

Chapter 2

Effective Cooperation, The Foundation of Sustainable Peace

David W. Johnson, Roger T. Johnson, and Dean Tjosvold

Introduction

We Are Going To Have To Find Ways Of Organizing Ourselves Cooperatively...We Are Not Going To Be Able To Operate Our Spaceship Earth Successfully Nor For Much Longer Unless We See It As A Whole Spaceship And Our Fate As Common. It Has To Be Everybody Or Nobody.

R. Buckminster Fuller

The keys to building and sustaining peace are (a) establishing cooperative relationships among relevant parties and (b) ensuring that the relevant parties engage in ongoing cooperative efforts to achieve mutual goals. Sustain is used both in the sense of making something continue to exist and to keep something going with emotional and moral support. Cooperation is both the goal of peace and the process that sustains it. It provides peace with nourishment or the necessities of life. The relevant parties have to commit themselves to achieve mutual goals (involving such issues as commerce, sharing of resources, mutual protection, maintenance of boundaries, and so forth), justly distribute mutual benefits, establish a mutual identity, and adopt civic values that include a concern for one another's well-being and the common good. Structuring ongoing cooperation requires the implementation of five basic elements (positive interdependence, accountability, promotive interaction, appropriate social skills, group processing). In order to maintain cooperative

D.W. Johnson, Ed.D. (✉) • R.T. Johnson, Ed.D.
Cooperative Learning Center, University of Minnesota,
5028 Halifax Ave. S., Edina, MN 55424, USA
e-mail: johns010@umn.edu; johns009@umn.edu

D. Tjosvold, Ph.D.
Lingnan University, Tuen Mun, Hong Kong
e-mail: tjsovold@ln.edu.hk

relationships over time the relevant parties have to build and maintain trust and resolve conflicts constructively. There are two types of conflicts that need to be managed constructively: decision-making conflicts and conflicts of interest. Decisions involving all relevant parties need to include an open-minded discussion of diverse views. Conflicts of interests need to result in agreements that are mutually beneficial and maximize joint outcomes. To discuss the interrelationship between cooperation and peace it is necessary to define both peace and cooperation.

Nature of Peace

Peace may be defined as the absence of war and violence in a mutually beneficial, harmonious relationship among relevant parties, including within an individual or between individuals, groups, or countries. This definition of peace is assumed to have two separate dimensions (Johnson & Johnson, 2003c, 2005c, 2006, 2010a) (Fig. 2.1). On the first dimension, war, violence, and strife are at one end (war is a state of open and declared armed combat between entities such as states or nations) and at the other end are settlements, agreements, and common understandings that end or avert hostilities and violence. On this dimension, if war and violence is absent, then peace is assumed to exist. On the second dimension, discordant, hostile interaction aimed at dominance and differential benefit (i.e., winners and losers) and characterized by social injustice is at one end, and mutually beneficial, harmonious interaction aimed at achieving mutual goals and characterized by social justice is at the other end. On this dimension, if the relationship is characterized by positive relationships, mutual benefit, and justice, then peace is assumed to exist.

Inherent in this definition are several characteristics of peace. Peace is (Johnson & Johnson, 2006, 2010a):

1. A relationship variable, not a trait. Peace exists among individuals, groups, and nations; it is not a trait or a predisposition. While some people, groups, and nations may more naturally seek peace than others, and it is easier for some people, groups, and nations to maintain peace than others, peace is something that occurs *between* characteristics, people, groups, and nations; peace is not a

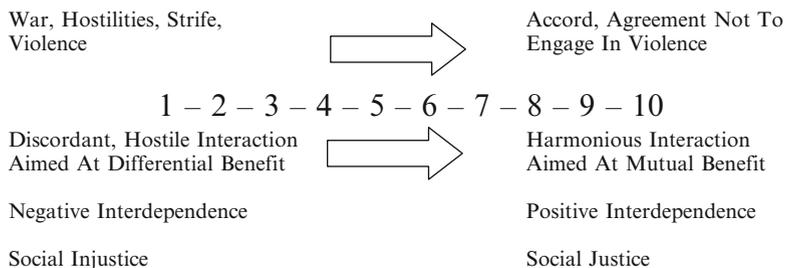


Fig. 2.1 Nature of peace

characteristic or disposition *within* a person, group, and nation. As a relationship, peace cannot be maintained by separation, isolation, and building barriers between conflicting parties, all of which may temporarily reduce violence, though establishing a “cold” war, but will not establish the relationships and cooperation required for long-term peace.

2. A dynamic, not a static process. The level of peace constantly increases or decreases with the actions of each relevant party.
3. An active process, not a passive state. Passive coexistence is not a viable path to peace. Building and maintaining peace takes active involvement.
4. Hard to build and easy to destroy. It may take years to build up a stable peace, then one act can destroy it.
5. Characterized by continuous conflict, not the absence of conflict, managed constructively rather than destructively. Conflicts occur continually; it is not the avoidance, suppression, and denial of conflict but facing conflicts as they occur and resolving them constructively that maintain peace.
6. Strongest when it is based on consensual agreements. Long-term, stable peace is established through consensual agreements, not by the domination of one party over another.

Ways of Establishing Peace

Ways of establishing and maintaining peace may be classified on a dimension with imposed peace at one end and consensual peace at the other end (Clark, 2001; Johnson & Johnson, 2003c, 2005c, 2006, 2010a).

Imposed Peace

Imposed peace is based on domination, power, imposition, and enforcement through superior military and economic power or indirectly through structural oppression. Structural oppression is the establishment of such social institutions as education, religion, and mass media that create the social, economic, and political conditions of systematic inequality, injustice, violence, and lack of access to social services that result in the repression, poor health, and death of certain individuals and groups in a society. High power groups use their military and economic power to force low power groups to end hostilities and implement the peace accords (Fig. 2.2). There are two ways in which peace may be imposed: By the winners in a conflict through domination or by powerful third parties such as the United Nations, NATO, or other international alliances, such as *peace-keeping*. In both cases, military and economic power are used to ensure that hostilities are ended. Imposing peace, however, suppresses the conflict, but it does not resolve underlying grievances and does not establish positive long-term relationships among disputants.

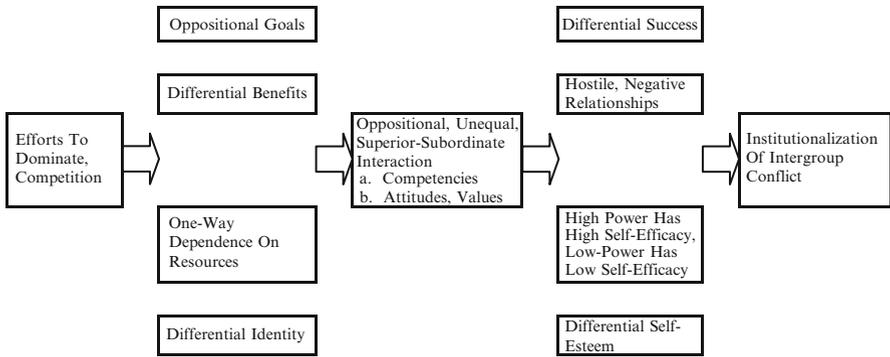


Fig. 2.2 Imposed peace

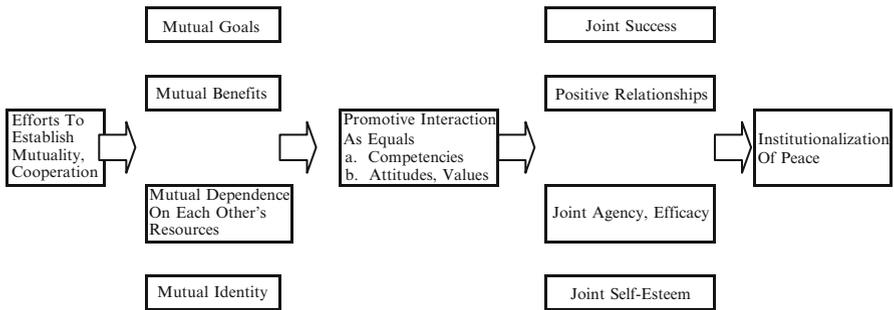


Fig. 2.3 Consensual peace

Consensual Peace

The consensual approach to peace is based on reaching agreements that (a) end violence and hostilities and (b) establish a new relationship based on harmonious interaction aimed at achieving mutual goals, justly distributing mutual benefits, being mutual dependent on each other’s resources, and establishing a mutual identity (see Fig. 2.3). In consensual peace, all parties believe that peace is desirable, legitimate, just, and beneficial. Since all parties have a fair chance to influence the decision, their commitment to implement the decision is maximized and they are obligated to abide by the agreement and promote each other’s efforts to do so, although a small minority within each party can sabotage the agreement by violating it. What tends to result is a joint success in maintaining the peace, positive relationships among the involved parties, a sense of joint agency and efficacy, and joint self-esteem. Consensual peace leads to *structural liberty* where social institutions promote equality, justice, and the well-being of all relevant parties. Positive interdependence is the foundation upon which consensual peace is built.

There are two levels of consensual peace. The first level is *peacemaking*, in which the parties involved negotiate a cease-fire, an initial agreement, and a framework for resolving future conflicts. Peacemaking typically manages the immediate conflict but fails to deal with underlying structural issues. The second level is *peacebuilding*, in which the economic, political, and educational institutions are used to create long-term peace. Peacebuilding deals with the structural issues and is aimed at creating long-term harmonious relationships based on mutual respect and social justice. Peace education is one means of institutionalizing consensual peace, as it builds positive interdependence, that is mutuality, among students and teaches them the competencies, attitudes, and values needed to build and maintain cooperative systems, resolve conflicts constructively, and adopt values promotive of peace.

Summary

In order to be sustained, peace must be consensual and in the peacebuilding stage. Imposed peace is inherently unstable. It is very doubtful whether peace can be sustained unless there is active cooperation among all relevant parties. Cooperation is the foundation on which consensual peace is built and sustained. In order to understand the validity of this statement, it is necessary to define cooperation, which requires the discussion of social interdependence theory.

