The present article examines the processes of values transmission and explores the mechanisms by which the stable pattern of intra-cultural variation in values is maintained. The research design distinguishes between values endorsed on individual and collective levels (i.e., values relevant to one’s personal priorities vs. cultural identity). Two studies conducted in New England (2007–2008) investigated the possibility that individual and collective level values (1) rely on different channels of transmission and (2) differ in the degree of sensitivity to family support and parental investment. Theoretical and methodological implications for quantitative analysis of values are discussed.

Keywords: values orientations, intergenerational transmission of values, parenting strategies, multi-item scales.

A value is an important concept in social sciences continuing to lend itself to exploration within various disciplines and by means of different methodologies. Values take part in the process of cultural transmission by which the learned information is passed on from one generation to the next to become cumulative collective knowledge shared within a group. This article addresses the issue of conceptualization of values as individual and collective representations in contemporary values theory applied in sociological, anthropological and psychological literatures, focusing on the specific instance of intergenerational transmission of values.

There have been several influential attempts to explore values dimensions and compare them cross-culturally. These studies have produced a number of definitions of a value, each focusing on their specific properties [13; 22; 25; 30; 44; 49]. They have also informed currently prevalent approach to values and their measurement. Here cultural values are defined as intersubjectively shared and agreed upon ideations about goodness that apply trans-situationally, are hierarchically organized and can be accurately replicated in intergenerational transmission. Values are durable mental entities that have motivational properties and the ability to affect our emotional states and stress response [11; 53]. A considerable body of data has been amassed to explore values change, transmission, structure, age and gender differences in values endorsement, parental effect in shaping children’s values, and association of values endorsement with education levels, socio-economic status, various psychological, professional and political dispositions, and the effect of values congruence on individual subjective well-being [25; 50; 27; 21; 23; 28; 31; 43; 47; 54; cf. 2; 10]. In recent years multiple values studies investigated associations of values with religiosity, GNP, as well as patterns in values endorsement in intergenerational transmission in families [42; 47; cf. 2; 3; 10].

More specifically, with respect to parental strategies, it has been shown that individuals whose caregivers are nurturant are more likely to develop prosocial values and an interest in pursuing intrinsic goals, to be more securely attached, and to have a clearer self-concept, than children of less responsive parents, who tend to develop material values orientations and pursue extrinsic goals [28; 31; 43]. Child’s beliefs about attachments and about the ideal self (e.g., values set projected on oneself) have been further linked to the general consistency of parenting strategies and to form inheritable family patterns in intergenerational transmission [6; 8; 52; 16; 20]. Genetic factors influencing values transmission in families have also been considered from evolutionary standpoint [42]. By far, most of the results shed light on how the cultural environment “shapes” the individual mind [37; 41]. Less is known about how collective culture and individual psychology interact to ensure replication of cultural systems [12]. It is this kind of curiosity that directed the two studies reported here.

The present publication uses interdisciplinary approach to address the following set of questions: What is the exact function of values in reproduction of cultural systems? Specifically, what are some properties of values that ensure replication? What enculturation factors increase replication fidelity? And, focusing on the familial environment as a central unit of enculturation, What is the relationship between different parental strategies (i.e., the degree of parental investment, the perceived amount of affection the child receives in childhood etc.) and the quality of enculturation?
Analysis of dimensionality and multi-item scales technique

A number of values studies of recent years have successfully used various forms of analysis to extract and compare values dimensions (smallest space analysis in [49]; ecological analysis in [22]; factor analysis in [25]). The analyses in those studies operated on single items. Here I use multi-item scales which permit treating material of greater complexity and considering situations with multiple cultural models in the data (i.e. without assuming unidimensional structure of the data) [14]. Scales also offer a more robust way of measuring dimensionality and exploring inter-item and inter-informant variation [7; 13; 38]. Scale construction is premised on finding the groups of intercorrelated variables that together measure a meaningful, interpretable dimension. It is assumed that this dimension is homogeneous in content and that it is important to make reliable discriminations at all levels of the particular trait/tendency defining the dimension in question. To make the scales for this study, the results from principal components analysis and average linkage cluster analysis were used.

