volant, scripta manent".

Tabel 7

Factori: No. Statement RNK SC.	No.	1		2		3		4		5 .	
		RNK	SCORE	RNK	SC.	RNK	SC.	RNK	SC.	RNK	SC.
12 Modul de afisare a rez ...	12	2	1.56	-1	-0.61	0	-0.22	1	0.58*	-1	-0.61
19 Site-ul nu este actual ...	19	-1	-0.94	-2	-0.92	1	0.65	0	0.12	1	0.62
1 Sunt ignorat cand soli ...	1	1	0.74	1	0.39	-1	-0.83	-1	-0.28	-3	-1.80
10 Din cladirea noua a fa ...	10	1	0.36	-3	-2.29	0	0.36	-1	-0.88*	0	0.25
9 Secretarele prezinta d ...	9	0	-0.01	3	2.03	0	0.25	-2	-1.18*	0	0.22
8 Indrumatorul de an nu ...	8	3	2.22	0	0.07	2	1.33	-3	-2.41*	2	1.04

Sorturile (declarațiile) specifice (distinguishing) pentru factorul 4; (P < .05 ; asterisc (*) Indică valori semnificative la P < .01). Sunt prezentate poziția ideală a sortului și scorul normalizat

Tipul 5 – Interesații relativ mulțumiți

Sort-urile caracteristice acestui factor sunt 8, 11, 17, 7, 19 și 20 pentru acord și 1, 2, 3, 5, 4, 12, 13 și 16 pentru dezacord.

Spre deosebire de celelalte categorii care se disting prin afirmațiile cu care sunt de acord, cea de-a cincea tipologie se distinge mai degrabă prin afirmațiile cu care nu sunt de-acord. Pentru afirmații de acord, ei par să fie focalizați pe toate aspectele.

Focarele lor de interes vizează toți actorii – secretare, profesori, decan, bibliotecari – și toate mijloacele de comunicare – față în față, prin afișier, site. Sunt focalizați în egală măsură pe relații și pe informații, și consideră că problemele de comunicare își au cauzele atât în relații cât și în organizarea de la nivelul administrativului.

Ceea ce îi distinge însă e faptul că această categorie pare a fi cea mai mulțumită de activitatea secretariatului, sort-urile referitoare la relaționarea negativă cu secretariatul întrunind un grad ridicat de dezacord, în special cele referitoare la atribuirea vinei asupra secretarelor.

Tabel 8

Factori: No. Statement RNK SC.	No.	1 RNK SCORE		2 RNK SC.		3 RNK SC.		4 RNK SC.		5 . RNK SC.	
17 Comunicarea dintre stu ... 2.41*	17	0	-0.23	1	0.45	0	-0.30	1	0.84	3	
18 Anunturile nu sunt las ... 0.42*	18	-1	-0.33	2	1.38	-1	-0.38	2	1.15	1	
13 Secretarele nu accepta ... 0.61.	13	1	0.82	1	0.31	1	1.16	0	-0.04	0	-
16 Bibliotecarii sunt pli ... -0.76*	16	0	0.00	2	1.52	3	1.69	3	1.89	-1	
1 Sunt ignorat cand soli ... -1.80*	1	1	0.74	1	0.39	-1	-0.83	-1	-0.28	-3	

Sorturile (declarațiile) specifice (distinguishing) pentru factorul 5; (P < .05 ; asterisc (*) Indică valori semnificative la P < .01). Sunt prezentate poziția ideală a sortului și scorul normalizat

Aceasta este caracteristica cea mai pregnantă a lor – dezacordul cu problemele de relaționare cu secretariatul, în rest, după cum spuneam, nemulțumirile lor fiind disipate și niciuna clar conturată. Spre deosebire de organizatori, ei sunt mulțumiți și de secretariat, și de bibliotecari, și de transparența deciziilor administrative

Limite cercetării și sugestii pentru cercetări viitoare
Principala limită a cercetării de față e dată de faptul că tipologiile obținute nu sunt foarte consistente sau bine diferențiate. După cum am remarcat la analiza factorială, numărul mic de sorturi a dus la suprapunerea parțială a itemilor ce compun un factor. Deși intercorelațiile dintre factori sunt relativ mici și între toți factorii există itemi diferențiatori, la analiza conținuturilor acestor itemi se remarcă uneori inconsistențe (de ex., sorturi referitoare la același aspect, cum ar fi afișierele, intră și la grad mare de acord și de dezacord, sau un astfel de sort e item diferențiator pentru subiecți a căror focalizare e pe relațiile FTF). De asemenea, tipologiile nu sunt foarte amănunțit descrise, fapt ce din nou se datorează unei relative sărăcii a datelor ce puteau fi culese cu declarațiile utilizate.
Cel mai important lucru de ținut minte când se lucrează cu metodologia Q este că tipologiile obținute depind de calitatea sort-urilor. Conceperea conținuturilor sort-urilor nu poate fi totuși lăsată numai la latitudinea subiecților. În acest sens, propunem două remedii: prima variantă e ca interviurile (fie ele individuale sau de grup) să fie semistructurate, urmărind temele considerate de cercetător sau reliefate de literatura de specialitate a fi importante, dând libertatea celor intervievați de a aduce în discuții și subiectele considerate de ei a fi importante. A doua ar fi ca pe lângă declarații obținute prin interviuri libere pe tema dată cu subiecții, să fie incluși și

itemi din teste consacrate pe tema cercetării sau itemii elaborați de cercetător, care să completeze cei obținuți de la subiecți. În cazul cercetării noastre, un astfel de tip de itemi ar fi fost itemi referitori la aspectele pozitive ale relației cu administrativul sau itemi care să atribuie studenților vina pentru breșele de comunicare.

Concluzii

Scopul acestei lucrări era testarea unei metode de studiu a sensurilor împărtășite în cadrul unor comunități. De obicei, în astfel de scopuri se preferă chestionare de cercetătorii cantitativiști și focus-grup-uri de adepții metodelor calitative. Nu e aici locul pentru a discuta avantajele și limitele fiecăreia din aceste metode. Este potrivit însă să subliniem care au fost avantajele în derularea cercetării și în rezultatele obținute, utilizând metodologia Q.

În primul rând, unul din avantajele majore (similare metodelor intensive) este numărul relativ mic de subiecți necesar bunei desfășurări a cercetării. Pe de altă parte, metoda beneficiază de standardizarea conținuturilor și a modului de operare cu ele (similar metodelor cantitative).

Ca și rezultate, se obțin atâtea date despre populație cât este cercetătorul dispus să „sape" în ele. Cu cât stă mai aproape de date, cercetătorul „vede" mai multe și mai variate conexiuni, subtile diferențieri. Perspectiva asupra populației studiate poate astfel merge de la câteva aspecte evidente și ușor de prelucrat, la nuanțe fine. Back-ground-ul teoretic și experiența anterioară îl ghidează pe cercetător în acest demers, făcând diferența între un novice și un expert, care se „joacă" mai elaborat și cu o mai mare dexteritate cu datele.

Astfel, metodologia Q și-a arătat până în prezent utilitatea în operarea cu datele ideative, cum ar fi investigarea atitudinilor, modelelor mentale, hărților cognitive. Această metodologie permite însă doar o inferență calitativă la populație, referitor la pattern-urile de atitudini/convingeri/valori prezente și tipologiile în care se grupează. Nu se poate face o inferență cantitativă referitor la numărul sau caracteristicile persoanelor caracterizate de mentalitatea reliefată de aceste tipologii.

BIBLIOGRAFIE

Atkinson, J.R. (1992). QMethod (Version 1.0) [Computer software]. Kent, OH: Computer Center, Kent State University.

Baron, H. (1996) Strenghts and limitations of ipsative measurement, *Journal of Occupational and Organizational Psychology, 69,* 49-56

Brenner, D.J.; Aucoin, J.; Xiaoming, H. (1998). Quantumstuff in communication: Some implications of Stephenson's concept, *Operant Subjectivity, 21,* 139-150

Brown, S.R. (2003) *Empowerment as subjective operant*, Lucrare prezentată la workshop-ul „Measuring empowerment: cross-disciplinary perspectives", World Bank, Washington

Brown, S.R. (1993). A primer on Q methodology. *Operant Subjectivity*, 16, 91-138.

Brown, S.R. (1996). Q methodology and qualitative research. *Qualitative health research, 6,* 561-567

Burt, C. (1972). The reciprocity principle. In S.R. Brown & D.J. Brenner (Eds.), *Science, psychology, and communication: Essays honoring William Stephenson* (pp. 39-56). New York: Teachers College Press.

Burt, C. & Stephenson, W. (1939). Alternative views on correlations between persons. *Psychometrika, 4,* 269-281.

Iliescu, D. (2003) *Aspecte psihosociale ale schimbării organizaționale,* lucrare de doctorat nepublicată, Universitatea „Babeș-Bolyai", Cluj-Napoca

Sava, F. (2003). *Analiza datelor în cercetarea psihologică, ASCR Press, Cluj-Napoca*

Stephenson, W. (1935) Correlating persons instead of tests. *Character and personality, 4,* 17-24

Stephenson, W. (1953). *The study of behavior: Q-technique and its methodology.* Chicago: University of Chicago Press.

Stephenson, W. (1982). Q-methodology, interbehavioral psychology, and quantum theory. *Psychological Record, 32,* 235-248.

O METODĂ DE MĂSURARE A COMPLEXITĂȚII CONCEPTUAL-INTEGRATIVE ÎN DISCURSUL MANAGERIAL

LUCIA HOTICO[*], IOANA EYB

ABSTRACT. The conceptual/integrative complexity construct was defined in terms of differentiation and integration shown in thought and behavior in a particular situation and context. The evolution of the theoretical concept was followed by the development of the measuring methods. The system developed by Baker-Brown, Ballard, Bluck, de Vries, Suedfeld & Tetlock (1992) consists of a seven-point scale with precise indicators for measuring different levels in cognitive differentiation and integration. The objective of this study is to illustrate the application of the system on a verbal material obtained from unstructured interviews. In a larger study form which this one is only a part, a number of 193 Romanian managers participated to semistructured interviews about managerial success and failure experience. The interviews were recorded and transcribed. The resulted verbal material was coded according to the prescriptions of the conceptual /integrative complexity system, including those concerning the achievement of the required coding competence. The interscorer corelation was .860.

Autorii constructului complexitate conceptual/integrativă, Suedfeld, Tetlock & Streufert, (1992) îi susțin descendența din teoria constructelor personale (Kelly, 1955), îl includ în categoria abordărilor stilurilor cognitive, îi recunosc legăturile strânse cu complexitatea cognitivă (Bieri, 1971) și cu structura cognitivă (Scott, Osgood și Peterson, 1979) și menționează corelațiile scăzute cu trăsături cognitive încărcate de conținut cum sunt, autoritarismul (Adorno, Frenkel-Brunswik, Levinson și Sanford, 1950) și independența („field independence" Witkin, Dyk, Faterson, Goodenough și Karp, 1962). Ei precizează, de asemenea, că „versiunile succesive ale teoriei se concentrează pe complexitatea procesării informației și luării deciziei, complexitatea fiind definită și măsurată în termenii gradelor de diferențiere și integrare" (Suedfeld et al., 1992, p. 393). Versiunile mai târzii ale *complexității conceptuale* „tind să vadă complexitatea ca fiind specifică variatelor domenii de experiență", iar perspectiva *complexității integrative* ignoră în mare măsură complexitatea ca trăsătură în favoarea studierii complexității ca stare. Accentul cade pe „nivelul de diferențiere și integrare manifestat în gândire și comportament într-o situație și un context particular" (cf. Suedfeld, et.al. op. cit. p. 394).

Sistemul de cotare a complexității conceptual-integrative este, după aprecierea lui Smith (1992), rezultatul unei rafinări progresive a categoriilor derivate teoretic; rezultatele empirice ale predicțiilor bazate pe categoriile inițiale au condus la revizuiri atât ale teoriei cât și ale modalităților de cotare derivate. În sistemul dezvoltat de Baker-

---

[*] *Universitatea"Babeş-Bolyai", Cluj-Napoca*

Brown, Ballard, Bluck, de Vries, Suedfeld & Tetlock (1992) complexitatea integrativă a discursului verbal este cotată pe o scală de la 1 la 7 puncte. Scorul 1 este acordat când nu există nici o dovadă de diferențiere și integrare în discursul verbal. Autorul discursului se bazează pe reguli unidimensionale, încărcate valoric și consistente din perspectivă evaluativă. Scorul 3 indică diferențiere fără integrare. Autorul discursului își bazează judecarea unui lucru pe cel puțin două dimensiuni distincte dar ignoră legăturile posibile între ele. Scorul 5 indică diferențiere moderată sau ridicată și integrare moderată. Autorul discursului observă existența legăturilor conceptuale între dimensiunile pe care își întemeiază judecata; notează categorii supraordonate conceptelor folosite; găsește atribute comune mai multor dimensiuni, recunoaște scopuri conflictuale sau valori între care trebuie să alegi; sesizează legături cu sens dublu între cauzele și efectele unor evenimente. Scorul 7 indică diferențiere și integrare ridicate. Autorul discursului folosește un principiu general care-i permite înțelegerea unor interacțiuni specifice între dimensiunile pe care le-a identificat; face o analiză sistemică ce produce principii de integrare prin plasarea într-un anumit context, notează aspecte ale gradului de generalizare a regulilor de integrare folosite. Scorurile 2, 4 și 6 reprezintă niveluri intermediare, diferențiere și integrare implicite și emergente, nu explicite și complet articulate.

Sistemul de măsurare a complexității conceptual-integrative a fost anterior aplicat la materiale verbale obținute prin interviuri structurate (Streufert, 1989; Streufert & Swezey, 1986). Studiul prezent aplică acest sistem la materialul verbal rezultat din interviuri semistructurate.

Obținerea materialului verbal

Într-o investigație mai amplă din care prezentul studiu este numai o parte, un număr de a 193 manageri au fost intervievați de operatori instruiți în prealabil pentru uniformizarea tehnicii de interviu semistructurat[1]. Interviurile au fost înregistrate și transcrise. Materialul verbal rezultat a fost utilizat în acest studiu pentru evaluarea complexității conceptual-integrative. Mai întâi a fost analizată fiecare transcriere și au fost separate „unitățile de cotat" de materialul verbal care nu poate fi cotat: clișee verbale, satiră și sarcasm, citate, paragrafe pur descriptive, fraze lipsite de sens și paragrafe pentru care evaluatorul rămâne complet indecis în privința scorului pe care să-l dea. Unitatea de bază pentru cotare este o secțiune din discurs care dezvoltă o anumită idee.

Atribuirea scorurilor

Scorul de 1 punct

Explicații generale. La acest nivel nu există nici o dovadă de diferențiere sau integrare conceptuală. Autorul discursului prezintă, cu convingere, o regulă simplă, unidimensională de interpretare a evenimentelor sau de luare a deciziilor.

---

[1] Interviurile folosite au fost înregistrate și transcrise de mai mulți operatori de interviu (Ana Maria Bara, Ioana Eyb, Gheorghe Grindean, Andreea Ivancenko, Simina Simion, Bianca Rob, Camelia Șandru, Mirela Teodorescu). Pentru uniformizarea tehnicii de intervievare, operatorii de interviu au fost instruiți în prealabil și asistați pe parcursul desfășurării activității de profesorul Sofia Chirică.

Indicatori critici. O singură modalitate de a privi lumea este considerată legitimă de autorul discursului. Stările explicate par a fi singurele rezonabile în abordarea unei situații. Această poziție este tipic exprimată în forma unei reguli categorice și absolute. Rezultatul aplicării unei reguli absolute este oarecum același de fiecare dată: impunerea unei structuri categoriale dihotomizate a lumii fără ambiguități sau incertitudini. De obicei, autorul exprimă dorința de a termina rapid discuția.

Indicatori specifici. Indicatorii specifici reprezintă modalități prin care se manifestă indicatorii critici. Nu sunt absolut necesari pentru acordarea scorului, dar oferă ghidare pentru identificarea indicatorilor critici.

1. Compartimentarea și respingerea altor perspective sau dimensiuni

O caracteristică a scorului 1 este evaluarea de tipul „totul sau nimic" a stimulilor, fără luarea în considerare a unor excepții de la regulă.

1a. Respingerea categorică de perspective și dimensiuni. Autorul neagă, implicit sau explicit, că alte persoane rezonabile pot fi în dezacord cu opiniile sale sau că problema discutată poate avea alte aspecte sau dimensiuni pe care el nu le-a luat în considerare. El furnizează descrieri detaliate, explicații sau exemple ale regulii preferate. Acest conținut adițional nu justifică însă, acordarea unui scor superior deoarece autorul nu introduce dimensiuni sau perspective alternative. Exemplu:

„...Toată lumea spune că dacă nu vin comenzi și investitori străini, noi nu avem posibilitate proprie de a ne redresa. Asta e situația și n-avem ce face… „

Explicarea scorului: autorul sesizează existența mai multor disfuncții în îndeplinirea obiectivelor firmei, dar vede o singură cale de depășire a problemelor cu care se confruntă. El judecă într-un mod absolut și nu dezvoltă soluția pe care o propune, ci doar o enunță, rămânând detașat.

1b. "Construirea și dărâmarea unui om de paie". Autorul știe de existența a diferite căi de a privi lumea și situațiile, dar le ignoră, nu le ia în considerare. Acest tip de pseudo-diferențiere ia deseori forma unei construiri și imediat a unei răsturnări a poziției față de o situație. Exemplu:

„...Deci, în primul rând cred că ar trebui schimbată mentalitatea începând de la manageri și până la maistru, ăă… pentru că se menține o mentalitate din trecut, deci <merge și așa> sau <ce avem cu asta lucrăm>, ăă… calitatea nu întotdeauna este cea conformă actelor normative în vigoare..."

Explicarea scorului: autorul explică propriul mod de rezolvare a problemei (schimbarea mentalității) ce trebuie aplicat în întreaga structura organizațională. Alte puncte de vedere sunt rigid etichetate («merge și așa», «ce avem cu asta lucrăm») și compartimentate la polul opus al dimensiunii (vechea mentalitate), văzute ca și cauze ale problemelor (calitatea necorespunzătoare a produselor). Cu toate acestea, nu elaborează o soluție viabilă pentru problema menționată.

1c. Reguli de includere – excludere. În procesarea informației sociale, apar deseori reguli de genul „includere-excludere" care iau următoarea formă, din punct de vedere logic: dacă X atunci Y, și dacă nonX atunci nonY. De regulă, aceste relații nu sunt expuse explicit. Exemplu:

„…- Ce credeți că ar trebui schimbat? - Modernizare și retehnologizare; suntem o fabrică veche și dacă nu se face modernizarea... N-avem ce face...”

Explicarea scorului: autorul enunță o relație condițională, dar nu o dezvoltă, ci abandonează raționamentul. În acest exemplu X este modernizarea și Y este schimbarea necesară. Implicația este că <dacă nu se face modernizarea>, nu se va produce schimbarea care este necesară.

2.Dominanța unei singure reguli evaluative

Autorul distinge o mare varietate de probleme sau evenimente, dar acestea sunt agregate și introduse într-o singură categorie evaluativă. Demonstrarea dominanței evaluative a acestei categorii poate lua forma unei liste lungi în care sunt prezentate costurile opțiunilor care sunt respinse precum și beneficiile opțiunii preferate.

2a. Lipsa unui răspuns diferențiat. Exemplu:

„... Au apărut tot felul de probleme...mi s-a cam complicat existența din multe, multe feluri. Trebuie să am foarte mare grijă de ce se întâmplă în cadrul filialei...”

Explicarea scorului: autorul enunță foarte general și nediferențiat situația din cadrul filialei.

2b. Enumerări. Deși autorul aduce în discuție mai multe dimensiuni și perspective asupra unei situații, aceste atribute sunt utilizate pentru a evidenția un singur punct de vedere evaluativ sau ca o dovadă pentru a confirma sau susține o revendicare. Într-un astfel de caz, dimensiunile și perspectivele funcționează ca alternative ce acționează izolat; astfel că ele funcționează mai curând ca o enumerare sau ca o listă decât ca dimensiuni diferențiate într-o astfel de situație; pasajul este cotat cu scorul 1. Exemplu:

„... era un colectiv foarte bun, era foarte frumos, îmi mergea bine, mă înțelegeam cu colegii și cu angajații de la bancă”.

Cei care cotează trebuie să țină cont că nu toate aceste enumerări primesc scorul 1 în mod automat. Unele pot fi cel mai bine considerate definiții sau descrieri, altele conțin aprecieri sau perspective și dimensiuni (vezi paragraful cu scorul 3).

3. Evitarea conflictului

Strategiile cognitive cum ar fi compartimentalizarea, izolarea alternativelor și reducerea perspectivelor alternative facilitează evitarea sau reducerea ambiguității, complexității și conflictului. Exemplu:

„Ca să meargă lucrurile mai bine, trebuie să-și facă fiecare datoria la locul de muncă. Fiecare să-și vadă de partea lui, să-și rezolve problemele de serviciu, și atunci treaba merge bine… că dacă fiecare se ocupă de postul lui și de funcția lui…”.

Explicarea scorului: autorul sesizează existența mai multor disfuncții în îndeplinirea obiectivelor firmei, dar întrevede o singură cale de depășire a problemelor cu care se confruntă. El judecă într-un mod absolut și nu dezvoltă soluția pe care o propune, ci doar o enunță, rămânând detașat.

4. Generalizarea perspectivelor

Autorul oferă o recomandare cuprinzătoare privind modul în care ar trebui să gândească oamenii, cum să simtă sau să acţioneze, fără a recunoaşte că un astfel de sfat ar trebui plasat în anumite circumstanţe. Exemplu:

„... tot ce trebuie să facem noi este să respectăm regulile care ne-au fost date şi să avem grijă să ne îndeplinim responsabilităţile enumerate în fişa de post..."

Explicarea scorului: autorul exprimă calea generală pentru reuşita la locul de muncă şi o reduce la respectarea cu stricteţe a fişei de post.

