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I am submitting herewith a dissertation written by Ioana Mot entitled "Conceptualizations of Teamwork and Leadership: A Cross- Cultural Analysis". I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Industrial/Organizational Psychology.

Dr. Joan Rentsch, Major Professor

We have read this dissertation
and recommend its acceptance:

Dr. Michael Rush

Dr. Robert T. Ladd

Dr. Donald P. Clark

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the
Graduate School

(Original signatures are on file with official student records.)

CONCEPTUALIZATIONS OF TEAMWORK AND LEADERSHIP:
A CROSS-CULTURAL ANALYSIS

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DEDICATION

This dissertation is dedicated to all the members of my family whom, true to their collectivistic nature, have supported me unconditionally throughout my academic endeavors.

Ami, Tatutu, Ruxi, and Giorgi, I could never have gotten this far without you. Each and every one of you has been a tremendous source of strength and inspiration.

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ABSTRACT

The present study investigated differences in the conceptualization of teamwork and leadership in two countries with culturally diverse backgrounds, Romania and the United States. We expected to find between-culture differences in the conceptualizations of teamwork and leadership based on cultural antecedents (collectivistic societal and in-group values). We also investigated a potential cultural shift in the Romanian nation, based on age. The conceptualizations of teamwork and leadership were examined and compared using Pathfinder.

The Romanian sample displayed higher collectivistic values than the U.S. sample. A cultural shift was observed in the Romanian nation, such that the younger participants reported lower collectivistic in-group values and higher collectivistic societal values when compared to the older Romanian participants. Unexpectedly, the younger U.S. participants reported higher collectivistic in-group values than the older U.S. participants.

The older Romanian participants' teamwork schemas displayed lower coherence than the older U.S. participants' teamwork schemas. However, a comparison of the younger groups' (Romanian and U.S.) teamwork schema structure revealed that their average coherences did not differ.

A comparison of leadership schemas revealed that the younger Romanian's schema structure was less coherent than that of the younger U.S. participants. Similarly, the older Romanian participants' leadership schema displayed lower coherence than that of the older U.S. participants'.

In the present study, collectivistic societal and in-group values did not correlate significantly with either teamwork or leadership schema coherence.

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CHAPTER ONE: INTRODUCTION

Due to a shift to team-based operations and the trend towards globalization, a myriad of studies are being performed on cross-cultural differences in communication (e.g., Gudykunst, 2004; Gudykunst, 1997; Gudykunst, Matsumoto, Ting-Toomey, & Nishida, 1996; Sanchez-Burks, Lee, Choi, Nisbett, Zhao, & Koo, 2003; Sugimoto, 1997; Williams, Hardwood, Giles, Pierson, Gallois, Ng, et al., 1997). The Global Leadership and Organizational Behavior Effectiveness (GLOBE) Project has made significant strides in understanding leadership conceptualizations in cross-cultural settings (House et al., 2002; Javidan & House, 2001; Scandura & Dorfman, 2004). However, a search of the literature revealed very few studies investigating teams in cross-cultural settings (e.g., Earley, 1994; Erez & Earley, 1987; Kirkman, 1997), and cross-cultural cognition in teams has virtually gone unexplored to date. Moreover, I am aware of no studies exploring teamwork and only three studies (Hanges Higgins, Dyer, Smith-Major, Dorfman, Brodek, Howell, & Prieto, 2001; Hanges, Lim, & Duan, 2004; Nishii, Gelfand, Ang, Lange, & Taveesin, 2004) exploring leadership conceptualizations using the connectionist model of information processing. Therefore, the purpose of the present study is to investigate cross-cultural differences in schemas of teamwork and leadership.

Stewart and Bennett (1991) noted, “Americans frequently have difficulties in communicating and cooperating with their foreign counterparts. The original obstacles to cross-cultural understanding may be conceptualized as differences in cultural assumptions and values. The American’s values and assumptions prevent them from objectively perceiving and understanding the underpinnings of the behavior of their counterparts. Their performance

overseas would be enhanced if they understood both their own culture and that of their counterparts” (p.174). Without understanding the meanings attached to teamwork and leadership by members of different cultures, the ability to work with people from different nations would be greatly impaired and team effectiveness would be limited.

In search of the meaning attached to teamwork and leadership in various cultures, the present study endeavors to ascertain the conceptualization of teamwork and leadership in two nations, the United States (U.S.) and Romania. Romania was chosen due to the fact that, according to Hofstede’s accepted cultural classification (Luca, 2006), the Romanian culture has a distinct and different classification as compared with the U.S. Romania has traditionally been described as a collectivist society, and the U.S. has traditionally been described as the apogee of individualism. Romania can also be seen as representative of other countries going through significant cultural changes, because the country is currently undergoing a transition from communism to democracy. Additionally, there are practical reasons for studying the U.S. and Romanian populations. As the U.S. Census Bureau reports, the economic ties between the two countries are growing rapidly (see Table 1 for details; please note that all Tables are located in Appendix G). Furthermore, the Romanian population represents a fertile ground for research because, to my knowledge, there are no teamwork studies and only one leadership study (Smith et al, 2002) to date in this specific culture.

Stevens (1998) explained the condition of Romanian psychology. In 1982, due to the political regime and ideology, and being fearful that psychologists could undermine public order, the country’s head of state completely rejected the field of psychology. Academic departments were abolished, most psychologists were reassigned to jobs unrelated to psychology, jailed, or

exiled, the psychological literature was removed from libraries, and even the word ‘psychology’ was removed from dictionaries. After the People’s Revolution of December 1989, the field of psychology has slowly been resurrected. However, even today, a closer look into Romanian psychology exposes a vulnerable field in which most professionals are skilled generalists but, unfortunately, lack specialized expertise. Consequently, the field of psychology has not been widely studied within this country.

In order to shed more light on Romanian psychology and further global comparative psychology, in the present study, teamwork and leadership conceptualizations are mapped and compared in the Romanian and U.S. populations. Additionally, the following antecedents of schemas are measured: in-group and societal collectivism. The antecedents should shed some light on the possible differences between the conceptualizations of teamwork and leadership in the two cultures.

Moreover, evidence of a shift in cultural orientation was expected in the Romanian population due to the change in mentality following the 1989 Revolution. In other words, in the Romanian population, collectivism was expected to be influenced by age such that younger (30 years of age or under) Romanian individuals would be more individualist than older (31 or over) Romanian individuals.

The present paper first addresses knowledge representations or schemas, followed by discussions of cognition in teams, the proposed antecedents of team schemas, leadership conceptualizations, leadership and culture, and the details of the study, respectively.

CHAPTER TWO: TEAM COGNITION

Overview of Cognition Literature - Schemas

Traditionally, schemas have been described as complex knowledge structures developed through experience (direct or indirect) and communication. They are stored in memory, organize information (hierarchically), influence perception and recall, and direct behavior (Ashforth & Fried, 1988; Lord & Kernan, 1987; Rentsch & Hall, 1994). They are considered discrete and separate memory structures that can be modified and accessed independently of one another with different schemas being stored in different locations in memory.

Hanges et al. (2000) and Hanges et al. (2006) have utilized the connectionist model to explain schemas. Within the connectionist model, schemas are “distributed representations over a connectionist network. [...] Connectionist networks consist of concepts called ‘units’ or ‘nodes’. The units are connected to varying degrees, and the strength of a connection is indicated by an activation weight” (Hanges et al., 2006, p. 14). The units can be activated either by something in the environment or by other units in the network. As learning occurs, the network connections between units may be reinforced or disappear depending on the number of times they are activated. Therefore, the network builds its knowledge by modifying the associations between the units and, eventually, after repeated exposure to a certain input, a stable pattern of links (i.e., a schema) develops within the network. Even if the units (schema content) are the same for multiple individuals, the associations between those units may be different, and thus the individuals’ schemas may differ in their structure.

In the connectionist model, schemas are conceived as “stable *patterns of activity* that emerge among the units in a network. The structure of a schema, therefore, emerges from the activation pattern of a network’s units” (Hanges et al., 2006, p. 15-16) (emphasis added). Thus, different schemas are represented by different activation patterns over the *same* units in a network. Moreover, “connectionist models assume that information is processed in a *parallel* and holistic fashion” (p.17) (emphasis added).

Schema structure can be measured by determining a schema’s centrality and its coherence. Centrality refers to the number of interconnected links each unit has with other units in the network. Thus, as Hanges et al. (2006) affirm, “a schema can be described by identifying the most central (i.e., the attributes that are most strongly activated) units” (p. 16).

The coherence of a schema refers to its internal consistency. In other words, it refers to “the extent to which units of a network go together to form a meaningful whole” (p.16). These schema structure aspects (centrality and coherence) can be obtained by using Schvaneveldt’s (1990) Pathfinder algorithm.

Schemas have been explored in the leadership literature in efforts to understand the effects of culture on leadership (e.g., Hanges, Dorfman, Shteynberg, & Bates, 2006; Hanges, Lord, & Dickson, 2000; House, Hanges, Ruiz-Quintanilla, Dorfman, Javidan, Dickson, et al., 1999). Several researchers have tested the connectionist model of leadership and culture (Hanges et al, 2001; Nishii et al., 2004; Hanges et al., 2004). However, I am aware of no studies that have endeavored to do the same in cross-cultural team cognition. Next, the prevalent research on cognition in teams is explored in more detail.

Cognition in Teams

Culbert and McDonough (1988) theorized that people may improve their abilities to work with one another once they become skilled at correctly understanding one another's views of the world. They believed that people find a unique way of aligning their own self-interests with the demands of their job. This alignment affects how people perceive events and assign meaning, and how they interact and perceive one another. In turn, these effects significantly affect the product of people's work together.

There are two broad types of team schemas related to team functioning: teamwork schemas and taskwork schemas. Teamwork schema refers to the "team's efforts to facilitate interaction among team members in order to successfully complete taskwork" (Rentsch and Hall, 1994, p. 230). Taskwork refers to understanding the task requirements and the way in which the task should be approached, getting familiar with the available equipment, exchanging task-related information with team members, and developing team solutions to problems (Salas et al., 1988).

Individuals think about, or understand, the process of teamwork somewhat differently from one another. In other words individuals' teamwork schemas differ either in content or in structure or both. Schema content refers to the clusters of information, and schema structure refers to the connections between these clusters. For example, schema content includes knowledge for enhancing the quality of team members' interactions and communication, and refers to interdependence, cooperation, and communication, or other equally essential elements of teamwork. However, the connections between these elements may differ from one individual to another. For example, experts develop abstract, multi-level, well-articulated knowledge

structures for teamwork, and novices develop shallow, concrete knowledge structures (e.g., Rentsch, Heffner, & Duffy, 1994). However, there is also evidence that schema similarity may develop among individuals, particularly among individuals who interact with one another (e.g., Rentsch, 1990).

Cognition in teams has repeatedly been shown, theoretically and empirically, to be related to team effectiveness (Cannon-Bowers et al., 1993; Klimoski & Mohammed, 1994; Rentsch & Hall, 1994; Rentsch et al., 1999; Walsh et al., 1988). One approach has focused on the similarity of schemas among team members.

Schema similarity, defined as, “the common understandings among team members that occur when there is a substantial overlap [...] in the content and organization of their team-related knowledge” (Rentsch and Hall, 1994, p. 232), enhances team processes in several ways. It is expected to improve communication among team members and to be related to high levels of team cooperation, collaboration, and coordination. It is expected to improve the quality of task performance, because team members are in agreement regarding each others’ roles. Taskwork schema similarity is expected to be related to a high quality of task performance because members agree on task strategy and performance standards. It is also expected to increase team efficiency, because team members will be able to quickly reach agreement on how to define and complete the task, thus reducing the time, energy, and resources needed to complete the task.

Rentsch and Hall (1994) developed a model of the relationship between teamwork and taskwork schema similarity among team members and team effectiveness. Schema similarity was related to team effectiveness through quality of team processes and task performance. The researchers concluded that “schema similarity among team members is predicted to play a

significant role in team effectiveness as it facilitates group process and task performance” (p. 256). Rentsch and Klimoski’s (2001) study provided evidence for the above mentioned assertion.

A method similar to that employed in the connectionist model (the Pathfinder algorithm), multidimensional scaling (MDS) has been applied by Rentsch, Heffner, and Duffy (1994) in schema research in teams. In their study, the researchers endeavored to ascertain the connections between teamwork schemas and team experience by using MDS and freehand generated schemas. The researchers demonstrated that individuals with a lot of experience working in teams (experts) tended to organize knowledge systematically and to chunk more information in memory than individuals with limited team experience (novices). Experts were able to acquire information more quickly and easily than novices, and their schemas were characterized as deep and multileveled with many connections between and within levels. Novices, however, developed shallow schemas consisting of many details connected to a few general ideas and tend to categorize problems based on concrete surface features. In summary, these researchers did show that experts tended to converge on concepts and novices did not.

The above mentioned study employed an MDS analysis in order to represent participant teamwork knowledge; however, the study did not focus on the centrality and coherence of each of those representations. The coherence of teamwork schema structures will, however, be measured in the present study by using Pathfinder; moreover, the centrality of the schema structures will also be discussed.

Thus, several studies examining cognitions in teams exist within the U.S. culture. However, a search for peer reviewed articles revealed very few cross-cultural team research

studies (e.g., Earley, 1994; Erez & Earley, 1987; Kirkman, 1997) and the cross-cultural research on cognitions in teams has been even scarcer.

Antecedents of Teamwork Schemas

Several antecedents of cognitions in teams have been hypothesized. Kraiger and Wenzel (1997) proposed four categories of determinants of team mental models. These categories were environmental, organizational, team, and individual. Rentsch and Klimoski (2001) tested several of these antecedents of team member schema agreement and their effects on team effectiveness. These researchers showed that “demography, team experience, team member recruitment, and team size were significantly related to team member schema agreement, which in turn was significantly related to team effectiveness” (p. 107).

In line with Rentsch and Klimoski’s (2001) study and following Kraiger and Wenzel’s (1997) classification, in the present study, environmental (cultural) factors are investigated as antecedents of teamwork schemas across cultures. More specifically the environmental (cultural) factors refer to societal and in-group collectivist cultural orientations. The organizational, and team determinants of team schemas are not included due to the fact the proposed study does not focus on preexisting teams. The only individual factor to be explored here is age. However, gender and the other generally recorded demographic data were also collected. Next, the environmental (cultural) antecedents of team schemas are described in more detail.

Environmental Antecedents - Collectivism

According to Herskovits (1955), culture includes everything that is human made. Geertz (1973) defines culture as a system of shared meanings. Hall (1959) equates culture with communication, “culture is communication and communication is culture” (p. 169). Culture affects our behavior and influences the way we communicate. However different all of the definitions may seem, “the common theme [...] is that culture has been conceptualized as the shared knowledge and meaning systems for a group of people” (Hanges et al., 2000, p. 142). Hanges et al.’s definition of culture was adopted for the purpose of the present study.

To date, there have been numerous studies examining differences across cultures. One of the most influential cross-cultural studies has been published by Geert Hofstede in his 1980 book titled *Culture’s Consequences*. He organized cultural differences into overarching patterns. Namely, he differentiated countries based on their level of individualism and collectivism, power distance, masculinity, and uncertainty avoidance. His patterns of cultural differences facilitated comparative research and were largely responsible for the rapidly expanding body of cross-cultural research that began in the 1980s (e.g., Chan, 1994; Hui, 1988; Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997; Schwartz, 1990).

Individualism and collectivism have been some of the most prevalent and influential factors in the classification of cultures, as can be seen by the multitude of research studies on this topic (e.g., Kagitcibasi, 1997; Triandis, 1989; Triandis, 1995). Moreover, Triandis (1989) believed that individualism/collectivism is the most important dimension of cultural diversity. Therefore, the present study addresses only the individualism/collectivism continuum.

The fundamental characteristic of individualism is the assumption that individuals are independent of one another. In individualist cultures, the emphasis is placed on individuals' goals over group goals (Triandis, 1988). Individuality is more important than group membership. Members of individualist cultures promote self-realization. Oyserman et al. (2002) presented Hofstede's (1980) definition of individualism as a "focus on rights above duties, a concern for oneself and immediate family, an emphasis on personal autonomy and self-fulfillment, and the basing of one's identity on one's personal accomplishments" (p. 4).

The fundamental characteristic of collectivism is the fact that groups unite and obligate individuals. Group goals have precedence over individuals' goals in collectivist countries (Triandis, 1988). Collectivist cultures require that individuals fit into their groups. They are characterized by mutual obligations and expectations based on status (Schwartz, 1990). In individualist cultures, "people are supposed to look after themselves and their immediate family only" and in collectivist cultures "people belong to in-groups or collectivities which are supposed to look after them in exchange for loyalty" (Hofstede and Bond, 1984, p. 419).

Following Hofstede's individualism and collectivism organization of cultures, the U.S. and Romania are classified as having different cultural orientations. The U.S. has traditionally been described as the pinnacle of individualism, whereas Romania has traditionally been classified as a collectivist society. The U.S. has traditionally been the country where each individual grows up knowing he or she is different, unique, and special due to his or her distinctiveness. The Romanian population is expected to show a more collectivist orientation than the U.S. population (i.e., citizens born and raised in the U.S. culture). Romania has been a communist country until December of 1989. Therefore, historically, the Romanian culture has

placed more of an emphasis on group identity and conformity to group norms. Geert Hofstede, in an interview given to the Romanian press in February 2006, classified Romania as a collectivist culture that respects hierarchy (Luca, 2006). Additionally, on the Institute for Training in International Management (ITIM) web-site, based on Hofstede's cultural dimensions, Romania is shown to have an estimated individualism score of 30 compared to a 91 for the United States.

A further breakdown of individualism/collectivism has been delineated by Project GLOBE, namely societal and in-group collectivism. Societal collectivism refers to the extent to which society encourages individuals to belong to groups through the allocation of resources or through economic incentives. Javidan and House (2001) explain that, in this type of society, group membership and cohesion are highly valued, group goals and interests are more important than individuals', "important decisions are made by groups rather than individuals, and organizations take responsibility for employee welfare" (p. 297). Countries like South Korea, Sweden and Japan value group harmony and cooperation and rank high in this type societal collectivism. Countries like Greece, Italy, and Argentina value autonomy and individual freedom and rank high in individualism.

In-group collectivism "refers to the extent to which members of a society take pride in membership in small groups such as their family and circle of close friends, and the organizations in which they are employed" (Javidan & House, 2001, p. 297-298). Cultures ranking high on in-group collectivism, such as China and India, value being a member of a family and of a close group of friends and members of the in-group have very high expectations of one another. In such cultures, taking care of in-group needs and satisfying in-group expectations is critical and "it is not unusual to forgo due diligence or equal employment

opportunity, and to favor a close friend or family member in recruiting or in allocating rewards and promotions. Making regular references to one's family and especially one's father is quite acceptable and can go a long way in opening doors" (Javidan & House, 2001, p. 298). However, in countries high on individualism, such as New Zealand and Denmark, people do not feel an obligation to take care of close friends and they also do not expect any form of special treatment from those close to them.

The fact that the population of one country scores high on societal collectivism does not mean that same population will also have a high in-group collectivism score. One interesting result of the Javidan and House (2001) study is the fact that Sweden is among the highest socially collectivist countries while at the same time being the lowest family collectivist country studied in Project GLOBE.

Collectivism and Teamwork Schemas

According to Vygotsky (1978), the culture in which people grow up plays a vital role in their cognitive development. He believed that adults cultivate in children the particular skills and abilities valued by their cultural group and that the regulation and guidance of the child's behavior by others is gradually replaced by internalized self-regulations. Cognitive skills may be transmitted directly by parents, teachers, or others in the environment. They may also be transmitted more indirectly through the types of problems and tasks with which children are confronted. According to Vygotsky, this was why children's cognitive skills are seen to vary across different cultures.