Social Interdependence Theory: The Nature of Cooperation

In the early 1900s, a founder of Gestalt Psychology, Kurt Koffka (1935) proposed that groups were dynamic wholes in which interdependence among members could vary. His colleague, Kurt Lewin (1935), refined Koffka's notion and proposed that (a) the essence of a group is the interdependence among members (created by common goals) that results in the group being a "dynamic whole" so that a change in the state of any member or subgroup changes the state of all other members or subgroups and (b) an intrinsic state of tension in group members motivates movement toward the accomplishment of the desired common goals. One of Lewin's graduate students, Morton Deutsch (1949) extended Lewin's notions to the relationship among the goals of two or more individuals. In doing so, he developed social interdependence theory.

Social interdependence exists when the accomplishment of each individual's goals is affected by the actions of others (Deutsch, 1949, 1962; Johnson, 1970; Johnson & Johnson, 1989, 2005a). There are two types of social interdependence, positive (cooperation) and negative (competition). Positive interdependence exists when individuals perceive that they can reach their goals if and only if the other individuals with whom they are cooperatively linked also reach their goals (i.e., there is a positive relationship among goal attainments) and, therefore, promote each other's efforts to achieve the goals. Negative interdependence exists when

individuals perceive that they can obtain their goals if and only if the other individuals with whom they are competitively linked fail to obtain their goals (i.e., there is a negative relationship among goal attainments) and, therefore, obstruct each other's efforts to achieve the goals. No interdependence results in a situation in which individuals perceive that they can reach their goal regardless of whether other individuals in the situation attain or do not attain their goals. Each type of interdependence results in certain psychological processes.

Psychological Processes

The psychological processes created by positive interdependence include substitutability, which is the degree to which actions of one person substitute for the actions of another person, inducibility, which is the openness to being influenced and to influencing others, and positive cathexis, which is the investment of positive psychological energy in objects outside of oneself (Deutsch, 1949, 1962). Negative interdependence creates the psychological processes of non-substitutability, resistance to being influenced by others, and negative cathexis. No interdependence detaches a person from others, thereby creating non-substitutability, no inducibility or resistance, and cathexis only to one's own actions.

Interaction Patterns

The basic premise of social interdependence theory is that the way in which interdependence is structured determines how individuals interact and the interaction pattern determines the outcomes of the situation (Deutsch, 1949, 1962; Johnson, 1970; Johnson & Johnson, 1974, 1989, 2005a). Positive interdependence results in promotive interaction, that is, individuals encouraging and facilitating each other's efforts to complete tasks, achieve, and produce in order to reach the group's goals; negative interdependence results in oppositional or contrient interaction, this is defined as individuals discouraging and obstructing each other's efforts to complete tasks, achieve, and produce in order to reach their goals, and no interdependence results in no interaction as individuals act independently without any interchange with each other as they work to achieve their goals.

Outcomes

The study of cooperative, competitive, and individualistic efforts is recognized as one of the oldest fields of research in social psychology. In the late 1800s Triplett (1898) in the United States, Turner (1889, cited in Triplett, 1898) in England, and

Table 2.1 Meta-analysis of social interdependence studies: mean effect sizes

Dependent variable	Cooperative vs. competitive	Cooperative vs. individualistic	Competitive vs. individualistic
Achievement	0.67	0.64	0.30
Interpersonal attraction	0.67	0.60	0.08
Social support	0.62	0.70	-0.13
Self-esteem	0.58	0.44	-0.23
Time on task	0.76	1.17	0.64
Attitudes toward task	0.57	0.42	0.15
Quality of reasoning	0.93	0.97	0.13
Perspective-taking	0.61	0.44	-0.13
High quality studies			
Achievement	0.88	0.61	0.07
Interpersonal attraction	0.82	0.62	0.27
Social support	0.83	0.72	-0.13
Self-esteem	0.67	0.45	-0.25

Source: Reprinted with permission from Johnson & Johnson (1989)

Mayer (1903) in Germany conducted a series of studies on the factors associated with competitive performance. One of the strengths of the research on social interdependence is its high generalizability. The research has been conducted in 12 different historical decades, with widely diverse participants ranging in age from three to post-college adults, with many different operationalizations of cooperation and competition, with a wide variety of dependent measures, and conducted in numerous disciplines conducted in many countries and cultures. The research has consisted of both laboratory and field studies, thus having considerable internal and external validity. This is one of the largest bodies of research within psychology (Johnson, 2003; Johnson & Johnson, 1989, 2005a). The research has focused on numerous outcomes, which may be subsumed within the broad and interrelated categories of effort to achieve, quality of relationships, and psychological health (Johnson & Johnson, 1989) (Table 2.2 and Fig. 2.2). Figure 2.2 shows the relationships among the outcomes.

Effort to Achieve

Results summarized in Table 2.1 indicate that cooperation promotes considerably greater effort to achieve than do competitive and individualistic efforts. Effort exerted to achieve includes such variables as achievement and productivity, long-term retention, on-task behavior, use of higher-level reasoning strategies, generation of new ideas and solutions, transfer of what is learned within one situation to another, intrinsic motivation, achievement motivation, continuing motivation to learn, and positive attitudes toward learning and school. Overall, cooperation tends to promote higher achievement than competitive and individualistic efforts (effect-sizes=0.67

and 0.64 respectively). An important aspect of school life is engagement in learning. One indication of engagement in learning is time on task. Cooperators spent considerably more time on task than did competitors (effect size = 0.76) and students working individually (effect size = 1.17). In addition, students working cooperatively tended to be more involved in activities and tasks, attach greater importance to success, and engage in more on-task behavior and less apathetic, off-task, disruptive behaviors. Finally, cooperative experiences, compared with competitive and individualistic ones, have been found to promote more positive attitudes toward the task and the experience of working on the task (effect-sizes = 0.57 and 0.42 respectively).

Quality of Relationships

Quality of relationships includes such variables as interpersonal attraction, liking, cohesion, esprit-de-corps, and social support. The degree of emotional bonding that exists among students has a profound effect on students' behavior. There are over 175 studies that have investigated the relative impact of cooperative, competitive, and individualistic efforts on quality of relationships and another 106 studies on social support (Johnson & Johnson, 1989). As Table 2.1 shows, cooperation generally promotes greater interpersonal attraction among individuals than do competitive and individualistic efforts (effect sizes = 0.67 and 0.60 respectively). Cooperative experiences tend to promote greater social support than does competitive (effect-size = 0.62) or individualistic (effect-size = 0.70) efforts. Stronger effects are found for peer support than for superior (teacher) support. The high-quality studies tend to have even more powerful effects.

Psychological Health

Several studies have directly measured the relationship between social interdependence and psychological health (see Johnson & Johnson, 1989, 2005a). The samples studied include university students, older adults, suburban high-school seniors, juvenile and adult prisoners, step-couples, Olympic hockey players, and Chinese business executives. Results indicate that cooperative attitudes are highly correlated with a wide variety of indices of psychological health, competitiveness was in some cases positively and in some cases negatively related to indices of psychological health, and individualistic attitudes were negatively related to a wide variety of indices of psychological health.

One important aspect of psychological health is self-esteem. The studies that have been conducted at the college level found that cooperation promoted higher self-esteem than did competitive (effect size = 0.47) or individualistic (effect size = 0.29) efforts. Not only is the level of self-esteem affected by being part of a group effort, but the process by which individuals make judgments about their

self-worth is also affected. Johnson and Norem-Hebeisen (1981) conducted four studies involving 821 white, middle-class, high-school seniors in a US Midwestern suburban community. They found that cooperative experiences promoted basic self-acceptance, freedom from conditional acceptance, and seeing oneself positively compared to peers. Competitive experiences were related to conditional self-acceptance and individualistic attitudes were related to basic self-rejection, including anxiety about relating to other people. Cooperative, group-based experiences seem to result in the (a) internalizing perceptions that one is known, accepted, and liked as one is, (b) internalizing mutual success, and (c) developing multi-dimensional views of self and others that allow for positive self-perceptions (Johnson & Johnson, 1989). In addition, participating in cooperative efforts creates, promotes, and increases a joint self-esteem. *Joint self-esteem* is a judgment about joint self-worth, the combined competence and value of all parties. It is possible, for example, for males or females to have a gender self-esteem inclusive of all members of the category, or for Canadians to have a joint self-esteem inclusive of all citizens of that country. The more cooperative, as opposed to competitive or individualistic, the situation, the greater and more positive the joint self-esteem tends to be.

There is evidence that cooperation promotes more frequent use of higher level reasoning strategies than do competitive (effect size = 0.93) or individualistic (effect size = 0.97) efforts. Similarly, cooperation tends to promote more accurate perspective taking than do competitive (effect size = 0.61) or individualistic (effect size = 0.44) efforts. Thus, the more cooperative learning experiences in which students are involved, the more mature their cognitive and moral decision making and the more they will tend to take other people's perspectives into account when making decisions. Members of cooperative groups also become more socially skilled than do students working competitively or individualistically.

Finally, psychological health includes a sense of joint agency/efficacy and joint self-esteem. *Joint efficacy* is the shared belief by collaborators in their collective power to achieve a goal, solve a problem, or accomplish a task (Bandura, 2000; Johnson, 2003; Johnson & Johnson, 1985, 1989, 2003d, 2005a). Individuals have to work together to achieve goals they cannot accomplish on their own. The more cooperative the situation, the higher the joint efficacy tend to be.

Additional Findings

There is a cluster of behaviors and attitudes that occur within cooperative endeavors that are especially relevant to sustaining peace. This cluster includes prosocial behavior, perspective taking, high levels of cognitive and moral reasoning, the development of a moral identity, basic self-acceptance, moral inclusion and a wide scope of justice, and viewing situations as being just and fair.

