

## A few words on plagiarism

The research abstracts you are about to read, and perhaps use in your own research, represent the work I completed with colleagues at the Corporate Adventure Training Institute. C.A.T.I. was a research center of excellence at Brock University in Canada from 1989 to 1997. As the founder and director of CATI, I seemed to be fighting plagiarism from the first day of operation. Our studies and instruments were deliberately stolen and inadvertently plagiarized (even by some trusted employees).

This information was first distributed worldwide as two page newsletters called CATInates (from the word catenate meaning “to link together in series”). Although these newsletters contained warnings to reference and give credit where credit was due, some unscrupulous programs, reprinted the studies in their newsletters as if they had conducted the studies. I suspect they wanted customers to think they had research capabilities.

Despite this, and in an effort to still help student researchers, the data were placed on a website operated by a non-profit international consulting consortium I had founded called eXperientia (meaning “conscious learning for life derived from purposeful reflection on direct participation in action events”). Unfortunately, plagiarism worsened. Within a year, two groups had copied every page of these research studies and added them to their websites, as if we worked for them!

In an effort to continue sharing these data, but also to protect them, the information was converted into a Portable Document Format file. This PDF file has been fitted with trace distribution data and set for maximum security. You will be able to read, but NOT print, change, copy or paste its contents. Every page contains a request that you reference original sources and give credit where credit is due. If you are not sure of how to cite this document, follow the style of your choice and use this URL:

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I’m sorry to be so guarded, but these steps have been made necessary by those who were ungrateful for receiving a free gift. Please don’t become one of them. Help us stem the rising tide of plagiarism on the Internet. Good luck and may your research add to our body of knowledge....

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## Summary of Findings

Corporate adventure training (CAT) or experience-based training and development (EBTD) programming are mostly utilized to improve teamwork. Quantitative and qualitative evidence, both objective and subjective, suggest that these programs can be effective, and may be a better choice for building teams than the usual classroom program. However, without program follow-up, any acquisition of teamwork may not be maintained over time. Unsupported gains in teamwork often fail to transfer to the workplace and return to baseline values in about six months. Barriers to the transfer of learning include: not doing team building with intact units, not starting with executives and cascading the effect to other levels, and not providing time, tasks or resources to practice teamwork on the job.

Trust is a critical and integral part of teamwork. At least five types of trust are present in CAT programs: acceptance, believability, confidentiality, dependability, and encouragement. The physical nature of CAT programs and the use of touch are important program elements that contribute to develop certain kinds of trust. The use of program activities (ropes courses versus group initiatives) favor the development of different kinds of trust. The role of the clients in actively caring for their own safety is critical for trust to be maintained, while the use of "experts" can interfere with the creation of trust.

CAT or EBTD programs can also benefit individuals and organizations as well as teams. Willingness to take risks can be positively influenced by program activities such as rappelling or abseiling, ropes or challenge courses, and rock climbing. Programs with entire workforces have contributed to improved corporate culture and motivational climate. Out of concern for maintaining safety, heart rate predictions have been conducted for a mixed group of males over the age of 40.

Other than safety, the single most important indicator of program quality is facilitation. Partnerships of company trainers with CAT or EBTD trainers seem to provide the best combination. The use of advanced techniques such as isomorphic framing and solution-focused facilitation appear to add great value to program outcomes, especially the latter with dysfunctional groups. Debriefing about a specific learning objective tends to be more useful than debriefing about the general experience.

Other program elements can contribute to overall effectiveness. Sequencing of activities is critical to the success of a program and in some cases incorrect ordering can retard the development of teamwork. The length of a program and its customized nature can have extra benefit, while program location and setting don't appear to be too influential over learning outcomes.

**STUDY #1 Corporate adventure training can be an effective means of developing teams.**

REFERENCE: Bronson, J., Gibson, S., Kishar, R. & Priest, S. (1992). Evaluation of Team Development in a Corporate Adventure Training Program. Journal of Experiential Education, 15(2), 50-53.

PURPOSE: To identify changes in teamwork resulting from a CAT program.

DESIGN: One control group (n=11), which did not receive any training, and one experimental group (n=17), which received the CAT program treatment.

TREATMENT: A three day residential CAT program with typical challenge/ropes course events and group initiative activities.

COMPANY: American aerospace engineering. English was the primary language.

SUBJECTS: Managers from two intact work units (with equivalent levels of responsibility or function), which were cluster sampled from within all company divisions.

INSTRUMENT: The short version of the Team Development Inventory (TDI-s) with established face validity, equivalent reliability and construct validity.

MEASUREMENT: Subjects were pretested during diagnostic meetings at least one month before the program start and post tested during follow-up meetings at least two months after the program finish.

ANALYSIS: Two-way ANOVA, seeking differences between groups and over time, with post hoc t-tests to determine precise differences.

FINDINGS: Eight of the ten item statements on the TDI showed positive changes for the group which received treatment and no changes for the one that did not. Therefore, and in the opinion of its members, the group having received adventure training improved in all aspects of team development except two. Excerpted comments from subjects helped to explain some of the findings:

*We were sharing an example the other day. When we looked at what we were asked to do. It was very clear that it was impossible as individuals. Even with five or six of us, it looked impossible. But then, doing the training exercises, when you start trusting each other and relying on the other one's strength - and listening, you know - it was really exciting to see what could be done. And that feeling has carried over. We are able to talk to each other now, not as strangers. It's more like, "We're all part of this team and we know each other." These things have made my job easier and, hopefully, their job easier in dealing with me.*

*I think there were some real bridges built. Phone calls get returned now.... There's quite a bit of a reduction in the finger pointing, even in the way we bring problems to one another. I was about the lowest level of manager that participated in the training. The rest of them were high level managers, ...right up to the VP level. Since that time I have developed a much more comfortable feeling dealing with these upper managers.*

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Table of mean TDI scores for both groups (control and experiment) and over both tests (pre and post). Each asterisk indicates significant differences among means.

<u>TDI item</u>	<u>TEST</u>	<u>Control</u>	<u>Experiment</u>
understanding and commitment to goals	<b>Pre</b>	3.09	2.94
	<b>Post</b>	3.27	3.59 *
concern and interest in one another	<b>Pre</b>	2.91	2.82
	<b>Post</b>	2.72	3.71 *
acknowledgement and confrontation of conflict	<b>Pre</b>	3.27	3.00
	<b>Post</b>	3.27	3.35
listening with sensitivity and understanding	<b>Pre</b>	2.64	2.71
	<b>Post</b>	2.73	3.59 *
prompt decision making and solution initiation	<b>Pre</b>	2.91	3.00
	<b>Post</b>	3.09	3.59 *
recognize and respect individual differences	<b>Pre</b>	2.46	2.65
	<b>Post</b>	2.46	3.35 *
high standards for own and team's performance	<b>Pre</b>	3.64	3.41
	<b>Post</b>	3.73	4.00 *
look to each other for help on resolving challenges	<b>Pre</b>	3.46	3.29
	<b>Post</b>	3.64	3.53
recognition and reward of team efforts	<b>Pre</b>	2.54	2.77
	<b>Post</b>	2.36	3.53 *
encourage and appreciate feedback	<b>Pre</b>	3.18	2.82
	<b>Post</b>	3.09	3.71 *

CONCLUSIONS: Overall, no changes in the control group, coupled with increases in the experimental group, suggested that improved team development did occur for this latter intact work unit as a result of the CAT program. Since these groups were cluster sampled from all company groups involved in the corporate adventure training program, a similar impact may be generalized to these other groups in the company. However, generalization of findings beyond this particular program or company studied is not recommended.

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**STUDY #2 For team building programs to be effectively utilized back at the office, they should be conducted on intact work units, rather than random samplings, and resources should be dedicated to encourage practice of team behaviors.**

REFERENCE: Smith, R. & Priest, S. (in press). Barriers to transference from Corporate Adventure Training to the Workplace. *Journal of Adventure Education and Outdoor Leadership*.

PURPOSE: To quantitatively establish the efficacy of a CAT program for team building and to qualitatively determine the barriers which inhibit transfer at work.

DESIGN: Quantitative survey of CAT program effectiveness followed by qualitative interviews to identify barriers to transfer of learning. Subjects (n=60) were randomly selected and assigned to 5 groups of twelve. A 25% sub-sample of 15 subjects was purposely chosen for the interviews, with proportionate representation of 3 from each group (including advocates and skeptics alike).

TREATMENT: A one day CAT program, with ten group initiatives/team building activities (trolleys, line-ups, all aboard, trust triads, trust falls, spider web, team triangle, cantilever, nitro crossing and traffic jam) through which the five groups (A thru E) rotated.

COMPANY: Canadian commercial distribution firm. English was the primary language.

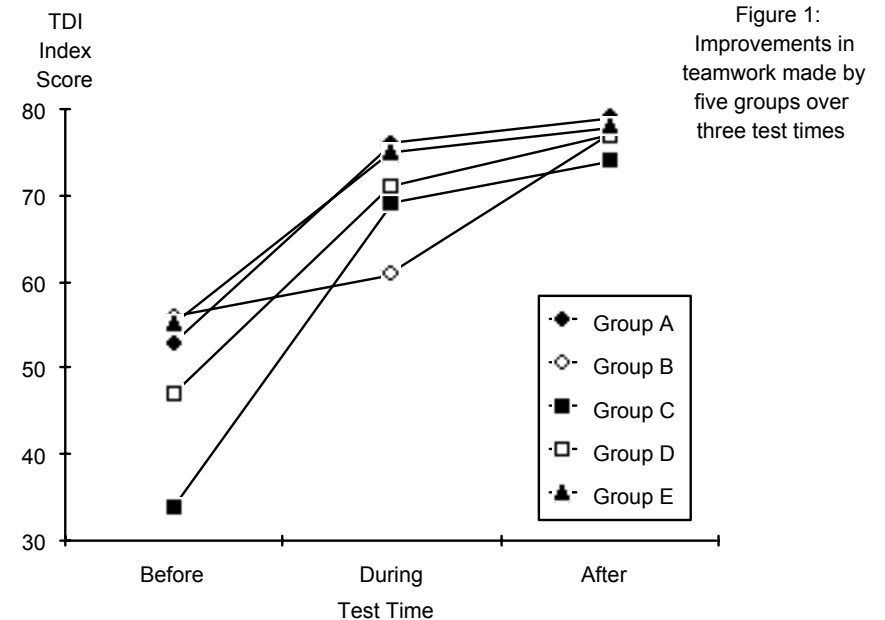
SUBJECTS: Middle management executives randomly placed in the five groups (A—E).

INSTRUMENT: Quantitative: the medium version of the Team Development Inventory (TDI-m) with established face validity, equivalent reliability and construct validity. Qualitative: open ended, half-hour long, tape recorded interviews.

MEASUREMENT: The TDI-m was given during the orientation session (before), lunch break (during) and closure session (after the CAT program). Interviews were held a month later asking about demographics, program highlights, learning applications, barriers to transfer and strategies for overcoming the barriers.

ANALYSIS: Quantitative data (TDI-m index scores) were subjected to two-way ANOVA seeking differences across the five groups (A—E) and three testing times (before, during and after). Post hoc analyses were conducted using Scheffe Tests. Qualitative data were analyzed for content, and common responses or patterns were reported as subject trends or tendencies in behavior.

FINDINGS: The following graph shows the overall changes which occurred for 53 subjects (88% attendance) in the five groups over the one day CAT program.



The 5 groups showed significant improvement on all 25 items of the TDI-m indicating that the CAT program was effective in building functional teams from random individuals. Although the five groups started with different perceptions of teamwork and evolved at different rates, by the end of the day they were relatively equivalent in their levels of teamwork. The varying rates of increase were attributed to the styles of the groups' respective facilitators.

Fourteen subjects (7 male and 7 female) participated in the interviews. With a range of 5 to 10 years of experience in this company, subjects commonly responded that their CAT highlight was learning that they could accomplish more than initially anticipated. They gained an awareness of cooperation, trust, conflict and communication, noted the importance of keeping everyone involved in a project, and recognized their own role in contributing to a team task. Subjects provided examples of applying new learning at work, but mentioned two principle barriers to transference: lack of participation by all employees in CAT and lack of time for practicing new learning. In short, they attempted to practice functional team behaviors, but ran into resistance and opposition from co-workers who had not experienced the CAT program. In order to overcome these barriers, they suggested involving everyone in CAT and providing time and other resources for practicing team behaviors.

CONCLUSIONS: A one day CAT program was deemed successful at creating a 22—41% gain in teamwork (as measured on the TDI-m 100 point scale) for the five random groups. Unfortunately, since the subjects did not remain together back at the office, any improvements were lost in the face of resistance. Training more employees in intact units would permit the changes to be retained for longer.

### STUDY #3 Follow-up procedures have a significant impact on transfer of learning.

REFERENCE: Priest, S. & Lesperance, M. A. (1994). Time Series Trend Analysis in corporate team development. *Journal of Experiential Education*, 17(1), 34-39.

PURPOSE: Two parts: the first determined time series changes in team behaviors during a CAT program, and the second examined the transfer influence of three different follow-up procedures (FP) on the retention of those changes.

DESIGN: One control group (n=20), which did not receive any training, and three experimental groups (n=20, 15 and 20) which received the CAT program treatment and various follow-up procedures (no FP, FP and self-facilitating).

TREATMENT: An intensive 48 hour residential CAT program (conducted over 3 days) with morning classroom lectures and afternoon/evening group initiative activities.

COMPANY: Canadian financial institution and bank. English was the primary language.

SUBJECTS: Upper management (vice-president, directors and area managers) from intact work units (computing systems/data analysis or financial risk management).

INSTRUMENT: The short version of the Team Development Inventory (TDI-s) with established face validity, equivalent reliability and construct validity.

MEASUREMENT: Subjects were tested nine times during the CAT program (usually at meal times) and at 2 weeks, 4 weeks, 3 months and 6 months after the program.

ANALYSIS: Repeated measures ANOVA seeking changes for one group in individual TDI items over the 48 hour CAT program and longitudinal changes for all four groups in summed TDI scores (representing overall team behavior) during the follow-up period. Scheffe Tests were used for post hoc analyses.

FINDINGS: The four groups were relatively equivalent in the type of parent company, organizational functions, hierarchical structure, and scores on the TDI measured prior to the 48 hour residential CAT program. After the program, significant increases were evident for all ten items on the TDI for all experimental groups, but not for the control group, indicating that the CAT program brought about positive changes in teamwork. Looking within the program, significant increases occurred between lunch and dinner measurements, and between dinner and night measurements, indicating the group initiative activities made a positive contribution to team development. Although no changes were noted for the classroom component, subjects commented that the practical afternoon sessions were made more effective by participating in the conceptual morning sessions.

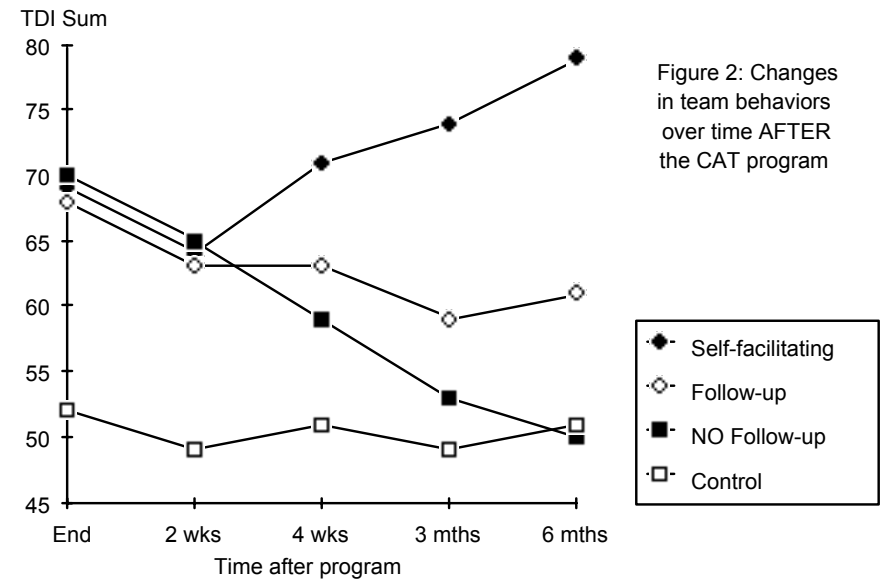


Figure 2: Changes in team behaviors over time AFTER the CAT program

The graph above shows the changes which the groups experienced after the CAT program. All three experimental groups experienced an immediate, but slight drop in teamwork (measured two weeks later) which was attributed to the well-known "Post Group Euphoria" effect common to many adventure experiences. In relation to the three different follow-ups, the group not receiving any supportive procedures, reverted to baseline measures by the end of six months. After the same time period, the group involved with strategies such as team meetings, refresher training, social gatherings, staff luncheons, and coaching sub-teams, maintained the levels of their team behaviors. Lastly, the self-facilitating group was able to increase the levels of their team behaviors, building on successes and learning from setbacks at work, by the techniques of funnelling and guided reflection. The point about transfer or longevity of learning is driven home by this longitudinal research which suggests that any teamwork improvements from CAT may be lost after six months without support in the form of follow-up procedures.

CONCLUSIONS: The three groups in these research studies improved from 50% to 70% occurrence for the ten team behaviors as a result of participating in a 48 hour CAT program spread over three days. Furthermore, and after an initial post program drop to realistic levels of about 65% for all three groups, one group without follow-up support dropped back to 50% over six months. A second group with support remained steady at 60% to 65% during the same period. A third group increased to almost 80% occurrence through self-facilitated support over the same time.

**STUDY #4 CAT programming may assist companies to change their corporate cultures.**

REFERENCE: Priest, S. (in press). The impact of total employee participation in an outdoor management development program on corporate culture. *Journal of Adventure Education and Outdoor Leadership*.

PURPOSE: To identify changes, over a two year period, in aspects of corporate culture arising from total employee involvement with a one year CAT program.

DESIGN: A stratified (gender and management level) random sample of 100 managers were surveyed from about 500 managers in a company of 5,000 employees.

TREATMENT: A final total of 4,516 employees participated in a five day CAT program composed of group initiative tasks, high ropes courses and evening lectures. All training was conducted over a one year period (July—June) and no other training schemes were underway at the time of study (Dec. '89—Dec. '91).

COMPANY: Australian public service delivery. English was the primary language.

SUBJECTS: A final total of n=83 managers responded to a pair of instruments.

INSTRUMENT: Section III of the Individual—Team—Organization (ITO) survey and the short form of the Organizational-Health (OH) survey. Both had established validity and reliability measures as reported in the public domain.

MEASUREMENT: Subjects were tested six months before the year of CAT programs began, six months into the CAT program and six months after it was fully completed.

ANALYSIS: Two factor 3 X 3 (time versus management level) ANOVAs with post hoc Scheffe Tests were used to find changes in corporate culture over two years.

FINDINGS: Overall, the company improved on its planning utility, structure flexibility, systems functioning (upper managers were least pleased with systematic changes), sensible & supportive roles, positive relationships, excessive delays in workflow, reflection time, and mission and goal clarity during the first year. Concern for getting the job done (rather than accounting for time and cost), alignment, marketplace impact, and profit versus growth decreased over the same period. Although decreases were not seen as necessarily detrimental in this case, the company moved through a desired period of well-needed readjustment. During the second year, reflection time decreased, but work enjoyment improved (lower managers enjoyed their work least), even though workloads increased over both years.

Decreases in planning seriousness, crisis avoidance, purpose contribution, and responsiveness index; tied with increases in stretch, and fluctuations in resource provision, strategic position, purpose clarity, and individual versus organizational goals, were all overshadowed by complex interactions between the time of survey (before, during or after treatment) and the level of manager (upper, middle or lower) responding. Feedback from the company executive committee highlighted the expected influence of several extraneous environmental variables on these interactions and attributed some interaction to the treatment of the CAT program.

During the 1989—1991 period of study, marketplace alterations (from monopoly through open competition to finding a niche with new targets), coupled with the economy of a difficult

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recession (leading to resource cutbacks and staffing layoffs), caused the company to transform from a coasting orientation to one of heavy strain. In the process, and likely as a consequence, middle managers found themselves being stretched in two directions by both upper and lower management. Because of these tough times, and in order to keep control, the upper and middle managers disempowered the lower managers, who in turn may have been avoiding crises as they arose. Since they were better informed than any of their co-workers about the influence of these environmental variables, the pessimism and optimism of upper managers fluctuated in concert with those environmental factors in effect throughout the treatment period.

The CAT program was attributed by the executive to have positively resulted in the desired development of both a reactive and a proactive workforce, and people who preferred to creatively evolve their own solutions to problems. This in turn led to upper management's disappointment regarding how planning was no longer taken seriously by employees, even though the executive saw "increased productivity." Furthermore, poor lecturing on company vision, key values, mission statement and future goals, and poor integration of these lectures into the training program, may have caused negative confusion over contribution to purpose, clarity of purpose and individual versus organizational needs. Nevertheless, this company was pleased with their overall CAT program and chose to take the bad with the good, seeking to improve the next training program in the future.

