

The Effects of Training in Conflict Resolution and Cooperative Learning  
In an Alternative High School\*

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Introduction

In the spring of 1988, an important and unique project was initiated by the staff of the International Center for Cooperation and Conflict Resolution (ICCCR) at one of the alternative high schools in New York City, which we will refer to as AHS. The project was aimed at finding out what effects the introduction of cooperative learning and training in constructive conflict resolution would have upon the students in AHS. The majority of students were "high risk": they were drop-outs, and members of minority groups living in inner-city neighborhoods. Prior to this project, research on cooperative learning had indicated that it had rather positive effects on students under the favorable conditions of experimental classrooms; little research had been done on the effects of training in conflict resolution but psychological theory would suggest that it too would have positive effects. We were interested in seeing whether such effects could be obtained under difficult circumstances typically found in a New York City alternative high school.

Program Planning

Our project was initiated with the strong support of the Principal and Assistant Principal of AHS. With their approval, members of our staff met with faculty at each of the four campuses of AHS to see if a substantial majority in each campus would be

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\* The project was funded by grants from the W.T. Grant Foundation and From the National Center for Research on Vocational Education.

\*\* Throughout this paper, such words as "we" and "our" refer to the staff of ICCCR whose director is Morton Deutsch.

willing to cooperate with us in both the training and research aspects of our project. Each campus had a teacher-coordinator, about 15 teachers, and approximately 160 students. At a faculty meeting at each campus, we described briefly the nature of the trainings in cooperative learning and conflict resolution as well as the research requirements that we had. In three of the four campuses, such cooperation was obtained but a pending administrative reorganization made the fourth campus unwilling to participate.

Given the participation of the three campuses in our project, we decided that at one campus, Campus A, there would be training only in conflict resolution; at another campus, Campus C, there would be training only in cooperative learning; and in the third, Campus B, there would be training in both. Although we expected that there would be considerable overlap in the effects of these two modes of training since both aim to develop similar social skills (e.g., skills in communicating, perspective-taking, social problem-solving, finding common ground, and sharing), we thought there might also be interesting difference. There is more emphasis on "group process skills" and working together effectively in cooperative learning while in conflict resolution training there is more emphasis on violence prevention and the process of negotiation. We also thought that the combination of both types of training would be synergistic: a cooperative orientation would facilitate conflict resolution, constructive resolution of conflicts would deepen cooperation. By having the different types of training at the three campuses, we hoped to explore these matters.

The training model which we used for cooperative learning is the model developed by David and Roger Johnson; our trainers in this area were trained by the Johnsons. There are five key elements involved in cooperative learning (Johnson, Johnson, & Holubec, 1986). The most important is positive interdependence. Students must perceive that it is to their advantage if other students learn well. In addition, cooperative learning requires face-to-face interaction among students. It also requires individual accountability of each member of the cooperative learning group to one

and violence: how anger affects your ability to handle conflict; how violence can be avoided even when you are very angry. Criticize ideas and not people: criticize what people say rather than who or what they are. "Win-win" solutions to conflict versus compromises: finding solutions where everyone gets what they need, rather than solutions where everyone gets some of what they need.

Role play, group activities, and discussion groups were to be utilized in the practical application of negotiation skills to the students' lives in home, school, and work settings.

Mediation skills were also to be taught. The students would have the opportunity to practice mediation by facilitating constructive conflict resolution. It was assumed that helping others would reinforce one's desire to use the newly learned skills in one's own conflicts.

Initial training of the administrators, coordinators, teachers, and paraprofessionals took place in August 1988; almost all of the eligible people participated in the initial training except for several who had unbreakable prior commitments.\* There were three days of conflict resolution training for people from Campuses A and B and two days of training in cooperative learning for those from Campuses B and C. During the 1988-89 and 1989-90 school years, training of the teachers continued at each of the three campuses. Regular training at each site was to begin in September 1988; the plan was to have one trainer per site working two days a week with the coordinator under the supervision of the ICCCR training director.

### Program Description\*\*

The following section briefly describes the training activities that took place at each campus.

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\* The Board of Education paid the teachers, at their salary rate, for all training conducted outside of regular school hours.

\*\* For a fuller description of the AHS and of the training programs as carried out see Mitchell (1992). All names of trainers are pseudonyms.

*Campus A: Conflict Resolution*

Karen, the trainer assigned to Campus A, has a degree in criminal justice, had worked in New York City for several human service agencies, and had previously done conflict resolution training. In 1988-89, Karen and the ICCCR training director worked together at Campus A one day per week. In all, they held 14 two-hour conflict resolution workshops for teachers after school. The majority of the staff participated in most of the 14 workshops (the attendance at the workshops ranged from 11-14). Karen also worked with students in their family groups (called strategy groups at this campus), presenting a violence prevention curriculum. In addition, numerous classroom sessions were conducted by Karen where the students were trained in conflict resolution directly. Lastly, staff development sessions, focusing on using conflict resolution with students, augmented the teacher workshops. By the end of the year, teachers and students had gained a beginning knowledge of violence prevention, negotiable and non-negotiable conflict, needs versus positions, "I" messages, active listening, and paraphrasing. Role playing was employed in the workshops and classes to enable students to create and respond to situations they encountered at home and work.