Prosocial Behavior

In order to reconcile, individuals have to engage in prosocial behavior. *Prosocial actions* are actions that benefit other people by helping, supporting, encouraging their goal accomplishment or well being. Cooperative experiences tend to increase the frequency with which participants engage in prosocial behaviors (Johnson & Johnson, 1989, 2005a). Choi et al., (2011), in a study involving 217 4th and 5th grade students, found that both cooperative learning experiences and cooperative predispositions predicted the frequency with which the students engaged in prosocial behavior. Competitiveness and individualism, on the other hand, did not predict prosocial behavior. The mutual responsiveness and shared positive affect typically found in cooperative situations, furthermore, seem to be key elements in the development of prosocial behavior (Kochanska, 2002). There are benefits to being prosocial. Prosocial individuals tend to build positive relationships with peers (Asher & Rose, 1997) and, compared with schoolmates, are intrinsically motivated to build relationships with classmates, believe they are involved in positive relationships, value relationships, and enjoy positive wellbeing (Hawley et al., 2002). Prosocial behavior has been found to be related to academic success during the elementary and high school years (Wentzel, 1991).

Perspective Taking

Peace is more likely to be sustained when people accurately take each other's perspectives, especially the perspective of victims and outgroup members. More frequent and accurate perspective taking was found in cooperative than in competitive (effect size=0.61) or individualistic (effect size=0.44) situations (Johnson & Johnson, 1989). In competitive situations, a person's perceptions and comprehension of others' viewpoints and positions tends to be inaccurate and biased. The opposite of perspective taking is egocentrism and while perspective-taking ability tends to be indicative of psychological health, egocentrism tends to be a sign of psychological pathology (e.g., extreme forms of depression and anxiety result in a self-focus and self-centeredness). The accurate perspective taking in cooperative situations enhances members' ability to respond to others' needs with empathy, compassion, and support.

Level of Cognitive and Moral Reasoning

Peace tends to be more easily sustained when individuals use higher levels of cognitive and moral reasoning. There is more frequent use of higher level cognitive and moral reasoning strategies in cooperative than in competitive (effect size=0.93) or individualistic (effect size=0.97) situations (Johnson & Johnson, 1989, 2005a). There are a number of studies that demonstrate that when participants are placed in a cooperative group with peers who use a higher stage of moral reasoning, and the group is required to make a decision as to how a moral dilemma should be resolved, advances in the students' level of moral reasoning result.

Moral Identity

Peace tends to be more easily sustained when individuals have a strong moral identity. A person's *identity* is a consistent set of attitudes that defines "who I am" (Johnson & Johnson, 2002, 2010b). One aspect of identity is the view of oneself as a moral person, with character, who acts with integrity. A moral orientation adds an "ought to," obligatory quality to identity. The social context in which individuals function largely determines their moral identity. Identity in a cooperative context defines the person as part of a community that shares a joint identity. Their promotive interaction tends to be characterized by mutual respect and to reflect egalitarianism, which is a belief in the equal worth of all members even though there may be differences in authority and status. Identity in a competitive context, on the other hand, defines a person as a separate individual striving to win either by outperforming others or preventing them from outperforming him or her. Thus, a competitor may have an identity involving the virtues of inequality, being a winner, and disdaining losers.

Engaging in prosocial behavior by helping and assisting others influences how a person thinks of him- or herself (i.e., moral-identity). This is true of adults who rescued Jews during the Holocaust (Midlarsky & Nemeroff, 1995) and elementary school students (Cialdini et al., 1987). Prosocial behavior tends both to enhance and verify individuals' self-definitions and moral identity (Grube & Piliavin, 2000; Swann, 1990).

Valuing Self

Peace tends to be more easily sustained when individuals have a basic self-acceptance. Participants in cooperative situations tend to see themselves as being of more value and worth than do participants in competitive (effect size=0.58) and individualistic (effect size=0.44) situations (Johnson & Johnson, 1989, 2005a, 2009a). While contingent self-esteem dominates competitive situations, basic self-acceptance tends to dominate cooperative situations.

Moral Inclusion and Scope of Justice

The sustainability of peace is influenced by moral inclusion and the scope of justice. Bullies, perpetrators, and bystanders tend to morally exclude victims and consider them outside the scope of justice. In competitive and individualistic situations, the boundaries between ingroups where moral inclusion exists and outgroups that are morally excluded are quite strong and well marked. Cooperative situations, on the other hand, promote a much wider range of moral inclusion and scope of justice. Especially when the members of diverse backgrounds and cultures participate in the same cooperative group, moral inclusion is broadened (Johnson & Johnson, 1989, 2005a, 2009b). Moral inclusion includes the values of fairness, equality, and humanitarianism. Cooperators tend to see all of humanity as being entitled to fair treatment,

justice, and help and may even extend moral inclusion and the scope of justice to other species and life forms. Albert Schweitzer, for example, included all living creatures in his moral community, and some Buddhists include all of nature.

Justice and Fairness

An important aspect of sustaining peace is ensuring that a perceived unjust situation is modified through restitution and reconciliation to be perceived as just. When rewards are distributed unjustly, the group may be characterized by low morale, high conflict, and low productivity (Johnson & Johnson, 1989, 2005a, 2009b, c). The more frequent the use of cooperative learning, the more students tend to believe that everyone who tried has an equal chance to succeed in class, that students get the grades they deserved, and that the grading system is fair (Johnson & Johnson, 1989, 2005a, 2009b). Even when their task performances are markedly discrepant, members of cooperative groups tend to view themselves and their groupmates as being equally deserving of rewards.

Structuring Cooperation to Sustain Peace

Whether peace is among disputant aspects of oneself (intrapersonal), among individuals (interpersonal), among groups (intergroup), or between countries (international), there are five elements that must be implemented for peace to be sustained.

Create a Web of Positive Interdependence

Positive and negative interdependence were defined by Lewin and Deutsch as resulting from mutual goals. A number of researchers demonstrated, however, that positive and negative interdependence may be structured through complementary roles (Thomas, 1957), group contingencies (Skinner, 1968), and dividing information into separate pieces (Aronson et al., 1978). Various researchers and practitioners have structured interdependence in other ways, such as divisions of labor, mutual identity, in environmental spaces, and simulations involving fantasy situations (Johnson & Johnson, 1992a, b; Tjosvold, 1991b). Given the different ways in which positive and negative interdependence may be structured, Johnson and Johnson (1989, 2005a, b, c, d) divided them into three categories: outcome, means, and boundary (see Table 2.2). First, when persons are in a cooperative or competitive situation, they are oriented toward a desired outcome, that is, a goal or reward. Second, the means through which the mutual outcomes are to be accomplished specify the actions required on the part of each relevant party. Means interdependence includes

Table 2.2 Types of interdependence

Outcome interdependence	Means interdependence	Boundary interdependence
Goal	Resource	Outside enemy
Reward/celebration	Task	Identity
Fantasy	Role	Environmental

Source: Reprinted with permission from Johnson and Johnson ([in press](#))

resource, role, and task interdependence, which are overlapping and not independent from each other. Third, the boundaries existing among individuals and groups can define who is interdependent with whom.

For peace to be sustained, cooperation must exist among all relevant parties. To ensure that cooperation occurs positive interdependence has to exist. Positive interdependence has to be strong enough to ensure that all parties work together to achieve their mutual goals. The more tightly coupled the relevant parties are through positive interdependence, the more effective the cooperative efforts will tend to be. The different ways in which positive and negative interdependence may be structured can be divided into three categories (Johnson & Johnson, 1989): outcome, means, and boundary (see Fig. 2.4).

Outcome Interdependence

First, when persons are in a cooperative or competitive situation, they are oriented toward a desired outcome, that is, a goal or reward. Goals can be real or imaginary, but in terms of sustaining peace only real goals are relevant. Structuring positive interdependence begins with structuring positive goal interdependence and supplementing it with other types of positive interdependence outcome, means, and boundary interdependence (see Johnson & Johnson, 1992a, b).

Peace is sustained by having common goals that unite all parties in a joint effort. Examples of such goals are trade agreements or economic alliances, clarification of boundaries, mutual defense, or environmental preservation or cleanup. The mutual goals have to be salient and compelling enough to overcome competing agendas, the past history of conflict among the parties, and the dynamics of intergroup conflict (Johnson & Lewicki, 1969; Sherif, 1966).

Every cooperative effort begins with positive goal interdependence. *Positive goal interdependence* exists when a mutual/joint goal is established so individuals perceive they can attain their goals if and only if the other relevant parties attain their goals (Deutsch, 1949, 1962). Members know that they cannot succeed unless all other members of their group succeed. In most cases, this means any single individual member cannot accomplish the goal; only the group can accomplish the goal. Increasing IBM's profits, for example, is a goal that can only be accomplished by the whole organization, not by any one member. Peace cannot be established and

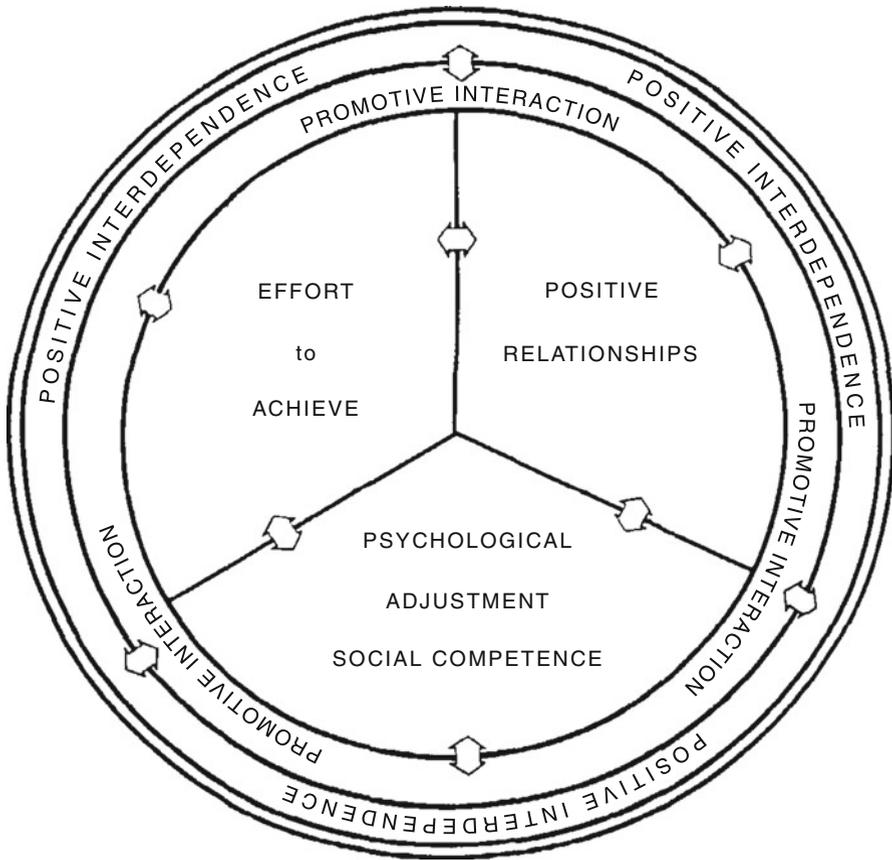


Fig. 2.4 Outcomes of cooperative learning (Source: Reprinted with permission from Johnson & Johnson, 1989)

sustained by one party alone; all relevant parties must take action. On the international level, there are many goals that can join different countries together to sustain peace. They include protecting and preserving the environment, limiting weapons of mass destruction, preventing pandemics of contagious diseases, and maximizing economic development. Within a society, different groups may have the mutual goals of enhancing economic development, establishing democracy, providing health care, and protecting the environment. The more numerous the mutual goals, the stronger the goal interdependence will be.

