

Water in an Era of Peace: Teaching for Regional Cooperation in a Multicultural Setting

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Abstract

For the last three years, a joint project sponsored by the Netherlands-Israel Research Program has been in progress. The study was primarily meant to evaluate an educational intervention aimed at changing prevailing attitudes of Palestinian and Israeli youth towards peace and regional collaboration in managing shared resources, such as water.

Based on a cognitive approach to attitudinal change, a curriculum on water issues was constructed and implemented on an experimental sample of junior high students in the Palestinian Authority and in Israel, as well as in several teacher training colleges in Israel.

The basic assumption of the project was that new persuasive information can support the construction of salient beliefs regarding peace and cooperation. The findings of our study indicated a significant growth in knowledge among all the study's participants. Despite this, changes in attitudes were small. Several explanations are offered to explain the lack of relationships between knowledge gains and attitude changes—some related to the cognitive mechanisms employed in processing major versus minor information, and some to asymmetries in processing information related to the dichotomies of war versus peace and profit versus loss. It became clear that attitudinal change could not be achieved through cognitive mechanisms alone. Other more effective factors should be incorporated in planning a curriculum that aims to educate people toward peaceful coexistence.

Résumé

Au cours des trois dernières années, un projet commun a été parrainé par le « Programme de recherche Pays-Bas – Israël ». Cette étude visait essentiellement à évaluer une intervention éducative axée sur le changement des attitudes prédominantes de la jeunesse palestinienne et israélienne à l'égard de la paix et de la collaboration régionale pour la gestion des ressources partagées, telles que l'eau.

Basé sur une approche cognitive du changement d'attitudes, un programme d'études sur les enjeux de l'eau a été conçu et mis en œuvre auprès d'un échantillon expérimental de col-légiens dans l'Autorité palestinienne et en Israël, de même que dans plusieurs collèges de formation des maîtres en Israël.

L'hypothèse de base du projet consistait en ce qu'une nouvelle information persuasive peut appuyer le développement de croyances importantes en ce qui concerne la paix et la coopération. Les conclusions de notre étude ont révélé une croissance notable de la connaissance chez tous les participants à l'étude. Malgré cela, les changements d'attitude étaient faibles. Diverses explications quant à l'absence de relations entre les gains de connaissance et les changements d'attitude sont présentées, dont certaines portant sur les mécanismes cognitifs employés pour traiter l'information majeure par opposition à l'information mineure et d'autres portant sur les asymétries du traitement de l'information au sujet des dichotomies de la guerre par opposition à la paix et du profit par opposition à la perte. Il est clairement apparu que le changement d'attitudes ne peut être atteint uniquement par des mécanismes cognitifs. D'autres facteurs plus affectifs doivent être incorporés dans la planification de programmes d'études visant à éduquer les gens vers une coexistence pacifique.

The present study began in 1995; most of the data was collected during 1997-1998. It expresses the hope that prevailed in the hearts of many Israelis and Palestinians regarding a peaceful solution to the dispute between Jews and Arabs living in the region. A collaboration between Palestinian and Israeli researchers sharing this hope was initiated in response to a call of the Netherlands-Israel Development Research Program (NIRP). The collaboration centered on studying possibilities for changing

the prevailing public attitudes toward peace and regional cooperation in one of the issues—water—that captures the essence of the conflict between groups competing for scarce resources.

Based on a cognitive approach to attitudinal change, a curriculum on water issues was developed and introduced into teacher colleges in Israel and into junior high schools in Israel and in the Palestinian Authority. This curriculum aimed to broaden the knowledge base of young Israelis and young Palestinians on topics related to water availability and management in the region and to affect the formation of desired beliefs and attitudes in favour of a peaceful solution to water scarcity and regional cooperation.

The study that accompanied the implementation of the program attempted to evaluate the impact of this curriculum. More specifically, its objectives were to delineate the existing knowledge and the attitudinal structures of young people in both countries as well as to find whether, and in what way, these have changed in the aftermath of a short period of the program's implementation. An additional theoretical aim was to search for evidence that supports cognitive approaches to attitudinal change, that is to estimate the impact of knowledge gains on the variability in attitude scores.

Theoretical Background

The theoretical framework serves to justify the rationale of the educational intervention used in this study. It is quite complicated as it employs theories related to attitudinal change as well as theories related to conflict termination. The approach common to both sets of theories is a cognitive one.

In elaborating on these theories, I consider the definition of attitudes and justify the one adopted in the present study in terms of its potential to enable attitudinal change via cognitive mechanisms. I then describe the characteristics of intergroup conflicts. Viewing conflict as cognitive schemes is congruent with the cognitive approach toward terminating conflict. From theoretical aspects of conflict theory, I turn to a concrete description of the Israeli-Palestinian conflict over water. Following Coser's (1956) distinction, this conflict includes elements of "realistic" as well as "non-realistic conflict." I discuss the role of religious and national ideologies in creating the non-realistic element of the Israeli-Palestinian conflict over water. The last section of the theoretical background presents the educational approach used in the study.

Attitudes, Beliefs, and the Relationship Between Them

Attitudes have long been an object of research, yet no agreed upon definition has been formulated (Olsen & Zanna, 1993). Some define attitudes primarily in terms of evaluation, for example, “a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (Eagley & Chaiken, 1992). Kruglanski (1989) defines attitudes as knowledge structures: “a subjective knowledge or belief, the content of which is affective or evaluative” (p. 112). Other definitions center more on the affective dimension: Bem (1970) argued that “attitudes are our likes and dislikes” (p. 14), while Greenwald (1989) defined attitudes as “the affect associated with a mental object” (p. 432). Lastly, in some cases, attitudes are regarded as a pre-disposition to act, for instance, the state of a person who has a favourable or unfavourable intention to act toward an object, person or idea (Triandis, 1991, p. 485), or as a learned disposition to consistently respond favourably or unfavourably toward an object (Ajzen & Fishbein, 1977, 1980; Fishbein & Ajzen, 1975).

We based our study broadly on Fishbein and Ajzen’s (1975) definition of attitudes and on their distinction between attitudes and beliefs. Whereas attitudes refer to a person’s favourable or unfavourable feelings toward an object (affect), beliefs link this object to specific attributes (knowledge). The more probable the association between the object and its attribute, the stronger the belief. This probability is, of course, experienced subjectively.