This technique has long been applied in psychological and sociological research to measure complex abstract constructs that cannot be pinpointed effectively by other methods focusing on a small number of variables and their interactions. One of the primary advantages of using scales resides in their capacity to provide explicit reliability testing. Also, using the scales method preserves the multidimensional complexity of the domain, thus improving structural fidelity between the studied domain and its assessment tool. Finally, scales offer an additional advantage of comparing complex dimensions extensively and in-depth, generating a context-rich interpretation akin to that garnered by qualitative techniques which form the backbone of ethnographic descriptions of values. All these features make the technique of scales particularly suitable for researching cultural values orientations.

Two level approach to values systems

A separate concern in the research involving culture as a shared meaning system resides in the problem of the individual and collective levels of analysis [55]. There is a large literature addressing this distinction within organizational and cross-cultural psychology [5; 36]. Studying cultural sharing has two major avenues: one is by aggregating the individual data to the level of population and the other by shifting the referent from the individual to a higher-level unit of investigation [18]. The major problem with the aggregating approach is that the nature, structure, and functions of the resulting constructs remain at the individual level after aggregation [18]. The central contribution of this article is the inclusion of multi-item scales constructed on collective concepts rather than aggregated individual data, in the analysis of cultural dimensionality. My approach to describing the institutionalized cultural values examines shared collective constructs as they exist on the group level, bypassing the methodological pitfalls of aggregation.

A value is a construct that all group members have knowledge about and cognitive access to but vary in the degree of its perceived importance. Individuals develop their value system both under pressure of enculturative structures (i.e. internalizing cultural identity-related ideas that are passed on in families etc. [56]), and through their first-hand experiences of life events. The studies reported here treat values material on two distinct levels. Individual-level values reflect personal experiences and can be measured by asking to rate propositions like «I don’t know about others, but for me personally, X (e.g., honesty) is very important», while values that are collective representations can be measured by asking «In the U.S. most people feel that X is very important» [33]. Collective level values are more stable, highly consensual, easy to transmit (e.g., more general, simple and logically coherent ideas rather than specific, complex and unrelated ones), and can be expected to be more accessible concepts even under changing or confusing social circumstances. Both constructs are kinds of values and as such have motivational properties.

The structural incongruence in values at individual and country levels reported by Schwartz, Sagiv and Boehnke [51] points to qualitative differences in values on each of these levels (cf. [4; 15; 24; 35]). The discrepancy between individual and collective levels of cultural knowledge was inductively formulated by different researchers on several occasions in the past (Inglehart [24] on mass beliefs; Jaskyte and Dressler [26] on organizational culture; Matsumoto [35] on levels of culture; Chan [4] on within-group agreement; D’Andrade [13] on institutionalized values). One of the methodological assumptions of consensus analysis model [45], a technique for measuring the degree of cultural sharing, – specifically divorces knowledge of social aggregates from individual informants’ competence. The proposition to distinguish between the
values on the two levels is further supported by the empirical finding that the constructs of either type load on separate factors, form associations with different psychological variables and display different rates of inter-informant agreement [33]. However, traditional values research has not been sensitive to this distinction of levels methodologically. Values are measured as individual constructs, regardless the well-conceived distinction between the collective and individual representations, with the explicit discussions hardly ever appearing in press [41, p. 329], and eventually leading to the recent call for a radical revision of value theory in social psychology, to account for variation in values within and across cultures [48]). This is why dissociating individual and collective level values in the instrument and assessing them separately is an important methodological stipulation to be considered in the formulation of hypotheses that concern cultural values. Thus in the surveys used in the present series of studies, individual and collective level values items were formulated to enable their separate assessment, and measured in terms of the degree of their salience to the person or to the nation, correspondingly.