In addition to positive goal interdependence, there are benefits and rewards that may be achieved only through the joint efforts of the relevant parties. *Positive reward interdependence* exists when a mutual/joint reward exists that individuals perceive they can obtain the reward and benefits if and only if their groupmates attain the

reward. In most cases, this means any single individual member cannot achieve the reward; only the group can. One member of a National Hockey League team, for example, cannot be awarded the Stanley Cup; only the entire team can win it. The desire to win the Cup unites the members of the team. Correspondingly, a desire to obtain a trade agreement with another country that will raise the group's standard of living can unite all the groups within a society.

For peace to be sustained, the benefits received from achieving the mutual goals must be justly distributed among all relevant parties. Usually, benefits need to be equally distributed, although in some cases those with the most need may be given more than their share. Equal benefits tend to highlight the common fate of all members of the society. Generally, parties involved in a cooperative effort perceive each other as equals. This does not mean that their resources are identical, that they have equal authority, or that each will contribute the same amount of resources in every situation. Rather, it is based on a multi-dimensional view of others that recognizes that in the long-run, over a variety of situations, each party will contribute approximately equally to the overall success of the joint efforts (Johnson & Johnson, 1989).

Means Interdependence

While positive goal and reward interdependence focus on outcomes, the means for achieving the outcomes can also unite disparate parties. The means through which the mutual outcomes are to be accomplished specify the actions required on the part of relevant parties. Means interdependence includes resource, task, and role interdependence. *Positive resource interdependence* exists when each party has only a portion of the information, materials, or resources necessary to achieve the mutual goals. It creates a situation in which parties have to combine their resources to achieve their goals. Parties' dependence on each other's resources binds them together. One party, for example, may have coal reserves while another party may have the capital and expertise to mine the coal. To produce and sell coal, the resources of both parties are needed. Cooperation is enhanced when each party in a joint enterprise realizes that it does not personally have all the resources required to achieve the goal and, therefore, must solicit and utilize the varied resources of other parties to succeed.

The second type of means interdependence is task interdependence. *Task interdependence* exists when a division of labor or chain reaction is created so that the actions of one party have to be completed if the next party is to complete its responsibilities. Dividing an overall task into subunits that must be performed in a set order is an example of task interdependence. Each party is responsible for completing one step in the sequence. One party mines the coal; the next party transports the coal to a refinery; the third party converts the coal into gas; the fourth party sells it.

The third type of means interdependence is role interdependence. *Role interdependence* consists of assigning each party complementary and interconnected roles that specify responsibilities that the group needs in order to achieve the mutual goal. In cooperative systems, you divide responsibilities into roles that help the system to

form the social system and organize it for work, function effectively by achieving its goals and maintaining effective working relationships among members, integrate members resources to complete tasks and accomplish mutual goals, and ferment members' thinking to enhance higher-level reasoning.

Boundary Interdependence

The boundaries existing among individuals and groups can define who is interdependent with whom. Koffka (1935) pointed out that abrupt discontinuity produces segregating forces between the parts of a visual field that it separates, as well as unifying forces within the separated parts. Based on this principle of perceptual organization (Koffka, 1935; Wertheimer, 1923), boundary interdependence may exist based on abrupt discontinuities among individuals that segregate individuals into separate groups. The discontinuity may be created by environmental factors (different parts of the room or different rooms), similarity (all seated together or wearing the same color shirt), proximity (seated together), past history together, expectations of being grouped together, and differentiation from other competing groups. Boundary interdependence thus includes identity that binds them together as an entity, environmental such as a specific work area, and outside enemy that is, negative interdependence with another group.

Mutuality is also established through a superordinate identity that makes all parties members of the same group. An *identity* is a consistent set of attitudes that defines "who you are." *Identity interdependence* exists when all relevant parties are united through a common identity. Positive interdependence may be developed through a mutual identity that subsumes all relevant parties into one superordinate group (such as "North American" subsumes Canadian, American, and Mexican). This superordinate identity is created by (a) respecting one's own cultural identity, (b) respecting others' cultural identities, (c) developing a superordinate identity that subsumes all the different cultural identities, and (d) basing the superordinate identity on a pluralistic set of values. The United States provides an example, where Norwegian-Americans, Swedish-Americans, Afro-Americans, Hispanic-Americans, and so forth are all united by being an "American." Such levels of identity may be extended from one's family, community, or tribe to the country as a whole, to the region in which the country exists, and eventually to the world as a whole. Each citizen's historical identity and the historical identities of others are united under the overall identity as Americans.

The authors were once told, "There are citizens of Peru, but there are no Peruvians." Many countries consist of diverse groups that historically have been in conflict with each other. Identity interdependence may help unite them. In Iraq, for example, there may be Kurd-Iraqis, Sunni-Iraqis, and Shia-Iraqis. There are countries in which an overall national identity does not exist.

Identity interdependence requires a pluralistic set of values concerning respect for one's own cultural heritage, respect for others' cultural heritages, and commitment to the uniting superordinate identity. All members of society are perceived to be equal, deserving of equal justice, and having the rights of freedom and liberty,

and the responsibilities of citizenship (Johnson & Johnson, 1994). Citizens respect basic human rights, listen to dissenters instead of jailing them, and have a multi-party political system, a free press, free speech, freedom of religion, and freedom of assembly. These values are essential for a multicultural society knitted together by a common identity. For consensual peace to flourish, all parties need to be united by a superordinate identity.

Environmental interdependence exists when parties are bound together by the physical environment in some way, such as the boundaries of a country, a continent, or the world as a whole. There are times when boundaries reduce positive interdependence, such as the when national boundaries are defined by occupying powers rather than by the citizens themselves. The boundaries of Iraq and its neighboring countries, for example, were drawn in the early 1920s after World War I in a way that divided Kurds, Sunnis, and Shia into different countries, making it more difficult for them to identify with the newly formed countries. On the other hand, boundaries can increase the positive interdependence among individuals living within their limits. Japan, Norway, Ireland, and Greece are examples.

Boundaries may also be psychological between two different groups or countries. Drawing a boundary between the ingroup and outgroups can increase ingroup cohesion and interdependence. This is especially true when intergroup conflict is created. Whether it is two teams, two companies, or two countries, intergroup conflict may create internal positive identity interdependence at the same time it creates external negative interdependence. *Outside enemy interdependence* exists when groups are placed in competition with each other. Group members then feel interdependent as they strive to defeat the other groups. When there is considerable internal divisions within a group, an outside enemy may be made salient in order to unite the group. Peace within the group depends on war with the outside group. However, the group might have to continue to win the war for members to stay united.

In summary, to be sustained, peace must be based on strong positive goal interdependence supplemented by reward interdependence, resource interdependence, identity interdependence, and environmental interdependence. The combination of outcome, means, and boundary interdependence binds parties together into a unified and coherent whole, that is, it creates entitativity.

Entitativity

The degree of positive interdependence influences the perceived entitativity of the group. *Entitativity* is the perception that a group is a unified and coherent whole in which the members are bonded together (Campbell, 1958). The stronger the interdependence, the greater the perceived entitativity (Johnson & Johnson, 2005a). Perceived entitativity, in turn, influences both group members and nonmembers, with group members perceiving the group as a unified and coherent whole and nonmembers perceiving the group as a single entity.

The more group members perceive their group to be a unified and coherent entity, the more they will identify with the group, the more their social identity will tend to

derive from membership in the group, their self-esteem and sense of self-worth will tend to derive from the group membership, all of which can be harnessed to sustain peace (Johnson & Johnson, 2005a, b, c, d). It takes a strong party to sustain cooperation over time with the other relevant parties. The greater the group's entitativity, for example, the more effectively it will be able to cooperate with other relevant parties. While entitativity brings risks to the group (Johnson & Johnson, 2005a), overall it helps provide the base for strong cooperation among relevant parties.

Establish Meaningful Accountability

Positive interdependence is posited to create "responsibility forces" that increase group members' feelings of responsibility and accountability for (a) completing one's share of the work and (b) facilitating the work of other group members (Deutsch, 1949, 1962). When a person's performance affects the outcomes of collaborators, the person feels responsible for their welfare as well as his or her own. Failing oneself is bad, but failing others may be worse. The shared responsibility created by positive interdependence adds the concept of "ought" to group members' motivation—one ought to do one's part, pull one's weight, contribute, and satisfy peer norms (Johnson, 2003; Johnson & Johnson, 1989, 2005a, 2009b). Such feelings of responsibility increase a person's motivation to perform well.