In terms of Fishbein and Ajzen’s theory, we attempted to change attitudes by forming or changing salient beliefs that are at the foundation of the relevant attitudes. Such modifications can occur by means of two mechanisms of information processing: persuasion and epistemic restructuring. Although rooted in two different traditions, the two mechanisms share many elements.

Persuasion is defined as a “conscious attempt to bring about a jointly developed mental state common to both source and receiver, through the use of symbolic cues” (Koballa, 1992). Persuasion is considered successful when a belief or an attitude change is grounded on consideration perceived as convincing by the recipient. Indoctrination, in contrast, is considered successful if the recipient accepts the belief or attitude transmitted without having good reasons for doing so (Green, 1971). Persuasion is not coercion as it leaves the subject free to accept or reject an appeal, and it is not propaganda as it is not conducted through mass media and does not use unethical techniques (half-truths, emotional appeal, etc.)

Two leading groups of scholars of persuasion processes are Petty and Cacioppo (1981, 1986), with their *elaboration likelihood model*, and

Chaiken (1987) and Chaiken, Lieberman, and Eagley (1989), with their *heuristic-systemic model*. In both models, individuals are assumed to process a message carefully when they are motivated and able to do so. Under these circumstances, two routes can be taken: the “central route,” also called “systemic persuasion,” and the “peripheral route,” also known as “heuristic processing.” In the first case, the argumental strength or relevance of the information in the message is the primary determinant of whether persuasion occurs and whether subsequent attitudinal change will last. In the second case, persuasion is determined by factors external to the message argument, such as a reward or punishment associated with the message, attractiveness of the source of information, and length of the message. The attitudinal change that results from peripheral or heuristic processing tends to be temporary or unstable.

Linking attitudinal change to belief formation via cognitive mechanisms of information processing enabled us to view attitudinal change through an alternative theory, the lay epistemics theory (Kruglanski, 1980a, b, 1989). Here, the process of belief/attitude formation or change is described as having two phases: the generation phase, when information is stored in knowledge structures, and the validation phase, when the individual tests the generated cognitive structures or their implications against the evidence he/she possesses. The more consistent the two are, the more confident the individual is in holding on to a belief. A central aspect of this process is the “motivational element that sets the process in motion, terminates it at a given time and provides the base for the individual’s cognitive and affective reactions to validating and/or invalidating information” (Kruglanski, 1989, p. 2). Two types of cognitive motivations are mentioned in this regard: cognitive motivation for “closure” versus cognitive motivation for “openness,” and cognitive motivation for “specific” solutions (convergent thinking) versus “non-specific” solutions.

If the process of generating and validating beliefs transpires quickly, and is guided by motivations for “closure” and “specificity,” people might hold a belief uncritically, without considering further alternatives. In such a case, a state of epistemic “freezing” occurs. When people are more open and less specific, the possibility arises of “unfreezing” the scheme and of generating alternative schemes.

Because the target of the present study were people’s beliefs and attitudes related to the Israeli-Palestinian water conflict, we will deal, in the following sections, with the theoretical background related to conflicts in general, especially intergroup conflicts and conflict termination. We will apply this theoretical framework to the conflict over water resources in the Middle East.

Conflict—Emergence, Development and Termination

Early on, George Simmel (1955) distinguished between conflict as a means to attain some end and conflicts that constitute an end in themselves. The sociologist Lewis Coser (1956) also described these two types, and termed them “realistic” versus “unrealistic conflicts.” Realistic conflicts stem from opposing interests between two parties that may maintain negative relationships of two types—dominance or competition—over rare or scarce resources such as land or water (Campbell, 1965; Levine & Campbell, 1972).

Unrealistic conflicts are mainly regarded as socio-psychological responses to frustration and fear and are often characterized by the projection of personal or intergroup problems on external factors. In such cases, the *perceived* conflict of interest is not necessarily a realistic one.

In many cases, realistic and unrealistic conflict intertwine; at that point, socio-psychological factors, such as fear and hostility, can escalate the level of conflict. Where conflict is between two groups, each of which with a distinct identity, ethnocentrism or “viewing one’s own group as the center of everything” (Sumner, 1966, p. 12-13) may also play a role.

At the basis of realistic conflict, there is a real conflict of interest that causes real threat. Real threat causes hostility to the source of threat as well as solidarity within the ingroup. This solidarity leads to own ingroup identity and ultimately an increase in ethnocentrism. Increased ethnocentrism can lead to escalation of the conflict. (Levine & Campbell, 1972, p. 29-42)

An alternative approach views conflict not through the web of socio-psychological processes but, rather, within an epistemic framework (Bar-Tal, Kruglanski, & Klar, 1989; Bar-Tal & Geva, 1985; Klar, Bar-Tal, & Kruglanski, 1988). Here, conflicts are regarded as cognitive schemes, mental representations of knowledge that affect the way new related information is assimilated and organized. The knowledge content typically contained in a conflict schema refers to the incompatibility of goals between parties.

In line with this notion of conflict, Bar-Tal and his colleagues (1989) offered two modes of conflict termination. The first, *conflict resolution* requires that the conflict scheme is replaced with an alternative scheme, for instance, compromise. This happens in the presence of motivation for cognitive openness, and when new information which highlights the situation from another angle and justifies abandonment of the conflict scheme for an alternative one becomes available. The other mode of conflict termination is *conflict dissolution*. This becomes possible when beliefs about the

existence of a conflict lose their place as the focus of one's attention and move into relative obscurity. In conflict dissolution, although no essential change occurs in the conflict beliefs themselves, these beliefs shift to marginal positions in the cognitive systems of both parties (Bar-Tal, 1986). It should be noted that although the discourse on conflict within the epistemic and the socio-psychological framework is different, the essence of the two types of conflict remains the same. Hence, according to both approaches, conflict termination seems to be dependent on processing new information, forming new beliefs, or changing existing conflict schema.

The Conflict Over Water Resources in the Middle East

Bearing in mind the distinction between realistic and unrealistic conflict, we will try to characterize conflicts over water resources in the Middle East (specifically, between Israelis and Palestinians).

Naff and Matson (1984) regard the water conflict in the Middle East as stemming from both objective and less objective conditions. Objective conditions include, for example, the arid or semi-arid climate in the region, high rates of population growth, agriculture-based economies of the parties and the interdependence of their water systems. The less objective conditions that affect the water conflict stem from the territorial nature of water, and is the result of the association of water with national identities.