**Hypotheses**

Based on the above reasoning regarding the two values types, I expect that they rely on different avenues of transmission fitting their properties. The present two studies test the following hypotheses:

*Hypothesis 1*: the endorsement of the individual level values will be more closely linked to individual life trajectory variables (e.g., birth order, age, household composition etc.), while

*Hypothesis 2*: the endorsement of the collective level values will be more dependent on the institutional, parental and familial variables (the church, parental investment, attachment to parents, degree to which a child wants to be like her parents etc.).

**The present studies**

During Fall 2007–Spring 2008 several studies have been conducted in New England to explore in depth the distinctive properties of collective level values in comparison to personal values priorities.

**Study 1**

*Methods*

The study measured values orientations as distinct dimensions expressed in multi-item scales [33]. In Study 1 self-reported ratings data on one’s personal and cultural values was obtained to examine whether the endorsement of each type of values was predicted by a specific set of demographic variables signaling two different channels of transmission of values on individual vs. collective levels. For this purpose the scales were made (within each section separately), based on the elements of data structure from principal components analysis and average-linkage cluster analysis. The resulting scales were then subjected to demographic analysis.

Information about what is valued and what is normative is widely spread public knowledge in any society, and is available to all individuals regardless of their economic situation, education, or gender. Given that information about what one values and what the society finds important is unlikely to be unknown to the psychologically functionally informants of any social category, there is a low likelihood of distortion due to informants’ ignorance or cultural prohibitions to release this information. Risks of distortion due to social desirability effects are also low given that the study specifically targets culturally laudable behaviors, ideas and attitudes, and therefore does not require impression management. As cultural values are also expected to be sufficiently shared to be mutually understood within a society by definition [47], using purposive sampling of students targeting typical cases on campus was acceptable to produce good empirical generalizations [398].

The data collection for Study 1 was conducted in Fall 2007 at the University of Connecticut, Storrs campus. A self-administered survey was used. As in the previously discussed project, the instrument was constructed based on the results of free-listing procedure (n=30) [46] to make sure that the inclusion of survey items is based on emic distinctions and corresponds to the cognitive categories used by the participants, and are not imposed by the researcher’s hypothesis.

**Participants**

Convenience sample was used to collect data from 114 individuals enrolled\(^1\) in various courses at the University of Connecticut and members of their social networks (split-half reliability coefficient 0.90). The sample was 56% female (assuming x=2 is female), with average age 21 years. Most individuals in the sample were single and childless, with

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\(^1\) As college students are also a kind of collectivity, using a college student population for the study was acceptable. It does limit generalizability of the findings, yet does not undermine their validity. Extracting a general American values profile was not the goal of the project.
several years of college education. Participants varied in terms of parental education, majors, the degree of religious devotion, and childhood environment, but the majority reported living in the suburbs and having supportive and loving parents.

Materials and procedure
In order to isolate the individual and collective level representations, different frames were used to extract ratings for each values type. To emphasize the assumed shared knowledge component in the collective level values, the frame for their elicitation was phrased to stress their salience to the group (nation) as opposed to individual priority measured by personal values. The instrument contained two sections: individual level values (55 items) and collective level values (68 items). To ensure the distinct formulations, the collective values were predicated as shared knowledge and primed as things close to hearts of most Americans (In our view of life, $X$ is not at all important (1) / of little importance (2) / quite important (3) / very important (4)). Individual values priorities stimuli asked explicitly about person-specific preferences regardless of the perceived collective axiological hierarchies: I don’t know about others, but for me $X$ is not at all important (1) / of little importance (2) / quite important (3) / very important (4). To reduce social comparison bias [41, p. 330–331], instructions specifying the social context in which the questions were to be answered preceded each section. All rating scales used four point Likert scales. Standard demographic information (21 items) was collected at the end of the questionnaire.