Responsibility forces are increased when there is group and individual accountability. *Group accountability* exists when the overall performance of the group is assessed and the results are given back to all group members to compare against a standard of performance, and the group is held responsible by other groups for contributing its fair share to the group's success. *Individual accountability* exists when the performance of each individual member is assessed, the results given back to the individual and the group to compare against a standard of performance, and the member is held responsible by groupmates for contributing his or her fair share to the group's success.

A danger to peace is for one or more parties to fail to live up to their agreements and responsibilities for helping to achieve the mutual goals. Sustainable peace requires that all involved parties (individuals, groups, countries) are held accountable for meeting their responsibilities for achieving the mutual goals and maintaining and institutionalizing peace. This means that treaties and agreements are honored and the relevant parties engage in the patterns of behavior needed to sustain peace.

Ensure Promotive Interaction

Positive interdependence results in individuals promoting each other's productivity as part of the joint effort to achieve mutual goals. *Promotive interaction* occurs as individuals encourage and facilitate each other's efforts to accomplish mutual goals.

Parties focus both on being productive and on promoting the productivity of their collaborators. Promotive interaction is characterized by parties providing each other with help and assistance, exchanging needed resources, advocating the exertion of effort, and influencing each other (Johnson & Johnson, 2005a, b, c, d).

Appropriately Engaging in Needed Social Skills

Interpersonal and small group skills form the basic nexus among individuals, groups, and even countries, and if parties are to work together productively and cope with the stresses and strains of doing so, they must have a modicum of these skills. Parties must have or be taught the interpersonal and small group skills needed for high quality cooperation and be motivated to use them. To coordinate efforts to achieve mutual goals participants must get to know and trust each other, communicate accurately and unambiguously, accept and support each other, and resolve conflicts constructively (Johnson, 2009; Johnson & Johnson, 2009c). On the international level, social skills are known as diplomacy. Diplomatic skills are needed to sustain peace among groups and nations. Perspective taking skills are especially useful when engaging in diplomacy.

Engaging in Group Processing

Promotive interaction may be enhanced by group members periodically reflecting on how well they are functioning and planning how to improve their work processes. A *process* is an identifiable sequence of events taking place over time, and *process goals* refer to the desired sequence of events instrumental in achieving goals. *Group processing* may be defined as reflecting on a group session to describe what member actions were helpful and unhelpful and make decisions about what actions to continue or change. The purpose of group processing is to clarify and improve the effectiveness of the members in contributing to the joint efforts to achieve the group's goals. There is evidence that members of groups that process regularly achieve higher, have more positive relationships, and have higher self-esteem than do members of groups that do not process (Johnson & Johnson, 1989, 2005a).

Processing may be especially important for sustaining peace. All relevant parties need to meet regularly and discuss how well peace is being sustained, what actions by relevant parties are helpful and unhelpful, and what actions should be changed or continued. Internationally, such processing sessions may focus on monetary policy, trade agreements, joint military actions, and so forth. Within a country or group, processing needs to occur regularly to review responsibilities in institutionalizing and sustaining peace and doing one's fair share of the work in accomplishing the mutual goals. The goals may deal with the environment, economic development, eradicating diseases, and so forth.

Enhancing Variables: Trust and Conflict

During the 1950s and 1960s, Deutsch (1962, 1973) researched two aspects of the internal dynamics of cooperative groups that potentially enhanced outcomes: trust and conflict.

Trust

In sustaining peace and engaging in cooperative efforts, parties need to establish and maintain a high level of trust. The key to doing so is acting in trustworthy ways whenever dealing with the other parties (Deutsch, 1962; Johnson, 2009). Trust includes (a) the awareness that beneficial or harmful consequences could result from one's actions, (b) realization that others have the power to determine the consequences of one's actions, (c) the awareness that the harmful consequences are more serious than are the beneficial consequences, and (d) confidence that the others will behave in ways that ensure beneficial consequences for oneself (Deutsch, 1962). Trust is built through placing one's consequences in the control of others and having one's confidence in the others confirmed. Trust is destroyed through placing one's consequences in the hands of others and having one's confidence in the others disconfirmed through their behaving in ways that ensure harmful consequences for oneself. Trust tends to be developed and maintained in cooperative situations and it tends to be absent and destroyed in competitive and individualistic situations.

Trust is composed of two sets of behaviors. *Trusting* behavior is the willingness to risk beneficial or harmful consequences by making oneself vulnerable to another person. *Trustworthy* behavior is the willingness to respond to another person's risk-taking in a way that ensures that the other person will experience beneficial consequences. In order to establish trust two or more people must be trustworthy and trusting. Although both are important, being trustworthy is more important for sustaining peace than is being trusting. The greater the trust among group members, the more effective their cooperative efforts tend to be (Deutsch, 1962; Johnson, 2009; Johnson & Johnson, 2009c; Johnson & Noonan, 1972).

Conflict

To sustain peace parties must resolve conflicts constructively. Conflict within cooperative groups, when managed constructively, enhances the effectiveness of cooperative efforts (Deutsch, 1973; Johnson & Johnson, 1989, 2009a; Tjosvold, 1991a). There are two types of conflict that occur frequently and regularly within cooperative groups—constructive controversy and conflict of interests (Johnson & Johnson, 2005b, 2007).

Table 2.3 Meta-analysis of academic controversy studies: mean effect sizes

Dependent variable	Controversy/ concurrency seeking	Controversy/debate	Controversy/ individualistic efforts
Achievement	0.68	0.40	0.87
Cognitive reasoning	0.62	1.35	0.90
Perspective taking	0.91	0.22	0.86
Motivation	0.75	0.45	0.71
Attitudes toward task	0.58	0.81	0.64
Interpersonal attraction	0.24	0.72	0.81
Social support	0.32	0.92	1.52
Self-esteem	0.39	0.51	0.85

Source: Reprinted with permission from Johnson and Johnson (2007)

Constructive Controversy

To sustain peace, difficult decisions need to be made in ways that allow all relevant parties to express their views and receive a thoughtful hearing. The procedure for doing so is constructive controversy. *Constructive controversy* exists when group members have different information, perceptions, opinions, reasoning processes, theories, and conclusions, and they must reach agreement (Johnson & Johnson, 1979, 1989, 2003a, 2007, 2009a; Tjosvold, 1998, 2008). When the parties are faced with a problem to be solved or a decision to be made, even if it is about how to proceed to achieve the mutual goals, each point of view may be advocated. Parties (a) prepare the best case possible for their position, (b) make a persuasive presentation of their position, (c) engage in an open discussion in which they continue to advocate their position, refute the other alternative courses of action, and rebut attacks on their position, (d) drop all advocacy and view the issue from all perspectives, and (e) achieve consensus as to the course of action to adopt based on the best reasoned judgments of all parties.

When managed constructively, controversy promotes uncertainty about the correctness of one's views, an active search for more information, a re-conceptualization of one's knowledge and conclusions and, consequently, greater mastery and retention of the material being discussed and a more reasoned judgment on the issue being considered. Individuals working alone in competitive and individualistic situations do not have the opportunity for such a process and, therefore, their productivity, quality of decision making, and productivity suffer (Johnson & Johnson, 2007, 2009a).

Compared with concurrence-seeking, debate, and individualistic efforts, controversy results in greater mastery and retention of the subject matter, higher quality problem solving, greater creativity in thinking, greater motivation to learn more about the issue, more productive exchange of expertise among parties, greater task involvement, more positive relationships among parties, more accurate perspective taking, and higher self-esteem (Table 2.3) (Johnson & Johnson, 2007, 2009a; Tjosvold & Tjosvold, 1995). In addition, parties enjoy the experience. Controversies tend to be constructive when the situational context is cooperative, parties are

heterogeneous, information and expertise is distributed, parties have the necessary conflict skills, and the canons of rational argumentation are followed. Every time a party engages in constructive controversy, it is a lesson in how to engage in political discourse and behave in a democracy (Johnson & Johnson, 2000a, 2010b). Engaging in controversies thus sustains peace by helping ensure difficult decisions are managed constructively and that the nature of political discourse and democratic patterns of behavior are practiced and perfected.

Integrative Negotiation and Peer Mediation

To sustain peace conflicts of interests among the relevant parties must be managed constructively. A *conflict of interests* occurs when the actions of party striving to achieve its goal interferes with and obstructs the actions of another party striving to achieve its goal (Deutsch, 1962, 1973; Johnson & Johnson, 2005b, 2009c). Within the ongoing relationships, conflicts of interests are resolved constructively when parties negotiate integrative agreements and mediate their conflicts. Parties negotiate integrative agreements by (a) describing what they want, (b) describing how they feel, (c) describing the reasons for their wants and feelings, (d) taking the perspective of the opposing member, (e) inventing several optional agreements that would maximize joint benefits, and (f) selecting the agreement that seems most effective (Johnson & Johnson, 2005b, 2009c; Tjosvold, 1993). When parties use integrative negotiations and peer mediation, peace is sustained and considerably enhanced.

Results of a meta-analysis documented the value of teaching children and adolescents to use the integrative negotiation and peer mediation procedures (Johnson & Johnson, 2005b). Individuals who received training mastered the integrative negotiation and peer mediation procedures, maintained that mastery months after the training has ended, applied the learned procedures to actual conflicts in classroom, school, and family settings, developed more positive attitudes toward conflict, and generally resolved the conflicts in their lives more constructively (Table 2.4).

Civic Values

Some historians claim that the decline and fall of Rome was set in motion by corruption from within rather than by conquest from without. Rome fell, it can be argued, because Romans lost their civic virtue. **Civic virtue** exists when individuals meet both the letter and spirit of their public obligations. For a community to exist and sustain itself, members must share common goals and values aimed at defining appropriate behavior and increasing the quality of life within the community (Johnson & Johnson, 1994, 1996b, 2000b, 2010b, c). These common values provide internal resources to cope with adversity constructively and effectively.