During the second year of the project, Karen continued as the trainer at Campus A. Across the year, she conducted approximately 145 classroom lessons and innumerable individual staff development sessions. Additionally, in the spring, she held 16 workshops to train 11 student mediators to form the basis of a school mediation program. She also continued to work with seven strategy groups on the violence prevention curriculum. During the third year,\* Karen spent eight days doing staff development -- mainly reinforcing what had been taught in previous years. In our last contacts with the site in 1991 it was reported that 75% of the staff was actually using and/or teaching conflict resolution skills.

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\* ICCCR was unable to obtain the expected external funds for the planned third year of the training or for the research on this third year. However, because of the strong requests from AHS to continue with the training, ICCCR provided funds to each trainer to enable them to work for the equivalent of eight full-days.

*Campus B: Conflict Resolution and Cooperative Learning*

The training at Campus B was more difficult than that at Campus A for a number of reasons. Initially, a trainer in cooperative learning could not be hired (at both Campuses B and C) because of teacher union insistence that a union trainer be hired. However, training in conflict resolution was begun late in the fall of 1988: nine two-hour workshops for teachers took place biweekly after school. Topics included violence prevention, active listening, the AEIOU learning device, reframing, and the fundamentals of cooperative learning. The ICCCR training director, Karen, and Sarah (the trainer for Campus C) provided the training, with 5-7 staff attending. Training was halted during the winter for a number of reasons, including teacher concerns about the appropriateness of the approach for students in the school and antipathy toward the training style of one of the trainers.

The cessation of training led to a joint review and renegotiation of the project by the ICCCR and the school. These meetings and the hiring of Beth, a trainer who viewed staff development as a reciprocal process, served to regenerate the project as teachers were assured they would be helped and encouraged to adapt the training to the needs of their students. Beth had been a consultant to other cooperative learning projects, a teacher, a staff developer for conflict resolution in a program in New York City, and had received training by Johnson and Johnson in cooperative learning.

Beth used the fall of 1989 to "work her way" slowly into the school and to establish rapport and trust with the teachers. To achieve this, she undertook many classroom observations and held informal discussions with teachers two days a week. These paved the way for the introduction of cooperative learning strategies in individual classes at the request of teachers. By the end of term, Beth was working directly with 13 teachers, including seven new teachers who had been introduced to cooperative learning in an orientation session.

In January 1990, the training for teachers shifted to after school workshops. Fifteen workshops from January through May, covered a range of topics, including the role of groups, restating and paraphrasing, problems and successes in cooperative learning lessons, team teaching, and planning lessons. Attendance ranged from 7-13 with teachers, the coordinator, two paraprofessionals, and the administrative assistant participating. Participants were paid for their time. These were supplemented by individual planning sessions, as needed.

In year three, Beth's work at Campus B continued well into Spring 1991 with a series of two-hour, after school workshops. The trainer estimated that 75% of the staff was actively involved in using cooperative learning and/or conflict resolution skills with students at the end of year three.

#### *Campus C: Cooperative Learning*

The training at Campus C was the least successful of the three sites for a number of reasons, including the late hiring of the trainer, severe scheduling problems and the illness of the trainer at the end of year two. As at Campus B, the hiring of a trainer at Campus C was delayed because of union requirements. Sarah was eventually hired late in the year. She was a training specialist who had served as a school volunteer for more than ten years, taught part time, been trained in cooperative learning by Johnson and Johnson, and undertaken staff development for school district.

Training began at Campus C in January 1989 with several after school workshops in social skills as an introduction to cooperative learning. Through these, participating teachers gained a working knowledge of the skills involved in cooperative learning and conflict resolution. Fortuitously, they were able to employ these skills, and to enhance them, in a production for Black History Month, which in effect, became a vehicle for teaching problem solving and cooperation. Three more workshops on cooperative learning were held during the spring. During this period, the trainer also undertook

classroom observations and worked with six teachers interested in promoting cooperative learning in their classes.

In the fall of 1989, five workshops in cooperative learning took place, with 13-14 staff members in attendance. Topics covered included the basics of cooperative learning, group skills, structuring positive interdependence, effective communication, and infusing cooperative learning strategies into the ongoing curriculum. However, while this training was more successful than that of the previous year, Campus C was more plagued by scheduling and attendance problems than the other two campuses. In response to this, in the second semester, it was decided to move away from after school workshops to a staff development model, in which the trainer would work with individual teachers. Following the new model of training, Sarah conducted 15 staff development sessions during February and March, at which time eight faculty members were using cooperative learning regularly. Unfortunately, an illness in April prevented Sarah from returning to Campus C for the remainder of the second year.

During the third year of the project, the trainer tried to keep interest in cooperative learning alive at the school by working intensively with the individuals who had been the most involved in the previous two years. However, she concluded that most of the teachers were not ready to use cooperative learning on their own. At the end of the school year the coordinator reported that he and only one other teacher had continued to use cooperative learning systematically in their classrooms.