Results and Discussion
For this study the multi-item scales were generated based on the overlapping elements of the factorial structure and dendrograms from average linkage cluster analysis (not presented here due to their large size) [34]. Using Catell’s scree test, eigenvalues magnitude [38] and conceptual interpretability as criteria determining the final factor solution, 12 factor solution for collective values and nine factor solution for individual values were analyzed. First 14 factors for collective and 19 for individual constructs had eigenvalues greater than one, but the selected solution was superior in terms of amounts of variation accounted for and theoretical interpretability; they also mapped most closely onto the cluster analysis tree². In interpreting the meaningful dimension in principal components analysis, absolute loadings of at least.3 were considered salient [38]. The overlapping portions of the cluster trees and the factorial structure typically yielded a clear, interpretable dimension (corresponding to the composition of the new scale); «disembodied» scales were rejected. Fourteen scales met reliability criteria. An average length of a scale was 6 items; no item participated in more than one scale. It should be noted that while the resulting individual level values scales resembled Schwartz’s values clusters (hedonism, conservatism, creativity, self-transcendence etc.), collective level values reflected the specific elements of the ideology of the American society (i. e., pursuit of happiness, love marriage, credibility by success etc.).

To test the preposition regarding the modes of transmission of each values type, an index was computed for each values scale and regressed on the set of demographic categories in a series of simple linear regressions (Ordinary Least Squares) in SYSTAT (Table 1).

As expected, collective level values proved to have a stronger association with the variables that are descriptive of one’s familial setting, parental variables, religiosity, and network size – all the factors that have been shown to influence enculturation.

Individual level values scales were more closely linked to variables that described individual life trajectory, especially participants’ birth order and the number of siblings. Younger children with a few siblings raised by loving, attentive parents tended to develop orientations towards openness and tolerance. Elder or only children gravitated more towards achievement and acquiring wealth. Children who feel close to their parents endorsed more conservative values while more estranged ones tended to be more creative/artistic. None from among the available demographics predicted Knowledge and science scale.

Contrary to my expectation, the degree of desired similarity to one’s parents was a better predictor of individual values preferences. Strong religious devotion and female gender predicted values endorsement on both levels, as did the childhood environment. Overall, these findings furnish support for the prepositions in the Hypotheses 1 and 2.

Study 2

Method
The study focused on parenting strategies and sought to relate the values of the individual participants to the perceived parental values orientations. The data collection for the project was conducted in Spring 2008 at the University of Connecticut, Storrs campus by means of a self-administered survey. Fee-listing procedure (n=68) was employed to construct the survey.
<table>
<thead>
<tr>
<th>Variable</th>
<th>COLLECTIVE</th>
<th>INDIVIDUAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>α</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Cohabitation</td>
<td></td>
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<td>Parental affection</td>
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<td>Parental investment</td>
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<td>Parental income</td>
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<td>Child care</td>
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<tr>
<td>Family income</td>
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<tr>
<td>Marriage status</td>
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<tr>
<td>Marital status</td>
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<tr>
<td>Network size</td>
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<td>Education</td>
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<tr>
<td>Age</td>
<td></td>
<td></td>
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<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Helping others, understanding, being generous</strong></td>
<td>0.86</td>
<td>0.82</td>
</tr>
<tr>
<td><strong>Socioeconomic status, influence, good looks</strong></td>
<td>0.66</td>
<td>0.31</td>
</tr>
<tr>
<td><strong>Romance, children, matrimony</strong></td>
<td>0.47</td>
<td>0.47</td>
</tr>
<tr>
<td><strong>Education, stability, purpose</strong></td>
<td>0.61</td>
<td>0.61</td>
</tr>
<tr>
<td><strong>Patriotism, faith, respect for authority</strong></td>
<td>0.74</td>
<td>0.74</td>
</tr>
<tr>
<td><strong>Money, social status, material wealth</strong></td>
<td>0.79</td>
<td>0.79</td>
</tr>
<tr>
<td><strong>Self-awareness, conscience, respect for others’ privacy</strong></td>
<td>0.85</td>
<td>0.85</td>
</tr>
<tr>
<td><strong>Leadership, ambition, competition</strong></td>
<td>0.68</td>
<td>0.68</td>
</tr>
<tr>
<td><strong>Fulfilling one’s obligations, politeness, compliance</strong></td>
<td>0.70</td>
<td>0.70</td>
</tr>
<tr>
<td><strong>Patriotism, authority, order</strong></td>
<td>0.68</td>
<td>0.68</td>
</tr>
<tr>
<td><strong>Creativity, imagination, art</strong></td>
<td>0.66</td>
<td>0.66</td>
</tr>
<tr>
<td><strong>Fun, spontaneity, openness</strong></td>
<td>0.61</td>
<td>0.61</td>
</tr>
<tr>
<td><strong>Knowledge and science</strong></td>
<td><strong>0.70</strong></td>
<td><strong>0.70</strong></td>
</tr>
</tbody>
</table>