This point needs further elaboration. By definition, territory is linked to national resources as well as to national identity. The following two definitions demonstrate this linkage. According to the first, territory is defined as "a portion of geographical space under the jurisdiction of certain people, including the resources within it such as groundwater, river water, and other natural resources which provide security and opportunity for human beings" (Gottman, 1973, p. 5).

The alternative definition of territory (Knight, 1982) mentions not only the real boundaries of territorial space and the opportunities it provides, but also the meaning human residents ascribe to it. The meaning which people attach to land or water is linked to their national identity and to their need for sovereignty over the territory (including its resources) in which they live. Sovereignty over land and resources then becomes an objective worthy of defense, and nationalism becomes a territorial ideology (Anderson, 1998).

Four national ideological movements have shaped the way that water is perceived by the people living in the Middle East: Zionism, pan-Arabism, individual Arab state nationalism, and Islam in its political format.

All of these ideologies assign a special role to water as a communal resource. The following descriptions of the way these ideologies perceive water are based on Copaken's (1996) study "The perception of water as part of territory in Israeli and Arab ideologies between 1964 and 1993."

As regards Zionism, water was conceived as a key to national rebirth and to the transformation of the typical lifestyle of Diaspora Jews, who would go from trade to industry and agriculture. Agriculture, then, was to be a crucial component in establishing a new society in Israel. Consequently, water became essential for the realization of the Zionist dream. The water policies devised in the early years of Israel's existence dictated investment in water development, and subsidization of water for agriculture and for national projects, what became known as "making the desert blossom."

These policies were questioned only in the 1980s, as a result of the financial crisis faced by Israel's agricultural settlements. By then, water had lost much of its near-metaphysical significance and was increasingly viewed as a natural resource to be handled responsibly, pragmatically and economically. In the mid 1990s, a policy of free trade in water was suggested. This policy aimed to establish, for example, an independent, joint Israeli-Arab institute that would manage the stock and flow of all water in a common pool as well as the free trade of water in the area (Eckstein, Zakai, Nachtom, & Fishelson, 1994). This policy was meant, in tandem, to transform the dispute over water from a territorial-ideological to an economic issue.

In the Arab States, two types of ideologies currently co-exist: religious and national. Islam as a religious ideology preceded nationalism chronologically, and will be discussed first.

In Islam, water is the source of life, a gift from God that belongs to all: "No persons may be denied water that is necessary for survival or livelihood. Water is a communal resource, it is not to be traded for commerce or speculation, nor can it be subject to pricing and taxation," (Naff, 1993, p. 121). "Islamic law speaks of man and mankind not of Moslems" (Capornera & Alheritiere, 1978, p. 598). According to the *Sharia*, land rights and water rights are linked, however, there is less emphasis in Islam on the purely territorial nature of water.

Pan-Arabism, the first of the Arab political ideologies, arose to give expression to feelings of unity in response to the random colonial division of the Arab world. It reached its peak in the late 19th and early the 20th century with the revival of the Arabic language, literature, and growing hostility toward the Ottoman Empire, Europe, and the west as a whole.

According to pan-Arabism, all people who speak Arabic are one nation, and all natural resources, including water, belong to a single greater Arab nation.

Arab nationalism (in its various local forms) stems from the diverse histories, experiences, and political, social and economical conditions of the various Arab states. The interests of the different states are perceived as prior to those of the greater Arab nation as a whole. Arab nationalism views land and water as state-owned resources, access to which should be controlled by the individual Arab states.

Today, Arab nationalism is the prevalent ideology, at least on the international level. However, when dealing with water on a domestic level, the Arabs still regard it as a communal good, allocated freely, mainly for low-value uses such as agriculture, and unrealistically priced. This attitude toward water reflects the agricultural and religious cultures of the majority of the Arab countries.

According to Copaken (1996), the trend among Arabs has been to move away from perceiving water as a pan-Arab resource (dating from the 1960s) to perceiving it as a national resource (as of the 1980s). Water's territorial characteristic has inspired nations to claim full sovereignty over it despite the fact that its mobility makes this an almost impossible task. According to Copaken, the Israeli government recognized the futility of attempting to attain absolute sovereignty over water, only in the 1990s. This realization has yet to spread to the Arab states, meaning that the perception of water as a regional, rather than communal resource, awaits integration into their policy-making.

The Conflict over Water Resources Between Israel and the Palestinian Authority

The same mixture of objective (realistic) conditions and less objective (unrealistic) perception is also relevant to the case of the Palestinian—Israeli water conflict. Realistic features of the conflict are, for instance, the fact that 75% of the water that Israel consumes comes from the mountain aquifer that is replenished from rain that falls in Palestinian territory, and the asymmetry in the per capita consumption of water: Israelis consume three times more water than Palestinians do. The fact that the Palestinians reside and establish their industrial areas in the upper aquifer region causes another real problem. Not only is the availability of water threatened, but also the quality of the ground water.

Turning to the unrealistic features of the water conflict between Israelis and Palestinians, these stem from the territorial nature of water and from

the national ideologies attached to it. For instance, Israelis are reluctant to give up the Golan Heights and to allow the Syrians access to Lake Kinneret. Both sites symbolize control over water resources and are mythically linked to Israelis' beliefs of security. On the other hand, Palestinian leaders and Palestinian professional experts regard water as an integral part of the land. They have expressed a strong commitment to retain full control over water which they see as part of their inherent land rights. They demand that Israel stop the exploitation of Palestinian water sources by Israeli settlements, shut down the wells that have been drilled in areas that were part of the West Bank, and stop use of the mountain aquifer. The Palestinian common view is staunchly nationalistic. They reject both the pan-Arabist and Islamic views as well as any option leading to regional cooperation.

The Educational Intervention

Early in the study, we found that although participants in the program held strong beliefs regarding the water dispute, these were not backed by evidence. Thus, the first step in our intervention was to select and provide new information related to the water issue. We did so to stimulate the systematic processing of this information while focusing on the inherent dilemmas and on evaluating alternative solutions to the water conflict, with the aim of eventually building a new set of beliefs that support attitudes in favour of peace and cooperation.

Two curricula that offered relevant information on the water conflict in the Middle East, and especially on the conflict between Israelis and Palestinians, were developed separately in Israel and in the Palestinian Authority. Although not identical, the two curricula centered around similar topics: water as a global resource; water sources and systems in the region; groundwater, main aquifers, technologies for using groundwater, water uses and users; factors affecting availability and consumption of water; water balance of the countries in the region; technological, behavioural, economic, legal and political solutions to water scarcity.