Vygotsky's claims have been supported by cross-cultural studies that demonstrate differences in cognitive skills, such as organizing information and memory, depending on where individuals grow up. Most developmental psychologists now agree with Vygotsky that at least one critical process for children's cognitive development is the way adults convey particular cognitive skills as they engage in cognitive activities and problem-solving tasks with children (Rogoff, 1989).

Researchers studying memory, classification, and other cognitive skills among children from diverse cultures have shown that, although there are common features of children's thinking, there are some notable differences. For example, Rogoff and Waddell (1982) compared Mayan children living in rural Guatemala with American children on a memory test that required the reconstruction of an organized spatial scene. The two groups of children showed no differences in performance on this task. When memory for meaningful, spatially organized information was tapped, children of both cultures performed equally well. However, Mayan children performed poorly on memory tasks they had little experience with, such as learning lists of unrelated words. Studies such as this suggest that it is important to consider the activities that are valued and common within a culture in trying to explain the emergence of cognitive skills. In other words, children ultimately show different cognitive attainments depending on the skills and abilities that are promoted in the context in which they grow up.

As discussed above, cognitive growth must be understood in the context of culture. Just as some cultures value literacy and others value trade skills, some cultures value independence and others value interdependence. People born in individualist cultures, where the ties between individuals are loose, are expected to look after themselves and their immediate families only.

Conversely, according to Hofstede and McCrae (2004), people raised in collectivist societies, however, “are integrated from birth into strong, cohesive in-groups, often extended families [...], protecting them in exchange for unquestioning loyalty” (p. 63).

Because people in collectivist societies are socialized into groups at birth, they are more likely to belong to more numerous groups/teams throughout their lifespan than those born into individualist societies. Also, they are more likely to develop highly, complex cognitive networks and schemas regarding groups/teams and teamwork relative to individuals born and raised in cultures that value individualism.

Furthermore, borrowing from the leadership literature, Nishii et al. (2004) demonstrated that participants from an individualist society (i.e., U.S) have fewer central leadership schema attributes (or units) and more coherent schemas as compared to more collectivist participants (i.e., Thailand). Their study is presented in more detail in a later section of this paper.

The current literature on cross-cultural teamwork cognition has not been developed enough to warrant a truly informed prediction of the relationship between individualist-collectivist orientations and teamwork conceptualization. However, with the above issues in mind, it is rational to assume that the teamwork schemas of those individuals born and raised in a collectivist society will differ from those of individuals raised in an individualist society. In addition, based on the Nishii et al (2004) study, the teamwork schema structure of individuals in collectivist societies (i.e., Romania) is expected to be less coherent as compared to participants from an individualist society (i.e., U.S.) when assigning similarity ratings to team attributes common in the two cultures.

Cultural Orientation and Age

No age effects on cultural orientation are expected in the U.S. population. However, in the Romanian population, I expect cultural orientation to be influenced by age. Although traditionally Romania has been classified as a collectivist society, I believe that nowadays age has an effect on the cultural orientation of Romanian individuals due primarily to the 1989 Romanian Revolution which produced a dramatic conversion from communism to democracy. According to Schwartz and Sagie (2000), democratization increases the importance of independent thought and action, openness to change, and self-indulgence, and decreases the importance of tradition, conformity, and security.

The age of 31 was chosen to be the demarcation in this study due to the fact that 31 (or over) years old individuals would have been 13 or over at the time of the Revolution. According to Selman's Stages of Social Perspective Taking (1976, 1980; Selman & Byrne, 1974), at around 12 to 15 years of age children demonstrate societal and in-depth perspective taking. Societal conventions are seen as means of attempting to resolve dilemmas. Personal/individual values are respected, but if a dilemma cannot be resolved, the values of the larger societal or cultural group become the authority.

Because individuals' attitudes would have been molded during their childhood/formative years, by the time they were 13 or 14 the influence of the culture would have left an imprint on Romanian individuals as they would have already internalized societal rules. Consequently, I expect that the younger (under 31 years of age) individuals will have a more individualist orientation than the older individuals (31 or over years of age) whom will have a more collectivist cultural orientation. The young Romanian population, however, is not expected to be

as highly individualist as the U.S. population, due in part to residual communism effects in the Romanian culture.

Due to this expected difference in cultural orientation, I anticipate to see a difference between the younger and older Romanian participant's schema structure. I expect the younger Romanians' teamwork schema structure to be similar. I expect the older Romanians' schema structure to be similar. However, the younger and the older Romanian participant's schema structures are expected to differ.

CHAPTER 3: LEADERSHIP COGNITION

Leadership Conceptualizations

As Campbell (1977) stated, there is no single correct definition of leadership. The definition we choose to adopt in research depends on the researcher's purpose. For the purpose of the present paper, I will use the definition agreed upon by Project GLOBE. GLOBE defined leadership as "the ability of an individual to influence, motivate, and enable others to contribute toward the effectiveness and success of the organization of which they are members" (House et al., 2002, p. 5).

Although numerous leadership theories have been proposed and tested (i.e., trait, behavioral, participative, contingency, charismatic and transformational theories), the present paper will not describe them in detail. What leaders do and why they do it is influenced by what is customary in their organization, industry, or country. Therefore, in the present paper the focus is placed on the way leadership is conceptualized in the two populations of interest, Romania and the U.S. Consequently, a few leadership studies (implicit leadership theories) and the major project that has examined leadership in a cross-cultural context (Project GLOBE) are succinctly described.

Implicit leadership theories are beliefs and assumptions regarding the characteristics of effective leaders (Lord, Foti, & Devader, 1984; Rush, Thomas, & Lord, 1977). Implicit theories involve stereotypes about leadership relevant traits, skills, or behaviors whose primary purpose is to differentiate between various types of leaders (e.g., effective versus ineffective). These stereotypes are developed over time, through experience. They are influenced by individual and

cultural values (Gerstner & Day, 1994; Keller, 1999). Differences in leadership stereotypes are likely to exist between countries with different cultural values and traditions (Yukl, 2004).

Cultural values “are reflected in societal norms about the way people relate to each other. These norms specify acceptable forms of leadership behavior” (Yukl, 2004, p.414).

GLOBE researchers have studied the relationships between national culture and leadership in more than 60 countries. More than 150 scientists from all over the world are currently part of the GLOBE Project and are engaged in the study of cross-cultural leadership. Some of their major objectives are determining whether there are any universally accepted leader behaviors and attributes, determining how culture affects the kinds of leader behaviors that are accepted and are effective, and whether leader behaviors can be explained in terms of an underlying theory that accounts for systematic differences across cultures. According to House et al. (2002), “the theoretical base that guides the GLOBE research program is an integration of implicit leadership theory (Lord & Maher, 1991), value/belief theory of culture (Hofstede, 1980), implicit motivation theory (McClelland, 1985), and structural contingency theory of organizational form and effectiveness (Donaldson, 1993; Hickson, Hinings, McMillan, & Schwitter, 1974)” (p. 8).

The research project consists of four phases: 1) devoted to the development of research instruments, 2) devoted to the assessment of nine dimensions of societal and organizational cultures and tests of hypotheses relevant to the relationships among these cultural dimensions and cultural level implicit theories of leadership, 3) devoted to investigating the impact and effectiveness of specific leader behaviors and styles on subordinates attitudes and job

performance on organizational effectiveness, and 4) devoted to field and lab experiments designed to confirm, establish causality, and extend previous findings.

Although GLOBE is making great strides towards understanding leadership conceptualizations across the world, I believe the present study contributes vastly to this field of knowledge. One of the reasons for this assertion is that, to my knowledge, there is only one published study that investigated leadership in Romania (Smith et al., 2002). Additionally, because it is a developing country, Romania has a strong labor force and has a vast potential for multinational business ventures (Tiriteu, Ettkin, & Helms, 1998). Understanding the similarities and differences in leadership conceptualizations between the two countries would help in establishing better patterns of communication and collaboration between two countries with vast cultural differences.

There are nine cultural dimensions studied by GLOBE: uncertainty avoidance, power distance, societal collectivism, in-group collectivism, gender egalitarianism, assertiveness, future orientation, performance orientation, and humane orientation. Most of these dimensions were developed based on the work of Hofstede (1980) (i.e., uncertainty avoidance, power distance), and others based on the work of Kluckhohn and Strodtbeck (1961) (i.e., future orientation) and McClelland (1985) (i.e., performance orientation). As mentioned earlier, only societal and in-group collectivism are of interest in the present study.

Leadership and Culture

According to the implicit leadership theory, individuals have implicit beliefs, convictions, and assumptions about the attributes and behaviors that distinguish leaders from others and effective

leaders from ineffective ones. Implicit leadership theories influence the values that individuals place on selected leader behaviors and attributes (House et al, 1999). Hunt, Boal, and Sorenson (1992), and Lord and Maher (1991) proposed that culture has an important impact on the content and development of leadership prototypes and implicit leadership theories. Values and ideologies are expected to act as a determinant of culture specific leadership prototypes. In other words, there should be shared beliefs within a culture about what an effective leader is like. House et al (1999) referred to these shared beliefs as culturally endorsed implicit leadership theories (CLTs).

Some of the leadership dimensions identified by Project GLOBE seem to vary by culture (e.g., self-protective and autonomous leadership). Societies may differ in what they consider effective leader behavior thus leading to different leader behaviors and leadership practices. For example, Brodbeck et al. (2000) employed 22 European samples to test the assumption that conceptualizations of leadership differ as a function of cultural differences. Their research findings supported the assumption that leadership conceptualizations are culturally endorsed, as nations that have similar cultures were shown to also have similar leadership conceptualizations.

In their 2002 study on 47 nations concerned with culture and managerial sources of guidance, Smith et al. found that the participation oriented type of guidance is more prevalent in Western Europe, and managers in countries such as China and Romania rely more strongly on widespread beliefs as a source of guidance. Den Hartog et al. (1997) compared Polish and Dutch managers on characteristics they considered important for outstanding leadership. The results of their study showed that Dutch managers valued attributes associated with integrity and inspirational leader behavior but Polish managers valued diplomacy and administrative skills.

In collectivist cultures leaders need to communicate in ways that increase group cohesion, therefore the language tends to be indirect and any type of communication that could lead to conflict is generally avoided. In individualist cultures leaders are not as concerned with group cohesion and the process of communication tends to be simpler (Javidan & House, 2001).

Because leadership is a collective process, Triandis (1989) believed that leadership behaviors may differ in individualist and collectivist countries such that in collectivist cultures leaders are more supportive and paternalistic and in individualist cultures they are more achievement oriented and engage in more participative leadership behaviors. What is referred to as a paternalistic style of leadership reflects a preference for a leadership style that is high on status orientation, high on involvement in non-work lives, and is highly directive (e.g., Dorfman & Howell, 1988; Dorfman et al., 1997). In collectivist cultures, subordinates expect personalized relationships, close guidance, and supervision, and leaders are willing to assume responsibility in return for followers' loyalty. Den Hartog and Dickson (2004) list other types of paternalistic behaviors such as "attending congratulatory and condolence ceremonies for employees as well as their immediate family members (e.g., weddings and funerals); providing financial assistance (e.g., donations or loans) to employees when in need for expenses such as housing, health, and children's education expenses" (p.267-268). In contrast, in individualist cultures such as U.S. the values that are endorsed imply striving for uniqueness, independence, autonomy, and self-reliance. Therefore, in these cultures, a high level of involvement in subordinates' personal lives would be regarded as an invasion of privacy.

As seen above, there are numerous differences in leadership conceptualizations across countries. However, researchers have also identified a small set of attributes that seem to be

universally endorsed. House et al. (1999) claim there are several dimensions of leadership that have been shown to be universally endorsed, such as charismatic/value-based leadership and team-oriented leadership. The humane and participative leadership dimensions are also nearly universally endorsed.

Dorfman, Hanges, and Brodbeck (2004) list several universal leadership attributes, such as being trustworthy, just, honest, encouraging, dynamic, motivational, dependable, intelligent, decisive, informed, excellence oriented, etc. Based on these universal attributes, three studies have researched leadership schema structure across cultures, from a connectionist model perspective.

Hanges et al. (2001) tested the connectionist model of leadership and culture proposed by Hanges et al. (2000) and presented in the beginning of this paper. The researchers held the schema content (i.e., universal leadership attributes) constant and measured differences in participants' schema centrality in three different countries (the United States, Germany, and Mexico). In addition to cultural value measures, respondents were asked to provide similarity ratings for 17 universal leadership attributes. The cultural value measures were aggregated to societal culture level of analysis and Pathfinder was used in order to measure the participants' schema structure. The results of their study provided initial support for the Hanges et al. (2000) connectionist model of leadership and culture. Leadership schema structure differed significantly across the three countries. Moreover, the central attributes in these schemas were related to societal cultural values.

Additional support for the relationship between culture and the structure of a leadership schema was provided by the Nishii et al. (2004) study. The researchers maintained that, in

individualist societies, cognitive consistency is a critical feature within analytical systems of thought. In collectivist societies, however, individuals have to switch between multiple schemas depending upon the contextual situation in which the individual is embedded. Given that, depending on context, the schemas may be contradictory, the authors proposed that “the leadership schemas in these cultures would have lower coherence and subsequently more attributes would be central in their leadership schema. [...] This type of leadership schema structure was hypothesized to allow individuals in collectivistic societies to quickly switch behaviors depending upon the social context that they [found] themselves in” (Hanges et al 2006, p.24). The hypotheses were tested with samples from the United States, Germany, Singapore, and Thailand and the study results supported the original hypotheses. Leadership schemas in the U.S. and Germany (individualist cultures) were more internally consistent compared to the schemas in the more collectivist cultures (i.e., Singapore and Thailand) and leadership schemas for the U.S. and Germany participants had fewer central attributes when compared to those from Singapore and Thailand.

A third application of the connectionist model was undertaken by Hanges et al. (2004). In this study, the researchers tested the final step of the Hanges (2000) model, namely the relationship between attribute centrality and behavior. The results of this study provided support for the final link in the connectionist model. The centrality of schema attributes was significantly related to behaviors in a combat assessment exercise. Taken together the three studies mentioned above provide initial support for the Hanges connectionist model of leadership.

The present study tested the connectionist model in a new, unexplored, culture. Specifically, I expected to find differences in leadership schema structure between the two

cultures. Pathfinder was used in order to obtain spatial representations of participants' schemas. I expected that the Romanian population's leadership schema structure would have a greater number of central attributes and would be less coherent than the U.S. population's leadership schema structure. Moreover, due to expected differences in cultural orientation, I anticipated the leadership conceptualization in Romania to differ depending on age (i.e., below or above 31 years of age). Younger Romanian participants' schema structure was predicted to be more coherent than the older Romanian participants' leadership schemas.

CHAPTER FOUR: PRESENT STUDY

In this chapter, I will present the study hypotheses, detail several of the more problematic methods issues, and present the characteristics of the study participants, the specific analyses employed, and the results for each of the study hypotheses.

Study Hypotheses

Culture Hypotheses:

Hypothesis 1: The Romanian participants will display more collectivistic societal and in-group values than the U.S. participants.

Hypothesis 2: Age will be positively associated with collectivistic societal and in-group values in the Romanian sample.

Teamwork Hypotheses:

Hypothesis 3: The teamwork schema structure of the younger Romanian participants will be less coherent than the teamwork schema structure of the younger U.S. participants.

Hypothesis 4: The teamwork schema structure of the older Romanian participants will be less coherent than the teamwork schema structure of the older U.S. participants.

Hypothesis 5: The teamwork schema structure of the younger Romanian participants will show more coherence than the teamwork schema structure of the older Romanian participants.

Hypothesis 6: Collectivistic societal and in-group values will be negatively related to the coherence of teamwork schema structures.

Leadership Hypotheses:

Hypothesis 7: The leadership schema structure of the younger Romanian participants will be less coherent than the leadership schema structure of the younger U.S. participants.

Hypothesis 8: The leadership schema structure of the older Romanian participants will be less coherent than the leadership schema structure of the older U.S. participants.

Hypothesis 9: The leadership schema structure of the younger Romanian participants will show more coherence than the leadership schema structure of the older Romanian participants.

Hypothesis 10: Collectivistic societal and in-group values will be negatively related to the coherence of leadership schema structures.

Methods Issues

In general, biased results can be obtained due to extreme responding and due to social desirability. Social desirability effects on responding are usually measured in studies using self-report measures. Usually social desirability is considered error and its effects are eliminated during data analysis. However, in the present study, social desirability is of interest because it may be a facet of cultural orientation. Smith (2004) compared acquiescence response biases from six large scale cultural surveys. The results of his analysis showed that “national indicators of acquiescence have substantive cultural meaning and should not be eliminated from national level analyses” (p.50). Therefore, these biases should not be ignored as mere artifacts of measurement. In the present study, because social desirability may be an illustration of cultural orientation and

not measurement error, its effects did not need to be partialled out of participants' responses and therefore this construct as not measured.

Lachman (1997) pointed out that many of the reported cross-cultural research studies "examine the cultural context after they find that 'culture' may be a useful interpretation for obtained results. Many do not even do that: they simply attribute results to 'culture' without examining the concerned cultural setting or showing how culture affects their findings" (p. 320).

Even when culture is measured, according to Scandura and Dorfman (2004), one of the major problems in cross-cultural research has been the fact that some researchers have accepted Hofstede's country rankings without confirming that those ranking were still valid for their research samples. Keeping in mind that Hofstede's data is quite old and due to the fact that I believe Romania is changing from a collectivist to a more individualist cultural orientation, in the proposed study, individualism/collectivism is measured using a questionnaire originally developed by Project GLOBE in order to ascertain the level of collectivism in the two cultures of interest. Thus, in the present study, the cultural orientation is *directly* measured in the two populations of interest, the United States and Romania, in order to map the relationship between culture and teamwork and leadership conceptualizations.

Cross-cultural studies should attempt to ascertain similarities and differences between cultural groups through relying on sound statistical means of data collection. As Van de Vijver and Leung (2001) affirm, "a blind 'exportation' of Western instruments to other cultures without any concern for the appropriateness of the measures is ... unlikely to lead to major theoretical advancements" (p.1008). As a consequence, the present section addresses some of the measures taken in order to deal with several common concerns.

Method bias “can result from sample incomparability, instrument characteristics, tester and interviewer effects, and the method (mode) of administration” (Van de Vijver and Leung, p. 1015). Because cultural orientation should be apparent at all ages and in all occupations, the samples in this study will be compared based on the participants’ national origin. The instrument characteristics should be appropriate for the Romanian sample, tester/interviewer effects will be eliminated due to the fact that the instructions will be given on paper and the interaction with the test administrator will be kept to a minimum. Additionally, the mode of administration will be identical in the two cultures.

A series of steps have been taken in order to avoid some of the prominent biases that come to light in the use of monocentered tests. For example, a poor translation of items makes the scores on a particular item incomparable (item bias). Item bias refers to “anomalies at the item level, such as poor translations or inapplicability of an item in a specific culture” (Van de Vijver & Leung, 2001, p.1015). Great care was taken in the translation of all of the instruments in order to avoid item bias.

Test Translation Process. In order to avoid some of the more prominent problems that arise from the use of monocentered tests in cross-cultural studies, several steps were taken in the translation of the scales. The tests were translated into the Romanian language by the primary investigator. The researcher has learned Romanian as a first language and, accordingly, attempted to convey the same meaning (as in English) in the Romanian versions. In order to check for any grammatical mistakes, a native Romanian speaker, who was not familiar with the English version of the tests, inspected the instruments and made any necessary adjustments. Subsequently, the instruments were back-translated into English by a third person - also blind to

the purpose of the tests - and who has never before seen the English versions. The back-translated and the original tests were compared in order to ascertain whether the two versions were equivalent (in meaning), and in order to make sure that none of the critical information was lost during the translation process.