*p ≤ 0.05, ** p ≤ 0.01, *** p ≤ 0.001, † p=0.06
Participants
The sample size was 156 informants recruited through convenience sampling (split-half reliability coefficient .97), with an age range 18–74 (mean age 26). The sample was 50 % female. Participants varied in terms of parental education, economical background, majors, degree of religious devotion, and childhood environment.

Materials and procedure
The instrument included similarly primed collective values (In the U.S. we all feel that X is not at all important (1) / of little importance (2) / quite important (3) / very important (4), 62 items); perceived parental values (Most likely, my parents would say that …, 62 items); individual values (I don’t know about others, but for me personally…, 62 items). The instrument contained explicit instructions to each section, directing the informants to answer questions as personal, perceived collective or parental preferences. Due to space limitations, the analysis of psychological variables (32 items) is excluded from the present publication. Four point Likert scales were used across all sections of the survey. Standard demographic information was collected at the end of the survey (24 items).

Results and Discussion
Based on the same process as discussed in the previous study, three sets of values scales have been generated in this study: individual (n=4), collective (n=3) and (perceived) parental values scales (n=3) (Table 2).

Table 2. Scales’ alphas for Study 2

<table>
<thead>
<tr>
<th>Values Scales (Individual level)</th>
<th>α</th>
<th>Scale name</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.81</td>
<td></td>
<td>Imaginative, creative, open</td>
</tr>
<tr>
<td>0.71</td>
<td></td>
<td>Money, status, nice things</td>
</tr>
<tr>
<td>0.71</td>
<td></td>
<td>Ambition, competence, success</td>
</tr>
<tr>
<td>0.77</td>
<td></td>
<td>Honest, faithful, empathetic</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Values Scales (Collective Level)</th>
<th>α</th>
<th>Scale name</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.87</td>
<td></td>
<td>Displaying power, social standing, possessions</td>
</tr>
<tr>
<td>0.80</td>
<td></td>
<td>Trustworthy, honest, friendly</td>
</tr>
<tr>
<td>0.72</td>
<td></td>
<td>Respect, career, social recognition</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Perceived Parental Values Scales (based on self-reports)</th>
<th>α</th>
<th>Scale name</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.87</td>
<td></td>
<td>Helpful, forgiving, generous</td>
</tr>
<tr>
<td>0.83</td>
<td></td>
<td>Powerful, influential, driven</td>
</tr>
<tr>
<td>0.79</td>
<td></td>
<td>Reliable, dutiful, security for family</td>
</tr>
</tbody>
</table>

To present the relationship between the different values orientations and categories of informants correspondence analysis of scales was used [34]. Figure 1 represents the plot of the first two factors retained from correspondence analysis of scales. Most values scales are concentrated around «good parenting» categories and attributes of similarity to parental values in the child’s values profile, attracting both parental and collective level values. The area on the graph where both parental investment and desired similarity to one’s parents stop being high, is the least populated (the only scale located there is the individual values scale stressing ambition). On the other end of the spectrum, low income and lack of attachment between parents and children appear as non-facilitating factors in the process of intergenerational transmission. These findings suggest that (1) attentive, educated, well-earning, investing parents tend to replicate their own values priorities in their children who are more amenable to uphold their standards, orientations and priorities, and (2) superior, more faithful replication of the cultural system (via transmission of the collective, cultural values) is more likely to be achieved by educated parents adhering to the investing parenting style. Institutionalized religion did not play a significant role, despite my expectations. These findings enrich the observations obtained in the Study 1.