CONCLUSIONS: In summary, and in the opinion of three levels of management, this particular company successfully changed its corporate culture over a period of two years, during which all employees participated only in a one year CAT program. The company executive attributed these changes to their overall "restructuring project" with "unflinching support" from the CAT program. Their many anecdotes supported the collective opinion of the executive committee that "few changes could have taken place without the guiding influence of the outdoor activities." This study does not claim that the CAT program caused the changes discussed. Regardless of the testimonials from the company executive, the CAT program may have contributed to the improvements, but without a control company (almost impossible to obtain under most circumstances) the certainty of causality should not be stated.

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### STUDY #5 CAT programming may help companies to change their motivational climate.

REFERENCE: Priest, S. (in press). Total Employee Participation in Corporate Adventure Training as an Adjunct to Altering the Motivational Climate of Organizations. Australian Journal of Outdoor Education.

PURPOSE: To identify changes, over a two year period, in aspects of motivational climate arising from total employee participation in a one year CAT program.

DESIGN: A stratified (gender and management level) random sample of 100 managers were surveyed from about 500 managers in a company of 5,000 employees.

TREATMENT: A final total of 4,516 employees participated in a five day CAT program composed of group initiative tasks, high ropes courses and evening lectures. All training was conducted over a one year period (July—June) and no other training schemes were underway at the time of study (Dec. '89—Dec. '91).

COMPANY: Australian public service delivery. English was the primary language.

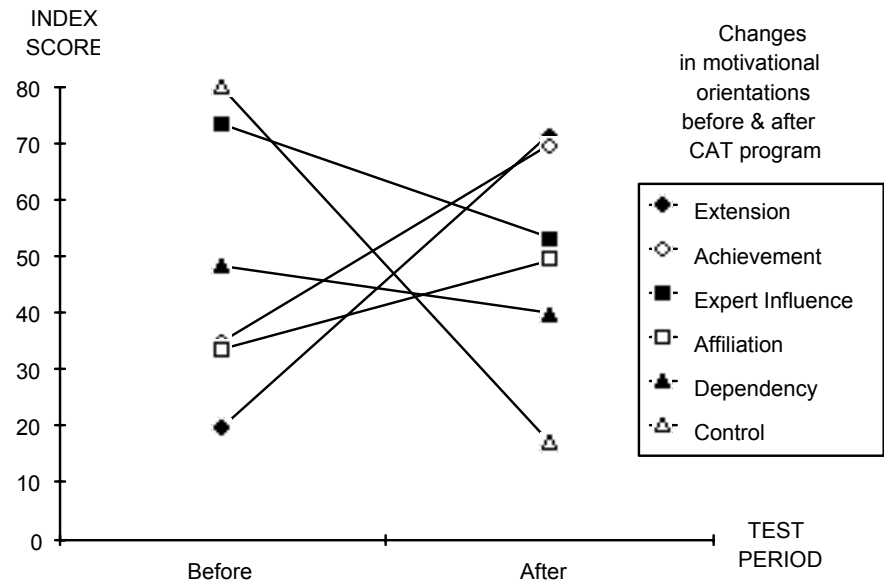
SUBJECTS: A final total of n=81 managers responded to a single instrument.

INSTRUMENT: The Motivational Analysis of Organizations—Climate (MAO-C) survey with well established validity and reliability as reported in prior research studies.

MEASUREMENT: Subjects were pretested six months before the year of CAT programs began and post tested six months after the CAT program was fully completed.

ANALYSIS: The Wilcoxon Signed Ranks Test was used to determine significant changes in any of the 72 MAO-C items across the two year period. Index scores for the MAO-C were analyzed by three factor (2 X 2 X 3) ANOVA, to ascertain the degree of change for the six motivational orientations over time (before vs. after) and to seek differences across genders (male or female) or manager levels (lower, middle or upper). Scheffe Tests served for post hoc analysis.

FINDINGS: Notice from the graph below that a control orientation dominated the company's motivational climate before the CAT program and that this motive dropped markedly after the program. A same pattern, but less pronounced, was also present for dependency and the influence of experts. Large rises were noticeable for extension and achievement across the study period, with a slight rise for the affiliation motive. Managers perceived their company to have undergone a dramatic series of changes, resulting in a new and different way of motivating employees.



According to managers, the company became flexible around rules, willing to embrace and accept chaos as a valuable catalyst for change, concerned with the needs and well being of employees, relaxed around the concept of empowerment of individuals and teams, open around the disclosure of information, and comfortable with the idea of employee interaction.

CONCLUSIONS: Before the two year period of study, the company in question was characterized as an organization motivated by control-expert influence and control-dependency orientations. After the two year period of study, which included one year of Corporate Adventure Training for all employees and no other training or development schemes, the motivational orientations had shifted to achievement-affiliation and achievement-extension. This company was transformed from an autocratic bureaucracy where rules reigned supreme to an empowered and team-oriented environment where people were valued. This was both the desire and intent of the company executive when they undertook the CAT program.

During the period of study, several environmental variables were also in play, including a changing marketplace, economic recession, and overall resource cutbacks with personnel layoffs and these could have easily had a strong influence on the outcomes. The positive outcome cannot be attributed solely to CAT. Without an equivalent control company (almost impossible to obtain under most conditions) one cannot claim that CAT caused all the changes. The company executive selected CAT as an adjunct to their internal attempts to change themselves, but some credit is due their own efforts.

**STUDY #6 A day of rappelling brought about changes in risk taking propensity, as reported by managers, in a series of business related risk taking scenarios.**

REFERENCE: Goldman K. & Priest, S. (1990). Risk Taking Transfer in Development Training. Journal of Adventure Education and Outdoor Leadership, 7(4), 32-35.

PURPOSE: To examine the impact a day of rappelling (also known as abseiling, where people descend a cliff face with ropes) had on self-reported risk taking behaviors (perception and propensity) in business.

DESIGN: A simple pre and post testing with two instruments either side of a treatment.

TREATMENT: The rappelling experience consisted of a detailed safety briefing, followed by repeated opportunities to rappel, and ending with a group debriefing session. Throughout the day, subjects (rather than staff) belayed one another and the majority of subjects managed to complete two or three full length rappels.

COMPANY: Canadian credit card corporation. English was the primary language.

SUBJECTS: Twenty seven managers represented by the company president downward.

INSTRUMENT: Activity (rappelling) specific and business (ten scenario) versions of the Priest Attarian Risk Taking Inventory (PARTI). Each scenario had two options for action, and requested managers to indicate their preferred option and to mark their level of risk perception and propensity for both options.

MEASUREMENT: The activity version of PARTI was given before and after each rappel. The business version was administered 2 weeks before and after the rappelling.

ANALYSIS: Matched t-tests sought differences between pre and post survey responses.

FINDINGS: As would be expected with repeated rappelling descents, propensity levels began low, but increased as people became more comfortable with the descents and willing to try more risky ones. Perception of risk began high, but decreased as experience was gained. These outcomes indicated that the treatment worked by reducing anxiety and enhancing the desire to take risks. Changes for the better (decreased perception of risks and/or increased propensity to take risks) were found for five of the ten scenarios. Subjects remarked that their new sense of self-confidence (acquired from rappelling) had been useful in changing their risk taking behaviors at work. Changes in survey responses before and after treatment are shown in the following table. Significant ( $p < .05$ ) changes are indicated by '\*' in probability columns.

CONCLUSIONS: The risks taking behaviors clearly changed during the rappelling experience. Subjects reduced their perception of the risks and enhanced their propensity to take the risks associated with rappelling. As a result of this effective treatment (less any extraneous effects) participants learned about their risk taking behaviors and improved their approaches to business risk taking.

Matched t-test outcomes for the response options on the PARTI (business version).

Scenario	Options	PERCEPTION		PROPENSITY	
		t-value	prob.	t-value	prob.
<b>Gas gauge on empty</b>	A=Turn off highway	+ 0.63	.53	- 0.65	.52
	B=Continue to travel	- 1.20	.24	+ 0.98	.34
<b>Must make coffee</b>	C=Save dignity, confront	+ 1.44	.16	+ 2.14	.04 *
	D=Continue task	+ 0.04	.97	- 0.55	.59
<b>Start business with friends</b>	E=Stay with job	- 0.76	.45	- 2.19	.03 *
	F=Start new venture	- 0.33	.75	+ 2.15	.04 *
<b>Top employee steals computer</b>	G=Ignore, don't report	- 1.12	.27	- 2.12	.04 *
	H=Report theft	+ 1.01	.32	- 0.31	.76
<b>Patent lawsuit</b>	I=Settle out of court	- 0.44	.66	- 1.15	.26
	J=Take case to court	- 1.18	.25	+ 1.47	.15
<b>Bankruptcy bailout offer</b>	K=Develop new product	- 2.11	.04 *	+ 1.05	.30
	L=Let company take over	- 1.09	.28	- 2.29	.03 *
<b>Build plant in unstable nation</b>	M=Do not build plant	+ 1.65	.11	- 1.41	.17
	N=Build, vague future	- 1.71	.10	- 0.19	.85
<b>Peers falsifying expense reports</b>	O=Ignore events	- 0.04	.97	- 0.50	.62
	P=Report, lose friends	+ 0.66	.52	+ 0.60	.56
<b>Union threatens strike over study</b>	Q=Discontinue study	+ 0.89	.38	- 0.91	.37
	R=Ignore strike	- 2.24	.03 *	+ 2.00	.05 *
<b>Choice of a new job</b>	S=Stay with old job	- 1.89	.07	- 1.03	.31
	T=Accept new job	- 0.45	.66	+ 1.78	.09

ADDENDUM: An outdoor version of the PARTI was also administered to subjects a few days before and after the treatment. A secondary analysis of 33 subject responses to the twenty scenarios of the combined business and outdoor versions of PARTI indicated positive changes to 55 of 80 items (4 items per scenario). These changes suggest that transference may not be restricted only to the office. Perhaps newly gained self-confidence may positively enhance risk taking behavior in other environments, such as the outdoors.



**STUDY #7 The ropes course was an effective tool for influencing risk taking propensity. The use of isomorphs was not found to create any further risk taking change.**

REFERENCE: MacRea, S., Moore, C., Savage, G., Soehner, D. & Priest, S. (1993). Changes in Risk Taking Propensity due to ropes course challenges. *Journal of Adventure Education and Outdoor Leadership*, 10(2), 10-12.

PURPOSE: To examine the influence a ropes course experience had on the risk taking propensity in subjects with already high risk taking behavior: fire fighters. Furthermore, a comparison of standard and isomorphic training was made.

DESIGN: Standard and isomorphic groups received a ropes course experience. The isomorphic was a modification of the standard ropes course to make it more job-like and an accurate metaphoric representation of real-life fire fighting.

TREATMENT: The high ropes course experience consisted of 8 elements built within a circle of six 40' tall utility poles (Two Line Bridge, Beam Walk, Criss Cross, Hebe Jebe, Swinging Log, Tension Traverse, Burma Bridge and Multivine). The standard program involved completing these elements in the order listed without structural alteration. The isomorphic program involved a different order with key modifications made to mirror the everyday situation faced by fire fighters: time limits to mimic limited oxygen supply pack, blindfolds representing a smoke filled room, and working closely with a safety buddy.

COMPANY: Canadian public emergency services. English was the primary language.

SUBJECTS: Male firefighters were randomly assigned to 8 groups of 12. Four control groups (n=37) did not receive a ropes course, two groups (n=20) enjoyed the standard one and two groups (n=17) experienced the isomorphic one.

INSTRUMENT: The Choice Dilemma Survey outlined ten risk taking scenarios associated with opportunities and asked subjects to disclose the odds (out of a possible ten) which they would consider acceptable before taking each risk.

MEASUREMENT: Subjects were surveyed the day before and the day after their ropes course.

ANALYSIS: Data were subjected to two-way ANOVA with post hoc matched t-tests seeking differences across the two tests and three treatments groups.

FINDINGS: No differences were found between pre and post measures of the control group, indicating that their risk taking propensity did not change during the study and suggesting that any changes to the other two groups would likely be due to the ropes course and not other uncontrolled factors. The following table summarizes changes over time for the standard and isomorphic groups. Since lower numbers represented lesser odds needed before risking, the decrease in odds indicated that firefighters in both groups increased their risk taking propensity. Neither group differed on pretest means, suggesting they had equivalent risk taking propensity to begin with. The two groups did not differ on posttest means, indicating that neither ropes course experience was more effective than the other in changing risk taking propensity. Perhaps the ropes course was so powerful that the isomorphs were overshadowed or the particular isomorphs were so weak as to make little difference in this case.

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A summary of differences between pre and post test means for both treatment groups: standard (n=20) and isomorphic (n=17) ropes course experiences.

<b>Item: risky scenario</b>	<b>Grp.</b>	<b>Pre</b>	<b>Post</b>	<b>t-value</b>	<b>prob.</b>
#1 Switching jobs to a newly founded company	Std.	6.4	4.5	8.32	.0001
	Iso.	5.6	4.4	3.40	.0037
#2 Undergoing uncertain cardiac operation	Std.	6.8	5.3	3.13	.0055
	Iso.	6.3	4.3	5.21	.0001
#3 Investing life insurance money	Std.	7.0	5.9	3.24	.0043
	Iso.	7.1	5.3	3.81	.0017
#4 Football play: certain tie or possible win	Std.	6.1	5.0	2.36	.0294
	Iso.	5.7	3.4	4.79	.0002
#5 University choice: prestige or easy study	Std.	6.3	4.6	5.67	.0001
	Iso.	5.3	3.7	4.57	.0004
#6 Chess move: certain defeat or quick victory	Std.	5.5	3.3	5.77	.0001
	Iso.	5.7	2.9	6.65	.0001
#7 Career choice: famous pianist or rich doctor	Std.	7.9	5.6	5.88	.0001
	Iso.	5.9	4.6	5.58	.0001
#8 Chancing death by escaping POW camp	Std.	6.0	4.1	4.49	.0003
	Iso.	4.5	3.1	4.95	.0001
#9 Financial sacrifice for political victory	Std.	6.6	5.3	3.9	.0010
	Iso.	5.4	4.0	3.45	.0033
#10 Job security versus rewarding challenge	Std.	5.1	3.4	6.47	.0001
	Iso.	4.7	3.2	3.49	.0030

CONCLUSIONS: Male firefighters increased their already high risk taking propensities as a result of participating in the ropes course. No determination could be made as to whether standard or isomorphic approaches were more effective.

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**STUDY #8 Qualitative evidence of the effectiveness of corporate adventure training.**

REFERENCE: Klint, K. A. & Priest, S. (in press). Qualitative research on the transfer effectiveness of a corporate adventure training program. *Journal of Adventure Education and Outdoor Leadership*.

PURPOSE: To explore the quality of the corporate adventure training experience.

DESIGN: Qualitative research is a form of inquiry gaining popularity and acceptance in the social sciences. It deals with the quality of a phenomenon (feelings, emotions, values) rather than (numerical and statistical) quantities. Data are collected by a variety of methods, such as interview and observation, and predetermined hypotheses are usually not tested. Instead, researchers look for patterns in the data and report them in a thick and rich descriptive manner, leaving generalizations and applications to the reader. Researchers acknowledge that their predisposed biases can influence their interpretation of the patterns they note, therefore, they rely on a variety of sources and conduct trustworthiness procedures (similar to validity or reliability tests in a quantitative study) to determine the accuracy of their findings. To protect subjects involved with a qualitative study, identifying names are altered to maintain confidentiality, yet retain the spirit of the experience.

TREATMENT: The single day CAT program consisted of typical group initiatives ranging from simple socialization games to complex problem solving tasks.

COMPANY: Three years prior to participating in the CAT program studied here, a major Canadian manufacturer formed several business planning teams called B-PLANS. B-PLANS were charged with the task of involving company employees in the running of the company, shifting the responsibility of the day-to-day operations and decisions from a higher management level to those who were closer to the actual operation and performance of the jobs.

SUBJECTS: A cross-section or horizontal slice of n=11 male employees on one B-PLAN.

INSTRUMENT: Observation of subjects during CAT program, with follow-up interviews.

MEASUREMENT: Interviews were conducted with purposefully selected subjects during the final debrief, 4 days later and 4 months after the program was completed.

ANALYSIS: Triangulation (seeking multiple and comparative opinions about the same topic or issue) and member checking (asking subjects to confirm that what was written about them was indeed accurate) were used for trustworthiness.

FINDINGS: Key comments from subjects are excerpted here:

*FROM THE DEBRIEF—There are one or two people (in this group) that I have always trusted. Now I can say I trust everyone in this group. It's a good feeling. Now I can depend on them at work too. They showed me today that they could be trusted.*

*FOUR DAYS LATER—The first thing I said when we got back here (at work) was the adventure training really related to what we went through in the business plan. Like you'd get something and you'd say, 'this is impossible!' Then all of a sudden, you take it apart as a group and solve it. The adventure thing was really parallel to what we did in the business plan.*

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*FOUR DAYS LATER—Before (he) would call me on the phone and, you know, he kind of held back. He's new with the company. Today he was different. Now I think he knows me a bit better. I could really pick up a difference in his voice. He was relaxed. He asked for something and I said hey, I'll get back to you right away, and I did!*

*FOUR MONTHS AFTER—In my job, I get to know most of the people. But even through this (CAT), there are more things that I have gotten out of it. The interaction. I can relate more to where they (fellow team members) are coming from; how to talk to them about their jobs. More so than just saying hello.... There is a greater depth to (our interactions) now.*

*FOUR MONTHS AFTER—(The most memorable feeling I carried away from CAT) was the caring of other people's needs. Caring for other people's limitations. Several points come to mind. We started to appreciate the strengths and weakness of the people in the group. I think that one of the positive things about a program like this is there is more awareness of what other people are doing.... By these people appreciating what you are doing and they appreciating what you are doing, then you can sort of meet half way.... Now we can put ourselves in the other's shoes.*

*FOUR MONTHS AFTER—(His) whole direction has changed. Of course, he has a new position now, but I don't think that is it. I think he is really using the concepts of a team approach to problem solving. I believe he is using the input from other's a great deal more.... (The key is) trying to use the resources of the people around you.*

*FOUR MONTHS AFTER—(CAT) has helped me so much by going through the process. It is very interesting to see it (group formation) happen before your eyes. When I was a part of it, I could sense that we were coming together, I am sure that someone standing there observing was probably noticing all the different things that were occurring. Knowing this process (group formation) before, I am better able to see things happen (now).*

CONCLUSIONS: Participants in the training program identified and demonstrated positive outcomes which appeared to develop from their team building experience. They started the day as a very dysfunctional group, unable to accomplish many simple tasks, and grew into a group who felt that could handle any problem thrown at them. They moved from a starting point of not being able to organize themselves into lineups, according to age (nonverbally) or height (while blindfolded), to a finishing point of being able to identify their own levels of realistic challenge and successfully move all members of the group over "the wall" with effectiveness, efficiency and concern for one another. By the end of the day they were truly working together with a feeling of pride. In conclusion, the original intent of the program (teamwork, trust, empowerment, communication) was effectively achieved for this group. The single day of training was perceived by the subjects to be a strong metaphor for their efforts in formulating a business plan for the company. As a result of their brief, but educational experience, the group realized better teamwork, improved interactions, increased trust, effective communication, and became willing to share in the roles and responsibilities of solving problems in small groups. Their company sent additional B-PLAN teams from its other mills.

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### STUDY #9 Experiential learning about teamwork was more effective than the classroom.

REFERENCE: Priest, S. (in press). Organizational Team Building: Experiential versus classroom. *Journal of Adventure Education and Outdoor Leadership*.

PURPOSE: To compare classroom and experiential learning techniques in their potential to influence teamwork development for intact work units of an organization.

DESIGN: Three equivalent intact work units responsible for separate areas of research and development in different regions around the country: one control group and two experimental groups (n=42 each). One experimental group received the experiential program, while the other received the classroom program. The control group received no team building program of any kind.

TREATMENT: The experiential program was a two day residential CAT course with the first day of group initiative tasks followed by a second day of outdoor pursuits. The classroom session was also two days long and residential in nature, with a series of indoor lectures and simulation exercises. The two programs cost a similar amount and were held in the same location on the same weekend.

COMPANY: British pharmaceutical company. English was the primary language.

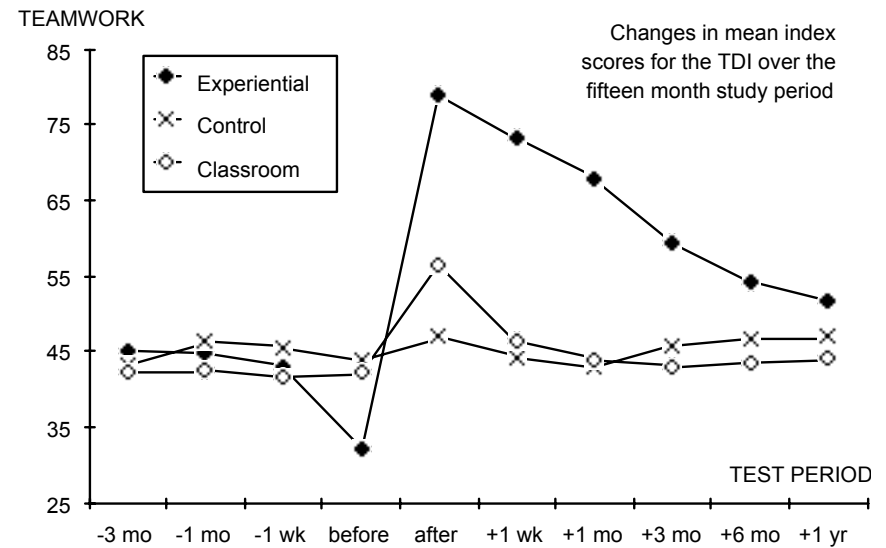
SUBJECTS: Groups were composed of 1 director, 7 managers and 34 R&D employees.