5. Succesiune temporală

În multe paragrafe apare o varietate de evenimente şi probleme diferite care sunt tratate într-o manieră temporal distinctă. Aceste succesiuni de evenimente pot fi cauzale ("A cauzează B") sau doar temporale ("Planul nostru e să facem întâi X, apoi Y"). Numărul evenimentelor sau atributelor listate în astfel de cazuri nu influenţează scorul desemnat: "A cauzează B, care cauzează C"; este doar un eveniment. Succesiunea temporală sau cauzală nu este o dovadă suficientă pentru a infera diferenţierea conceptuală şi a acorda un scor superior. Exemplu:

„...eu personal sunt mulţumită pentru că fetele au realizat că este într-adevăr mai uşor de utilizat ...şi că reuşesc să facă tot ce au de făcut într-un timp mai scurt..."

Nu toate succesiunile temporale primesc automat scorul 1. Unele răspunsuri pot fi cel mai bine apreciate ca definiţii sau descrieri, altele pot să fie suficient de diferenţiate ca să justifice acordarea unui scor mai mare decât 1 (vezi paragraful cu scorul 3).

Termeni specifici. Prezenţa unuia sau mai multor termeni specifici atenţionează evaluatorul asupra posibilităţii ca pasajul respectiv să îndeplinească criteriile pentru un anumit scor. Utilizarea acestor termeni oferă ajutor în cotare nu prin ei înşişi; prezenţa lor nu justifică acordarea unui anumit scor. Evaluarea complexităţii conceptual-integrative nu se reduce la recunoaşterea unor termeni sau la recunoaşterea coapariţiei unor termeni. Cele mai comune exemple de termeni specifici scorului 1 sunt: absolut, tot, întotdeauna, definitiv, pentru totdeauna, indiscutabil, niciodată, necondiţionat, fără întrebări.Exemplu prototip pentru scorul 1:

„...Cred că în majoritatea unităţilor nu există o instruire a personalului, începând pot să mă refer şi la, chiar la şefi, dar lipseşte cu desăvârşire instruirea personalului de execuţie. Ăăă… nu există un dialog permanent între şeful de secţie şi executant – muncitorul de la bandă, de la cuptor sau, ştiu eu... Deci acest executant care tot timpul se confruntă cu fel de fel de probleme pe care şeful de secţie le cunoaşte mai puţin, ăă…, poate acest executant, poate să dea soluţii, poate să facă nişte propuneri pe care şefii direcţi ar trebui să le ia în considerare să le analizeze şi tot ce cred că este bun pentru îmbunătăţirea procesului tehnologic, pentru îmbunătăţirea parametrilor produsului finit, ar trebui ca să le noteze şi să le aplice..."

Explicarea scorului: în acest paragraf autorul reduce problema la o singură dimensiune ai cărei poli sunt «situaţia privilegiată şi lipsită de responsabilităţi a şefilor» şi «situaţia grea a personalului executant». Autorul realizează o descriere detaliată a condiţiilor de lucru ale muncitorilor, descriere ce întăreşte propriul punct de vedere, în timp ce atitudinea şefilor este prezentată lacunar, cu scopul de a evidenţia efectul negativ asupra productivităţii şi necesitatea schimbării acestei atitudini.

Scorul de 2 puncte

Explicații generale. Într-o afirmație evaluată cu scorul 2, autorul discursului recunoaşte posibilitatea de a privi aceeaşi situație din perspective diferite sau pe dimensiuni diferite. Diferenţierea este, oarecum, emergentă mai degrabă decât dezvoltată pe deplin. Autorul poate generaliza o regulă normativă sau cauzală şi poate fi conştient de alternative viitoare. Această valoare a scalei reprezintă un nivel de tranziție între structurile categoriale ale scorului 1 şi structurile diferenţiale ale scorului 3.

Indicatori critici. Indicatorul critic al scorului 2 este acceptarea potenţială sau condiţională a diferitelor perspective sau dimensiuni; dimensiunile sau perspectivele alternative nu sunt dezvoltate explicit.

Indicatori specifici.

1. *Acceptarea condiţionată sau recunoaşterea emergentă a altor perspective sau dimensiuni*

Autorul discursului ia în considerare acceptarea unei poziţii care nu este neapărat de genul "totul sau nimic". El acceptă că alţii pot avea perspective diferite de cele proprii, dar nu specifică exact ce diferenţiază sau cum se diferenţiază aceste perspective. De asemenea, autorul poate recunoaşte că o situaţie are diferite componente sau dimensiuni, dar nu le elaborează. Exemplu:

"…la problema pe care am ridicat-o nu vă dau răspuns decât trecerea pe centru de profit a secţiei şi acel profit băgat în retehnologizare şi plata salariaţilor. Vă daţi seama că e foarte greu, la ora actuală, cu această tehnologie şi aceşti oameni nestimulaţi corespunzător".

Explicarea scorului: autorul priveşte soluţionarea problemei în două moduri: retehno-logizare şi retribuirea corespunzătoare a angajaţilor. El recunoaşte mai multe puncte de vedere a problemei, remarcând o relaţie de cauzalitate, fără a furniza interpretări. De asemenea, nu dezvoltă soluţiile pe care le propune, ci doar le enunţă.

2. *Declaraţii condiţionale*

În loc de a susţine o regulă absolută şi apoi a completa condiţiile pentru ca ea să fie acceptată, acestea sunt lăsate deschise. Exemplu: „…dacă un agent nu poate să-şi facă tura din anumite motive, este responsabilitatea mea să îi găsesc un înlocuitor..."

3. *Condiţii pentru un rezultat ipotetic*

Autorul discursului ia în considerare posibilele rezultate care pot apărea în aprecierile ipotetice asupra situaţiilor. Recunoscând natura condiţională a acestei secvenţe dintr-un eveniment planificat, autorul demonstrează cel puţin că are conştiinţa implicită a unui trecut, prezent sau viitor alternativ. Exemplu:

„...după ce patronul a plecat din ţară, a rămas un alt director...şi la venirea lui au început să se schimbe mai multe lucruri... A venit dintr-un sistem care era total diferit de firma noastră, nu a lucrat cu oameni care să-i fie prieteni. Poate a lucrat cu oameni care-i erau pur şi simplu colegi, nu numai prieteni ..."

4. *Excepţii de la regulă*

Autorul prezintă o generalizare sau o dimensiune sau perspectivă. Exemplu: „...indiferent de cauza accidentului, deci dacă loveai pe cineva cu maşina sau intra cineva în tine...firma se ocupa de cheltuielile de reparaţie. Dar de doi ani încoace...firma ne pune pe noi să plătim reparaţiile în cazul în care am fost implicaţi într-un accident..."

5. Recunoaşterea emergentă a perspectivelor şi dimensiunilor alternative

Autorul menţionează că alţii pot avea perspective diferite de ale sale, dar nu specifică prin ce se diferenţiază ele. Sau, autorul recunoaşte că o situaţie are mai multe componente sau dimensiuni, dar nu le explică. Exemplu:

"...e o chestie de concepţie. Vedeţi, la noi se schimbă foarte greu; în vest sunt tot felul de experimente de genul acesta. Eu personal am fost la cursuri pe la Bucureşti, cursuri de training… şi sunt de acord cu ce spun ei acolo, dar eu nu pot să aplic încă…"

6. Toleranţă crescută la ambiguitate

Autorul este confortabil, sau cel puţin doreşte să tolereze un grad de deschidere sau de incertitudine în perceperea evenimentelor sau în construirea de planuri. Exemplu:

"...pe de altă parte...dacă o dată ai reuşit totuşi să aduci comenzi, nu?... şi ai şi cât de cât un personal profesional pregătit pentru a le ... îţi trebuie partea materială, nu? Materii prime şi materiale plus dotarea necesară pentru ... Ei, pentru asta îţi trebuie bani ... bani de unde să-i iei?"

Termeni specifici. Termenii specifici sunt conjuncţii precum: dar, oricum, în timp ce, chiar dacă şi adjective calificative şi adverbe precum: probabil, aproape, de obicei. Exemplu prototip pentru scorul 2:

"Şi nu vă înţelegeţi bine cu furnizorii?" "Ba nuuu! Nu, nu e nici o problemă, înţelegerea e perfectă, asta depinde de fiecare persoană în parte, sunt şi oameni mai irascibili, dar în general e foarte bine." Şi credeţi că s-ar putea face într-un anumit fel aceste schimbări?" "Da. Deci cel mai bine se poate face printr-un specialist care se pricepe în programare, să ne facă un program legat de orarul acesta cu furnizorii, ca să nu mai aştepte, să nu mai fie oamenii nemulţumiţi de modul în care se derulează activitatea şi plăţile.

"Ce înseamnă că nu v-aţi simţit bine? Mai concret." "Adică mă incomodează. De exemplu, se poate prin telefon să întrebe anumite chestii şi deci să le răspund în sensul că nu am reuşit sau îmi pare rău nu am putut şi se enervează. Tu eşti politicos, vorbeşti frumos cu ei şi ei se întorc cu ceartă şi cu o nebunie care nu-mi dă nici o satisfacţie. Şi încerc, bineînţeles, să fac bine şi nu iese."

Explicarea scorului: autorul recunoaşte existenţa unui alt punct de vedere, a unei altei perspective şi anume a oamenilor care sunt «mai irascibili», «oamenii nemulţumiţi de modul în care se derulează activitatea şi plăţile», oamenii care se enervează şi «se întorc cu ceartă şi nebunie». Propria atitudine şi propriul mod de a rezolva problemele sunt considerate corecte, dar în acelaşi timp constată existenţa altor puncte de vedere, chiar incongruente cu cel propriu şi nu sunt respinse. Nu se încearcă detalierea sau analiza în profunzime a acestor perspective, ci se manifestă numai un comportament de evitare a conflictelor.

Scorul de 3 puncte

Explicaţii generale. Aspectul definitoriu al scorului 3 este specificarea clară a cel puţin două căi distincte de abordare a aceleiaşi informaţii sau a aceluiaşi stimul. Autorul discursului recunoaşte că aceste două perspective pot fi cuprinse în minte simultan. El specifică, de asemenea, condiţiile în care aceste perspective sau dimensiuni sunt aplicabile. La acest nivel nu apare nici o evidenţă a integrării. Elementul cheie al scorului 3 este diferenţierea.

Indicatori critici. Indicatorul critic al acestei dimensiuni este recunoaşterea unor perspective alternative sau a unor dimensiuni diferite, precum şi acceptarea acestora ca fiind relevante, legitime, justificabile şi valide.

Indicatori specifici

1.Alternative multiple

1a. Alternative multiple. O formă a diferenţierii implică recunoaşterea faptului că "persoane rezonabile" pot vedea aceeaşi problemă sau chestiune în moduri diferite. Autorul poate să adere la un anumit punct de vedere, dar să accepte că alţii nu sunt de acord cu el, şi că nu vor să îl discrediteze. Exemplu:

„...nu-i învăţat încă muncitorul să muncească chiar cum ar trebui. Aici e un cerc vicios mai mult. Adică el zice că nu i se oferă destul... încetineala zice că nu munceşte cum trebuie. Şi noi suntem relativ la mijloc...”

1b. Dimensiuni multiple. Diferenţierea poate, de asemenea, lua forma recunoaşterii mai multor dimensiuni ale unui eveniment, situaţii, persoane sau obiecte. Exemplu:

„...majoritatea oamenilor vin cu nişte tare din sistemul celălalt...Ei ştiau că cineva le asigură de lucru, se asigura prin repartiţie o locuinţă...Dintr-o dată, toate astea au picat şi omul se simte nesigur... El se gândeşte tot timpul la ce va fi şi se gândeşte nu numai la chestiunea cu locul lui de muncă, se gândeşte la copiii lui, cine le va da casă. Aceşti oameni au o anumită irascibilitate când ai de transmis sarcini... Nu trebuie să te limitezi numai aici...trebuie să împingi aceste relaţii foarte mult în plan uman ....”

1c. Perspective multiple şi dimensiuni multiple. În unele situaţii – destul de rare - un paragraf conţine atât perspective multiple, cât şi dimensiuni multiple. Exemplu:

„Deci cu ce departamente apar aceste probleme de comunicare şi de... probleme de relaţionare sau, mă rog, nu am înţeles eu bine?“

„Da. Cum să spun? Nu poţi s-o particularizezi neapărat asupra unui departament anume, chestiile astea-s generale aşa, în unele departamente şi chestiile care ţin mai mult de persoane, nu neapărat, deci sistemul e aşa; în mare parte şi sistemul e format din oameni şi se pare că sunt influenţaţi puţin de vechea mentalitate. Care, într-adevăr, la noi mai puţin... pentru căăă... la noi mai puţin pentru că... suntem totuşi o firmă privată şi colectiv tânăr şi suntem foarte deschişi, cu idei multe şi dăm mult din noi şi-aşa, dar sunt unele piedici, care sunt de altă natură, deci nu care ţin neapărat de firmă, care nu se pot aplica, mă rog: lipsa banilor, condiţiile economice actuale în care te lupţi să faci unele chestii.“

Explicarea scorului: deşi la prima vedere discursul pare total haotic şi imposibil de cotat, este totuşi un text potrivit pentru scorul 3, mai exact este vorba de un diferenţiator extrem, care emite foarte multe alternative, puncte de vedere, variabile ce influenţează problema şi pe care la sfârşit nu le mai poate integra. Porneşte de la probleme „generale“ de comunicare pe care apoi le împarte în probleme generale şi particulare şi explică această diferenţă prin diferenţele de vârstă; angajaţii mai bătrâni sunt afectaţi de vechea mentalitate iar cei tineri, mai puţin afectaţi sunt mai deschişi şi comunicativi. Spre sfârşitul paragrafului, introduce o nouă variabilă, dimensiune care afectează comunicarea într-un mod care nu este evident (incapacitate de integrare explicită) şi probabil discursul ar putea continua cu alte variabile depărtându-se mult de ideea iniţială şi fără a găsi o rezolvare a problemei.

Evaluatorul trebuie să identifice clar două sau mai multe perspective sau dimensiuni ca să acorde scorul 3. Uneori, autorul discursului poate recunoaşte două perspective diferite, dar dezvoltă doar una dintre ele. Acest fapt ar indica emergenţa unei alte perspective, justificând acordarea scorului 2. În alte cazuri, autorul poate menţiona câteva caracteristici ale unei situaţii, dar nu poate elabora oricare două din ele astfel încât să fie considerate dimensiuni distincte. În acest caz este o listă şi se va acorda scorul 1. Scorul 3 este acordat când există dovada diferenţierii; acordarea unui scor 3 nefiind legată de numărul de perspective sau dimensiuni diferenţiate. Includerea a mai mult de două alternative nu justifică un scor mai mare.

2. Alternative şi condiţii pentru expunere

Autorul discursului se angajează într-un raţionament condiţional complex. El precizează condiţiile în care două sau mai multe rezultate alternative sunt acceptabile sau este probabil să apară. Exemplu:

„... ar trebui ca un sistem bancar bine pus la punct să te ajute…Dar pentru ca să te ajute prin experţii pe care-i are acolo trebuie să spună, să-şi dea părerea. <Da dom'le dumneata ai venit aici cu un program, nu? Cu toate datele complete. Eu cu experţii mei ai băncii spun că acest program nu este viabil. Deci eu nu pot să-ţi dau bani pentru că nu am certitudinea că pot să-i recuperez".

3. Declaraţii probabile

O altă cale de a exprima diferenţierea este cea a declaraţiilor condiţionale care exprimă cauze independente sau determinanţi ai probabilităţii unui eveniment. Exemplu:

„...aceasta s-a datorat pe de o parte faptului că n-au fost bani pentru aceste modernizări, iar pe de altă parte consider că n-a fost interes din partea...aa... mai ales din partea forurilor superioare privind această modernizare a producţiei şi utilajelor."

4. Perspective temporale

Există căi mai mult sau mai puţin diferenţiate de a gândi în timp. Nu toate secvenţele temporale ar trebui tratate ca liste sau simple concatenări ale cauzelor şi efectelor. Pentru a se justifica acordarea scorului 3, autorul trebuie să recunoască modul în care noile perspective şi abordări pot emerge din cele deja existente, să recunoască faptul că deşi perspectivele asupra unei probleme s-au schimbat, nici una apărută mai devreme, nici una apărută mai târziu nu poate fi simplu înlăturată fiind greşită (de exemplu, formulări de tipul „Cândva am fost un păcătos şi un nebun, dar acum sunt bun şi înţelept" primesc scorul 1). Perspectiva originală este continuată din trecut şi menţinută când este introdusă noua perspectivă. Exemplu:

„...alţii merg înainte cu utilaje noi, cu nu ştiu ce, aici prea puţin. Investiţii minore şi tu trebuie să faci faţă la nişte cerinţe tot mai mari din punct de vedere a calităţii. Şi atunci apar şi chestii ... cum să faci ca totul să fie bine. Întotdeauna există ierarhii şi din păcate foarte multă lume uită şi mai ales după '89 vin şi-ţi spun păi d-le asta-i democraţie ce vii să-mi spui că nu ştiu ce. Asta-i cea mai mare prostie...Lumea vrea să schimbe totul, dar el, persoana să rămână aşa, să nu se schimbe, chiar dacă el greşeşte...A greşit cineva, plăteşte. Dacă ai făcut un pic de ordine, atunci încep să apară rezultate la început mai mici, apoi mai mari... şi lumea începe să se aşeze în ordine."

5. Creşterea toleranţei la ambiguitate

Scorul 3 denotă o mai mare flexibilitate decât scorurile anterioare. Creşterea toleranţei la ambiguitate sau conflict este demonstrată atunci când autorul ia în considerare un număr de perspective sau dimensiuni paralele sau conflictuale. Exemplu:

„... poate mentalitatea oamenilor ar trebui schimbată puţin, sau puţin mai mult...deşi marea majoritate sunt oameni tineri... Dar poate şi o retribuţie mai bună, mai mult interes. .. Poate caracterul ... Unu-i mai conştiincios, vrea să facă, îl ţinem la locul de muncă. Aici majoritatea sau 90 % sunt modelatori, lucrează în lemn...oricând pot pleca să-şi găsească un loc de muncă, deci pot pleca, nu-s aşa legaţi, deci pot câştiga în altă parte muncind mai puţin greu ... "

Exemplu prototip pentru scorul 3:

„devalorizarea leului...începând de la probleme de energie, gaz, materii prime toate sunt influenţate de acest preţ al dolarului care creşte şi care continuă şi la degradarea preţurilor cu care se oferă produsele noastre. 80% de pe piaţa internă sunt competitive, pe piaţa externă nu pentru că ne confruntăm cu piaţa rusă şi piaţa bulgară care au preţuri cu 20-30% mai mici decât ale noastre.... deci în momentul în care trebuie să cunoşti mai ales în sectorul nostru al marketingului trebuie sa cunoşti foarte bine piaţa externă şi aceasta se face ori prin relaţii cu partenerii străini, ori prin deplasări afară, ori prin reviste de specialitate, burse de mărfuri ca să vezi evoluţia preţurilor".

Explicarea scorului: autorul specifică alternative privind familiarizarea cu exigenţele pieţei externe (relaţii cu partenerii străini, deplasări în străinătate, consultarea revistelor de specialitate, burse de mărfuri) pentru a fi competitivi pe piaţa externă. Toate sunt posibilităţi simultane de realizare, fără a se exclude. Autorul suportă ambiguitatea. El evită gândirea dihotomică, răspunsuri rapide şi soluţii simple, caracteristici pentru scorul 1.

Termeni specifici. Toţi termenii caracteristici scorului 2 au valoare diagnostică şi pentru scorul 3. Aceleaşi cuvinte cheie apar ca semn atât pentru diferenţierea implicită cât şi pentru cea explicită. Există şi termeni specifici scorului 3: alternativ, sau…sau, pe de altă parte, între timp.

Scorul de 4 puncte

Explicaţii generale. La scorurile discutate anterior, elementul major care determina un anumit scor era prezenţa sau absenţa diferenţierii. La nivelul scorului 4 apar indici de integrare. Astfel, se identifică semne ale abilităţii de integrare a unor alternative diferite şi uneori conflictuale. Integrarea conceptuală nu este clar evidentă la acest nivel ci implicită.

Un scor de 4 trebuie să îndeplinească două condiţii: 1. trebuie să existe o clară reprezentare a alternativelor; 2. trebuie să existe o recunoaştere implicită a unei relaţii dinamice între ele. Recunoaşterea acestei relaţii semnifică emergenţa integrării, deşi, la acest nivel, se exprimă prin tentative, de obicei într-o manieră incertă şi nesigură. Prin urmare, este numai o sugestie că există interacţiune între alternative, dar nu există nici o afirmaţie vizibilă care să specifice natura acestei interacţiuni.

Indicatori critici. Autorul trebuie să indice că există multiple perspective şi dimensiuni şi că, de asemenea, acestea interacţionează.

Indicatori specifici

1. Amânarea raționamentului

Când autorul constată faptul că, pentru a explica legătura dintre diferite variante, mai are nevoie de informații, paragraful primește scorul 4. Exemplu:

„...lipsa lichidităților putem să spunem că-i cea mai mare problemă...se răsfrânge asupra asigurării cu materii prime mai bune din import care să permită realizarea de produse superioare calitativ și care are consecințe asupra vânzărilor; se creează stocuri sau nu se creează stocuri, sau trebuie să menținem un preț mai redus, da deci, am putea să creștem încasările, oferind niște produse mai scumpe, dar mai bune. ... Practic tot ce înseamnă greutatea întreprinderii se răsfrânge asupra produsului și implicit asupra vânzărilor și a activității noastre.”

Explicarea scorului: autorul identifică și definește problema pe mai multe dimensiuni, dar nu finalizează și nu explică soluția optimă ce decurge din condițiile prezentate.

2. Tensiunea între alternative

Ocazional, maniera în care sunt prezentate alternativele sugerează că există tensiune între ele. Trebuie reținut că această tensiune nu reprezintă în mod necesar, un factor negativ, dar sunt simpli indicatori ai existenței unei relații dinamice între perspectivele și dimensiunile alternative.