The Israeli curriculum was more experiential and contained field trips, simulation games and discussions. The Palestinian program was at its early stages more frontal and was based mainly on providing written and graphic representations followed by class discussions. Over time additional elements such as laboratory work, group discussion and project work were introduced. The idea of project work was transferred to the Israeli program thus mutual influence could be perceived in the instruction that took place in both countries.

The implementation of the two curricula was followed by an evaluation study. The main aim of this study was to assess the effect of the educational programs on participants' initial knowledge base and to estimate the impact of this knowledge gain on attitudes. Five research questions were asked:

- What are the attitudes behind the set of beliefs participants hold in regard to the water problem in the region?
- How did these attitudes change as a result of exposure to the educational program?
- What was the change in the knowledge base of the participants in issues related to water management in the region?
- Are the changes in attitudes and knowledge related to the ethnic origin of the participants?
- Was there a relation between the changes that occurred in the knowledge base and changes in attitudes?

To some extent, answers to these questions were also meant to validate the cognitive approaches to attitudinal change employed in this study.

Method

The study, with planning, piloting and main study phases, lasted three years, from 1995-1998. In the main study phase (1997-1998) the curriculum was taught to student-teachers from six Israeli teacher colleges—three Jewish and three Arabic—and later to their junior high school pupils (19 classes altogether). Complete Israeli data (responses to pre- and post-questionnaires) were obtained from 111 Israeli student-teachers (48 Jewish and 63 Arabic) and 508 pupils (329 Jewish and 179 Arabic). In the Palestinian Authority, the curriculum was taught by the research team in three schools in the Nablus area. Complete data was obtained from 106 Palestinian junior high students.

The belief questionnaires developed jointly by the teams of Israeli and Palestinian researchers contained a set of statements transformed into five-response Likert-type items. Figure 1 provides several examples.

All of these items touched on the salient beliefs related to the target attitudes in this study—peace, cooperation and faith in technological solutions; however, only 23 of them appeared in both countries' questionnaires. Thus, a comparable analysis regarding beliefs could be performed only on the responses to this restricted set of items.

<p>Comment: For each sentence mark the most fitting answer describing your opinion.</p> <p>There are no right answers. This is not a test.</p>	strongly agree	agree	neutral	disagree	strongly disagree
Rainfall that penetrates the land in one country and flows or is pumped and used in a neighbouring country belongs to both countries equally.					
For the sake of peace, the gap in water consumption between Israel and Palestine should be closed by reducing Israel's consumption.					

Figure 1. Sample Likert-type belief questions.

The knowledge questionnaires reflected, to a large extent, the contents of each respective curriculum (Israeli/Palestinian) and the nature of the instruction carried out in each country. Figure 2 provides, for example: two items related to topics taught in the Israel curriculum.

Because neither the curricula nor instruction were identical, responses to the knowledge questionnaires were not comparable.

The analyses performed on the data gathered attempted to identify the structure of those changes that had occurred in the knowledge-base and in the beliefs/ attitudes of subjects belonging to the different ethnic groups and to respond to the more theoretical question regarding the relationship

<ul style="list-style-type: none"> Which body of water from those listed here supplies most of the drinking water of the highest quality? <ul style="list-style-type: none"> The Sea of Galilee The mountain aquifer The coastal aquifer The Arava aquifer List water resources in the Middle East which are in conflict and name the countries involved. <table border="0" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th style="text-align: left; width: 50%;"><u>Water Resources in Conflict</u></th> <th style="text-align: left; width: 50%;"><u>Countries Involved</u></th> </tr> </thead> <tbody> <tr> <td>1. _____</td> <td>_____</td> </tr> <tr> <td>2. _____</td> <td>_____</td> </tr> <tr> <td>3. _____</td> <td>_____</td> </tr> <tr> <td>4. _____</td> <td>_____</td> </tr> </tbody> </table> 	<u>Water Resources in Conflict</u>	<u>Countries Involved</u>	1. _____	_____	2. _____	_____	3. _____	_____	4. _____	_____
<u>Water Resources in Conflict</u>	<u>Countries Involved</u>									
1. _____	_____									
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Figure 2. Sample multiple-choice and open knowledge questions.

between knowledge gains and changes in attitude. To achieve these aims, several statistical procedures were applied.

Factor analyses to delineate initial and later attitudinal structures were carried out separately on responses to the beliefs questionnaire at the beginning of the program and at its end. These structures were then used in the construction of indices representing attitudes. Changes in these attitudinal indices were determined by using the *t*-test procedure for dependent samples. This analysis was carried out on the responses of the different ethnic groups as well.

To answer the theoretical questions concerning the relationship between knowledge gains and the change in attitudes, other methods were applied. Among them, Pearson correlation coefficients between the knowledge gain scores and the post-attitudinal scores were computed, and multiple regression analyses were carried out on post-attitudes' scores, with prior attitude scores and knowledge gain scores as predictors of the variance in them (post-attitudinal scores). Since comparable data was obtained in this study from the responses of the younger participants, only to 23 common beliefs items, with no common knowledge items. (See the following paper in this *Volume*.) The majority of the analyses described above were carried out solely on data obtained from the Israeli student-teacher's sample and the following results relate only to this sample.

Results

My focus in this section is on changes in attitudes, knowledge gains, and the effect of knowledge gains in attitudes. I present only the results obtained from the adult Israeli sample as they were more significant and profound than those of the younger participants.

Attitudes of Israeli Student-Teachers Related to Water Management and the Resultant Changes

Exploratory factor analysis with oblique rotation, carried out separately on Israeli student-teachers' responses to the beliefs questionnaire at the beginning of the program and at its end, yielded similar factors. This led to the decision to merge the two small data sets into one file and to re-run the analysis. This step solved, to some extent, the problems raised by the small sample size. Three factors, all with Eigen values of at least .35, were extracted (the Kaiser, Meyer, Olkin index was 0.47). These factors served for the construction of three indices. The first deals with attitudes

in favour of *peace* (9 items), the second deals with attitudes in favour of *separatism* (opposite of cooperation – 7 items), and the third deals with beliefs in the efficiency of technological and other *solutions* to the water problem (9 items). These indices explained 11.4%, 8.2%, and 7.4% of the variance in student-teacher responses respectively. Table 1 presents the items of the three indices and their loadings.