INSTRUMENT: The medium version of the Team Development Inventory (TDI-m) with established face validity, equivalent reliability and construct validity.

MEASUREMENT: The TDI-m was administered ten times: three months, one month and a week before programs began; at the start and finish of each program; and a week, a month, three months, six months and a year after the programs ended.

ANALYSIS: TDI-m mean index scores were subjected to ANOVA and Scheffé post hoc tests seeking differences across the three groups and over the ten test times.

FINDINGS: Although all groups had 42 members, not every member completed all ten tests. Due to company downsizing, attrition and new hirings over the fifteen month study period, final group sizes ranged from 33 to 40. As shown in the following graph teamwork for the control group did not change over the study period, indicating that changes to the other two experimental groups were likely due to the type of treatment they received rather than to any environmental or business influences in effect at the time.



No significant changes in teamwork levels occurred during the three tests leading up to the programs, indicating that the groups were relatively stable and equal in their teamwork. On the initial day of the programs, immediately before any training had taken place, the experiential group had a significant drop in teamwork. This dip can be attributed to pre group anxiety (PGA), which is typical of people involved in adventure programs as they become nervous about impending challenges and so often under-respond their abilities. On the last day, immediately after all training had been completed, both groups showed significant increases in teamwork, likely as a result of the two programs. The experiential group increased by a significantly greater amount than the classroom group. Apparently, both programs were effective in improving the teamwork of these two groups, but the experiential program seemed to cause greater gains than the classroom program. One week later, teamwork levels for the classroom group returned to original baseline levels and stayed there for the rest of the test times. However, the experiential group's teamwork slowly returned toward original levels. After one year, their teamwork was still elevated at levels significantly above baseline. From these outcomes, the retention of the classroom learning appeared to be limited to approximately seven days, while the experiential learning remained with the group for more than a year.

CONCLUSIONS: In summary, the classroom program was able to increase measures of teamwork from about 45% to 55%, while the experiential program brought about acquisitions of a further 25% (on a 0%—100% scale). The classroom program showed short lived learning, while gains from the experiential program lasted much longer. Overall, the experiential approach was far more effective than the classroom approach to developing teamwork.

### STUDY #10 Combined staff of adventure facilitators paired with corporate trainers appear to provide the best organizational team building outcomes in CAT programs.

REFERENCE: Priest, S. (in press). The influence of instructor type on CAT program effectiveness. *Journal of Adventure Education and Outdoor Leadership*.

PURPOSE: To determine which instructor type was most impactful and what influence they could exert on the development of teamwork in a CAT program.

DESIGN: Instructors are typically of two types: adventure facilitators and corporate trainers. Generally speaking, the former are outdoor pursuits leaders who have developed their expertise working with organizational clients. They bring an intimate knowledge of the activities, learning objectives and safety issues to bear on the CAT program. The latter tend to be human resource consultants who have developed an ability to work within the adventure medium. They bring an understanding of the company's business and the background of the individual clients. One instructor type comes from the adventure profession, while the other comes from the corporate world. Three of four groups received the residential CAT program, with a different facilitator or trainer combination. The fourth group served as a control. The first experimental group (n=24) had 2 adventure facilitators from the CAT provider. The second group (n=21) had 2 corporate trainers from the parent company. The third (n=26) was joint, with a combination of one from each.

TREATMENT: The four day residential CAT program contained diagnostic goal setting and socialization exercises on day one, group initiative tasks designed to generate team building in specific items (communication, cooperation, trust, etc.) on days two and three, and a ropes course followed by action planning on day four. No long term follow-up procedures were introduced. However, groups did meet to discuss their action planning progress one month later.

COMPANY: European energy resources corporation. English was the primary language.

SUBJECTS: Four intact work units of similar size and equivalent structure and function.

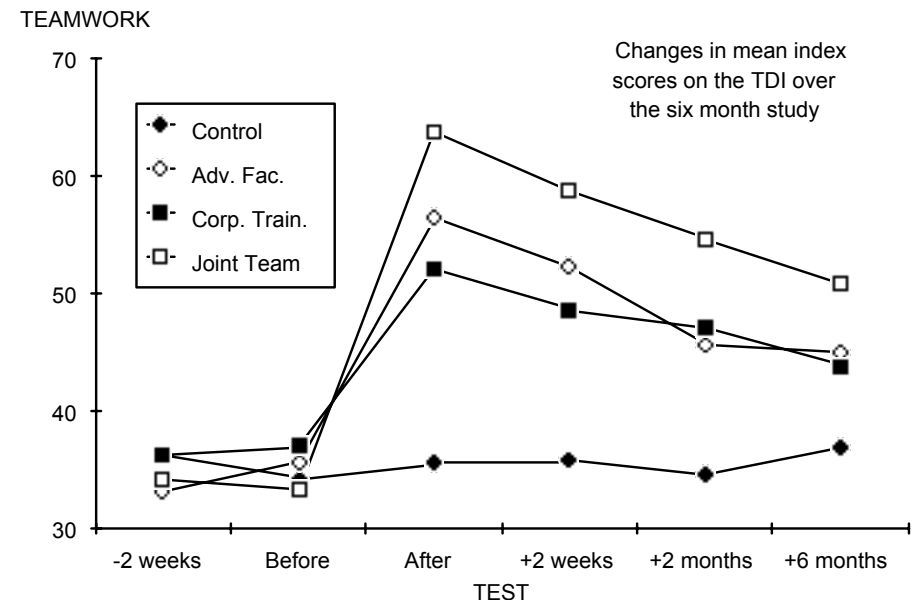
INSTRUMENT: The medium version of the Team Development Inventory (TDI-m) with established face validity, equivalent reliability and construct validity.

MEASUREMENT: Teamwork was measured six times: 2 weeks prior, day one (before), day four (after), 2 weeks later, 2 months later, and six months later.

ANALYSIS: TDI-m mean index scores were subjected to ANOVA and Scheffe Tests seeking differences across the four groups and over the six test times.

FINDINGS: Teamwork for the control group did not change significantly over the study period, indicating that changes to the other three groups were likely due to the CAT programs they received rather than any other factors in play at the time. Measures of teamwork by the TDI-m before the CAT program were not found to differ from the levels two weeks earlier. This outcome indicates that stable baseline levels of teamwork were present prior to the program.

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Levels of teamwork rose significantly after the CAT program for all three experimental groups and then began to steadily decline in the six months following the program completion. While teamwork increased after the CAT program, one group rose to significantly higher levels than the other two. The group with a joint team of instructors (1 adventure facilitator combined with 1 corporate trainer) achieved higher levels of teamwork than either of the other two groups. Furthermore, the higher levels of teamwork were maintained above those of the other groups over the six month study period. Apparently, the joint team was significantly more effective than any other. Shared knowledge, from two disparate cultures, provided the best program.

CONCLUSIONS: The CAT program increased measures of teamwork from baseline levels of 35% up to levels of 65% (on a 100 point scale). The group receiving a joint team of instructors obtained teamwork levels of approximately 10% (on the same scale) higher than the groups with only one type of instructor. These elevated levels were maintained higher than the other groups' levels over the six month study period. From these outcomes, the conclusion was reached that joint instructional teams were more effective than instructional teams of either adventure facilitators or corporate trainers alone.

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**STUDY #11 A mix of metaphoric debriefing (first half of CAT program) and isomorphic framing (second half) shows the greatest teamwork acquisition and retention.**

REFERENCE: Priest, S. (in review). A comparison of metaphoric debriefing and isomorphic framing in CAT programs. Australian Journal of Outdoor Education.

PURPOSE: To compare the potential of metaphoric debriefing and isomorphic framing techniques for influencing development and maintenance of teamwork in a CAT program. A secondary purpose was to determine whether the influence was different for development as opposed to maintenance of teamwork.

DESIGN: Four intact work units from four regional head offices received the CAT program with varying techniques of facilitation: no debriefing or framing, metaphoric debrief, isomorphic frame, and mixed isomorph-metaphor. A fifth group acted as control group by not receiving any teamwork program.

TREATMENT: The 72 hour residential program began with goal setting and socialization on Monday afternoon, continued with group initiatives ("tools" of teamwork) on Tuesday and group initiatives ("tests" of teamwork) on Wednesday, and ended with action planning and closure celebration on Thursday morning.

COMPANY: European Banking Corporation. English was the primary language.

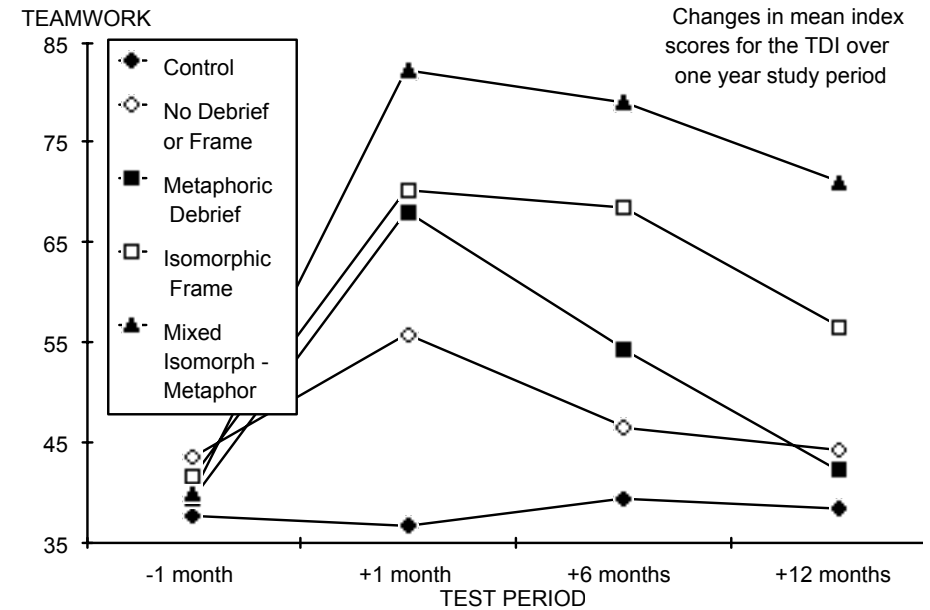
SUBJECTS: All five groups (n=23) were identical in composition and structure with 1 regional vice-president, 3 divisional directors and 19 departmental managers.

INSTRUMENT: The medium version of the Team Development Inventory (TDI-m) with established face validity, equivalent reliability and construct validity.

MEASUREMENT: Teamwork was measured one month before, one month after, six months after and twelve months after the CAT program.

ANALYSIS: TDI-m mean index scores were subjected to ANOVA and Scheffé Tests seeking differences across the five groups and over the four test times.

FINDINGS: As shown on the following graph, teamwork for the control group did not change significantly over the study period, indicating that changes to the other four groups were likely due to the facilitation technique they received rather than to any other influences in play at the time. The four groups showed significant teamwork increases over a two month period, measured before and after the CAT program. The group with mixed isomorph and metaphor had the greatest increase and the group with no debrief or frame had the least increase. The groups receiving either the metaphoric debrief or the isomorphic frame had similar initial increases in teamwork, but these rises were moderate and intermediate between those of the other two groups.



In terms of maintaining teamwork levels, the groups all showed significant decreases, likely due to the lack of follow-up procedures implemented to support the groups in their efforts to apply new behaviors back at work. Teamwork levels for the no debriefing or framing group had returned to near baseline after six months. The metaphoric debriefing group's teamwork also returned to baseline levels, but after twelve months. The isomorphic framing group's teamwork remained elevated for six months, but then levels dropped significantly at twelve months to stay higher than baseline. Teamwork levels for the mixed group also remained elevated after six months and were still higher than for any of the other groups after twelve months.

CONCLUSIONS: The CAT program was able to increase measures of teamwork from about 40% to as much as 80% (on a 0%—100% scale) depending on the technique used to facilitate learning. The CAT program alone, without any form of debriefing or framing, accounted for a rise of about 15% in teamwork. The use of either metaphoric debriefing or isomorphic framing, resulted in an additional 15% increase in teamwork, but neither approach appeared to be more effective than the other. However, a mixed approach, utilizing the metaphoric debriefing in the first half of the programs and the isomorphic framing in the second half, was able to generate a further 10% increase in teamwork. Although, the group with no debriefing or framing and the group with metaphoric debriefing had lost their improvements in teamwork after several months, the groups with isomorphic framing or a mix of both approaches were able to keep some of their 30% and 40% gains longer.

**STUDY #12 Sequencing was critically important to creating teamwork. An inappropriate order of CAT activities can retard the development of a high performing team.**

REFERENCE: Priest, S. (in review). The impact of sequencing on teamwork development in a CAT program. Australian Journal of Outdoor Education.

PURPOSE: To determine the importance of sequencing to meeting teamwork learning objectives in a CAT program and to identify which activities, either alone or in conjunction with others, brought about the greatest teamwork gains.

DESIGN: The company was interested in converting its sales force from a competitive collection of individuals fighting one another for contracts, to a collaborative team working together to obtain new business. Eight groups received a CAT program containing a different sequence of adventure activities as shown:

Group	Week	1	2	3	4	5	6	7	8	9	10
A	GSI	Class	Social	Tools	Tests	Low	High	O'ing	Rapp		APC
B	GSI	Social	Tools	Tests	Low	High	O'ing	Rapp	Class		APC
C	GSI	Tools	Tests	Low	High	O'ing	Rapp	Class	Social		APC
D	GSI	Tests	Low	High	O'ing	Rapp	Class	Social	Tools		APC
E	GSI	Low	High	O'ing	Rapp	Class	Social	Tools	Tests		APC
F	GSI	High	O'ing	Rapp	Class	Social	Tools	Tests	Low		APC
G	GSI	O'ing	Rapp	Class	Social	Tools	Tests	Low	High		APC
H	GSI	Rapp	Class	Social	Tools	Tests	Low	High	O'ing		APC

TREATMENT: Subjects participated in a CAT program every Friday for 10 weeks. Half of the adventure activities were group-oriented (socialization, group initiative tools, group initiative tests, and low ropes) and the other half of the activities were individually-oriented (classroom lectures, high ropes, orienteering and rappelling). Group-oriented activity days were more cooperatively focused than the individually-oriented ones. All groups received a goal setting introduction during the first week and an action planning closure in the last.

COMPANY: British sales and marketing force. English was the primary language.

SUBJECTS: Top 25 marketing personnel and support staff were formed into 8 new units.

INSTRUMENT: The medium version of the Team Development Inventory (TDI-m) with established face validity, equivalent reliability and construct validity.

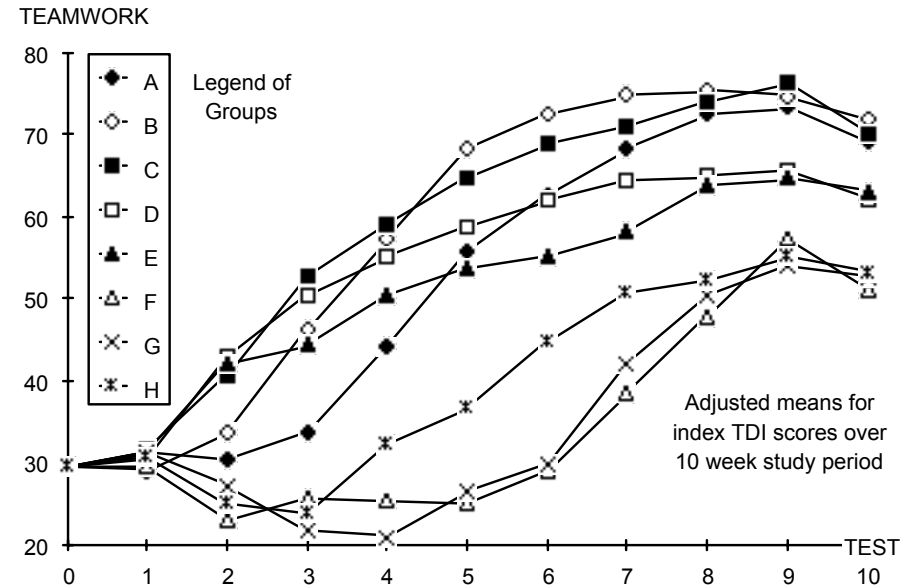
MEASUREMENT: Subjects were surveyed every Monday afternoon from week 0 to week 10.

ANALYSIS: TDI-m mean index scores were subjected to ANCOVA and Scheffe Tests seeking differences across eight groups and over ten surveys (week 1—10), with the initial baseline

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survey (Week 0) used as a covariate to account for the starting non-equivalency of the eight groups with non-random subjects.

FINDINGS: As shown in the graph, all eight regional groups improved their teamwork as a result of the ten week CAT program. The eight groups fit into one of three clusters with increases of 23%, 33% or 41% (on TDI-m 0—100% scale). Groups in the first cluster experienced the greatest increases from a sequence of group-oriented activities before individual ones. Groups in the third cluster received an opposite order which resulted in the least increases.



During the final week of the program, all 8 groups registered a slight drop in teamwork explained by the "shock" of action planning for return to work or post group euphoria where subjects may have over-estimated their abilities.

CONCLUSIONS: The greatest teamwork gains came from group-oriented activities such as socialization, group initiative tools and tests, and low ropes (with spotting). Individually-oriented activities, like orienteering, high ropes and rappelling (with staff belaying), were powerful adjuncts to team building, provided they followed at least two days of group-oriented activities and built on the strong teamwork foundation created by those days. Without this precedent, individually-oriented activities could have detrimental effects on teamwork when offered too early in the program. This negative influence may be due to the potential for competition, avoided by groups that had 2 days to master cooperative behaviors. Also, since subjects did not belay one another, the potential for further trust and support was unavailable. Classroom lectures were fairly ineffective at team building, unless coupled with other activities.

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**STUDY #13 Overall trustworthiness, being effected in a CAT program, has 5 sub-scales: acceptance, believability, confidentiality, dependability and encouragement.**

REFERENCE: Priest, S. (unpublished manuscript). Analyzing key components of Trust in a Multiphasic CAT Program.

PURPOSE: To identify the components of interpersonal trust at work in a CAT program.

DESIGN: The client was arranged into 3 intact divisions according to general product types. Each division was divided into 3 cross-functional teams according to their specific product lines. Each team contained a collection of buyers and analysts working with the same product. Each division was headed by a vice-president and three merchandise directors. These four, supported by their administrative assistants, oversaw the three cross-functional teams.

TREATMENT: A six day multiphasic program consisted of three phases. Phase 1: a two day residential with socialization, communication, trust exercises, and group problem solving initiatives aimed at functional team building. Phase 2: a two day residential of more group initiatives and new "mega-initiatives" (three groups collaboratively solving problems together as one large division) aimed at cross-functional team building. Phase 3: a two day residential of high ropes course elements (with client belay teams) and a search and rescue exercise (to locate, treat and evacuate the three merchandise directors) aimed at divisional team building. The client was interested in easing their restructuring transition from old "buying pairs" to the new "buying teams" through building trust at all group levels.

COMPANY: Canadian chain of department stores. English was the primary language.

SUBJECTS: Nine teams, arranged in 3 divisions of 3 teams, with about 18 subjects per team. Subjects were 165 retail sector employees with specialized roles in sourcing, purchasing, pricing, advertising and supplying of merchandise.

INSTRUMENT: The group version of the Interpersonal Trust Inventory (ITI-g) measured 25 items of trust and overall trustworthiness--established validity and reliability.

MEASUREMENT: Subjects completed the ITI-g at weekly intervals and regular times during the multiphasic program (n=1,133 for an average of about 7 returns per subject).

ANALYSIS: Stepwise regression determined which of the 25 trust items predicted overall trustworthiness (R-squared >30% is considered good for this type of study).

FINDINGS: The items of trust (measured on a scale from 1=disagree to 5=agree) which were the best predictors of overall trustworthiness (0—100%) included:

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<u>STEP</u>	<u>TRUST Subscale</u>	<u>COEFFICIENT</u>	<u>R<sup>2</sup></u>	<u>F-REMOVE</u>
1	Acceptance	+ 3.888	<b>0.367</b>	25.022
2	Encouragement	+ 3.477	<b>0.441</b>	29.574
3	Confidentiality	+ 2.397	<b>0.461</b>	16.774
4	Dependability	+ 2.618	<b>0.473</b>	16.525
5	Believability	+ 3.190	<b>0.482</b>	15.655
INTERCEPT = 20.048			<u>48.2%</u> = explained variance	

These five "subscales" of trust were themselves composed of several other items of trust.