Peace cannot be sustained when parties are dominated by competition where parties value striving for their personal success at the expense of others or

Table 2.4 Meta-analysis of mean peacemaker studies: mean effect sizes

Dependent variable	Mean	Standard deviation	Number of effects
Academic achievement	0.88	0.09	5
Academic retention	0.70	0.31	4
Learned procedure	2.25	1.98	13
Learned procedure – retention	3.34	4.16	9
Applied procedure	2.16	1.31	4
Application – retention	0.46	0.16	3
Strategy constructiveness	1.60	1.70	21
Constructiveness – retention	1.10	0.53	10
Strategy two-concerns	1.10	0.46	5
Two-concerns – retention	0.45	0.20	2
Integrative negotiation	0.98	0.36	5
Positive attitude	1.07	0.25	5
Negative attitude	-0.61	0.37	2
Quality of solutions	0.73	0	1

Source: Reprinted with permission from Johnson and Johnson (2005a)

individualistic efforts where parties value only their own self-interests. Rather, people need to internalize values underlying cooperation and integrative negotiations. The value systems underlying competitive, individualistic, and cooperative situations as well as constructive controversy and integrative negotiations are a hidden curriculum beneath the surface of school life.

Whenever students engage in competitive efforts, for example, they learn the values of commitment to getting more than others, that success depends on beating and defeating others, what is important is winning, not mastery or excellence, that opposing and obstructing the success of others is a natural way of life, that feeling joy and pride in one's wins and others' losses, and that a person's worth is conditional and contingent on his or her "wins."

The values inherently taught by individualistic experiences are commitment to one's own self-interest, success depends on one's own efforts, the pleasure of succeeding is personal and relevant to only oneself, other people are irrelevant, self-worth is based on a uni-dimensional view that the characteristics that help the person succeed are, and extrinsic motivation to gain rewards.

The values inherently taught by cooperative efforts are commitment to own and others' success and well-being as well as to the common good, success depends on joint efforts to achieve mutual goals, facilitating and promoting the success of others is a natural way of life, the pleasure of succeeding is associated with others' happiness in their success, other people are potential contributors to one's success, and own and other people's worth is unconditional, intrinsic motivation.

Participating in the controversy process teaches critical values. These include one has both the right and the responsibility to derive a reasoned position and advocate it, "truth" is derived from the clash of opposing ideas and positions, insight and understanding come from a "disputed passage" where one's ideas and conclusions are advocated and subjected to intellectual challenge, issues must be viewed from all perspectives, and seek a synthesis that subsumes the seemingly opposed positions.

Integrative, problem-solving negotiations and peer mediation are closely related to cooperation. They inherently teach the values associated with cooperation. In addition, problem-solving negotiations and mediation teach such values as being open and honest about what one wants and how one feels, understanding the other person's wants and feelings, striving to see the situation from all perspectives, being concerned with the other person's outcomes as well as one's own, seeking to reach agreements that are satisfying to all disputants, and maintaining effective and caring long-term relationships. In other words, constructive conflict resolution inherently teaches a set of civic values aimed at ensuring the fruitful continuation of the community.

Institutionalizing Consensual Peace Through Peace Education

To sustain peace, cooperation needs to be institutionalized in the political, economic, and educational institutions of the society. Institutionalizing peace in political institutions primarily mean that countries become democracies and that relations among countries are managed in democratic ways. There is a democratic bias in peace and cooperation (Johnson & Johnson, 2010a, b). The institutionalization of consensual peace in education and economic organizations are discussed in more detail.

Mahatma Gandhi once stated, "*If we are to reach real peace in this world we shall have to begin with the children.*" Peace education is based on the assumption that lasting peace depends on socializing the next generations into the competencies, perspectives, attitudes, values, and behavioral patterns that will enable them to build and sustain peace in the future. Thus, peace education primarily focuses on creating the conditions within which students become committed to building and sustaining peace. When they enter power positions as adults, it is assumed that they will then be better able than are current adults to sustain peace.

The steps of institutionalizing consensual peace through education include (a) establishing public education that is compulsory and integrates the diverse members of society, (b) establishing the mutuality and positive interdependence underlying a peaceful society and teaching students the competencies and attitudes they need to establish and engage in cooperative efforts, (c) teaching students how to engage in peaceful political discourse to make difficult decisions characterized by open-minded consideration of diverse views, (d) teaching students how to engage in integrative negotiations and mediation to resolve conflicts of interests so joint benefits are maximized, and (e) inculcating civic values.

Step One: Establishing Public Education

Compulsory Education

A necessary condition for accomplishing the goals of peace education is the existence of mandatory public education. Schools provide a setting in which peace may be lived and experienced, not just talked about. To experience peace, schools need to

be integrated and the day-to-day fabric of school life should reflect the cooperation, political discourse and decision making, and constructive conflict resolution inherent in a peaceful society. Since these social resources take years to develop, their use should pervade classroom life from elementary through post-secondary education. Peace is woven into the fabric of school life primarily through instructional methods such as cooperative learning and constructive controversy. Peace is reflected in the ways lessons are taught and conflicts are managed. The meaning and relevance of peace education arises out of students' day-to-day personal experiences in building and maintaining peace in the school. Through developing and maintaining peaceful relations with diverse schoolmates, students actually experience what they need to establish in society as a whole once they become adults.

There are many other economic and cultural benefits to compulsory public education. Education opens economic opportunities, thus giving children and youth hope for a rewarding and meaningful livelihood and life. The lack of educational opportunities can be a major motivator to join terrorist and rebel groups in many countries in order to create a new society more responsive to citizens' needs. Private school systems, such as those formed by some religious groups, may exploit children and youth's idealism and commitment to religion, sense of victimization and social injustice, and disaffection with society to teach pro-war ideology and socialize children and youth into beliefs that justify violence as a means of obtaining political and religious goals. In extreme cases, education can be helpful to reestablish normal societal life in countries trying to end violent conflicts. Public schools may provide the means, for example, to reintegrate children and youth who have participated in the violence into civilian life and help them find meaning and positive roles as civilians.

Integrating Schools

For peace to be developed, positive relations must be established among members of the formerly disputing groups. This is difficult to accomplish if schools are segregated. The very separation of different groups into segregated schools emphasizes the group differences and hostilities and allows the group's culture can be taught in ways that maintains intergroup conflict. Students are thus both culturally and socially socialized into the values, attitudes, norms, and information underlying the continuation of the conflict. Peace tends to be very fragile in segregated societies. As long as groups are separated, long-term peace is at risk.

Integrating schools, however, has to be more than the simple idea that proximity will resolve intergroup conflict. Just putting people in contact with one another does not in and of itself resolve the conflict. Contact under certain conditions can increase intergroup hostility and under other conditions it can create positive relationships among members of disputing groups. Thus, contact is a necessary but not sufficient condition for decreasing prejudice, intergroup hostility, and intergroup conflict. The conditions under which contact will reduce intergroup hostilities and build positive relationships among diverse people are (a) working together cooperatively to achieve common goals, (b) interaction on a personal level where candid conversations may take place, (c) equal status, and (d) support for the contact from authority and group

norms (Allport, 1954; Johnson & Johnson, 1989). In an extensive meta-analysis of the research on intergroup contact, Pettigrew and Tropp (2000) concluded that optimal intergroup contact was a key aspect of any successful effort to reduce prejudice and that the effects on prejudice reduction are much stronger when contact is conducted in organizational settings such as companies and schools rather than travel and tourism settings.

For long-term consensual peace to be established and sustained, therefore, the students from all relevant groups must interact and build positive relationships. Integrating schools provide the opportunity for diverse students to interact and get to know each other. The more different the groups in terms of culture, religion, and so forth, the greater the need for integration. While this may seem almost impossible in many countries, it is a goal that should be worked towards.

Step Two: Establishing Mutuality, Positive Interdependence

Establishing Positive Interdependence

Sustaining peace requires that mutuality be established through positive goal interdependence, which is supplemented by other aspects of outcome, means, and boundary interdependence. This has previously been discussed.

Using Pedagogy to Build a Cooperative Community

Peace education is concerned with fostering schools in which students work together to achieve mutual goals, distribute the benefits justly, and develop a superordinate identity that unites all students in the school. A direct, powerful way of doing so is through the use of cooperative learning (Johnson et al., 2008). *Cooperative learning* is the instructional use of small groups so that students work together to maximize their own and each other's learning. Any assignment in any curriculum for any age student can be done cooperatively. There are three types of cooperative learning—formal, informal, and base groups.

Formal cooperative learning consists of students working together, for one class period to several weeks, to achieve shared learning goals and complete jointly specific tasks and assignments (Johnson et al., 2008). In formal cooperative learning groups teachers:

1. *Make a number of pre-instructional decisions.* Teachers specify the objectives for the lesson (both academic and social skills) and decide on the size of groups, the method of assigning students to groups, the roles students will be assigned, the materials needed to conduct the lesson, and the way the room will be arranged.
2. *Explain the task and the positive interdependence.* A teacher clearly defines the assignment, teaches the required concepts and strategies, specifies the positive

interdependence and individual accountability, gives the criteria for success, and explains the expected social skills to be used.

3. *Monitor and intervene*: Teachers monitor students' learning and intervene within the groups to provide task assistance or to increase students' interpersonal and group skills.
4. *Assess and process*: Teachers assess students' learning and structure students processing of how well their groups functioned.

Informal cooperative learning consists of having students work together to achieve a joint learning goal in temporary, ad-hoc groups that last from a few minutes to one class period (Johnson et al., 2008). During a lecture, demonstration, or film, informal cooperative learning can be used to focus students' attention on the material to be learned, set a mood conducive to learning, help set expectations as to what will be covered in a class session, ensure that students cognitively process and rehearse the material being taught, summarize what was learned and preview the next session, and provide closure to an instructional session. The procedure for using informal cooperative learning during a lecture entails having 3–5 min focused discussions before and after the lecture (i.e., bookends) and 2–3 min interspersing pair discussions throughout the lecture.

Cooperative base groups are long-term, heterogeneous cooperative learning groups with stable membership whose primary responsibilities are to provide support, encouragement, and assistance to make academic progress and develop cognitively and socially in healthy ways as well as holding each other accountable for striving to learn (Johnson et al., 2008). Typically, cooperative base groups (a) are heterogeneous in membership, (b) meet regularly, and (c) last for the duration of the semester or year, or until all members are graduated. Base groups typically consist of three to four members, meet at the beginning and end of each class session or week, complete academic tasks such as checking each members' homework, complete routine tasks such as taking attendance, and provide personal support through listening sympathetically to personal problems and providing guidance for writing a paper.