### Theory

Based on Deutsch's (1949a, b; 1973; and 1985) and Johnson and Johnson's prior theoretical work (summarized in their 1989 book), we developed a set of theoretical propositions which can be summarized as follows. In brief, we assumed that both types of training would lead to an improvement in the social skills that would facilitate constructive conflict resolution and effective working together with others; we further

assumed that training in constructive conflict resolution would particularly enhance the former set of skills while training in cooperative learning would particularly improve the latter type of skills. Next, we posited that an improvement in managing conflict and working together with others would have a positive impact on the students' relations with others which would be reflected in their receiving greater social support from others and being less victimized by others. The increased positiveness of the students' social environment would, in turn, lead to greater self-esteem as well as more frequent positive mental states (e.g., "cheerfulness," "life is interesting") and less frequent negative mental states (e.g., "upset," "tense," "depressed"). As the student's self-esteem increased and the social environment became more positive in its responsiveness, we expected that the student would feel a greater sense of control over what happened to him/her (internal locus of control). Since prior research has demonstrated a strong relationship between academic achievement and locus of control, we also assumed that an increased sense of control over one's fate would lead to greater academic achievement. To test the foregoing propositions, a structural equations model was formulated and tested through LISREL analysis.

Data The first data (N=350) were collected in June 1988, prior to the commencement of formal teacher training to obtain the base-line information for the sampling population. Since the average length of a student's stay at the AHS was about one year and a half, there was a fair amount of student turnover during the course of the intervention. A pre-test was administered to incoming students near the beginning of each school cycle. The first post-test began one year after the base-line data were collected, post-tests were also administered in January and May of the second year. There were altogether 1053 cases in the pre-test, and 363 in the post-test data set. Among the post-tested subjects, 17 of them were not able to be matched with their pre-test data. Thus, the total number of cases with pre-post-matched information was 346.



The high attrition rate (.67) might give rise to the question of whether retention bias affected our results. We investigated this issue by examining the students' retention rate across three consecutive school cycles (ten weeks per cycle) during which a major portion of our data collection was conducted. The average three-consecutive-cycle retention rate of the three cohort groups was .47. This indicates that a substantial portion of the shrinkage from initial pre-test to the first post-test was due to student dropout within the one-year gap between base-line data collection and the first post-test administration. A number of statistical tests were performed on the variables, such as school grades, which might have affected the attrition process, to examine whether those non-matched cases were truly missing at random. No systematic differences were found between those who attended school in all the three consecutive cycles and those who missed school for at least one of the three cycles.

Due to attrition and missing values in the data set, we were not able to estimate our structural equation models based on cohorts; rather, the pre- or post-test data collected at different times from all three campuses were combined and the variables from the pre-test were used as controlling factors. Thus, beyond the measurement errors in the data, there might be a "homogenizing" effect resulting from averaging the data of different time points which might have made it more difficult to detect the effects of the interventions.

In both the pre- and post-test questionnaires, we obtained measures of the student's self-esteem; sense of control over his/her fate; mental and physical health; the social support received from his/her family, school, friends, work, neighborhood, etc.; amount of victimization experienced (e.g., being "insulted or threatened," "physically attacked," "sexually harassed," "forced to hand over money or things"); problem-solving orientation; and academic achievement (as measured by scores on Regents Competency Tests). Additionally, the posttest questionnaires included measures of the student's

improvement in working effectively in groups and in resolving conflicts. Whenever feasible, we employed measures that had been used in prior research.\*

Since the latent variable approach was used in the analyses, all the instruments were reorganized and their measurement structures were simultaneously tested with the latent structural models. The lower bound of reliability for each single item was indicated in the LISREL output as a squared correlation coefficient between the item and its latent factor. The average squared correlation coefficient were .47 for both exogenous indicators and endogenous indicators in General model I.

Results Given the number of missing values and the size of our general research models, it was necessary to start our analyses with partial models so that the general models could build upon tested partial models and serve their integrative purpose. Five partial models were tested: (a) model of social climate and mental health; (b) model of social climate and self-evaluation; (c) model of mental health and achievement; (d) model of self-evaluation and achievement; and (e) model of intervention and social climate.

Model of social climate and mental health

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Insert Figure 1 Here  
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Figure 1\*\* indicates that a student will have increased positive attitudes towards life and decreased negative mental and emotional states as he/she receives more support from his/her school, family, and/or work place. At the same time, the support from those

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\* This paper has not the space to report all of our findings, some of which are based upon interviews, systematic observation, teacher and employer questionnaires. For a more complete report see Deutsch, et al. (1992).

\*\* In all Figures, the variables which are represented are "latent variables" that are error-free, except for academic achievement. Here we indicate from which items the latent variables were extracted. Victimization was extracted from three items: "forced to hand over money or things", "afraid of being physically hurt", and "was physically attacked at school". Negative mental state was indicated by "feeling depressed" (during the last month); "being anxious, worries, or upset"; "feeling sad, discouraged, or hopeless"; and "feeling tense". Positive mental state had also four indicators regarding the past month: "felt cheerful", "life full of interesting things", "emotionally stable", and "waking up feeling rested".  
[Zhang: complete the rest of the footnote]

different sources will also reduce the student's chance of being victimized. Somewhat surprisingly, a student's victimization had no significant effects on either positive or negative mental states. One reason for that is probably because the students had been asked to recall the incidents of being victimized during the past three months but only been asked about their mental states within the past one month. The time elapse between the occurrences of the incidents and their reported mental states may have eroded the possible effects of victimization on a student's mental health.