Acceptance was predicted (with 43.5% explained variance) by 6 composite items: receptive, united, congruent, exposed, capable, and dedicated. Of these 6 items, being united (cooperating with others during a crisis) and congruent (practicing what you preach) were the strongest contributors to accepting the thoughts and ideas of others.

Believability was predicted (with 40.3% explained variance) by 9 composite items: congruent, impartial, dedicated, disclosive, accountable, accessible, honest, exposed and united. Of these 9 items, being honest (telling the truth with integrity), congruent (practicing what you preach), impartial (treating others equally and fairly), and dedicated (going along with the group efforts) were the strongest contributors to being believable or genuine during interactions with others.

Confidentiality was predicted (with 40.7% explained variance) by 8 composite items: congruent, discreet, impartial, exposed, respectful, praising, dedicated and open. Of these 8 items, being discreet (keeping the secrets of others private), impartial (treating others equally and fairly), and respectful (affirming the input of others) were the strongest contributors to maintaining confidentiality about feelings and emotions.

Dependability was predicted (with 39.8% explained variance) by 5 composite items: united, capable, dedicated, accountable, and disclosive. Of these 5 items, being united (cooperating with others during a crisis), capable (succeeding at or achieving goals), and dedicated (going along with group efforts) were the strongest contributors to being dependable or reliable.

Encouragement was predicted (with 42.8% explained variance) by 8 composite items: congruent, united, sensitive, dedicated, disclosive, accountable, capable, and non-judgemental. Of these 8 items, being congruent (practicing what you preach), united (cooperating with others during a crisis), and sensitive (having concern for other's feelings) were the strongest contributors to encouraging others to take risks & go out on a limb.

CONCLUSIONS: Acceptance (of others thoughts and ideas), encouragement (when others take risks), confidentiality (of feelings or emotions), dependability (reliable for getting the job done), and believability (genuine during interactions) are the five sub-scales of overall trustworthiness in a CAT program. CAT programs specifically designed to develop interpersonal trust should consider, address and include all five of these subscales within their programming experiences.

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**STUDY #14 Physicality in CAT programs influences the development of trust. Physical activities play an important role in such programs and should not be omitted.**

REFERENCE: Priest, S. (1996). The role of physical challenge in the development of trust. Journal of Experiential Education, 19(3), ?-?.

PURPOSE: To determine the role that physical aspects of CAT programming played in the acquisition and maintenance of trust as an integral part of teamwork.

DESIGN: The company was interested in educating for team skills and were newly committed to a total quality management approach that utilized teams for special projects. Employees could find themselves working simultaneously on several different teams along with previously unfamiliar co-workers.

TREATMENT: A 2 day program of team building group initiatives, each followed by debrief with the same facilitators. Two groups received these activities, but with different types of challenges: one strictly physical in nature (the Wall, Nitro Crossing, Spider's Web, etc.); and another purposely non-physical (Towers of Hanoi, Traffic Jam, Porcupine Progression, etc.). A control group (no activities) received a mix of both approaches after the study was completed.

COMPANY: New Zealand high-technology company. English was the primary language.

SUBJECTS: A full complement of 75 employees randomly assigned to 3 groups of 25.

INSTRUMENT: Interpersonal Trust Inventory-group version (ITI-g) measured overall trust and five subscales (acceptance, believability, confidentiality, dependability and encouragement). It has established validity, reliability and predictability.

MEASUREMENT: The ITI-g was given during an orientation session (when groups were newly formed: one month before the program) and acted as a covariate to handle any inequivalencies which might arise among groups. Then, the ITI-g was administered 4 times over the course of this study: one week before, at the start, at the end and two months later (when groups were reunited at work).

ANALYSIS: Six (treatment group by test time) 3 X 4 ANCOVAs (orientation test as covariate) with post hoc Scheffe Tests were done for trust and 5 subscales.

FINDINGS: Adjusted cellular, marginal and grand means for overall trustworthiness and the five trust sub-scales are shown below with the omnibus F-values for factor interaction (int.) and for main effects of treatment groups (grp.) and test times (test). Significantly different means are highlighted by bold type).

Overall TRUSTWORTHINESS	GROUP	-1 Wk.	Start	Finish	+2 Mn.	Totals
	Physical	72.68	71.68	91.36	89.80	<b>81.38</b>
	Non-phys.	73.88	76.88	83.28	79.96	<b>78.50</b>
	Control	72.20	70.16	72.60	70.68	<b>71.41</b>
	TOTALS	<b>72.92</b>	<b>72.91</b>	<b>82.41</b>	<b>80.15</b>	77.10

ACCEPTANCE Subscale	GROUP	-1 Wk.	Start	Finish	+2 Mn.	Totals
	Physical	6.46	6.40	8.07	8.02	7.24
	Non-phys.	6.49	6.28	7.39	7.20	6.84
	Control	6.50	6.37	6.50	6.51	6.47
	TOTALS	<b>6.48</b>	<b>6.35</b>	<b>7.32</b>	<b>7.24</b>	6.85

BELIEVABILITY Subscale	GROUP	-1 Wk.	Start	Finish	+2 Mn.	Totals
	Physical	5.47	5.56	6.66	6.60	<b>6.07</b>
	Non-phys.	5.80	5.64	6.72	6.72	<b>6.24</b>
	Control	5.42	5.50	5.40	5.31	<b>5.41</b>
	TOTALS	5.56	5.56	6.26	6.23	5.91

CONFIDENTIALITY Subscale	GROUP	-1 Wk.	Start	Finish	+2 Mn.	Totals
	Physical	6.63	6.48	6.60	6.55	6.57
	Non-phys.	6.44	6.43	6.46	6.36	6.42
	Control	6.74	6.40	6.24	6.71	6.52
	TOTALS	6.60	6.44	6.43	6.54	<b>6.50</b>

DEPENDABILITY Subscale	GROUP	-1 Wk.	Start	Finish	+2 Mn.	Totals
	Physical	5.66	5.50	<b>8.11</b>	<b>7.88</b>	6.79
	Non-phys.	5.71	5.61	<b>7.24</b>	<b>6.64</b>	6.30
	Control	5.63	5.34	5.49	5.47	5.48
	TOTALS	5.67	5.48	6.95	6.66	6.19

ENCOURAGEMENT Subscale	GROUP	-1 Wk.	Start	Finish	+2 Mn.	Totals
	Physical	5.80	5.91	<b>8.24</b>	<b>7.88</b>	6.96
	Non-phys.	5.53	5.77	<b>7.30</b>	<b>6.99</b>	6.40
	Control	5.68	5.66	5.58	5.47	5.60
	TOTALS	5.67	5.78	7.04	6.78	6.32

CONCLUSIONS: Overall trustworthiness improved for the physical and non-physical groups as a result of their participation in the 2 day CAT program. Acceptance and believability showed similar increases. By performing any task under conditions of adversity, subjects commented that their development of mutual trust was enhanced by better understanding (accepting and believing in) others. Confidentiality was not effected by either program and may have been a function of the debriefing, where subjects agreed not to share private information outside their groups. Dependability and encouragement also rose for both groups after the program, but gains were greater for the physical group than for the non-physical. Subjects commented that they were obliged to care for each other's safety to a greater degree when physical risks caused them to rely on and to support one another more than usual.



**STUDY #15 Using clients to belay develops trust between partners better than employing facilitators or technicians in this role (which can reduce partnership trust).**

REFERENCE: Priest, S. (1995). The effect of belaying and belayer type on the development of interpersonal partnership trust in rock climbing. *Journal of Experiential Education*, 18(2), 107-109.

PURPOSE: To compare the influence that belayer type might have on the development of trust between partners in a CAT program that utilizes rock climbing.

DESIGN: The company was interested in developing a new partnership arrangement for workers by pairing them up to share responsibilities on assembly lines.

TREATMENT: A one day program of rock climbing with an hour spent on equipment, safety, and belaying; 6 hours of climbing (split by 1 hour for lunch) and a final hour for debriefing (focused on risk taking, trust and support).

COMPANY: American manufacturing industry. English was the primary language.

SUBJECTS: A total of 192 workers (involved in parallel line functions of a 4 shift manufacturing process) were arranged into 8 groups of 24 employees containing 3 randomly assigned pairs of workers from each of the shifts: 2 groups were belayed by facilitators, 2 groups were belayed by technicians, 2 groups were belayed by clients and the remaining 2 groups acted as controls.

INSTRUMENT: Interpersonal Trust Inventory-partner version (ITI-p) measured overall trust and five subscales (acceptance, believability, confidentiality, dependability and encouragement). It has established validity, reliability and predictability.

MEASUREMENT: The ITI-p was administered 4 times: one month before, a week before treatment, a week after and three months later. To account for possible pretest effects, one group from each treatment completed two additional ITI-p instruments at the start and at the finish of the rock climbing day.

ANALYSIS: Six (treatment group by test time) 4 X 4 ANOVAs with post hoc Scheffe Tests were conducted for overall trust and 5 subscales. No pretest effects or differences were found between groups with the same belayer type, therefore the two groups with similar belayers were combined into one for analysis.

FINDINGS: Cellular, marginal and grand means for overall trustworthiness and the five trust sub-scales are shown below with the omnibus F-values for factor interaction (int.) and for main effects of treatment groups (grp.) and test times (test). Significantly different means are highlighted by bold type).

CONCLUSIONS: Facilitators and technicians group means dropped after the program and remained lowered 3 months later. Client group means rose after the program and remained elevated 3 months later. Obviously, having client belayers enhanced trust between partners, while employing others to belay diminished trust. No changes were found for believability. Apparently, these subjects perceived their partners to behave genuinely, regardless of belayer type used.

Overall <u>TRUSTWORTHINESS</u>	GROUP	-1 Mn.	-1 Wk.	+1 Wk.	+3 Mn.	Totals
F(int.) = <b>8.14*</b>	Facilitator	77.35	78.14	<b>68.58</b>	<b>59.07</b>	70.78
F(grp.) = 23.07*	Technician	78.84	76.22	<b>61.33</b>	<b>56.02</b>	68.11
F(test) = 11.15*	Client	77.75	78.32	<b>87.77</b>	<b>84.59</b>	82.11
	Control	76.33	74.76	75.50	73.54	75.03
	TOTALS	77.56	76.83	73.28	68.35	74.00

<u>ACCEPTANCE</u> Subscale	GROUP	-1 Mn.	-1 Wk.	+1 Wk.	+3 Mn.	Totals
F(int.) = <b>3.18*</b>	Facilitator	4.84	4.81	<b>4.28</b>	<b>4.06</b>	4.50
F(grp.) = 5.39*	Technician	4.94	5.03	<b>4.48</b>	<b>3.82</b>	4.57
F(test) = 0.17	Client	4.57	4.80	<b>5.88</b>	<b>6.25</b>	5.37
	Control	4.73	4.90	4.86	4.88	4.84
	TOTALS	4.77	4.89	4.87	4.75	4.82

<u>BELIEVABILITY</u> Subscale	GROUP	-1 Mn.	-1 Wk.	+1 Wk.	+3 Mn.	Totals
F(int.) = 1.54	Facilitator	4.42	4.35	4.33	3.81	4.23
F(grp.) = 2.48	Technician	4.39	4.37	4.07	4.05	4.22
F(test) = 1.29	Client	4.25	4.42	5.94	4.61	4.81
	Control	4.33	4.38	4.43	4.47	4.40
	TOTALS	4.35	4.38	4.69	4.24	<b>4.41</b>

<u>CONFIDENTIALITY</u> Subscale	GROUP	-1 Mn.	-1 Wk.	+1 Wk.	+3 Mn.	Totals
F(int.) = <b>2.31*</b>	Facilitator	4.59	4.54	<b>3.97</b>	<b>3.70</b>	4.20
F(grp.) = 6.05*	Technician	4.71	4.87	<b>3.84</b>	<b>3.59</b>	4.25
F(test) = 0.91	Client	4.65	4.68	<b>5.89</b>	<b>5.28</b>	5.12
	Control	4.46	4.78	4.72	4.74	4.68
	TOTALS	4.60	4.72	4.61	4.33	4.56

<u>DEPENDABILITY</u> Subscale	GROUP	-1 Mn.	-1 Wk.	+1 Wk.	+3 Mn.	Totals
F(int.) = <b>2.20*</b>	Facilitator	5.42	5.17	<b>4.66</b>	<b>4.37</b>	4.91
F(grp.) = 5.48*	Technician	5.34	5.21	<b>4.39</b>	<b>4.19</b>	4.78
F(test) = 0.99	Client	5.19	5.27	<b>6.40</b>	<b>5.81</b>	5.67
	Control	5.22	5.24	5.33	5.27	5.26
	TOTALS	5.29	5.22	5.19	4.91	5.15

<u>ENCOURAGEMENT</u> Subscale	GROUP	-1 Mn.	-1 Wk.	+1 Wk.	+3 Mn.	Totals
F(int.) = <b>4.64*</b>	Facilitator	4.97	4.93	<b>3.77</b>	<b>3.63</b>	4.32
F(grp.) = 14.43*	Technician	4.78	4.87	<b>3.99</b>	<b>3.60</b>	4.31
F(test) = 0.69	Client	4.94	4.92	<b>6.73</b>	<b>6.23</b>	5.71
	Control	4.85	4.89	4.78	4.91	4.86
	TOTALS	4.88	4.90	4.82	4.60	4.80

**STUDY #16 The ropes course had a profound effect on the enhancement of confidence. Specific debriefing (focused on self-confidence) was more effective than general debriefing (about various process topics) for three of five subscales.**

REFERENCE: Priest, S. (1996). The effect of two different debriefing approaches on developing self-confidence. *Journal of Experiential Education*, 19(1), 40-42.

PURPOSE: To determine the different effects that two forms of debriefing had on the development of self-confidence after participation in a ropes course.

DESIGN: The company was interested in improving the confidence of its new recruits and so contracted a provider to program three days of ropes course activities.

TREATMENT: The program design included a morning of trust exercises, afternoon of low ropes, one day of static belayed high ropes and one day of dynamic belayed high ropes followed by an evening of action planning before return to work.

COMPANY: British automotive corporation. English was the primary language.

SUBJECTS: 72 new recruits randomly assigned into 6 groups of 12: two groups served as controls, two groups received the ropes course with a general debrief on a variety of human behavior issues, and two groups received the ropes course with a specific debrief focusing on self-confidence. To control for instructor bias, the same two facilitators ran the debrief sessions for all four groups.

INSTRUMENT: Interpersonal Trust Inventory-self version (ITI-s) measured overall trust and five subscales (acceptance, believability, confidentiality, dependability and encouragement). It has established validity, reliability and predictability.

MEASUREMENT: The ITI-s was administered 3 times: at the program start and finish and 4 months later. To account for possible pretest effects, 1 group from each debrief completed an extra ITI-s a week before and a week after the program.

ANALYSIS: Six (treatment group by test time) 3 X 3 ANOVAs with post hoc Scheffe Tests were conducted for overall trust and 5 subscales. No pretest effects or differences were found between groups with the same debrief, therefore the two groups with similar debriefs were combined into one group for analysis.

FINDINGS: Cellular, marginal and grand means for overall trustworthiness and the five trust sub-scales are shown below with the omnibus F-values for factor interaction (int.) and for main effects of treatment groups (grp.) and test times (test). Significantly different means are highlighted by bold type).

Overall <b>TRUSTWORTHINESS</b>	GROUP	Start	Finish	+4 Mn.	Totals
	Control	74.08	78.21	73.92	75.40
F(int.) = <b>2.96*</b>	General	75.00	<b>90.45</b>	<b>93.00</b>	86.15
F(grp.) = 13.17*	Specific	74.75	<b>89.65</b>	<b>95.05</b>	86.48
F(test) = 11.13*	TOTALS	74.59	85.76	86.68	82.34

<b>ACCEPTANCE</b> Subscale	GROUP	Start	Finish	+4 Mn.	Totals
	Control	7.84	7.74	7.62	7.73
F(int.) = <b>3.39*</b>	General	7.97	<b>9.11</b>	7.75	8.28
F(grp.) = 4.27*	Specific	7.78	<b>9.33</b>	<b>9.52</b>	8.88
F(test) = 7.51*	TOTALS	7.87	8.68	8.24	8.26

<b>BELIEVABILITY</b> Subscale	GROUP	-1 Start	Finish	+4 Mn.	Totals
	Control	6.97	7.03	7.15	7.05
F(int.) = <b>2.90*</b>	General	6.87	<b>8.57</b>	<b>8.44</b>	7.96
F(grp.) = 10.77*	Specific	6.97	<b>9.14</b>	<b>9.63</b>	8.58
F(test) = 11.63*	TOTALS	6.94	8.18	8.33	7.82

<b>CONFIDENTIALITY</b> Subscale	GROUP	Start	Finish	+4 Mn.	Totals
	Control	7.15	6.95	6.94	7.01
F(int.) = <b>4.10*</b>	General	6.60	<b>8.47</b>	<b>8.80</b>	7.96
F(grp.) = 10.30*	Specific	6.87	<b>9.38</b>	<b>9.50</b>	8.58
F(test) = 11.83*	TOTALS	6.88	8.20	8.33	7.80

<b>DEPENDABILITY</b> Subscale	GROUP	Start	Finish	+4 Mn.	Totals
	Control	7.44	7.65	7.40	7.50
F(int.) = 2.36	General	7.63	9.11	8.55	<b>8.43</b>
F(grp.) = <b>5.78*</b>	Specific	7.05	9.15	9.33	<b>8.51</b>
F(test) = <b>7.99*</b>	TOTALS	7.38	<b>8.59</b>	<b>8.37</b>	8.11

<b>ENCOURAGEMENT</b> Subscale	GROUP	Start	Finish	+4 Mn.	Totals
	Control	7.77	7.86	7.40	7.67
F(int.) = 2.24	General	7.74	9.31	8.70	<b>8.58</b>
F(grp.) = <b>4.69*</b>	Specific	7.35	8.86	9.16	<b>8.46</b>
F(test) = <b>5.54*</b>	TOTALS	7.63	<b>8.65</b>	<b>8.37</b>	8.22

CONCLUSIONS: Subjects' self-confidence (measured as overall trustworthiness, acceptance, believability, confidentiality, dependability and encouragement) was enhanced by their participation in the ropes course CAT program. While general debriefing (addressing a wide variety of human behaviors) and specific debriefing (centering solely on self-confidence) were undoubtedly responsible for these improvements, a specific approach was more effective at raising some components of trust. Subjects receiving a specific debrief reported greater gains in believability and confidentiality than those who received a general debrief. Equivalent gains in acceptance achieved by both groups were short lasting for those in the general group, while the specific group preserved their gains through at least a four month period. Both the debriefs were similarly effective at raising dependability and encouragement.

**STUDY #17 Providers interested in creating gains in trust toward an organization can apply either group initiatives, ropes courses or a combination of approaches to the need. Customizing to meet client needs should not be ignored.**

REFERENCE: Priest, S. (1996). Developing Organizational Trust: Comparing the effects of ropes courses and initiatives. *Journal of Experiential Education*, 19(1), 37-39.

PURPOSE: To compare the effects that the two forms of CAT programming might have on the development of organizational trust and its five composite subscales.

DESIGN: The company was interested in changing the view employees held toward the corporation. Recent events had created the potential for some angry and distrustful feelings between the organization and its membership. Therefore the CAT program was designed to restore trust within the corporate whole.

TREATMENT: Five single day sessions (once a week with same facilitators) of either group initiatives (nitro crossing, nuclear reactor, acid river, etc.) or high (belayed) and low (spotted) ropes course elements (multivine, criss cross, swinging log, etc.)

COMPANY: Canadian entertainment industry. English was the primary language.

SUBJECTS: The entire workforce of a small company (156 employees) were randomly assigned into 3 groups of 52. One group was a control, another received group initiatives only and the last participated in high and low ropes only.

INSTRUMENT: Interpersonal Trust Inventory-organizational version (ITI-o) measured trust and five subscales (acceptance, believability, confidentiality, dependability and encouragement). It has established validity, reliability and predictability.

MEASUREMENT: The ITI-o was administered 5 times: 1 month before the program began, at the program start, middle, and end, and 2 months after the program finished.

ANALYSIS: Six (treatment group by test time) 3 X 5 ANOVAs with post hoc Scheffé Tests were conducted for overall trustworthiness and 5 composite subscales.

FINDINGS: Cellular, marginal and grand means for overall trustworthiness and the five trust sub-scales are shown below with the omnibus F-values for factor interaction (int.) and for main effects of treatment groups (grp.) and test times (test). Significantly different means are highlighted by bold type).