These three types of cooperative learning may be used together. A typical class session may begin with a base group meeting, followed by a short lecture in which informal cooperative learning is used. A formal cooperative learning lesson is then conducted and near the end of the class session another short lecture may be delivered with the use of informal cooperative learning. The class ends with a base group meeting.

In addition to experiencing cooperation in learning groups, the classroom and school can be structured into a cooperative community, that is, a group of people who share the same locality and have common goals and a common culture. *Classroom interdependence* may be created through such procedures as (a) class goals, rewards or celebrations, roles such as establishing a classroom government and (b) dividing resources such as having the class publish a newsletter in which each cooperative group contributes one article. *Interclass interdependence* may be created through organizing several classes into a "neighborhood" and having them engage in joint projects. *School interdependence* may be structured through

displaying the school's goals, organizing faculty into collegial teaching teams and study groups, using cooperative groups during faculty meetings, and conducting all-school projects. Projects with parents, such as creating a "strategic plan" or raising money, create *school-parent interdependence*. Finally, *school-neighborhood interdependence* may be created by mutual projects, such as having neighborhood members play in the school band or having students and neighborhood members jointly clean up a park. Through these layers of interdependence, schools can promote peace within the community as well as among students.

Through experiencing cooperative learning in all subject areas and grade levels, students gain a cognitive understanding of the nature of cooperation and mutuality, procedural competencies of how to initiate and maintain cooperative efforts, including providing the relevant leadership, decision-making, communication, trust-building, and conflict-management skills, and the emotional commitment to attitudes and values underlying cooperation and mutuality such as valuing the well-being of collaborators as well as oneself and promoting the common good.

Achieving mutual goals and establishing a joint identity requires that members of the diverse groups interact with each other and promote each other's success. Through promoting each other's success and building personal relationships and emotional support, students become more sophisticated about their differences and engage in candid discussions concerning their relationships, the conflict, and the peace agreement. These candid conversations involve the honest and detailed sharing of past experiences, pain, and insights involved in the healing of past traumas. Even in seemingly intractable conflicts, such candid conversations allow for reconciliation, forgiveness, and the giving up of an identity as a combatant or victim. Truth and Reconciliation Commissions are an extreme example of these candid conversations. The personal relationships and candid discussions are critical, as it takes more than superficial connections to overcome stereotyping and prejudice and to build an inclusive caring that extends to all parties relevant to the peace.

Minimizing Negative Interdependence

In addition to structuring positive interdependence, sources of negative interdependence and isolation should be minimized (Johnson & Johnson, 2003b, 2005a, 2009b). Negative interdependence may exist through oppositional goals, differential distribution of benefits, such as winners receive more benefits than losers, and a one-way dependence on resources where low-power parties are dependent on the resources of high-power parties, but not vice versa. The identities of the parties are differentiated, that is, members of the high-power group have a positive self-concept as a "winner" and members of the low-power groups have a negative identity based on being "losers." That is, the disputing groups will tend to perceive each other as unequals (i.e., winners and losers). This is based on a uni-dimensional view of each other taking into account only the characteristic most salient for winning or losing, such as military or economic power, history of privilege, or cultural or tribal

background (Johnson & Johnson, 1989; Tjosvold & Wu, 2009). Competition among disputing groups for economic resources, political power, and educational achievement will institutionalize the conflict and encourage further violence. Even isolation from each other may institutionalize the conflict.

Avoiding Domination: Winner Imposes Peace

When one group wins a war, gains significant military, or economic advantage over the other disputants, the high-power party may use its advantage to dominate the low-power groups and impose peace on the high-power group's terms (Deutsch, 2006; Johnson & Johnson, 2009c). The goal of each group is to win and when one does, the other groups lose. The negative interdependence characterizing relationship between the party imposing peace and the parties upon whom peace is being imposed tends to result in the dominant group gaining a higher share of the benefits than the subordinate groups, negative and hostile relationships among the groups involved, and differential psychological and physical well-being where high power parties have high self-efficacy and self-esteem while low-power parties have low self-efficacy and self-esteem along with stress related illnesses (Johnson & Johnson, 2009c).

When the "winner" imposes peace, the losing groups are often segregated and assigned specific areas in which they are to live or stay. Contact between the groups may then be limited and controlled. Long-term maintenance of peace is then attempted through structural oppression that ensures social institutions such as education, religion, mass media, and political structures all promote the status quo of the high power group's domination and privilege. Education may focus on institutionalizing the status quo through the indoctrination of low-power citizens in the importance of accepting the domination of the high-power citizens as the natural order of the world, God's will, or in their best interests. Members of the high-power group are taught a complementary rationale for their privileged position (such as God has appointed them rulers, nature made them genetically superior, and so forth). Such institutionalization typically fails, as the imbalance of power tends to result in oppression and injustice, which tends to create rejection of the status quo by the low-power groups and continued discord.

Step Three: Teaching Students How to Make Difficult Decisions

Maintaining peace requires that difficult decisions are made through open-minded discussion of diverse views and perspectives so that ensures all citizens are committed to implement the decision. Peace education includes teaching students how to (a) face the difficult issues that must be discussed in order for peace to be established and maintained, (b) establish a procedure of constructive controversy that all

parties agree to use to discuss these difficult issues, (c) train students how to use the procedure skillfully, and (d) incorporate the use of the procedure into students' personal identity and value system so that the procedure will be habitually used. When left unresolved, the difficult issues may result in a renewal of war or violence. In order to have constructive discussions of these difficult issues, the parties involved need an effective decision-making procedure.

A decision-making procedure that provides a model of the political discussions inherent in democracy and can be used in academic teaching is constructive controversy (Johnson & Johnson, 1979, 1989, 2003a, 2007, 2009a; Johnson et al., 2000; Tjosvold, 2008). Teaching students how to engage in a controversy begins with randomly assigning students to heterogeneous cooperative learning groups of four members. The groups are given an issue on which to write a report and pass a test. Each cooperative group is divided into two pairs. One pair is given the con-position on the issue and the other pair is given the pro-position. The cooperative goals of reaching a consensus on the issue (by synthesizing the best reasoning from both sides), writing a quality group report, and ensuring all members pass the test are highlighted. Students then (Johnson & Johnson, 2007):

1. *Research, learn, and prepare position:* Students prepare the best case possible for their assigned position by researching the assigned position, organizing the information into a persuasive argument, and planning how to advocate the assigned position effectively to ensure it receives a fair and complete hearing.
2. *Present and advocate position:* Students present the best case for their assigned position to ensure it gets a fair and complete hearing and listen carefully to the opposing position. The intent is to persuade others to agree with them.
3. *Engage in an open discussion in which there is spirited disagreement:* Students freely exchange information and ideas as they argue forcefully and persuasively for their position, critically analyze and refute the opposing position, and (c) rebut attacks on their position and presenting counter arguments.
4. *Reverse perspectives:* Students reverse perspectives and present the best case for the opposing position.
5. *Synthesize:* Students drop all advocacy and find a synthesis on which all members can agree. Students summarize the best evidence and reasoning from both sides and integrate it into a joint position that is a new and unique. Students write a group report detailing the group's synthesis and its supporting rationale and take a test on both positions. Members then process how well the group functioned and celebrate the group's success and hard work.

Any time students participate in the controversy procedure, learning how to engage in open-minded discussion of diverse views and perspectives, they are also learning how to engage in democratic political discourse. Constructive controversy has been implemented in schools and universities throughout the world.

Step Four: Teaching Students How to Resolve Conflicts Constructively

If peace is to last, individuals must learn how to resolve conflicts of interests constructively. Many students tend to know only “winning” and “withdrawing” strategies for settling disputes. To build peace, all students need to know how to resolve conflicts in constructive, nonviolent, problem-solving ways. While peacemaking may involve distributive (win-lose) negotiations, peace building requires the use of integrative negotiations, where disputants strive to find a resolution that maximizes the benefits for all parties rather than determining who wins and who loses. Working together cooperatively, and resolving conflicts constructively, sets the stage for reconciliation and forgiveness and the long-term sustainability of the peace. In building and sustaining peace there are usually difficult conflicts that take great skills on the part of all parties to resolve. Resolving such conflicts constructively requires the use of integrative negotiations. Students learn such procedures as part of peace education. The conflict resolution program that most directly teaches integrative negotiations and has the most research validation is the *Teaching Students To Be Peacemakers Program*.

The *Teaching Students To Be Peacemakers Program* began in the 1960s to teach all students how to resolve conflicts of interests constructively by engaging in integrative negotiations and peer mediation (Johnson & Johnson, 1996a, 2005b). The role of mediator is rotated so that all students serve as mediators an equal amount of time. Initially, students mediate in pairs. This ensures that shy or nonverbal students get the same amount of experience as more extroverted and verbally fluent students. Teaching all students to mediate properly results in a school-wide discipline program where students are empowered to regulate and control their own and their classmates’ actions. Teachers and administrators are then freed to spend more of their energies on instruction.

The Peacemaker Program has been implemented from kindergarten through high school (Johnson & Johnson, 1996a, 2005b) and there are considerable benefits for students in being able to resolve conflicts integratively. Learning how to resolve conflicts constructively, and being skilled in doing so, gives students a developmental advance over those who never learned how to do so. The developmental advantage includes positive effects on actualizing one’s potential, improving the quality of one’s relationships, and enhancing life success. Individuals skilled in resolving conflicts constructively tend to make and keep more friends, and be more liked by and popular with peers. They tend to be more employable, be more successful in their careers, have a more fulfilling family life, be better parents, and better able to maintain life-long friends. Learning how to resolve conflicts integratively benefits students throughout their lives. Most of all, however, it enables individuals to build and maintain peaceful relations with others.

