

ავტორის სტილი დაცულია

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Attitude Structure and Change

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Abstract

The introduction of the notion of attitude is a significant stage in the development of social psychology.

A task set before social psychology was to create a generally accepted categorical notion which would explain man's social activity and view the inherent and acquired aspects of psychics as an organic whole. It would also be free of one-sided application of habit and instinct while interpreting behaviour. To meet the requirements of this kind the term of attitude was introduced into social psychology. This term of attitude does not refer to the inherent character of psychic powers and abilities and neither is it only limited to "impersonal" habits, or abstract meaning of social forces.

In the work published in 1999 Shikhirev (1999, in Russian) predicts that attitude will be the central subject of research in the coming decade.

The majority of research works are devoted to such problems as: the formation, change, structure and function of attitude.

In social psychology the problem of attitude change has been a subject of serious reasoning and experimental research for a number of years. Scholars have revealed components of the communication process that participate in and influence the change of attitude. The research of the question under study, due to its topicality, is still going on. But, it is noteworthy that differences in opinion are still observed and unanimous conclusions have not been achieved yet. At the same time, it is remarkable that in a number of cases the results obtained in laboratory conditions are not long-term, i.e. the person after a short period of time goes back to the original attitude that existed before the experiment.

In the present work the problem of attitude change is considered in connection with the inter-attitudinal structure.

The dissertation is targeted at presenting arguments in favour of the following **hypothesis**: in the attitude structure the attitude change towards the central value must cause the attitude changes towards the rest of the values associated with the central one.

The theoretical part of the work deals with the analysis of the existing theories and empiric researches connected with the problem.

In the empirical part the results of the completed research and analysis are given. The following questions have been studied experimentally: **1.** the regularities of inter-attitudinal structure; **2.** the influence of the inter-attitudinal structure on the attitude change.

In the present work, as a result of research of attitudes towards 44 values by means of semantic differential method and using the factor analysis, clusters of attitudes have been singled out; The factor scores for each value towards the existing attitude in a given cluster have been determined, and on the basis of the above the central and peripheral attitudes have been singled out. The first part of the empiric research included 216 subjects, in the second part – 241 subjects were involved.

The **novelty** of the present work is as follows: it was experimentally proved that attitude change depends on its place in the inter-attitudinal structure, on its factor score. Namely, the greater the factor score of the attitude towards value, the greater is its influence on other attitudes present in the given cluster.

A) Introduction

Social psychologists are fundamentally interested in attitude research, which it is quite natural since attitude is the central notion that serves to explain our thoughts, emotions and behaviour towards other people, situations and ideas.

It was as early as at the beginning of the 20th century that Allport (1935) remarked that there was no other term which was so quickly introduced into the modern experimental and theoretical literature. This popularity is understandable: in order to explain the influence of social surroundings on human behaviour at a certain stage of the development of psychology it was not enough to point to inherent qualities of individuals; It became necessary to introduce a hypothetical alternating notion that would be free both from abstract contents of the impersonal social forces and the idea of inherent features. It was considered that the notion of attitude met

this requirement. The idea of accepting the notion was shared by a great number of scholars as it occupied a special place in different spheres of psychology, serving their goals perfectly.

In any proportion attitude can include both an instinct and habit, remarks Allport. Due to the above-mentioned opinion it belongs to neither instinct theories nor to the theories of environmental influences. It was this character of attitude that caused such a great popularity of the notion in modern social psychology.

Attitude as well as habit for a long time was considered not a primary reaction of an individual towards objects, but a subsequently worked out phenomenon, which took shape on the basis of other psychic processes.

It is the attitude of acknowledgement of the original value of the attitude towards the activity of consciousness that Uznadze's general theory of set is based on (Nadirashvili, 1983, in Georgian).

Even today psychologists readily support the assumption that if we consider any psychic phenomenon to be the primary one in regard to other psychic processes, then it must be considered to be an innate phenomenon. Though it is quite possible that an individual's attitude that emerged on the basis of the coincidence of his/her needs and the corresponding environment could be qualified as a primary phenomenon and at the same time not to be considered as an innate instinctive phenomenon.

The notion of attitude was first introduced into scholarly literature by Thomas and Znaniecki which was followed by intensive research that has been going on up to this day.

The first problem discussed by almost all scholars is the problem of the attitude definition.

Nowadays a great majority of scholars share the following definition of attitude: attitude denotes man's evaluating approach to the social events revealed in his/her view-points, emotions and target-oriented behaviour (Myers, 2001, in Russian).

The notion of attitude reached the peak of its popularity in the 1930s, then the interest dwindled and approximately beginning from the 1950s it again became a significant sphere of social psychology research. Though it should be noted that there was a small shift of accents. William McGuire (1969) pointed out that the scholars were more actively involved in the questions of attitude change dynamics than those of attitude measuring. Greater interest was concentrated on

attitudes as systems; to prove it he refers to research theories studying the interrelation of attitudes towards different issues, or between the belief and behaviour also indicating how attitudes function within a person.

The third edition of a text book on social psychology by McGuire (1985) clearly demonstrated a significant increase of the importance of attitude in psychology. In 1993 Alice Eagly and Shelly Chaiken published a work about the attitudes (*The Psychology of Attitudes*) which differs from other works by a more detailed and broader analysis of the issue (Albarracin, Johnson & Zanna, 2005). In the following decade it proved to be a powerful stimulus to researchers engaged in the study of attitude which resulted in a great number of works and critical reviews.

In the academic publication of “*Modern Psychology*”, edited by Druzhinin (1999, in Russian), it is noted that attitude is the notion of social psychology. Despite the periodical change of scholars’ interest, today it is still topical to research the subject of psychology named attitude. Such reasoning is confirmed by the following: first of all a special significance of the given psychic structure for man’s social essence and understanding of life and the difficulty in finding its definition. Even with a great abundance of scholarly works the issue of attitude in most cases does remain open-ended.

At present in psychology it is already impossible to discuss the questions of the direction of man’s behaviour, its secret motifs, unconscious tendencies and dispositions without the notion of attitude. In the same way, today, in social psychology, it is unimaginable to discuss such questions as public opinion formation, social influence, value orientations and so on, without using the notion of attitude.

The main problems of attitude chiefly deal with formation, change, structure and function of attitude.

The structure problem is one of the most fundamental and important questions of the problems associated with attitude.

Positive and negative experiences become associated with attitude objects in perceivers’ minds and as a result these perceivers form mental associations connecting the attitude object with the relevant prior experience. These associations may have certain regularities which give psychologists grounds to ascribe various structural features to them. It is this aspect that is meant in the intra-attitudinal structure of attitudes. Besides, since people form attitudes toward a great

number of different objects, in people's minds attitudes may be interrelated. These more global structures that cover more than one attitude are called inter-attitudinal structures (Kvartskhava & Dateshidze, 1985, in Georgian; Eagly & Chaiken, 1998).