Methods

Participants

The sample consisted of 282 participants pertaining to one of four groups: younger Romanian, older Romanian, younger U.S., or older U.S. There were 69 younger Romanian participants, of which 56.5% male were male, had a mean of 13.48 years of formal education, a mean of .34 years of managerial experience, and had participated in an average of 2.32 work teams in the past five years. The older Romanian group ($n = 75$) was predominantly female (74.3%), with an average formal education of 15.57 years, a mean of 4.24 years of managerial experience, and reported having participated in an average of 2.19 teams during the past five years.

The younger U.S. group ($n = 72$), consisted predominantly of female participants (65.3%), had a mean of 15.47 years of formal education, 1.51 years of managerial experience, and a mean of 3.40 for the number of work teams the participants had been involved with during the past five years. Finally, the older U.S. group ($n = 66$) consisted of 51.5% males, with a mean of 17.33 years of formal education, 6.51 years of managerial experience, and the participants had participated in an average of 5.73 work teams in the past five years.

One-way ANOVAs were computed to evaluate differences in the same-age samples on the following variables: age, years of formal education, years of work experience, years of managerial experience, and number of work teams. The only significant differences observed in the two younger groups was years of formal education, $F_{(1,138)} = 36.19, p < .01$, and years of managerial experience, $F_{(1,138)} = 18.43, p < .01$. The younger U.S. group displayed higher levels of both education and years of managerial experience than did the younger Romanian group. The two older groups differed significantly in terms of years of formal education, $F_{(1,137)} = 11.24, p < .01$, and the reported number of work teams they had participated in during the past five years, $F_{(1,128)} = 6.74, p < .01$. The older U.S. group had higher levels of formal education and reported participating in more work teams than did the older Romanian group.

Procedure

Each participant received a questionnaire packet comprised of an introductory page (see Appendix A) and all of the scales mentioned below. The introductory page was included because the administration of the questionnaires did not take place in a structured setting. The page explained the purpose of the study and included a passive consent statement. The packet materials were presented in the following order: Introductory page, Teamwork Schema Structure Questionnaire, Leadership Schema Structure Questionnaire, the Cultural Orientation Questionnaire, and the Demographic Questionnaire. A researcher presented participants with a questionnaire packet and asked that they complete and return it within 5-7 days. Some of the data collection took place in a structured environment (e.g., undergraduate class setting). In such

cases, the participants were asked to complete and submit the questionnaires during the time allotted (approximately 1 hour).

Data Collection Issues. In order to analyze the participants' teamwork and leadership schemas, we proposed a *target* sample size in the Romanian population of 120 participants (60 participants under 31 years of age, and 60 at or above 31 years of age). The target sample size for the US population was also 120 (60 participants under 31 years of age, and 60 at or above 31 years of age).

Because the data collection usually did not take place in a structured environment, one phenomenon became apparent after the packets were returned. Some of the schema scales included in the questionnaire packet were returned blank or only partially completed. The order of the two schema scales did not have an effect on the completion/ partial completion of the measures. The partially completed questionnaires could not be used in our analyses. Therefore, in order to attain our target of 60 participants per sub-sample, additional data had to be collected. The entire dataset ($N = 282$) is presented in Table 2.

Measures

Teamwork schema. The Teamwork Schema Structure Questionnaire was developed based on a pilot study. Twenty-one Romanian participants were asked to provide general teamwork descriptors. Of these participants, seven were part of the older (31 years old or above) Romanian group. In addition to the descriptors provided by the older participants, the descriptors provided by seven younger (below 31 years of age) participants were randomly selected for further analysis. This was done in order to have an equal number of representatives from the two

age groups of interest in the study. On the average, the participants provided approximately nine attributes each, resulting in a final set of 128 descriptors. The number of descriptors was reduced using several elimination rules. Two individuals sorted the 128 attributes in categories of synonyms and assigned a label to each category (e.g., “fast” and “quick” were combined into one category labeled “fast”). Only those categories/labels that contained at least two descriptors from two different participants were retained. A further step was comparing the categories of descriptors from the two individual sorters. Only those categories for which the two sorters agreed were retained. This process resulted in 32 descriptor categories (e.g., beneficial, collaboration, creativity, efficient, fast, friendship, help, ideas, progress, responsibility, safety, satisfaction).

These descriptive categories were then compared to a similarly generated list of 100 teamwork descriptors provided by U.S. citizens (see Rentsch & Howe, 1990; Rentsch et al., 1994). After comparing the two lists, thirteen common descriptor categories were found. Although more evidence is required in order to consider these descriptors universal, they are common in the two populations of interest in this study. The common teamwork descriptors were included in the final Teamwork Schema Structure Questionnaire (see Appendix B). The descriptors were randomly presented in the questionnaire.

The Teamwork Schema Structure Questionnaire was administered to all participants. The participants were asked to rate pairs of descriptors in terms of their meaning relatedness. In other words, this questionnaire required that each participant provide 78 different ratings of relatedness (the lower half of a 13x13 matrix). Each pair of teamwork attributes (descriptors) was rated on

an 11-point Likert scale, ranging from “1” (highly unrelated) to “11” (highly related). The relatedness ratings were analyzed using Pathfinder.

In order to test whether the way information was presented would have an effect on the ratings provided by participants, a second pilot study was conducted. We were concerned that the matrix format may be too cognitively complex and participants may prefer a more intuitive type of questions. Four participants (one young Romanian, one old Romanian, one young U.S., and one old U.S.) were asked to complete the questionnaire in the matrix/grid format. Three days later, the same individuals were asked to make the same paired comparisons. The second time, however, the paired comparison terms were presented side by side as opposed to being presented in a matrix form. After completing the second questionnaire, participants were asked which one of the formats they preferred. Three out of the four responded they found the second (side by side) questionnaire to be too long. The responses to both formats correlated significantly for all four participants. The correlation coefficients were .75, .68, .83, and .84, for the younger Romanian, older Romanian, younger U.S., and older U.S. participants, respectively. Because the obtained ratings were so highly correlated, the main factor in deciding which format to adopt rested on the participants’ preference. Therefore, following the participants’ preference, the matrix format was adopted for the purpose of the present study.

In the present study, analyses revealed the following $r_{wg(78)}$ interrater reliability coefficients for the teamwork scale: .95 in the older Romanian group, .96 in the younger Romanian group, .97 in the older U.S. group, and .95 in the younger U.S. group.

Leadership schema. The Leadership Schema Structure Questionnaire was developed based on the universal leadership attributes listed by Dorfman et al. (2004). Thirteen of the

attributes listed by these authors were incorporated in the questionnaire (see Appendix C). The number of attributes was restricted to thirteen for two reasons. In order to minimize fatigue, we decided that the number of attributes in the scale needed to stay at or below 15. Additionally, because only 13 common attributes were found and incorporated in the teamwork schema measure, we decided to incorporate the same number of attributes in the leadership scale. Each leadership dimension noted by Dorfman et al. (2004) is represented in the scale. However, within each dimension, the attributes to be incorporated in the scale were chosen at random. Therefore, for example, the primary dimension of “charisma 2: inspirational” is represented in our questionnaire by the following randomly selected attributes: “positive”, “encouraging”, and “confidence builder”. These attributes were also randomly presented in the scale.

The same pilot study described for the Teamwork Schema Structure Questionnaire was also performed for the leadership scale. Four participants were asked to rate paired comparisons in two different formats. The responses resulted in correlations of .64, .54, .83, and .69, for the younger Romanian, older Romanian, younger U.S., and older U.S. participants, respectively. Again, due to the participants’ preference, the matrix/grid format was adopted for the purpose of the present study.

Therefore, the Leadership Schema Structure Questionnaire was administered to the study participants in grid format. The participants were asked to provide 78 different ratings of relatedness (the lower half of a 13x13 matrix). Each pair of attributes (descriptors) was rated on a scale consisting of eleven Likert-type steps, ranging from “1” (highly unrelated) to “11” (highly related). The relatedness ratings were analyzed using Pathfinder.

In the present study, analyses revealed the following $r_{wg(78)}$ interrater reliability coefficients for the leadership scale: .90 in the older Romanian group, .96 in the younger Romanian group, .95 in the older U.S. group, and .85 in the younger U.S. group.

Collectivism. The Cultural Orientation Questionnaire measures societal and in-group collectivism and was adapted from Project GLOBE– Form Beta. Only those items pertaining to societal and in-group collectivism were retained (see Appendix D). These items measure both practices and values at the societal level. Values (SHOULD BE) are of primary importance in the present study; however, practices (AS IS) were also measured for exploratory purposes.

Hanges and Dickson (2004) reported interrater reliability coefficients for the cultural practices and cultural values scales. The coefficients for all four scales were above the .85 marker considered favorable for developed instruments (Nunnally and Bernstein, 1994). Gupta, DeLuque, and House (2004) presented appropriate discriminant and convergent validity coefficients for the societal cultural practices (AS IS) and the societal cultural values (SHOULD BE) scales. Commonly, validity estimates are in the .30 to .50 range, and rarely do they exceed .50. The validity estimates for the Cultural Orientation Scale were within or exceeded the normal range.

The r_{wg} interrater reliability coefficients obtained in the present study are presented in Tables 3 - 6.

Demography. The Demographic Questionnaire was adapted from Project GLOBE– Form Beta. Only those questions deemed pertinent for the study were retained and additional items, pertaining to teamwork, were added (see Appendix E).

Results

Descriptive statistics and intercorrelations for all of the study's variables are shown in Table 2.

Tests of Culture Hypotheses

The entire dataset was used for testing Hypothesis 1 and Hypothesis 2. All other hypotheses were tested on sub-sets of data in order to preserve an equal number ($n = 60$) of participants in each group, younger Romanian, older Romanian, younger U.S. and older U.S.

Hypothesis 1: The Romanian population will display more collectivistic societal and in-group values than the U.S. population.

Collectivism scores were obtained from all participants. The mean scores for the entire sample on the collectivism scales are presented in Table 2. The observed mean societal and in-group values for the Romanian sample were 4.77 and 6.02, respectively. The mean collectivistic societal and in-group values for the U.S. sample were 4.06 and 5.50, respectively. Higher values indicated higher collectivism. Planned t-test comparisons revealed that both societal ($t_{(276)} = 6.99, p < .01$) and in-group values ($t_{(269)} = 4.87, p < .01$) varied as a function of nation. The correlation coefficients for societal and in-group collectivism with nation are presented in Table 2.

Hypothesis 1 was supported because the mean collectivism scores of the Romanian sample were shown to be statistically significantly higher than that of the U.S. sample. These findings are consistent with the available body of research which portrays the U.S. culture as the

apogee of individualism, while portraying Romania as a collectivistic society (Luca, 2006; ITIM Website).

Exploratory analyses. Additional analyses indicated that in-group practices also varied as a function of nation, $F_{(1, 280)} = 190.69, p < .05$, as did societal practices, $F_{(1, 280)} = 14.54, p < .05$. These results indicated that Romanian individuals reported their collectivistic practices in small groups ($M = 5.44$) to be higher than those reported by U.S. individuals ($M = 4.08$). Unexpectedly, however, at the societal level, the U.S. individuals ($M = 4.12$) reported higher collectivistic societal practices than did the Romanian individuals ($M = 3.71$). The correlations of societal ($r = .22, p < .01$) and in-group practices ($r = -.64, p < .01$) with nation were statistically significant (see Table 2).

Hypothesis 2: Age will be positively associated with collectivistic societal and in-group values in the Romanian population.

The means on the value scales of the younger (less than 31 years of age) Romanian participants were compared to those of the older (31 or above years of age) Romanian participants. The observed mean collectivistic societal values were 4.95 and 4.60 for the younger and older samples, respectively. The observed mean collectivistic in-group values were 5.84 and 6.20 for the younger and older samples, respectively.

The results of planned comparison t-tests indicated that collectivistic societal values vary as a function of age in the Romanian population, $t_{(132)} = 2.35, p < .05$. The observed mean differences in the two populations are statistically significant. However, the younger Romanian sub-sample's observed societal values' score was higher than that observed in the older

Romanian sub-sample. Therefore, the relationship was in the opposite direction than that expected.

For in-group values, results indicated that the scores were significantly different between the two sub-samples, $t_{(142)} = -2.62, p < .01$. The mean difference was in the expected direction. The older Romanian sub-sample's score was higher than the one observed for the younger Romanian sub-sample.

The correlations of collectivistic societal ($r = -.20, p < .01$) and in-group values ($r = .22, p < .01$) with age group in the Romanian sample were both statistically significant (see Table 3). As depicted by the above stated analyses, the correlation of age and societal values is negative, and the correlation of age with in-group values is positive.

Taken together, these results provide *partial support* for *Hypothesis 2*.

Exploratory analyses. The results of additional analyses (one-way ANOVAs) indicated that, in the Romanian population, collectivistic in-group practices also differed as a function of age, $F_{(1, 142)} = 4.59, p < .05$, with the older sub-sample's mean score being higher than that of the younger Romanian sub-sample.

For collectivistic societal practices we also observed a significant mean difference between the younger ($M = 3.92$) and older ($M = 3.51$) group, $F_{(1, 142)} = 8.04, p < .05$. However, in this case, the difference was in the opposite direction than expected, with the younger Romanians presenting more collectivistic societal practices than the older Romanians. The correlations of collectivistic in-group practices ($r = .18, p < .05$) and collectivistic societal practices ($r = -.23, p < .01$) with age group for the Romanian sample were both statistically significant (see Table 3).

Additionally, even though we did not expect to find any significant differences, we also tested to see if any age effects were apparent in the U.S. sample. Unexpectedly, in-group values were significantly different as a function of age in the U.S. sample, $F_{(1,136)} = 6.51, p < .05$. The younger U.S. group's mean collectivism score for in-group values ($m = 5.69$) was significantly higher than that observed in the older U.S. group ($m = 5.27$). The correlation of collectivistic in-group values with age group for the U.S. sample was statistically significant, $r = -.21, p < .01$ (see Table 4).

Post-hoc exploratory analyses. Due to the results of Hypothesis 1 and Hypothesis 2, we decided to also test whether collectivism differed between the younger Romanian and younger U.S. groups, and between the older Romanian and older U.S. groups. The observed means for the younger Romanian group for societal values, in-group values, societal practices, and in-group practices were: 4.95, 5.84, 3.92, and 5.29, respectively. In the younger U.S. group, the observed means were: 4.16, 5.69, 4.09, and 4.10, respectively. The results of one-way ANOVAs indicated that the younger sub-samples differed significantly on societal values, $F_{(1, 139)} = 28.74, p < .05$, and in-group practices, $F_{(1, 139)} = 78.2, p < .05$. The younger Romanian group displayed higher levels of collectivistic societal values and in-group practices than the younger U.S. group. The two younger groups did not differ significantly in their levels of collectivistic in-group values, $F_{(1, 139)} = 0.73, p > .05$, or collectivistic societal practices, $F_{(1, 139)} = 1.27, p > .05$. The correlations of all collectivism scores with nation for the younger groups are presented in Table 5.

The older Romanian group's societal values ($M = 4.60$), in-group values ($M = 6.20$), societal practices ($M = 3.51$), and in-group practices ($M = 5.57$) were compared to those reported in the older U.S. group: societal values ($M = 3.95$), in-group values ($M = 5.27$), societal practices

($M = 4.15$), and in-group practices ($M = 4.06$). For the older groups, the results of our analyses indicated that they differed significantly on all four collectivism scales: societal values, $F_{(1, 139)} = 22.56$, $p < .05$, in-group values, $F_{(1, 139)} = 39.39$, $p < .05$, in-group practices, $F_{(1, 139)} = 113.03$, $p < .05$, and societal practices $F_{(1, 139)} = 18.03$, $p < .05$. The older Romanian group reported higher levels of collectivistic societal values, in-group values, and in-group practices, but lower collectivistic societal practices than the older U.S. group. The correlations of all collectivism scores with nation for the older sub-samples are presented in Table 6.

Tests of Teamwork Hypotheses

The sample for the teamwork analyses was comprised of 240 individuals. Half of the participants ($n = 120$) were Romanian, with 60 participants under 31 years of age (56.7% males) and 60 participants at or above age 31 (25.4% males). The Romanian participants had a mean of 14.34 years of formal education, a mean of 2.42 years of managerial experience, and the mean reported number of work teams the participants had been a part of in the past five years was 2.21.

The U.S. participants ($n = 120$) also consisted of 60 participants under 31 years of age (30% males) and 60 participants at or above age 31 (51.7% males). The years of formal education ($M = 16.41$), years of managerial experience ($M = 4.01$), and the reported number of work teams ($M = 4.55$) were slightly higher than those observed in the Romanian sample.

Hypothesis 3: The teamwork schema structure of the younger Romanian sub-sample will be less coherent than the teamwork schema structure of the younger U.S. sub-sample.

Hypothesis 4: The teamwork schema structure of the older Romanian sub-sample will be less coherent than the teamwork schema structure of the older U.S. sub-sample.

Hypothesis 3 and *Hypothesis 4* were tested by analyzing the Romanian and U.S. responses to the Teamwork Schema Structure Questionnaire. All of the variable intercorrelations for the younger and older sub-samples are presented in Table 5 and Table 6, respectively.

The relatedness ratings provided by participants were analyzed using Pathfinder. Pathfinder transforms relatedness ratings into distances and graphically maps these distances. Each participant's Pathfinder network (PFNET) was first mapped individually and the coherence of each PFNET was computed. The network coherence refers to the internal consistency of the network and Pathfinder automatically computes it. There is no set standard for a network's coherence; different networks can differ dramatically in terms of coherence. However, very low coherence values (less than 0.20) may indicate that raters did not (or could not) take the rating task seriously or that they had no well formed schema (i.e., novice) (Schvaneveldt, 1990).

The average coherence for each sub-sample of interest was computed. The teamwork coherences were: .56 for the younger Romanian group, .59 for the younger U.S. group, .52 for the older Romanian group, and .62 for the older U.S. group.

Planned comparison t-tests indicated that the differences in coherence between the younger Romanian and the younger U.S. groups were not statistically significant, $t_{(116)} = -1.12$, $p > .05$. The younger Romanian and the younger U.S. groups' teamwork schemas were equally coherent. Therefore, *Hypothesis 3* was *not supported*. The correlation of nation with teamwork coherence for the younger groups was not significant, $r = .10$, $p > .05$ (see Table 5).

For the older groups, the Romanian groups' mean coherence coefficient was lower than that observed in the U.S. group. A planned comparison t-test indicated that this difference in teamwork coherence was statistically significant, $t_{(117)} = -3.02$, $p < .01$. Therefore, *Hypothesis 4*

was *supported*. The correlation of nation with teamwork coherence for the older groups was statistically significant, $r = .27$, $p < .01$ (see Table 6). This result is consistent with the findings available in the (leadership) literature which state that collectivistic societies display lower schema coherence as compared to schema coherence in individualistic societies.

Post-hoc exploratory analyses. Pathfinder was used to obtain one teamwork schema structure for each of the four groups (younger Romanian, younger U.S., older Romanian, and older U.S.), resulting in four distinct PFNETs. The group PFNET coherence coefficients were: .81 for the younger Romanian group, .81 for the older Romanian group, .79 for the younger U.S. group, and .83 for the older U.S. group.

In order to further explore Hypothesis 3 and Hypothesis 4, the similarity of younger Romanian and younger U.S., along with the similarity of older Romanian and older U.S. PFNETS was computed. For an example of the analyses available in Pathfinder for comparing PFNETs, see Appendix F. Succinctly stated, however, the similarity between two networks is determined by the correspondence of links in the two networks. The similarity is the number of links in common divided by the number of links that are in either network. The results of the similarity analyses are presented in Table 7. The comparison of the younger sub-sample showed that the two schema structures have eight structural paths in common and have a similarity of .44, $p < .01$. In comparing the older sub-samples, the results showed that the two have eight paths in common and have a similarity of .50, $p < .01$.