It should be noted that in AHS major incidents of crime are extremely rare. Thus, given mild personal offenses, there might be a relatively short effect span for a student's victimization. Not surprisingly, this model also suggested that mental depression and anxiety could alter one's positive attitudes.

Partial model I has a chi-square with a p-value of .21, given a sample size of 200. There is 25 percent of total variance explained by the structural equations.

Model of social climate and self-evaluation The latent variable of self-esteem (Figure 2) was devised from the Self-esteem Scale by Rosenberg (1965); the latent measure of locus control was devised from a locus of control scale adapted for a high school population.\* Comparing it with the first model, one may notice that the parameter estimates of social support on victimization from these two models were practically the same. Thus, the two models corroborated each other on the results for the particular model parameter. As expected, self-esteem increases with social support, and in turn, enhances one's feeling of internal control, while the experience of being victimized decreases the level of internal control and self-esteem. Although social support does not have a direct impact on one's locus of control it may have an indirect effect through reducing one's susceptibility to personal offenses and promoting one's self-esteem. The

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\* The Latent Variable of self-esteem reflects the following Rosenberg items: [Zhang complete FN]  
The latent locus of control variable reflects the following items: [Zhang complete FN]

chi-square of the model has a p-value of .11, and its explained variance is .18, given a sample size of 200.

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Insert Figure 2 Here  
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**Model of mental health and achievement and model of self-evaluation and achievement** The first achievement model (Figure 3) indicates a significant impact of positive mental states. However, given the small amount of the total variance explained, the impact is rather trivial. Particularly, in comparison with the second achievement model (Figure 4) which indicates a more substantial effect of internal control on academic achievement, with 21 percent of the total variance explained. Due to the different scaling of RCT which was treated as a true measure of academic achievement, the coefficients of arrows towards achievement tend to be inflated. The very small negative coefficient of self-esteem on achievement is certainly attributable to sampling variation. With a pre-fixed sample size of 100, both models have a good fit. Due to missing values resulting from matching our files with school RCT records, the sample size for the two models was left as determined by the default value in order to preserve a minimal power of model testing.

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Insert Figures 3 and 4 Here  
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**Model of Intervention and social climate** Two new latent variables were introduced as exogenous factors: "conflict" and "group". The latent conflict variable stands for constructive conflict resolution as measured by self-reported improvements over the past year in handling conflicts with friends or peers, with study group members, with family members, and with people at one's work place. The latent group variable stands for effective group working indicated by self rating of effectiveness of working

with others and understanding others. This factor was expected to measure the relatively unique components of cooperative learning with respect to constructive conflict resolution.

This model shows that constructive conflict resolution has a direct positive impact on a student's social support and has both direct and indirect effects mediated through social support on one's victimization. Although the group variable does not directly bring about significant effects on the social climate variables, its shared components with the conflict variable suggests a synergistic relationship between the skills involved in constructive conflict resolution and effective work in groups

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Insert Figure 5 Here  
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This model has a sample of 151 with a fit at .1 level. The explained variance by the structural equations is .23..

To integrate the results of the five partial models, two general models were specified. The main functions of establishing the general models lie in estimating the absent linkages among the partial models, and, even more importantly, they provide much greater control over confounding effects. By estimating the general models, the results from the partial models may be cross-validated.

The main results of the general models are summarized in Figures 6 and 7. The general model in Figure 6 consists of seven latent exogenous variables and seven latent endogenous variables with "Psupport" hypothesized as a mediating factor between the interventions and the outcomes. The latent variables beginning with a "r" came from pre-tests, and those beginning with a "P" were post-test variables as are "Conflict," "Group," and "Social Support." The general model in Figure 7 consists of five latent exogenous variables and six latent endogenous variables with victimization as the intervening factor.

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Insert Figures 6 and 7 Here  
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Several issues have to be addressed before going into the structural relations indicated by the models. The first is the issue of statistical tests of model. The use of 47 indicator variables in the model caused the valid number of cases to drop drastically from 200 in the first partial model to 57 in the first general model. Again, the reduction is largely due to the matching between our data set and the students' RCT records. This reduction of sample size led to reduced statistical power which inflated the results of the overall model fit test, but deflated the significance of the parameter estimates. Secondly, given the size of the general models, the number of alternative models were enormous such that it became almost impractical to test them. Thus, our focus was not on the testing for alternative models; instead, we focused on the fit between our theoretical conceptualization and the empirical results and the corroboration between the partial models and the general models. Given different model specifications, different samples, and particularly, the greater control employed in our general models, the cross-validation among different models was considered desirable. The third issue is that potential relations among variables increase geometrically with an increase in the number of variables; thus, a good fit tends to be less likely to occur since the number of trivial relations with limited theoretical substance are not specified to be estimated.