Intra-attitudinal and inter-attitudinal structures reflect contrasting ways that attitudes can be formed by. An attitude can be formed in an experimental way which is based on direct or indirect cognitive, affective or behavioural reaction to the attitude object. This intra-attitudinal mode of attitude formation results in storing the information produced by one's reactions as associations between the attitude object and these reactions. Evaluative meaning is abstracted from these associations and thus an attitude is formed as a generalization from more elementary associations.

An attitude can also be formed by means of linking the respective objects of different attitudes. These links are stored along with the initial attitude itself. This way of attitude formation follows the conclusion according to which a new attitude is deduced from a more general, prior formed attitude. The majority of attitude structures have both intra-attitudinal and inter-attitudinal aspects; though there would be considerable variations as well.

The properties of the constituent components of attitude structure comprise three classes of responses: cognitive, affective, and behavioural (Breckler, 1984). These constituent parts of attitude never act separately, they create man's interconnected cognitive, emotional, behavioural systematic whole toward some social object and appear as man's tendency, disposition towards the same object.

The cognitive (*potential*) component of attitude which is also called a perceptual, informational and stereotype component is connected with the issue as to how the object, its conceptual connotation or the object "stereotype" is perceived. The thoughts that are associated with attitudes are termed beliefs by attitude theorists. It is these views according to which such qualities as desirability-undesirability, usefulness-harmfulness etc. are attributed to the object. The given component includes a person's viewpoints about what kind of behaviour corresponds to this object, whether it deserves praise or disapproval. A cognitive component is based on the relation forming process between thinking or goal and means, or more exactly – the relation between qualities of object and man's aims, as it is generally characteristic of evaluative reasoning.

A typical measure of this component is a control list of adjectives – in order to reveal the stereotypes of ethnic groups (Gilbert, 1951). In 1959 Katz and Stotland suggested the analysis of the cognitive component of attitudes by means of viewpoints, the number of their constituent elements, the structure level and hierarchy of the elements and also by means of intensity of those objects towards which the cognitive element is oriented (Eagly & Chaiken, 1998).

A slightly different means of analyzing the cognitive component was offered by Rokeach in 1960 (Freedman, Sears & Carlsmith, 1981), its gist being the discussion of the gradient centralization of persuasion and the level of penetration. According to Osgood's semantic differential his evaluating factor can be used in connotative analysis when measuring the emotional component, other factors can reflect the cognitive component. These are the factors of power, activity and others.

The emotional (*affective*) component of attitude, first of all reveals the subject's emotions towards the given object: pleasure-displeasure, sympathy-antipathy, approval-disapproval, love-hate and so on. It is assumed that the emotional charge imparts motivating power to the attitude. Some researchers consider the emotional component to be only an evaluating one, thus qualifying it as the core of attitude, while cognitive and behavioural components are considered to be a certain "shoot" taking shape around it as the matrix they sprout from (McGuire, 1969).

Attitude must always be viewed within the framework of a concrete individual and his/her environment. It is always "attitude towards something". Attitude can never be just "merely" attitude, "theoretical construction".

Behaviour tendency includes behaviour intentions associated with the social sphere – offering help, protection, causing harm, punishing etc. Behaviour tendency means readiness never coinciding with or concealing the real behaviour. Though some authors voice the opinion that attitude contributes a lot to behaviour, they still consider it necessary to underline the difference between the overt behaviour and the behaviour tendency arguing it on the basis of the assumption that apart from attitude, behaviour has such determinants as compelling by social and physical outer circumstances. Besides, attitudes do not necessarily be realized by and expressed in behaviour in the same manner – there exist attitudes which serve such a function of an individual that does not need obvious expression. This function is just satisfied with the existence of attitude. Proceeding from the above a strict line of distinction must be drawn between behaviour tendency and the real behaviour.

Traditionally attitudes are measured by the bipolar dimension which indicates the attitude from highly favorable to highly unfavorable towards the attitude object. The knowledge of the internal structure of attitude helps to better predict the reactions to the attitude object.

It is no doubt true, especially on debated social and political issues, people sometimes realize that their own attitudes represent one side of a two-sided issue and perceive their attitude as existing on a dimension. Judd and Kulik (1980) tried to support this viewpoint and argued that people conceptualize their own attitudes within the bipolar continuum of knowledge placing on one pole the attitude-relevant information that they share, and on the opposite pole they place the information that they reject but perceive that others support.

This idea about dimensional structure was extended by Pratkanis (1989). He assumed that attitudes can have a bipolar or unipolar structure – i.e. people may represent knowledge on both sides of an attitudinal continuum or on only their own side. If it is assumed that people are unipolar and thus possess mainly knowledge congruent with their own position they may find it difficult to encode attitudinally uncongenial information (Eagly & Chaiken, 1998). In contradistinction with it if we assume that people are bipolar and thus familiar with both supporting and opposing viewpoint, uncongenial information may be processed as easily as congenial information.

Pratkanis also produced some evidence that the bipolarity versus unipolarity of attitudinal structures influences the processing of attitude-relevant information.

The intensive study of problems of attitude in social psychology began after Thurstone's attitude measuring scale had been worked out (Nadirashvili, 1983, in Georgian). This method made it possible to determine the qualitative and quantitative indices of a person's attitude which in its turn facilitated studying the social influence on a person's attitude and the laws of the resulting attitude formation and attitude change.

Attitudes are never isolated in people's minds but are linked to other attitudes and thus they can be considered more molar cognitive structures. For several decades many social psychologists have viewed the structure and dynamics of such larger systems of attitudes in terms of balance theory. In the same way, psychologists, using a quite different approach, have assumed that attitudes are linked to other attitudes in thematically consistent structures known as ideologies.

Both of the above approaches – the balance theory and ideological analysis – throw light on attitudes' relation to other attitudes (Eagly & Chaiken, 1998).

The balance theory is connected with Fritz Heider's name. This theory gained remarkable popularity with social psychologists in 1960s. Heider suggested that people sometimes use a symbolic language to represent the structure of inter-attitudinal relation. This language comprises elements, which represent attitude objects, and relations between elements. These relations represent the evaluations that a perceiver attaches to the attitude objects, which were named sentimental relations, and the nonevaluative relations between elements were called unit relations. Heider identifies the perceiver (P), the other person in the situation (O), and an impersonal entity or thing (X) toward which both P and O has attitudes. Attitudes, represented as sentiment relations between elements, can be positive or negative. The perceiver's attitude toward another person is represented as a sentiment relation linking P and O; P's attitude toward some issue or other nonperson entity is represented as a sentiment relation linking P and X. In turn, P's perception of O's attitude toward X is represented as a sentiment relation between O and X. All the elements and relation are mapped as they exist in the perceiver's mind and so this relation is perceived rather than actual. With this representation of three relations between P, O, and X, a simple inter-attitudinal structure emerges in the form of triad. Since this triad comprises three attitudes – two of P's attitudes and P's understanding of one of the other person's attitudes, balance theory raised important questions about inter-attitudinal structure. Heider analyzed a simpler inter-attitudinal structure; it was dyad, which includes two elements, P and O. The dyad shows P's attitude toward O and P's understanding of O's attitude toward P.