Overall TRUSTWORTHINESS	GROUP	-1 Mn.	Start	Middle	Finish	+2 Mn.	Totals
	Control	71.08	71.90	69.86	69.67	69.37	70.38
F(int.) = 1.20	Initiatives	72.52	70.76	74.26	79.28	76.33	<b>74.63</b>
F(grp.) = <b>3.93*</b>	Ropes	70.90	69.90	72.67	75.10	78.65	<b>73.44</b>
F(test) = 1.60	TOTALS	71.47	70.87	72.19	74.52	74.68	72.75

ACCEPTANCE Subscale	GROUP	-1 Mn.	Start	Middle	Finish	+2 Mn.	Totals
	Control	4.30	4.42	4.38	4.36	4.48	4.39
F(int.) = 1.26	Initiatives	4.31	4.27	4.86	5.35	5.23	<b>4.80</b>
F(grp.) = <b>6.01*</b>	Ropes	4.32	4.36	3.90	3.77	3.85	<b>4.04</b>
F(test) = 0.22	TOTALS	4.31	4.35	4.37	4.48	4.51	4.40

BELIEVABILITY Subscale	GROUP	-1 Mn.	Start	Middle	Finish	+2 Mn.	Totals
	Control	4.25	4.22	4.18	4.23	4.31	4.24
F(int.) = 0.45	Initiatives	4.30	4.28	4.45	4.98	5.24	<b>4.65</b>
F(grp.) = <b>3.02*</b>	Ropes	4.38	4.36	4.73	4.86	5.29	<b>4.72</b>
F(test) = 1.99	TOTALS	4.31	4.29	4.45	4.68	4.93	4.53

CONFIDENTIALITY Subscale	GROUP	-1 Mn.	Start	Middle	Finish	+2 Mn.	Totals
	Control	4.39	4.46	4.50	4.47	4.51	4.47
F(int.) = 1.62	Initiatives	4.43	4.53	4.30	5.89	5.70	<b>4.97</b>
F(grp.) = <b>3.62*</b>	Ropes	4.44	4.36	4.42	5.59	5.64	<b>4.89</b>
F(test) = <b>6.62*</b>	TOTALS	4.42	4.45	4.41	<b>5.29</b>	<b>5.26</b>	4.77

DEPENDABILITY Subscale	GROUP	-1 Mn.	Start	Middle	Finish	+2 Mn.	Totals
	Control	4.62	4.71	4.76	4.74	4.77	4.72
F(int.) = 1.81	Initiatives	4.85	4.42	5.34	6.29	5.86	<b>5.35</b>
F(grp.) = <b>6.37*</b>	Ropes	4.74	4.55	5.28	5.80	6.30	<b>5.34</b>
F(test) = <b>7.10*</b>	TOTALS	4.73	4.56	<b>5.12</b>	<b>5.59</b>	<b>5.63</b>	5.13

ENCOURAGEMENT Subscale	GROUP	-1 Mn.	Start	Middle	Finish	+2 Mn.	Totals
	Control	4.71	4.82	4.91	4.83	4.78	4.81
F(int.) = 1.35	Initiatives	4.87	4.90	5.10	4.81	4.92	4.92
F(grp.) = <b>6.45*</b>	Ropes	4.86	4.81	5.60	5.88	6.31	<b>5.49</b>
F(test) = 1.53	TOTALS	4.81	4.84	5.20	5.18	5.34	5.07

CONCLUSIONS: Both group initiatives and ropes courses were effective at improving overall trustworthiness toward an organization and neither were found to be more effective than the other. Parallel increases were noted for believability, confidentiality and dependability subscales. However, the ropes course appeared to diminish acceptance of others' ideas, while group initiatives built acceptance. This may be due to the shared responsibility of problem solving in group initiative versus the possible avoidance of advice from others while individually engaged with the ropes course. Furthermore, the ropes course appeared to enhance encouragement of others' efforts, while group initiatives didn't influence encouragement. This may be due to the tendency of groups to offer support either from their empathy of having tried the ropes course or from their sympathy of imagining what it is like to attempt in front of others.

**STUDY #18 Team performance in group initiative tasks can be useful tools for measuring teamwork. Time to complete tasks may be more objective than self-reports.**

REFERENCE: Priest, S. (in review). A new measure of teamwork in CAT programming: the use of timed group initiative tasks. Australian Journal of Outdoor Education.

PURPOSE: To pilot a different and less subjective way of measuring teamwork that would indicate changes resulting from a CAT program.

DESIGN: The parent company was looking for evidence of continuous improvement in work teams and this kind of measurement approach provided them with an opportunity to observe groups completing a production related initiative task.

TREATMENT: Six day corporate adventure training program consisting of socialization, group initiatives, ropes courses, and outdoor pursuits. All groups received the same activities in the same order from the same facilitators.

COMPANY: Australian/New Zealand manufacturing. English was the primary language.

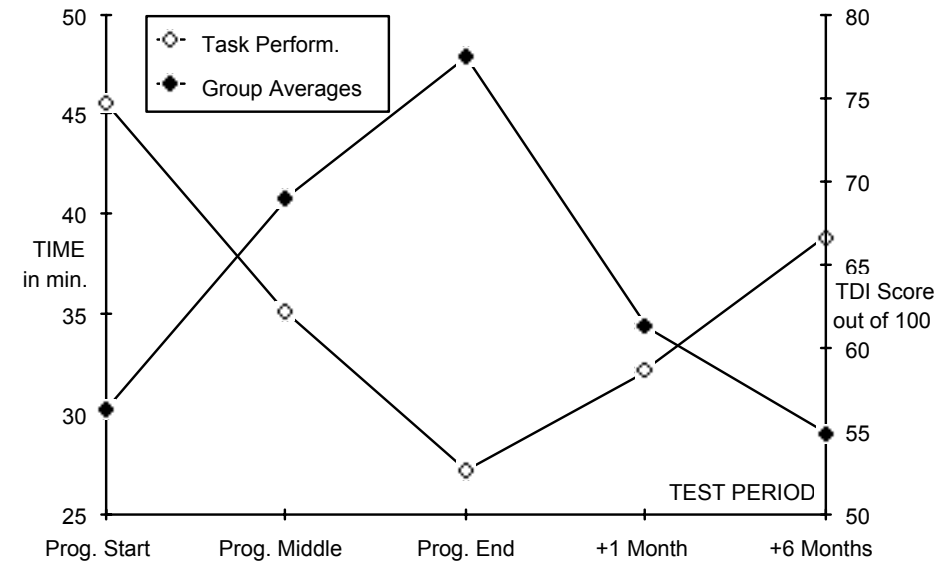
SUBJECTS: Three hundred employees randomly assigned to 20 groups of 15 people.

INSTRUMENT: Time taken to complete a standardized team task called "Screened Assembly" was measured for each group, after they had enjoyed a maximum of two hours to practice their test performance ahead of time. In the group initiative, one half of the group takes apart a preassembled product, passes the pieces through a screen to the other half of the group who then reassemble the product. The screen prevents both halves from seeing what the others are doing, but verbal communication between group halves is permitted. The TDI-s (with established credibility) was used as a comparative team measure.

MEASUREMENT: Groups were tested on this task (+TDI) at the start, in the middle, and at the end of the training program. Groups were tested for the same task (+TDI) a month and six months later, after temporarily being reunited back at work. Each test utilized a different product with a different assemblage process.

ANALYSIS: One factor repeated measures ANOVA sought differences over the five test periods (with Scheffe tests for post hoc analysis) for mean performance times and TDI group averages. These two variables were also correlated.

FINDINGS: All means were found to significantly differ from each other for performance times ( $F=55.347$ ,  $p=.0001$ ) and TDI group averages ( $F=9.831$ ,  $p=.0001$ ).



The twenty teams took an average of 45 minutes to complete the "Screened Assembly" task at the start of the CAT program (maximum = 38 & minimum = 60 minutes). On the average, these teams shaved 10 minutes off these times when tested in the middle of the program and a further 8 minutes off by the end of the CAT program (maximum = 20 & minimum = 37 minutes). One might assume that these time improvements were due to ample practice with the task: a pretest advantage. However, this threat to validity was controlled for by having groups practice the same task with new products before each testing period so that novelty and familiarity would not inhibit performance. All groups managed at least 3 task "dress rehearsals" in this two hour period. One month later, these same groups took about 5 minutes longer to complete the task back on the job. Six months later, they were another 5 minutes slower: overall performance had dropped. One might also assume the lack of recent familiarity with the task might decrease team performance, but this too was controlled for by the 2 hour practice sessions. Timed performance and TDI-s group averages were strongly and inversely correlated ( $-0.739$ ,  $-0.850$ ,  $-0.762$ ,  $-0.673$  &  $-0.701$ ) over 5 test periods, confirming that both were strong and effective measures of teamwork.

CONCLUSIONS: Subjects attributed their success to enhanced teamwork as developed during the CAT program. They simply had learned to communicate, cooperate and trust more effectively. Their recidivism was similarly attributed to the lack of opportunity to continue as an intact team while back at work. Teamwork improved during the CAT program, but diminished during the six months that followed (as in other studies). The unique aspect to this research lay in measuring teamwork by timed task performance, instead of self-reported "pencil & paper" tests. This objective approach could prove a useful tool for providers and consumers interested in measuring teamwork effectiveness.

**STUDY #19 For males, highest heart rates attained on a ropes course can be predicted (with 64% explained variance and 36% error) from age, height, weight, body girths, time to walk a mile and heart rate after walking a mile.**

REFERENCE: Priest, S. & Montelpare, W. (1995). Prediction of heart rates on a ropes course from simple physical measures. *Journal of Experiential Education*, 18(1), 25-29.

PURPOSE: To identify and predict the highest heart rates attained on a ropes course for a corporate population from easily obtained physical measures (basal heart rate, blood pressure, height, weight, body girths, cholesterol, maximum number of push-up, time to walk a mile and heart rate after walking a mile).

DESIGN: Eight groups of 12 subjects engaged in one hour of physical measurements (listed above). These measurements were then used to predict highest heart rates attained on the ropes course.

TREATMENT: A three hour high ropes course session with ten elements (two line bridge, beam walk, criss cross, heeby jeeby, swinging log, tension traverse, burma bridge, multivine, pampfer platform and pampfer pole).

COMPANY: Canadian financial corporation. English was the primary language.

SUBJECTS: Sixty eight subjects (36 male, 32 female) completed all aspects of the study.

INSTRUMENT: Basal heart rate was taken sitting down after a period of rest. Blood pressure was taken by sphygmomanometer cuff and stethoscope. Height was measured against a wall chart. Weight was measured on an analog bathroom scale. Body girths were taken by tape measure around chest and waist. Cholesterol (in a drop of blood) was analyzed by a Reflotron spectrophotometer. Push-ups (indicator of upper body strength—an important consideration for ropes courses) were conducted to a metronome: one push-up every two seconds until exhaustion was reached. The Rockport walking test (time to briskly walk a mile with heart rate recorded afterwards) was used as a measure of sub-maximal oxygen uptake (an indicator of aerobic physical fitness).

MEASUREMENT: Heart rates on the ropes course were electronically monitored by a detector band placed around the chest and telemetered to a recording wrist watch.

ANALYSIS: Stepwise Regression Analysis was used to determine which of the simple physical measures were effective predictors of highest heart rate attained.

FINDINGS: Subject's highest heart rates attained ranged from 126 to 197, with an average of 167.1 beats per minute. Several regression analyses were explored for all subjects and separately for females and males. Only the analysis for males proved to be significant and valuable. This equation included six variables (entered in five regression steps) with a combined correlation coefficient of  $R=0.8$  and 64% explained variance (36% error).

CONCLUSIONS: These outcomes apply to males, hence the use of masculine language only.

Programs interested in applying this equation as a possible screening procedure for male clients they think might be candidates for a heart attack (prior history or risk factors: smoking, obesity, high blood pressure, sedentary lifestyle, etc.) are encouraged to follow the following procedure:

First, obtain the client's age (rounded to the nearest year), height (in meters), chest girth (in meters) and waist girth (in meters - all rounded to 2 decimals).

Second, time (in minutes, with seconds expressed as fractions of a minute) how long it takes him to briskly walk one mile on level ground.

Third, take the pulse of the client immediately after finishing this mile walk by counting his heartbeat for fifteen seconds (multiply this heartbeat count by four to get the pulse in number of beats per minute).

Fourth, take these six values and plug them into the regression equation presented in this research.

Fifth, divide chest girth by waist girth to get a girth ratio.

Sixth, multiply this girth ratio and the other four values by their respective coefficients (the  $\pm$  numbers before and next to the variable name in parentheses).

Seventh, sum these products (taking care to correctly include their positive and negative signs), along with the starting constant (192.731).

Eighth, use this formula to calculate:

$$\text{Highest heart rate} = 192.731 + 0.521 (\text{Heart rate after mile walk}) - 1.039 (\text{Age}) + 5.818 (\text{Time to walk the mile}) - 35.226 (\text{Height}) - 68.106 (\text{Chest} \div \text{Waist}).$$

Ninth, the resulting answer is the predicted highest heart rate that he may attain on a ropes course (but this prediction will not be perfect: an error of 36% can be expected).

Tenth, if this answer is greater than the maximum recommended heart rate for the client (220 minus his age), then he should be advised to get medical clearance or be discouraged from further participation.

The authors of this research believe that this approach should not take the place of medical screening procedures (sedentary middle-aged people and folks of any age with coronary risk factors are recommended to have a physical examination if they intend on beginning any exercise routine more vigorous than walking). However, this procedure can be an inexpensive and simple intermediary step to identify prospective problems, prior to sending all people for a maximum exercise or stress test.

**STUDY #20 Touch plays an important role in the development of interpersonal trust.**

REFERENCE: Reina, D. & Priest, S. (in review). The role of touch in developing interpersonal trust. *Journal of Experiential Education*.

PURPOSE: To determine whether group trust was enhanced by adventure programs with and without touch or if gender differences existed across 3 treatment groups.

DESIGN: Three treatment groups: human touch (n=49) had interpersonal contact by engaging in action events such as partner stretching, pairs juggling, add-on tag, spotting practice, group rail walk, wild woosey, blind-mute walk, levitation, trust fall and spider's web; object touch (n=57) had the same group initiatives, but contact was replaced by the use of objects, such as holding ropes or dowels between hands, lifting people on stretchers, and catching falling people with foam padded cargo nets; no touch (n=47) participated in non-physical tasks, such as self-disclosure exercises and cognitive group problem solving.

TREATMENT: One day consisting of 2 hours of team building theory lectures, 5 hours of group initiative activities with debriefings, and 1 hour action planning.

COMPANY: Twelve different American companies. English was the primary language.

SUBJECTS: Twelve intact work units from a spectrum of industries (153 employees).

INSTRUMENT: Interpersonal Trust Inventory-group version (ITI-g) measured overall trust and five subscales (acceptance, believability, confidentiality, dependability and encouragement). It has established validity, reliability and predictability.

MEASUREMENT: The ITI-g was given at the treatment start (pretest), at the end (post test), and four weeks later (follow-up test), while subjects were back on the job.

ANALYSIS: Data were subjected to three factor (3 X 3 X 2) ANOVAs: test (pre, post, follow-up) by treatment (human touch, object touch, no touch) by gender (male, female). Fisher post hoc tests were applied, if interaction not found.

FINDINGS: The five subscales demonstrated significant increases over the treatment testing period and these levels remained elevated at the time of follow-up testing. However, overall trust showed a similar increase from pre to post testing, but dropped slightly at follow-up. These outcomes suggest that trust and its component parts were developed by these three treatments, but that the longevity of this development was somewhat in doubt.

Despite a few exceptions, human touch was the most effective of the three treatments in developing trust and 3 of the subscale component parts of trust. Human touch was not any more effective than other treatments in developing dependability or encouragement; and in the case of acceptance, object touch was just as effective as human touch. Females were consistently higher than males in their rating of trust and its 5 component parts, in almost all cases, except a few similarities in the object touch group responses. Men seemed to consistently gain (pre—post) and then lose (post—follow-up) overall trust and 5 subscales. Women, mostly in the object or no touch groups, had little change in confidentiality, dependability, encouragement, and overall trust.

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<b>OVERALL TRUST</b>	n	Pre	Post	Follow-up	<b>F=9.613, p=.0001</b>
Human touch *	49	78.6	88.9	86.9	pre < post ≈ follow-up
Object touch	57	80.3	87.0	81.6	pre < post > follow-up
No touch	47	79.6	82.4	80.1	pre ≈ post ≈ follow-up
<b>ACCEPTANCE</b>	n	Pre	Post	Follow-up	<b>F=6.105, p=.0024</b>
Human touch *	49	6.34	7.01	6.84	pre < post ≈ follow-up
Object touch *	57	6.25	6.97	6.85	pre < post ≈ follow-up
No touch	47	6.31	6.61	6.55	pre < post ≈ follow-up
<b>BELIEVABILITY</b>	n	Pre	Post	Follow-up	<b>F=7.830, p=.0005</b>
Human touch *	49	6.24	7.19	6.84	pre < post ≈ follow-up
Object touch	57	6.20	6.84	6.65	pre < post ≈ follow-up
No touch	47	6.27	6.56	6.49	pre < post ≈ follow-up
<b>CONFIDENTIALITY</b>	n	Pre	Post	Follow-up	<b>F=17.34, p=.0001</b>
Human touch *	49	5.90	7.05	6.80	pre < post ≈ follow-up
Object touch	57	5.69	6.40	6.23	pre < post ≈ follow-up
No touch	47	6.14	6.40	5.99	pre < post > follow-up
<b>DEPENDABILITY</b>	n	Pre	Post	Follow-up	<b>F=3.711, p=.0252</b>
Human touch	49	6.65	7.43	7.06	pre < post > follow-up
Object touch	57	6.75	7.31	7.11	pre < post ≈ follow-up
No touch	47	6.71	6.93	6.92	pre ≈ post ≈ follow-up
<b>ENCOURAGEMENT</b>	n	Pre	Post	Follow-up	<b>F=6.088, p=.0025</b>
Human touch	49	6.56	7.36	7.09	pre < post ≈ follow-up
Object touch	57	6.40	7.40	6.86	pre < post > follow-up
No touch	47	6.30	6.77	6.74	pre < post ≈ follow-up

\* indicates type of treatment that is most effective in developing this type of trust.  
Post Hoc Summaries: > greater than, < less than, and ≈ approximately equal to.

CONCLUSIONS: Group trust can be enhanced by adventure program participation. Touch plays a pivotal role in the development of that trust. Males and females view trust differently and they gain and lose trust differently in relation to touch.

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**STUDY #21 Even recreational or educational programs can bring developmental changes.**

REFERENCE: McLeod, J. & Priest, S. (in review). Transference of learning from rock climbing to the corporate workplace. *Journal of Experiential Education*.

PURPOSE: To examine what corporate employees can learn from rock climbing, how this learning can be applied at work, and whether the learning does transfer.

DESIGN: Qualitative study involving observation, content analysis, and interview.

TREATMENT: A day of rock climbing in an indoor climbing gymnasium: briefed on safety, completing several climbs of varying difficulty, and debriefed on learning. The program was offered as a recreational and educational experience.

COMPANY: Canadian credit card corporation. English was the primary language.

SUBJECTS: Ninety employees conveniently sampled and proportionately stratified by management level and gender.

INSTRUMENT: 3 forms: videotape recordings, written comments, and audiotape recordings.

MEASUREMENT: A videotape camera was used to record comments made by subjects whilst engaged in rock climbing and during the debriefing. After the debriefing, subjects wrote down responses to questions about what they learned, how it applied to their jobs, and what they would do differently back at work. An audiotape recorder was used to obtain responses to questions about transfer of learning, in a one hour interview held at the workplace, one month later.

ANALYSIS: Data analysis used "Nudist" and included member checks and a "Devil's Advocate" to corroborate the data content and its interpretations.

FINDINGS: Nine learning themes arose from the treatment day (as identified from the videotape recordings and written comments): determination and motivation, preparation, goals and limitations, perceptions and expectations, confidence and risk taking, trust and support, teamwork, feedback and encouragement, and learning from failure. Examples of transfer of learning to work, were identified for these same learning themes (as evidenced by the interview recording audiotapes).

One person neatly summed up the entire experience and kept coming back to the metaphor of a work project on the job being a lot like rock climbing:

"I guess it's like doing a project. Each time you don't know what's difficult or what's not difficult, until you actually get into it. Once you get into it, you have to climb each step. I have to trust my partner and co-workers to do their [bit] 'till the project's done. Otherwise it might be kind of tough, but even if something is difficult it doesn't mean I can't do it. During the project, I can always help others; but if you find you really can't do it, then someone else will be there to help you."