Recunoașterea tensiunii poate apărea de-a lungul unei singure afirmații clare. De exemplu, autorul poate afirma că rezolvarea unei probleme este dificilă deoarece două grupuri aderă la puncte de vedere diferite, oarecum contradictorii. Afirmația implică faptul că grupurile sunt dependente unul de celălalt sau că trebuie să respecte punctul de vedere al celuilalt și probabil, vor face un compromis sau, altfel spus, vor integra perspectivele lor diferite. În alte paragrafe, tensiunea dintre alternative poate să nu fie prezentată atât de explicit. Nu întotdeauna poate fi găsită o singură afirmație care să indice prezența tensiunii. Exemplu:

„...sigur în situații de criză funcționează mai bine auto... mă rog, centralismul decât democrația, ... deci, mult mai eficient și mult mai bine ține sub control decât o delegare de autoritate, cred eu în eșaloanele inferioare ale întreprinderii, mă rog. Cum ar fi la noi să fie o societate deschisă și democrată, cum ar trebui să funcționeze cel mai bine conform teoriei; însă situația fiind de așa natură, problemele financiare, este practic ca un fel de criză generală în întreprinderile românești și atunci ... probabil că e mai bine să fie acel centralism al deciziei la nivelul puterii...”

3. Integrare exprimată probabilistic

Uneori recunoașterea că alternativele pot fi integrate este exprimată printr-o declarație probabilă. De aceea, deși expresii ca „este probabil ca”, „pare posibil”, „poate că” sunt compatibile cu scorul 2 sau cu unul mai mare, ele pot fi utilizate pentru a avertiza evaluatorul de un posibil scor 4. Desigur, declarația probabilă trebuie să fie susținută de textul care îndeplinește cerințele specificate în explicarea generală a scorului 4. Exemplu:

„Nemulţumirea se manifestă vis-a-vis de situaţia economică a ţării în general, dar şi de pretenţiile oamenilor de a li se asigura totul. Şefii secţiilor trebuie să asigure totul. Dacă nu li se asigură, ei nu pot să facă. E vorba de refractaritatea lor. Cred că ar trebui să existe o transparenţă de sus în jos...Dacă i s-ar explica motivele pentru care i s-ar cere treaba asta şi ar putea să le înţeleagă, deci să le priceapă la nivelul pe care îl are, atunci probabil că va avea un impact mai favorabil asupra lui şi ar conştientiza ceea ce i se cere şi cred că dacă i s-ar atribui puţină responsabilitate...”

4. Integrarea ca expresie a unei afirmaţii supraordonate

Uneori este prezentată o afirmaţie supraordonată din care se pot desprinde două alternative. Acesta este, de obicei, afirmaţia introductivă în paragraf. În acest caz, o afirmaţie mai cuprinzătoare include perspective sau dimensiuni multiple. Această afirmaţie poate fi prezentată ca o singură concluzie derivată din două sau mai multe alternative. Exemplu:

„Deci părerea mea ... sigur că există nişte legi care prevăd anumite fonduri, cum se folosesc ... dar eu zic că ar trebui să gândim mai elastic ... şi cu banii ăştia să nu ţinem oamenii acasă, să-i învăţăm să muncească, să plătim noi munca ...…avem un program puternic de dotări, retehnologizări, dar din păcate nu sunt banii necesari ... % în condiţiile actuale degeaba sunt trecute la buget tot felu' de fonduri, de când cu căldura, nu sunt bani pentru aia ... nu să ne dea nouă bani pentru retehnologizări ... Din banii noştri efectiv, sumele sunt insuficiente, în domeniul nostru de metalurgie fondurile de investiţii sunt de valori mari, se recuperează în timp îndelungat...faţă de alte domenii…”»

Explicarea scorului: autorul evidenţiază caracterul reciproc al alternativelor, dar recunoaşte incompatibilitatea lor. Autorul plasează problema (nu rezolvarea ei) pe două mari planuri: condiţiile macroeconomice (lipsa fondurilor la nivelul ţării şi necesitatea existenţei unor legi de administrare a acestor bani, condiţiile specifice ale industriei din care fac parte) şi necesitatea retehnologizării unităţii şi lipsa fondurilor în acest scop. Aceste două dimensiuni sunt în conflict, favorizarea uneia este în detrimentul celeilalte. Autorul nu reuşeşte să găsească o cale de rezolvare a problemei. Exemplu prototip pentru scorul 4:

„fiecare îşi vede problemele lui ca fiind cele mai importante, dar, dacă utilajele nu merg atunci nu se poate face producţie. Dacă nu există alimentare cu energie electrică, atunci nu funcţionează utilajele. Dacă nu este energie termică, atunci nu se poate desfăşura un flux tehnologic. Dacă nu ne îngrijim ca ele să fie tot timpul urmărite la zi, atunci problemele se lovesc, adică rezultă în oprirea unei linii, în slaba calitate a produselor, ştiu eu, mă rog rezultă în comenzi amânate la export...”

Explicaţia scorului: autorul încearcă diferenţierea mai multor dimensiuni ale activităţii de producţie: problemele angajaţilor, utilaje, alimentarea cu energie termică. De asemenea, se stabilesc nişte relaţii cauzale şi relaţii condiţionale, dar raţionamentul nu este finalizat.

Scorul de 5 puncte

Explicaţii generale. Un scor de 5 conţine exprimarea explicită a integrării. În timp ce scorul 4 exprimă o emergenţă a integrării, scorul 5 indică faptul că integrarea este clară, evidentă. Tipurile de integrare care emerg includ influenţa reciprocă, negocierea, atribuirile cauzale şi sinteza.

Indicatori critici. Indicatorul critic al scorului 5 este faptul că perspectivele sau dimensiunile alternative nu numai că sunt luate în considerare simultan, dar sunt surprinse şi în interacțiune. Autorul nu numai că distinge mai multe alternative şi le consideră pe fiecare, în anumite limite corecte, dar este, de asemenea, capabil să surprindă relația dintre ele.

Indicatori specifici

1. Influența şi interdependența reciprocă

În unele situații, două sau mai multe alternative sunt tratate într-o relație dinamică, în care fiecare perspectivă influențează şi este influențată de celelalte. Autorul trebuie să recunoască clar reciprocitatea alternativelor. O relație în care o alternativă influențează o alta fără consecințe asupra sa nu poate primi scorul 5. Exemplu:

„Poate nu se aprovizionează pentru că nu are bani sau el nu face aprovizionarea pentru că nu are resursele materiale. Asta nu înseamnă că nu am putea merge mai bine. Dacă s-ar face modificarea în cadrul relațiilor intercompartimente - atât eu ca şi compartiment trebuie să primesc informații şi totodată să le şi furnizez cât mai repede posibil, în sensul că orice informație suplimentară pe care o primesc poate să mă ajute să-mi desfăşor activitatea în mai bune condiții. Cu cât informația circulă mai rapid şi e mai completă, cu atâta pot să mă gândesc mai bine în ce măsură pot să satisfac un... cereri sau să organizez procesul de producție în aşa măsură să dau să zic un maxim de randament în condițiile specifice momentului. Întreprinderea noastră este o întreprindere foarte mare, cu multe compartimente şi probleme specifice. În situația aceasta, dacă informația nu circulă cât mai rapid şi mai complet, se pierde timp. Este un proces tehnologic de durată, deci dacă am nevoie de un produs la un anumit termen şi informația vine târziu, deja indiferent cum este termenul, că termenul este termen...se înregistrează disfuncțiuni. De asemenea, dacă nu mi se spune cantitatea corectă sau...cum să vă spun, la un beneficiar suplimentez cu atâta, pot să dirijez materialele în altă parte şi iarăşi fac numai parțial nişte contracte…"

Explicarea scorului: este prezentată explicit relația dintre cele două perspective: pe de o parte managerul, care trebuie să asigure eficiența şi pe de altă parte muncitorul care este influențat de o serie de factori interni sau externi care fac ca eficiența muncii să fie variabilă. Rezultatul interacțiunii acestor alternative este modelarea uneia dintre ele, care poate fi mai flexibilă.

2. Negocierea

Gândirea tranzactivă are loc când se recunoaşte că două alternative nu pot fi maximizate simultan. Doar menționarea neelaborată de cuvinte ca „tranzacție" sau sugestii privind cooperarea sau negocierea necesare pentru a declanşa o polemică justifică doar un scor de 4. Autorul este capabil să tolereze ambiguitatea şi nu forțează pentru a găsi rapid o soluție. Exemplu:

„Ar trebui un pic de specializare. Eu să fac, să am un număr de produse pe care să le fac, alea să le fac foarte bine.... Era un investitor italian care ar fi vrut să facă, împreună cu noi matrița aici şi noi să dăm şi la alții, alții din țară. În condițiile acelea, eu mă puteam pune pe domeniul de matrițe la punct foarte bine şi cu dotarea ... cred că ar fi fost o treabă foarte benefică pentru mine, pentru fabrică."

3. Atribuiri cauzale

Integrarea poate fi exprimată în încercări explicite de a argumenta de ce „oameni rezonabili" tratează o problemă pe căi diferite. Este utilizată o declarație unificatoare pentru a explica două perspective contradictorii, dar valide; se dezvoltă un concept supraordonat care specifică elementul comun în perspectivele alternative şi explică motivele pentru care ambele pot fi valide. Se dezvoltă o comparație de reguli. Exemplu:

„... Bineînțeles că trebuie un sistem informațional mai modern. Dar asta înseamnă tot bani. Şi voință. De fapt asta înseamnă înainte de toate. Astea se ştiu, înseamnă mai mulți bani.... Aici în secție am încercat să să îmbunătățesc sistemul acesta prin întâlniri periodice, prin discuții cu ei, deci cu subordonații.

4. Sinteza alternativelor

Un semn al prezenței integrării este generarea unui produs. Acest produs poate fi relaționat în mod explicit cu cele două alternative din paragraf, sau relația poate fi implicită. Produsul poate fi un nou curs de acțiune sau un rezultat neaşteptat al interacțiunii dintre cele două dimensiuni. Exemplu:

„Când nu se poate rezolva la nivelul meu de competențe, atunci sesizez conducerea şi ei să intervină, deci să mă ajute pe mine să rezolv problemele acestea. Şi atunci, sigur, se intervină pe diferite căi. Dacă văd că nu are efect la şedințele pe care le avem cu şefii de secție şi conducerea, încerc şi să atenționez omul ... îl fac să se simtă responsabil..."

Explicarea scorului: autorul explică alternativa pe care o are atunci când se confruntă cu o problemă pe care nu o poate rezolva. Implicit apare soluția în cazul în care nici alternativa nu este de succes.

Exemplu prototip pentru scorul 5:

"Pe lângă o dotare corespunzătoare pe care o avem, pe lângă oamenii foarte buni pe care, de asemenea îi avem din toate punctele de vedere, mecanici, energeticieni, electronişti, hidrauticieni, tot ce vrei, deci trebuie totuşi cât de cât şi nişte bani. Nişte bani ca să poți să asiguri piesele din import. Dar sunt anumite piese pe care nu le poți înlocui, deci nu poți să suplineşti lipsa lor făcându-le în departamentul mecano-energetic şi atunci, de multe ori, neavând bani suficienți sau la timp, e necesar să faci improvizații care ...se reflectă în buna funcționare a utilajelor. Insatisfacțiile vin din faptul că, de exemplu, te trezeşti în toiul iernii cu nişte surprize care îți demosnstrează că vara nu ai fost suficient de precaut să iei toate măsurile şi să nu se întâmple nişte minuni: conducte înghețate, spații neizolate..."

Explicarea scorului: autorul discursului prezintă situația foarte dens, aducând în discuție o serie de condiții (<dotare corespunzătoare, pregătirea angajaților), fațete, determinisme (<lipsa banilor duce la improvizații>). El realizează diferite conexiuni între dimensiunile implicate în raționament şi surprinde relația de interacțiune dintre ele.

Termeni specifici. Delimitarea unor termeni specifici nu este potrivită pentru afirmațiile integrative, deoarece în multe cazuri, cuvintele sau propozițiile specifice pot fi încorporate în gânduri simple sau complexe. Oricum, astfel de termeni: interacțiune, interdependență, reciproc, compromis, echilibru, balansare, pot fi compatibili cu scorul 5.

Scorul de 6 puncte

Explicații generale. În general, scorul 6 implică un nivel ridicat de interacțiune pe plan cognitiv ceea ce indică faptul că autorul operează cu mai multe niveluri ale unei scheme. Alternativele acestui nivel sunt dinamice și sunt exprimate ca planuri, procese sau cursuri de acțiune care sunt componente ale unor sisteme sau rețele. Un indicator al scorului 6 este definirea specifică a celor două (sau mai multe) alternative ca părți active din cadrul unui sistem, precum și modul în care aceste părți se influențează reciproc sau modul cum afectează sistemul.

La acest nivel alternativele sunt acceptate rapid, comparate, căutându-se similitudinile și deosebirile; apoi acestea sunt integrate astfel încât să apară cel puțin un rezultat. Sunt frecvent prezente, la acest nivel, treceri în revistă globale sau principii organizatorice (temporale, cauzale, ideologice). Apariția acestui tip de principii este al doilea indicator principal al scorului 6.

Indicatori critici. Pentru ca un paragraf să obțină scorul 6, autorul trebuie să prelucreze situația prin diferite niveluri ale schemei. Astfel, poate fi prezentată explicit o viziune de ansamblu dar numai cu indicatori impliciți ai dinamicii alternativelor. Este posibil și cazul reciproc în care este prezentată explicit, în detaliu, dinamica interacțiunii dintre alternative și doar implicit viziunea globală.

Indicatori specifici

1. Comparații între rezultate

Autorul este conștient de existența a două cursuri de acțiune și este capabil să compare rezultatele raportându-le la implicațiile pe termen lung. În compararea alternativelor autorul poate favoriza una dintre ele în defavoarea celeilalte, dar fiecare este considerată corectă și posibilă. Exemplu:

„Cum v-ați simțit lăsat pe dinafară într-o problemă pe care dumneavoastră ați propus-o?

"Da ,v-am spus cum m-am simțit. Deci sigur că… creează o stare de nemulțumire … dar… și de analiză în același timp. Adică m-a nemulțumit că nu vreau să lucreze în stilul acesta care mie mi se părea corect, dar am stat și am analizat " de ce nu vreau?". Și am ajuns la concluzia asta că se simt amenințați pe poziția lor… și atunci au ajuns la o reacție de apărare. Încercăm să schimbăm varianta în altă formă așa încât până la urmă să accepte. Și eu anticipez că se va întâmpla acest lucru. Deci vor avea nevoie de noi, mă rog, vor accepta să lucrăm. Sunt de acord că e nevoie de noi dar nu … simțindu-ne ca pe o amenințare, nu … nu acceptă. Cred că în foarte scurt timp vor accepta și tot procesul acesta va intra în normalul în care îl vedem noi. Sigur că aici sunt și probleme de percepție care, mă rog , noi vedem într-un anumit mod, cei care lucrează în alte servicii pot să vadă în alt fel. Aici ar trebuia armonizate , să zicem."

Explicarea scorului: autorul dezvoltă două alternative – modul propriu de lucru și modul de lucru al colaboratorilor. Inițial alternativele sunt conflictuale, dar apoi prin analiză și comparare ajunge la acceptarea ambelor perspective. Este favorizată explicarea perspectivei celorlalți și sunt enunțate efectele pe termen lung ale interacțiunii celor două alternative.

2. Analiza sistemică

Orice paragraf în care autorul descrie cum o relație existentă, o rețea sau un sistem pot fi schimbate de modificările unei variabile interne sau externe poate fi cotat cu 6. Efectele pe care o variabilă activă le are asupra sistemului sunt discutate în termeni de acomodare pe care sistemul o realizează la diferitele sale niveluri ierarhice. Exemplu:

„În momentul de față, la oamenii care sunt… deci în afară de dotare, ar mai trebui schimbat, ce vorbeam noi, mentalitatea. Dacă s-ar reuși să-i aduci într-o mentalitate cât de cât spre ceea ce se tinde, spre vest… Eu am fost în vest, am fost și-n America de două ori, am fost în China, în Turcia am fost… am stat mai mulți ani, dar degeaba se zice, la noi mentalitatea pentru oameni… la oameni e foarte dificilă. Mie mi se pare cel mai greu lucru acuma… de a-i lua și de a-i convinge pe toți că totuși, trebuie să faci întâi și apoi să ceri bani. Deci, raportat la salarii, că salariile-s mici în… și la noi… nu-i o perspectivă de niște salarii prea mari. Realizările sunt cu 1000 de muncitori, 300-400 de mii $ facem pe lună, deci cu 1000 de oameni… 1000 de oameni. Deci, implicit realizăm între 300 și 400 de dolari pe om. Deci nu poți să-i dai 1000 de dolari, să zici o jumătate de salariu de american… Și asta, totu-i… totu-i din mentalitate și din timpi care-s pierduți, nu-ți dai seama cum. Când ai aduna o zi de lucru, constați că s-au lucrat două ore pentru…"

Explicarea scorului: autorul are o viziune de ansamblu asupra problemei apărute existând, pe de o parte situația actuală din România și pe de altă mentalitate oamenilor cu rezultate asupra eficienței muncii; este descrisă variabila mentalitate, ce cauze și ce efecte are asupra sistemului.

3. Testarea de ipoteze

Testarea de ipoteze este o metodă sistematică de căutare a informației. Poate fi remarcată în paragrafele în care sunt delimitate două alternative dinamice, dar relația dintre ele rămâne limitată sau statică. Înțelegerea de către autor a acestei relații este exprimată printr-o ipoteză explicită despre modul cum sistemul asimilează în timp noi informații, acțiuni sau schimbări. Într-un fel, autorul testează realitatea. Adică, el conferă valori mai multor variabile din interiorul sistemului și apoi realizează predicții privind modul cum ar reacționa sistemul la introducerea de noi variabile. Dacă apare rezultatul anticipat, autorul poate să presupună că variabilele au fost stabilite realist. Exemplu:

„Existau la serviciul tehnic rețete de fabricație care foloseau o bună parte din deșeurile care rezultau din fabricație. În momentul de față asemenea rețete nu se mai folosesc. Nu știu dacă ar merge sau nu ar merge asemenea rețete, dar ar trebui încercat. În caz de reușită, ar fi un câștig real din toate punctele de vedere ... deci în ceea ce privește reutilizarea sau găsirea unor posibilități de utilizare a deșeurilor noastre în alte unități care le-ar putea folosi ca materie primă sau, știu eu, le-ar putea găi o întrebuințare, o valorificare mai bună în momentul de față. Deci în primul rând să le folosim noi în rețetele noastre, atât cât se poate folosi și ce ar întrece această necesitate să se dea altora care poate le-ar putea folosi. Trebuie căutat, trebuie văzut. În momentul de față când prețul materiilor prime este în creștere, nu este de stat cu mâinile în sân, să nu faci nimic. Să refolosești ceea ce rezultă ca deșeu, măcar ca materie primă dacă nu mai mult."

Explicarea scorului: în acest paragraf, autorul enunță ipoteza reutilizării deșeurilor și își imaginează posibilele rezultate pozitive care ar apărea. Sunt precizate o ipoteză și o cale de testare a acesteia.

Exemplu prototip pentru scorul 6:

"Unele probleme pe care le văd eu din postul pe care îl ocup sunt problemele financiare. Făcând legătura cu furnizorii de utilități în interior, îmi dau seama de starea de sănătate a finanțelor fabricii în funcție de cum s-au achitat datoriile. Pe urmă tot la fel de bine se văd și problemele privind gradul de utilizare a acestor resurse. În funcție de nivelul de consum în anumite locuri, la anumite secții și sectoare de activitate îmi dau seama de – după nivelul de consum raportat la producția pe care o realizează – cât este de eficientă activitatea în zona aceea din punct de vedere energetic, în primul rând și apoi tradus și din punct de vedere economic. A treia chestie care se vede din postul acesta este nivelul de preocupare a personalului din fabrică față de problemele pe care le au și ei. Și conducerea nu știe mai multe în problemele acestea decât știu eu…La nivelul acesta energetic este și partea cealaltă, știu eu, funcțională – relația cu exteriorul…"

Explicarea scorului: acest paragraf prezintă activitățile complexe ale unui anumit post de muncă și aspectele multiple desprinse în funcție de situații. Este un exemplu relevant de dinamică a dimensiunilor și de construire a unei analize sistemice.

Scorul de 7 puncte

Explicații generale. Singura caracteristică a scorului 7 este prezența unui viziuni de ansamblu ținând de natura, nu neapărat de existența unei relații sau conexiuni între alternative. La nivelul scorului 7 aceste alternative sunt clar delimitate și sunt descrise în detaliul.

Indicatori critici. În primul rând, este prezentată acea viziune de ansamblu care conține explicarea principiilor organizaționale ale situației sau conceptului. În al doilea rând, există o descriere a modului în care nivelurile problemei sau conceptului interacționează; în acest fel este demonstrată validitatea viziunii cuprinzătoare pe care o are asupra problemei. Viziunea de ansamblu poate fi considerată ca un rezultat al modului în care autorul ia în considerare simultan componentele sistemului.

Indicatori specifici

1. Integrarea ierarhică

Un înalt nivel al complexității indică prezența a două sau mai multe principii de organizare, care sunt ele însele integrări. O formă a structurii ierarhice cotată cu scorul 7 este o integrare a integrărilor combinată cu prezența exemplelor detaliate a dezvoltării acelei perspective. Exemplu:

"Să vedem din punct de vedere energetic care sunt activitățile mai profitabile și care mai puțin profitabile. Această problemă coroborată cu posibilitatea de a asigura piețe de desfacere, trebuie să vedem care din aceste produse va trebui să le reducem sau să sistăm temporar producerea lor. Și asta e o chestiune care noi o facem, dar o facem rar, în momentele de criză când nu putem asigura resursele financiare ca să ne cumpărăm resurse energetice la 100% din capacitatea de producție. Chestia asta trebuie să o extindem la o perioadă mai lungă. A doua chestie este însănătoșirea situației financiare în așa fel încât să asigurăm o continuitate în aprovizionarea cu unități de lucru. Altfel mergem așa…sincopați".

77

Explicarea scorului: există perspective diferențiate privind producția și profitul. Principiul primordial care integrează aceste perspective este înțelegerea că reușita este determinată de un amestec complex de factori. Sunt avansate întrebările care introduc natura ierarhică a problematicii.

2. Compararea rezultatelor

Autorul are o viziune de ansamblu asupra evenimentelor și situațiilor și relaționează aceste evenimente cu un principiu organizațional. În același timp este subliniată în detaliu natura specifică sau dinamică cel puțin a unuia dintre evenimente. Posibilele rezultate ale evenimentelor sunt comparate sau relaționate cu această viziune globală.