The comparison of the sub-sample PFNETs, however, presents only a limited amount of information. In order to further investigate the teamwork structure of the four sub-samples, the central attributes were inspected for each PFNET. Centrality refers to the number of

interconnected links each unit has with other units in the network. In other words, the attribute that is the most strongly activated, or the attribute with the most links in the network, is considered the central attribute. However, a network can have multiple central attributes. Centrality represents another way of investigating schema structure. The teamwork PFNETs for the four sub-samples are illustrated in Figures 1 through 4 (please note that all Figures are located in Appendix H). The similarities and the central attributes for each sub-sample's PFNET are examined in more detail in Chapter Five.

Hypothesis 5: The teamwork schema structure of the younger Romanian sub-sample will show more coherence than the teamwork schema structure of the older Romanian sub-sample.

Hypothesis 5 was tested by comparing the mean teamwork schema coherence for the younger ($M = .56$) and older ($M = .52$) Romanian participants. A quick inspection of the internal consistency (coherence) of the younger Romanian population's schema structure appears to confirm our hypothesis, in that the average coherence of the younger sub-sample appears to be higher than that of the older Romanian Sub-sample. However, the results of a planned comparison t-test showed that the two sub-samples' coherences do not differ significantly, $t_{(117)} = 1.27, p > .05$. Therefore, *Hypothesis 5* appeared not to be supported. However, as Table 3 illustrates, the correlation of age and teamwork coherence in the Romanian population was statistically significant ($r = -.17, p < .05$). Together with the results of the above one way ANOVA, this finding implies that indeed the younger Romanian individuals' teamwork schema coherence is higher than that of the older Romanian individuals, however not for our designated cut-off point for younger versus older participants (age 31).

Post-hoc exploratory analyses. In the U.S. population, the teamwork schema structure of the younger U.S. sub-sample ($M = .59$) appeared to be less coherent than that of the older U.S. sub-sample ($M = .62$). However, a one way ANOVA revealed that this difference was not statistically significant, $F_{(1, 118)} = .66, p > .05$. The correlation of age and teamwork coherence in the U.S. sample (see Table 4) was also not statistically significant ($r = .07, p > .05$). Therefore, no age effects were apparent in the U.S. population.

The results of similarity analyses for the younger Romanian and older Romanian PFNETs and the younger U.S. and older U.S. PFNETs are presented in Table 7. The analyses indicated that the younger Romanian (Figure 1) and older Romanian (Figure 3) PFNETS share nine links in common and have a great degree of similarity ($.60, p < .01$). The younger U.S. (Figure 2) and older U.S. (Figure 4) PFNETs share eight links in common, and have a similarity of $.44, p < .01$. These similarities and the central attributes for each sub-sample's PFNET are examined in more detail in Chapter Five.

Hypothesis 6: Collectivistic societal and in-group values will be negatively related to the coherence of teamwork schema structures.

Hypothesis 6 was tested by correlating the teamwork schema coherence coefficients with the scores obtained on the collectivism value scales. Coherence and cultural orientation/collectivism coefficients were obtained for all participants (younger Romanian, older Romanian, younger U.S., and older U.S.). Teamwork coherence coefficients did not correlate significantly with either in-group ($r = -.04, p > .05$) or societal ($r = -.01, p > .05$) collectivistic values (see Table 2). Therefore, *Hypothesis 6 was not supported.*

Exploratory analyses. Additionally, the correlations of teamwork schema coherence with collectivistic societal ($r = .03, p > .05$) and in-group ($r = -.08, p > .05$) practices were also not statistically significant (see Table 2).

Tests of Leadership Hypotheses

The sample for the leadership analyses was comprised of 240 participants. The Romanian sub-sample ($n = 120$) was comprised of 60 participants under 31 years of age (55.0% males) and 60 participants at or above age 31 (30.5% males). The participants reported a mean of 14.78 years of formal education, a mean of 2.05 years of managerial experience, and a mean of 2.29 number of work teams they had been involved in during the past five years.

The U.S. sub-sample ($n = 120$), was comprised of 60 participants under 31 years of age (36.7% males) and 60 participants at or above age 31 (50.0% males). The reported years of formal education ($M = 16.52$), years of managerial experience ($M = 3.81$), and number of work teams ($M = 4.44$) were higher than those observed in the Romanian sub-sample.

Hypothesis 7: The leadership schema structure of the younger Romanian sub-sample will be less coherent than the leadership schema structure of the younger U.S. sub-sample.

Hypothesis 8: The leadership schema structure of the older Romanian sub-sample will be less coherent than the leadership schema structure of the older U.S. sub-sample.

In order to test *Hypothesis 7* and *Hypothesis 8*, the Pathfinder algorithm was applied to the responses obtained on the Leadership Schema Structure Questionnaire. The coherence of each participant's leadership schema was computed and the sub-sample means were analyzed using planned comparison t-tests.

For the younger sub-samples, the Romanian coherence coefficient ($M = .41$) was lower than that observed in the U.S. ($M = .50$). The planned t-test comparison revealed that this difference was statistically significant, $t_{(117)} = -3.29$, $p < .01$. Therefore, *Hypothesis 7* was *supported*. The correlation of nation with leadership coherence for the younger sub-samples was statistically significant, $r = .29$, $p < .01$ (see Table 5).

For the older sub-samples, the observed Romanian coherence coefficient ($M = .40$) was lower than that observed in the U.S. ($M = .48$). Again, the planned comparison revealed that this difference was statistically significant, $t_{(114)} = -2.34$, $p < .05$. Therefore, *Hypothesis 8* was also *supported*. The correlation of nation with leadership coherence for the older sub-samples was also statistically significant, $r = .21$, $p < .05$ (see Table 6).

Post-hoc exploratory analyses. With the use of Pathfinder, one PFNET was computed for each group of interest and the coherence of each was computed. The group PFNET coherence coefficients were: .68 for the younger Romanian group, .69 for the older Romanian group, .78 for the younger U.S. group, and .78 for the older U.S. group.

In order to further explore the group leadership schemas, the similarity of younger Romanian and younger U.S. PFNETs along with the similarity of the older Romanian and older U.S. PFNETs was also computed. The results of the Pathfinder similarity analyses are presented in Table 8. The comparison of the younger groups showed that the two leadership schema structures have eight structural paths in common and have a similarity of .50, $p < .01$. In comparing the older groups' leadership PFNETs, the results revealed ten common structural paths and a similarity of .71, $p < .01$.

Additionally, in order to further investigate the leadership schema structures of the four groups, their corresponding PFNETs were mapped using Pathfinder (see Figures 5 through 8) and the central attributes were inspected for each sub-sample's PFNET. Additional description of these results will be presented in the Discussion section.

Hypothesis 9: The leadership schema structure of the younger Romanian sub-sample will show more coherence than the leadership schema structure of the older Romanian sub-sample.

In order to test *Hypothesis 9* the mean coherence for the younger and older Romanian participants were compared. The observed average leadership coherence of the younger Romanian group's schema structure was higher ($M = .41$) than that observed in the older Romanian group ($M = .40$). A planned comparison t-test revealed that this difference was not significant, $t_{(114)} = .38, p > .05$. Therefore, *Hypothesis 9* was *not supported*. The correlation of age group and leadership coherence in the Romanian sample was not significant, $r = -.04, p > .05$ (see Table 3).

Post-hoc exploratory analyses. In the US population, the younger sub-sample displayed higher average leadership schema coherence ($M = .50$) as compared to the older sub-sample ($M = .48$). A one-way ANOVA revealed that the differences between the two sub-samples' leadership average coherences were not statistically significant, $F_{(1, 118)} = .44, p > .05$. The correlation of age group and leadership coherence in the U.S. sample was not statistically significant, $r = -.06, p > .05$ (see Table 4).

Similarity analyses were also performed for younger Romanian and older Romanian PFNETs and for the younger U.S. and older U.S. PFNETs (see Table 8). The Pathfinder

similarity analyses indicated that the younger Romanian (Figure 5) and older Romanian (Figure 7) leadership PFNETS share ten links in common and have a great degree of similarity (.71, $p < .01$). The younger U.S. (Figure 6) and older U.S. (Figure 8) leadership PFNETs share eight links in common, and have a similarity of .50, $p < .01$. Additional description of these results will be presented in the Discussion section.

Hypothesis 10: Collectivistic societal and in-group values will be negatively related to the coherence of leadership schema structures.

Hypothesis 10 was tested in the same manner as Hypothesis 6, by correlating the leadership schema coherence coefficients with the scores obtained on the value scales. Coherence and cultural orientation/collectivism coefficients were obtained for all participants. Leadership coherence coefficients did not correlate significantly with either in-group ($r = -.01$, $p > .05$) or societal ($r = -.05$, $p > .05$) collectivism value scales (see Table 2). Therefore, *Hypothesis 10 was not supported.*

Post-hoc exploratory analyses. Leadership coherence was not correlated significantly with societal practices. However, the correlation with in-group practices was significant ($r = -.15$, $p < .05$) (see Table 2). Upon further investigation, it becomes clear that this correlation is apparent in the younger groups ($r = -.16$, $p < .05$) (see Table 5).

CHAPTER FIVE: DISCUSSION AND CONCLUSIONS

The primary purpose of this study was to advance the understanding of teamwork and leadership cross-cultural cognition by testing the cognitive models in two countries and testing several proposed antecedents: collectivistic societal values, in-group values, societal practices, and in-group practices. In addition, a potential collectivism shift in the Romanian population was examined. The conceptualizations of teamwork and leadership were examined and compared using Pathfinder. The implications of the present study's results are discussed below.

Collectivistic Culture

The results revealed that indeed the two cultures differed significantly, with the Romanian sample displaying significantly higher collectivistic scores on the following measures of collectivism: societal values, in-group values, societal practices, and in-group practices. The results confirmed that the U.S. participants reported lower collectivistic values than the Romanian participants. These findings were consistent with all of the available body of research which portrays the U.S. culture as the apogee of individualism while portraying Romania as a collectivistic society (Luca, 2006; ITIM Website).

Strong forces such as a shared language, educational system, and so on, influence a nation towards shared, integrated cultural values. However, there are also forces that can lead one sub-group in the population to shift away from traditional national cultural values. A political system is such a force. We expected one such shift due to the Romanian Revolution of 1989 which prompted the transformation of Romania from a communist to a democratic society.

We expected this transition had influenced the development of the younger generation such that the younger generation would have internalized lower collectivistic societal and in-group cultural values as compared to the older generation.

Romanian sample. The results from the present study revealed that indeed the younger Romanian sample differed significantly from the older Romanian sample. Unexpectedly, however, not all of the differences were in the expected direction. In terms of collectivism, the younger sample displayed higher societal values and lower in-group values as compared to the older sample. In other words, the younger individuals appeared to appreciate group membership and cohesion more than the older individuals, and find group goals and interests to be more important than individual ones (societal values). At the same time, the younger group did not value family and close in-groups (in-group values) as highly as the older sub-sample. It is not unusual for a nation (or sub-population) to have different societal and in-group collectivistic values. High collectivistic societal values do not automatically imply high collectivistic in-group values (Javidan and House, 2001).

U.S. sample. Unexpectedly, in the U.S., the younger group also differed from the older group in their level of collectivistic in-group values. The younger participants displayed significantly higher collectivistic in-group values as compared to the older participants, indicating that the younger generation takes more pride in their small group memberships, such as their family and close circle of friends than does the older generation.

This finding may simply reflect a cohort effect. It may simply be indicative of cultural generational differences. Alternatively, however this finding could represent a cultural shift. To my knowledge, there are no published studies to date that have reported data demonstrating a

cultural shift in the U.S. population. However, in their 1996 article, Matsumoto, Kudoh, and Takeuchi suggested that a cultural shift was taking place in the U.S. as a “result of the increased role of women in society, and their generally more collectivistic nature” (p. 84) and due to “the increasing diversity of a U.S. population that essentially harbors more collectivistic cultural values” (p. 84) . The authors reported different collectivism means for different ethnic subgroups within the U.S. culture and reported that this flexibility with culture “also allows for cultural differences across generations” (p. 90).

In addition to the reasons listed by Matsumoto et al. (1996) for a cultural shift, it is important to note that there has also been a growing U.S. emphasis placed on teams/small groups in the industry and in the classroom (Hollenbeck, DeRue, and Guzzo, 2004). This team and teamwork emphasis may promote more collectivist values in the younger individuals who have had more exposure to the phenomenon. Also, as mentioned previously, there is an optimal time at which an individual’s cultural values can be molded (i.e., prior to young adulthood). As one grows older, cultural values are harder to change due to the fact that individuals have already internalized a particular set of values.

With all of the above mentioned issues in mind, the present results should be interpreted cautiously. Future studies should try to replicate these results, and explore any other potential causes for this phenomenon.

Within age cohort. Because we observed within nation cultural differences in both countries, we were interested to see how the two younger sub-samples and the two older sub-samples compared. For the older groups, as expected and consistent with the available literature, the older Romanian group displayed higher collectivistic societal and in-group values as

compared to the older U.S. group. Similarly, consistent with the available body of literature, when compared to the younger Romanian group, the younger U.S. group displayed significantly lower collectivistic societal values. In-group values, however, were not different for the two younger groups.

It is important to note that, taken together, the above analyses suggest that, even though the older sub-samples differ dramatically on in-group values, the younger sub-samples do not. The results suggest that the past two decades may have influenced the younger Romanian population to hold lower collectivistic in-group values, while at the same time the younger U.S. population's collectivistic in-group values *may* have increased. Even though coming from opposite directions, the two younger sub-samples seem to have now reached the same level of in-group collectivism. Because national boundaries are, figuratively, disappearing very rapidly due to the rapid pace of globalization, these results point to hopefully easier or better cross-cultural communication patterns. In this case, the younger populations have the same values for close in-groups. They have the same understanding and expectations. Therefore, to a certain extent and depending on the situation, we would expect communication between the two younger sub-groups not to suffer from problems that usually plague cross-cultural communication.

To explain in more detail, one of the multiple examples of cross cultural communication difficulties concerns the general focus of communication. In individualistic cultures, the communication generally focuses at the inter-individual level, people tend to communicate in a direct fashion, and they are open, clear, and straightforward. In collectivistic cultures the focus is placed on the group, and an emphasis is placed on indirect communication in order to preserve group harmony (Ting-Toomey, 1992). The results indicate that the communication between the

two younger sub-samples would not be reduced or weakened from this perspective, because both groups could communicate in a similar manner.

Teamwork Schemas

The teamwork schemas were compared at the group level. Overall, we expected to observe lower schema coherence in the Romanian groups compared to their corresponding U.S. groups. The literature suggests that individuals in collectivistic societies must shift among multiple schemas depending upon the contextual situation in which they find themselves. In different situations, the schemas of highly collectivistic individuals may be contradictory because the individuals may change their behavior depending on the context. Therefore, their PFNETs should present lower coherence coefficients (Hanges et al, 2006), which indicate a high number of paths in the cognitive structure. A high number of paths affords individuals agility in traversing (i.e., restructuring) their schema content. Therefore, individuals with PFNETs of lower coherence (i.e. $coh = .50$) are better able to switch between schemas due to the higher number of paths present in the network. Depending on the situation, different paths might be activated, thus changing the schema. A high PFNET coherence (i.e., $coh = .90$) suggests that there are very few paths between the nodes in the network and that these paths are activated in the same manner the majority of the time.

The results indicated that for the older groups, the hypothesized relationship was supported. The older Romanian group's PFNETs displayed significantly lower coherence than the older U.S. group's PFNETs. However, a comparison of the younger groups' PFNETs

revealed that the younger Romanian's average coherence and younger U.S. groups' average coherence did not differ.

The result for the younger sub-samples is puzzling. Theoretically, because teamwork refers to relationships in small, close in-groups, we can argue that the two younger groups' teamwork schema coherence did not differ due to the fact that they have the same level of in-group collectivism. However, when tested directly, the correlation of teamwork schema coherence with in-group values for the younger groups was not significant, $r = .07$, $p > .05$ (see Table 5). Thus, perhaps factors not measured in our study influence both teamwork schema coherence and in-group values, without the two concepts being directly correlated.

PFNET comparisons. Next, we decided that the hypothesized relationships revealed only part of the picture concerning teamwork conceptualizations in the two cultures of interest. Therefore, several additional analyses were performed. Pathfinder was used to obtain one teamwork schema structure for each of the four groups (younger Romanian, older Romanian, younger U.S., and older U.S.) These four PFNETs were graphed and subsequently compared using Pathfinder. We believe this comparison provides a wealth of information that is of great importance for the training of multicultural teams.

For the younger groups' PFNETs, Pathfinder analyses revealed a similarity of .44. The two groups' PFNETs have eight structural paths in common (see Figures 1 and 2). In the younger Romanian group, efficiency, organization, collaboration, and cooperation emerged as central teamwork attributes (see Figure 1). Each of the four above mentioned central attributes had three interconnected links with the other nodes (attributes) in the network. In other words, these four central attributes are the most strongly and most frequently activated nodes in the

network. They represented the core of the younger Romanian's understanding of teamwork. The younger U.S. group's central teamwork attributes (refer to Figure 2) were leadership (5 links), collaboration (4 links), cooperation (3 links) and organization (3 links). As can be seen, leadership is the most frequently activated node (attribute) in the younger U.S. group's conceptualization of teamwork, with collaboration, cooperation, and organization also being frequently activated. Therefore, a brief glance at the two younger sub-samples' PFNETs reveals that they both have collaboration, cooperation, and organization as common central attributes.

In order to understand the above mentioned results concerning the teamwork schema central attributes it is important at this point to take a step back and review one of the premises of our study. It is important to remember that each of the teamwork attributes included in our teamwork schema scale was common between the two cultures. In other words, the odds of the two groups having the same central attributes are quite high. However, what the above results do tell us is that even given the same teamwork attributes, the two cultures teamwork schema structure is different. Indeed, as reported above, the relationships/paths between the teamwork attributes are only 44% similar in the two younger groups.

For the older sub-samples' PFNETs, Pathfinder analyses revealed a similarity of .50. The two groups' PFNETS have eight structural paths in common (see Figures 3 and 4). In the older Romanian sub-sample (see Figure 3), the observed central teamwork attributes were efficiency (6 links) and cooperation (3 links). For the older U.S. sub-sample's teamwork PFNET (see Figure 4), the observed central attributes were cooperation (3 links) and organization (3 links). Therefore, cooperation was the one attribute that emerged as central in both of the older sub-samples.

Again, it would be incorrect to tie each teamwork attribute to culture, because all of the attributes are common in both individualistic and collectivistic cultures. We can affirm that, in people's conceptualization of teamwork, depending on the culture, some attributes are more central than others.

Implications of teamwork results. The above mentioned results have practical applications for the training of multicultural teams. Understanding differences in conceptualizations of teamwork is important so that we can understand how to tailor interventions for teams comprised of multi-cultural members. Future training programs should take into consideration the way each group understands teamwork and capitalize on those connections (structural paths) and schema central attributes the two groups have in common. In other words, when attempting to form a successful multicultural team, one should keep in mind each group's definition of teamwork and attempt to activate the most central attribute/node for the groups of interest.

Within culture analyses of the teamwork PFNET coherence revealed that the younger and older sub-samples' schema coherence was not significantly different in either of the two cultures of interest. In other words, the younger Romanian (.81) and older Romanian (.81) teamwork PFNET coherences were the same, and the younger U.S. (.79) and older U.S. (.83) teamwork PFNET coherences were the same.

As with the between culture analyzes reported above, in this instance we also investigated the similarity of the PFNETs of interest. The younger and older Romanian PFNETs were shown to have a similarity of .60. The two PFNETs had nine structural links in common. Efficiency and organization emerged as common central attributes between the two sub-samples' PFNETs.

Correspondingly, the younger and older U.S. teamwork PFNETs showed a similarity of .44 and had eight links in common. Cooperation and organization emerged as the common central attributes between the two U.S. sub-samples' teamwork PFNETs.