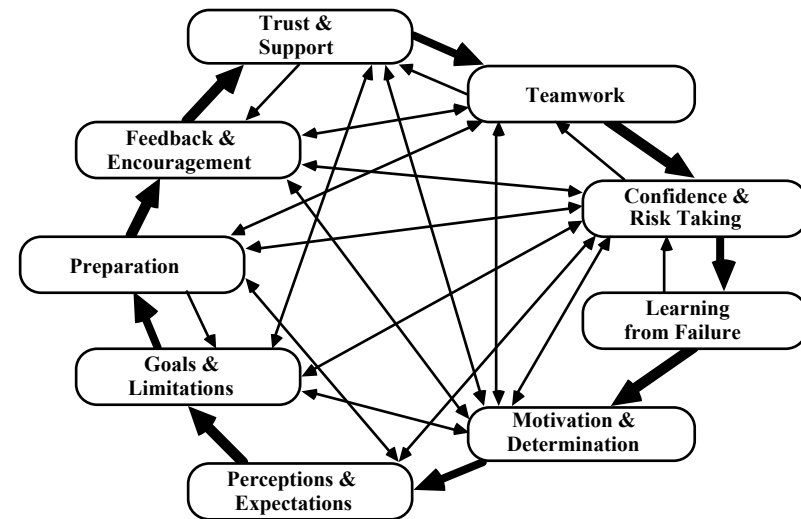
"It's helped me at both work and at home. As far as rock climbing, it's okay to get attached, to work a little harder. Don't try to run from your problems basically. You have to get there one way or another. So just work with it and hope for the best... Safety factor, make sure you have the right tools and the procedures to use those tools. Make sure you have the right people behind you

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to make you succeed. Make sure the challenge that is in front of you is not something that is beyond your reach. If you fail get back up and try again. You have to have a lot of confidence in those around you. You have to look at what's available to you here. Let's say if you're doing a project and you don't have access to certain products, you have to ask for those products to be able to continue your work. So it's basically the same way, you have to judge and look at what's available to you. You can't be shy, you have to ask for what you need. I would say that I have."

"We have this project that's due and based on what we had to do and the [stuff] supplied us, we couldn't do it. So, we had to justify additional head counts and I did that. I just knew... what I had to do... and I think that the rock climbing event probably played a role there, I think it's helped."

CONCLUSIONS: These nine learning themes, plus several other important factors inherent in adventure experiences, refashioned the learning to fit their jobs. The culture of this particular corporation was likely a catalyst for successful transfer. Subjects already valued elements such as teamwork and learning from failure before they participated in the treatment day. Their positive approach to this type of training was likely to have been a key factor in their learning success.



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**STUDY #22 Adventure programs can impact the bottom line, but without follow-up procedures they can fall short of expectations.**

REFERENCE: Bramwell, K., Forrester, S., Houle, B., LaRocque, J., Villeneuve, L. & Priest, S. (1997). One shot wonders don't work: A causal-comparative case study. *Journal of Adventure Education and Outdoor Leadership*, 14(2), 15-17.

PURPOSE: To identify the longitudinal impacts of adventure training on corporations.

DESIGN: Three part survey (demographics, expectations or benefits, and behavioral change) given to 72, followed by three part interview (highlight experiences, changes to financial bottom line, and behavioral changes) given to 24.

TREATMENT: Single hotel-based group initiative program approximately one year ago.

COMPANY: Canadian retail corporation. English was the primary language.

SUBJECTS: Survey 72 and interview 24 employees from the distribution division.

INSTRUMENT: Face-to-face interviews, preceded by a survey of open-ended questions (changes in self, co-workers, department, or company since participation).

MEASUREMENT: After survey analysis, interview subjects were purposefully selected on the basis of strong opinions and uniquely positive or negative survey responses.

ANALYSIS: Interview data were analyzed by "Nudist" and included member checks and a "Devil's Advocate" to corroborate the data content and its interpretations.

FINDINGS: Subjects represented a 33% sample of 15 males and 9 females. Their mean (standard deviation) age was 39.6 (8.6) years and they had been with the company for an average of 10.3 (7.6) years. Their job roles included (in order of hierarchy): one divisional vice president, three directors, fourteen managers, two supervisors, one consultant, one administrative assistant, and two support staff. Average age and experience typified all company-wide employees and the sample was proportionate across gender and position. Since little discussion and lots of rumors preceded the program, they were not sure what to expect beforehand. Afterwards, they were pleased with the experience and those who were initially resistant, had become supportive.

Survey question 1: what do YOU do differently at work as a result of your participation? Summary of responses 1: valued and listened to the opinions of others much more, were more likely to ask for help, were more supportive, and became more of team oriented when involved in work projects.

Survey question 2: what do your CO-WORKERS do differently at work as a result of their participation? Summary of responses 2: had a greater sense of teamwork and had improved their communication skills.

Survey question 3: what does your DIVISION do differently at work as a result of their participation? Summary of responses 3: more team oriented, better communication, and higher performance standards.

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Survey question 4: what changes occurred at work as a result of your COMPANY'S participation? Summary of responses 4: closer to incorporating teamwork and employee empowerment into work ethic.

**IMPACT ON THE BOTTOM LINE or HOW THE COMPANY SAVED MONEY:**

*Indirectly, we saved money in terms of saving time. We sped up a lot of our processes.... We now looked to see if communication processes were breaking down and why. From that we came up with a new way of doing something, and this probably resulted in cost savings.*

*One subject described such a case where a warehouse worker brought up an idea for changing the way goods were stored on forklift pallets. This change was estimated to have saved over \$100,000 in the first year alone: more than enough to pay for all the training programs needed. This worker would not have brought up the idea without new confidence from the adventure training and without managers becoming receptive to ideas from workers as a result of their participation. Although this proprietary information cannot be published here, another more common and public example can be shared:*

*The department had been waiting for someone to order their supplies, when in fact these supplies had already existed and instead of both ordering 1000 quantities of each, the two departments worked together on the order and split it. That was a direct cost savings to the company. Whereas, before, we wouldn't have thought to phone the other department because we didn't know or want to know each other.*

Despite the benefits elucidated above, three subjects noted that these CHANGES WERE SHORT LIVED:

*The respect we gained for one another was great, but after awhile it was business as usual and we grew apart again. Unless you work with those people on a regular basis, it just fades away.*

*Changes in the workplace only lasted for several months, then behaviors went back to the way they were.*

*Things were better for six months, but with no upper management support, things went back to normal.*

SUBJECTS KNEW that the lack of follow-up procedures was to blame for the lack of transfer:

*I think that with this kind of exercise, or with any kind of training exercise, you have to do follow-up on a regular basis: whether it is one year, nine months or eighteen months.*

*I think the program needs to be structured in such a way that you go and do the two or three day program and then come back nine months later,... and this encourages the commitment of the senior management to maintain the new spirit as well.*

CONCLUSIONS: The adventure training program described here is exemplary of most such programs. Its outcomes are typical for the kinds of benefits these programs derive. Subjects reactions, initially unsure or resistant, become supportive and they are changed by the experience. The absence of follow-up and its impact on loss of learning and behavioral change is, sadly, just as routine. The employees of this corporation differed from most consumers by being well informed customers: they knew what was effective and what was not.

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### STUDY #23 Program duration impacted teamwork development, program setting didn't.

REFERENCE: Priest, S. (in review). The effect of program setting and duration on corporate teamwork development. *Journal of Experiential Education*.

PURPOSE: To determine whether program setting (camp versus hotel) and duration (five single day sessions or a single five day session) had an impact on teamwork.

DESIGN: Four groups: A (n=17) one 5 day program in a camp setting; B (n=20) one 5 day program in a hotel setting; C (n=22) five 1 day long programs at camp; and D (n=19) had five 1 day long programs at hotel. All had the same two facilitators, who used the same standard group initiative tasks.

TREATMENT: The single 5 day program was identical to the five 1 day programs, except that the former had all the group initiatives back to back and the latter spread the training over 3 months with about 3 weeks between each session. Hotel was a four star holiday resort; camp was a two star rustic cabins (dbl. occ.).

COMPANY: American software corporation. English was the primary language.

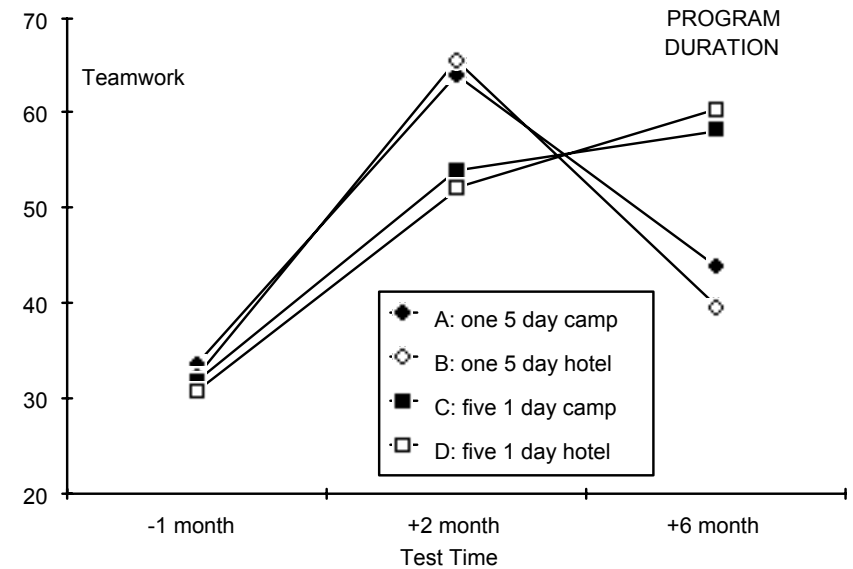
SUBJECTS: Seventy eight employees were randomly assigned to one of the four groups.

INSTRUMENT: The long version of the Team Development Inventory (TDI-I) with established face validity, equivalent reliability, and criterion related validity.

MEASUREMENT: The TDI-I was given once before the treatment began (-1 month) and twice after the treatment had started (+2 and +6 months).

ANALYSIS: Data were subjected to 3 X 2 X 2 (test by setting by duration) three factor ANOVAs. Fisher tests were used for post hoc analysis where necessary.

FINDINGS: No interactions were noted and no main effects were present for setting. This suggested that programming in a hotel or camp had no additional influence on the development of teamwork. The choice of hotel versus camp can be made without concern for program effectiveness, but attention might be paid to client comfort (see the next graph of changes in teamwork by program duration over the three test times).



All four groups experienced significant gains in teamwork, but the two groups getting all the training in a single five day session had a very different profile from the two groups getting their training over five one day sessions. The "all at once" groups showed profiles typical of groups engaged in this type of training. Levels of teamwork rose significantly to become highest about two months after the program. Six months later, these levels were near returned to baseline values without any follow-up procedures.

However, the two "bit at a time" groups showed significantly lesser gains at one month, and significantly greater gains at six months, than the other two groups. The lesser gains at one month were likely due to the fact that their training was still underway at this time (two of the five sessions had been completed). The greater gains at six months were likely due to the chance to practice teamwork at the office and use the latter sessions as a form of follow-up, thus reducing the atrophy of learning by keeping teamwork under ongoing development. Although both durations met the client's needs for team building, the small multiple sessions were more effective than the one shot large session at raising teamwork levels in the long run.

CONCLUSIONS: Program duration can have an effect on teamwork development. Several short programs appear to provide slower, but greater overall gains in teamwork; while one long program gives quicker, but lesser gains over time. Companies interested in getting the best value for their team development dollar, ought to consider the use of multiple short duration programs as opposed to a single long program. However, the likelihood exists that a very short program could be ineffective, because a minimum amount of time is needed to "loosen" client's resistance and generate motivation to change.

**STUDY #24 Program design impacted teamwork development, program location didn't.**

REFERENCE: Priest, S. (in review). The effect of program location and design on corporate teamwork development. *Journal of Experiential Education*.

PURPOSE: To determine whether program location (indoor versus outdoor) and design (custom or off-the-shelf) had any impact on the development of teamwork.

DESIGN: Four groups: A (n=20) custom designed program in an outdoor location; B (n=23) custom program in an indoor location; C (n=24) outdoor off-the-shelf program; and D (n=22) indoor off-the-shelf program. All programs had the same two facilitators, who used the same standard group initiatives.

TREATMENT: A three day program. The order of initiative tasks was fixed for the off-the-shelf program, but was flexible for the custom design. Nevertheless, all tasks were completed by all groups. The indoor and outdoor locations were hotel meeting rooms and park spaces by the hotel, respectively.

COMPANY: American health care provider. English was the primary language.

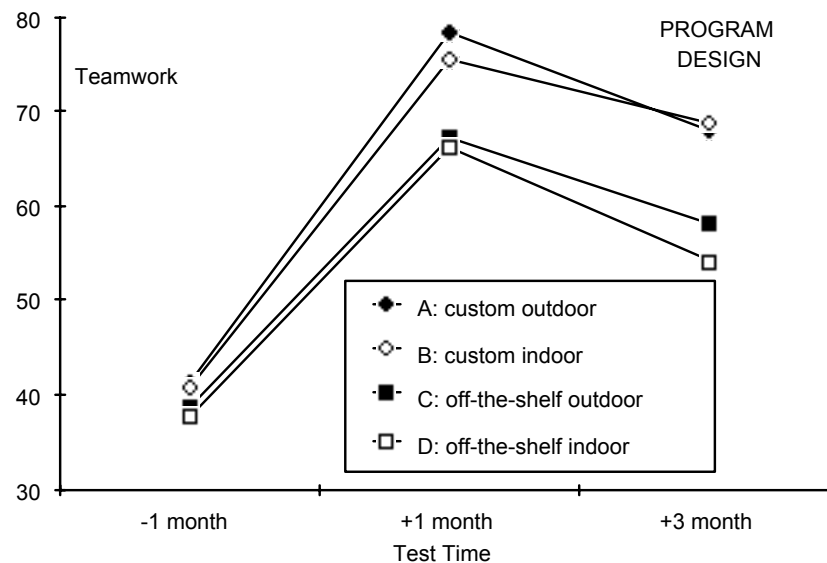
SUBJECTS: Eight nine employees were randomly assigned to one of the four groups.

INSTRUMENT: The long version of the Team Development Inventory (TDI-I) with established face validity, equivalent reliability, and criterion related validity.

MEASUREMENT: The TDI-I was given once before the treatment (-1 month) and twice after the treatment (+1 and +3 months).

ANALYSIS: Data were subjected to 3 X 2 X 2 (test by setting by design) three factor ANOVAs. Fisher tests were used for post hoc analysis where necessary.

FINDINGS: No interactions were noted and no main effects were present for setting. This suggested that programming indoors or outdoors had no additional influence on the development of teamwork. The choice of indoors versus outdoors can be made without concern for program effectiveness (see the next graph of changes in teamwork by program designs over the three test times).



All four groups experienced significant gains in teamwork, followed by significant losses after the program. Nevertheless, values at three months after the program were still significantly higher than those at one month before the program. This indicated that overall changes in teamwork were still positive, despite any declines which may have happened afterwards. All four groups lost similar "amounts" of teamwork in the months that followed the treatment. This loss pattern was typical of adventure training programs which omit follow-up procedures.

The two groups that received a customized program with a flexible order of activities gained significantly more teamwork than did the two groups that received an off-the-shelf program with a fixed order of activities. Teamwork levels for the customized groups also remained elevated above those for the off-the-shelf groups. In this case, the client's needs were centered on team building and both program approaches met those needs. However, the customized program, where staff were able to freely choose the order of activities to specifically suit the client's needs, was better at developing teamwork than the rigid set approach.

CONCLUSIONS: Program design can have an effect on teamwork development. Custom programs appear to provide greater and more sustained gains in teamwork, than off-the-shelf programs. For this study, indoor or outdoor setting appears not to make a difference in corporate teamwork development.

### STUDY #25 Solution-focused facilitation worked best with a dysfunctional group.

REFERENCE: Priest, S. & Gass, M. A. (1997). An examination of "problem-solving" versus "solution-focused" facilitation styles in a corporate setting. *Journal of Experiential Education*, 20(1), 34-39.

PURPOSE: To compare problem-focused and solution-focused facilitation approaches in use with functional and dysfunctional corporate groups.

DESIGN: Both approaches are interested in solving client's problems, but do so differently. The problem-focused approach centers on the problem (what's "wrong"), looks for causes of dysfunctional actions, examines what could be done much better, highlights behaviors that are NOT working, and seeks to eliminate negative client weaknesses. The solution focused approach centers on the solution (what's "right"), looks for exceptions to dysfunctional actions, examines what is already being done well, highlights behaviors that ARE working, and seeks to accentuate positive client strengths. A problem-focused facilitator investigates who or what sustains the problem, when or where it occurs, why it has continued in the past, and how clients could work in the same way to achieve more. A solution-focused facilitator investigates beyond the problem: what are some exceptions to it, when or where it doesn't occur, why the problem doesn't happen, who contributed, and how they could work at something different to accomplish more.

TREATMENT: Group initiative activities held over 2 days at a conference center. Two groups (one functional, the other dysfunctional) were facilitated by problem-focused approach and two groups (dysfunctional, functional) received solution-focused facilitation.

COMPANY: North American real estate company and accounting firm. OD experts designated one as functional (members showed that they got along well, enjoyed their work, shared information, and supported new procedures) and designated the other as dysfunctional (members showed that they did not like one another, found work to be objectionable, withheld resources, and sabotaged newly established processes).

SUBJECTS: Subjects (n=86), a collection of employees with various positions and roles in their corporations, were randomly divided into four groups of ranging from 20 to 23.

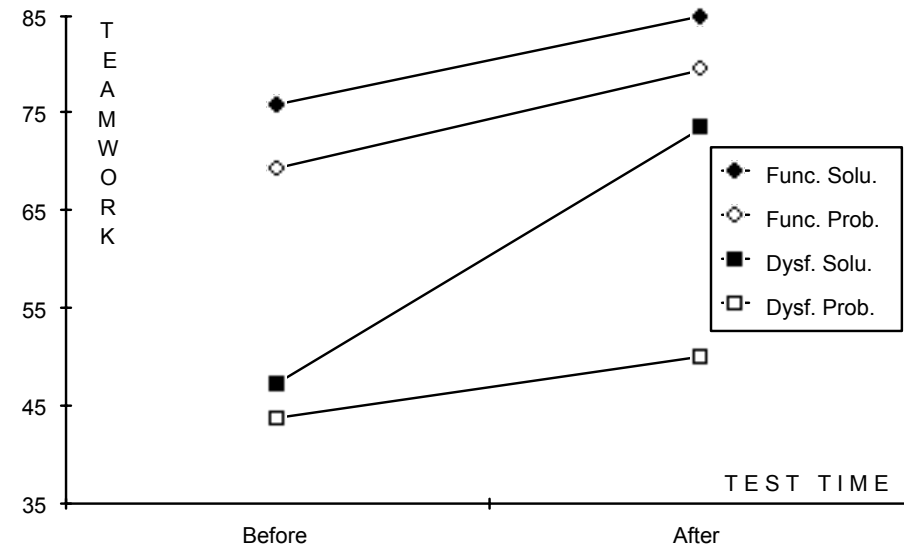
INSTRUMENT: The long version of the Team Development Inventory (TDI-I) with established face validity, equivalent reliability, and criterion related validity.

MEASUREMENT: One month before and two months after the training treatment.

ANALYSIS: Three factor (2 X 2 X 2) ANOVA over the two test times (before and after), between facilitation approaches (problem or solution), and across groups (functional and dysfunctional). Scheffe tests were used for post hoc analysis.

FINDINGS: An average of 5 surveys per group were not returned, due to work constraints, for a return rate of approximately 75% (group n = 17, 15, 17, and 16, respectively). Interaction ( $F=11.11$ ;  $p=0.0011$ ) was found among all three ANOVA factors: test time, functionality, and facilitation approach. While all four experimental groups experience gains in teamwork, the greatest change was found for the dysfunctional group using the solution-focus.

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On initial examination, one would assume that the dysfunctional group with the solution-focus only increases so much because it has plenty of room to improve. However, a second look shows that the dysfunctional group with the problem-focus hardly changes at all by comparison. Clearly the solution-focused approach makes the difference for the dysfunctional group and brings its teamwork almost in line with that of the functional groups. Not only is this change ( $\Delta = +26.3\%$ ) statistically significant ( $F=14.65$ ,  $p=.0001$ ), but it is practically significant (since increasing teamwork by one quarter of its full potential is an enviable outcome).

This exemplary gain can be explained by examining first and second order change. A problem-focus would offer a first order change oriented toward doing things the same way as before. This approach would likely fall short for a dysfunctional group, because they would run into the same barriers as in the past. A solution-focus would offer a second order change, more oriented toward doing things differently from before. This approach would likely succeed for a dysfunctional group, because it provides a productive new way to address their issues in the present. This approach represents a radical departure from their normal belief systems and builds on their strengths to solve, rather than get stuck in the problem. Subjects were tested two months after the training program. Perhaps this period gave subjects time to think about their situation (second order change usually takes longer to achieve). Change was seeded in program and bloomed in later months.

CONCLUSIONS: The problem-focused and solution-focused approach appear equivalently effective at increasing teamwork in functional groups: neither appears more influential in bringing client change. The problem-focus was less effective with a dysfunctional group, while the solution-focus was enormously successful for a similar group. The argument is not that first order change is better than second order or visa versa, but that facilitators know which approach works best with their types of groups and when to use it. Dysfunctional groups may benefit from a different approach.

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**STUDY #26 Five elements contribute to the uniqueness of women's programming.**

REFERENCE: Parry, D., Brinkert, E., Hornibrook, T., Priest, S. & Klint, K. (in review). Unique elements of all women corporate programming: a qualitative study.

PURPOSE: To identify the unique elements in an all women's corporate experiential program.