3. Analiza sistemică

În general, acest tip de pasaje puternic integrative explorează interacțiunile complexe specifice din cadrul unui sistem, utilizând o viziune globală, ca un mod de unificare a acestor observații. Autorul începe discursul abordând problema într-un mod global ca apoi să furnizeze exemple pentru interpretări particulare. Efectul pe care o acțiune o are asupra unui alt nivel al sistemului este, apoi, clar explicat. Consecințele generale și specifice ale acestui "efect de val" sunt delimitate explicit. Exemplu:

„...Păi problema cea mai mare a noastră este problema oamenilor din Cluj. Deci după ultimele statistici care au fost făcute acum la nivel de țară, oamenii își fac cumpărăturile în procent de 2% în supermarketuri. Deci restul clienților își fac cumpărăturile ba din en-gros-uri, ba din magazinele de cartier, ba din boutiq-uri, deci unde prețurile sunt cu ceva mai mici, deci nu sunt cu mult mai mici, pentru că nu au posibilitatea de unde să fie prețurile mai mici, dar ăăă... Deci majoritatea oamenilor încearcă, vin pe la supermarket într-adevăr când este zi de, de salariu și posedă o sumă mai mare de bani sau se apropie sărbătorile și vrea să-și facă o cantitate mai mare de cumpărături.

Păi ar fi... nu prea multe de schimbat. Deci asta depinde practic de ce modificări se fac și la nivel de țară. Deci se fac modificări, se scumpește benzina, bineînțeles că are repercusiuni și asupra noastră. Deci din momentul în care s-a scumpit combustibilul sau energia electrică sau alți factori economici, bineînțeles că și furnizorii, din acel moment, mai ales la produsele care vin din export și datorită accizelor și taxelor vamale se modifică, poate chiar de la o săptămână la alta, prețurile de livrare de la furnizori. Deci asta, asta ne face să fim tot timpul, să stăm pregătiți, să fim supuși la modificare poate chiar lunar, dacă nu săptămânal. Deci în ultima perioadă, cu evoluția dolarului, s-a întâmplat cam la săptămână modificările acestea. Nu se pot vedea de la bun început Bineînțeles că și noi ne propunem niște lucruri, noi vrem să facem o anumită modificare în magazin, datorită următorilor factori, bineînțeles, și atunci noi ne facem un plan. Asta este una, e legat de o modificare, legat de o sortimentație de marfă în magazin, specificul de marfă a magazinului, dar avem și alte probleme. Deci restul apar așa, instantaneu. În februarie '98, mi s-a propus să preiau un alt magazin și, bineînțeles că acolo am luat-o practic de la zero. Deci acolo începând de la așezarea mărfurilor pe raft, comenzile efective, aranjarea sălii... Deci pot să vă spun că am făcut totul de la A la Z, până la deschiderea magazinului. Au fost perioade grele și perioada de vară; perioada de vacanță este foarte grea pentru magazinele alimentare și nu numai, cred că ... de obicei la toți, la toți agenții economici. Perioada asta de vacanțe se simte foarte mult și aici trebuie găsite soluții ca să, ca să treci peste punctul ăsta mort. În rest... bun, că în perioada de sărbători, oricum de la sine vin rezultatele, dar, dacă nu-ți faci așa cum trebuie treaba, deci nu... nu

poți să ajungi la niște performanțe bune. Într-adevăr, se realizează una-alta, dar nu exact cum își dorește omul. Bine-nțeles că și noi căutăm, magazinul nu este condus numai de unul singur, este o conducere a firmei respective, avem un consiliu de administrație al firmei. Sunt perioade bune, sunt perioade proaste, chiar pe alocuri foarte proaste, deci din punctul de vedre al vânzărilor. Având în vedere faptul că desfășurăm o activitate de vânzare, care indiferent dacă este în regim de en-gros sau en-detail sau noi cum suntem cu magazinul în regim de vânzare cu amănuntul, sunt perioade care efectiv… sunt proaste. Oamenii își cheltuie banii în altă parte, sunt plecați din localitate, deci aici trebuie găsite soluții. Deci noi avem în cadrul firmei mai multe departamente cu mai multe domenii de activitate, începând de la distribuția de dulciuri până la distribuția de, de țigări la gama Phillip Morris, sunt produse din categorii diverse, dar problema este aceeași la toată lumea. Deci problema intervine când sunt perioadele acestea proaste pentru vânzări, problema intervine când cresc prețurile la produse și trebuie să ai în vedere acest fapt, sigur că influențează din partea clienților cantitatea cumpărată. Deci astea sunt niște, niște probleme generale la nivel de firmă. Acum, pentru fiecare categorie în parte trebuie căutat leacul potrivit, deci nu e sigur că aceeași metodă sau aceiași rezolvare este bună și la magazine ca și la distribuția de dulciuri. Aici, practic, problema este complexă: se compune din vânzare și din încasarea banilor.”

Explicarea scorului: autorul își prezintă viziunea asupra sistemului, după care prezintă fiecare factor care influențează, cu cauzele și consecințele sale; factorii sunt prezentați ierarhic și este delimitată importanța pe care o are efectul fiecăruia.

4. Compromisuri complexe între scopuri conflictuale

Autorul discursului este capabil să se retragă dintr-o situație suficient ca să se angajeze într-o analiză costuri-beneficii a câtorva scopuri sau strategii conflictuale și să includă explicații pentru comparațiile între ele. Exemplu:

„Eu tot timpul am zis că există un lanț, un cerc și dacă în lanțul acesta lipsește o verigă, două, el nu poate să meargă bine. Eu înțeleg și punctul de vedere al colegilor mei pentru că dacă nu ai cu ce să faci, nu poți să faci, de aceea noi încercăm să îi ajutăm, să le spuneți vedeți că aveți probleme acolo și acolo, încercați să vi le rezolvați. Dar și ei sunt îngrădiți de niște chestii, de o materie primă proastă, de economie la energie, la materii prime. Să fie cât mai ieftine și de calitate superioară. Eu văd rezolvarea când toate verigile din lanț ar merge bine. deci materia primă pe care o primi trebuie să fie o materie bună, deci furnizorul trebuie să fie un furnizor serios. Cu materiile prime din import nu avem probleme. Dar cu materiile prime din țară nu se întâmplă același lucru, calitatea variază de la un produs la altul. ... Pe urmă după ce ai primit această materie primă, vine rolul tău. Să o depozitezi bine, să o prelucrezi bine...”

Exemplu prototip pentru scorul 7:

„... Deci în primul rând de aici pornește, de la materia primă, dacă ea ar fi corespunzătoare. Bineînțeles și tu dacă ai avea bani suficienți, îți alegi materia primă, nu? De multe ori poate fi mai ieftină cea din import decât cea din țară. Deci și lipsa banilor este un aspect. Pe urmă după ce ai primit această materie primă, pe urmă vine rolul tău, nu? Ca să o depozitezi bine, să o prelucrezi bine. Aici intervine o disciplină internă …o disciplină tehnologică pentru a obține produsul finit. La noi cel mai bine se vede suprafața, aspectul produsului, pentru că un nespecialist nu-și dă seama dacă obiectul are rezistență termică sau știu eu ce. Aspectul. Aici ar trebui să se lucreze foarte mult. Și pentru că atunci când aducem frită din exterior, componenta de bază a acestor glazuri, produsele sunt foarte… de calitate bună. Dar nu avem bani pentru această frită. O producem noi intern și marea majoritate sunt de

o calitate îndoielnică. Şi aici, dacă ai avea bani să o cumperi de la cei specializaţi … Nu? Deci tu nu trebuie să produci tot. Deci această frită tu nu poţi să o faci de calitate. O aduci de la alţii care vând frită, ştiu, asta fac. Dar nu ai bani . Şi atunci o foloseşti pe cea de slabă calitate şi asta deteriorează cam 50% din calitatea produselor. Eu cred într-o privatizare, dar o privatizare reală. Înţelegeţi? În momentul când trebuie stimulat interesul omului… Modul de privatizare al nostru nu e o privatizare reală, noi ne-am privatizat în masă, deci toţi suntem producători, beneficiari…Asta nu e o privatizare reală pentru că interesul fiecăruia nu e pus la încercare. Se lasă tot aşa de pe unul pe altul. În momentul în care ar veni o privatizare reală, un patron real sau cu un mod de a acţiona real, deci care să aibă interesul ca lucrurile să fie puse pe roate şi ar introduce aceea disciplină, ierarhic, până jos, atunci cred că lucrurile ar merge mult mai bine. Tot timpul de sus se începe. Normal. Toţi trebuie să răspundă. Aici un alt aspect - nimeni nu răspunde pentru greşeli. Greşim şi se şterge cu buretele, mergem mai departe. Nu trebuie să tai la nimeni capul pentru o greşeală dar totuşi trebuie tras la răspundere cineva pentru că altfel astfel de greşeli se repetă şi se pot chiar accentua. Deci eu cred într-o privatizare reală. Dar vedeţi că e foarte greu de realizat această privatizare. Mă uit în jurul meu; au fost cumpărate o serie de întreprinderi, dar mulţi nu au interesul să producă, le ţin, le fragmentează, le falimentează. E foarte greu şi cu privatizarea . E foarte greu de realizat pentru că nu sunt oameni cu bani. Deci oamenii cinstiţi care ar vrea să facă nu au banii suficienţi. Şi atunci vin alţii cu bani care nu au interes ca fabrica să meargă, ca oamenii să câştige, să aibă un loc de muncă. Ei îşi urmăresc numai interesele lor."

Explicarea scorului: autorul realizează frecvente comparaţii cu situaţia altor ţări şi emite mai multe soluţii pentru depăşirea momentelor de criză cu care se confruntă firma sa. El nu se limitează la un singur aspect al problemei, ci analizează mai multe faţete: aprovizionarea cu materii prime, depozitarea lor, privatizarea firmei etc.

Încrederea în cotarea complexităţii conceptual-integrative

Materialul verbal obţinut prin interviu a fost cotat de doi evaluatori în mod independent. După prima cotare realizată de fiecare, corelaţia interevaluatori a fost de .673; p<.01. Diferenţele de cotare au fost discutate de cei doi evaluatori, fiecare a argumentat acordarea unui anumit scor, încercând să ajungă la un acord. Numărul cazurilor de dezacord în cotare s-a redus în acest fel, dar nu au fost total eliminate. La a doua cotare, după faza de negociere, corelaţia interevaluatori a fost de .860; p<.01.

BIBLIOGRAFIE

Adorno, T. W., Frenkel-Brunswick, E., Levinson, D.J. & Sanford, R.N. (1950). *The authoritarian personality*, New York: Harper & Row

Baker-Brown, G., Ballard, E. J., Bluck, S., de Vries, B., Suedfeld, P., & Tetlock, P. E. (1992). The conceptual/integrative complexity scoring manual In C. P. Smith, J. W. Atkinson, D. C. McClelland, and J. Veroff (Eds) *Motivation and Personality: Handbook of Thematic Content Analysis,* New York: Cambridge University Press. (pp. 401-418).

Bieri, J. (1971). Cognitive structures in personality In H. M. Schroeder & P. Suedfeld (Eds.), *Personality theory and information processing* (pp. 178-208). New York: Ronald

Kelly, G. (1955). *A theory of personal construct* (2 vols.). New York: Norton

Scott, W.A., Osgood D.W. & Peterson, C. (1979). *Cognitive structure: Theory and measurement of individual differences.* Washington, DC: Winston.

Smith, C.P, J. W. Atkinson, D. C. McClelland, and J. Veroff (Eds.) (1992). *Motivation & Personality. Handbook of Thematic Content Analysis.* New York: Cambridge University Press.

Smith, C.P. (1992). Introduction: inferences from verbal material, In C. P. Smith, J. W. Atkinson, D. C. McClelland, and J. Veroff (Ed.), *Motivation and personality: Handbook of thematic content analysis.* (pp. 1-17). New York: Cambridge University Press.

Suedfeld, P., Tetlock, P. E., & Streufert, S. (1992). Conceptual/integrative complexity în C. P. Smith, J. W. Atkinson, D. C. McClelland, and J. Veroff (Eds.), *Motivation and personality: Handbook of thematic content analysis.* (pp. 393-400). New York: Cambridge University Press.

Streufert, S. (1989). How successful executive think. *Boardroom Reports*, 18 (12), 13-14.

Streufert, S. & Swezey, R.W. (1986). *Complexity, managers and organizations.* New York: Academic Press.

Witkin, H.A., Dyk, R.B., Faterson, H.F., Goodenough, D.R. & Karp, S.A. (1962). *Psychological differentiation.* New York: Wiley.

NEURAL CORRELATES OF OBJECT CATEGORIZATION

THEA IONESCU

ABSTRACT. After briefly defining the process of categorization, the present article tries to review the neural correlates of this process. The main areas involved are the temporal lobe and the prefrontal cortex, but the findings also speak about distributed neural networks that include other regions as well.

Being still in a middle of an unsolved puzzle when talking about the brain, the article ends with some unanswered questions in hope of future advancement of research.

1. Categories and categorization

Categorization can be seen as one of the first steps in problem solving. It is the process of grouping objects in order to reduce the great diversity of the stimuli to some easily manageable object classes (Miclea, 1999). For long time, the theoretical orientation which considers categorization as relying on necessary and sufficient features of objects and as leading to high forms of abstraction was the main approach in the investigation of categorization (this trend started in philosophy with Aristotle). Today we have several approaches – e.g., prototype-based or functional. Going beyond necessary features and representations, Harnad (2003) defines categorization as "a systematic differential interaction between an autonomous, adaptive sensorimotor system and its world". He pleads for the sensorimotor grounding of categorization, a very popular trend nowadays in cognitive science, considering "representation" unnecessary in explaining our ability to group stimuli.

This paper will not try to solve the philosophical problem that follows from the positions above (e.g., the need of higher order representations to prove categorization or not), but to outline the research that is going on now in the field of neuroscience with regard to categorization. The way we represent our knowledge and then use it in problem solving is still a great epistemological dilemma, and neurobiology is trying hard now to find concrete answer to it by investigating directly the brain. During this entire article, we will observe the close connection between the *process* of categorization and knowledge *representation*; we will assume this link and not try to explain it here. The reason for this is almost common sense: we start from the observation that we categorize with the purpose of organizing information, of putting it in "smaller" forms that contain a lot of information in small units, namely categories. By trying to outline the results of neural correlates we hope to give a glimpse on these two phenomena.

Another cut out we make in this paper is the selection of *object categorization* only from all the possible stimuli types we group in everyday life (living beings, events, spatial information, and so on).

The literature speaks about many types of categorization, but we will focus here on the comprehensive approach of Smith, Patalano and Jonides (1998). They identify several strategies that can lead to object grouping: a) according to some *rules* that define the categories (e.g., if it has four equal sides and four right angles, than it is a square); b) according to the *similarity with* other *exemplars* from memory (e.g., a dog compared with the dog exemplars we encountered before); c) based on the *similarity with* the category's *prototype* (e.g., a dog compared with the dog-prototype from our memory); d) according to the *theory* that conveys meaning to a category (e.g., putting writing utensils together based on the theory we have about their function). We can identify in these strategies the two main orientations we find throughout the history of categorization investigation (Bideaud & Houde, 1989): logical categorization (based on necessary and sufficient features of a given category) and "ecological" categorization (based on the prototype or a schema we have about the category) (see Ionescu, 2001, for more details).

The review of Smith et al. (1998) is of a great value because it tries to identify the underlying cognitive mechanisms for the mentioned strategies and to outline some neural underpinnings too (which will be mentioned in the next section). The authors analyze mainly the first two strategies mentioned above. Thus, they show that categorization based on rules needs a more analytic processing relying on selective attention and working memory, with the features being more abstract then the target object. The reactualization of exemplars, on the other hand, is much more holistic, with less effort from the cognitive system, as the exemplars are as concrete as the target. Besides these, it is also obvious that rule selection requires a strategic processing and exemplar selection is more automatic. After reviewing several studies, Smith et al. (1998) agree that both strategies are used in accordance with the specific context of the task and its requirements. This also means that we can use them in parallel if the task requires this.

Turning now to knowledge representation, we assume that this is the form in which information is "moulded"; this in turn is not a rigid form without any influence upon future processing, but it constantly shapes the categorizations we make. In fact, in the moment of categorization we organize stimuli in different forms (and here we have much agreement or disagreement among authors!), we store them and then we activate them, most of the times for making predictions. There are several forms of representation – concepts, prototypes, cognitive schemata, mental images, interactive networks (see Miclea, 1999, for further details). One of the merits of cognitive psychology is that it has outlined the active nature of our representations, whatever their form is. Nowadays, representation is seen more as an intersection between the sensorimotor processes (the way we gather information) and complex cognitive processing (the way we use information), taking several forms in response to the contextual needs of a problem. As Barsalou (2002) puts it,

84

"each represented category corresponds to a component of experience". His Situated Simulation Theory (Barsalou, 2002) states that there is a link between the sensory-motor processing and the conceptual one (i.e. the representational system), as "the conceptual processing uses reenactments of sensory-motor states – simulations – to represent categories". In fact, Barsalou considers *concepts as skills for building representations* that are tailored to the current needs of an action, meaning in continuous change. We focus on this account here, as neuroscience is one of the sciences that underline the constant activation of relevant networks when we reactivate information, going beyond representation as a fixed entity.

2. Neural underpinnings

Nowadays, neuroscience sees the link between the brain and different cognitive functions in terms of *distributed neural networks* that gets activated during a task, and not in terms of fixed areas serving each a distinct function. If we think about categorization as a process and we decompose it (see above) we should consider the correlates for all the components we find (memory, learning, perception, attention, and so on). We will try here to give only some highlights about these in relation with the process of object grouping itself.

First of all, speaking roughly about the "what" and "where" type of processing, Grossberg (2000) shows that it is the inferotemporal cortex that learns and knows *what* objects are, and the parietal cortex that determines *where* objects are, both spatially and temporally. To be efficient in recognizing objects we need the interaction of these two areas, respectively these kinds of processing. However, all through this paper we will find again and again the temporal cortex as one of the main "characters" for object processing.

We will turn now to more specific neural correlates in order to illustrate the opening sentence: we have distributed networks that work together or in parallel. This is true even in the case of a single cognitive function, here categorization.

Martin, Wiggs, Ungerleider and Haxby (1996) show that the cerebral activation during object identification is partially dependent on the intrinsic properties of objects. Using positron emission tomography (PET), they observed the blood flow associated with identifying animal drawings (which are mainly perceptually similar/dissimilar) and tool drawings (which have functional differences/similarities). The cerebral activation included: the left medial occipital lobe (for naming animals); the left premotor area and an area in the left middle temporal gyrus (for naming tools); both types of drawings activated bilaterally the ventro-temporal lobe and the Broca's area. These results would plead for a brain organization based on object classes (exemplars of categories), as we know them from our interaction with the environment. The medial occipital lobe is involved in the initial phases of visual processing (needed for the identification of perceptual features) and the premotor area indicates the reactivation of the way we use tools (a reenactment of functional features).

There are several studies showing that there are distinct response patterns in the ventral temporal cortex for different categories: chairs, houses, faces (Haxby,

Ishai, Chao, Ungerleider & Martin, 2000). A range of modules is postulated in the parahippocampal place area, modules that are not independent but overlap. The principles of their topological arrangement are still unknown and the authors suppose that they probably refer to shape because the activated region is in the extrastriatal ventral visual cortex.

Maybe one of the reason that categories overlap, i.e. they have superposed regions that are activated in the brain, is possibility that the brain organizes categories based on somehow different, more basic features than the ones from our cultural knowledge. Kraut, Moo, Segal and Hart Jr. (2002) suggests that we can find in the brain another description of categories than the cultural one. They introduced a new category besides animals and tools: fruits and vegetables. This new category is similar both to the category of animals (the members of each category are easy to be visually perceived) and to the tools (the members of these categories are easy to handle); nevertheless, if we are asked about the first category that we can associate to fruit and vegetables we would say animals (from the two possibilities above). So, we would expect similar areas to be activated for them. But the activation area for fruits ad vegetables had more common regions with the tools – it involved mainly the premotor areas. The assumption that follows is: neural representation is based on important features that go sometimes beyond the cultural description of categories. Therefore, we should investigate specific features and not exemplars/broad categories. However, it is still open question on the problem of abstract categories/features, the ones we acquire later in development.

Even studies with monkey found this bias toward features, namely to "diagnostic features" (Hasegawa & Miyashita, 2002). Sigala & Logothetis (2002, apud Hasegawa & Miyashita, 2002) showed that neurons in the inferior temporal cortex of the monkey brain are more sharply tuned to diagnostic features than to non-diagnostic ones (stimuli consisted in faces and fish, and the features were designed in a multidimensional feature space allowing modification of their salience). Remaining in the field of animal studies, single-neuron recordings show the involvement of parietal lobe as a highly selective region for very relevant objects (Gottlieb, 2002). The inferior parietal lobule would form "salience representations" of the environment, useful for the recognition of immediately relevant objects for the animal's behavior. In order to generalize to human categorization, especially to abstract categorization, one needs to further investigate the link between prefrontal cortex and posterior association regions. The inferotemporal neurons have a two-way connection with the prefrontal cortex: they send bottom-up visual information, but in the same time they receive top-down influences for various cognitive processes (Hasegawa & Miyashita, 2002). This double connection shapes the sensitivity of inferotemporal neurons to diagnostic features. Miyashita and Hayashi (2000) also speaks about the role of the prefrontal area (to which we will return lately) as an activator of the representations stored in the inferior temporal lobe, a link that clarifies the connections between different areas during a cognitive task.

Going back to the broad categorization strategies mentioned in the first section, Smith et al. (1998) states different activation regions for rule-based and exemplar-based strategies. There are some shared regions: the visual cortex and the cerebellum. Besides these, the rule-based categorization has some adjacent regions that are activated: the parietal lobe, the frontal cortex, the supplementary motor cortex, and the right thalamus; this can be easily explained if we assume a higher complexity for rule-based strategies. Thus, we see different neural circuits this time according to the strategy, not to the type of object: more in the frontal cortex for rules and moving to the posterior areas for similarity-based categorization.

In the case of tasks using word-like stimuli, it is shown that processing semantic information activates the superior occipital, the middle and inferior temporal, and the inferior frontal gyri of the left hemisphere (Khateb, Michel, Pegna, Thut, Landis & Annoni, 2001). The study investigated by means of event-related potentials the involvement of both hemispheres in a semantic task of matching words. Words were presented to the right and left visual fields and subjects had to mentally judge their semantic relatedness. The main finding suggests interhemispheric transfer of information in visuomotor processing.