Heider also analyzed contexts comprising P and other people (O and Q). Heider also considered contexts which did not include other persons. The contexts included the perceiver and two entities (X and Y). These P-X-Y triads make it possible to examine the consistency in structures including interrelated attitudes toward issues.

Heider described two possible states of inter-attitudinal structures concerning stability. They are balanced and unbalanced states. In the first case elements and relations are harmonious and stable, and in the latter case they are unharmonious and unstable. In accordance with Heider's opinion unbalanced states have the tendency to turn into balanced ones. When determining balance Heider (1946) noted that this state is obtained in two-element structure if both relations

have the same sign and in a three-element structure if all three relations are positive or if two are negative and one is positive.

A more abstract and innovated formulation of this principle was offered by Cartwright and Harary (Eagly & Chaiken, 1998), thus allowing the definition of balance in structures containing more than three elements.

Heider's balance principle can be represented as a schema of interrelations of people's attitudes or a conceptual rule, by means of which people understand that they usually agree with people they like and disagree with people they dislike. Results of the experiment have shown that information is more easily learned and preserved if it is in accordance with this rule (Freedman, Sears & Carlsmith, 1981). Besides, people treat information concerning balanced triads much more effectively than information about unbalanced triads (Sentis & Burnstein, 1979).

A new approach to balance theory consists of attempts to connect the principles of balance theory with the more general cognitive principles inherent in associative network models of memory and connectionist models (Smith, 1998). It is easy for associative network interpretations of attitudes to accept balance principles, as this prospect represents attitude objects as nodes that are connected (Judd & Krosnick, 1989).

There are some versions of associative network theory (Anderson, 1983) ascribing the property of strength to nodes (i.e. attitudes). The frequency with which a node was activated in the past is revealed in strength. The more a person has reflected on an attitude object the stronger that node becomes. The connection between two attitudinal nodes is as strong as the two nodes are themselves. The more the nodes have been thought about, the more similar they are semantically. The strength of the connection between the nodes conditions their simultaneous bringing into awareness. Judd and Krosnick (1989) assume that the balance principle conditions the evaluative consistency of these attitudes. This prediction is not new, because Abelson and Rosenberg (Eagly & Chaiken, 1998) came to the conclusion much earlier that imbalance is determined only to the degree that inconsistent elements become the object of thought.

It has been proved that balance theory which represents basic principles of human logic is an enduring foundation to understanding inter-attitudinal structure. Though, according to contemporary approach, balance does not often function as an isolated theory but it has been incorporated into more integrative cognitive models.

The basic assumption is that an individual's unbalanced condition causes an affective tendency of a certain direction. In itself the unbalanced condition embodies the tendency of turning into a harmonious, non-conflict condition of psychics.

Nadirashvili (Nadirashvili, 1974, in Russian) remarks that one of the basic features of attitude is to bring inconsistent, conflicting components into a consistent condition which he calls attitude reharmonizing.

A great number of psychological trends try to study separate aspects of this law. The above-mentioned aspects are dealt with in Lewin's "Field Theory", Heider's "Balance Theory", Osgood and Tannenbaum's "The Principle of Congruity", Newcomb's notion of "Strain toward symmetry" and in the theory of "Cognitive Dissonance" by Festinger. All these theories and notions bring forward one of the aspects of the General Theory of Set while in the General Theory of Set by Uznadze all the departure tendencies of the above mentioned theories are presented; this is why Uznadze's Theory of Set gives us right to combine them all. Uznadze's Set Theory is a general theory comprising not only separate aspects of human activity but the whole psycho-physical activity as well.

On the basis of Newcomb's (Nadirashvili, 1974 in Russian) studies it can be concluded that the balance tendency is revealed not only in the human emotional and psychic sphere but also in the human attitude organization and interrelation in general. According to Newcomb the tendency of "strain toward symmetry", influences the human psychics, influences the human attitude and makes similar the attitude of those individuals whose interrelations are positive.

In Maghradze's opinion (1980, in Georgian) the tendency of "strain toward symmetry" is similar to the balance tendency.

The balance theory was further developed by Osgood and Tannenbaum (1955) with the aim of making it possible to establish the direction of human attitude change when a person is in an unbalanced psychic condition. Osgood and Tannenbaum assumed that the tendency of psychics pointed out by Heider as the inner organizing stimulus of psychics which is revealed in an unbalanced state, does not require that interrelation among people should really exist. This tendency is an inner stimulus of the person's psychics and is reflected in the strain to a definite organization of consciousness i.e. its congruity; when in the human psychics an incongruous condition opposite to the organized condition emerges we can assume the existence of some

course that must replace human attitudes and orientations. A person always has a system of attitudes of his/her own, on whose basis he/she expresses his/her ideas and viewpoints, which find their places in definite systems. According to Osgood and Tannenbaum there is always a tendency of congruity in human psychics which inspires it to achieve a better organization and to form a simpler system of viewpoints and ideas present in the system. On the basis of this kind of inner organization, by the influence of the systems and phenomena, a person experiences such changes which in the long run increase his/her congruity, harmonizing with the surrounding world.

A person can have contradictory opinions, attitudes etc. but he/she experiences their mutual correspondence when they emerge in a single, definite behaviour i.e. when they are interconnected as components of one behaviour.

Attitudes may have a hierarchical structure that makes it possible to derive more concrete and specific attitudes from more abstract and general ones. Feather (1996) assumed that attitudes are often placed in a complex network of relation between attitudes, beliefs and values. Here dominating values are considered to be core or central elements as they are connected with a lot of attitudes, beliefs and other values.

In the ideology studies the emphasis is placed on the hierarchical aspects of attitude structure (Eagly & Chaiken, 1998). Ideologies are interpreted as attitude and belief interdependent clusters and thus they are grouped around a dominant social theme such as liberalism and conservatism. In this kind of structure the attitude which is broader would have liberalism or conservatism (or some other ideological theme) as its object. The beliefs connected with this general attitude may make it possible to give rise to the emergence of attitudes toward specific social questions.

Theory and research on ideology reflect a significant aspect of inter-attitudinal structure of attitudes. Though these investigations are not similar they yet have a feature in common; they share the assumption that there is an emphasis on hierarchical structure in which social and political attitudes are formed vertically from top to bottom as generalizations from broader attitudes.

Superficially, it may seem that attitudes as specifically inter-related elements are viewed differently in the balance theory. But Feather (1996) assumed that values must be treated as background factors which influence the strength and sign of the attitudes represented in

conventional balance structures. When reconciliation of the ideological and balance approaches is viewed, the attitudes and values, included in ideologies, can be represented as cognitive elements (or nodes) and subjected to a balance analysis. Besides, balance theory is in a complete compliance with the assumption that attitudes are formed vertically from top to bottom through their associations with other attitudes. It is quite obvious that the classic P-O-X structure offers that attitude toward arguable questions may be derived from attitudes toward politicians who are successful in support of the above arguable questions. In addition, in P-X-Y structures, attitudes toward X and Y may be different due to their generality; it is quite possible that one of these attitudes can give rise to the other. In spite of this, bringing forward values and moral themes must be attributed to ideological analysis while bringing forward connections between attitudes, regardless of the generality or abstractness of the attitudes, should be ascribed to the balance analysis.