Summarizing the results of the two general models, one finds very close correspondence between them and the results of the five partial models. However, due to the reduced power of statistical testing, a number of estimates were not statistically significant in the general models. The trends, on the other hand, were consistent across all our models, which provide confidence in the following conclusion:

(a) The propositions that improvement in a student's management of his/her conflicts would lead to increased social support and decreased victimization for the

students were supported by Partial model 3 and General model II, and to a lesser extent in General model I. There was also evidence that such empowerment had direct positive impact on the student's self-esteem; this was indicated in General model II and suggested in General model I.

(b) The postulated effects of improvement in groups skills on social support were not confirmed; this was probably due to inadequate measurement of this variable.

(c) The changes in interpersonal relationship, elicited by improvements in the management of conflict and reflected in the variables of social support and victimization, were -- as theorized -- effective in promoting mental health, facilitating positive attitudes towards life, and enhancing self-esteem and internal locus of control. These results may be seen by integrating the General models I and II with the Partial models I and II.

(d) Improvement in conflict management, mediated by increased social support and decreased victimization, indirectly enhanced the sense of personal control over one's fate and thus contributed to one's academic performance. These conclusions may be drawn from integrating the results of General models I and II and Partial model 4. Academic achievement in turn enhanced the student's self-esteem and reduced his/her depression, anxiety, and other psychological distress (seen in General model I).

### Qualitative Results

Our systematic observation and interviews gave us a wealth of information about factors that both facilitated and impeded the implementation of the training and overall program effectiveness. Here, we summarize these supportive and impeding factors, briefly.

#### *Factors supporting the Implementation of Training*

The factors that were most important to the success of the training were the following: (1) entering the site in such a way that faculty and staff are comfortable with

the presence of the trainer; (2) adapting the training to the needs, abilities, and cultures of the target population -- allowing that population to help in the delineation of their needs and abilities; (3) becoming engaged at the site, not only in training related activities, but in routines, special events, and teachable moments; (4) remaining flexible in scheduling and planning the training to accommodate unexpected events and situations; (5) arranging meetings where school staff, trainers, and researchers can debate and discuss the training models and, if necessary, recommit themselves to the goals of the project; (6) working with people in a whole spectrum of roles and responsibilities so that a broad-based group of supporters for the training is built.

In addition to the above, interviews with the faculty and administration provided strong testimony about the positive effects of the training in conflict resolution and cooperative learning in terms of empowering teachers and encouraging them to take risks and make changes in the classroom; improving communication among staff and between staff and students; and reinforcing school norms around constructive conflict resolution by showing students that schools are places where people work to solve their differences.

### *Barriers to Implementation of Training*

Throughout the project, at all sites, there were aspects of the school and the intervention that led to difficulties in implementation. These barriers were: (1) lack of needs assessment conducted separately for each site before the project began; (2) students absenteeism and tardiness; (3) lack of teacher and student support for the research portion of the project; (4) lack of financial support to offer the planned training and conduct research over three full years.

### Conclusions

The results of our study are consistent with what one would expect from prior research and theorizing. We are unable, however, to draw any definitive conclusions