Step Five: Inculcating Civic Values

Consensual peace is maintained through the application of civic values. Peace survives on the virtue of the people and virtue is reflected in the way individuals and groups balance their own needs with the needs of the society as a whole. Motivation to be virtuous is created by a sense of belonging to an inclusive society, a concern for the society as a whole, and a moral bond with the society whose life is at stake. When parties work together to achieve mutual goals and when conflicts are managed constructively both within decision-making and conflict of interests situations, the adoption of the civic values underlying civic virtue is promoted (Johnson & Johnson, 1994, 1996b, 2000b, 2010c). The inculcation of these values should be encouraged and nurtured. For consensual peace to exist and be sustained, the relevant parties must share common values aimed at equality and justice. To create the mutuality that defines a peaceful relationship, there must be shared values that define appropriate behavior. Mutuality cannot exist in settings dominated by competitive or individualistic efforts. Rather, one needs to internalize the values reflective of cooperation, controversy, and integrative negotiations, which include commitment to the common good and to the well being of others, a sense of responsibility to contribute one's fair share of the work, respect for the efforts and viewpoints of others and for them as people, behaving with integrity, empathy with and caring for the other parties, compassion when other members are in need, equality, and appreciation of diversity. Such civic values both underlie and are promoted by the cooperation, controversy, and integrative negotiations

Institutionalizing Consensual Peace Through Work Organizations

Peace is institutionalized in work organizations through the same five procedures emphasized in peace education (Tjosvold, 1991a, b, 1998, 2008; Tjosvold & Tjosvold, 1981). Indeed, business, government, and non-governmental organizations provide many potentially powerful opportunities to develop peace within and between communities and nations as well as between nations. Work organizations typically hire individuals from diverse groups and then ask them to collaborate. Managers around the world are understanding more clearly that teamwork within and between departments and indeed across organizations contribute very substantially to performance and success. They are investing in developing relationships between leaders and employees, among team members, between diverse specialists, and with supply chain and joint venture partners as well as competitors.

As economic activities are increasingly global, people are being asked to work with a wide array of culturally diverse people. These relationships can result in understanding and empathy with diverse people that can build global civic values. But these close encounters can end badly, resulting in deepening stereotypes and mistrust. To capture the benefits of global business, diverse managers and employees must not only form partnerships but also strengthen positive interdependence including learning cooperatively, discuss their opposing views open-mindedly for integrative solutions, manage their conflicts for mutual benefit, and develop the inclusive, civic values that sustain cooperative efforts and support harmony.

Managers and employees together must develop these relationships despite cultural and geographic distances and under time and other pressures of the global marketplace. They need courage to experiment and develop practical, effective procedures. Fortunately, theory and research on positive and negative interdependence and conflict provide realistic guides for this experimenting (Tjosvold, 1991a, b; Tjosvold & Hu, 2005).

Theory, Research, Practice

As long as there are people of good will and conviction, there will be attempts to sustain peace. Good will fades, however, and conviction can be shifted to other issues. The people most committed to sustaining peace can get old and lose the “fire” that motivated them when they were young. What has the most potential to provide enduring stability and permanence to peace is the relationships among theory, research, and practice. The more efforts to sustain peace are directly based on theory that is validated by research and then translated into practical procedures, the more effective and the more long-lasting the peace will tend to be.

Theory, research, and practice all interact and enhance each other (Johnson, 2003). Theory both guides and summarizes research. Research validates or disconfirms theory, thereby leading to its refinement and modification. Practice is ideally guided by validated theory, and applications of the theory reveal inadequacies that lead to refining of the theory, conducting new research studies, and modifying the application. Cooperation is a classic example of this process. Social interdependence theory has been validated and refined by hundreds of research studies. The validated theory has been used to generate practical procedures that have been implemented in education and business organizations, as well as in a wide number of other settings. The combination of social interdependence theory, hundreds of validating research studies, and actual use in applied situations makes cooperation one of the most distinguished of all practices aimed at sustaining peace. It is this interaction among theory, research, and practice that makes social interdependence theory so relevant and valuable to sustaining peace.

Levels of Social Interaction

Perhaps more than most theories, social interdependence theory and cooperative goal structures generalize to all levels of social interaction. While it takes at least two parties to engage in cooperation and establish peace, the disparate parties may be internal characteristics (inner cooperation and peace), different individuals (interpersonal cooperation and peace), different groups (intergroup cooperation and peace), and different countries (international cooperation and peace). Social interdependence theory is highly generalizable to all levels of social interaction, and so are the related theories of constructive controversy and integrative negotiations.

Conclusions

Sustainable peace is based on creating and maintaining effective cooperative systems among diverse groups despite different interests. Cooperation is both the goal of peace and the process that sustains it. Consensual peace is sustained through all the relevant parties adopting such mutual goals as mutual defense, economic development, protection of the environment and then structuring their interaction to ensure that benefits are distributed justly, the needed resources are distributed among the relevant parties, each party has a unique role to play in achieving the mutual goals, and the relevant parties are united through a superordinate, mutual identity. Like all cooperative systems, once strong positive interdependence is established, each party needs to be accountable to contributing a fair share of the work and resources, promote the success of the other relevant parties, use social skills appropriately in doing so, and regularly engage in group processing.

Cooperation is based on social interdependence theory. Social interdependence theory indicates that domination is based on competitive dynamics and consensual peace is based on cooperative dynamics. Two key aspects of sustaining cooperation are trust and constructively managed conflict. Relevant parties must behavior in trustworthy ways in interacting with each other and appropriately engage in trusting actions.

There are two types of conflict that must be dealt with to sustain peace. The first is the conflict inherent in making joint decisions about how best to achieve the mutual goals. These decisions often involve difficult issues on which the relevant parties have widely different perspectives. Constructive controversy provides a theory, validating research, and a set of practice procedures for making such decisions. Constructive controversy theory focuses on the open-minded exchange of diverse views, characteristic of effective decision making and political discourse in a democracy. Participants present their conclusions, are challenged by opposing views, experience uncertainty, search for new information and a better perspective, and come to a new revised conclusion. In addition, there are always conflicts of interests to be resolved. To sustain peace, such conflicts need to be resolved through

integrative negotiations. Integrative negotiations theory focuses on reaching agreements that maximize the benefits for everyone involved. It also is characterized by the interaction among theory, research, and practice.

Finally, sustaining peace requires all relevant parties adopting the same civic values that place the overall cooperative relationship above the interests of any one party. This positive value interdependence is essential for long-term cooperation.

Sustaining peace requires the institutionalization of peace within political, educational, and economic organizations. Consensual peace is biased towards democracy and democratic decision making. There are five essential elements in institutionalizing peace through education. First, in order for education to influence children and youth they must attend school. Compulsory public education should, therefore, be established. In order to build the long-term positive relationships needed to institutionalize peace, the schools must be integrated so that the students from disputing groups interact and get to know each other. This contact must occur under optimal conditions where students work together cooperatively, build personal relationships in which candid conversations may take place, have equal status, and feel supported from authorities and societal norms.

Second, positive interdependence, mutuality, and an awareness of a common fate must be established so that individuals perceive that the goals of any one group can be accomplished if and only if the goals of all other groups are accomplished. The benefits of achieving the mutual goals must be distributed in a “just” and fair manner. A superordinate identity unifying the diverse groups must be built. Cooperative learning may be the easiest and most effective way to build mutuality into the day-to-day fabric of school life. The school becomes a microcosm of society by having students work together cooperatively to achieve mutual learning goals. Positive interdependence may be woven into the fabric of school life as well as the classroom.

Third, the children and youth in many societies have never lived in a democracy and are unfamiliar with the role of citizen in a democracy. Dissent may have been punished. They need to learn, therefore, how to engage in democratic decision-making involving political discourse. This may be taught through the constructive controversy procedure. Mastery of the democratic decision-making procedures may be achieved through the frequent use of the constructive controversy procedure to teach academic material.

Fourth, many of the children and youth attending school may have participated in the conflict as warriors, support personnel, or victims. They may be used to seeing violence as the primary strategy for dealing with conflicts. They need, therefore, to learn how to manage conflicts constructively. In order to teach students how to resolve conflicts of interests constructively, the Peacemaker Program (consisting of integrative negotiation and peer mediation procedures) needs to be implemented at all grade levels. The integrative negotiation and mediation procedures may be integrated into the curriculum and academic lessons.

Finally, the civic values necessary for consensual peace need to be inculcated, such as commitment to the common good and to the well being of others, a sense of responsibility to contribute one’s fair share of the work, equality, and compassion

when other members are in need. By engaging in cooperative efforts, engaging in open-minded discussion of diverse views in order to make difficult decisions, and seeking resolutions to conflicts of interests that maximize joint benefits, students will internalize these values.

The institutionalization of peace in work organizations follows a similar five step procedure. Companies need to hire members of all relevant groups and assign them to heterogeneous teams and departments. Positive interdependence is structured through common tasks, shared rewards, connected roles, and superordinate identity as employees of the company. Decision making utilizes the constructive controversy procedure and conflicts of interests are resolved through integrative negotiations. Overall civic values and good citizenship within the company are emphasized.

Morton Deutsch in 1949 developed the basic theory of social interdependence and then in 1962 included individualistic efforts as well as trust and conflict as mediators. Since then, social interdependence theory has been a model in psychology of the interrelationships among theory, research, and practice. Hundreds of studies have been conducted on social interdependence theory that have been reviewed in a series of meta-analyses that demonstrate that goal interdependence very much affects efforts to achieve, quality of interpersonal relationships, and psychological health. The theory has been revised primarily by David and Roger Johnson at the University of Minnesota and Dean Tjosvold at Lingnan University. These revisions come from extensive research on the theory and through applying the theory in educational and business settings. Conducted in classrooms and business settings, these studies both refine the theory and simultaneously demonstrate that the theory can be operationalized in applied settings. Morton Deutsch, David and Roger Johnson, and Dean Tjosvold have focused similar efforts on constructive conflict resolution, and integrative negotiations. David and Roger Johnson and Dean Tjosvold have also engaged in a similar effort on constructive controversy. This combination of clear theory, validating research, and effective application in a variety of settings is what makes the three theories success stories in the social sciences and important aspects of sustaining peace.

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