If one wants to understand as fully as possible the process of categorization, it is necessary to take into consideration at least memory, inhibition and learning as well. *Memory* is one of the most widely studied cognitive function and we will give here a brief overview of recent findings with regard to its link to categorization (you will not find here, for example, data about autobiographical memory). Ojeman, Schoenfield-McNeill & Corina (2002) investigated recent verbal memory for object names. In this case, the main responsible region is once again the temporal lobe bilaterally (hippocampus and lateral temporal neocortex). They found a difference due to stimulus presentation: it is the language-dominant temporal if the stimuli are verbally presented, and the non-dominant one for visually presented items.

In a dot-pattern categorization and recognition task using the fMRI technique, Reber, Wong & Buxton (2002) indicates the existence of "multiple memory systems of the brain" for "multiple categorization processes". They investigated nondeclarative categorization and recognition memory, which would be served by different networks. As for the former, the authors have seen increased activity in several prefrontal areas (inferior prefrontal cortex bilaterally, superior and middle frontal gyrus, and left frontopolar cortex) and in the inferior parietal cortex. These areas would sustain a model in which learning a category leads to changes in visual representations and these changes are transformed in behavioral task responses by the fronto-parietal network (Reber et al., 2002). As to the latter (recognition judgements), there was more activity in the medial temporal lobe, precuneus, and the posterior visual areas. This difference suggests that recognition of dot patterns is supported by a conscious retrieval strategy, while nondeclarative categorization is mainly unconscious (Reber et al., 2002).

With regard to *inhibition* (as one has to inhibit irrelevant information to reach an accurate categorization), the main area involved is the prefrontal cortex. The tasks that reveal executive control activate the anterior cingulate gyrus and the lateral prefrontal cortex (Benga, 2003).

In a review on *category learning,* Keri (2003) summarized the areas identified by means of different methods – theoretical modeling, experimental psychology, clinical neuropsychology, functional neuroimaging, and single-cell studies. Emphasizing once more the existence of multiple neural networks that may sometimes overlap, the main conclusions were:

- in dot-pattern tasks, the sensory-motor cortex may be involved - responsible for similarity and frequency, and relying on implicit processing;

- when feedback is provided in learning tasks, the orbitofrontal cortex and the basal ganglia gets activated – the orbitofrontal is critical for stimulus-reward association;

- if subjects have to explicitly memorize exemplars or encode contextual relationships, the medial temporal lobe takes the leading role;

- the lateral and anterior prefrontal cortex and the anterior cingulate cortex are essential when we acquire and shift abstract rules, as well as when we make decisions related to categories – the lateral prefrontal cortex may also influence representations in the posterior regions via top-down control.

These data suggests a modular organization of the brain, but exactly how these modules are structured into a working system is still an open question (Keri, 2003). The anterior cingulate cortex was believed to contribute only to affective processing (Bush, Lun & Posner, 2000). In fact, this area is also responsible for error detection and correction, and also for the integration of sensory, motor, cognitive and emotional information. Its dorsal division gets activated when cognitive processes are in play. This division, in connection with other areas, has the following functions: attention modulation, competition, motivation, novelty, error and working memory monitoring – all of these being important components of categorization as we have already mentioned.

Trying to summarize the findings from above, we can surely see two areas that come again and again in the data on categorization: *structures in the temporal lobe* and *areas in the prefrontal cortex.* They work together with other regions as the networks may involve neurons from different areas for one and the same task. In the process of grouping objects, our brain may start with the activation of sensory areas (perception of the stimulus); if recognition of exemplars follows, this activates temporal regions; if decisions are made, the prefrontal cortex together with the anterior cingulate cortex are activated. These last areas act, as Shimamura (1995) puts it, as "dynamic filtering mechanisms", that gate or inhibit activity in posterior cortical regions.

It is important to keep in mind the image of networks associating these areas. It is also noteworthy to understand that almost all human categorization is very

complex and therefore it needs several networks for good functioning. With different tasks and stimuli we obtain different activated networks, this being an evidence for the complexity of this process.

Table 1.
Main areas involved in the process of categorization and some of their roles

Sensory neocortex		Medial temporal lobe		Lateral prefrontal cortex
• perception of stimuli • similarity	⇄	• recognition of features • exemplars and their integration in categories • contextual information	⇄	• top-down control • abstract rules • inhibition • decision-making

3. A puzzle and some unanswered questions

We are still in front of a puzzle when we speak about brain in general, and about categorization in particular as one of its functions. We do not know much yet about the representation of abstract features in the brain, or about meanings and their flexible use, or about metaphors (which can be considered one of the highest form of categorization, transcending all concrete boundaries). But even when we refer to "easier" tasks such as object identification, we are still in the middle of debates and unknowns (Haxby et al., 2000).

We know today that there is not a single area responsible for categorization. But we have to be cautious when we draw conclusions on the basis on neural studies. Even if we don't infer and generalize from animal studies in all the cases, research with new methods in neuroscience (imaging, evoked potentials, etc.) are still subject for reserve: we identify in fact blood flow or electrical activity and infer from there the areas/networks involved. The blood flow can be seen only after the activation of an area (metabolic processes) and this does not enable us to specify with certainty the exact cerebral region for one particular task in real time; the potentials, on the other hand, have good temporal resolution but we cannot establish the exact region where they come from. In other words, we have to keep distance and integrate as many sources as possible for drawing conclusions, from neuroscience to experimental psychology.

Among the future opportunities for better understanding the brain and its functions we can mention developmental psychology and developmental cognitive neuroscience. By investigating the development of psychological functions and the developing brain we may find out about differences/similarities in the processing of children and adults and about the way in which the brain of a child becomes the mature brain of an adult. Coming back to categorization, we could find different or

identical strategies, different or again similar networks and areas involved in learning and representing categories.

In hope for the discovery of more refined tools and tasks for revealing brain mechanisms and cognitive functions, we end up by highlighting some unanswered questions, as questions are most of the times building blocks for future research:

- *How do the networks work together and lead to successful categorization in complex tasks?*
- *Do we have different categorization strategies in the first years of life that would lead to a feature-based organization in the brain, other than features of later formal categories?*
- *Are there other cerebral regions activated in children than in adults that serve the same functions efficiently?*
- *Do we have several networks for an object, one for each category in which it can be included, explaining the flexibility of categorization?*

REFERENCES

Barsalou, L. W. (2003). *Situated Simulation in the Human Conceptual System,* Language and Cognitive Processes, 18, 513-562.

Benga, O. (2003). *Dezvoltarea cogniției sociale la copii,* teză de doctorat nepublicată.

Bideaud, J., Houde, O. (1989). *Le developpement des categorisations: "capture" logique ou "capture" ecologique des proprietes des objets",* L'Annee psychologique, 89, 87-123.

Bush, G., Lun, P., Posner, M.J. (2000). *Cognitive and emotional influences in anterior cingulate cortex,* Trends in Cognitive Sciences, 6/6, 215-222.

Duncan, J., Owen, A. M. (2000). *Common regions of the human frontal lobe recruited by diverse cognitive demands,* Trends in Neurosciences, 23/10.

Estes, W. (1994). *Classification and Cognition,* Oxford University Press.

Gottlieb, J. (2002). *Parietal mechanisms of target representation,* Current Opinion in Neurobiology, 12:134-140.

Grossberg, S. (2000). *The complementary brain: unifying brain dynamics and modularity,* Trends in Cognitive Sciences, 4/6, 233-246.

Harnad, S. (2003). *Cognition is Categorization,* talk given at the UQAM Summer Institute in Cognitive Sciences on Categorization, Montreal, Canada.

Hasegawa, I., Miyashita, Y. (2002). *Categorizing the world: expert neurons look into key features,* Nature Neuroscience, 5/2, 90-91.

Haxby, J.V., Ishai, A., Chao, L.L., Ungerleider, L.G., Martin, A. (2000). *Object-form topology in the ventral temporal lobe,* Trends in Cognitive Sciences, 4/1, 3-4.

Ionescu, T. (2001). *Categorizarea obiectelor la copiii de 3-5 ani – pe bază de trăsături sau pe bază de exemplare?,* Cogniție, creier, comportament, V, 4, 385-403.

Johnson, M.H. (2000). *Functional Brain Development in Infants: Elements of an Interactive Specialization Framework,* Child Development, 71, 1, 75-81.

Keri, S. (2003). *The cognitive neuroscience of category learning,* Brain Research Reviews, 43, 85-109.

Khateb, A., Michel, C. M., Pegna, A. J., Thut, G., Landis, T., Annoni, J.-M. (2001). *The time course of semantic category processing in the cerebral hemispheres: an electrophysiological study,* Cognitive Brain Research, 10, 251-264.

Kraut, M.A., Moo, L.R., Segal, J.B., Hart Jr., J. (2002). *Neural activation during an explicit categorization task: category- or feature-specific effects?* Cognitive Brain Research, 13, 213-220

Martin, A., Wiggs, C.L., Ungerleider, L.G., Haxby, J.V. (1996). *Neural correlates of category-specific knowledge,* Nature, 379, 649-652.

Miclea, M. (1999). *Psihologie cognitivă – Modele teoretico-experimentale,* Polirom, Iaşi.

Miyashita, Y., Hayashi, T. (2000). *Neural representation of visual objects: encoding and top-down activation,* Current Opinion in Neurobiology, 10, 187-194.

Ojemann, G. A., Schoenfield-McNeill, J., Corina, D. P. (2002). *Anatomic subdivisions in human temporal cortical neuronal activity related to recent verbal memory,* Nature Neuroscience, 5/1, 64-71.

Reber, P. J., Wong, E. C., Buxton, R. B. (2002). *Comparing the brain areas supporting nondeclarative categorization and recognition memory,* Cognitive Brain Research, 14, 245-257.

Shimamura, A. P. (1995). *Memory and the Prefrontal Cortex,* in J. Grafman, K. J. Holyoak, F. Broller (Eds.) "Structure and Functions Of the Human Prefrontal Cortex", Annals of the New York Academy of Sciences, vol 769, 151-159.

Smith, E. E., Patalano, A. L., Jonides, J. (1998). *Alternative strategies of categorization,* Cognition, 65, 167-196.

METHODOLOGICAL CONTROVERSIES IN THE NEUROPSYCHOLGICAL ASSESSMENT OF ATYPICAL DEVELOPMENT. IMPLICATIONS FOR THE STUDY OF AUTISM.

LAURA PETRA[*], OANA BENGA[*]

ABSTRACT. The first part of the paper will explore the problematic aspects in the methodology of developmental neuropsychological research as it is employed in the clinical, ecological-rehabilitative and theoretical domains, with an emphasis on the problems related to the investigation of atypical developmental trajectories. Issues related to the validity and utility of such an assessment, despite the inherent difficulties, as well as methodological strategies ensuring more viable inferences will circumscribe the discussion regarding the methodological controversies in developmental neuropsychology. The second part will embody the general aspects presented so far in the search for cognitive-behavioral correlates of the particular developmental trajectory pursued by autistic individuals.

Key-Words*: developmental neuropsychology, methodology, validity and utility*

PART I.
THE DEVELOPMENTAL NEUROPSYCHOLOGICAL ASSESSMENT METHOD: FLAWS AND ASSETS

> *Science is facts; just as houses are made of stones, so is science made of facts; but a pile of stones is not a house and a collection of facts is not necessarily science.*
>
> Henri Poincaré

1. The fundamental questions and aims of developmental neuropsychology

In order to approach the advantages and disadvantages of a particular research method, we must first identify the question at hand and the domain of knowledge that the answer would comprise. Once we have established that, two questions can be raised, regarding the method's qualitative effectiveness (can the data obtained using a particular method answer the question efficiently and accurately?) and the quantitative aspects (what is the extent of which the utility of the method outweighs its costs? Does the unique predictive power of the method increase the overall predictive power of other methods already in use?) (Frazen & Arnett, 1997).

[*] *Department of Psychology, Babeş-Bolyai University, Cluj-Napoca*
E-mail: oanabenga@psychology.ro, laurapetra@psychology.ro

The fundamental questions and aims of neuropsychological assessment have changed across time, but we can imagine them on a continuum having at one end a totally pragmatic approach (localizing a lesion for a surgical intervention when no significant neuroimaging tool was available) and at the opposite end the ambitious theoretical approaches developed by the radical cognitive neuropsychologists, which model sequential cognitive process based on the dysfunctions identified in neuropsychological cases. In developmental neuropsychology, the situation has known the same shift in the questions being asked, as well as in the manner of providing the answers. Tramontana & Hooper (1988, apud Fennell, 2000) characterized **clinical child neuropsychology** as developing across four historical stages, each encapsulating the following *aims*:

- *The single-test approach* (1940-1960), used to separate brain-damaged children from normal children according to differences in their scores on different measures.

- *Fixed batteries of tests* (mid-1960s), providing comparison norms for normal and different types of brain-damaged children populations, also for diagnostic purposes.

- *The study of functional effects of various types of childhood disorders* (1970-1980), when researchers went beyond proving the presence/ absence of a disease, and begun investigating the effects of that disorder on different cognitive-behavioral dimensions.

- *The study of the impact of a brain lesion on everyday functioning* (even nowadays), required the clinical neuropsychologist to become involved in prescribing intervention for the child's rehabilitation both at home and in the school environment.

Fennel (2000) proposes the recent emergence of a fifth stage, namely *the study of the impact of systemic illnesses and their treatments* on survivors of acute and medical disorders of childhood.

Along with this clinical approach, a more theoretically- oriented approach has evolved: **developmental cognitive neuropsychology** (Temple, 1997), studying *models of brain-behavior development and dysfunction*. The extension of applying the adult cognitive neuropsychology framework to interpret developmental disorders has proven controversial, especially with regard to the implicit assumption it conveys, namely that selective behavioral impairments reveal discrete components of the cognitive system that have not developed properly, while the rest of the system develops normally – *The Residual Normality Assumption* (Thomas & Karmiloff-Smith, 2002). Taking a consistent developmental approach requires a shift from the adult neuropsychological framework, as it has to consider the dynamics of gene expression and progressive brain development, as well as the ways in which environments of atypical children differ from normal environments (Karmiloff-Smith, 1997). Not ultimately it has to rely on the fact that specialization of brain circuits is the product of

the development rather than its starting point (perhaps in a form of progressive modularization, Karmiloff-Smith, 1992).

What both the pragmatic and theoretical approaches in neuropsychological assessment have in common is the fact that they rely on inferences based on some direct behavioral measures and some implicit assumptions guiding the process of *interpretation.* It is this inferential model, not the test alone, that links tests scores to brain behavior (Fennell & Bauer, 1997). Sometimes the underlying assumptions differ, raising theoretical and methodological debates (see the case of group vs. single-case studies bellow). Considering that to keep in mind both the pragmatic and the theoretical aims of assessment would prove most beneficial for the realm of developmental neuropsychology, we suggest that developmental neuropsychological assessment should provide answers and solutions for problems in the following fields: clinical, ecological, rehabilitative and theoretical.

The paper will explore the *problematic aspects* in the methodology of developmental neuropsychological research in these fields, with an emphasis on the problems related to the investigation of atypical developmental trajectories. Issues related to the *validity* and *utility* of such an assessment, in spite of the inherent difficulties, as well as *methodological strategies* for more viable inferences will unify the discussion regarding the methodological controversies in developmental neuropsychology.

2. Methodological problems common to most studies in developmental neuropsychology

Developmental cognitive neuropsychology (term coined by Temple, 1997) relies on the study of rare clinical populations that present unusual profiles of cognition, behavior, language, and/or social-emotional development. Mapping the behavioral level onto contrasting and complementary patterns of brain morphology can generate hypotheses about the brain systems responsible for those atypical patterns of behavior, therefore inspiring new theories of the development of mind-brain relations (Bates & Appelbaum, 1994). Still, the fact that these populations are so rare, and therefore the samples so small, generates problems related to the reliability and validity of the results. Usually, both in adult and in developmental studies, researchers gather their data from groups of patients that become available during the course of their clinical practice, which raises concerns regarding sample selection and several confounding variables. More recently, developmental studies start to rely on prospective investigations that compare and contrast patterns of development across several atypical populations of children that are followed longitudinally with both standardized and experimental measures. This procedure can avoid some of the methodological problems specific to traditional clinical neuropsychology, but is not without caveats, as we will try to prove in the next sections.

This part is organized following the structure of a regular research paper, capturing at each level (hypothesis, sample selection, methodology, analysis and

interpretation of results) some problems encountered in cognitive neuropsychological research in general and then providing possible remedies; at the same time we will underline some of the areas and problems specific to developmental neuropsychology.

2.1. Preliminary problems in hypothesis generation

Research in neuropsychology (as any type of research) can be conducted by employing two types of approaches: one that anticipates the outcomes, places the results within a theoretical framework, establishes a proper rate of error and the appropriate statistics - *confirmatory analysis* - and another that takes a discovery approach, where so far little investigated processes are the main focus of attention - *exploratory analysis* – (Lezak & Gray, 1984). The basic principles of exploratory data analysis have been summarized by Tukey (1977) and Mosteller & Tukey (1977).

It is quite common that researchers employ a confirmatory approach, as the field of neuropsychology has developed enough to allow reasonable hypothesis to be developed. On the other hand, approaches that attempt exploratory investigations (for instance unusual dissociations found in single-case studies) often do not cross-validate their results prior to the acceptance of the new findings, which makes the outcomes of their investigation hard to interpret.

2.2. Biases in sample selection and possible solutions

This is one of the greatest issues in neuropsychological research that casts doubts regarding the validity and reliability of subsequent steps. There is no universally accepted solution and controversies related to this initial step are vivid even nowadays. We will first present some common problems related to sampling in the case of developmental neuropsychological research and continue with the general debate regarding single-case versus group research in neuropsychology and how it applies to developmental studies.

Common problems and some solutions
- *Low base rates* of specific neurological disorders: some are common, other occur infrequently. Solutions in the literature: use of a small sample size, increase in heterogeneity, (unreasonably) prolonging the time of data collection.
- *Demographic variables* proven to influence performance: age, education, sex, handedness, ethnicity. Solutions: matching (although difficult proper control of all variables), not forcing subjects into comparison groups, because it decreases the demographic representativeness.
- *Group heterogeneity.* Solutions: diagnostic criteria should be specified prior to subject selection, consistency in selection methods (applying the same methods, for instance not selecting a group diagnosed according to either CT *or* MRI investigations).
- *Variation in premorbid intelligence and general functioning*, which are hard to be accounted for. Solutions: eliciting reports from multiple sources (child, parents, teachers) regarding premorbid status.

96

The single-case versus the group approach.

There is a strong movement in cognitive neuropsychology against the use of groups of any size, its proponents (e.g. Badecker & Caramazza, 1985, 1986; Caramazza, 1986; Miceli, Silvieri, Romani, & Caramazza, 1989; Tyler, Cobb & Graham, 1992) being called "radical neuropsychologists" or "ultra-cognitive neuropsychologists" (Shallice, 1988). Although more elaborated, their main arguments against group studies concern the non-representativeness of the mean when data from individual subjects are collapsed and the importance of minority patterns that can be of great theoretical importance (Bates, Appelbaum & Allard, 1991). They claim that we should not expect or require replications in cognitive neuropsychology, because it is quite unlikely to find patients with identical lesions and without confounding external conditions.

Still, the single-case approach seems even more vulnerable to individual biases (associations and dissociations that occur for indiosyncratic reasons) that threaten any attempt to generalize the results. The patient can develop his own self-fulfilling theory of what is "hard" or "easy" for him, and what we measure would be an adaptation to the disease process itself (Heeschen, 1985; Kolk, 1985) rather than a relationship between symptom patterns and the architecture of the brain. Although the problem of idiosyncratic adaptations is reduced for researchers working with rare populations of children, it cannot be totally eliminated.

On the other hand, the call has been strong for developmental neuropsychology to focus on group studies in order to distinguish atypical patterns of behavior and then relate them to some underlying neuropathology, generating (if possible) "cognitive-behavioral phenotypes" (Dykens, 2000) vital for elaborating both theoretical models of development and therapeutical interventions. As Bishop (1997) claims " the answer is not to restrict attention to the study of individual cases, but, rather, to identify reliable clusters of deficit; only by studying groups of individuals can we begin to disentangle what is systematic signal and what is noise from the complex patterns of impairment…". For an extended discussion of the problems related to the interpretation of results from studies with small groups, see Bates & Appelbaum (1994).

Therefore, the researcher has to "navigate these dangerous methodological waters… between Scylla (the dangers of research that combines subjects into clinical groups) and Charybdis (the dangers of research with single cases)" (Bates & Appelbaum, 1994). This issues should not be discouraging for the study of small groups of children with atypical development, but rather act as a warning for the researcher to be very cautious with the process of sampling, the experimental design and most importantly, with the analysis and interpretation of data.

2.3. Design and procedure
Problems particular to the type of assessment

At this point, we must make a distinction between the types of designs involved in neuropsychological assessment according to the format of the test being used (Fennell, 2000), each with its particular advantages and problems.

First of all, there is a *fixed battery approach,* which involves the administration of the same set of standardized tests to each child, regardless of the diagnostic question. These batteries have generally been empirically derived, sometimes from adult versions of the tests with items altered, deleted or eliminated, to make them more age appropriate for children. The emphasis is on the quantitative differentiation of patient groups from normal children, without respect to many qualitative aspects of this difference.

A second approach would be the *flexible battery approach,* which utilizes a core battery of tests that are administered, along with additional tests that are selected to address specific referral questions (Rourke et al., 1986; Korkman, Kirk &Kemp, 1998). This type of approach allows the examiner to follow both a nomothetic approach (core battery) and an idiographic approach (additional tests) to better describe a particular childhood syndrome.

Finally, the *patient-centered approach* allows the examiner to select tests to be employed based on both the referral question and the child's performance on a given task, which provides an individualized portrait of the child's cognitive-behavioral status. This approach requires a great deal of clinical experience from the examiner, both at the level of selection and interpretation of test performance, as he can no longer rely on the integrated normative data from a test battery.