DESIGN: Female subjects were randomly divided into three groups (n=15) and each group had a female facilitator, a female technician, and a female researcher studying them.

TREATMENT: Two day program of team building and diversity exercises held at a local resort.

COMPANY: Large Canadian credit card service company. English was the primary language.

SUBJECTS: Forty five women who ranged from administrative assistants to top executives.

INSTRUMENT: Qualitative methods: researcher observations, interviews, and written reports.

MEASUREMENT: Three researchers observed behaviors and had informal conversations with subjects during the program. Two weeks later, each researcher purposefully selected (on the basis of unique experiences) six subjects from each group for interviews. Data were also gathered from materials used to report learning outcomes to the company.

ANALYSIS: Common content analysis of qualitative data. Two member checks for accuracy and appropriateness were conducted with subjects before the study was completed.

FINDINGS: Five themes were identified as unique aspects of women corporate programming: communication, inclusion, empathy, commonality, and collaborative leadership.

When the women were asked what made their activities work, one of their most common responses was communication styles. They noted how effectively they used communication, both verbal and nonverbal (body language, eye contact and smiles). Female participants commonly expressed their joy, sadness and/or frustration through tears rather than words. They noted a difference between themselves and men with regard to nodding. The women discussed that they nod during communication to convey they are listening, but not necessarily agreeing. In contrast, men seem to nod only in agreement, resulting in communication errors.

The women felt that they were very inclusively oriented, and that it was their nature to make sure everyone was a part of the group, so no one felt left out. In the program, participants would often ask direct questions of quiet women who were not contributing to the discussion for their opinions in order to ensure everyone's thoughts were shared. Yet, they felt the acceptance of inclusive behaviours would not have been as strong had it been a mixed gendered group. For example, one woman stated "our natural skills are to bring everyone in; men say "that's not my area - that's his area." The behaviours of the women also illustrated their need for inclusion. For example, they made sure everyone's suggestions and ideas were discussed and a point one was not touched upon, they would revisit it until it was dealt with. Furthermore, several women came in late on two mornings due to child care responsibilities. The others always made sure that the latecomers were immediately included whether that meant making room in the circle, glancing over and making eye contact or saying hello and filling them in on what they missed.

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The participants defined empathy as "our ability to put ourselves in other peoples shoes" and felt empathy provided them and others with overwhelming support. There was a strong concern for everyone's feelings in the group as illustrated by caring touches and questions. It was common for them to touch hands or caringly touch another's shoulder when talking, exchange hugs, and/or give one another massages throughout the program. Furthermore, one woman stated that empathy "gives [you] courage to say what you're feeling and to know what your needs are."

Participants discovered commonalities among their experiences. Previous to the program, many of the women had felt alone, unique in their decisions, problems, roles, and responsibilities. One participant stated "before in my life, I thought the things that happened in my life was individual - just to me alone. Then I began to realise that what was happening to me was not unusual. I am not alone, my problems are general and I realised I am not crazy!" As the program progressed, the women began to realise that they were different ages and had many different lifestyles, but the similarities of their experiences were incredible. The women discussed how they were challenged by the many roles they were expected to play as they juggled their careers, partners, children, leisure time, money, exercise, finances, friends, and priorities. Yet having other women around them, supporting them with similar experiences, suggestions, and encouragement, was important.

A collaborative leadership style was utilised unconsciously by the women. One woman commented; "I find the leadership model here different [than with mixed gendered groups]. There's no one person taking a direct leadership role.... It's more comfortable with a collaborative style." When asked what made all women programming unique, all the interviewees mentioned the collaborative leadership and lack of resulting competition. The women found their collaboration intriguing and refreshing as one woman stated "with men someone always has to take the lead, guys plan, develop a leader. And, in mixed gendered groups, there is a lot more talking, planning, [but] takes longer to carry out the exercise." Collaboration enabled them "to incorporate the different strengths and abilities of each person to reach the goals together." For example, throughout the two days the women continuously asked each other to speak out if they felt they were skilled in a specific area and reminded one another to bring forth their talents. Even when the women were placed into task oriented competitive situations, they remained collaborative.

Senior women within the company reported eight issues to their executive:

- 1— The collaborative style was uniquely different from those in mixed gender groups or traditional leadership back at the office and was worth investigating.
- 2— Incorporating 'natural' skills contributed by women (collaboration, relationship orientation, inclusion, process orientation, empathy or support) might raise profits.
- 3— Female networking opportunities (listing contacts, creating relationships, effecting ideas, building careers, and acting as sounding boards) need improving.
- 4— A strong interest was expressed in mentoring (coaching and career pathing).
- 5— Concern exists over work/family life balance (multiple roles and long hours).
- 6— Flexible arrangements (job share or flex time) may lead to better life balances.
- 7— Communicating the learning outcomes (recognizing, respecting and capitalizing on gender differences) should be handled sensitively within the company.
- 8— Harassment was present and this wasn't acceptable within the company values.

CONCLUSIONS: In summary, this qualitative study identified five unique elements of an all women corporate adventure program: unique communication styles, inclusion, empathy, commonality among the experiences of women, and collaborative leadership styles.

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Study #27  
THIS STUDY IS COMING SOON

Study #28  
THIS STUDY IS COMING SOON

**STUDY #29 Teamwork attitudes improved regardless of gender or tenure in an organization, but some ages and educational levels did not improve for relationship/social support.**

REFERENCE: Ng, A., Priest, S., Ng, K. S. & Wong, F. T. (in review). Corporate Adventure Learning in Asia: The effect of Demographics on Task Participation and Social Support Attitudes.

Ng, A., Priest, S. & Lee, E. (1998). Adventure Learning in Asia: Improvements seen in Teamwork Attitudes. Singapore Training and Development Association.

PURPOSE: To investigate the interactive effects of demographics and measure attitude changes.

DESIGN: During 1997, all 7,000 employees went through a 2 day program in groups of 15.

TREATMENT: The program consisted of experiential group initiatives and team building activities.

COMPANY: Asian shipping and logistics organization. Mandarin was the primary language.

SUBJECTS: Survey given to 347 dock workers (80% Chinese, 10% Malay, and 10% Indian) with a response rate of 88.2% (n=306) and who were about one fifth female.

INSTRUMENT: Survey was expanded from Campion, Medsker and Higgs' pair of scales for Task Participation (attitudes towards doing work) and Social Support (relationships and willingness to provide emotional support to others). The final pair of 5 item scales had internal reliabilities of 0.70 and 0.67 respectively. Responses were on a seven point modified Likert scale ranging from strongly disagree (1) to strongly agree (7).

MEASUREMENT: Survey given at program start and finish for 23 groups attending over 2 months.

ANALYSIS: ANOVA (gender, age, tenure, education) and t-test (change in teamwork attitudes).

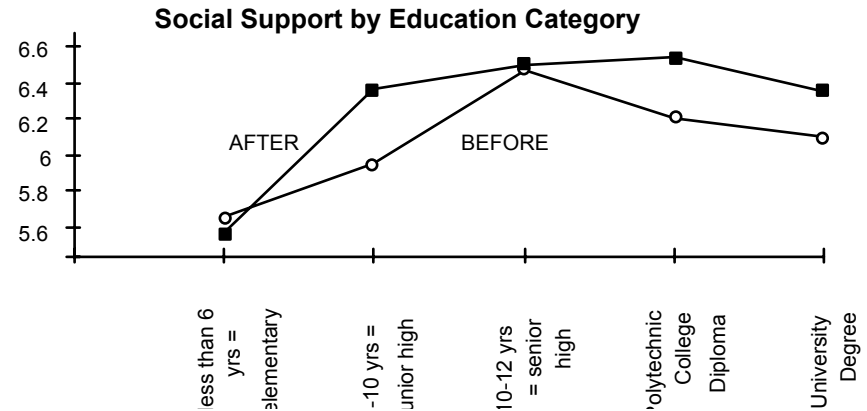
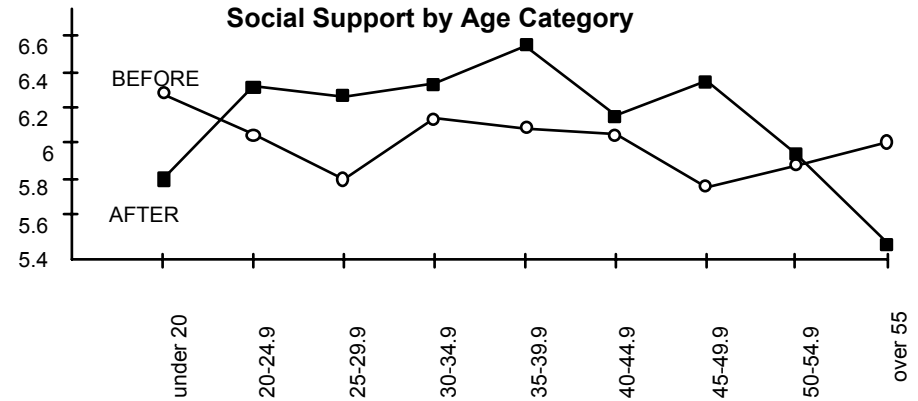
FINDINGS: A positive attitude toward Task Participation (TP) increased half a point on the seven point scale over the two day period. A similar shift of a quarter of a point was evident for Social Support (SS). These improvements indicate that the AL program was indeed successful at raising positive attitudinal changes in teamwork. No interactions or differences were found for TP or SS scales on gender or tenure indicating that the above changes were consistent for all employees regardless of their gender and irrespective of how long they had been with this company. Interactions were present for SS on age and education. These findings suggest that certain age and education categories were more or less change-oriented than others.

Two age cohorts (under 20 years and over 50 years) had negative attitudinal shifts in social support. This means that these people were less positive about their group relationships after the AL program. The younger ones were new to the company and so were not yet fully accepted by their group, while the older ones complained about the physical activity demands, thus explaining their apparent resistances.

Two education cohorts (elementary school and senior high school) showed no changes in social support. The lesser educated cohort's lack of change can be explained by a limited cognitive

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ability to process the complex dynamics of teamwork. The moderately educated cohort had unusually high pretest scores on the SS scale (6.5 out of 7) and consequently had little room for improvement.



CONCLUSIONS: The results of this study showed that AL had a positive impact on teamwork attitudes (specifically task participation and social support) and that initial concerns that Asians might not respond to this experiential innovation from the West was not supported. Subjects in the AL program showed improved attitudes towards working in teams (Task Participation scale) and became more willing to provide emotional support to others in their team relationships (Social Support scale).

Educational level and age category interacted with AL to impact attitudinal changes on the Social Support scale. Employees with less than 6 and those with 12 years of education showed no changes in group relationships, while employees in the under 20 and over 50 year cohorts showed the only negative skepticism and resistance to change in relationships. Gender and tenure were not found to impact either scale.

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**STUDY #30 Training managers to facilitate their work teams is a worthy use of resources.**

REFERENCE: Priest, S., Gass, M., & Fitzpatrick, K. (1999). Training corporate managers to facilitate: The next generation of facilitating experiential methodologies? *Journal of Experiential Education*, 22(1): 50-53.

PURPOSE: To investigate the pros and cons of training managers to facilitate their own group and individual processes from experiential situations to the business setting.

DESIGN: 120 managers, directors and executive took a Facilitation Training Program (FTP).

TREATMENT: The FTP consisted of theory and practice of facilitation techniques and used group initiative activities as a way to simulate workplace projects. Beforehand, subjects read materials concerned with facilitation theory and then gathered for one day in small groups of about 25. During the day long FTP, they received one hour of theoretical discussion, and six hours of pragmatic experience, consisting of taking turns observing and debriefing (or participating and being debriefed) in a series of experiential exercises. Feedback from peers and coaching from expert trainers enhanced their learning. All subject's were deemed by the experts to be capable of at least conducting a basic debriefing discussion by the end of the FTP day.

About one month after the FTP day, "homework" was assigned in the form of debriefing a group of ten employees at an organization-wide learning day. Each subject was given a group of employees (whom they had never met before) and one hour to lead a discussion with them about the quality of work and life in the corporation with an emphasis on values, learning, and future change. A backup facilitator was present with every group to assist as a resource for any subject who might need the extra help, but most simply acted as discussion recorders. After this homework assignment was complete, all subjects were encouraged to continue applying their debriefing skills on the job with their own employees and teams.

COMPANY: Canadian financial organization. English was the primary language.

SUBJECTS: Six months after the FTP day, 97 subjects completed a survey that asked how they were currently using their new facilitation skills in the workplace. The survey asked for examples of success and barriers that prevented the use of their learning. On the basis of responses to these questions, 24 subjects (20% of original and 25% of survey sample) were selected for an interview. Sampling was proportionately stratified by rank (2 executive, 5 directors and 17 managers) and purposeful selection was based on their interesting examples of both success and setback.

INSTRUMENT: The tape recorded interviews were conducted in the privacy of subjects' offices.

MEASUREMENT: Questions asked for stories of success, setbacks, barriers, and recommendations.

ANALYSIS: Data were analyzed for patterns in behaviors and for common content of language.

FINDINGS: Overall, a majority of 21 subjects felt as though their facilitation training had made a positive difference over the past 6 months. At no time did any subject express a sense of futility regarding the training or its implementation. The other 3 reported never having had an opportunity to implement their facilitation training due to "I don't have a group that reports to me" and "we don't have regular staff meetings."

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Most subjects could still "recall all the major principles or strategies covered in the training session" six months later. These theoretical concepts possessed a "staying power" and were well practiced in situations such as: team brainstorming sessions, regular departmental meetings, corporation wide special events, divisional future search, responses to employee opinion surveys, and company labor negotiations! These settings provided them with "ideal opportunities to practice" their facilitation training. They felt "better prepared" by their facilitation training and "experienced greater feelings of success" when they used a facilitative approach over a directive one. They were more comfortable speaking in public and more confident at work. The 21 regular users of facilitative approaches consistently identified 4 successes, 1 setback, 2 barriers, and 3 recommendations regarding their facilitation training.

Subjects reported success in four ways: 1) remaining neutral, 2) asking probing questions, 3) pausing for silence, and 4) focusing on listening. Rather than impose their opinions on staff, they let go of personal agendas and stayed impartial by allowing their groups to discover or decide for themselves. They asked "thought provoking open-ended questions" to prompt answers and guide thinking. They remained silent, waited for answers, and gave staff time to think about a response. They spoke once to ask the question and didn't fill the silence with their own voice. When the answers came back, they listened "intently and passionately." They noted how comfortable they had been with their old usual behaviors of directing and when they made the shift to facilitation, these four ways provided them with immediate positive feedback that they were "doing the right thing by not directing."

A single setback was noted: dealing with resistance. Although they had all been trained in confusion technique and solution focused methods, they still "had trouble working with difficult people." They noted that they understood the theory and that the methods made sense. Their problem lay in trying to divorce their emotions and history of conflict, so as to be free enough to employ these with difficult people. Two barriers were mentioned: a lack of time and the need for further practice. They noted the cost of time: "it takes much more time to probe for answers and wait for responses from staff than to impose opinions and dominate discussion!" They also noted that "facilitating properly requires trust from the group and that takes a long time to build up." As time passes, "learning is lost and we need the chance to exercise our new abilities" more. The need to practice was very important to them. They made three recommendations: 1) recently promoted managers should get facilitation training immediately, 2) facilitation training should be longer than a single day, and 3) those managers choosing to adopt a facilitative style should have access to support resources and follow-up training days. The FTP was seen as "an invaluable experience in terms of preparation for dealing with groups of people."

CONCLUSIONS: The experiential content of the training session seemed to contribute to a high recall of key concepts by subjects and to their application of those theories and methods in a number of settings with great success. Remaining neutral, asking probing questions, pausing for silence, and focusing on listening were particularly useful. Subjects noted the interference that their own past baggage had when trying to facilitate with resistant people. They also called for more time to learn and apply facilitation, as well as more time to practice through further facilitation opportunities. Generally they saw facilitation training as valuable (especially for new managers) and asked for more training sessions, follow-up training and access to supportive resources in facilitation.

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## Other studies about CAT/EBTD (current to 1996, before I took early retirement)

Fletcher (1957, p. 137) noted "726 industrial firms supported Outward Bound" in Britain, by sponsoring employees' and other students' participation in programs. These sponsors reported that 19% of their employees and students had received a promotion as a result of their participation in Outward Bound, and 22% of the employees and students confirmed this claim. Patterson (1969, p. 1) in a qualitative study of programs for industries at Outward Bound Australia found that "55% of sponsors believe that it lasts for life, 38% that it lasts for several years and only 7% that the influence is short lived."

Roland (1981) attempted to measure the impact of adventure training with 58 middle managers from two companies engaged in a three-day outdoor program focusing on team building and group problem solving through a ropes course experience. Three questionnaires measured managerial change in the participants as perceived by themselves, and as perceived by their 68 subordinates and 37 superiors. A fourth questionnaire measured participant learning. Subjects were pretested and post tested with an average of 71 days in between during which the program took place. Findings indicated that change took place on a number of managerial constructs, including: time, planning, suggestions, human relations, trust, goals, group process, supervision, and feedback. Changes were speculated to have resulted from high levels of participant commitment and emotional involvement.

King and Harmon (1981) evaluated an early adventure course for an aerospace company. The purpose was to analyze personal beliefs, behaviors and professional attitudes of employees as a result of participating in the program. Graduates of a two-day in-house course called "Managing Personal Growth" (MPG) attended a four day Outward Bound (OB) course. Interviews were conducted with 33 employees selected from a stratified random sample of MPG graduates who attended the OB course. The researchers concluded that three major benefits were evident: greater self-confidence, increase in morale and the experience enhanced a sense of teamwork, friendship and respect for coworkers in the company. A major finding indicated that those who attended both the MPG and OB courses had lower turnover rates (1.7%) when compared to MPG only turnover rates (6.0%) and company-wide turnover rates (8.4%).

A few years later, Isenhardt (1983) administered a 22 item questionnaire to 350 Outward Bound program graduates. Of these, 140 (40%) were returned with findings that revealed that participants felt their personal behavior had changed (76.4%), their work behavior had improved as a result of having participated in their course (78.6%), and they were better able to handle work responsibilities as a result of their participation (88.6%).

A more recent survey (Colorado Outward Bound School, 1988) of 274 alumni of the course, contacted to determine the effectiveness of their experience, suggested that a positive impact on professional and personal aspects of the participants was obtained. Responses concluded that the program was valuable in team building (96%), gave new insights into leadership (86%), and participants gained increased closeness to teammates (92%). Personal gains were evidenced in the areas of personal growth (92%), and extension of one's personal limits (86%). The program also was found to have value in building professional relationships (80%) and providing a fuller understanding of self (80%).

Galpin (1989) implemented a study to investigate the effects of a 3-day Outward Bound course for managers on a number of self-perceptions, including self-concept, hardiness, trust of others and involvement in group process. Sixty four middle managers from a large hospital completed

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an impact survey and the Personal Views Survey. Data were gathered one month prior to the course, immediately at the start, upon completion and one month after the course. Analysis of data revealed that participation in the adventure training program had a positive impact on the manager's self-concept and hardiness, with females impacted to a greater degree than males, and with older managers affected more than younger ones. Changes were maintained during the follow-up month, with females retaining changes to a greater extent than males.

Baldwin, Wagner, and Roland (1991) conducted an evaluation on the effects of an outdoor challenge training program. The program included a series of group problem solving initiatives common to most adventure-based training programs. Subjects in this study included 458 civilian employees and 13 supervisors from a military base. Two questionnaires were developed to collect relevant data on a variety of group and individual measures. Findings from the study suggested that outdoor challenge training had a moderate affect on group awareness and effectiveness and individual problem solving, as measured three months after the training. No significant changes were observed in trust or self-concept.

Dutkiewicz and Chase (1991) undertook a study of MBA students to empirically measure the changes that participants undergo following participation in an outdoor-based leadership training experience. A control group of 43 students and an experimental group of 41 students participated in the study with the experimental group receiving treatment. Results indicated that the MBA students exhibited change in the domains of trust, confidence in peers, group clarity, group cohesiveness, group awareness, and group homogeneity. Lesser changes were noted in the measures of self-assessment and problem solving.

Attarian (1992) examined the effects of adventure training on the risk-taking propensity of corporate managers. A total of 57 managers representing service, manufacturing, and retail distributing companies participated in three, 5-day management training courses administered by Outward Bound. Subjects completed the Choice Dilemmas Questionnaire immediately before participation and 30 days after completion of the training program with 87.6% returned. Data were subjected to product moment correlations in order to examine the relationships between a manager's age, experience, and risk-taking propensity; and to Analysis of Covariance (pretest as the covariate) to determine outcome differences across gender, management level, company type, and job role. The following were concluded: (a) A manager's age, years of employment, and risk-taking propensity were not highly correlated; (b) male and female managers did not differ in risk-taking propensity; (c) no differences in risk-taking propensity were evident among any management levels; and (d) no significant differences in risk-taking propensity were observed between the service company, manufacturing concern, and retail organization. Overall, subjects showed greater risk-taking propensity through mean score comparisons, however, differences were not statistically significant at the .05 level of probability.