The same structures served to describe the attitudes of student-teachers at the beginning of the program and at its end. The reliability of these indices was confirmed using Cronbach's α coefficient and was found satisfactory (peace $\alpha = .77, .78$; separatism $\alpha = .76, .60$; solution $\alpha = .67, .64$). Mean scores at the beginning and at the end of the program of the entire Israeli sample (Table 2) and for each ethnic group separately (Tables 3 and 4) show a similar picture.

The major change in both ethnic groups was an increase in the readiness to give up water and to make compromises for the sake of peace. Less significant was the decrease in separatist views (increase in favour of cooperation). These changes were in the desired direction of our program. No change occurred in respondents' faith in the power of technological and behavioural solutions to solve the water problem.

In general, the mean scores for student-teachers on the attitudinal scales were above the median, ranging from 3.1 to 3.8 on a 1-5 scale. The opening and closing positions of the Israeli-Arab student-teachers on the peace scale and on the separation scale were higher than those of the Israeli Jewish student-teachers (the former were more in favour of peace and more ethnocentric), and they did change more (toward peace and against separatism) than did the Jewish students on these scales. The opening and closing positions on the scale of faith in technological solutions of the Jewish student-teachers were higher than those for the Arab student-teachers. In both groups, the changes on this scale were small.

The analysis of the changes in the responses from the two Israeli ethnic groups to the attitudinal belief items revealed similar patterns. On the one hand, there appeared a weakening of territorial claims over rain water (i.e., rain falling in the Palestinian territory belongs only to the Palestinians, and vice-versa), and a weakening of agreement with an item stating that better quality water should not be relinquished or traded. On the other hand, both Israeli Jewish student-teachers and Israeli Arab student-teachers are more reluctant to relinquish water from the mountain aquifer. They both readily agree that vital pumping areas in Israel should not be transferred to the Palestinians. These responses reveal that in contrast to the rhetoric and to their identification with Palestinians, Arab student-teachers in Israel still share some common interests, at least in regard to water resources, with Jewish Israelis, a sign of their complex and delicate national identity.

Item ID	Content	Loading
Factor I:		
19	For the sake of peace, developing alternative sources of water will help close this gap.	0.65
18	For the sake of peace, the gap in water consumption between Israel and Palestine should be closed by reducing Israeli consumption.	0.63
17	Water consumption in Israel is twice that of the West Bank; for the sake of peace, this gap should be closed.	0.61
45	In order to implement the peace process we should share the water sources available to us.	0.61
13	For the sake of peace, allocation of water to tourism should be curtailed.	0.57
14	For the sake of peace, sectors consuming great amount of water should be curtailed.	0.55
43	Finding a solution to the water problem is very important to the peace process negotiations.	0.41
44	Countries whose economy is based mainly on agriculture should have priority in regional water distribution.	0.38
31	Israel should use desalinated water as an alternative to the mountain aquifer water.	0.35
Factor II		
46	Water in the Palestinian territories is theirs only and no other has the right whatsoever to use it.	0.71
47	Water in Israeli territories is theirs only and no other has the right whatsoever to use it.	0.71
65	Israeli water is an essential requirement and social treasure which should not be traded for any price.	0.67
32	Preferably every country should manage its own sources of water.	0.50
64	Palestinian water is an essential requirement and social treasure which should not be traded for any price.	0.53
34	Every country/authority should treat its own drainage water.	0.44
7	Water belongs to the country where it is pumped or produced.	0.42
Factor III:		
55	Regional water research development projects, such as new technological solutions and their application will solve water problems in the region and enhance peace.	0.57
27	To what extent do you agree to allocate water according to the future needs in each country?	0.57
67	Rainwater which falls and flows on the West Bank should be distributed between Palestinians and Israelis according to the international legal judging.	0.53
54	Rainwater which falls and flows on the West Bank should be distributed between Palestinians and Israelis according to the extent of its use in agriculture on both sides.	0.51
30	To what extent do you agree to allocate water according to international laws?	0.50
25	To what extent do you agree to allocate water according to annual rainfall in each country?	0.43
39	Water is important to the economic development of a country.	0.42
29	To what extent do you agree to allocate water according to agricultural needs in each country?	0.41
57	Treated waste water should be considered as an important supplementary water resource.	0.37

Table 1. Results of the factor analysis (P.C., Oblique rotation) for three factors on combined pre- and post-Israeli student-teachers' responses.

Index Name	N	Pre-Attitudinal	Post-Attitudinal	t
Attitudes towards peace (For the sake of peace)	111	3.3 (.6)	3.6 (.5)	-5.8***
Separation-cooperation	111	3.2 (.7)	3.0 (.6)	3.7***
Solutions	111	3.6 (.5)	3.7 (.5)	-.80

*** $p \leq .001$

Table 2. Pre- and post-attitudinal mean scores of Israeli student-teachers (entire sample).

Index Name	N	Pre-Attitudinal	Post-Attitudinal	t
Attitudes towards peace (For the sake of peace)	48	3.1 (.5)	3.4 (.5)	-3.3*
Separation-cooperation	48	3.1 (.6)	2.9 (.6)	2.1*
Solutions	48	3.8 (.5)	3.9 (.5)	-.69

* $p \leq .05$

Table 3. Pre- and post-attitudinal mean scores of Israeli student-teachers (Jewish student-teachers).

Index Name	N	Pre-Attitudinal	Post-Attitudinal	t
Attitudes towards peace (For the sake of peace)	63	3.5 (.5)	3.8 (.5)	-4.8**
Separation-cooperation	63	3.5 (.7)	3.1 (.6)	3.0*
Solutions	63	3.5 (.5)	3.5 (.4)	-.49

* $p \leq .05$ ** $p \leq .01$

Table 4. Pre- and post-attitudinal mean scores of Israeli student-teachers (Arab student-teachers).

Changes that Occurred in Israeli Student-Teachers' Knowledge on Water Management Issues

The knowledge questionnaires addressed to student-teachers assessed their knowledge and understanding of the main topics covered by the curriculum.

The questionnaire was administered to 120 Israeli student-teachers and teachers, 50 Jewish, and 70 Arabs. Full pre- and post-testing data were obtained from only 96 subjects.

Even though the issue of water scarcity in our region is extensively mentioned in the media and in schools, the responses of the student-teachers and of the practicing teachers to the knowledge questionnaire at the beginning of the program revealed an astonishing lack of knowledge. Table 5 presents initial and post-mean scores of the entire Israeli sample, and of Jewish and Arab student-teachers separately.