It is considered that attitudes with extensive and coherent internal structures are more stable over time and, presumably, can better predict behaviour (Doll & Ajzen, 1992; Eagly & Chaiken, 1995). There is another viewpoint in favour of the reason why such attitudes can make resistance, stability and attitude-behaviour correspondence stronger. In such a case they may have especially strong effects on the processing of attitude-relevant information.

The majority of discussions of attitude-attitude connections have revealed the link of attitudes to values. It means that attitudes that are connected with more abstract attitudes (i.e. values) may be especially strong in a hierarchical structure. If a lower-level attitude is part of a more general attitude then direct attack on the lower-level attitude by referring to the negative characteristics of the attitude object would produce no result because backing of this lower-level attitude would item from its relation to the higher-level attitude. More than that the higher-level attitude would possess its own internal structure and it would be connected to additional lower-level attitudes as well. Strong external structure lends strength to attitudes. The reason is that attitudes have the ability to resist changes. This resistance should promote stability which, in its turn, should promote greater attitude-behavioural correspondence (Doll & Ajzen, 1992).

Social psychologists have been studying the questions of attitude-behaviour interrelations for more than half a century (particularly, since the 30s of the last century). Social psychologists were sure that according to people's attitude it was possible to predict their behaviour, but in his experimental study LaPiere (LaPiere, 1934) demonstrated that man's verbally expressed attitude

does not often correspond with his/her behaviour. This experiment has since become the subject of consideration of quite a number of scholars. Among them representatives of the Georgian school of psychology led by Shota Nadirashvili should be mentioned; they deal with the experimental situation from the viewpoint of the General Theory of Set.

In 1964 Festinger came to the conclusion that the research data do not confirm the hypothesis that behaviour changes in connection with the new attitude formation. Festinger assumed that the connection attitude-behaviour acts in the opposite direction (behaviour-attitude) (Myers, 2001, in Russian).

The issue is continued by Wicker (1969). In 1969 he published dozens of results of scholarly studies covering a wide range of attitudes and behaviours under study that characterized quite different people. Wicker concluded: it is very doubtful that it should be possible to predict their behaviours on the basis of the attitudes people speak about.

The results of the researches of this and of other scholars undermined the assertion about the stable inherent interrelation between the attitude and behaviour made by Thomas and Znaniecki.

Each Scholar dealing with this question had an ambition to view the problem from the angle which once and forever would put an end to this argument. Scholars voice a great number of opinions about predicting behaviour by means of attitude: the variable which is to be measured must completely correspond to the situation; their irrelevance is often caused by a mistake – quite often instead of attitude the intention of behaviour is studied; it is basically important to determine the meaning of attitude; in realizing a behaviour the situational factors are significant; an individual or behaviour must be viewed as a single whole – studying separate behaviours is of no use; what is significant is the energy spent on behaviour; the intensity of attitude and great number of other factors.

Thus, at present despite the above and numerous scholarly works dealing with the emergence of attitude, its consolidation and change, the regularities of the influence of attitude on man's activity, there is an opinion that attitude needs further study.

One of the confirmations of the above is the problem of attitude change. A great quantity of empirical material connected with the question mentioned above is available, though a great number of mutually exclusive conclusions have been made.

Generally, as a result of researches a variety of factors has been singled out which are associated with the communicator, the communication channel, message, the receiver of the information and the situation. At a glance, as a result of getting acquainted with the existing materials, there may be an impression that the question has been exhausted and everything is clear. Though, even the fact that the research work studying the attitude change is still going refers to the present situation and the **topicality of the problem**. Indeed, if we look more closely at the result of various researches we shall see that no synonymous conclusions have been achieved. It must also be taken into account that in a number of cases the results received in laboratory conditions are not long-term i.e. soon after the experiment the individual taking part in the experiment returns to his/her initial attitude.

Proceeding from the above I was highly interested in going deep into the problems mentioned above, the more so that the attitude change is associated with such topics as: pre-election campaigns, propaganda, social influences which, to my mind, enhance the urgency of the issue.

As it has already been mentioned above the intra-attitudinal structure and the inter-attitudinal structure indicates different ways of attitude formation. Namely, intra-attitudinal structure is formed on the basis of experience, direct or indirect cognitive, affective or behaviour reaction to the object of the attitude. On the other hand, the inter-attitudinal structure is formed by means of the connection between the corresponding objects of different attitudes. Hence, I share the assumption that attitudes never exist isolated from one another. They create definite systems, clusters, as they are often called. It is there clusters within which the interaction of attitudes takes place, though not with the same intensity which indicates a definite regularity of the inter-attitudinal structure.

In my opinion the attitude change must be subordinated to the regularities governing the inter-attitudinal structure, i.e. attitude change must be associated with its place in the inter-attitudinal structure, its factor score.

Proceeding from the **topicality of the issue** I have decided to study the specific features of the inter-attitudinal structure more thoroughly.

I have formulated the following **hypothesis**: in the attitude structure the attitude change towards the central value must cause the attitude changes towards the rest of the values associated with the central one.

In order to check this hypothesis I have set the following **goals**:

Carrying out experimental research into: **1.** the regularities of the inter-attitudinal structure; **2.** the influence of the inter-attitudinal structure on the attitude change.

Proceeding from the above I have formulated the following **tasks**:

1. Grouping the present attitudes towards the values according to factors;
2. Determining the factor scores of the attitudes towards the values correlated with each factor;
3. Determining the central (or core) and peripheral attitudes on the basis of factor score in the cluster;
4. Grouping the subjects of the experiment into smaller discussion groups according to the identity of attitude valence towards the value under study;
5. Determining the influence of the attitude factor score on the change of the rest of attitudes in the cluster.

The assumptions to be proved:

1. The attitude change is conditioned by the regularities of inter-attitudinal structure;
2. The attitude interaction is not homogeneous. Namely, some of them have a greater influence on the rest of the attitudes in the cluster;
3. The reason of the attitude change, apart from the already established regularities, can also be the interaction of the attitudes connected semantically;
4. The greater the factor score of the attitude towards value, the greater is its influence on other attitudes united in its cluster; or in other words, the factor score of the attitude towards value is directly proportional to the intensity of the influence it exercises on the other attitudes of the cluster.

Despite the topicality, the experimental data concerning the issue mentioned above is rather sparse. Besides, of all the researches carried out so far into the structure of attitude not a single can be considered as fundamental.

The closest to the question I have raised are the researches conducted by Ferguson (1939) and Chkheidze (1985, in Georgian) though the issue has not been studied thoroughly. In spite of the great significance of the work carried out by Ferguson, it must be said that the scope of the research was not wide – it was only limited to the study of ten attitudes. Neither did he show any interest in the experimental research of the regularities of the inter-attitudinal structure and attitude change. Chkheidze has also carried out researches with a small number (four) of social subjects who, in her opinion, were similar from the semantic point of view. In this case the basic interest of Chkheidze was to study the tendency of consistence from the viewpoint of participation of consciousness.