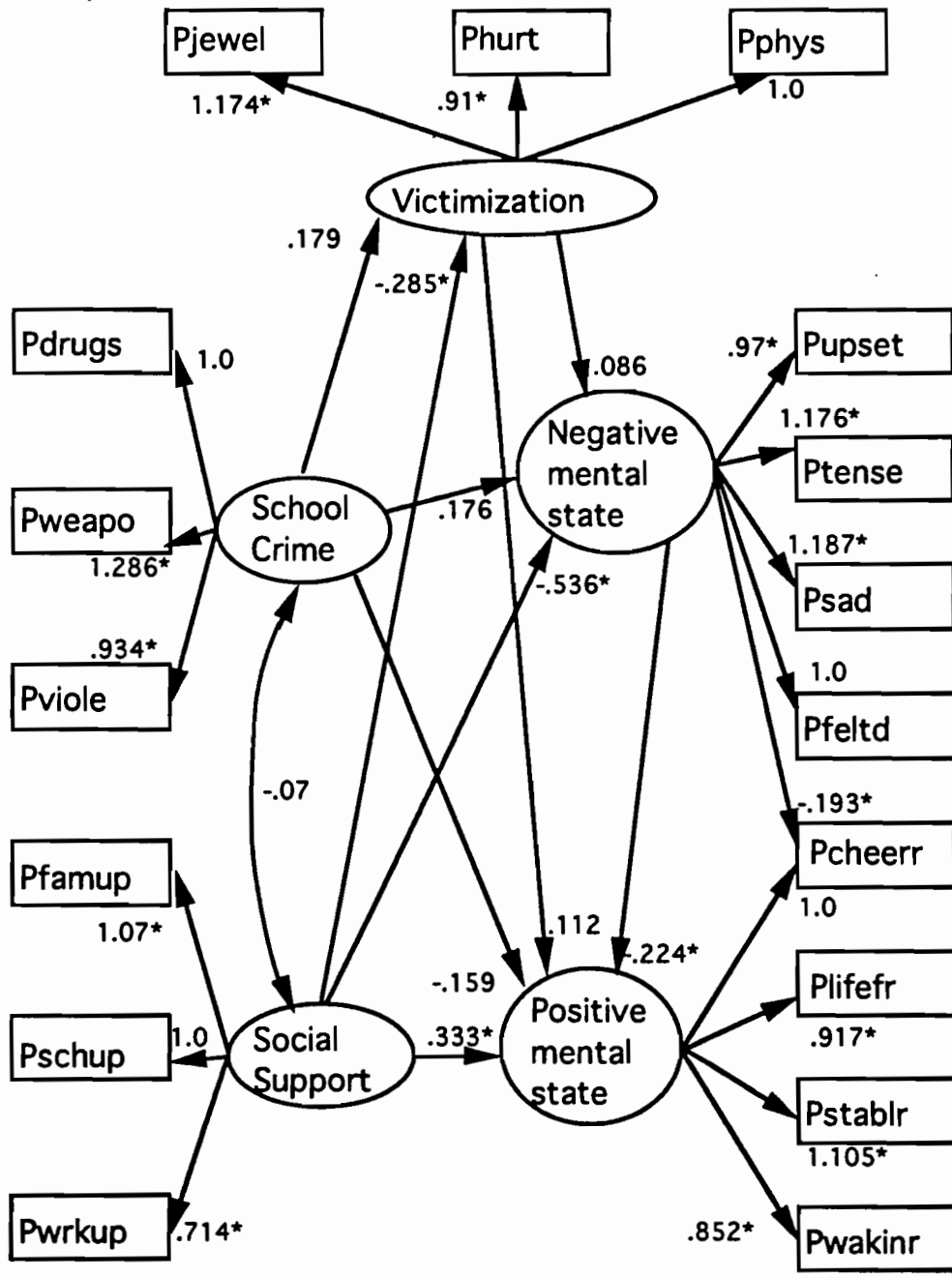


about the relative effects of the training in conflict resolution as compared with that in cooperative learning. Unfortunately, the campuses differed not only in the training which they received, they also differed in other important respects. It was impossible to disentangle the effects which were due to the campus differences and those due to the training difference. Nevertheless, collectively we have the subjective impression that the combined training was the most effective.

We conclude by stating that our study was conducted under conditions which were considerably more difficult than those under which most prior studies were conducted. The students in our study were more "at-risk," facing more difficult life circumstances, and were older; the teachers were working in more adverse conditions, more decrepit buildings, and in a more demoralized educational system than in most previous studies. The fact that our training produced positive results under these difficult conditions and that our results are consistent with prior theorizing and research suggests that cooperative learning and conflict resolution training are valuable in a wide range of educational settings

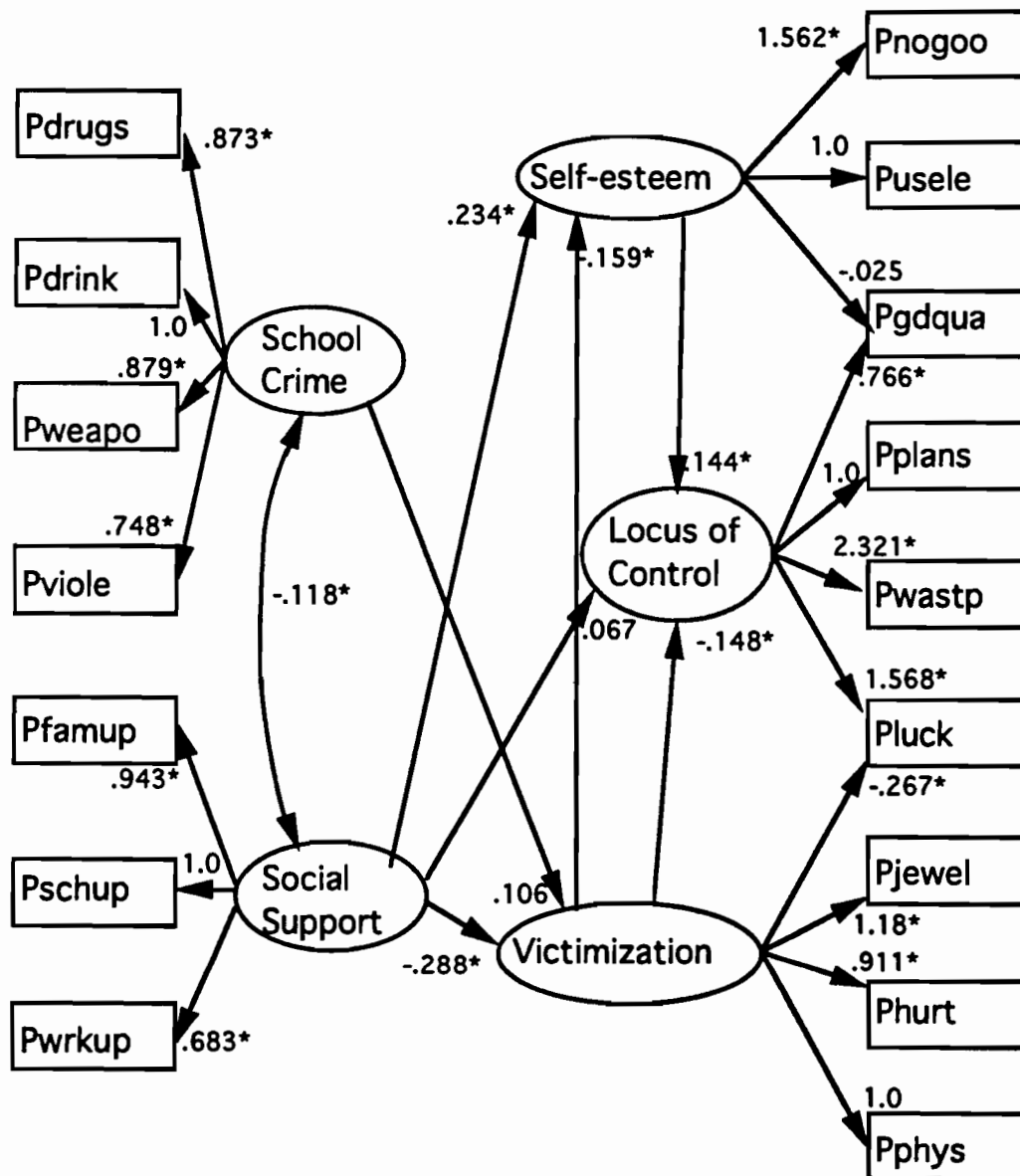
*Notes from Morton Deutsch re: Figures:*