It is important to note here that, even though the individuals compared belonged to the same culture, their teamwork schema structure still differed dramatically, as was the case particularly within the U.S. culture.

In the present study, the within culture comparisons were only performed based on age. It would be worthwhile to see whether future studies obtain the similar schema structure differences for comparisons based on other demographic characteristics such as geographic location, race, native language, or religious orientation. Any demographic characteristic that could potentially be considered an antecedent of teamwork conceptualizations could provide a plethora of information regarding the way in which they shape individuals' teamwork schema structure and lead to a better understanding of teamwork schema structure differences.

Teamwork schemas and collectivistic values. A negative relationship between the coherence of teamwork schemas and collectivistic societal and in-group values was hypothesized. The available literature hints at a direct (negative) connection between collectivism and schema coherence (e.g., Nishii et al. (2004) as reported in Hanges et al., 2006) Indeed, the results of several hypotheses (e.g., 4, 7, and 8) seem to support this connection. However, when tested directly, all of the correlation coefficients in the present study proved not to be statistically significant. These results may point to other variables, not measured in our study, that influence both collectivism and schema coherence, without there being any direct connection between the two. Because of the lack of cross-cultural teamwork studies to date, we

can only speculate regarding potential variables responsible for these results. The relationship above could potentially be explained by individuals' levels on other cultural values not measured in the present study, such as power distance, masculinity, uncertainty avoidance, and future orientation. Future studies should try to examine this relationship in more detail and try to unveil any potential moderators.

Leadership Schemas

With respect to leadership schemas, based on the studies reported by Hanges et al. (2006), we expected the coherence of the younger Romanian's PFNET to be lower than that of the younger U.S. group's PFNET and the coherence of the older Romanian's PFNET to be lower than that of the older U.S. group's PFNET. The obtained results confirmed our predictions because they were consistent with those reported in the leadership literature. In other words, the Romanian sub-samples' leadership schema coherences were lower than that of their U.S. counterparts, indicating that Romanians' schemas within the given leadership network have the potential to adapt more readily than that of the U.S. participants, depending on the context in which the individuals find themselves.

PFNET comparisons. As with our teamwork analyses, we realized that hypothesized relationships between the PFNET coherences provide only a small amount of information compared to the wealth of information Pathfinder is capable of producing. Therefore, the PFNETs for all four sub-samples were mapped (see Figures 5 - 8) and their similarity was explored.

A comparison of the younger sub-samples revealed that the Romanian and U.S. PFNETs have a similarity of .50, and share eight structural paths in common. A closer inspection of the younger Romanian leadership PFNET (refer to Figure 5) revealed the following leadership central attributes: plans ahead (5 links), and team-builder (3 links). For the younger U.S. PFNET (refer to Figure 6), the central attributes were: team builder (4 links), coordinator (3 links), and communicative (3 links). Overall, even though the two sub-samples' PFNETs differ in their level of coherence, their level of similarity is high. Additionally, both sub-samples share the attribute of "team builder" as a central node.

A comparison of the older Romanian and older U.S. leadership PFNETs revealed that the two have a similarity of .71, and share ten structural links in common. The central attributes for the older Romanian leadership PFNET (refer to Figure 7) were team builder (3 links) and confidence builder (3 links), while for the older U.S. leadership PFNET (refer to Figure 8) they were team builder (4 links) and plans ahead (3 links). Again, even though the coherence of the two sub-samples' PFNETs was significantly different, the two sub-samples' conceptualization of leadership was remarkably similar (71%). Moreover, the attribute of "team builder" represents a central node in both sub-samples' conceptualization of leadership.

Within culture leadership PFNET analyses revealed that, contrary to our expectations, the younger (.68) and older (.69) Romanians' leadership PFNET coherences did not differ. Additionally, the younger (.78) and older (.78) U.S. leadership PFNET coherences also did not differ.

PFNET similarity analyses revealed that the younger and older Romanian leadership PFNETS were highly similar (.71) and shared ten structural paths in common. The two sub-

samples also shared “team builder” as a central attribute. The younger and older U.S. leadership PFNETs also displayed a similarity of .50 and shared eight structural paths in common. The two sub-samples’ common central attribute was also “team builder”.

An earlier study by Hanges et al. (2001) reported “team builder” to be one of the leadership attributes that was more central in societies which held more collectivistic values. In the present study, overall it appears that the attribute of “team builder” is central in both cultures, for all participants (younger and older). Future leadership training should capitalize on this commonality. For example, training should incorporate techniques and teach team building behaviors leaders could practice. Because team building is a central leadership attribute for all of the groups in the present study, the individual that displays the most team building behaviors will likely be perceived by everyone as a successful leader.

Leadership schema and collectivistic culture. Finally, we tested to see whether, as hypothesized, we could find a negative correlation between collectivistic societal and in-group values and leadership schema coherence. The hypothesized relationships proved not to be significant in our samples. Considering the fact that one previous study has already found a correlation between these variables (e.g., Nishii et al. (2004) as reported in Hanges et al., 2006), and the fact that several of our results seem to point to a correlation between collectivism and schema coherence, the non-significant results of the correlation may point to moderators not measured in our study.

Although not hypothesized, the correlation between in-group practices and leadership coherence was significant. Interestingly, the same scale (in-group practices) did not correlate

significantly with teamwork schema coherence. Further studies should explore this relationship in more detail.

Study Limitations

The most evident limitation of the present study is the sample size employed. Obviously, a larger sample size would allow us to make broader generalization of the results. Additionally, one could argue whether the obtained U.S. sample is representative of the U.S. population at large.

Great care was taken in the collection of the data. The U.S. data were collected in two geographical locations. The younger U.S. sample was comprised of 18 to 30 years old individuals, with 12.7 % identifying themselves as African American. This is consistent with the U.S. Census Bureau's 2006 estimates which report a percentage of 12.8 % of individuals in the United States identify themselves as African American.

Due to the age restrictions placed on the younger sample, the majority of the participants were college students. However, knowing this limitation, we tried to ensure they were enrolled in various institutions. Their years of formal education ranged from 12 to 24. The older U.S. sample was comprised of individuals varying from 31 to 78 years of age. They reported widely different career fields (i.e. journalism, nuclear engineering, library science, photography, and agricultural education) and their years of formal education ranged from 10 to 29 years. The U.S Census Bureau reports that 80.4% of U.S. individuals have at least a high school education.

The U.S. sample was comprised of mostly females (57.2%). This statistic is only slightly higher than the estimate given by the U.S. Census Bureau (50.7%) for percentage of females in the population (U.S. Census Bureau. State and County Quick Facts).

Similarly, the Romanian data was collected in two geographic locations. The younger participants ranged from 18 to 30 years of age and had between 10 and 20 years of formal education. Their career tracks were extremely diverse (e.g., tourism, computer science, psychology, European studies, etc). The older Romanian sample was comprised of individuals ranging from 31 to 69 years of age, with a range of 8 to 24 years of formal education. Their career tracks included medicine, art, psychology, and law.

The education level for the Romanian sample was consistent with the statistics reported for the literacy rate in the country (97.3%). The Romanian sample was comprised of mostly females (59.4%). The preponderance of females in our sample was only slightly higher than the percentage of females in population (52.2%) reported in the Romanian Census of 2002 (Recensamant 2002).

Even though the sample was small, we attempted to ensure a good representation in each group by collecting data in several locations and attempting to reach a variety of different individuals. However, because in most cases participation in the study was voluntary, the sample may not be representative of the population at large. In order to appease these concerns, the present study should be replicated.

An additional limitation was the fact that the majority of data collection did not take place in a structured environment. However, this was due to the fact that we wanted to get a fair representation of the population in all of the four groups. In other words, by imposing a very

structured data collection we would not have been able to reach such a wide variety of individuals.

Furthermore, the questionnaire packet contained numerous scales and it could be argued that some of the scales were complex. Although the questionnaire packet appeared voluminous, based on the pilot study we estimated that the scales could be completed, on average, in approximately 30 minutes. Moreover, the order of the questionnaires was predetermined and the more difficult or more complex scales were administered first. The complexity of the scales could potentially have led to subjects not understanding instructions and answering haphazardly. Fortunately, however, for the two most complex scales (i.e., the teamwork and leadership scales) we measured individuals' schema coherence. An extremely low schema coherence (i.e., below .20) is a good indicator of the fact that perhaps the individual did not or could not understand the instructions and thus answered the questions arbitrarily. In the present study, only 10 (or 4.2%) of the 282 participants displayed schema coherences slightly below .20 in one (not both) of the questionnaires. However, we were confident that these participants understood the directions due to the fact that 8 of these participants displayed a high coherence in their first (i.e., teamwork) schema structure questionnaire.

Contributions and Directions for Future Research

Despite of the above listed limitations, the present study makes several significant contributions to both the applied and the theoretical fields. The study implications and contributions are enumerated below.

First, in order to map schema structures, two questionnaires were developed: the Teamwork Schema Structure Questionnaire (see Appendix A) and the Leadership Schema Structure Questionnaire (see Appendix B). One of the most controversial topics in the cross-cultural research pertains to the origin of the instruments used in the studies. The problem is that, “imported [...] instruments are more likely to run into bias problems because they may be inadequate in tapping the underlying [...] constructs outside their culture of origin” (Van de Vijver and Leung, 2001, p. 1012). The most useful type of instrument in cross-cultural studies is a multicentered one, a test developed based on all of the cultures incorporated in the study. In the present study, all of the questionnaires were either developed using multiple cultural samples (i.e., through Project GLOBE) or by obtaining descriptors from both samples in the study. Additionally, all of the instruments underwent a rigorous translation process.

Second, most of the cross-cultural studies to date have been performed, due to convenience, with U.S., Western European, Korean, and Japanese samples. Van de Vijver and Leung (2001) expressed a need for more studies involving other cultures that have not been as infused with western influences. In the present study, this issue is addressed through the choice of an Eastern European nation, Romania. Romania was chosen in order to appease even the harshest of critics because the nation has only recently (in a historical sense) been infused with western influences. Additionally, due to the troubled past of Romanian psychology, the nation offers a fertile ground for specialized research.

Third, the present study measured cultural orientation in both nations of interest and observed evidence suggesting a cultural shift not only in the Romanian population (as was anticipated) but also possibly in the U.S. population. Future studies are needed in order to

determine if a cultural shift has occurred or if the finding is reflective of a cohort effect. We speculate that this change was due to the relatively recent emphasis placed on teams and teamwork in the United States. However, to our knowledge, no other studies to date have reported a change in in-group collectivistic values in the U.S. population. In conclusion, the findings underscore the importance of measuring cultural orientation each time it is of interest and not accepting the preset cultural orientation scores provided by past research.

Fourth, the present study mapped leadership schema structures by employing the connectionist model. These types of analyses have only been applied in three cross-cultural studies so far involving the following five nations the United States, Germany, Mexico, Singapore, and Thailand (Hanges et al., 2001; Nishii et al., 2004; Hanges et al., 2004). There is still a need for testing the connectionist model of leadership posed forth by Hanges et al. (2000) and the present study accomplishes this goal. The purpose of good research is to test existing models in an effort to disprove them. The present study tested the relationship between collectivism and leadership and teamwork schema in a culture not addressed in previous research (i.e., Romania). Although a direct correlation between collectivism and schema structure was not apparent in our data, a number of our results are indicative of the results obtained in previous studies. While the current study does not disprove the model set forth by Hanges et al (2001), it does present results that conflict with those obtained by Nishii et al. (2004).

Fifth, leadership research in Romania has been sparse. To my knowledge there is only one such research study published examining managerial practices (Smith et al., 2002). Moreover, leadership cognition has not been studied from a connectionist perspective in this

country. Therefore, the present study provides some insight into leadership cognition in the Romanian nation.

Sixth, no teamwork studies to date provide both coherence coefficients and a description of central teamwork schema attributes. Therefore, the present study enriches the existing body of literature on teamwork cognition. It presents the degree to which individuals change or shift their teamwork schema depending on situations. Additionally, by understanding others' central teamwork schema attributes, we can capitalize on them in order to facilitate teamwork.

Seventh, there are no cross-cultural teamwork schema studies published to date. The existing body of literature has so far compared teamwork schemas of individuals within the same nation, mostly U.S. Therefore, the present study enriches team cognition theory and research by mapping and comparing the teamwork schemas of two distinct nations. Due to the fact that the workplace is becoming increasingly heterogeneous, it is important to understand how individuals with different values come together in a work team situation. The Romanian and U.S. military have begun working together to a greater extent in the past few years. Understanding others' frame of reference can lead to better cooperation and ultimately to better results.

Eighth, there are no identified universal teamwork attributes in the literature to date. While the present study does not provide universal attributes of teamwork, it does make an initial first step towards their discovery. As part of our questionnaire development process, several common teamwork attributes were found in the two countries of interest.

Ninth, the results of our study should have extensive implications for future team research and the training of multicultural teams. The results underscore the importance of understanding the way schema nodes are connected (both for teamwork and leadership),

understanding schema centrality, schema coherence, and schema similarities, and designing training programs accordingly. Moreover, even though the present study was mostly concerned with schema similarity, future investigations should also focus on PFNET differences as these could also provide valuable insight into teamwork and leadership cognitions.

Tenth, the present study also has implications for team training in general. In the present study, age effects were apparent within both national samples (i.e., both in Romanian and in the U.S.). Consequently, even though these differences may be due to a variety of different factors, e.g., experience, cultural orientation, etc), age effects should be investigated when trying to understand teamwork and leadership cognitions.

Conclusions

In the present study we examined teamwork and leadership based on the connectionist model originally proposed by Hanges et al. (2000). We believe the above results present a powerful description of both teamwork and leadership conceptualizations in two considerably different cultures.

Effectively managing and leading groups requires a clear understanding of the manner in which individuals think about these concepts. In order to create a successful team, one must understand the team members' beliefs of what constitutes a team and behave in ways that trigger the most compelling common central teamwork attribute. Similarly, in order to be effective, a leader must act in a way that is consistent with his/her followers' idea of leadership. The present study underscores the importance of understanding not only the characteristics attributed to effective teamwork or to effective leadership, but also the unique connections between those

characteristics. The world is moving towards globalization and it is now becoming progressively more critical to develop training programs which will facilitate work across national boundaries. Understanding both the content and the structure of individuals' schemas is a first step towards better training programs, and ultimately towards efficient, productive multicultural teams.

LIST OF REFERENCES

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- Ashforth, B.E., & Fried, Y. (1988). The mindlessness of organizational behaviors. *Human Relations, 41*, 305-329.
- Brodbeck, F.C., Frese, M., Akerblom, S., Audia, G., Bakacsi, G., Bendova, H. et al. (2000). Cultural variation of leadership prototypes across 22 European countries. *Journal of Occupational and Organizational Psychology, 73*, 1-29.
- Campbell, J.P. (1977). An attribution theory of leadership. In B.M. Staw & G.R. Salancik (Eds.), *New directions in organizational behavior* (pp. 179-204). Chicago: St. Clair.
- Cannon-Bowers, J.A., Salas, E., & Converse, S. (1993). Shared mental models in expert team decision making. In N.J. Castellan (ed.), *Individual and Group Decision Making* (pp. 221-246). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Chan, D.K. (1994). COLINDEX: A refinement of three collectivism measures. In U. Kim, H.C. Triandis, C. Kagitcibasi, S. Choi, & G. Yoon (Eds.), *Individualism and collectivism: theory, method and applications* (pp. 200-210). Thousand Oaks, CA: Sage.
- Culbert, S.A., & McDonough, J.J. (1988). Organizational alignments, schisms, and high-integrity managerial behavior. In S. Srivasta (Ed.), *Executive integrity: The search for high human values in organizational life* (pp. 223-242). San Francisco, CA: Jossey-Bass.
- Den Hartog, D.N., & Dickson, M.W. (2004). Leadership and culture. In Antonakis, J., Cianciolo, A.T., & Sternberg, R. J. (Ed.), *The nature of leadership* (pp.249-278). Thousand Oaks, CA: Sage.

- Den Hartog, D.N., Koopman, P.L., Thierry, H., Wilderom, C.P.M., Maczinski, J., & Jarmuz, S. (1997). Dutch and Polish perceptions of leadership and national culture: the GLOBE Project. *European Journal of Work and Organizational Psychology*, 6, 389-415.
- Dorfman, P., Hanges, P.J., & Brodbeck, F.C. (2004) Leadership and cultural variation: the identification of culturally endorsed leadership profiles. In R.J. House, P.J. Hanges, M. Javidan, P. Dorfman, & V. Gupta (Eds.), *Culture, leadership, and organizations: the GLOBE study of 62 societies* (pp. 667-718). Thousand Oaks, CA: Sage.
- Dorfman, P.W., & Howell, J.P. (1988) Dimensions of national culture and effective leadership patterns. *Advances in International Comparative Management*, 2, 127-150.
- Dorfman, P.W., Howell, J.P., Hibino, S., Lee, J.K., Take, U., & Bautista, A. (1997). Leadership in Western and Asian countries: commonalities and differences in effective leadership processes across cultures. *Leadership Quarterly*, 8, 233-274.
- Earley, P.C. (1994). Self or group? Cultural effects of training on self-efficacy and performance. *Administrative Science Quarterly*, 39(1), 89-117.
- Encyclopedia Britannica Online. Quick Facts about Romania. Retrieved on April 8, 2008, from <http://www.britannica.com/eb/question-508461>
- Erez, M., & Earley, P.C. (1987). Comparative analysis of goal-setting strategies across cultures. *Journal of Applied Psychology*, 72(4), 658-665.
- Geertz, (1973). *The interpretation of cultures*. New York: Basic books.
- Gerstner, C.R., & Day, D.V. (1994). Cross-cultural comparison of leadership prototypes. *Leadership Quarterly*, 5(2), 121-134.