Regretfully, the progress in the research of this issue is not sufficient.

I think, by means of researching into this problem, another step will be made towards revealing the factors participating in the attitude change. At the same time, despite the expectations and a great number of scholarly studies no definite final conclusions have been achieved concerning the problem of attitude-behaviour interrelation. The results were contradictory. In my opinion the reason was an erroneous attitude to the question. Namely, attempts were made to solve the problem of predicting behaviour by means of studying separate attitudes. The question would acquire quite a different aspect if we take into account that attitudes are never isolated from one another, they are interconnected and create definite systems, clusters. I suggest that by means of a more fundamental research of the specific character of the inter-attitudinal structure, additional factors participating in attitude-behaviour relation be revealed. If we also take into account that in the past due to the slim possibilities of processing the data it was difficult to achieve satisfactory results, and today, compare with the help of modern computer programmes it is much easier to obtain a high-quality statistic data, it will be clear that such research is very **necessary and important**. This is why I found the above problem very interesting.

The obtained results can be used in all the spheres dealing with the attitude change (social influence, advertisement psychology, propaganda, educational psychology). This is what makes the present paper **valuable**.

B) Empirical Research

In order to test the research hypothesis empirical researches have been conducted. First of all, the work, consisting of several stages, was planned. Below a detailed description of each of the stages follows.

1. Attitude Structure

At the first stage, it was our aim to confirm and to establish the existence of inter-attitudinal link. In order to find this, we conducted a research whose detailed description is given below.

1.1. Research Material

44 values were selected to be used in the study of attitudes. All the 44 values were selected from the “Human Values Scale” of Shalom H. Schwartz and from the study of attitudes conducted at the Department of Social Psychology at Ivane Javakhishvili State University of Tbilisi. These values include: equality, inner harmony, social power, freedom, social order, wealth, national culture, creativity, peace in the world, respect of traditions, self-discipline, family safety, friendship, beauty, social justice, independence, moderation, devotion, modesty, courage, honesty, curiosity, tolerance, alcohol, homeland, sexual freedom, intimidation, classical culture, I, marriage, human being, crime, education, money, science, punishment, lie, politics, kindness, law, modern youth, power, humour, religion.

1.2. Methodology

A method of semantic differential, which according to many scholars, represents an effective measurement of attitudes in terms of its reliability and validity, was used in the present research for studying attitude toward the above mentioned 44 values (Petrenko, 1988 in Russian). Each value was evaluated with eleven pairs of adjectives on the seven-point bipolar semantic differential scale. For instance, these pairs are: pleasant – unpleasant, accurate – chaotic, smooth – rough, deep – superficial, reasonable – senseless, complicated – simple, clear – vague, beautiful – ugly, sincere – insincere, good – bad, distinct – obscure.

While using the seven-point bipolar semantic differential scale I followed the guidance of generally acknowledges opinions, that it is optimal and acceptable to the representatives of any culture and class. What regards adjectives, I use 11 respective scales of an evaluative factor. In this case, my choice was determined by the recently wide-spread definition according to which an attitude is an evaluating approach towards the environment. The above mentioned pairs were selected from the study conducted by the Department of Social Psychology at Ivane Javakhishvili State University of Tbilisi.

The subjects of the study, in order to avoid biased responses, were provided with the adjectives without observing any regularity, but with purposely swapped poles. Besides, to simplify their work, the seven-point scale was not presented with figures – instead I used a method, well-approrated in such cases: scaled positions – -3; + 3 were replaced by “absolutely”, -2; +2 – “on the average”, -1; +1 – “weakly”; 0 – “neutral”. Thus, on the example of only one value the questionnaire looked like this (see the **Figure**):

Figure: The questionnaire on one value sample

	Equality							
	Absolutely	on the Average	Weakly	Neutral	Weakly	on the Average	Absolutely	
Pleasant	-	-	-	-	-	-	-	Unpleasant
Chaotic	-	-	-	-	-	-	-	Accurate
Smooth	-	-	-	-	-	-	-	Rough
Superficial	-	-	-	-	-	-	-	Deep
Senseless	-	-	-	-	-	-	-	Reasonable
Simple	-	-	-	-	-	-	-	Complicated
Clear	-	-	-	-	-	-	-	Vague
Ugly	-	-	-	-	-	-	-	Beautiful
Sincere	-	-	-	-	-	-	-	Insincere
Bad	-	-	-	-	-	-	-	Good
Obscure	-	-	-	-	-	-	-	Distinct

1.3. The Subjects

Taking into consideration the widespread trends in research students were selected as subjects of the study. All in all 216 subjects – various graders from 32 different departments of different higher educational institutions of Tbilisi – participated in the study. I tried to involve every social layer. To be precise, subjects of my study were the students of the following higher educational institutions: Ivane Javakhishvili State University of Tbilisi, Sulokhan-Saba Orbeliani Tbilisi State Pedagogical University, Tbilisi Technical University, the Minor Academy, University of the Caucasus (*former Caucasus School of Business (CSB)*), European School of Management (ESM Tbilisi), German Language Institute of Economics and Law.

1.4. Description of the Research

Before starting the actual research, the subjects were given the following instruction: *“Please, follow the guidance of the given scale and by means of using the adjectives evaluate your attitude towards each value. By means of the scale you can express not only your attitude (e.g. pleasant – unpleasant) but give them your quantitative evaluation as well; for instance: the following words – “weakly”, “on the average”, “absolutely” located to the left of the word “neutral” belong to the adjectives located on the left column, while the “weakly”, “on the average” and “absolutely” located to the right of the word “neutral” belong to the right column of the adjectives. You may make only one mark along each subscale. The marking should be done according to your consideration: by putting a “plus” mark, colouring the box or circling. No subscale should be left out. It is important that you do not think too much and make your spontaneous choice according to your first impression. The research was used as a basis for my dissertation, which concerns the issue of attitude structures. To elaborate the issue, a great amount of material will be used and as a result we shall get a picture showing not only concrete attitudes of concrete people towards concrete values but general tendencies of the students from higher education institutions in Tbilisi as well; thus, you may freely express your attitudes. In this respect you are not requested to provide your personal information (name, surname, telephone number, address). To create a general picture, we only ask you to indicate your age, sex, education, profession and the date of completion in the end of the questionnaire”.* This kind of instructions was considered important in order to avoid inauthentic answers of the students that could be caused due to self-presentation and several other reasons as well. I also asked each respondent: *“if you, due to any possible reason, do not wish to participate in this research, please let us know straightaway and avoid inattentive filling in the questionnaire, for forceful, superficial or irresponsible attitude towards the issue will influence the final result of the research. Please, do not forget that the given research is a serious scientific study and we should try and avoid any possible case of inaccuracy. As a result of many studies as is the given one, many theses have been disclaimed or approved. Only imagine had the respondents not been responsible, sincere and sensitive enough in their approach, how scarce our knowledge would be, especially in the issues we are so fond of appealing to in our private talks or scientific works today. Thus, those who decide to complete the questionnaire may consider that they have made their though modest but still some contribution to the development of science”.* After this speech,

there were cases with several subjects refusing to participate in the research, while the attitude of the rest was absolutely serious.