Jewish Israeli student-teachers initially scored a little higher than did Arab student-teachers and the former's scores improved dramatically during the learning and teaching period. Arab student-teachers knew less at the beginning and did not progress as much as the Jewish student-teachers as a consequence of the program.

Sample	No. of Respondents	Pre-Mean Scores	Post-Mean Scores	Gap	t-Test
Entire Israeli Sample	96	20 (9)	53 (19)	33 (16)	-20.5***
Jewish	33	25 (11)	73 (16)	48 (15)	-18.8***
Arabs	63	17 (8)	42 (9)	25 (9)	-22.3***

*** $p \leq .001$

Table 5. Comparison between pre- and post-knowledge mean scores of Israeli student-teachers' paired *t*-test results.

The Effect of Knowledge Gains on Attitudes (Student-Teachers Israeli sample)

Changes in knowledge were expressed as "gain scores." The relationship between knowledge gain scores and post-attitudinal scores was estimated using Pearson correlation coefficients. Table 6 presents these correlation coefficients for the adult group.

A significant negative association appears between knowledge gains and attitudes in favour of peace. However, a positive association appears between knowledge gains and beliefs in a technological solutions. The negative correlation between knowledge gain scores and final scores on the

Index Name	Student-Teachers N=96		
	Entire Sample N=96	Jews N=33	Arabs N=63
Attitudes toward peace	-0.32**	-0.23	-0.10
Separation	-0.09	0.29	.04
Solutions	0.4***	0.42*	-0.02

** $p \leq .01$ *** $p \leq .001$

Table 6. Pearson correlation coefficient between knowledge gain scores and post-attitude scores of Israeli student-teachers.

peace scale were found to be higher in the Jewish student-teachers' group. Since this is also the group with the highest knowledge gain score, it is clear that gain in knowledge does not necessarily lead to attitudes in favour of peace. Other factors probably affective, value-laden or ideological, can intervene and prevent the assumed effects of the knowledge gains. These factors may have also included methodologically uncontrolled public events which occurred during the pre- and post-test interval. Future work should clarify this point through use of a control group.

In a series of multiple regression analyses on post-attitudinal scores, using pre-attitudinal scores and knowledge gain scores as predictors, it was found that these two variables explain one-third of the variance in student-teacher responses on the peace scale and on the "solutions" scale. However, knowledge gain scores contribute more to the explanation of variance in the "solution" score (about 33% of the explained variance) and does not contribute significantly to the explanation of the variance in the peace scores. The results are shown in Table 7.

Discussion

In this section I shall focus on three unexpected findings revealed in this study and that deserve more attention. Two of these findings relate to the role of knowledge in changing attitudes. The first is the negative correlation between knowledge gain scores and post-attitudinal scores on the peace index, primarily for of the adult Jewish Israeli group. The second is the small and insignificant contribution of knowledge gain scores in explaining the variability in post-attitudinal scores, both on the peace index and on the separation index, while in the case of the solution index, knowledge gain scores seem to explain one-third of the explained variance in the post-

Regression Variables	Student-Teachers (N=96)	
	R ² Explained Variance	RSQCH Change in Explained Variance
Dependent Variance- Post-score on Peace		
Pre-scores - Peace	0.33	0.33
Knowledge gain-scores	0.36	0.02
Dependent Variance- Post-score on Separation		
Pre-scores - Separation	0.11	0.11
Knowledge gain-scores	0.12	0.01
Dependent Variance- Post-score on Solutions		
Pre-scores - Solutions	0.23	0.23
Knowledge gain-scores	0.33	0.10

Table 7. Results of regression analyses on post-attitudinal scores with pre-attitudinal scores and knowledge gain scores as predictors (Israeli student-teachers).

attitudinal scores. The third unexpected finding is the similarity in the results of Jewish Israelis and Arab Israelis in regard to their common interest in maintaining control over water resources in Israeli territory.

One way to explain the lack of relationship, or even negative association, between knowledge gain scores and attitudes toward peace, and the minor power of knowledge gain scores in explaining variability in peace scores and separation scores, rests on cognitive mechanism of forming beliefs. This process as discussed in the theoretical part consists of two stages: first, relevant information is processed; next, this information is validated in light of the individual's already existing beliefs and values. The processes that take place in these two stages depend not only on the individual's cognitive repertoire (beliefs, values) but also on the nature of the information received. Here a distinction between two types of information is made: (a) major information, which is salient, abundant, clear, and unambiguous, and (b) complex, highly ambiguous information, which is open to many interpretations. The more unambiguous the information, the more the individuals tend to accept it as it is, and absorb the information into existing beliefs or even adjusting the latter in order to adapt it to the new information. When the information is more ambiguous, individuals

will not necessarily encode all of it. Instead, they may assimilate selectively those parts that are congruent with their existing beliefs and values; thus their previous beliefs are more likely to remain entrenched (Shamir & Shamir, 1996).

In the case of our study, information provided in the course of the experiment, although clear and relevant to the peace process, represented a complicated situation and a variety of points of view. It was met with already existing beliefs regarding this issue. A recent study (Shamir & Shamir, 1996) points to conflicting values in the minds of the Israeli public. On the one hand, the peace values are central, but no less crucial to Israelis are values associated with security. The memory of the Holocaust and the ongoing state of war in Israel induce a constant sense of threat and pre-occupation with security. The public's attitude toward peace is always mixed with feelings of fear alongside feelings of hope, which creates substantial ambivalence in regard to the peace process (Bar-Tal, 1991).

When peace and security are closely intertwined in people's thoughts, they will be reluctant to go for peace. In a study carried out on the civil and political attitudes of Israeli Jewish youngsters (Binyamini, 1994), high school pupils were found to be even more ambivalent toward peace than adults (Arian, 1994). The majority of youngsters expressed reservations about withdrawing from the Golan Heights, fulfilling the conditions of the Oslo Agreement, trusting an Israeli Arab, etc. Even though these youngsters showed a general readiness for compromise and territorial concessions, on specific issues, like water resources, they were less flexible. Binyamini relates this finding to the security values and beliefs imprinted on the collective consciousness of Israeli society. Higher levels of reluctance vis-à-vis peace were found according to Binyamini among youngsters belonging to low socio-economic groups and from religious backgrounds. As a result, with regard to attitudes that imply risk-taking, such as taking action for peace or moving from separation policy to cooperative policy, the information provided was not very effective.