- Gudykunst, W. B. (2004). *Bridging differences: effective intergroup communication*. In William B. Gudykunst Ed. Thousand Oaks, CA: Sage.
- Gudykunst, W.B. (1997). Cultural variability in communication. *Communication Research*, 24(4), 327-347.
- Gudykunst, W.B., Matsumoto, Y., Ting-Toomey, S., & Nishida, T. (1996). The influence of cultural individualism-collectivism, self construals, and individual values on communication styles across cultures. *Human Communication Research*, 22(4), 510-543.
- Gupta, V., DeLuque, M.S., & House, R.J. (2004). Multisource construct validity of GLOBE scales. In R.J. House, P.J. Hanges, M. Javidan, P. Dorfman, & V. Gupta (Eds.), *Culture, leadership, and organizations: the GLOBE study of 62 societies* (pp.152-177).Thousand Oaks: CA: Sage.
- Hall, E. T. (1959). *The silent language*. New York: Doubleday.
- Hanges, P.J., & Dickson, M.W. (2004). The development and validation of the GLOBE culture and leadership scales. In R.J. House, P.J. Hanges, M. Javidan, P. Dorfman, & V. Gupta (Eds.), *Culture, leadership, and organizations: the GLOBE study of 62 societies* (pp.122-151).Thousand Oaks: CA: Sage.
- Hanges, P.J., Dorfman, P.W., Shteynberg, G., & Bates, A.L. (2006). Culture and leadership: a connectionist information processing model. *Advances in Global Leadership*, 4, 7-37.
- Hanges, P.J., Higgins, M., Dyer, N.G., Smith-Major, V., Dorfman, P.W., Brodbeck, F.C. et al (2001). Influence of cultural values on leadership schema structure. In P.J. Hanges, & M.J. Gelfand (Co-Chairs), *Applications of pathfinder to understanding cognition in*

- organizational psychology*. Symposium presented at the 16th annual Society of Industrial and Organizational Psychology conference. San Diego, CA.
- Hanges, P.J., Lim, B.C., & Duan, L. (2004). *Relationship between leadership schema structure and leader behavior*. Working paper.
- Hanges, P.J., Lord, R.G., & Dickson, M.W. (2000). An information processing perspective on leadership and culture: a case for connectionist architecture. *Applied Psychology: An International Review*, 49, 133-161.
- Herskovits, M. (1955). *Cultural anthropology*. New York: Knopf.
- Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills: Sage.
- Hofstede, G., & Bond, M. (1984). Hofstede's culture dimensions. *Journal of Cross-Cultural Psychology*, 15, 417-433.
- Hofstede, G., & McCrae, R.R. (2004). Personality and culture revisited: Linking traits and dimensions of culture. *Cross-Cultural Research*, 38(1), 52-88.
- Hollenbeck, J.R., DeRue, D.S., & Guzzo, R. (2004). Bridging the gap between I/O research and HR practice: Improving team composition, team training, and team task design. *Human Resource Management*, 43(4), 353-366.
- House, R., Javidan, M., & Dorfman, P. (2002). Understanding cultures and implicit leadership theories across the globe: an introduction to Project GLOBE. *Journal of World Business*, 37, 3-10.
- House, R.J., Hanges, P.J., Ruiz-Quintanilla, S.A., Dorfman, P.W., Javidan, M., Dickson, M., et al. (1999). Cultural influences on leadership and organizations: Project GLOBE. In

- Mobley, W.H. (Ed.), *Advantages in global leadership, Vol.1* (pp. 171-233). US: Elsevier Science/JAI Press.
- Hui, C. (1988). Measurement of individualism-collectivism. *Journal of Research in Personality*, 22 (1), 17-36.
- Hunt, J.G., Boal, K.B., & Sorenson, R.L. (1992). Top management leadership: inside the black box. *Leadership Quarterly*, 1(1), 41-65.
- Institute for Training in International Management (ITIM). Retrieved December 11, 2006, from www.geert-hofstede.com/hofstede_dimensions.php
- James, L.R., Demaree, R.G., & Wolf, G. 1984. Estimating within-group interrater reliability with and without response bias. *Journal of Applied Psychology*, 69(1), 85-98.
- Javidan, M., & House, R.J. (2001). Cultural acumen for the global manager: lessons from Project GLOBE. *Organizational Dynamics*, 29(4), 289-305.
- Kagitcibasi, C. (1997). Individualism and collectivism. In J.W. Berry, M. H. Segall, & C. Kagitcibasi (Eds.), *Handbook of cross-cultural psychology: Vol. 3. Social behaviors and applications* (2nd ed., pp. 1-49). Boston: Allyn & Bacon.
- Keller, T. (1999). Images of the familiar: individual differences and implicit leadership theories. *Leadership Quarterly*, 10(4), 589-607.
- Kim, M.S., Aune, K.S., Hunter, J.E., Kim, H.J., & Kim, J.S. (2001). The effect of culture and self-construals on predispositions toward verbal communication. *Human Communication Research*, 27(3), 382-408.
- Kirkman, B.L. (1997, April). The impact of national culture on employee resistance to teams: A comparative analysis of globalized self-managing work team effectiveness between the

- United States, Finland, and the Philippines. *Dissertation Abstracts International*, 57(10-A), 4445.
- Kitayama, S., Markus, H.R., Matsumoto, H., & Norasakkunkit, V. (1997). Individual and collective process in the construction of the self: self enhancement in the United States and self-criticism in Japan. *Journal of personality and Social Psychology*, 72, 1245-1267.
- Klimoski, R., & Mohammed, S. (1994). Team mental model: construct or metaphor? *Journal of Management*, 20(2), 403-437.
- Cluckhohn, F.R., & Strodtbeck, F.L. (1961). *Variations in value orientations*. Oxford, England: Row, Peterson.
- Kraiger, K., & Wensel, L.H. (1997). Conceptual development and empirical evaluation of measures of shared mental models as indicators of team effectiveness. In M.T. Brannick, E. Salas, & C. Prince (Eds.), *Team performance assessment and measurement* (pp. 63-84). Mahwah, NJ: Lawrence Erlbaum.
- Lachman, R. (1997). Taking another look at the elephant: Are we still (half) blind? Comments on the cross-cultural analysis of achievement motivation by Sagie et al. (1996). *Journal of Organizational Behavior*, 18, 317-321.
- Lord, R.G., & Kernan, M.C. (1987). Scripts as determinants of purposeful behavior in organizations. *Academy of Management Review*, 12, 265-277.
- Lord, R.G., Foti, R.J., & Devader, C.L. (1984). A test of leadership categorization theory: internal structure, information processing, and leadership perceptions. *Organizational Behavior and Human Performance*, 34, 343-378.

- Lord, R.J., & Maher, K.J. (1991). *Leadership and information processing: linking perceptions and performance*. Boston: Unwin-Hyman.
- Luca, A. (2006, February 8). Suntem sexi si plini de extreme. [Electronic version] *Cotidianul*. Retrieved December 11, 2006, from <http://www.cotidianul.ro/index.php?id=3944&art=9068&diraut=255&cHash=fed024610>
- Matsumoto, D., Kudoh, T., & Takeuchi, S. (1996). Changing patterns of individualism and collectivism in the United States and Japan. *Culture & Psychology*, 2, 77-107.
- McClelland, D.C. (1985). *Human motivation*. Glenview, IL: Scott Foresman.
- Nishii, L.H., Gelfand, M.J., Ang, S., Lange, S., & Taveesin, J. (2004). *Culture, systems of thought, and leadership: holistic and analytical thinking and the structure of leadership schemas in the O.S., Germany, Singapore, and Thailand*. Unpublished manuscript.
- Nunnally, J.C., & Bernstein, I.H. (1994). *Psychometric Theory*. New York: McGraw-Hill.
- Oyserman, D., Coon, H.M., & Kemmelmeier, M. (2002). Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analyses. *Psychological Bulletin*, 128(1), 3-72.
- Recensamant 2002. Retrieved April 8, 2008, from <http://www.recensamant.ro/>
- Rentsch, J. R., & Howe, T.S. (1990). *Cognitive representations of teams*. (Final Report prepared for Universal Energy systems, Inc., and Air Force Office of Scientific Research Summer Faculty Research Program, Contract No. F49620-88-C-0053). Wright-Patterson Air Force Base, OH: Air Force Human Resources Laboratory.
- Rentsch, J.R., & Hall, R.J. (1994). Members of great teams think alike: a model of team effectiveness and schema similarity among team members. In M.M. Beyerlein, D.A.

- Johnson, & S.T. Beyerlein (eds.), *Advances in Interdisciplinary Studies of Work Teams: Theories of Self-managing Work Teams* (Vol. 1, pp. 223 – 261). Greenwich, CT: JAI Press, Inc.
- Rentsch, J.R., & Klimoski, R.J. (2001). Why do ‘great minds’ think alike? Antecedents of team member schema agreement. *Journal of Organizational Behavior*, 22, 107-120.
- Rentsch, J.R., Burnett, D.D., McNeese, M.D., & Pape, L.J. (1999, April 30-May 2). *Team member interactions, personalities, schemas and team performance: Where’s the connection?* Paper presented to the Fourteenth Annual Conference of the Society of Industrial and Organizational Psychology, Atlanta, Georgia.
- Rentsch, J.R., Heffner, T.S., & Duffy, L.T. (1994). What you know is what you get from experience: Team experience related to teamwork schemas. *Group and Organization Management*, 19, 485-509.
- Rogoff, B. (1989). The joint socialization of development by young children and adults. In A. Gellatly, D. Rogers, & J.A. Sloboda (Eds.), *Cognition and social worlds*. Oxford: Clarendon Press.
- Rogoff, B., & Waddell, K.J. (1982). Memory for information organized in a scene by children from two cultures. *Child Development*, 53, 1224-1228.
- Rush, M.C., Thomas, J.C., & Lord, R.G. (1977). Implicit leadership theory: a potential threat to the internal validity of leader behavior questionnaires. *Organizational Behavior and Human Performance*, 20, 93-110.

- Salas, E., Montero, R.C., Glickman, A.S., & Morgan, B.B. (1988, August). *Group development, teamwork skills, and training*. Paper presented at the American Psychological Association Meeting, Atlanta, Georgia.
- Sanchez-Burks, J., Lee, F., Choi, I., Nisbett, R., Zhao, S., & Koo, J. (2003). Conversing across cultures: East-West communication styles in work and non-work contexts. *Journal of Personality and Social Psychology*, 85(2), 363-372.
- Scandura, T., & Dorfman, P. (2004). Theoretical letters: leadership research in an international and cross-cultural context. *Leadership Quarterly*, 15(2), 277-281.
- Schvaneveldt, R.W. (1990). *Pathfinder associative networks: studies in knowledge organization*. Norwood, NJ: Ablex Publishing Corporation.
- Schwartz, S. (1990). Individualism-collectivism: critique and proposed refinements. *Journal of Cross-Cultural Psychology*, 21, 139-157.
- Schwartz, S.H., & Sagie, G. (2000). Value consensus and importance: a cross-national study. *Journal of Cross-Cultural Psychology*, 31(4), 465-497.
- Selman, R.L. (1976). Social-cognitive understanding: A guide to educational and clinical practice. In T. Lickona (ed.), *Moral development and behavior: theory, research, and social issues*. New York: Holt, Rinehart, & Winston.
- Selman, R.L. (1980). *The growth of interpersonal understanding: developmental and clinical analysis*. New York: Academic Press.
- Selman, R.L., & Byrne, D.F. (1974). A structural-developmental analysis of levels of role taking in middle childhood. *Child Development*, 45, 803-806.

Smith, P.B. (2004). Acquiescent response bias as an aspect of cultural communication style.

Journal of Cross-Cultural Psychology, 35(1), 50-61.

Smith, P.B., Peterson, M.F., & Schwartz, S.H. (2002). Cultural values, sources of guidance, and their relevance to managerial behavior: a 47-nation study. *Journal of Cross-Cultural Psychology*, 33(2), 188-208.

Stevens, M. J. (1998). Professional psychology after communism: the case of Romania.

Professional Psychology: Research and Practice, 29(3), 300-304.

Sugimoto, N. (1997). A Japan-US comparison of apology styles. *Communication Research*, 24(4), 349-370.

Ting-Toomey, S. (1992). Cross-Cultural Face-Negotiation: An Analytical Overview. Paper presented the Pacific Region Forum on Business and Management Communication.

Tiriteu, D.M., Ettkin, L.P., & Helms, M.M. (1998). Romania: ready for US business investment.

European Business Review, 98(5), 260-267.

Triandis, H. C. (1989). The self and social behavior in differing cultural contexts. *Psychological Review*, 96, 506-520.

Triandis, H.C. (1988). Collectivism vs. individualism. In G. Verna & C. Bagley (Eds.), *Cross-cultural studies of personality, attitudes, and cognition*. London: Macmillan.

Triandis, H.C. (1995). *Individualism and collectivism*. Boulder, CO: Westview Press.

U.S. Census Bureau. Foreign Trade Statistics. Trade in goods (imports, exports, and trade balance) with Romania. Retrieved April 11, 2008, from <http://www.census.gov/foreign-trade/balance/c4850.html>

U.S. Census Bureau. State and County Quick Facts. USA. Retrieved April 8, 2008, from

<http://quickfacts.census.gov/qfd/states/00000.html>

Van de Vijver, J.R., & Leung, K. (2001). Personality in Cultural Context: Methodological Issues.

Journal of Personality, 69, 1007-1031

Vygotsky, L.S. (1978). *Mind in society: The development of higher psychological processes*.

Cambridge: Harvard University Press.

Walsh, J.P., Henderson, C.M., & Dieghthon, J. (1988). Negotiated belief structures and decision

performance: An empirical investigation. *Organizational Behavior and Human Decision*

Processes, 42, 194-216.

Williams, A.C.D, Hardwood, J.H.O, Giles, H., Pierson, H.D., Gallois, C., Ng, S.H., Lim, T.S.,

Ryan, E.B., Somera, L., & Maher, J. (1997). Young people's beliefs about

intergenerational communication: an initial cross-cultural comparison. *Communication*

Research, 24(4), 370-394.

Yukl, G. (2004). *Leadership in organizations*. Delhi, India: Pearson Education, Inc.

APPENDICES

APPENDIX A

Introductory Page

Hello,

My name is Ioana Mot and I am a Doctoral Candidate in the Industrial Organizational Psychology Program at the University of Tennessee, Knoxville. I am working under the supervision of Dr. Joan Rentsch.

You have been invited to participate in a research project designed to examine how people from different nations think about teamwork and leadership. The questionnaires that follow are part of my dissertation research and will be administered to participants in the United States and Romania.

Any information obtained about you during the study will be kept strictly confidential, and will be stored in locked cabinet in a locked room at a University of Tennessee location. No reference will be made in oral or written reports that could link you to the study. You will not have to supply your name on any of the survey materials.

If you have questions at any time about the study or the procedures, you may contact me at (865) 946-7804 or imot@utk.edu. You may also contact Dr. Joan Rentsch at (865) 974-1671 or at jrentsch@utk.edu. If you have questions about your rights as a participant, contact Research Compliance Services of the Office of Research at (865) 974-3466.

Please note that by completing the questionnaires in this packet, you are providing informed consent for using your responses as part of this research project.

The completion of all questionnaires should take less than one hour. Please take your time and respond as accurately as possible to all of the questions.

Thank you!
Ioana Mot

APPENDIX B

Teamwork Schema Structure Questionnaire

Adapted from the UTK, Organizational Research Lab,
Teamwork Schema Structure Questionnaire

Teamwork Questionnaire

This is a survey of your perceptions of **teamwork**. Think about what teamwork *means to you*. Think about **teamwork** as it may occur on any team. In other words, try not to think about any specific team, but rather think about teams and teamwork in general. Thinking about teamwork in this way, please read each of the following descriptors and rate how similar they are in terms of the meaning they have for you. Ask yourself: “What do these descriptors mean to me with regards to **teamwork**?” and “Do these descriptors mean the same thing for **teamwork**?” Use the chart on the next page to compare **all** of the descriptors to one another. For each pair of descriptors assign a number that best indicates their degree of similarity.

PLEASE READ EACH ITEM CAREFULLY and respond using the following scale:

Very Dissimilar						Very Similar					
1	2	3	4	5	6	7	8	9	10	11	

If the descriptors mean the same thing to you, rate the pair as “11” to indicate “very similar”. If one descriptor means something different to you than the other descriptor, you should rate the pair with a number that indicates the degree of that dissimilarity.

Attention: Please compare each descriptor on the left side of the chart with each descriptor listed at the bottom of the chart.

EXAMPLE:

a) In the following chart, number „11” indicates the fact that the pair of descriptors „**initiative**” and „**development**” are very similar with regards to teamwork.

Development				
Initiative	11			
Safety	4	1		
Harmony	6	7	9	
	Development	Initiative	Safety	Harmony

b) In the following chart, number „1” indicates the the fact that the pair of descriptors „**safety**” and „**initiative**” are very dissimilar with regards to teamwork.

Development				
Initiative	11			
Safety	4	1		
Harmony	6	7	9	
	Development	Initiative	Safety	Harmony

c) Following the same logic, number „4” in the above chart indicates the degree of similarity between „safety” and „development”; number „6” indicates the degree of similarity between „harmony” and „development”; number „7” indicates the degree of similarity between „harmony” and „initiative”; number „9” indicates the degree of similarity between „harmony” and „safety”.

Please fill in **ALL** BLANK (UNSHADED) spaces in the chart below.

Attention: Please compare each descriptor on the left side of the chart with each descriptor listed at the bottom of the chart.

Ask yourself: “What do these descriptors mean to me with regards to **teamwork?**” and “Do these descriptors mean the same thing for **teamwork?**”

PLEASE READ EACH ITEM CAREFULLY and respond using the following scale:

Very Dissimilar						Very Similar					
1	2	3	4	5	6	7	8	9	10	11	

Organization													
Creativity													
Competition													
Collaboration													
Efficiency													
Dedication													
Leadership													
Help													
Cooperation													
Responsibility													
Conflict													
Unity													
Fast													
	Organization	Creativity	Competition	Collaboration	Efficiency	Dedication	Leadership	Help	Cooperation	Responsibility	Conflict	Unity	Fast

APPENDIX C

Leadership Schema Structure Questionnaire

Developed based on Dorfman et al., 2004.

Leadership Questionnaire

This is a survey of your perceptions of **leadership**. Think about what leadership *means to you*. Think about **leadership** as it may occur in any situation. In other words, try not to think about any specific leader, but rather think about leadership in general. Thinking about leadership in this way, please read each of the following descriptors and rate how similar they are in terms of the meaning they have for you. Ask yourself: “What do these descriptors mean to me with regards to **leadership**?” and “Do these descriptors mean the same thing for **leadership**?” Use the chart on the next page to compare **all** of the descriptors to one another. For each pair of descriptors assign a number that best indicates their degree of similarity.

PLEASE READ EACH ITEM CAREFULLY and respond using the following scale:

Very Dissimilar						Very Similar					
1	2	3	4	5	6	7	8	9	10	11	

If the descriptors mean the same thing to you, rate the pair as “11” to indicate “very similar”. If one descriptor means something different to you than the other descriptor, you should rate the pair with a number that indicates the degree of that dissimilarity.

Attention: Please compare each descriptor on the left side of the chart with each descriptor listed at the bottom of the chart.

EXAMPLE:

a) In the following chart, number „11” indicates the fact that the pair of descriptors „**independent**” and „**ambitious**” are very similar with regards to leadership.

Ambitious				
Independent	11			
Intuitive	4	1		
Sensitive	6	7	9	
	Ambitious	Independent	Intuitive	Sensitive

b) In the following chart, number „1” indicates the the fact that the pair of descriptors „**intuitive**” and „**independent**” are very dissimilar with regards to leadership.

Ambitious				
Independent	11			
Intuitive	4	1		
Sensitive	6	7	9	
	Ambitious	Independent	Intuitive	Sensitive

c) Following the same logic, number „4” in the above chart indicates the degree of similarity between „intuitive” and „ambitious”; number „6” indicates the degree of similarity between „sensitive” and „ambitious”; number „7” indicates the degree of similarity between „sensitive” and „independent”; number „9” indicates the degree of similarity between „sensitive” and „intuitive”.

APPENDIX D

Cultural Orientation Questionnaire Adapted from Project GLOBE– Form Beta

Cultural Orientation Questionnaire
THE WAY THINGS ARE IN YOUR SOCIETY

Instructions

In this section, we are interested in your beliefs about the norms, values, and practices in your society. In other words, we are interested in the way your society **is**—not the way you think it should be. There are no right or wrong answers, and answers don't indicate goodness or badness of the society. Please respond to the questions by **circling** the number that most closely represents your observations about your society.

1. In this society leaders encourage group loyalty even if individual goals suffer.

strongly agree	neither agree nor disagree				strongly disagree	
1	2	3	4	5	6	7

2. In this society, children take pride in the individual accomplishments of their parents.

strongly agree	neither agree nor disagree				strongly disagree	
1	2	3	4	5	6	7

3. The economic system in this society is designed to maximize:

individual interests				collective interests		
1	2	3	4	5	6	7

4. In this society, parents take pride in the individual accomplishments of their children.

strongly agree	neither agree nor disagree				strongly disagree	
1	2	3	4	5	6	7

5. In this society, aging parents generally live at home with their children.

strongly agree	neither agree nor disagree				strongly disagree	
1	2	3	4	5	6	7

6. In this society, being accepted by the other members of a group is very important.

strongly agree	neither agree nor disagree				strongly disagree	
1	2	3	4	5	6	7

7. In this society:

group cohesion is more valued than individualism		group cohesion and individualism are equally valued			individualism is more valued than group cohesion	
1	2	3	4	5	6	7

8. In this society, children generally live at home with their parents until they get married.

strongly agree	neither agree nor disagree				strongly disagree	
1	2	3	4	5	6	7

THE WAY THINGS GENERALLY **SHOULD BE** IN YOUR SOCIETY

Instructions

In this section, we are interested in your beliefs about what the norms, values, and practices **should be** in your society. Again, there are no right or wrong answers, and answers don't indicate goodness or badness of the society. Please respond to the questions by **circling** the number that most closely represents your observations about your society.