Before starting completing the questionnaire, in order to make it clearer and more precise, I explained the way of answering questions and marking them on the example of one case. At the end of the instruction-giving, I once again specified all the details: *“Thank you for collaboration. If you have any questions or concerns please, feel free to refer to me. You can now start filling in the questionnaire”*. The subjects were not limited in time.

- **Results and Analysis**

Before elaborating, the data have been recoded – adjectives, which were given to the subject with changed poles, were recoded into one common direction.

We calculated the arithmetic means for each subject of adjective evaluation of every value and created a table which showed all 216 subjects and their averaged evaluations of 44 values.

Attitudes were arranged according to the decrease in their arithmetic means of evaluations as a result of which a significance of the values, suggested to the subjects, was represented (from the most significant toward the least significant). In the studied social group the hierarchy of the values was distributed in the following way (see **Table #1**).

Even at a glance, it can be easily observed that there are eternal values in the Georgian culture which never lose their significance even over the centuries. Friendship, devotion, kindness were the values eulogized by Shota Rustaveli in the 12th century; for the 21st century Georgian youth (here I should like to emphasize – for our future generation – the student youth) they still represent the most prioritized values. Besides, it is also interesting that one of the important values – education – occupied the third place. In the recent years orientation towards spiritual life has been noticed, which has been reflected in the results of the given research. For instance, such values as religion, honesty, inner harmony, tolerance occupied relatively high positions. I am not going to further enlarge on this issue, as it goes beyond the boundaries of my research.

Table #1: Hierarchy of the values

#	Values	M
1	Friendship	1.93
2	Devotion	1.92
3	Education	1.92
4	Kindness	1.89
5	Family Safety	1.75
6	Religion	1.75
7	Honesty	1.73
8	National Culture	1.69
9	Classical Culture	1.69
10	Inner Harmony	1.64
11	Tolerance	1.64
12	Homeland	1.55
13	Science	1.53
14	Freedom	1.47
15	Independence	1.46
16	Self-discipline	1.46
17	Peace in the World	1.43
18	Marriage	1.40
19	Beauty	1.39
20	Creativity	1.39
21	Moderation	1.34
22	I	1.24
23	Respect of Traditions	1.19
24	Courage	1.18
25	Equality	1.18
26	Humour	1.18
27	Social Justice	1.18
28	Social Order	1.17
29	Modesty	1.08
30	Law	1.07
31	Human Being	0.80
32	Wealth	0.67
33	Power	0.64
34	Money	0.48
35	Social Power	0.36
36	Modern Youth	0.22
37	Sexual Freedom	0.12
38	Curiosity	0.06
39	Punishment	-0.18
40	Politics	-0.47
41	Alcohol	-0.54
42	Intimidation	-0.96
43	Crime	-0.99
44	Lie	-1.27

The data received in the matrix of arithmetic means of evaluations has been processed with an Extraction Method: Principal Component Analysis (by means of computer software SPSS – Statistical Package for Social Sciences). 8 factors were singled out. Rotation Method was used: Varimax with Kaiser Normalization and as a result the values according to their correlation with the factors were distributed in the following way (see **Table #2**):

Table #2: The distribution of the values by the factors

Factor 1		Factor 2	
Values	Factor Score	Values	Factor Score
Kindness	0.77	Inner Harmony	0.67
Honesty	0.75	National Culture	0.64
Devotion	0.75	Freedom	0.63
Education	0.74	Social Order	0.56
Moderation	0.70	<i>Peace in the World</i>	<i>0.38</i>
Tolerance	0.69	<i>Equality</i>	<i>0.31</i>
Classical Culture	0.66		
Family Safety	0.66		
Courage	0.65		
Independence	0.65		
Friendship	0.63		
Self-discipline	0.63		
Marriage	0.62		
Homeland	0.60		
Religion	0.57		
Science	0.56		
Modesty	0.56		
Beauty	0.54		
Respect of Traditions	0.53		
Creativity	0.53		
Law	0.50		
I	0.47		
<i>Social Justice</i>	<i>0.46</i>		
<i>Peace in the World</i>	<i>0.34</i>		
<i>Equality</i>	<i>0.22</i>		

Factor 3**Factor 4**

Values	Factor Score	Values	Factor Score
Punishment	0.78	Wealth	0.66
Lie	0.60	Money	0.64
Intimidation	0.59	Sexual Freedom	0.63
Crime	0.56	Humour	0.52
Curiosity	0.53	<i>Alcohol</i>	<i>0.40</i>
Alcohol	0.40	<i>Curiosity</i>	<i>0.36</i>

Factor 5**Factor 6**

Values	Factor Score	Values	Factor Score
Modern Youth	0.75	Social Power	0.80
Human Being	0.63	Power	0.69
Politics	0.61	<i>Equality</i>	<i>0.25</i>

Factor 7**Factor 8**

Values	Factor Score	Values	Factor Score
Social Justice	0.56	Equality	0.63
Peace in the World	0.44		

Some values appeared to be in a significant correlation with a few factors which refer to the fact that they act as links among these factors. Namely, the values – curiosity and alcohol correlate with the third factor, though they are, to some extent, associated with the fourth factor as well, social justice – with the seventh factor and at the same time with the first factor. Peace in the world – with the seventh factor and at the same time with the first and second factors. Equality – with the eighth factor and also with the first, second and sixth factors (in Table #2 they are italicized).

The results of processing the data separately – in accordance with the gender and age groups, were diversified, which requires a further study and, no doubt, would be of great interest. But I did not go deep into the question as it goes beyond the limits of this study. In this case my interest was directed towards determining the attitude structures in general, instead of studying the concrete social group or differences among the systems of gender-age groups.

- **Conclusion:**

Thus, the results, achieved by the factor analysis have shown that the attitudes toward values have been grouped according to the factors and thus definite links between attitudes in each group have been established.

2. Attitude Change

I was faced with the necessity to start a further stage of research that would provide grounds to reveal the regularities of the inter-attitudinal links. Taking into consideration the conjecture that in a cluster attitudes occupy different positions from the central-peripheral viewpoint and that the central attitudes must be characterized by a high level of linkage, due to which they are the most stable to changes, i.e. the more central the attitude is the more stable it will be, I may formulate the following **hypothesis**: in the attitude structure the attitude change towards the central value must cause the attitude changes towards the rest of the values associated with the central one.

The following experiment has been carried out in order to check the hypothesis.

2.1. The Experiment Material

In the prior study it has been established that the attitudes toward 44 values were grouped in accordance with eight factors. The material for the experiment was the values correlated to the third factor, one of the reasons of the above was a great difference between the highest and lowest score indices correlated with the factor. During the research, conducted in order to confirm and establish the existence of inter-attitudinal links, of 44 values of the questionnaire, six values were singled out: punishment, lie, intimidation, crime, curiosity, alcohol (see **Table #3**).