Other explanations come from psycho-political studies. Here findings point to an asymmetry in information processing related to peace versus war. Bar-Tal (1991) explains this asymmetry by referring to the fact that information on the dangers of war is perceived with greater certainty than is information on the chances for peace. He also states that information about threats is relatively unambiguous and that Israelis are more attentive to such information. Maoz and Shayer (1987) found that peace-related arguments tend to be structured in a more complex way than are war-related arguments, making the former less acceptable to the audience.

Alternatively Lee (1995) mentions an asymmetry in the ways people cope with changes for profit or loss. He uses the term 'loss aversion' to describe the tendency to avoid assured loss, as opposed to people's behavior when profit is considered. When profit is considered, people are less risk-taking, being willing to close on a small but sure profit. However, when loss is considered, people are not willing to close on a probable loss and tend to take more risks hoping to avoid such loss. For these people, taking the chance that conditions might change and that they might not be required to make sacrifices in the future is preferable. Such was the case when the Israelis preferred not to implement the Oslo Agreement and, hence, not to give up any occupied territory or water rights for the sake of peace.

Finally, we acknowledge that public events that were not controlled in the research design may also have had some bearing on the results.

The other finding we want to emphasize is the similarity found between the beliefs and attitudes of Jewish and Arab Israeli pupils. This similarity is even more remarkable when it is compared with the views of the Palestinians pupils. It seems that Jewish and Arab Israelis have shared interests, especially concerning the giving up of territory with essential water sources or the return of the mountain aquifer to the Palestinians.

This finding erodes an Israeli assumption that the Arabs in Israel are going through a process of "Palestinization." Arab citizens in Israel are caught in a very delicate position: On the one hand, they tend to accept their status as a minority group in Israel, giving up political aspirations and concentrating only on private, civic rights and family. On the other hand, their sense of national identity as Muslims and as Palestinians has been growing. When this tendency is extreme, it results in full identification with the Palestinian cause, but it also finds expression in a more balanced position in which solidarity with Palestinian political aspirations does not contradict loyalty with Israel. Claims have been made that a new type of Arab identity is developing in Israel – bilingual, and bicultural, it ties its future with the Israeli state (Samocha, 1987). The signs of identification with Israeli interests as observed in this study support this perception.

Reflections and Conclusions Regarding the Practical Applicability of Research Results

These reflections are written as a new government is being formed in Israel and the regional peace process seems to be back on the agenda. Whatever the leaders in question will decide will reflect prevailing public opinion. The present study reports an attempt to effect a change in public

opinion in favour of peaceful coexistence. The view which informed this project regards the public as rational in the sense that its aggregated political opinions are meaningful, stable and coherent, based on underlying values and available information (Page & Shapiro, 1992).

In the project reported, a curriculum that provided essential information was offered. We were amazed to find how little information young Israeli citizens possess in regard to water—one of the major issues at the heart of the conflict between Israelis, Palestinians and the other neighboring countries. Withdrawal from the Golan Heights, where most of the water resources of the Jordan River are located, allowing the Jordanians to pump water from the Sea of Galilee, sharing the mountain aquifer with the Palestinians, and withdrawal from the critical zones above these aquifers, are all political decisions that require public support. When people lack information and knowledge about the meaning of such steps, they tend to build their opinions on ideological, value-laden world views that are ruled by emotion rather than by reason. The findings of our study that indicated a significant growth in knowledge among all the participants and their continuing awareness and active interest in water issues long after the conclusion of the educational intervention, are among the major successes of our program. Although changes in attitudes following this growth in knowledge were small, they touched on a crucial issue—territorial perceptions. The reduction in viewing water as a territorial asset and the rise in support for cooperation and joint water management that occurred in all the participating ethnic and age groups point to a decline in general separatist views on both sides. Knowledge gains were also found to be quite effective in regard to building faith in technological and behavioural solutions to water scarcity.

In spite of the above encouraging signs of effectiveness of our program, it became clear to us that attitudinal change cannot be achieved through work on cognitive mechanisms alone. Other more affective factors, such as cognitive motivations (Kruglanski, 1989), emotional factors like trust and fear (Singer, 1958; Deutsch, 1973), and existing values (Rokeach, 1973; Schwarz, Roccas, & Sagiv, 1992; Homer & Kahle, 1988; Tetlock, 1986; Billig, Condor, Gane, Middleton, & Radley, 1988) are very important elements in shaping beliefs and attitudes. These elements must be incorporated in an attempt to educate and change public opinion and behavior if we are to reach our aim of peaceful coexistence in the region.

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Notes on Contributor

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References

- Ajzen, I. & Fishbein, M. (1977). Attitude-behavior: A theoretical analysis and review of empirical research. *Psychological Bulletin*, 84, 888-918.
- Ajzen, I. & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice Hall.
- Anderson, J. (1998). Nationalist ideology and territory. In R.J. Johnston, D.B. Knight, & E. Kofman (Eds.), *Nationalism, self-determination and political geography* (pp. 18-25). London: Croom Helm.
- Arian, A. (1994). *Israel security and the peace process*. Public opinion in 1994, Memo 43. Tel Aviv: Center for Strategic Research, Tel Aviv University (Hebrew).
- Bar-Tal, D. (1986). The Masada syndrome: A case of central beliefs. In N. Milgram (Ed.), *Psychological stress and coping in time of war* (pp. 32-51). New York: Bruner & Mazel.
- Bar-Tal, D. (1991). Content and origins of Israelis' belief about security. *International Journal of Group Tensions*, 21(3), 237-259.
- Bar-Tal, D. & Geva, N. (1985). A cognitive basis for intergroup conflict. In W. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (2nd ed.) (pp. 118-133). Chicago: Nelson Hall.
- Bar-Tal, D., Kruglanski, A.W., & Klar, Y. (1989). Conflict termination: An epistemological analysis of international cases. *Political Psychology*, 10(2), 233-253.
- Bem, D.J. (1970). *Beliefs, attitudes and human affairs*. Belmont, CA: Books. Co.
- Billig, M., Condor, S., Edwards, D., Gane, M., Middleton, D., & Radley, A. (Eds.). (1998). *Ideological dilemmas: A social psychology of everyday thinking*. London: Sage.
- Binyamini, K. (1994). *Civil and political attitudes of Jewish youngsters in Israel – 1994 Research Report*. The NCJW Research Institute for Innovation in Education, School of Education, The Hebrew University of Jerusalem (Hebrew).
- Campbell, D. (1965). Ethnocentric and other altruistic motives. In D. Levine (Ed.), *Nebraska symposium on motivation, Vol. 13*. Lincoln: University of Nebraska Press.