1. I believe that in general, leaders should encourage group loyalty even if individual goals suffer.

strongly agree	neither agree nor disagree				strongly disagree	
1	2	3	4	5	6	7

2. In this society, children should take pride in the individual accomplishments of their parents.

strongly agree	neither agree nor disagree				strongly disagree	
1	2	3	4	5	6	7

3. In this society, I believe that the economic system should be designed to maximize:

individual interests			collective interests			
1	2	3	4	5	6	7

4. In this society, parents should take pride in the individual accomplishments of their children.

strongly agree	neither agree nor disagree				strongly disagree	
1	2	3	4	5	6	7

5. How important should it be to members of your society that your society is viewed positively by persons in other societies?

it should not be important at all		it should be moderately important			it should be very important	
1	2	3	4	5	6	7

6. Members of this society should:

take no pride in being a member of the society	take a moderate amount of pride in being a member of the society			take a great deal of pride in being a member of the society		
1	2	3	4	5	6	7

7. In this society, most people prefer to play:

only individual sports		some individual and some team sports			only team sports	
1	2	3	4	5	6	7

8. I believe that:

group cohesion is better than individualism	group cohesion and individualism are equally valuable				individualism is better than group cohesion	
1	2	3	4	5	6	7

Adapted from Project GLOBE– Form Beta

Scoring Key:

Cultural Practices (ARE):

Societal practices: 1*, 3, 6*, 7*.

In-group practices: 2*, 4*, 5*, 8*.

Cultural Values (SHOULD BE):

Societal values: 1*, 3, 7, 8*.

In-group values: 2*, 4*, 5, 6.

*Note: *items are reverse scored*

APPENDIX E

Demographic Questionnaire

Adapted from Project GLOBE– Form Beta

Demographic Questionnaire

Following are several questions about you and your background. These questions are important because they help us see if different types of people respond to the questions on the other questionnaires in different ways. They are **NOT** used to identify any individual.

Personal Background & Family Background

1. How old are you? _____ years
2. What is your gender? Male Female (circle one)
3. What is your country of citizenship/passport? _____
4. What country were you born in? _____
5. How long have you lived in the country where you currently live? _____ years
6. Besides your country of birth, how many other countries have you lived in for longer than one year? _____ countries. Which countries? _____
7. What is your ethnic background? _____
8. Do you have a religious affiliation? YES NO (circle one)
If YES, please indicate the name of the religion. _____
9. What country was your mother born in? _____
10. What country was your father born in? _____
11. What language(s) were spoken in your home when you were a child? _____

Work Background & Educational Background

12. How many years of full-time work experience have you had? _____ years
13. How many years of management/leadership experience have you had? _____ years
14. How long have you been with your current employer/ school? ____ years and ____ months.
15. Have you ever worked for a multinational corporation? YES NO (circle one)
If YES, for how long? _____ years
16. Approximately, of how many teams have you been a member in the past five years? _____
17. Approximately, of how many work teams have you been a member in the past five years? _____
18. How many years of formal education do you have? _____ years
19. Do you have an educational major or area of specialization? YES NO (circle one)
If YES, what is it? _____
20. Have you received any formal training in Western management practices? YES NO (circle one)
21. What language(s) do you use at work/school? _____

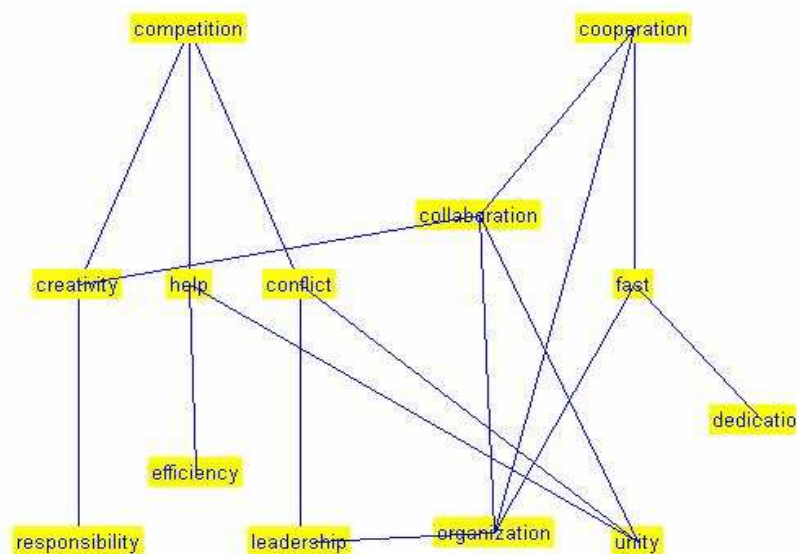
Adapted from the Global Leadership and Organizational Behavior Effectiveness Project - Form Beta

APPENDIX F

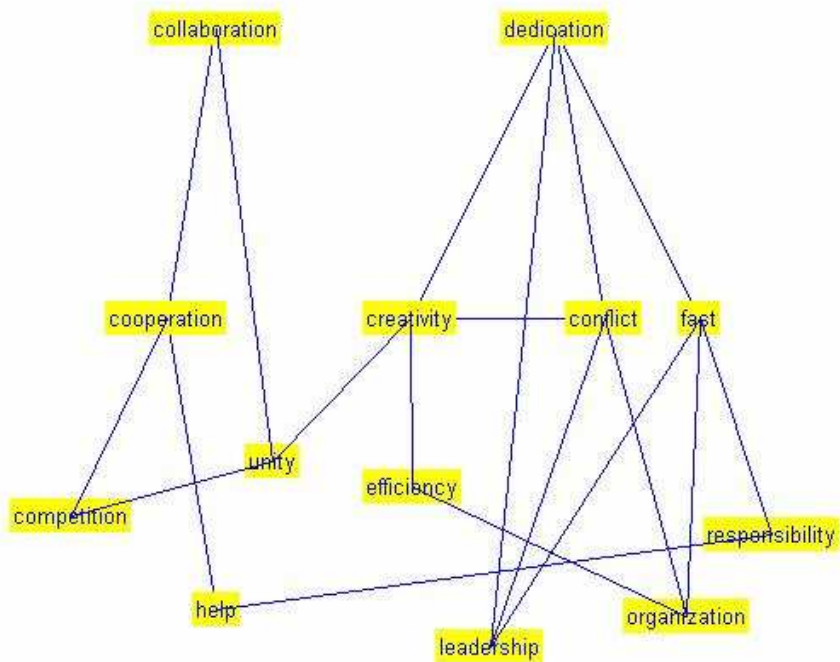
Pathfinder Teamwork PFNET Similarity Example

Pathfinder Teamwork PFNET Similarity Example

Network 1:



Network 2:



* Note: the two networks are representations of random data input.

Network description:

Network 1: 13 nodes, 18 links.

Network 2: 13 nodes, 20 links

Network coherence:

Network 1: 0.16998

Network 2: 0.13368

Networks and data comparison:

Links in common: 6

Links in common corrected for chance: 1.3864

Similarity: 0.1875

Similarity corrected for chance: 0.0465

Probability of links in common by chance: 0.2869

As you can see in the example above, the coherence of both networks is very small. This is to be expected in this case, however, because the relatedness ratings on which these networks are based were randomly input into the dataset. If the coherence of a network is smaller than 0.20, it usually denotes the fact that the participant giving the relatedness ratings either did not pay attention or could not understand the instructions.

The similarity of the two networks is also extremely small. Two identical networks will have a similarity of 1 and two networks that share no links will yield a similarity of 0. In this case, since the number of links in common corrected for chance is 1.3864, the similarity corrected for chance is also minimal (0.0465).

The last statistical test of the similarity of the two networks reveals the fact that the two networks' communalities are due to chance. The probability of the links in common occurring by chance is extremely high (0.2869). Ideally, we would want this statistic to be as small as possible (e.g., 0.001).

APPENDIX G

Tables

Table 1: U.S. Trade with Romania

Year	Exports	Imports
2008*	129.3	187.0
2007	680.4	1,054.2
2006	554.0	1,119.0
2005	608.9	1,207.6
2004	525.4	853.0
2003	366.9	730.2
2002	248.2	695.2
2001	374.3	519.9
2000	232.8	472.7
1999	176.1	442.4
1998	336.7	393.2
1997	258.0	339.8
1996	265.6	248.6
1995	253.2	222.3
1994	339.6	194.7
1993	323.5	69.2
1992	248.3	87.4

Note: Yearly total reflects only those months for which there was trade.

*All figures are in millions of U.S. dollars. * = reflects only January and February trade*

Adapted from: <http://www.census.gov/foreign-trade/balance/c4850.html>

Table 2: Sample Intercorrelation Matrix

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9 ^a
1. Age	33.79	13.83	-								
2. Gender (female=0, male=1)	.42	.49	-.12*	-							
3. Age Group (1=younger, 2=older)	1.50	.50	.85**	-.08	-						
4. Nation (1=Rom., 2=U.S.)	1.49	.50	-.02	.02	-.04	-					
5. Societal Values (SHOULD BE)	4.42	.92	-.16**	.03	-.14*	-.38**	-				
6. In-group Values (SHOULD BE)	5.76	.95	.02	-.30**	.00	-.28**	.30**	-			
7. Societal Practices (AS IS)	3.91	.94	-.06	.04	-.10*	.22**	-.00	-.08	-		
8. In-group Practices (AS IS)	4.77	1.06	.09	-.02	.08	-.64**	.36**	.31**	-.07	-	
9. Teamwork Coherence ^a	.57	.17	-.05	-.03	-.02	.19**	-.01	-.04	.03	-.08	-
10. Leadership Coherence ^a	.45	.16	-.04	-.03	-.05	.25**	-.05	-.01	-.03	-.15*	.09

Note: For cultural variables higher means denote higher collectivism; $N = 282$; ^a $n = 240$; One tailed correlations; * $p < .05$; ** $p < .01$.

Table 3: Romanian Sample Intercorrelation Matrix

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8 ^a
1. Age	34.02	14.10	-							
2. Gender (female=0, male=1)	.41	.49	-.27**	-						
3. Age Group (1 = younger, 2 = older)	1.52	.50	.85**	-.31**	-					
4. Societal Values (SHOULD BE)	4.77	.92	-.16*	.02	-.20**	(.79)				
5. In-group Values (SHOULD BE)	6.02	.84	.21**	-.27**	.22**	.26**	(.82)			
6. Societal Practices (AS IS)	3.71	.88	-.20**	.13	-.23**	.16*	-.10	(.81)		
7. In-group Practices (AS IS)	5.44	.77	.18*	-.09	.18*	.24**	.31**	.03	(.85)	
8. Teamwork Coherence ^a	.54	.17	-.17*	.01	-.12	.09	-.04	-.05	.05	-
9. Leadership Coherence ^a	.41	.15	-.10	-.01	-.04	.07	.04	.01	-.01	-.04

Note: For cultural variables higher means denote higher collectivism; $N = 144$; ^a $n = 120$; One tailed correlations; * $p < .05$; ** $p < .01$; $r_{wg(4)}$ interrater reliability coefficients appear on the diagonal.

Table 4: U.S. Sample Intercorrelation Matrix

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8 ^a
1. Age	33.56	13.58	-							
2. Gender (female = 0, male = 1)	.43	.50	.05	-						
3. Age Group (1 = younger, 2= older)	1.48	.50	.84**	.17*	-					
4. Societal Values (SHOULD BE)	4.06	.79	-.21**	.06	-.14	(.85)				
5. In-group Values (SHOULD BE)	5.49	.99	-.16*	-.33**	-.21**	.19**	(.76)			
6. Societal Practices (AS IS)	4.12	.95	.09	-.05	.03	.02	.05	(.77)		
7. In-group Practices (AS IS)	4.08	.87	.02	.08	-.03	.08	.06	.15*	(.81)	
8. Teamwork Coherence ^a	.61	.16	.07	-.08	.08	.05	.09	.02	.05	-
9. Leadership Coherence ^a	.49	.17	.00	-.05	-.06	.02	.08	-.16	.04	.11

Note: For cultural variables higher means denote higher collectivism; $N = 138$; ^a $n = 120$; One tailed correlations; * $p < .05$; ** $p < .01$; $r_{wg(4)}$ interrater reliability coefficients appear on the diagonal.

Table 5: Younger Sample Intercorrelation Matrix

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8 ^a
1. Age	22.13	3.72	-							
2. Gender (female = 0, male = 1)	.45	.50	-.05	-						
3. Nation (1 = Romania, 2 = U.S.)	1.51	.50	.15*	-.22**	-					
4. Societal Values (SHOULD BE)	4.55	.96	-.16*	.12	-.41**	(.77)				
5. In-group Values (SHOULD BE)	5.76	.92	-.06	-.24**	-.08	.29**	(.79)			
6. Societal Practices (AS IS)	4.01	.92	-.12	.10	.10	.18**	-.06	(.79)		
7. In-group Practices (AS IS)	4.69	.99	-.07	.12	-.60**	.34**	.11	.09	(.75)	
8. Teamwork Coherence ^a	.58	.16	-.05	-.19*	.10	.07	.09	-.06	-.03	-
9. Leadership Coherence ^a	.45	.15	.03	-.10	.29**	-.18*	.08	-.02	-.16*	.01

Note: For cultural variables higher means denote higher collectivism; $N = 141$; ^a $n = 120$; One tailed correlations; * $p < .05$; ** $p < .01$; $r_{wg(4)}$ interrater reliability coefficients appear on the diagonal.

Table 6: Older Sample Intercorrelation Matrix

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8 ^a
1. Age	45.46	9.79	-							
2. Gender (female = 0, male = 1)	.38	.49	-.13	-						
3. Nation (1 = Romania, 2 = U.S.)	1.47	.50	-.00	.27**	-					
4. Societal Values (SHOULD BE)	4.29	.87	-.07	-.11	-.37**	(.81)				
5. In-group Values (SHOULD BE)	5.76	.98	.08	-.35**	-.47**	.33**	(.76)			
6. Societal Practices (AS IS)	3.81	.95	.12	-.03	.34**	-.22**	-.10	(.77)		
7. In-group Practices (AS IS)	4.86	1.13	.07	-.13	-.67**	.42**	.47**	-.19*	(.68)	
8. Teamwork Coherence ^a	.57	.18	-.07	.11	.27**	-.09	-.13	.11	-.12	-
9. Leadership Coherence ^a	.44	.18	-.01	.02	.21*	.04	-.09	-.04	-.14	.15

Note: For cultural variables higher means denote higher collectivism; $N = 141$; ^a $n = 120$; One tailed correlations; * $p < .05$; ** $p < .01$; $r_{wg(4)}$ Interrater reliability coefficients appear on the diagonal.

Table 7: Cross National Group Level Teamwork PFNET Similarity Analyses

Sub-Samples	<i>Com</i>	<i>Ccom</i>	<i>Sim</i>	<i>Csim</i>	<i>Tprob</i>
Younger Romanian PFNET & Younger U.S. PFNET.	8	5.85	.44	.35	.00004
Older Romanian PFNET & Older U.S. PFNET.	8	6.15	.50	.41	.000008
Younger Romanian PFNET & Older Romanian PFNET	9	7.15	.60	.51	.0000002
Younger U.S. PFNET & Older U.S. PFNET	8	5.85	.44	.35	.00004

Note: *Com* = links in common; *Ccom* = com corrected for chance; *Sim* = similarity; *Csim* = sim corrected for chance; *Tprob* = probability of com by chance

Table 8: Cross National Group Level Leadership PFNET Similarity Analyses

Sub-Samples	<i>Com</i>	<i>Ccom</i>	<i>Sim</i>	<i>Csim</i>	<i>Tprob</i>
Younger Romanian PFNET & Younger U.S. PFNET	8	6.15	.50	.41	.000008
Older Romanian PFNET & Older U.S. PFNET	10	8.15	.71	.63	.000000003
Younger Romanian PFNET & Older Romanian PFNET	10	8.15	.71	.63	.000000003
Younger U.S. PFNET & Older U.S. PFNET	8	6.15	.50	.41	.000008

Note: *Com* = links in common; *Ccom* = com corrected for chance; *Sim* = similarity; *Csim* = sim corrected for chance; *Tprob* = probability of com by chance