Quinn and Vogl (1992) examined the short term perceived benefits of a twenty hour program for 125 accounting firm employees. Clear improvements in communication with colleagues and conflict management were noted, along with some gain in self-confidence, and limited increases in trust, handling stress, and communication ability.

Wagner and Roland (1992) noted that the facilitator of these programs is a pivotal element of program quality. They compared the impact of "hard" versus "soft" skill facilitator competence on outcomes from a one day program for 369 civilian employees of a military agency. During the delivery of programs, facilitators (already holding appropriate hard skills) underwent additional soft skill development. Subjects participating in the latter days of programs had greater gains in group effectiveness, than those participating prior to the soft skill upgrading of facilitators.

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Miner (1993) conducted a study to compare the effectiveness of an isomorphic model of processing with a generic one on the team development of 50 employees, the entire workforce of a service sector company. Differences were also sought across the independent variables of gender and hierarchical position in the corporation. Although no significant differences were found between the two processing methods, teamwork did improve over the training period. Although small sample sizes prevented inferences among hierarchy levels, some differences in perceptions of teamwork were noted between men and women.

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## WHAT TO LOOK FOR IN PROGRAMS

eXperientia's old website (<http://members.tscnet.com/pages/experien/>) contains some valuable definitions and descriptions. Chief among these is a section that explains the types of programs that are offered under the auspices of ETD or CAT. Most of this information is reproduced here (with my permission) to help you make sense of the research you are reading.

### DEFINITION OF TERMS

**Learning** - Learning is a change in the way we feel, think, or behave. When we are aware of the change, when we intend to make the change, and when the change is maintained over time, then our learning has been conscious, deliberate and lasting. Unfortunately, and all too often, attempts to learn or change are prevented by a lack of reflection (defeating awareness), the presence of resistance (defeating intent), and many barriers to supporting transfer (defeating maintenance).

**Experience-based** - All learning is experience-based. Whether we hear a lecture, watch a video, or read a book, our learning is "based" on those experiences. Unfortunately, we remember 20% of what we hear, 50% of what we see, but 80% of what we do.

As Confucius said: I hear and I forget, I see and I remember, I do and I understand.

**Experiential** - Experiential learning is founded more on the active doing rather than the passive being done to. In this way, people practice the very skills they are learning and are more likely to maintain their change back at work. Experience-based learning becomes "experiential" when elements of reflection, support and transfer are added to the base experience:

**Reflection** - purposefully examining the process of an experience enhances the awareness of learning and leads to changes in feeling, thinking or behaving that derive from that experience;

**Support** - providing time, resources, and team or project opportunities that permit people to continue changing (or maintaining new learning) and allows them to lessen their resistance; and

**Transfer** - when change obtained in an experiential program shows up in the real life workplace: this transfer of experiential learning can be enhanced by the use of metaphors and isomorphs.

**Facilitation** - Since reflection is the key to deeper learning that leads to more lasting change, anything that a "facilitator" does to enhance reflection before, during, or after an experience is called "facilitation." Four facilitation techniques have special relevance to experiential or adventure programming (for more on these and other methods, see the section on facilitation):

**Funnelling** - using sequenced questions during or after an experience to guide debriefing;

**Frontloading** - using punctuated questions before or during an experience to redirect reflection;

**Framing** - introducing the experience in a manner that enhances its relevance and meaning; and

**Solution-focused** - changing the focus of questions away from problems or dysfunctions.

**Adventure** - Adventure is a specific subset of experiential programming where the outcome of the experience is uncertain and may contain risks (physical, emotional, social, financial, etc.). "Direct

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participation in [these and other] action events" requires us to use our competence to face our fears of the risks and to resolve the uncertainties of the outcomes. In dealing with these challenges, and by turning perceived limitations into abilities, we learn a great deal about our relationships with others and ourselves.

**Relationships** - Two types of relationships are most commonly addressed in experiential or adventure programming:

**Interpersonal** - the relationships among people in a group (sample benefits include improved teamwork, trust, communication, collaboration, conflict resolution, shared leadership, etc.); and

**Intrapersonal** - the relationships of people with themselves (sample benefits include improved self-concept, confidence, strategic or visionary leadership, willingness to take calculated risks, etc.).

**Programming** - The deliberate use of action events and facilitated reflection to bring about lasting change and learning. Four types of programs are defined by their purpose of change and learning:

**Recreational** - designed to change the way people feel (to entertain, re-energize, relax, re-create, socialize, teach and learn new skills, etc.);

**Educational** - intended to change the way people feel and think (to gain awareness of needs, to add knowledge of new concepts, to understand new ways to look at old or familiar concepts, etc.);

**Developmental** - designed to change the way people feel, think, and behave (by increasing positive functional behavior, by improving interpersonal and intrapersonal relationships, etc.); and

**Redirectional** - intended to change the way people feel, think, behave and resist (by decreasing negative dysfunctional behavior, by reducing opposition and denial, etc.).

### EXAMPLES

A company uses group problem solving tasks at a conference to make attendees happy and to get them mingling (recreation). The company uses similar tasks to demonstrate the value of teamwork and to introduce their new team strategies (education). Once the benefit of teaming is evident, the company uses problem solving tasks to actually build new teams (development). Lastly, one group is not getting along very well--they withhold information, sabotage change efforts, and distrust one another--so the company uses similar tasks to help them become more effective in their work (redirection). NOTE: In these examples, the facilitation methods used to introduce and reflect on the experiences (not the action events) are the instruments of change.

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## Generalized Characteristics of Corporate and/or EBTD Program Types

PROGRAM TYPE	Recreation	Education	Development	Redirection
<b>Primary Purpose</b>	to change feelings	to change thinking	to change functional behaving	to change resisting and denying
<b>Application</b>	universal / everyone	organization-wide	intact group (team)	pairs or individuals
<b>Action Events</b>	off-the-shelf	tailored	customized	unique & original
<b>Exp. Learn. Cycle</b>	action emphasis	reflection added	transfer of learning	supported transfer
<b>Organ. Devel. Goals</b>	disconnected	aware & related	well integrated	seamless connect.
<b>HRD's Role</b>	can be absent	may observe	should assist facil.	must co-facilitate
<b>Organizational Intent</b>	zero order change	first order change	second order change	third order change
<b>Organizational Impact</b>	none	individual only	system (individual)	system + individual
<b>Typical Length</b>	0.5 - 2 days	1 - 3 days	2 - 5 days	3 - 10 days
<b>Cost per Client</b>	\$50/program day	\$100/program day	\$200/program day	\$500/program day
<b>Client Numbers</b>	20 - 1000	10 - 100	5 - 20	1 - 10
<b>Ratio Staff : Client</b>	1 : 20	1 : 10	1 : 5	1 : 2 (min.=2)
<b>Diagnosis Time</b>	none	one hour	half day	full day
<b>Design Time</b>	one hour	half day	full day	several days
<b>Delivery Percent</b>	100%	75%	50%	25%
<b>Debriefing Percent</b>	0%	25%	50%	75%
<b>Detachment</b>	none (stand alone)	pass off to HR	booster / follow up	ongoing work
<b>Facilitation Skills Required by Facil.</b>	none (no need for formal facilitation)	funneling, discussion	direct frontloading, isomorphic framing	solution focused, paradox, double bind

Recreational programs change feelings and are about entertainment. These are usually applied universally to any and all present. Action is emphasized and off-the-shelf activities remain unmodified or the same for everyone. The program objectives are disconnected from the Organizational Development (OD) goals. The Human Resource Development (HRD) professional's involvement is normally absent. As a result, change is zero order with no long term impact on the organization. Programs typically vary from 0.5 to 2 days in length and cost less than \$50/client daily. Group sizes range from 20 to 1000 with about 1 staff for every 20 clients. No diagnosis of client needs takes place and about an hour is spent on program design. All staff energies are given to delivering the activities and no debriefing occurs. The program stands alone and so disembarkation lacks any planned carryover to the workplace. Since the activities speak for themselves and are inherently fun, specialized facilitation skills are not necessary.

Educational programs change thinking and are about learning new lessons. These are usually applied organization- wide. Reflection is emphasized, with activities that are tailored to the client by general business language. Program objectives are related to OD goals. HRD professionals may observe the program, since they have the responsibility to transfer learning. As a result, change is first order with clients learning, but the system (that shapes their thinking) remains the same. Programs typically vary in length from 1 to 3 days and cost about \$100/client daily. Group sizes range from 10 to 100 with about 1 staff for every 10 clients. About 1 hour is devoted to diagnosis and a half day is spent on design. Staff energies are mostly devoted to activity delivery (75%) rather than debriefing (25%). The program disembarkation is devoted over to the Human Resource professionals who were observing earlier on. Staff need a minimum of unstructured discussion and structured funneling skills to conduct the key debriefing sessions.

Developmental programs change functional behavior and are about acting differently. These are usually applied to intact groups. Transfer is emphasized, with activities that are customized to the client's culture. Program objectives are well integrated with OD goals. HRD professionals have roles as assistant facilitators in the program. As a result, change is second order with the system changing to support clients' behavioral changes. Programs typically vary in length from 2 to 5 days and cost about \$200/client daily. Group sizes range from 5 to 20 clients with about 1 staff for every 5 clients. Diagnosis takes about half a day and design takes a whole day. Staff energies are equally divided between delivering and debriefing the activities (50% - 50%). Disembarkation includes a booster or follow up program. Staff need a minimum of direct frontloading and isomorphic framing skills to deliver the program.

Redirectional programs change resisting or denying actions and address dysfunctional behaviors. These are usually applied to paired relationships or individuals within intact groups. Support is emphasized back at the workplace. Original activities or variations are created for unique client needs. Program objectives are seamlessly connected to OD goals. HRD professionals are equal co-facilitators. As a result, change is third order with system and clients changing in concert. Programs typically vary in length from 3 to 10 days and cost up to \$500/client daily. Group sizes range from 2 to 10 with 1 staff for every 2 clients. Diagnosis takes at least a full day and design takes several days. Staff energies are mostly devoted to debriefing (75%) rather than activity delivery (25%). Disembarkation rarely happens because the program is ongoing. Staff need solution-focused, paradox, and double bind skills.

Action events - the activities used most commonly in experiential and/or adventure programming can be categorized as follows:

Socialization games - "ice breakers" designed to de-inhibit people and familiarize them with one another (these rarely form the content of more than the first 5% or 10% of most programs);

Group initiatives - group problem solving tasks that individually isolate a single teamwork tool (such as trust, communication, or collaboration) or collectively test those elements in combination;

Ropes or challenge courses - people negotiate challenges built high or low above ground level among trees or utility poles, where safety is provided by spotting (low) or belaying (high); and

Outdoor pursuits - self-propelled outdoor or wilderness activities (rock climbing, canoeing, etc.) usually applied to complex interactions of individual and group issues (leadership, risk, etc.).

## FACILITATION

The central purposes of facilitation are to: enhance the quality of the learning experience, to assist clients in finding directions and sources for functional change, and to create changes that are lasting and transferable.

Transfer of learning and change from experiential programming to real life is often a critical concept in facilitation and is, even more frequently, a most difficult outcome to achieve. Since many characteristics of experiential programming and real life are very different, a wide gap exists for the client to bridge when attempting transfer. Three types of transfer and their respective gaps warrant further discussion.

Specific transfer involves the learning of particular skills for use in a closely related situations. Learning to type on a typewriter for the purpose of operating a computer terminal is a common example of specific transfer. Here the skill learned is used in the same manner and in a similar situation. A small gap between learning environments makes transfer relatively easy.

Non-specific transfer refers to learning general principles or behaviors and applying them to different situations (a large gap). For example, the mastery of a new way to solve problems learned in a classroom situation has potential application on the job. Here the principles or behaviors are used in a very different setting. A wide gap between learning environments makes transfer somewhat difficult.

Metaphoric transfer is an attempt to narrow the gap between apparently different learning environments through client realized metaphors. A metaphor is an idea, object, or description used in place of another different idea, object or description, in order to denote comparative likeness or similarity between the two. By findings metaphors, clients can bring seemingly different learning environments much closer together.

Example = "climbing a mountain is like completing a project, just take it one step at a time!" This client's words express a metaphor and a key piece of learning gained from experience. In the debriefing part of facilitation clients are encouraged to discover and share their own metaphoric connections as a way to make the experiential programming more meaningful and relevant. In a subsequent method of isomorphic framing, the facilitator introduces the experience

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and "frames" it in the context and culture of the client, thereby presenting a deliberate and purposeful metaphoric experience.

Six generations of facilitation techniques have evolved in experiential programming (Priest & Gass, 1997). These can be categorized, in order of historical occurrence and sophistication, as follows:

- Letting the experience speak for itself (1940's)
- Speaking for the experience (1950's)
- Debriefing or funnelling the experience (1960's)
- Directly frontloading the experience (1970's)
- Framing the experience (1980's)
- Indirectly frontloading the experience (1990's)

Letting the experience speak for itself is a method found in numerous programs where clients are left to sort out their own personal insights. This approach is fine, provided that identified or prescriptive intrapersonal and interpersonal goals are not sought (such as in recreational programs). Clients may well have a good time and possibly become proficient at new skills, but they are less likely to have learned anything about themselves, how they relate with others, or how to resolve confronting issues in their lives.

In letting the experience speak for itself, a facilitator would not look to add any insights regarding the experience when it was completed. If any comments were made, they might pertain to how much fun the experience was and encourage the group to move on and try the next event: "That was great! Good job! Now let's try something new and different."

When speaking on behalf of the experience, the "facilitator" (often acting in the role of an expert) interprets the experience for the clients, informing them of what they had learned and how they should apply their new knowledge in the future. This approach may be well suited to role plays or simulations where results are predictable or reproducible, and to coaching when clients request feedback to improve their performance, but can backfire in experiential situations where adventures have uncertain outcomes. Telling clients what they received from an experience can cause problems by disempowering or alienating them, and can possibly disconnect the facilitator from them, thus hampering future learning opportunities.

In speaking for the experience, a facilitator would provide the group with feedback about their general behaviours after the activity was completed: what they did well, what they need to work on, and what they learned from the exercise: "You've learned to cooperate by virtue of working together and succeeding. Your communication is poor, everyone is talking and no one seems to be listening to anyone's ideas. The level of trust seems to be improving, since no one appeared to worry about being picked up by the others. You could have benefited from having a coordinator for this activity!"

In debriefing, facilitators ask clients for their opinions and refrain from making statements to clients. In this way, clients learn to think for themselves and begin to take ownership over confronting issues (educational programs). If they "own" their issues, they are more likely to commit to changing the situation and to following through on their commitments. In a debrief discussion, clients are asked (under the guidance of a questioning facilitator) to reflect on their experiences and to discuss points of learning that they believe took place. The discussion can take a free form and shift from topic to topic as the group needs or can be prescribed or "funnelled" in a direction that the facilitator determines is best. This latter type of debriefing is called funnelling, where questions are carefully sequenced toward an outcome.

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In debriefing the experience, a facilitator would foster a group discussion concerning the details, analysis, and evaluation of the group's behaviour following activity completion. Sample questions of this facilitational style might include: "what happened?, what was the impact of this?, how did that make you feel?, what did you learn from this?, what aspects for this activity were metaphors of your life?, and what will you do differently next time?"

In its simplest form, frontloading refers to asking questions before the experience rather than afterwards in a debrief discussion. The term literally means to load learning in front of an experience by emphasizing key points that provide an opportunity for clients to change during the experience rather than afterwards (as is the case with usual debriefing). When questions are asked of the clients, the frontloading is said to be "direct" (compare with indirect frontloading later in this section).

In frontloading the experience, a facilitator would introduce Spider's Web with the same logistical briefing as usual (Group members should be passed through the opening in the web, from this side to that one, without touching the strands. Contact with a strand wakes the spider, which bites you and causes you to start over. A repeat contact sends your whole group back to the beginning). In addition to this, the leader would add a series of questions to focus the learning prior to the activity (what do you think this exercise might teach you?, why is learning this important?, how might your learning help you in the future?, do you recall from past exercises what each of you wanted to work on in situations like this?). Since this frontloaded prebriefing has already covered many of the topics usually held in debrief, the concluding discussion can concentrate on changes made during the experience.

Framing refers to how a facilitator introduces an experience. Three types of frames are common: fantasy, reality and isomorphic. In a fantasy framework, the facilitator weaves a tale of intriguing "fairytales" and uses imaginary scenarios like giant spiders, nuclear bombs, poison yogurt, and rivers of acid. In a reality framework, the props in an activity are called by their real names: grass, wooden planks, ropes, and out-of-bounds areas. In an isomorphic framework, the introduction is presented as if it is actually the reality of the client's workplace. Not only are the names changed to fit the culture and context of the client, but the consequences and rewards associated with the experience are also changed to suit the situation and desired outcome. Isomorphs are the parallel structures added to the adventure experience by the facilitator so clients are encouraged to make certain metaphoric linkages that enhance transfer because the two learning environments (experience and work) become mirror images of one another (making this technique particularly useful in developmental programs). Consider the multiple isomorphs that combine to present the metaphor of a shipping task in a warehouse for this frame:

In isomorphic framing, a facilitator would address the briefing in terms of the similar structures between the adventure and corresponding present life experiences of the client. For example, the Spider's Web (see rules in description above) becomes a distribution network (the web) through which goods and services (team members) are passed from the warehouse (one side) to the customer's many outlets (other side). Passage takes place along unique routings (openings) and contact with the network (brushing up against a strand) damages the goods and services which means they need to be returned to the warehouse. If damaged goods and services are purposely passed on to the customer, then all shipments will be refused by the customer and returned to the warehouse to be fixed and shipped again! If this form of introduction is a strong metaphor of the workplace for this company, then the debrief need only focus on reinforcing learning changes made in the experience.

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Indirect frontloading (compare with direct frontloading above) is used only as a last resort: when all other approaches have failed, only in the clients' best interests, and specifically for addressing continuing problematic issues (as in redirection programs). For example, the harder a client tries to eliminate an unwanted issue, the more it occurs; or the more a client tries to attain a desired result, the more elusive it becomes. A last resort example (called double binding) for such a group with sexist behaviors follows:

"Most groups who attempt the Spider's Web tend to do it in a particular way. At the beginning, they mill around a bit with lots of people offering their suggestions. After some time a couple of dominant males tend to start the group off. They get a few men to the other side of the web and then throw the women through like sacks of potatoes and often with embarrassing remarks about female anatomy disguised as humour. Then the same group of dominant males decides how to do the hardest part [of the task] which is getting the last few people through. Afterwards, during the discussion of the exercise, everyone agrees that the leadership was more-or-less sexist and there are various emotional reactions to that. There are other ways to do the Spider's Web."

Stated in this way, the frontloaded double bind is positive and a "win-win" situation is created. If the group chooses to perform the task in a sexist manner, then they "win" because their true behaviours will become painfully obvious and the awareness or denial of the group's sexist behaviour will be heightened for the debriefing. If the group chooses to perform in a non-sexist and equitable manner, then they also "win" since they have clearly demonstrated that they can act differently and may continue to do so in the future. One way brings dysfunction to the forefront; the other breaks old habits and gives new learning.

Solution-focused facilitation, as opposed to problem-focused facilitation, takes a different approach and can be used with questions associated with any of the above generations (it is not a 7th generation).

#### PROBLEM-FOCUSED FACILITATION vs. SOLUTION-FOCUSED FACILITATION

centers on reducing the "problem"  
looks at what clients are doing "wrong"  
emphasizes what clients don't want  
highlights what could be done better  
seeks to eliminate negative client weaknesses  
interested in "why" the problem happens  
(what "causes" & "maintains the problem")

centers on enhancing the "solution"  
looks at what clients are doing "right"  
emphasizes what clients do want  
highlights what is already being done well  
seeks to accentuate positive client strengths  
interested in when the problem doesn't happen  
(exceptions to the problem)

Problem-focused facilitation looks to solve problems by closely investigating their causes, determining what can be done to reduce their influence on clients. Problem-focused facilitators often investigate who or what sustains the problem, when and where it occurs, why it has continued to be a problem, and how clients can try harder to overcome the problem. Problem-focused facilitators generally assist clients by learning as much as possible about the problem and then work with clients to eliminate these problems.

Solution-focused facilitation does not ignore the presenting problems, but strives to bring about their resolution by helping clients identify, construct, and implement solutions to the problem. In this approach, facilitation centers around: identifying what clients want (solutions) rather than what they don't want (problems), looking for what is currently working for clients rather than what is not, emphasizing what clients are doing already that is useful (stressing client strengths) and assisting clients in doing something different (solutions) instead of investing in something

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that isn't working for them (problems). A solution-focused facilitator often looks for "exceptions" to the problem (when or where the problem doesn't occur, investigating why the problem doesn't happen) and establishes how clients can work differently at another solution, rather than harder at the same problem, to accomplish more lasting change.

This section adapted from chapters 14: "The Process of Facilitation" & 17: "Facilitation Roles" in Priest, S. & Gass, M.A. (1997). *Effective Leadership in Adventure Programming*. Champaign: Human Kinetics.

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