- Capornera, D., & Alheritiere, D. (1978). Principles for international groundwater law. *Natural Resources Journal*, 18, 597.
- Chaiken, S. (1987). The heuristic model of persuasion. In M.P. Zana, J.M. Olson, & C.P. Herman (Eds.), *Social influence: The Ontario symposium* (Vol. 5, pp. 3-39). Hillsdale, NJ: Erlbaum.
- Chaiken, S., Liberman, A., & Eagley, A.H. (1989). Heuristic and systematic processing within and beyond persuasion context. In J.S. Uleman & J.A. Bargh (Eds.), *Unintended thought* (pp. 212-252). NY: Guilford.
- Copaken, N.S. (1996). *The perception of water as part of territories in Israeli and Arab ideologies between 1964 and 1993*. Working Paper, 8. The Jewish-Arab Center, The Gustav Heinemann Institute of Middle Eastern Studies, University of Haifa.
- Coser, L. (1956). *Functions of social conflict*. NY: Free Press.
- Deutsch, M. (1973). *The resolution of conflicts*. London: Yale University Press.
- Eagle, A.H. & Chaiken, S. (1992). *The psychology of attitudes*. San Diego, CA: Harcourt, Brace & Janovich.
- Eckstein, Z., Zakai, D., Nachtom, Y., & Fishelson, G. (1994). *The allocation of water sources between Israel, the West Bank and Gaza: An economic viewpoint*. Tel Aviv: The Pinchas Sapir Center for Development, Tel Aviv University.
- Fishbein, M. & Ajzen, I. (1975). *Belief, attitude, intention and behavior. An introduction to theory and research*. Reading, MA, London: Addison-Wesley.
- Gottman, J. (1973). *The significance of territory*. Charlottesville, VA: The University of Virginia Press.
- Green, T.F. (1971). *The activities of teaching*. NY: McGraw-Hill.
- Greenwald, A.G. (1989). Why attitudes are important: Defining attitude and attitude theory 20 years alter. In A.R. Pratkanis, S.J. Breckler, & A.G. Greenwald (Eds.), *Attitude structure and function* (pp. 429-440). Hillsdale, NJ: Erlbaum.
- Homer, P.M. & Kahle, L.R. (1988). A structural equation test of value-attitude behavioural hierarchy. *Journal of Personality and Social Psychology*, 54(4), 638-646.
- Klar, Y., Bar-Tal, D., & Kruglanski, A.W. (1988). Conflict as a cognitive schema. In W. Stroebe, A.W. Kruglanski, D. Bar-Tal, & M. Hewstone (Eds.), *The social psychology of intergroup conflict: Theory, research and applications* (pp. 73-85). NY: Springer-Verlag.
- Knight, D.B. (1982). Identity and territory: Geographical perspectives on nationalism and regionalism. *Annals of the Association of American Geographers*, 72, 514-531.
- Koballa, T.R., Jr. (1992). Persuasion and attitude change in science education. *Journal of Research in Science Teaching*, 29(1), 63-80.
- Kruglanski, A.W. (1980a). Lay epistemological process and contents. *Psychological Review*, 87, 70-87.
- Kruglanski, A.W. (1980b). *The field of cognitive social psychology: Cognitive pluralism and irrationalism reconsidered*. Paper presented at the symposium on new developments in attribution theory. Oxford.
- Kruglanski, A.W. (1989). *Lay epistemics and human knowledge: Cognitive and motivational bases*. New York: Plenum.
- Lee, R. (1995). Psychological barriers for conflict resolution. In A. Shalom (Ed.), *Source book* (pp. 53-56). Jerusalem: Ministry of Education, Center for Curricular Development (Hebrew).
- Levine, R.A. & Campbell, D.T. (1972). *Ethnocentrism: Theories of conflict, ethnic attitudes and group behavior*. NY: Wiley.

- Maoz, Z. & Shayer, A. (1987). The cognitive structure of peace and war. Argumentation. Israeli Prime Minister vs. the Knesset. *Political Psychology*, 8(4), 577-604.
- Naff, T. (1993). *International Riparian law in the West and Islam*. Proceedings, the International Symposium on Water Resources in the Middle East: Policy and Institutional Aspects. Urbana, IL.: International Water Resources Association.
- Naff, T. & Matson R. (Eds.). (1984). *Water in the Middle East: Conflict or cooperation?* Boulder, CO: Westview Press.
- Olsen, J.M. & Zanna, M.P. (1993). Attitudes and attitude change. *Annual Review of Psychology*, 44, 117-154.
- Page, B.L. & Shapiro, R.Y. (1992). *The rational public*. Chicago: The University of Chicago Press.
- Petty, R.E. & Cacioppo, J.T. (1981). *Attitudes and persuasion: Classic and contemporary approaches*. Dubuque, IA: William C. Brown.
- Petty, R.E. & Cacioppo, J.T. (1986). The elaboration likelihood model of persuasion. *Advanced Experimental Social Psychology*, 19, 123-305.
- Rokeach, M. (1973). *The nature of human values*. New York: Free Press.
- Samocha, S. (1987). Comparing Palestinians in the territories and in Israel as a test case for the irreversible territorial affiliation. In A. Soffer (Ed.), *Twenty years since the six-day war. Occasional papers on the Middle East (New series), No. 7*. Israel: University of Haifa, the Jewish-Arab Center, The Gustav Heinemann Institute of Middle Eastern Studies.
- Schwarz, S.H., Roccas, S., & Sagiv, L. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in twenty countries. *Advanced Experimental Social Psychology*, 25, 1-65.
- Shamir, M. & Shamir, Y. (1996). Value preferences in Israeli public opinion. *Megamot*, 37(4), 371-393. (Hebrew)
- Simmel, G. (1955). *Conflict*. Glencoe, IL: Free Press.
- Singer, J.D. (1958). Threat perception and armament tension dilemma. *Journal of Conflict Resolution*, 2, 90-105.
- Sumner, W.G. (1966). *Folkways*. Boston: Ginn.
- Tetlock, P.E. (1986). A value pluralism model of ideological reasoning. *Journal of Personality and Social Psychology*, 50, 819-827.
- Triandis, H.C. (1991). Attitude and attitude change. In the *Encyclopedia of Human Biology*, (Vol. 1, pp. 485-496). San Diego, CA: Academic Press.