1. Include only the latent variables in all figures
2. The journal will probably need to reduce the size of the Figures so that they occupy no more than 2 pages in total. So if they can be redrawn with this sort of reduction in mind, it would be helpful.



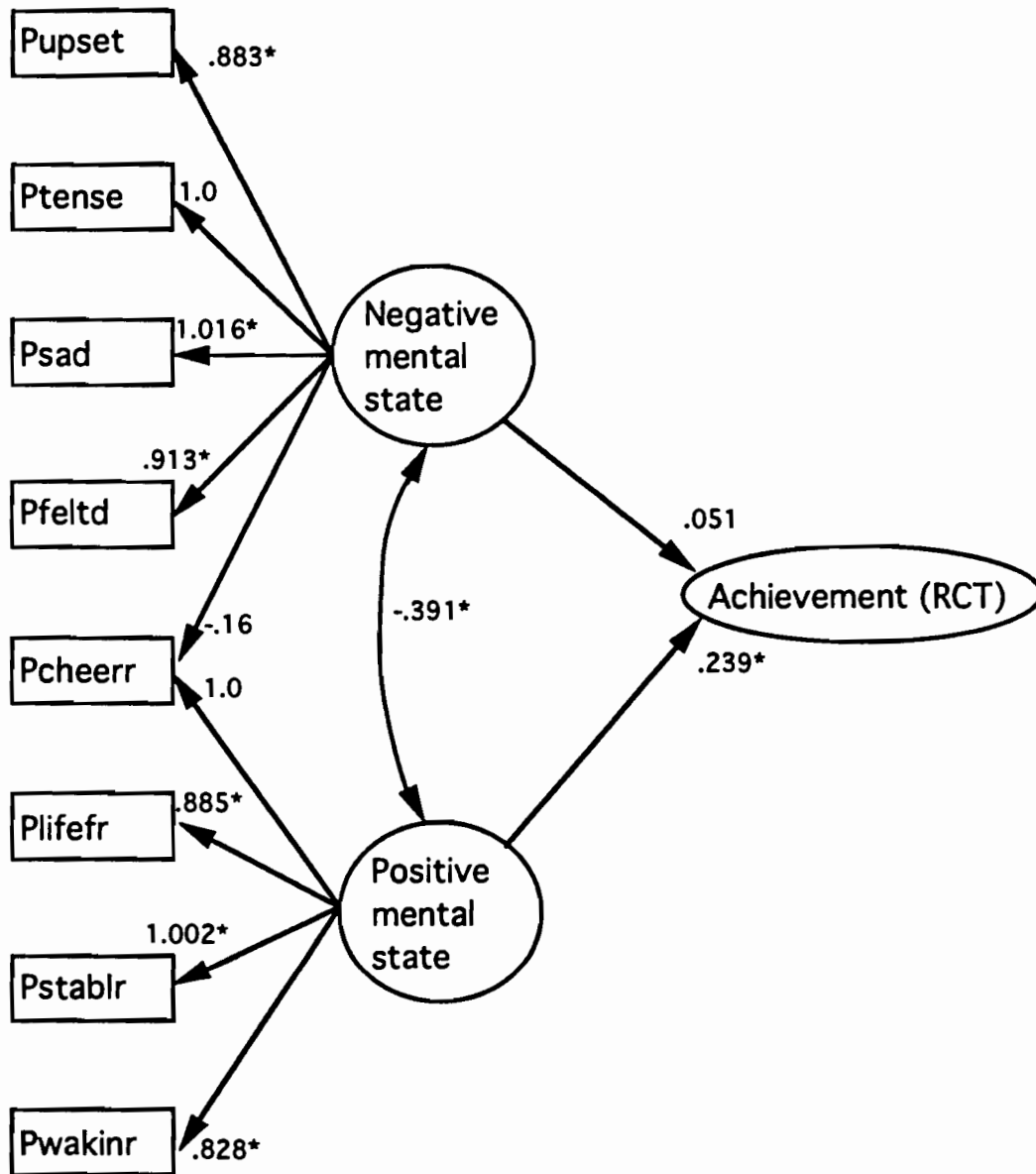
Model fit: P = .207 for the MLE  
 Variance explained by the structural equations: .249  
 Goodness of fit index: .935  
 Adjusted goodness of fit index: .908  
 Root mean square residual: .081