Table #3: The values correlated with the third factor

Factor 3

Values	Factor Score
Punishment	0.78
Lie	0.60
Intimidation	0.59
Crime	0.56
Curiosity	0.53
Alcohol	0.40

This is a brief description of the formulated questionnaire: on the seven-point bipolar semantic differential scale each value was evaluated according to the eleven pairs of adjectives (pleasant – unpleasant, accurate – chaotic, smooth – rough, deep – superficial, reasonable – senseless, complicated – simple, clear – vague, beautiful – ugly, sincere – insincere, good – bad, distinct – obscure). In order to avoid any biased responses from the subjects they were offered the adjectives with the changed poles. The scaled positions – 3; + 3 were replaced by the evaluation “absolutely”, -2; +2 – “on the average”, -1; +1 – “weakly”; 0 – “neutral”.

2.2. The Subjects

Three groups of subjects were selected for research experiments: two experimental groups and one – a control group. All the three groups were formed of 241 students of various Tbilisi higher educational institutions. The selection principle of educational institutions was the same as in the previous research experiment – my wish was a maximum diversification within each group.

In the experimental groups I tried to change the attitudes toward various values. In one case – toward the value having the higher factor score (the most strongly correlated with the factor) – “punishment”, in the other case the effort was directed to the value having the lowest factor score – “alcohol”.

I conjectured that the attitude change toward punishment in the subjects would cause attitude changes toward other values associated with it, but the attitude change toward alcohol would not entail any attitude changes toward the rest of the values.

The experiments were carried out by the pre test and pro test method, by using two identical seven-point scales: I. one week prior to the experiment and II. right after the experiment.

The goal was to measure the attitude change toward values as a result of the influence of the experiment.

2.3.1. The Experiment Procedure in the First Group

The subjects were handed the questionnaire described above to fill in (see page 19). The whole procedure and the instruction were identical to those used in the prior research, with only one exception: at the end of the questionnaire one column was added for the subjects to put down their first name and surname.

Here is a brief description of the procedure: the subjects were given instructions as to how to fill in the questionnaire. They were to evaluate their attitude toward all the six values by using adjectives. The scale allowed them to express their attitude toward values as well as to give their quantitative evaluation. In order to make everything clear before filling in the questionnaire one sample was discussed. After that the students were given further instructions: to put only one

mark next to each subscale; not to miss a single subscale; not to think much, to put the mark spontaneously, according to the very first emotion. The subjects were provided with brief information about the goal of the research. It was noted that their participation was voluntary, the only requirement being their sincerity when filling in the questionnaire. If the students did not understand something they could turn to the supervisor of the experiment. The time for filling in the questionnaire was not limited.

The experiment subjects were selected on condition that in keeping with the demands of the experiment they all would have to go on with the work a week later.

On the whole one hundred subjects filled in the questionnaire. For each student, according to each value, mean was calculated for evaluations by adjectives. The most correlated value to the third factor was “punishment” (factor score – 0.78). The subjects were separately grouped according to their attitude to the value “punishment” – whether their attitude to “punishment” was positive or negative. Of one hundred subjects 91 evaluated it as a negative phenomenon and only 9 considered it a positive one. Proceeding from such a small number of positively disposed subjects only the subjects having a negative attitude were allowed to take part in the second stage of the experiment. I assumed that if I managed to change the subjects’ negative attitudes toward “punishment” and directed them in the direction of the positive attitude it would bring about an attitude change toward other values united in the same factor (lie, intimidation, crime, curiosity, alcohol). We used an approbated method in order to change the attitude: defending the position opposite to the person’s attitude.

91 subjects were divided into small discussion groups for the second stage of the experiment. Each group had a task to individually present arguments and assumptions in favour of the “punishment” value. The subjects were given about 30-40 minutes to develop, enlarge on and provide argumentation about the topic. The instruction they were to follow was as follows: *“You are requested to think hard and try to formulate what positive aspects punishment can have. It is desirable that you should prove your viewpoint by putting forward as many arguments and providing as many examples as possible”*.

From the very beginning I conjectured that it would be much more effective to change the attitude in a group rather than when working with the subjects individually. In the case of a group, apart from the fact that individuals themselves generated ideas, they also listened to the considerations of the others visually perceiving all the above since the presented arguments were

written on the chalkboard or flip chart. So, on the whole the procedure facilitated the attitude change.

After the subjects had presented about 25 ideas the experimenter finalized the procedure by summing up the arguments: *“Let’s sum up the results. Now, I’m going to read the arguments you have put forward to prove that punishment is necessary and consequently you have represented the positive aspects of punishment”*.

In the following examples several arguments connected with punishment have been presented: the existence of punishment will reduce the occurrence of crimes; the impunity syndrome will no longer be presented; people will feel more secure; the criminals will feel less conscience-stricken (when they are fully aware that they are serving a just sentence); for the victims the criminal’s punishment is a certain compensation, as he/she feels that justice has been rendered, etc.

It is noteworthy that the participants of the experiment fulfilled the task with great desire and concentration. There were cases when the subjects expressed their gratitude for having had a good time and having made them think about the issue they had never thought before. The subjects noted that they would readily take part in any similar experiments in the future for this will realize two goals – on the one hand it is interesting and pleasant for them and on the other hand, which is more significant, they are able to make their humble contribution to the progress of science.

The experiment was ended by filling in the questionnaire. The subjects were offered the questionnaire exactly similar to that they had filled in a week before. The procedure and the instructions were unchanged.

2.3.2. The Experiment Procedure in the Second Group

The students were given the questionnaire described above. The procedure and instructions were the same as in the first experimental group. One hundred subjects filled in the questionnaire. As in the previous experiment, here too, the arithmetic means of the evaluations by adjectives was calculated for each person according to each value. In the third factor the value, that had the lowest factor score was “alcohol” (factor score – 0.40).

I assumed that if the subjects, who had positive attitudes toward alcohol, changed their attitudes in the direction of positive to negative or, vice versa, those who had negative attitudes changed them to the positive, the subjects would not change their attitudes toward other values, since the value “alcohol” had a low factor score.

The subjects were united in separate groups according to the attitude they had expressed toward the value “alcohol”, i.e. – whether they considered “alcohol” a negative or a positive phenomenon. Of one hundred subjects 31 evaluated alcohol as positive and 69 – as negative. In this group, like in the first one, in order to cause the attitude change I used the method of defending the position opposite to person’s attitude.