At this point, we would add to Fennell's (2000) classification a *profile-centered approach,* which is either exploratory or confirmatory in nature, and which employs the tests measuring critical abilities consider to be impaired or spared in children with a certain diagnosis. The resulting evaluation would lead to the discovery (in the case of some diagnosis) of *cognitive-behavioral phenotypes,* namely "the heightened probability of a behavior or cognitive feature to characterize a particular syndrome" (Dykens, 2000), with important implications both for the intervention plan in the case of children with that diagnosis and for theoretical models regarding patterns of brain-behavior relationships noticed in these profiles. We will provide an example of such an attempt to find a cognitive-behavioral phenotype in the case of autism in the second part of this paper.

Other problems common to all these types of assessment procedures include the difficulty of finding an adequate control group, namely in deciding what is "normal". Usually, as a possible solution, the normative samples are large and they provide special norms according to age, sex, sometimes even ethnical groups.

Other factors in the procedure that have been found to influence the results of the assessment are related to the testing environment, test length, division of testing sessions, order of test administration (Krull, 1997), and therefore they have to be carefully controlled for.

2.4. Analyzing data

Once the process of data gathering has been completed, appropriate statistical procedures have to be employed; we will first focus on the last type of investigation that we have described, which is also the most complex, namely the search for a *cognitive-behavioral profile* for children with a certain diagnosis. In this case, the investigation of complex patterns of behavior combines the "bottom-

up" search associated with the exploratory use of regression, factor analysis and discriminant function analysis, with the "top-down", confirmatory approach to profile analysis. Researchers sometimes do not pay enough attention to issues regarding the normality of the distribution, intra-group variance, the power of the test being used, the presence of outliers, etc. It is important to plan a good match between data sets and the analytic tools, to replicate the findings, to use estimates of missing data but to compare them to the data set reduced by subjects with the missing data (Little & Rubin, 1987).

We appreciate that the approach suggested by Bates & Appelbaum (1994) is extremely valuable for the study of atypical developmental profiles, so we will present a condensed version (see Table 1) of their methodological suggestions, in order to implement what they call: *Six Homilies for Small Sample Research in Risk-Based Samples.* For those interested in a more detailed account, we recommend the chapter written by Bates & Appelbaum in *Atypical Cognitive Deficits in Developmental Disorders: Implications for Brain Function* (Broman & Grafman, Eds, 1994).

Returning to the previous types of neuropsychological assessment, we must notice that very useful and elegant methods have been devised for drawing inferences using *the fully-standardized approach*; e.g. see Capitani, (1997), De Renzi, Faglioni, Grossi, & Nicheli, (1997), Willmes (1985) – apud Crawford et al. (2004). However, because new constructs are constantly emerging in neuropsychology and the collection of large-scale normative data is a time-consuming and arduous process (Crawford, 2004) the required normative data in the prototypical single-case study remains one in which a patient is compared to a modestly-sized control sample.

Typically in *intra-individual studies* within-individual inferential methods are employed (chi-square tests are typical) to compare a patient's performance on Task *X* with their performance on Task *Y*. Based on the distorsions that the intra-individual comparison can induce as compared to the comparative with a normative sample, it can be concluded that single-case studies should never rely on within-individual analysis alone; a patient's performance should always be referenced to control performance.

Methods have been developed for comparing an individual patient's score with a control sample: these address the question of whether or not the patient exhibits a statistically significant deficit (Crawford & Howell, 1998). In contrast to the common use of z, Crawford & Howell's (1998) method treats the control sample statistics *as* statistics rather than as parameters. Recent work using Monte Carlo simulations (Crawford & Garthwaite, in press a) confirms that this test controls the Type I error rate regardless of the size of the control sample. For those interested in a more detailed account of the statistical procedures available for single-case studies in neuropsychology, as well as in downloading specific statistical programs, we recommend the dedicated webpage of the University of Aberdeen (see References).

Table 1

Problematic issues and statistical solutions for neuropsychological research in atypical development. (adapted from Bates & Appelbaum, 1994)

6 Problematic issues	Three levels of analysis	Steps of the levels of analysis	Statistical questions, procedures and tools
1.*Deviation from the normal distribution* 2.*Missing data* 3.*Protection against ad-hoc results* 4.*Protection against multiple tests of significance* 5. *Replication* 6. *Match between data sets and analytic tools.*	Level 1 **Data Reduction and Exploratory Analysis**	Data preparation	-Is there a normal distribution? -Is there homogeneity of variance between the groups that are to be compared? -Can several measures be aggregated in a more robust index? -Methods for outlier detection, visual inspection of data distribution (Data Desk, Vellman, 1988) -Data reduction: principal components analysis, redundancy analysis
		Specific hypothesis generation	Data Desk, EDA programs (e.g., JUMP- Sall, 1989) for visualizing data
	Level 2 **Parametric and Nonparametric Tests of Specific Hypotheses**		-Standard between-group analysis of variance / -Multiple analysis of variance / -Discriminant function analysis / -Nonparametric tests / -Randomization tests
	Level 3 **Integrative Analyses and Construction of Comparative Models**	Techniques for evaluating *profiles* within and across populations	-Maximum Likelihood Estimation (implementation: program STEPIT, Chandler, 1969)
		Techniques for the analysis of developmental change (cross-sectional and longitudinal data)	-Time series analyses, survival analyses (examine the degree to which a given individual or group is off schedule in the achievement of a developmental milestone -Hierarchical Linear Modelling (HLM; Bryk & Raudenbush, 1987)

2.5. *Interpreting the results*

This is the most important and at the same time the most problematic aspect in neuropsychological assessment; most of the issues that will be discussed in the next section regarding validity are also applicable to the discussion about the accurate interpretation of the data from neuropsychological testing. Still, we will mention here some critical aspects that are not always taken into account:

- *Level versus pattern of performance*. The examiner should not only measure performance level, but should also perform a qualitative analysis, noticing if there are pattern of errors and if the child has developed compensatory strategies that lead him to the correct solution in an alternative way.

- *Distinction between the clinical and the ecological significance*. Clinical significance is not the same with statistical significance, and this problem emerges especially when there is an excessive focus on the level of performance. Numerous studies demonstrate differences between groups with the mean performance of both groups in the clinically "normal" range. Before one should attempt to define clinical meaningfulness in statistical terms, such as reliability and magnitude of a change in the score on a particular cognitive test, it must be demonstrated that these parameters are related to clinical outcomes (Keith & Puente, 2002).

3. Types of validity to be considered in neuropsychological assessment

We have argued so far that each methodological step made in developmental neuropsychological studies is accompanied by potential problems, some of them being avoidable, other harder to overcome, but all these variables should be explicitly taken into account during the process of interpreting the data. Furthermore, how do these problems relate to the validity and utility of neuropsychological assessment? Are they compromised from the very beginning or are there strategies to increase both validity and utility, and therefore to justify the utilization of such an approach?

It has been argued that although weaker than recent neuroimaging devices in localizing lesions, the neuropsychological method is vital in the discovery of the functional architecture of the human mind and in issues of intervention and rehabilitation (Humphreys & Price, 2001; Petra, 2004). So if it's expected utility (at least the level of what it promises to accomplish) is certain, how can we increase the actual utility of this approach? This takes us first to the types of validity that have to be considered, which we will just skim, although a more in depth analysis of each issue could be accomplished. As a general remark, although the term validity is often applied to tests, it is rather a measure to be applied to the inferences drawn from tests rather than to the tests themselves.

Both for research and for clinical purposes, the following types of validity should be taken into account while developing and applying the neuropsychological tests (Franzen & Arnett, 1997): Table 2. Types of validity in developmental neuropsychological assessment (synthesis from Franzen & Arnett, 1997; Reynolds, 1989; Heinrichs, 1990)

Table 2.

Types of validity in developmental neuropsychological assessment
(synthesis from Franzen & Arnett, 1997; Reynolds, 1989; Heinrichs, 1990)

TYPE OF VALIDITY	WHAT IT RELATES TO	HOW IT CAN BE EVALUATED AND INCREASED
Face validity	Perceptions of the participant about the test Motivation to perform at an optimal level	Asking participants about their subjective impressions. Use these opinions in improving test design.

TYPE OF VALIDITY	WHAT IT RELATES TO	HOW IT CAN BE EVALUATED AND INCREASED
Factorial validity	Psychometric integrity of the combination or concatenation of individual items into scales	Reanalysis of factor structure and new combinations of items into scales. Different strategies across the life span sometimes result in different factor structure of the test for various age groups
Construct validity	The extent to which a test measures the underlying construct	The multitrait—multimethod matrix (Campbell & Fiske, 1959). Accumulating a solid body of empirical evidence
External criteria: diagnostic accuracy	Localization information Identification of disease processes	Examine the classification accuracy of various cutoff scores (false positives and negatives) and the resulting "hit rate". Problem of the base rate of a disorder and its change across the life span makes some diagnostics less likely to be considered.
Ecological validity	*Verisimilitude* - degree of concordance between the determinants of the behaviors elicited by a test and determinants of the behavior to be predicted. *Veridicality* – level of accuracy of predicting the behaviors in the free environment from test results. (Franzen & Wilhelm, 1996)	Comparing task demands of the test with task demands of the setting to which prediction will occur. Evaluating various abilities in their natural setting and correlating with test results, using behavioral assessment and questionnaires. Test scores should predict skills, not just deficits (Chelune, 1982)
Descriptive validity	Whether the test accurately describes the *processes* involved in producing the measured behavior	Examining strategies used to solve the task (they can vary across the life span).

4. Conclusions regarding validity, utility and future directions

Since the original studies in neuropsychology, which only required performance deficits to be associated with specific lesions as a measure of validity, research in this field has progressed significantly. Reconsidering the domains in which we considered neuropsychological assessment to be relevant, we can conclude that problems of validity are differentiated among these fields.

Clinical neuropsychologists have known a relative success in demonstrating the validity of test data as predictors and descriptors of various medical conditions, but with the advent of medical technology, the neurodiagnostic validity of neuropsychological assessment has been surpassed. So, despite its comparative success, the utility of medically referenced assessment has been decreasing (Heinrichs, 1990). At the same time, the statement of the National Academy of Neuropsychology is that "The sensitivity of neuropsychological tests is such that they often reveal abnormality in the absence of positive findings in CT and MRI scans. Moreover, they can identify patterns of impairment that are not determinable through other procedures, leading to appropriate treatment recommendations" (see References), so they have what can be called *incremental validity* as well.

A second field of application, which should prove more fruitful, is the *ecological-rehabilitative* one, but unfortunately the knowledge base in support of these new applications is not very extensive. There is a recent emphasis on such applications, but as Heinrichs (1990) mentioned "practitioners are trying to answer today's questions with yesterday's ideas and yesterday's instruments". In order to make viable inferences for practical problems, validation of newer tests is multidimensional, including the ecological and rehabilitative aspects of assessment. This is leading to the development of measures that can predict treatment response and recovery, skill acquisition and environmental competence.

Last but definitely not least, the use of small samples of children with atypical developmental trajectories, especially when there is a common path of development complementary to brain damage is of great relevance for *theoretical* models of cognitive development. The investigator has to collect and analyze the data that accurately represents the nature of the problem. It has become clear in all aspects of developmental neuroscience that there is no substitute for the investigation of dynamic change in brain and behavior over time: even if the level of performance might be similar to the adult result, the mechanisms and dynamics through which they do so may differ, and "adultomorphic mechanisms cannot be expected to encompass the entire array of childhood dynamics" (Rourke, 1995). The second part of the paper will exemplify the issues presented so far in the case of the methodology employed in autism research.

An integrated neuropsychological paradigm is recommended for making accurate clinical diagnoses, for determining the course and prognosis and for designing treatment interventions for childhood and adolescent disorders and for making inferences regarding brain-behavioral relationships in the developing child. As we have discussed in the previous sections, there are several inherent methodological difficulties, resulting on one hand from the rarity of the population being under scrutiny and on the other hand from the still "rudimentary" (Reynolds, 1997) understanding we have about the functioning of the central nervous system. These difficulties constrain the validity and utility of the inferences, yet with the appropriate tools, the study of the cognitive-behavioral correlates of brain damage is one of the most promising attempts towards understanding the dynamics of the way cognition maps onto brain (Bates & Appelbaum, 1994).

REFERENCES

Badecker W., & Caramazza A. (1985). On considerations of method and theory governing the use of clinical categories in neurolinguistics and cognitive neuropsychology: The case against agrammatism. *Cognition, 20.*

Badecker W., & Caramazza A. (1986). "A final brief in the case against agrammatism: The role of theory in the selection of data". *Cognition, 24.*

Bates E., Appelbaum M. & Allard L. (1991). Statistical constraints on the use of single cases in neuropsychological research, *Brain and Language, 40*, 295-329,

Bates, E. & Appelbaum, M. (1994). Methods of studying small samples: issues and examples. In *Atypical Cognitive Deficits in Developmental Disorders: Implications for Brain Function.*   S. H. Broman, J. Grafman, Eds. Lawrence Erlbaum Associates. Hillsdale, NJ.

Bishop, D.V.M. (1997). Cognitive neuropsychology and developmental disorders: Uncomfortable bedfellows. *The Quarterly Journal of Experimental Psychology, 50A(4),* 899-923

Broman, S. H. & Grafman, J. (1994). *Atypical Cognitive Deficits in Developmental Disorders: Implications for Brain Function.* Hillsdale, NJ.

Bryk A. S., & Raudenbush S. W. (1987). Application of hierarchical linear models to assessing change. *Psychological Bulletin, 101* (1)

Campbell, D.T. & Fiske, D.W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin, 56,* 81-105.

Caramazza A. (1986). On drawing inferences about the structure of normal cognitive systems from the analysis of patterns of impaired performance: The case for single-patient studies. *Brain and Cognition, 5*, 41-66.

Chandler J. (1969). "Subroutine STEPIT finds local minima of a smooth function of several parameters". *Behavioral Science,14*, 81-82.

Chelune, G.J. (1982). Toward a neuropsychological model of everyday functioning. *Psychotherapy in Private Practice,3,* 39-44

Crawford, J. R. (2004). Psychometric foundations of neuropsychological assessment. In L. H. Goldstein & J. McNeil (Eds.), *Clinical Neuropsychology: A Practical Guide to Assessment and Management for Clinicians* (pp. 121-140). Chichester: Wiley.

Crawford, J. R., & Garthwaite, P. H. (in press a). Testing for suspected impairments and dissociations in single-case studies in neuropsychology: Evaluation of alternatives using Monte Carlo simulations and revised tests for dissociations. *Neuropsychology.*

Crawford, J. R., & Howell, D. C.(1998). Regression equations in clinical neuropsychology: An evaluation of statistical methods for comparing predicted and obtained scores. *Journal of Clinical and Experimental Neuropsychology, 20*, 755-762

Crawford, J. R., Garthwaite, P. H., Howell, D. C., & Gray, C. D. (2004). Inferential methods for comparing a single case with a control sample: Modified t-tests versus Mycroft et al's. (2002) modified ANOVA. *Cognitive Neuropsychology*, *21*, 750-755.

Crawford, J. R., Garthwaite, P. H., Howell, D. C., & Venneri, A. (2003). Intra-individual measures of association in neuropsychology: Inferential methods for comparing a single case with a control or normative sample. *Journal of the International Neuropsychological Society,9,* 989-1000.

Downloaded   from: National   Academy   of   Neuropsychology http://nanonline.org/downloads/paio/NeuropsychAssessment.pdf

Downloaded from: University of Aberdeen: Single-Case Methodology in Neuropsychology http://www.abdn.ac.uk/~psy086/dept/SingleCaseMethodology.htm

Dykens, E.M. (2000). Annotation: Psychopatology in children with intellectual disability. *Journal of Child Psychology and Psychiatry,* 41, 407-417

Fennell E. B., & Bauer R. M. (1997). Models of inference in evaluating brain-behavior relationships in children. In C. R. Reynolds & E. Fletcher-Janzen (Eds.), *Handbook of clinical child neuropsychology* (2nd ed., pp. 204-215). New York: Plenum Press.

Fennell, E. B. (2000). Issues in Child Neuropsychological Assessment In *Clinician's Guide to Neuropsychological Assessment*. Contributors: Rodney D. Vanderploeg - editor. Publisher: Lawrence Erlbaum Associates.

Frazen, M.D. & Arnett, P. (1997). The validity of neuropsychological assessment procedures. In *Biological and Neuropsychological Mechanisms: Life-Span Developmental Psychology*. Lawrence Erlbaum Associates, NJ

Heeschen C. (1985, March). *The notion of "conventionality" of an expression in cross-linguistic research on aphasia*. Paper presented at the Conference on Cross-linguistic Studies of Grammatical Processing in Aphasia, Royaumont Conference Center, Paris

Heinrichs, R.W. (1990). Current and emergent applications of neuropsychological assessment: Problems of validity and utility. *Professional Psychology: Research and Practice, 21(3),*171-176

Humphreys, G.W., & Price, C.J. (2001). Cognitive neuropsychology and functional brain imaging: implications for functional and anatomical models of cognition. *Acta Psychologica, 107,* 119-153

Karmiloff-Smith, A. (1992).*Beyond modularity: A developmental perspective on cognitive science.*

Karmiloff-Smith, A. (1997). Crucial differences between developmental cognitive neuroscience and adult neuopsychology. *Developmental Neuropsychology, 13(4),* 513-524.

Keith, J.R. & Puente, A.E. (2002). Deficiencies in the detection of cognitive deficits. *Neuropsychology, 16(3),* 434-439.

Kolk H. (1985, March). *Telegraphic speech and ellipsis*. Paper presented at the Conference on Cross-linguistic Studies of Grammatical Processing in Aphasia, Royaumont Conference Center, Paris.

Korkman, M., Kirk, U., & Kemp, S. (1998). *NEPSY: A Developmental Neuropsychological Assessment.* New York: The Psychological Corporation

Krull, K.R. (1997). Problems in neuropsychological research methodology. In *Clinical Neuropsychology: Theoretical Foundations for Practitioners.* Contributors: Mark E. Maruish - editor, James A. Moses Jr. - editor. Publisher: Lawrence Erlbaum Associates.

Lezak, M., & Gray D.(1984). Sampling problems and nonparametric solutions in clinical neuropsychological research. *Journal of Clinical Neuropsychology,6*(1), 101-109.

Little R., & Rubin D. (1987). *Statistical analysis with missing data*. New York: Wiley.

Miceli C., Silveri M. C., Romani C., & Caramazza A. (1989). Variation in the pattern of omissions and substitutions of grammatical morphemes in the spontaneous speech of so-called agrammatic patients. *Brain and Language, 36*, 447-492, MIT Press/Bradfod Books

Mosteller F., & Tukey J. (1977). *Data analysis and regression*. Reading, MA: Addison-Wesley.

Petra, L. (2004). A critical perspective upon neuropsychology: Applications and implications for the study of atypical development (In Romanian). *Cognitie, Creier, Comportament (Cognition, Brain, Behavior) 8 (1),* 1-19.

Reynolds, C.R. (1997). Development of neuropsychological measures. In *Biological and Neuropsychological Mechanisms: Life-Span Developmental Psychology.* Lawrence Erlbaum Associates, NJ

Rourke B. P. (1995). *Syndrome of nonverbal learning disabilities: Neurodevelopmental manifestations*. New York: Guilford Press.

Rourke B. P., Fisk J. L., & Strange J. D. (1986). *Neuropsychological assessment of children: A treatment oriented approach*. New York: Guilford Press.

Sall J. (1989). *JUMP, version 2: Software for statistical visualization on the Apple Macintosh*. Cary, NC: SAS Institute.

Shallice T. (1988). *From neuropsychology to mental structure*. New York: Cambridge University Press.

Thomas, M. & Karmiloff-Smith, A. (2002). Are developmental disorders like cases of adult brain damage? Implications from connectionist modeling. *Behavioral and Brain Sciences, 25*

Tramontana M., & Hooper S. R. (1988). *Assessment issues in child neuropsychology*. New York: Plenum Press.

Tukey J. (1977). *Exploratory data analysis*. Reading, MA: Addison Wesley.

Tyler L. K., Cobb H., & Graham M. (1992). *Language disorders: A psycholinguistic account of language comprehension deficits*. Cambridge, MA: MIT Press.

Vellman P. (1988). *Data Desk*. Northbrook, IL: Odesta.

UNIVERSALS OF LANGUAGE REVISITED

ALINA PREDA

ABSTRACT. Linguistic universals belong to the category of human universals. Still, some linguists argue that there are no linguistic universals, since exceptions to any rule may always be found. However, as different from science, where a law is automatically ruled out if an exception is proven to exist, linguistics functions according to rules subject to exceptions. Though the nearly five thousand languages spoken in the world today seem to be quite different, many of them show similar principles. Given this high number of languages, and since many languages have not even been the subject of extensive research yet, it would be hard not to find any exceptions. Therefore, not all universals can be found in all languages.

In their *Preface* to *Universals in Linguistic Theory*, Bach and Harms (1968) argue that the very purpose of linguistic theory is "to discover what is common to all languages, what is essential in the notion 'natural language', as well as "the limits within which languages can vary", and the universal "terms by means of which this variation can be described".

The Concept of Linguistic Universals. Short History

According to the theory of linguistic universals all natural languages have certain linguistic features in common. As Nicola Nobili (1999) points out, this idea is by no means new. The myth of the Babel Tower (Genesis; 11, 1-9), -- quoted in Pinker (1994: 231), -- postulating that all languages originated in and developed from one and only language – Herbrew, the Medieval idea of a "gramatica universalis" to which all language specific grammars can be reconnected; the Renascentist attempts of Descartes and its followers to determine the structure of a universal grammar, all these are just a few examples of how widespread the idea of an element common to all human languages is. However, there is little, if any, true scientific value in these theories, as they are mainly philosophical. It was only in the 18th century that more scientific endeavours were made. Steven Pinker (1994: 251-252) draws attention to Sir William Jones's discovery of certain common features when comparing Greek, Latin, Sanskrit and a number of contemporary languages. These are some of the affinities that Jones dwells upon:

GREEK:	phrater	methu	esti	phereis	pherei
LATIN:	frater		est	fers	fert
OLD SLAVIC:	bratre	mid	yeste	berasi	beretu
OLD IRISH:	brathir	mith	is		beri
SANSKRIT:	bhrater	medhu	asti	bharasi	bharati
ENGLISH:	brother	mead	is	thou bearest	he bears

After studying the long-dead language called Sanskrit, Jones stated:

"The Sanskrit language, whatever may be its antiquity, is of a wonderful structure; more perfect than the Greek, more copious than the Latin, and more exquisitely refined than either, yet bearing to both of them a stronger affinity, both in the roots of verbs and in the forms of grammar, than could possibly have been produced by accident; so strong indeed that no philologer could examine them all three, without believing them to have sprung from some common source, which, perhaps no longer exists; there is a similar reason, though not quite so forcible, for supposing that both the Gothic[[Germanic] and the Celtic, though blended with a very different idiom, had the same origin as the Sanskrit; and the old Persian might be added to the same family..."