APPENDIX H

Figures

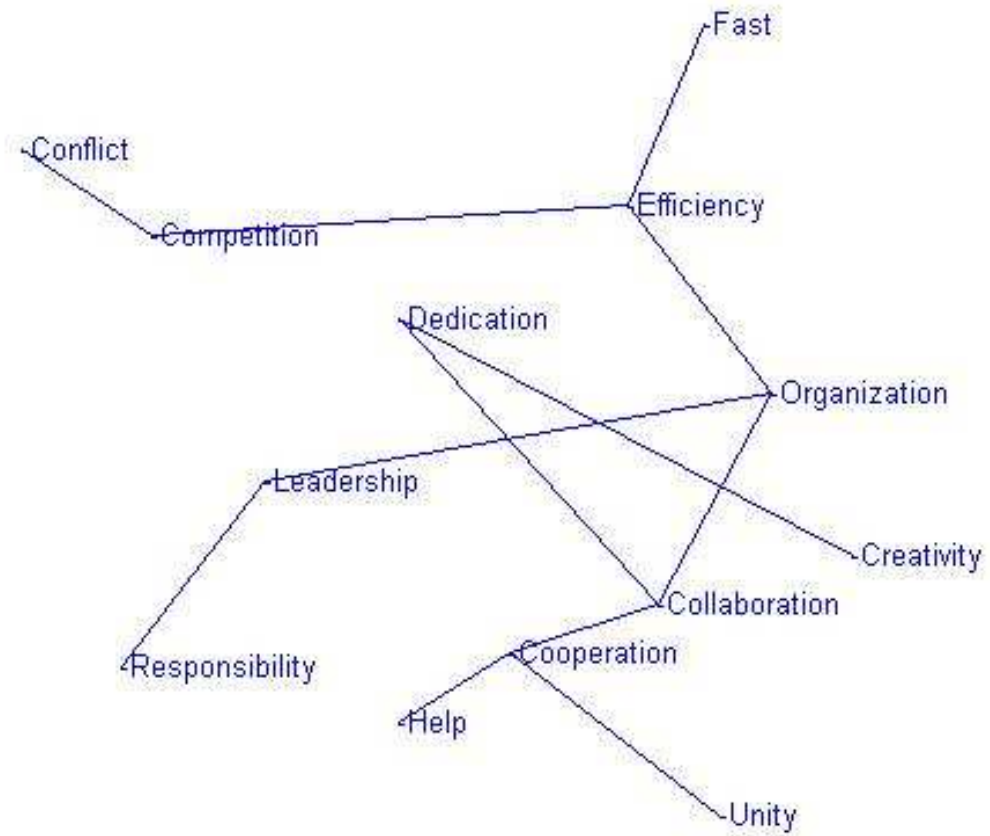


Figure 1. Teamwork PFNET for the Young Romanian Group

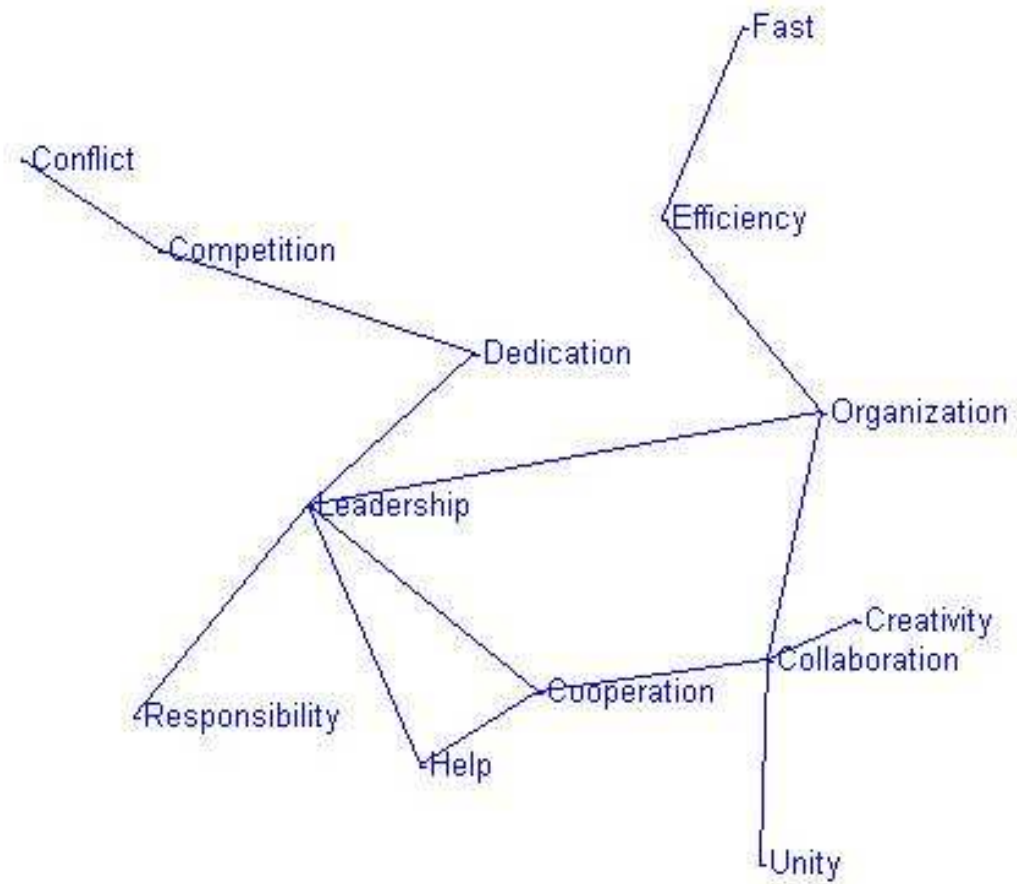


Figure 2. Teamwork PFNET for the Young U.S. Group

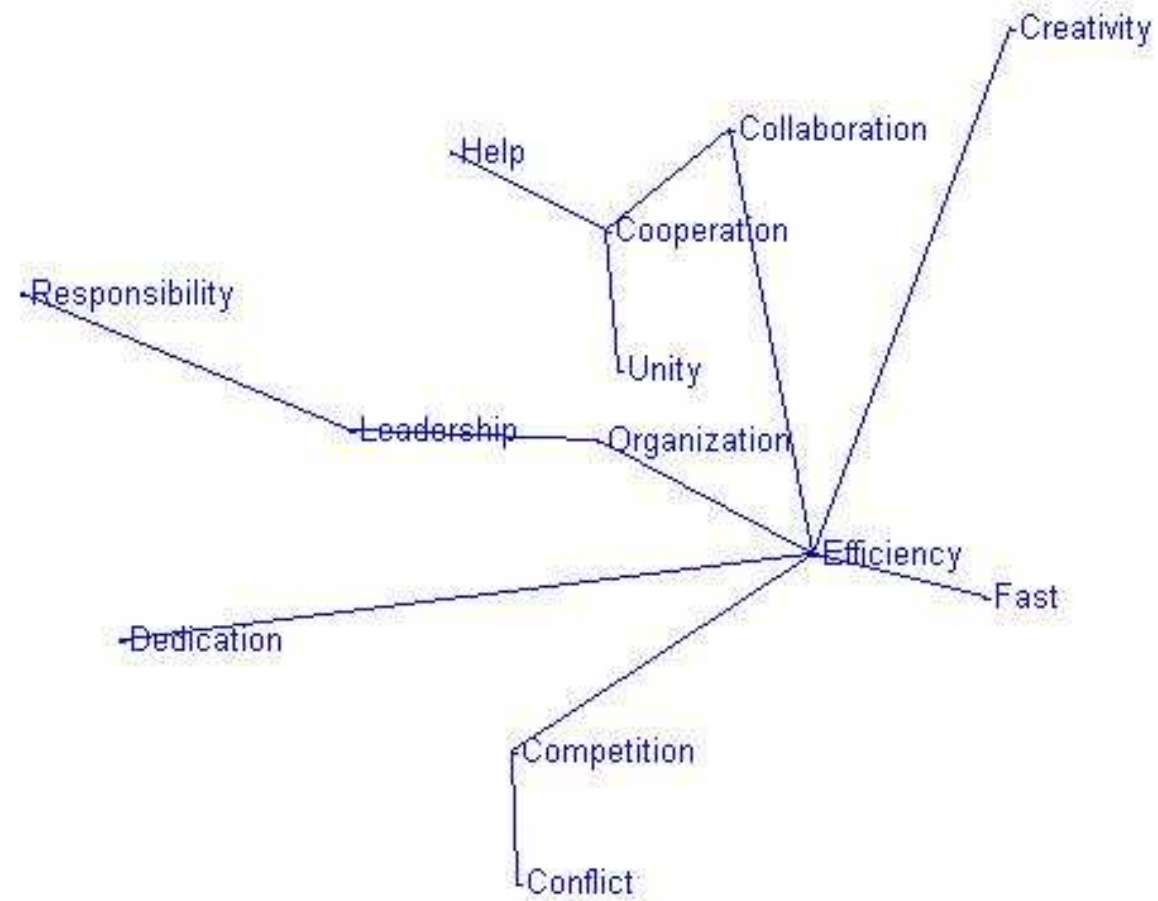


Figure 3. Teamwork PFNET for the Old Romanian Group

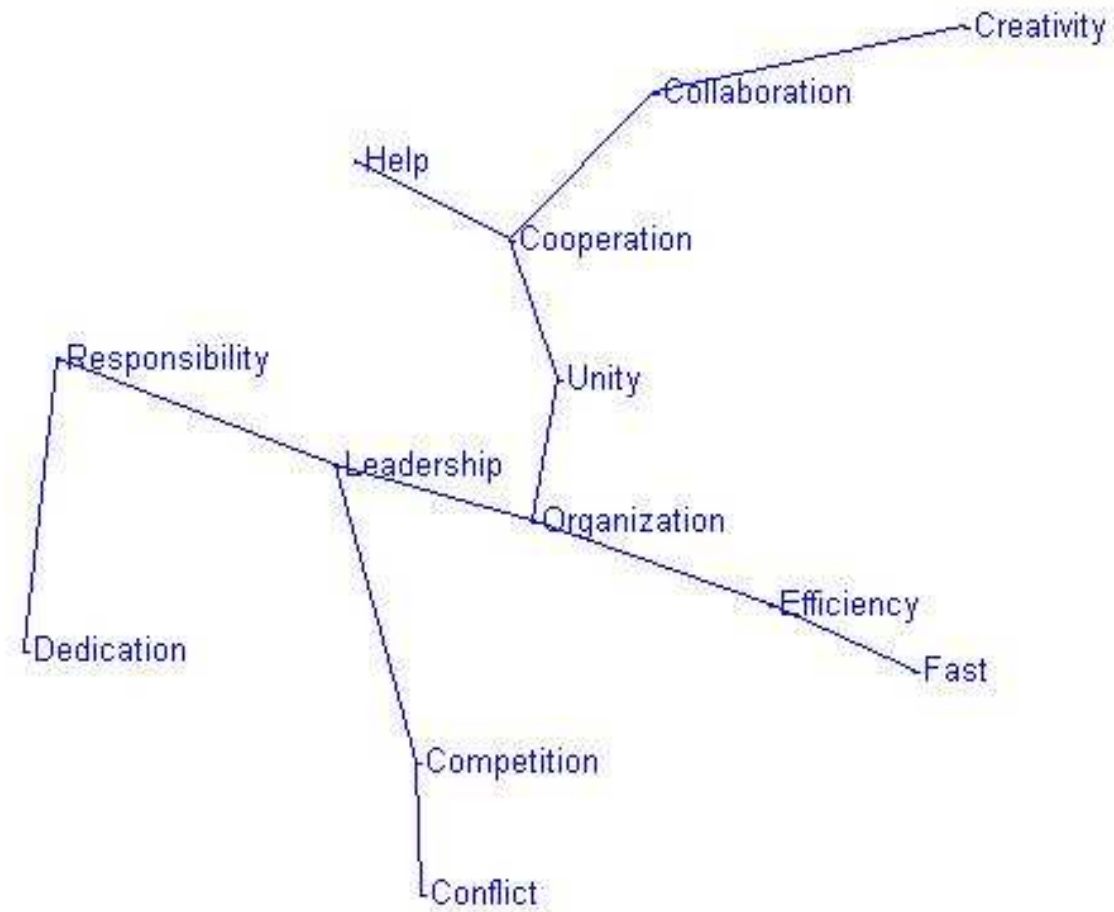


Figure 4. Teamwork PFNET for the Old U.S. Group

Figure 5. Leadership PFNET for the Young Romanian Group

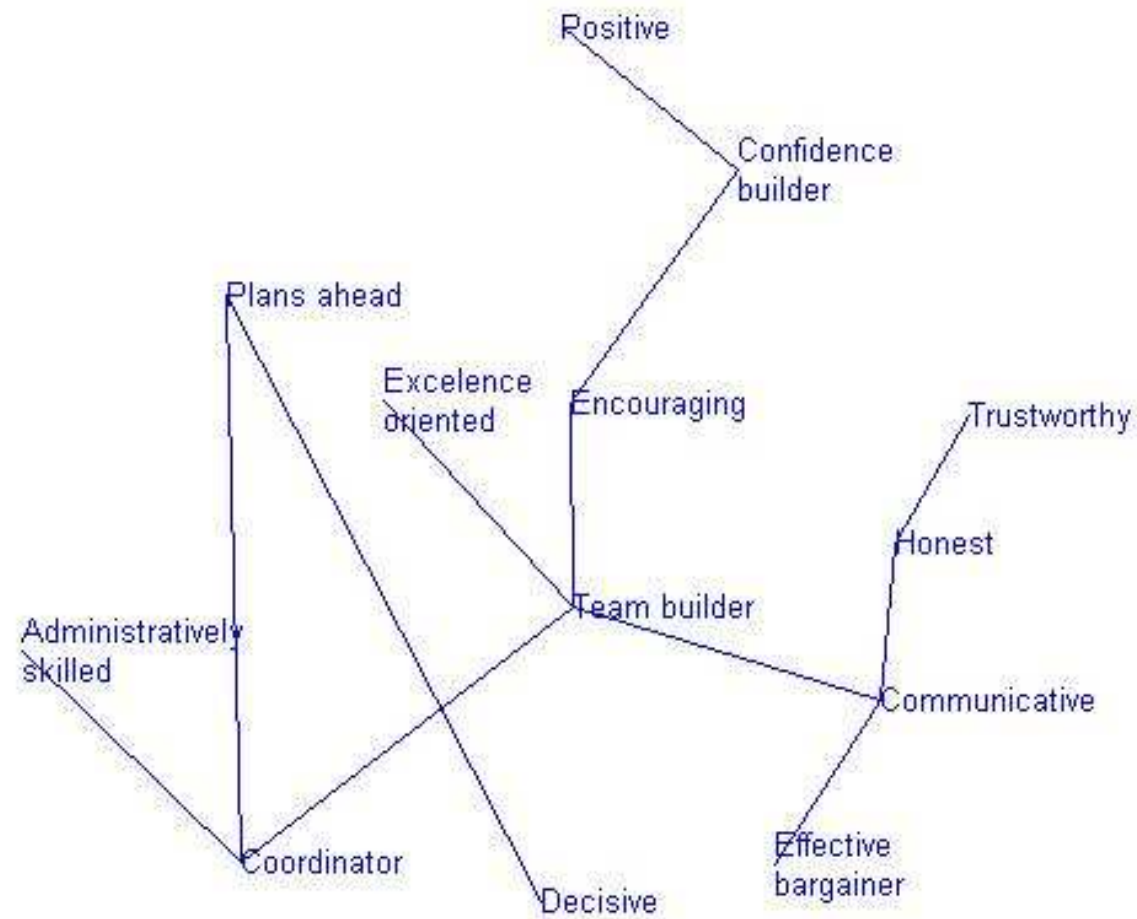


Figure 6. Leadership PFNET for the Young U.S. Group

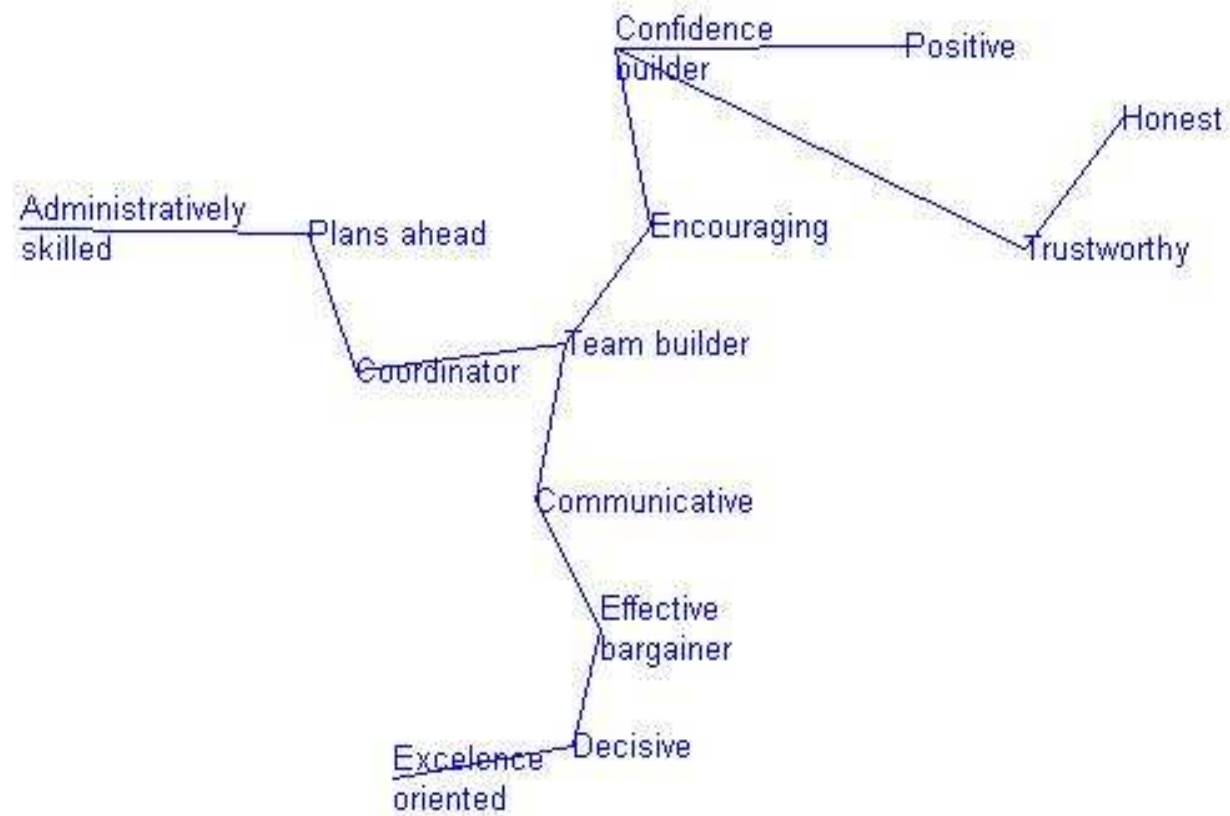


Figure 7. Leadership PFNET for the Old Romanian Group

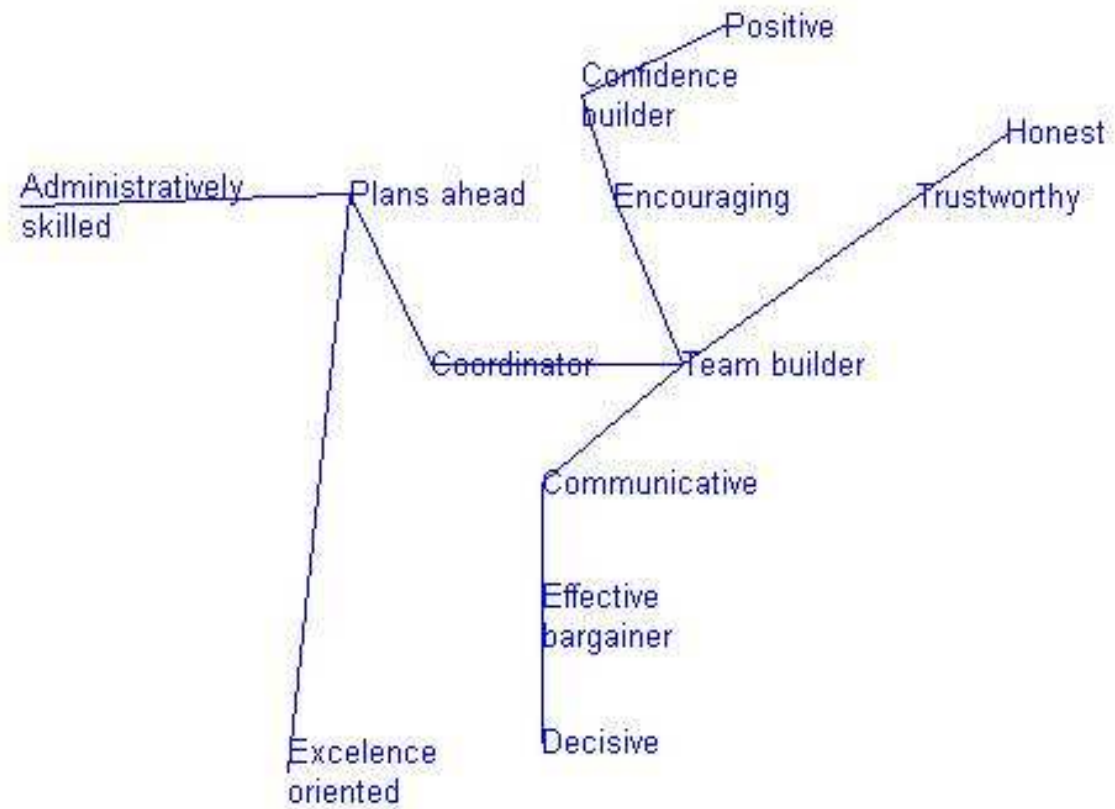


Figure 8. Leadership PFNET for the Old U.S. Group

Vita

Ioana Mot was born in Deva, Romania in January 1979. In 1998 she graduated with a teaching degree from the Pedagogical High-school “Sabin Dragoi” in her home town of Deva.

Subsequently, she traveled to the U.S. in order to attend Mississippi University for Women in Columbus, MS. In 2002 she graduated with a B.A. Degree in Psychology and continued her academic endeavors by enrolling in the Industrial and Organizational Psychology Program at the University of Tennessee, Knoxville. She graduated with a Ph.D. in August 2008.

Throughout graduate school she taught several business and management university courses such as organizational structure and behavior, personnel management, strategic corporate management, international corporate management, and business functions. She also served as an assessor and report writer for numerous Physician Executive M.B.A. Assessment Centers, Senior Executive M.B.A. Assessment Centers, and Executive M.B.A. Assessment Centers.

In the first two years of graduate school she performed research under the guidance of Dr. Larry James in the university’s Conditional Reasoning Research Group. The research revolved around the topics of achievement motivation and aggression. The conditional reasoning research culminated in 2004 in a paper and presentation entitled “Achievement motivation in a Post – Communist Romania”.

During the last three years of graduate school, under the tutelage of Dr. Joan Rentsch, Ioana became interested in and started performing research on cross-cultural teamwork and leadership cognitions. The research came to fruition in 2008 in the dissertation entitled “Conceptualizations of teamwork and leadership: A cross-cultural analysis”.