At the second stage of the experiment the subjects were divided into small discussion groups according to the expressed attitudes toward alcohol. The subjects, who had positive attitudes to alcohol, were requested to individually put forward their arguments in order to emphasize the negative aspects of alcohol. The subjects, having a negative attitude, were to present arguments in favour of alcohol. They were allowed approximately 30-40 minutes to carry out the task. The subjects were given the instruction identical to that which had been used in the case of “punishment”. The instruction, given to the first group, was as follows: *“You are requested to think hard and try to formulate what positive aspects alcohol can have. It is desirable that you should prove your viewpoint by putting forward as many arguments and providing as many examples as possible”*. The instruction given to the second group ran as follows: *“You are requested to think hard and try to formulate what negative aspects alcohol can have. It is desirable that you should prove your viewpoint by putting forward as many arguments and providing as many examples as possible”*. The remaining part of the procedure was identical to the one carried out with the first group but for one exception: in the second case the experiment

was held with two types of groups separately (one group of subjects with a positive attitude toward alcohol and the other group of subjects – with a negative attitude).

Here are examples of subjects' opinions connected with alcohol:

- a) Alcohol puts a person in a good mood; Alcohol makes one bolder; It can be considered as an antiseptic; It is a good way to escape from reality; It is a good antidepressant; A drunk person can easily divulge secret information; Alcohol is a sort of relaxing agent; It is a means of getting warm; It is delicious; It kills pain; “A drunk man – a good man”; Inebriating alcohol increases a creative potential.
- b) Much drinking is dangerous for health; It reduces man's self-control; A drunk person is prone to provoke conflicts; The speed of reaction decreases; The probability of car accidents grows; One can become addicted to alcohol; One may have a bad hangover; One becomes indifferent to and inefficient in work; People become more aggressive; Crimes are more frequent, drunk person often talks too much which is boring.

The subjects participated in the experiment with great enthusiasm. The number of arguments increased by geometrical progression. They frequently expressed surprise as why they had never realized before that alcohol could have positive (in the other case – negative) qualities.

At the end of the procedure the experimenter summed up the results in each group: *“Let's sum up the results. Now, I'm going to read the arguments you have presented about the positive (negative) influence of alcohol and consequently you have represented the positive (negative) aspects of alcohol”*.

At the final stage I asked the subjects to once more fill in the questionnaires which were analogous to those they had filled in a week ago. The procedure and the instructions were unchanged.

2.3.3. The Experiment Procedure in the Third Group

The third group was a control group. The subjects of the third group as well as those of the experimental ones were students of various higher educational institutions of Tbilisi, Georgia, 50 students in all. The control group subjects, like the experiment participants, filled in the questionnaire within a one-week interval. Unlike the experimental groups, the control group subjects were not subjected to experimental influence, i.e. the attempt to change their attitudes was not carried out.

- The Achieved Results and Analysis

The data were processed by means of the computer software SPSS (Statistical Package for Social Sciences). The arithmetic means of attitudes toward the values were calculated for each group separately – before the experiment (1st measuring) and after the experiment (2nd measuring). Apart from that the independent samples t test was conducted for each group in order to compare the difference between arithmetic means of first and second measure.

The results for the first experimental group were the following (see **Table #4**).

Table #4 shows that the persuasive communication has worked successfully – the attitude toward punishment has changed considerably ($t=7.54$; $p=0.0$). As it was assumed, the change of the attitude toward punishment has brought about the change of attitudes toward other values as well. The only exceptions were the values “alcohol” and “curiosity”, toward which the attitude changes were not statistically significant. I should consider it as natural. As it has been mentioned above, both of the values, apart from the correlation with the third factor, also reveal connection with the fourth factor and function as a kind of link (*interlink*) between the factors, consequently it did not change. As regards the direction of attitude change, Table #4 shows that the attitude change toward punishment in the positive direction caused the attitude changes in the positive direction toward other values as well.

Table #4: The change of the attitude toward “punishment” in the positive direction in the subjects

Values	Measurement	M	t	p
Curiosity	I	0.67	-0.280	0.780
	II	0.70		
Alcohol	I	-0.16	0.817	0.416
	II	-0.25		
Intimidation	I	-1.47	-3.549	0.001
	II	-1.07		
Lie	I	-1.49	-4.070	0.000
	II	-1.10		
Punishment	I	-0.75	-7.540	0.000
	II	0.03		
Crime	I	-1.70	-3.655	0.000
	II	-1.26		

The following results have been achieved in the second experimental group (see **Table ##5, 6**).

Table #5: The change of the attitude toward “alcohol” in the negative direction in the subjects

Values	Measurement	M	t	p
Curiosity	I	0.28	1.618	0.116
	II	0.03		
Alcohol	I	1.15	3.159	0.004
	II	0.60		
Intimidation	I	-1.50	0.137	0.892
	II	-1.52		
Lie	I	-1.09	0.838	0.409
	II	-1.26		
Punishment	I	-0.74	-1.129	0.268
	II	-0.56		
Crime	I	-1.37	0.769	0.448
	II	-1.46		

Table #6: The change of the attitude toward “alcohol” in the positive direction in the subjects

Values	Measurement	M	t	p
Curiosity	I	0.36	-1.485	0.142
	II	0.57		
Alcohol	I	-1.13	-7.981	0.000
	II	0.04		
Intimidation	I	-1.69	-1.848	0.069
	II	-1.49		
Lie	I	-1.47	-3.121	0.003
	II	-1.10		
Punishment	I	-0.63	-0.176	0.861
	II	-0.61		
Crime	I	-1.64	-1.105	0.273
	II	-1.54		

The obtained results show that the group members have changed their attitude toward alcohol due to the experimenter’s influence, in one case – in the negative, in the other – in the positive direction. The attitudes have not changed toward other values in the first, or in the second case either but for one exception – the attitude change was registered toward a lie in one (second) case which, in my opinion, calls for a further research.

The following results have been achieved in the control group (see **Table #7**).

As the results show, the subjects who have not been subjected to experimental influence have not changed their attitudes toward values within a week. This fact confirms that the above described changes concerning values in two experimental groups must be ascribed to the experimental influence only.

Table #7: Control Group

Values	Measurement	M	t	p
Curiosity	I	0.58	1.422	0.161
	II	0.43		
Alcohol	I	-0.90	-0.497	0.621
	II	-0.82		
Intimidation	I	-1.56	-0.282	0.779
	II	-1.52		
Lie	I	-1.45	-1.391	0.170
	II	-1.26		
Punishment	I	-0.71	1.104	0.275
	II	-0.83		
Crime	I	-1.68	-1.206	0.234
	II	-1.55		

- **Conclusion:**

Thus, the data achieved as a result of the experiment and its analysis confirmed my hypothesis that the change of attitudes is governed by the following regularity: the change of attitude toward the central (core) value also causes the changes of attitudes toward other values connected with the central value.

C) General conclusions:

1. Values create systems. The existing attitudes towards values in interacting create structures;
2. In the inter-attitudinal structure central (core) and peripheral attitudes can be singled out;
3. The attitude change towards the central (core) value in the inter-attitudinal structure brings about the attitude changes towards the rest of the values associated with the central one;
4. The attitude change towards peripheral values in the inter-attitudinal structure does not cause the change of attitudes towards the rest of the values connected with the peripheral ones;
5. The orientation of the attitude change conditions the orientation of the changes of the rest of the attitudes.

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