(quoted in Pinker, 1994 : 251-252)

Thus came into being the idea of a proto-language that was at the origin of all Indo-European languages.

Universal Grammar and the Theory of Language Acquisition.
In the 1960s, Chomsky's work gave a new impetus to the research on linguistic universals. Studies in language acquisition led linguists to assume that since all human beings share the basis of language, there must be some characteristics common to all natural languages. Chomsky's *Reflections on Language* is an attempt to clarify his position with respect to the theory of language acquisition. Postulating, from the start, the existence of an 'initial state of the mind' that, influenced by the environment and by processes of maturation, reaches a 'steady state', Chomsky points out the rapidity of this development in the case of language acquisition. A scientist undertaking the study of cognitive structures is likely to identify the following two elements in the 'steady state':
" (i) a system of beliefs and expectations about the nature and behaviour of objects, and (ii) a system of language" (Chomsky 1976:139).
What follows is an outline of the investigations in language acquisition, presented through a parallelism with other cognitive systems, outline that clearly shows the importance of generative transformational grammar to the development of a linguistic theory aiming to account for the fact that speakers of a language are capable of generating and understanding an infinitude of sentences they have never heard before.
Scientific methods cannot always be employed when it comes to linguistic inquiries, and sometimes the scientist is faced with the necessity to use his intuitions and insight, to appeal to idealisation and abstraction, if any progress is to be made. What he cannot venture to employ are such notions as 'analogy' and 'generalisation', which are inappropriate for the study of language. One of the hypothesis worth investigating is the existence of a generative grammar consisting of a system of rules and a set of principles able to assign representations -- at the phonetic, semantic and syntactic level -- to an infinitude of expressions. This generative grammar is in permanent interaction with other cognitive structures incorporated in the final state of the mind, and each of the above mentioned representations is

108

somehow represented in a universal system. What people label as 'knowledge of a language' is, in fact, an internalised grammar, one of the cognitive components of the 'steady stage'. A comparison is drawn between grammar and common sense, on the one hand, and 'knowledge of physics', on the other (Chomsky 1976: 144).

GRAMMAR + COMMON SENSE	KNOWLEDGE OF PHYSICS
acquired	
by everyone	selectively
in a uniform way	not in a uniform way
rapidly	slowly
effortlessly	with a lot of effort
without explicit teaching	under careful guidance
without explicit training	through careful instruction
once and for all	in time
with no significant ulterior modifications	through different stages, modified continually

This comparison leads to the conclusion that the human organism is specifically adapted to acquire language. Experience, maturation, and the environment also play a part in the process of language acquisition.

The role of the scientist is to determine what elements of the grammar are universal, and differentiate them from those specific to individual languages. Starting from the hypothesis that the postulated grammar is of the generative transformational type, and derives the sentences' surface structures from the deep structures (initial phrase markers), the scientist will reach the conclusion that this grammar contains a set of rules governed by a number of principles and by general principles of interpretation of initial phrase markers and surface structures (see Chomsky 1976:150). The speaker's internalised grammar has the form of generative rule systems, – finite systems with infinite output –, able to account for linguistic creativity.

Modern linguistics has attacked traditional and structuralist grammars and also rejected universal grammars, but has failed to provide descriptive adequacy, being unable to account for the creative aspect of language use and for the existence of linguistic universals. The idea of a 'natural order of thoughts' mirrored by word order is misleading and naïve. This way of looking at language is equivalent to using questions as answers: instead of questioning, we use what should be explained as an explanation in itself. Generative grammar seems to be the only one possessing the necessary tools for solving the puzzle of language acquisition, by not only describing the intrinsic competence of the speaker, but by also providing an explicit analysis of his contribution. (see Chomsky 1965:4) The image of generative grammar conveyed by Chomsky in the first chapter of *Methodological Preliminaries* (1965) is as follows: a grammar that describes the speaker-hearer's intrinsic competence, provides an explicit analysis of his contribution during linguistic performance, accommodates the creative aspect of language and accounts for linguistic universals. According to Albert (2003) universal grammar is "part of the knowledge that resides

in the human mind of a person who knows a language. The science of linguistics tries to ascertain what constitutes universal grammar and what, beyond universal grammar, differentiates languages from one another". As Noam Chomsky puts it:

> "We may think of the language faculty as a complex and intricate network of some sort associated with a switch box consisting of an array of switches that can be in one of two positions. Unless the switches are set one way or another, the system does not function. When they are set in one of the permissible ways, then the system functions in accordance with its nature, but differently, depending on how the switches are set. The fixed network is the system of principles of universal grammar; the switches are the parameters... When these switches are set, [a person] has command of a particular language and knows the facts of that language: that a particular expression has a particular meaning, and so on. Each permissible array of switch settings determines a particular language."

On the Existence of Linguistic Universals

There are features of culture, society, behaviour, and psyche to be met in all ethnographically or historically recorded human societies. No known exceptions to their existence have yet been found: myths and legends, sex roles, social groups, aggression, gestures, emotions, psychological defense mechanisms, etc. These are called human universals. As David Brown (1991) shows, "[b]roadly defined universals often contain more specific universals, as in the case of kinship statuses, which are universally included among social statuses." Linguistic universals are also part of the category of human universals. Still, some linguists argue that there are no linguistic universals, but only natural tendencies, "applicable to a large number of languages, to which a few exceptions can also be found." Nobili (1999) However, as different from science, where a law is automatically ruled out if an exception is proven to exist, linguistics functions according to rules subject to exceptions. As Nobili shows, "[t]he denial of any rule that does not prove applicable in 100% of cases would limit the concept of Universals of Translation [for example] to mere pseudo-linguistic speculation."

Though the nearly five thousand languages spoken in the world today seem to be quite different, many of them show similar principles. Given this high number of languages, and since many languages have not even been the subject of extensive research yet, it would be hard not to find any exceptions. Therefore, not all universals can be found in all languages. Here are some notes on the terminology related to universals of language: rules that appear without exception in the languages studied so far come under the name of *absolute universals*; rules for which minor exceptions have been found come under the name of *universal tendencies* or *relative universals*. If the rules hold only if a particular condition of the language structure is fulfilled, the universals are called *implicational*. Universals that can be stated without conditions are called *nonimplicational*. There are, thus, four types of universals: implicational absolute universals, implicational relative universals, nonimplicational absolute universals, and nonimplicational relative universals. Only intensive field research can lead to a final determination of which type a universal belongs to. In spite of this classification, some linguists believe, like Croft (1990), that universals of language are

110

probably never nonimplicational, namely of the form 'All languages have *x*', but almost always implicational, namely of the form 'If a language has *y*, then it also has *x*'. Thus, language universals do not provide a template for grammar, and allow for substantial variation in type. When several languages share the same basic patterns or principles, we speak of *language types*. There are semantic universals, phonological universals and syntactic universals. For a detailed analysis of these types of linguistic universals visit the following web site:

http://www.uni-kassel.de/fb8/misc/lfb/html/text/2frame.html

Semantic Universals

There are semantic universals, such as "male" or "female," "animate" or "human," to be found in every language in the world. There are semantic categories shared by all cultures and referred to by all languages: for example colour words and pronouns.

There exist eleven basic colour terms: *black, white, red, green, blue, yellow, brown, purple, pink, orange, and grey.* Not all languages have all basic colour terms. However, **there is** a universal pattern: languages with two colour terms always have *black* and *white*, those with three *black*, *white* and *red*, and those with more have additional basic colour terms according to the order in the list above. The languages which have the same basic colour terms in common belong to the same *language type*, and, according to this scheme, seven classes of languages have been identified: languages with two, three, four, five, six, seven colour words, and languages with eight to eleven such words.

There is a universal pattern in the case of pronouns as well. Linguists observed that the composition of pronoun systems is dictated by several universal rules that regulate distinctions in number and person: all languages that are restricted to two classes of pronouns, singular and plural, each in the first, second, and third person, are grouped into one language type. Other languages make use of even more pronouns: the *dual* pronoun makes it possible to address two people specifically indicating that there are 'two' people; i*nclusive* pronouns refer to the speaker and the addressee together, and *exclusive* pronouns refer to the speaker together with people other than the addressee.

Phonological Universals

All human languages contain "a finite set of discrete sounds (or gestures) that are combined to form meaningful elements or words, which themselves form an infinite set of possible sentences". (de Valenzuela,1988) Every spoken language includes discrete sound segments like *b*, *m*, or *i*, which "can be defined by a finite set of sound properties or features". (de Valenzuela,1988)

Every spoken language has a class of vowels and a class of consonants. Several universal principles governing the composition of vowel and consonant systems have been uncovered. Although different languages may have very different sets vowels there are universal rules governing the distribution of vowels. The classification of languages function of their vowel system is similar to the classification of languages according to the colour words they contain. All languages have at least three vowels. This is an example of a nonimplicational absolute universal. Languages

111

with few vowels always have the same set of vowel types. And if a language has more vowels, it is always the same type of vowel that is added to the set. These vowels may not always sound exactly the same, but they are always created at the same location in our vocal apparatus. (see Finegan, 2002, for detailed explanations).

Syntactic Universals

As Finegan (2002) points out, such universals include word order universals, possessor and possessed noun phrase universals, preposition and postposition universals, and relativisation universals.

It may seem that the order of words cannot be a universal rule, since even one and the same language may evince more than one pattern of word order. For example English is considered an SVO language, but there are sentences in this very language that do not follow this order. Nevertheless, the order subject, verb, object (SVO) may be defined as the *basic* order of English sentences. Other languages conform to different "basic" orders: Japanese is an SOV language, Tongan, a Polynesian language, is VSO, Quechua, an Amerindian language spoken in Argentina, is OVS. As a result of an extensive study, two different sets of basic orders that languages follow have been identified. SVO, VSO, SOV languages, in which the subject *precedes* the object, and VOS, OVS, OSV languages, in which the subject *follows* the object. Due to the fact that far more languages have as a basic structure one belonging to the first set, linguists postulated a universal rule according to which there is an overwhelming *tendency*, among the languages of the world, for the subject of a sentence to precede the direct object.

The striking universal principles in the structure of relative clauses across languages led linguists to the conclusion that there is a relativisation hierarchy which goes: subject < direct object < indirect object < oblique < possessor. The hierarchy predicts that if a language allows the relativisation of a particular category on the hierarchy, then the language also allows relativisation of any categories to the left. Another observation is that there is a strong tendency for verb-initial languages to place relative clauses **after** the head noun and for verb-final languages to place relative clauses **before** the head noun.

There is a strong tendency for verb-initial languages to have prepositions and for verb-final languages to have postpositions.

Similar grammatical categories (for example, noun, verb) are found in all languages. Linguists have determined that each grammatical phrase has a **head** and that "a specific language can either be "head-first" or "head-last," but that remarkably, whichever way it is, to a good approximation it will be that way for *all* kinds of phrases--noun, verb, prepositional, etc. English is headfirst: for example "in the bank" has its preposition first. Japanese is head-last: for example, "Nihon ni", (Japan in) has its preposition last". (Albert, 2003)

Albert (2003) mentions that there are other universal grammar discoveries as well, "which fall into subsystems called [...] "X-bar theory," "case theory," "theta-theory," "government theory," and "binding theory". Each gives basic principles about how words

can be combined to form expressions with specific structure and meaning, and each has flexible options that may be adopted or ignored by particular languages".

Another universal pattern refers to certain rules of combinations that the users of each language must know, and which are nonrestrictive in that they allow for messages to be subsequently modified, by additional information:

> A language must have rules.
> I know that a language must have rules.
> You know that I know that a language must have rules.
> Mary knows that you know that I know that a language must have rules.
> John knows that Mary knows that you know that I know that a language must have rules.
> Is it a fact that John knows that Mary knows that you know that I know that a language must have rules?

Structure dependency is a principle of universal grammar: there are several rules about how to utter grammatical sentences; these are *all* structure dependent and *none* is linear.

There is a way of referring to past time, forming questions, issuing commands, and so on, in every human language.

Here are some more examples of nonimplicational universals discovered so far:

Every language has two distinguished words for "father" and "mother"

(Greenberg, 1966a)

No language can make the interrogative form by reversing the order of all the words in a sentence

(Comrie, 1981; Greenberg, 1966b)

Unfortunately, as Nobili (1999) points out, "such universals are very few and tend to be rather abstract or general, therefore their practical application is scarce". Moreover, they "generally identify the absence of a certain feature, rather than its presence". Most language universals including the forty-five identified by Greenberg (1966b), are implicational, as they depend on the structures of particular languages.

Proving the existence of linguistic universals and establishing their possible typologies is an extremely difficult task, given that there are too many natural languages to be taken into consideration, some already extinct, some that have one or more dialects, etc. Even more, languages are, by definition, constantly changing, therefore, as Comrie (1981) specifies, a universal once determined may not be valid in the future. Still, according to Nobili (1999), the theory of linguistic universals is an interesting field of study, which could prove really useful since "[i]t can contribute to improving language teaching, by identifying elements which are identical in all languages and which therefore do not require further explanations. It can [also] strengthen the theory of a common origin for the whole human kind" and this would benefit several other sciences, such as anthropology, sociology etc.

REFERENCES

Albert, M. (2003) *Universal Grammar and Linguistics.*
> http://www.zmag.org/Zmag/grammar.htm

Bach, E. and R.T. Harms (1968) *Preface* to *Universals in Linguistic Theory.* New York, p. VI.

Bechert, J., G. Bernini, and C. Buridant (eds.) (1990) *Toward a Typology of European Languages.* Berlin: Mouton.

Brown, D. E. (1991). *Human Universals.* New York: McGraw-Hill.

Chomsky, N. (1965) *Aspects of the Theory of Syntax.* Cambridge, Massachusetts: M.I.T. Press.

Chomsky, N. (1975) *The Logical Structure of Linguistic Theory.* New York: Plenum.

Chomsky, N. (1976) *Reflections on Language.* London: Temple Smith.

Comrie, Bernard (1981). *Language Universals and Linguistic Typology. Syntax and Morphology.* Oxford: Blackwell.

Croft, W. (1990). *Typology and Universals.* Cambridge: Cambridge University Press.

Finnegan, E. (2002) *Language: Its Structure and Use.* 3rd Edition.
> http://english.heinle.com/finegan/ch07/concepts.html.
> Copyright@Heinle/Thomson Learning

Fromkin, V., R. Rodman and N. Hyams (2003) *An Introduction to Language.* 7th Edition. London: Longman.

Greenberg, J. H. (ed.) (1966a) *Universals of Language.* 2nd ed. Cambridge, MA: MIT Press.

Greenberg, J. H. (1966b) "Some universals of grammar with particular reference to the order of meaningful elements". In J. H. Greenberg, Ed., *Universals of Language*. 2nd ed. Cambridge, MA: MIT Press.

Haegeman, L. (1997) *The New Comparative Syntax.* London: Longman.

Hale, K., M. Krauss and L. J. Watahomijie (1992) Endangered languages. *Language* 68:1-42.

Ladefoged, P. (2001) *A Course in Phonetics*. 4th Edition. London: Longman.
> http://cognet.mit.edu/MITECS/Entry/comrie, (1999) Massachusetts Institute of Technology

Nobili, N. (1999) *Universals of Language.*
> http://www.syllabos.com/it/universali_linguaggio.html

Pinker, S. (1994) *The Language Instinct*. Middlesex. Penguin Books.

Valenzuela, de J. S. (1998) *Universals of Language*
> http://www.unm.edu/~devalenz/handouts/univers.html
> Last updated: July 30, 2002

Whaley, L. J. (1997). *Introduction to Typology: The Unity and Diversity of Language.* Thousand Oaks, CA: Sage Publications.

THE SOCIAL REPRESENTATIONS OF MENTAL DEFICIENCIES. HOW TO CHANGE THEM?

LAURA E. RUNCEANU

RÉSUMÉE. **Les réprésentations sociales de la déficience mentale. Comment les changer?** Cette étude présent une brève synthèse du concept de la déficience mentale, et des recherches qui ont abordés les deficiences, en général, et la déficience mentale en particulière, dans la paradigme des réprésentations sociales. Finalement, nous irons identifier quelques modalités pour les influencer.

0. Traditional and new perspectives on mental deficiencies

The concept of "mental deficiency" is known under many names, each of it having a different connotation. When confronted with it people ask themselves if mental deficiency consists in a delay or a blockage in the cognitive development or it may be classified in one of the types of the psychiatric illnesses. Each of these personal interpretations reflects the social representations, which are at its basis and manifest in the behaviors the members of a given society exhibited in a given period of time.

We think that it is important to understand the social evolution of this concept, as it is clear that the words we use reflect the way we think and act toward the world. Sometimes names become labels; "labels like 'retarded' direct our attention to specific aspects of designated people and they suggest how we should think about and treat them, as well as provide a justification for action directed toward them". (Bogdan, Taylor, 1982)

In the following paragraph, we will point out the "evolution" of this concept label, in different societies and in relation with the social impact on the terminology change, as it is well-known the fact that there were many abuses of labelling in the field of mental deficiencies (unfortunately, some of them still being used).

In the ancient Greek society, the word "idiot" was used in order to name the individuals who were not able to take part in the social activities; but, the word "idiotism" was still used by the French psychiatrist Esquirol, as late as the XIXth century and in England it named a category within the classification of these individuals.

The European Middle Age population named constantly the individuals with mental deficiencies as "fools"; in the same period, in the Middle East they were considered as "innocents" and manifesting some divine qualities. (Das, 1998)

By the beginning of the XXth century, Goddard (1923) contributed to the development of negative attitudes towards "morons", as he considered them socially dangerous.

In recent literature, the popular terms are mental deficiency, mental retardation (in the USA, mainly), mental sub-normality and severe learning difficulties (in the UK).

We may notice how the concept was modified in relation with the different meanings associated with it, and with the given importance of the IQ and how it was measured. Mental deficiency, mental sub normality and mental retardation mean the same condition defined by both intelligence and adaptive behaviour. But, one may notice that, from an historical point of view, the term was the equivalent of the "low intelligence", in spite of the efforts to include in its definition the social dimension, even if it meant "social incompetence". (Greenspan, Granfield, 1992)

In 1973, an important paradigmatic shift took place in the field of mental deficiency; according to Grossman' definition "Mental retardation refers to significantly sub average general intellectual functioning *existing concurrently* with deficits in adaptive behaviour, and manifested during the developmental period". (apud MacMillan and Reschly, 1997)

The definition of mental deficiency, according to the American Association on Mental Retardation's book (Luckasson et al., 1992), states that": "Mental retardation refers to substantial limitations in present functioning. It is characterized by significantly sub average intellectual functioning, existing concurrently with related limitations in two or more of the following applicable adaptive skill areas: communication, self-care, home living, social skills, community use, self-direction, health and safety, functional academics, leisure, and work. Mental retardation manifests before age 18."

Its structure is composed by three key aspects: capabilities (intelligence and adaptive skills), environments (home, work, school and community) and functioning. There are two essential elements within this new paradigm, which might operate significant changes in the people thinking.

0. Exclusively person-referenced categories based on only one aspect of the person are not sufficiently descriptive or predictive to fully characterize individuals with mental deficiency.

1. The new emphasis on actual functioning requires greater clarity in describing those adaptive skills and limitations that influence everyday living, thus resulting in the need to identify the specific adaptive skill area considered critical for coping with one's environment. (Schalock et al., 1994)

By synthesising the main ideas of this definition, Das (1998) considers that it emphasizes the way the individual with mental deficiency functions in the presence or absence of a support given by the community (intermittent, limited, extensive and pervasive). For instance, when diagnosing and classifying the person, the process move away from the labelling of persons as "a person with severe mental deficiency" to the description of the person and his/her needed support, as "a person with mental deficiencies with extensive support needs in the areas of communication and limited support needs in the area of community use". (Schalock et al., 1994).

Das and Naglieri (1996) explain that one of the reasons the authors did not focus the definition on the intelligence, but on the social and community aspects, was

the controversies among the professionals as far as it concerns the way intelligence /multiple intelligences is/are defined by the meaning of the tests' results. Consequently, the concept of "IQ" is radically changed, and individuals with mental deficiencies vary in their cognitive functions although their IQ are comparable.

However, in the last years were made major steps toward valorising and promoting the abilities and qualities of each individual with mental deficiency, and we believe that we cannot use the term in a general way; there are many types of mental deficiencies, as the conditions behind them, the characteristics of the person and the environment the person lives in.

0. Social representations of deficiencies and the psychology of the "common sense"

Each culture generates a body of representations, beliefs and rules, which allow their members to interpret the events they observe and to communicate with their fellows. This system of significances constitutes the "naïve" or the "common sense" psychology; its role consists in offering to the general public a body of "knowledge" about an unfamiliar individual, his personality, and behaviour in a specific situation and in creating a framework for establishing relations and defining "the other".

Many studies suggest that, in the attempt to explain the human behaviors, people tend to overestimate the characteristics of a person and neglect the external factors, which might contribute to the understanding of the reasons of a given behavior. As a result, individuals with impairments are labelled. Labelling an individual as deficient means, beside describing the characteristics of that deficiency, to overlap these characteristics with the individual, so that he/she will be seen by considering that deficiency. On his turn, the individual might adjust his behaviour in order to meet the expectancies associated with the label; consequently, the individual will be referred to the special services. Following this route, the circle is complete, as the label is reinforced and the individual is seen as "incompetent" and "dependent". Terms as "handicapped", "retarded", "idiot", "moron" etc., as they refer to the functional loss, or behaviours marked by pity, overprotection, dependence etc loss, insure the continuity and the legitimacy of specific answers, such as anxiety, fear,

By contrary, there were situations in which a group so individuals with a certain type of deficiency is seen in a "bad light". In these situations the "common sense psychology", as it is rooted in the majority group of the "normal" population, uses strategies such as:

- "animalisation"; the group is described in terms of the characteristics of the animals (for instance, the individuals with multiple disabilities);
- "naturalisation"; the group is seen as being close to the nature;
- "medicalisation"; the group is perceived as the source of illnesses, so that their exclusion from the society is recommended in order to prevent its spreading (for instance, the individuals with chronic illnesses, AIDS etc.).