General Discussion
Values have important motivational properties that can affect individual choices and ultimately guide behavior. Internalization of cultural values (collective representations) is contingent on children’s will to accept parental values and depends on primary socialization within the family. The findings from the two studies suggest that the investing parents are more likely to replicate their own values system in their children’s values profile and to do so more faithfully than parents who neglect their children, as the bond of attachment facilitates values transmission. This result once more points to the importance of the family as an institution of primary socialization responsible for enculturation outcomes and cultural identity formation.

Conclusions
Methodologically, the results from the reported studies support the usefulness of the explicit separation of the individual and collective level values as constructs that rely on different channels of transmission. Distinguishing between the two levels is
Figure 1. Correspondence analysis of values scales and demographics
also important in view of the aggregation debate that is often mentioned in the psychological literature and that is not fully resolved to this day.

**Contributions to the values literature**

Values theory uses the term value inconsistently, which contributes to its conceptual vagueness and makes it more difficult to discriminate between values of individuals and institutions, and between values and other variables, such as psychological attitudes, ideological premises, and stereotypes (and other forms of social perception and understanding of collective agency) that form functional (motivational, behavior-guiding) associations with values in mental life. The present article attracts attention of the sociologists and other social science researchers to the methodological aspect of values studies, namely the distinction between values constructs on the group and individual level in the quantitative survey research. It also elaborates on the impact of the parenting strategies have on internalization of values by children and the significance of the perceived parental values for the dynamics of the child’s subjective values orientations [34].

**Limitations**

Concerns can be raised due to the sample size used to make scales in principal components analysis. Although a greater sample size is often recommended to accommodate the analytic procedures and create strong dimensionality in principal components analysis, there is some debate in statistical literature concerning the minimum sample size for data reduction methods. Some researchers view the problem of absolute sample size as simplistic, given the variance in the types of scales being examined, and recommend focusing on the ratio of subjects to items instead (for example, [40]). The recommendations are highly varied, suggesting acceptable minimum sample size of N=100 to 500 and subject-to-variables (STV) ratios from 2 to 20 (for review of published sample size guidelines see [32]). Statistical research on minimum sample size stipulates that smaller ratios yielded excellent recovery (100% convergence) and clear factorial structure (2 in [29]; 1.2 in [1]; all with corresponding sample size of minimum 100). Importantly, reviews reveal that 14.7% of studies published over two years in PsycINFO reported findings with STV ratios of 2:1 or less, and 40% with STV ratios within 5 [9]. Ford, MacCallum and Tait [19] report that 27% of studies published in prominent psychological journals during 1974–1984 had ratios of below 5:1, and 56% were less than most frequently evoked 10:1. Fabrigar and colleagues [17] report similar numbers. To use principal components to make scales in this study (N=114, 156), the criteria of acceptability outlined in [29] apply.

**Acknowledgements**

I would like to thank Prof. O. Vynogradov for his helpful comments and thoughtful suggestions during the manuscript preparation.

**References**


57. Divergent trajectories of the miners’ movements in Ukraine and South Africa

This paper examines the diverging trajectories of the labor movement in mining industry in Ukraine and South Africa. It compares the economic situation in the two countries, and defines the leading role of the miners’ movement in bringing forth social transformations in the early 1990s. Possible explanations for diverging paths in the miners’ movement in Ukraine and South Africa in the last decade are discussed in light of miners’ structural and associational power, and taking into account socio-economic factors, historical legacies, and the role of trade unions.

Keywords: mining, labor movement, structural and associational workers’ power, Ukraine, South Africa.

Introduction

This paper examines the diverging trajectories of the labor movement in mining industry in Ukraine and South Africa during the last decade. Relevance of this research question stems from the fact that miners in both countries were among the leading social agents in the transition processes in the 1990s (post-apartheid South Africa and post-soviet Ukraine), but while in South Africa miners remain a strong social force, in Ukraine labor protests in the mining sector have become rare in the 2000s. For...