Even if these strategies might seem inoffensive, they constitute powerful psychosocial means to influence the way in which we approach different people.

By using labels, we name and categorise groups, sometimes in a ridiculous way. This phenomenon is rounded up by the mass-media, which do not promote positive images of these individuals. Usually, mass-media appeals to the general public for charity, by invoking pity and sympathy, but in the same time it contributes to the maintenance of the same image of the individual with deficiency who is not able to handle its life and who needs a constant support from the community.

The individuals with deficiencies were often represented and named as "deviant", "different", "wired", and destined to have an anomalous life. As Bogdan and Taylor (1982) mentioned, mental deficiency is "a defective concept – a concept conceived in ignorance at a time when our understanding of human beings derived from the supernatural". This idea may be very well illustrated by the words less educated people use, when referring to these individuals: "doomed", "evil's child" or "God's child" etc.

1. An overview of the studies on the social representations of deficiencies

Although recently debated on the field of social psychology, social representations paradigm offers a new perspective for studying the deficiencies.

Having as a starting point the concept of "collective representation" (Durkheim, 1898), Moscovici (1961), has re-elaborated the concept of "social representation" as "a body of knowledge and one of the psychological activities which makes possible the understanding of the physical and social reality". Lately, Moscovici completes its definition by adding the idea that these systems of knowledge are shared in the subgroups, which belong to the society. (1992).

Jodelet (1997) defines social representations as "a type of knowledge socially constructed and shared, having a practical goal and contributing to the construction of a common reality of the social Body". Being at the crossing-point between psychological and social aspects, social representations are the result of the cognitive activities of an individual or group, in order to define their position in relation to situations, events and social objects which draw their attention.

There were approached different domains of social representations, even those who rise problems or subjects that draw the general public attention, such as: health, pollution, social rules etc. But, there are only a few studies on deficiencies, in general and on the mental deficiency in particular.

De Rosa (1997), in an analysis of the social representations' domains or social objects, in relation with developmental psychology and social cognition paradigm, mentions in the same framework "mental illnesses, deviancy and handicap". It is interesting to observe this association, as it usually happened in the "minds" and behaviours of the general public as well.

By the beginning of the '80s, Paicheler et al. have studied the ways in which the general public represents the individuals with motor deficiencies, in wheelchairs. The collected data shows two different representations:
- the big majority consider these individuals anxious and introverted;
- a part of the group describes them as calm, controlled and rational.

By analysing these representations, we may notice that the representation shared by the majority coincide with that of a "maladjusted" while the second corresponds to the "personality-type". The representation of the individual who "feels good, is spontaneous, confident and has no worries", which described the individuals without a deficiency, was not attributed to the individuals in wheelchairs.

The same authors conducted another study in which were involved professionals in the rehabilitation field (physicians, therapists). Their representations were relatively similar to those expressed by the general public, with the mention that the "social object" was divided in two:
- individuals who overcame their handicap;
- individuals who did not overcome their handicap.

The professionals and the general public consider that there is one single way to overcome the handicap and adjust to this condition, that is a strong Ego, characterised by stability and perseverance.

In an example, Moscovici (1997) presents a "naive" model of how people represents the individuals with mental deficiencies, "disturbing as they are like us, but still different, so that we say they are 'not educated', 'barbarian' and 'irrational'".

Morvan (1997, apud Mercier and Bazier, 2001), in a clinical study, collected data that suggest five categories of images which are at the basis of the social representations of mental deficiencies. These categories refer to handicap, symptoms, functional aspects, relations and social maladjustment, and distribute as it follows:
- *The semiotic image*, which emphasises the physical deficiency, for instance, in the case of mental deficiency there are specific characteristics in the Down syndrome, autism and psychiatric illnesses.
- *The image of the figure "carrying" the characteristics*, based on which the individuals with deficiencies are seen as "children", even if they are adults, and unable to have an independent and autonomous life.
- *The secondary image*, or the consequences of the deficiency in terms of technical assistance.
- *The affective image*, represented by the feelings of the individual; for instance, the individual with mental deficiency lives in social isolation and is highly dependent.
- *The image of the relationships,* which is at the basis of the relationships between individuals with and without deficiencies (for instance, the interactions with individual with mental deficiency maybe marked by anxiety).

There are mutual relations between these five images, and they influence each other in order to structure the social representations which are associated to the cultural models, ideology and the information available.

Morvan also identified five types of social representations of the deficiency:
- Social representations which are sustained by and sustain concepts which classify deficiencies, disabilities and handicaps.

- Social representations which are the sources for the social exclusion, isolation and the refusal of difference.

- Social representations that associate deficiency and handicap to the technical, human, physical and institutional support.

- Social representations that reduce the deficiency or the handicap to the suffering.

- Social representations that assimilate the individual with deficiencies to the social representations of the childhood.

By combining these social representations it usually results complex images of the individual with deficiencies such as "the suffering", "the institutionalised", etc.

Jodelet (1997), quoting Giami, analyses the ways in which educators and parents represent the sexuality of the children with mental deficiency. The results show that the educators attribute to these children a "savage" sexuality, "brutal and without any affection", while their parents share a "desexualised vision of their children, but full of affectivity".

In a study on the social representations of the employers who hire individuals with deficiencies and their colleagues, Mercier (1997) illustrate the following aspects:

- The employers share the same stereotyped images as the general public; deficiency means "loss" and implicitly a decrease in the abilities which are necessary to accomplish a working task.

- There are frequent associations between the individuals with mental deficiencies and those with physical deficiencies.

- The deficiency is always perceived as being progressive.

- The deficiency always reduces the work efficiency, in spite of the adjustments operated in the workplace, the initial training and experience.

- The individuals with deficiencies are usually underestimated, and as a consequence, they are hired in positions which are below there expectancies, abilities and training.

- The employers consider that they take risks when hiring individuals with deficiencies.

We need to mention that there is necessary to continue such studies on the social representations of mental deficiencies as the movement towards integration inclusion of these individuals takes place in our society and its impact on the general public and on those involved with this category is not negligible.

2. How to influence/change the social representations?

Social representations are in a constant change as they are closely related to personal experiences, within a given social context. A representation might change by adding information/knowledge to its structure, by changing its direction, by establishing new connections between elements or by inducing perturbations in the coherence of its elements.

Social representations are "socio-cognitive constructs" (Moscovici, 1976): cognitive elaborations (as a consequence of the symbolic construction of the reality) marked by social or collective experiences. In order to change this powerful constructs one may intervene in at least three ways:

0. An organised influence in order to re-arrange the central and peripheral elements of the representation (according to the theory of the "central junction", Abric, 1997).

1. To influence the group (the perspective of the group minority influence, Mugny, 1982).

2. The societal perspective (the role of the social practices in the changing of social representations, Flament, 1997).

The studies usually investigate the structure, content or the importance of the consensus in the process of the social representation elaboration; there are only a few studies that debate models of intervention, possible because of the difficulties inherent to the changing process, such as sampling, the validity/reliability of the instruments used before and after the changing process, time limits etc.

4.1. The theory of the "central junction"

One of the essential aspect of social representations is their variety, so that we talk about social representations ant not about "a social representation". Despite of their variety, we are able to identify a common structure that is the "central junction". According to the Abric' theory, the constituent elements of a representation are organised in a hierarchy (around the central junction or central elements), and establish relationships that define their significance and place within the representational system. (Abric, 1997) The central junction is the main element, as it determines both the significance and the organisation of that representation, so that two different representations of the same social object are organised around two different junctions, which makes each of the representation specific.

Because of its stability, the central junction will resist longer to the changing influences than the peripheral elements. But, sometimes, with the re-organisation of the peripheral elements, as influenced by a given context, a social representation might change, and implicitly its central junction. The peripheral elements are indispensable to the adaptations in different contexts, as they "suffer" the first changes. (Flament, 1997)

In relation with our topic, Mugny and Carugati (1985) consider that when naming or classifying an individual as "intelligent" or "idiot", people do not use the cognitive theories behind these labels, but they refer at a prototype of an intelligent individual (as social representations function by using an analogical repertoire). This "imaginary" prototype of the intelligence could be broaden because of two extremes "the genius' and "the moron" and their combination, which generates a socio-cognitive conflict "the savant idiots". Logic and mathematics might also constitute a prototype when representing the individuals with mental deficiencies (as long as school failure or success is usually evaluated in terms of these parameters).

When relating to a prototype people are not neutral, as this connection brings with it a newly positive or negative relation, and consequently it develops different behaviour patterns. (Jodelet,1992)

Even if these representations tend to be stable, for confirming their organisation, they change in order to adjust to the newly social experiences. Because the central and peripheral elements co-exist, one may characterise the social representations as "stable and dynamic, rigid and flexible at the same time". Abric (1997). They are stable and rigid because the central elements are connected with the system of values shared by the group, but they are completed with the personal experiences which make them dynamic and fluid.

Consequently, when we "use" social representations we change them by re-structuring the peripheral elements within a new social context; but when changing the central elements or the central junction we produce a radical change of all the elements constitutive to that representation. (Abric, 1997) These theoretical aspects are well illustrated in a research on how change the representations of an ideal group (Moliner, 1988). There were presented the characteristics of an ideal group, followed by modifications of the central and peripheral elements. When an important element is modified (for instance, the absence of a hierarchy is changed with the existence of a hierarchy within the group), 79% of the sample consider that this group does not correspond to their representation of an ideal group. By contrary, when a peripheral element is modified (such as "the community of opinion") 37% of the subjects changed their representation.

The social representation can be also changed by introducing a comparison between two different social objects. For instance, Poeschl, apud Doise (1999), demonstrates that the social representations of intelligence change when it is introduced a comparison between the human being and the animal. With the premise that the order effect is conducive to a different structuring of a representation, the researcher had presented the same list with items describing intelligence, but in a different order. There were changes when the subjects had to arrange the items corresponding to the animal intelligence followed by those who described the human intelligence; these differences were explained by the comparison that was induced between the two categories.

The process of the content changing also depends on the type of information the individual has, as far as it concerns the object of that representation. For instance, in the case of the mental deficiency as a social object, the general public structures its social representations in relation to the experiences they had with these individuals, their lectures and images spread by the mass-media. At this very first level, the individual usually did not have access to an organised and scientific information, but he "collected" pieces of information from her personal environment; this informational weakness will influence the way she structures the representations he holds, and will lead to "a resurrection of the archaic beliefs". (Jodelet, 1997)

But, even in the case of shared knowledge within the socio-professional groups, the social representations differ as the sources of information are different. People do

not try to look for new information, which may contradict their representation, so that there is a gap between the information they hold and the information they need in order to correctly appreciate the object of that representation. (Mugny, Carugati, 1985) We may presume that an adequate information, but bringing something new or unfamiliar, might change a representation, as "the social incorporation of the novelty might be supported by the creative and autonomous characteristic of a social representation". (Jodelet, 1992)

When structuring or modifying social representations, it is important to take into consideration the specific interests or preoccupations of the individuals/groups that hold them, because the individuals focus on specific objects as a result of the "pressure to inference" exerted by certain influential individuals/groups. This influence is associated with the population homogeneity, as it is also defined by the organization of the social representations around the same central elements.

Doise and Mugny (1998) consider that intelligence constitutes a "strange socio-cognitive phenomenon", which is not understood by the general public, and as a consequence it is "almost supernatural". We have no doubt that the mental deficiencies belong to the same category as well.

4.2. The minority group influence and the role of the social practices in changing the social representations

Some authors consider that a social representation cannot change from "the inside", but a change should be induced from the outside, within a social conflict situation, as social representations have a cognitive role, and contribute to the process of placing the individuals/groups in the social field. The life events are interpreted on the basis of what the individual or the group have previously constructed and has a significance by appealing to specific and different images, concepts and languages shared by the group. The social representations of mental deficiencies follow the same process, as a consequence of the legislations issued since the 60's which contributed to the identification of the individuals with deficiencies as a minority group.

Social representations, opinions and behaviours can be changed through the process of social influence, which may be approached from the individual and group perspectives.

Within the individual perspective, we are interested in the cognitive processes which take place at the individual level, in a specific situation. The mechanism of social influence is centred on the individual (with his cognitive abilities, personality etc.), and it can be related to the theory of prototypes and cognitive scheme. Individuals are characterised by a set of traits, which are summed up into typologies; these categories facilitate the process of elaborating predictions regarding "who" and "when" will be influenced.

The processes of social influence also take place within the social interactions and negotiations between individuals as "social actors" (which put into question the issues of convergence and conformity). (Mugny, 1982)

It is well known that social status takes an important place in the process of social influence, in terms of perceived competency or authority and its role in changing social representations and social attitudes. Interpersonal attraction and the group cohesion are also important factors, the social influence taking place in an easier way if the relationships between the members of the group are close.

In order to study these changes, Mugny (1982) describe a possible experimental paradigm, which consists in three phases:

0. A sample of subjects is evaluated in order to identify the representations of a stimulus/social object.

1. The sample is influenced ("a potential influence") by using one or more methods:

- Direct influence (organised interactions with one or more representative individuals).

- Video recording and presentation.

- Lectures (for instance a lecture of a text which describes the individuals with mental deficiencies in terms of their capabilities and abilities). The lecture may be associated with an evaluation of the source' characteristics (flexible or rigid), by using lists of attributes associated to that source.

- Free group discussions, based on the questions in the evaluation form, in order to find common solutions/answers to those questions.

- Debates, leaded by a representative individual who will facilitate the change.

2. A second evaluation of the initial sample, with the same/different instruments in order to identify if a influence took place, in terms of changing the representation.

Each of these techniques may be used in relation with the type of sample, the influence we organise, the context and the changes we expect to take place.

In a typical experiment we have the subjects who answer "correctly" according to the general norms, that is the majority, and the subjects who answer "incorrectly" according to the same general norms, that is the minority. The individual with mental deficiencies are seen as a minority group and they constitute a source of influences and, at the same time, they are influenced by the majority group. The professionals and parents are usually assimilated to this minority group, as they hold different opinions and social representations regarding the same social object.

In terms of consistency of their answers, this minority group, represented by the individuals with mental deficiencies, their family and some of the professionals, represent an active minority which had defined in time its specificity and had offered an alternative to the majority model. The influence of this minority is more effective if the group manifests a "synchronised" consistency (a consensus between the group answers) and a "diachronic" consistency (the same answers are systematically given in different social contexts and periods). (Doise, Deschamps, Mugny, 1999) But, the positive aspects of the group consistency or consensus also depends on the perceived rigidity or flexibility of the minority source of influence. Mugny shows that a flexible minority

has more chances to induce a change than a rigid one; a rigid source is in the same time perceived as less cohesive, so that any possible influence is excluded.

Moscovici (1984), suggests that in the changing process the content of the minority group answers is not so important, but its behaviour significance in relation to the majority. According to this idea, the minority group introduces itself as the firm "holder" of a given position, it is able to face any social test and any person who want to adhere to it might expect a significant social support. For instance, such a position may be shown by the professionals working with individuals with mental deficiencies, when establishing social interactions with a group of professionals who does not know the positive traits of these children.

But how does the majority respond or not to these social influences? There are two levels of influence, manifest and latent. Studies show that a manifest influence is difficult to obtain, but there are many latent influences, which might become manifest in time. Mugny notices that a minority influence is easier to observe when it happens in private contexts, and when it is not assessed immediately after the influence, but after some weeks. These changes manifest longer if the influenced group is involved in interactions with the minority group.

The minority group suffers also some influences during the changing process; by holding a different position it is often considered as deviant, but it suggests in the same time that the majority group behaviours are susceptible to be changed. In this way, the minority "breaks the consensus". (Doise, Deschamps, Mugny, 1999)

We may conclude that the process of social influence is complex, marked by tensions and its outcomes are not always clear and immediate. Still, the absence of explicit answers may hide a latent changing process. (Paicheler, Moscovici, 1984)

Social representations are also changed by a systematic change of the social practices. Flament (1997) considers that by modifying the external context of the representation, the social practices will be changed, and consequently the social representations. If the external context is perceived as irreversible, the changing process will be slower, because it is "advantageous for the cognitive economy to tolerate for a certain period of time the possible changes due to external circumstances". For instance, the integration/inclusion of the children with mental deficiencies (a change in the external circumstances of the representations), might not induce changes of the central elements in the representations the teachers hold, as there is the time perspective, which means that the implementation process will take place slowly).

Conclusion

This paper has presented some theoretical issues concerning the social representation paradigm applied to the individuals with mental deficiencies and three possible ways to change the social representations. There were two main reasons which had underlined this approach: firstly, there are many studies on how the social attitudes towards these individuals are structured and may be influenced, while there are only a few studies within the social representation paradigm and secondly, we had

noticed a significant change in the Romanian educational policies towards these individuals which will not take place without any echo in the way the general public and professionals perceive this "social object".

Of course, there are other topics that may be added, such as how social representations may be changed within the paradigm of linguistic repertoires and discourse, as they manifest within a communicational context.

The concept of mental deficiency has also changed and its newly definition is more comprehensive than the older ones. Still, a big majority of the professionals tends to diagnose and intervene within the traditional approaches, and contribute in this way to the promotion of the same old social images of the individual with mental deficiencies.

REFERENCES

Abric, J. C., (1997). *Reprezentările sociale: aspecte teoretice,* în Neculau, A. (Coord.), Psihologia câmpului social. Reprezentările sociale, Iaşi, Polirom, p. 107-120

Bogdan, R., Taylor, S.J. (1982). *Inside out. The social meaning of mental retardation*, Toronto, University of Toronto Press

De Rosa, A.S., (1997). *Comparaţie critică între reprezentările sociale şi cogniţia socială*, în A. Neculau (Coord.), Psihologia câmpului social. Reprezentările sociale, Iaşi, Polirom, p. 205-218

Das, J.P., Naglieri, J.A., (1996). *Mental retardation and assessment of cognitive processes*, în J.W. Jacobson, J.A. Mulick (Eds.) Manual of diagnosis and professional practice in mental retardation, Washington, American Psychological Association

Das, J.P., (1998). *A popular primer on mental retardation*, în Developmental Disabilities Bulletin, vol. 26 (1), p. 43-58

Doise, W., Mugny, G., (1998). *Psihologie socială şi dezvoltare cognitivă*, Iaşi, Polirom

Doise, W., Deschamps, J.C., Mugny, G., (1999). *Psihologie socială experimentală*, Iaşi, Polirom

Flament, C., (1997). *Structura, dinamica şi transformarea reprezentărilor sociale*, în A. Neculau, (Coord.), Psihologia câmpului social. Reprezentările sociale, Iaşi, Polirom, p. 128-144

Goddard, H.H., (1923). *Feeble mindedness - Its causes and consequences*, New York, MacMillan Company

Greenspan, S., Granfield, J.M., (1992). *Reconsidering the construct of mental retardation: implications of a model of social competence*, în American Journal on Mental Retardation, vol. 96 (4), p. 442-453

Jacobson, J.W., Mulick, J.A., (1996). *Manual of diagnosis and professional practice in mental retardation*, Washington DC, American Psychological Association

Jodelet, D., (1992). *Representations sociale: phenomenes, concept et theorie*, în S. Moscovici (Ed.), "Psychologie sociale", Paris, PUF, p. 357-378

Jodelet, D., (1997). *Reprezentările sociale. Un domeniu în expansiune*, în Neculau, A. (Coord.), Psihologia câmpului social. Reprezentările sociale, Iaşi, Polirom, p. 85-106

Luckasson, R., Coulter, D.L., Polloway E.A., Reiss, S., Schalock, R.L., Snell, M.E., Spitalnik D.M. and Stark, A.J., (1992). *Mental retardation: Definition, classification, and systems of supports* (9th ed.), Washington, DC: American Association on Mental Retardation.

MacLean, W.E. (Ed.) (1997). *Ellis' Handbook of mental deficiency, psychological theory and research*, (3rd ed.), New Jersey, Lawrence Erlbaum Associates

MacMillan, D.L., Reschly, D.J., (1997). *Isues of definition and classification*, în W.E. MacLean (Ed.), Ellis' Handbook of mental deficiency, psychological theory and research, (3rd ed.), New Jersey, Lawrence Erlbaum Associates

Mercier, M., Bazier, G. (2001). *Représentations sociales du handicap et de la mise au travail des persones handicapées*, în J.A. Rondal, A. Comblain (Eds.), Manuel de psychologie des handicaps. Sémiologie et principes de remédiation, Hayen, Pierre Mardaga, p. 513-532

Moliner, P., (1988). *Validation experimentale de l'hypothese du noyau central des representations sociales*, în Bulletin de psychologie, 41, p. 759-762

Moscovici, S., (1961). *La psychanalyse, son image et son public. Étude sur la représentation sociale de la psychanaliyse*, Paris, PUF

Moscovici, S., Hewstone, M., (1984). *De la science au sens commun*, în Moscovici, S., (Ed.), "Psychologie sociale", Paris ,PUF, p. 536-566

Moscovici, S., (Ed.), (1992). *Psychologie sociale*, Paris, PUF

Moscovici, S., (1997) *Fenomenul reprezentărilor sociale*, în A. Neculau (Coord.), Psihologia câmpului social. Reprezentările sociale, Iaşi, Polirom, p. 15-75

Mugny, G., (1982), *The power of minorities*, London, Academic Press

Mugny, G., Carugati, F., (1985). *L'intelligence au pluriel. Les representations sociales de l'intelligence et de son developpement*, Cousset, DelVal

Neculau, A. (Coord.), (1997). *Psihologia câmpului social. Reprezentările sociale*, Iaşi, Polirom

Paicheler, H., (1984). *L'epistemologie du sens commun*, în S. Moscovici (Ed.), "Psychologie sociale", Paris, PUF, p. 253-307

Paicheler, G., Moscovici, S., (1992). *Suivisme et conversion*, în Moscovici, S. (Ed.), "Psychologie sociale", Paris, PUF, p. 139-167

Rondal, J.A., Comblain, A., (2001). *Manuel de psychologie des handicaps. Sémiologie et principes de remédiation*, Hayen, Pierre Mardaga

Schalock, R.L., Stark, A.J., Snell, M.E., Coulter, D.L., Polloway E.A., Luckasson, R., Reiss, S., Spitalnik D.M., (1994). *The changing conception of mental retardation: implications for the field*, în Mental retardation, vol.32 (3), p.181-193