\* t ≥ 1.96



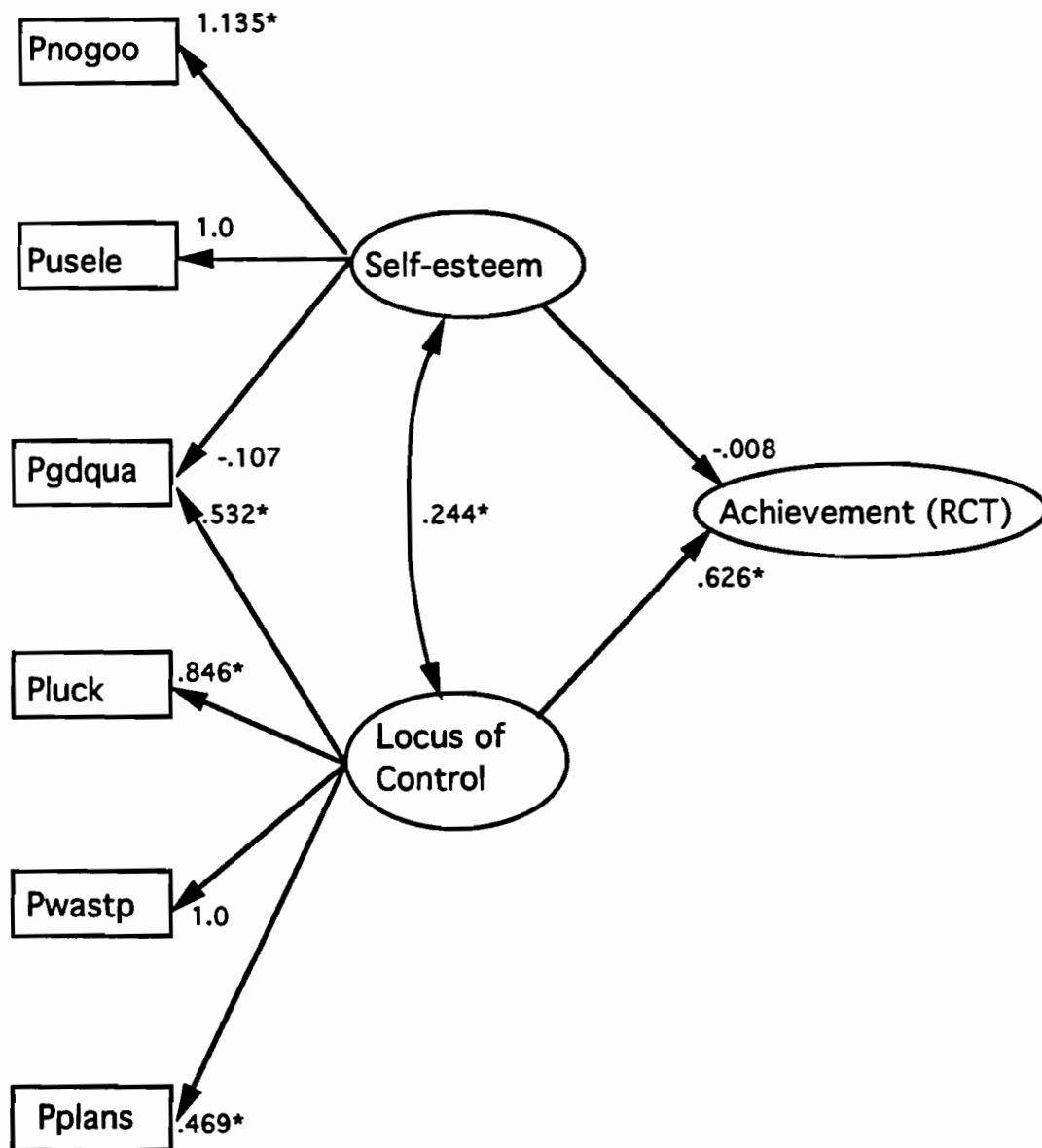
Model fit: P = .113 for the MLE  
 Variance explained by the structural equations: .178  
 Godness of fit index: .936  
 Adjusted goodness of fit index: .907  
 Root mean square residual: .044

\* t ≥ 1.96



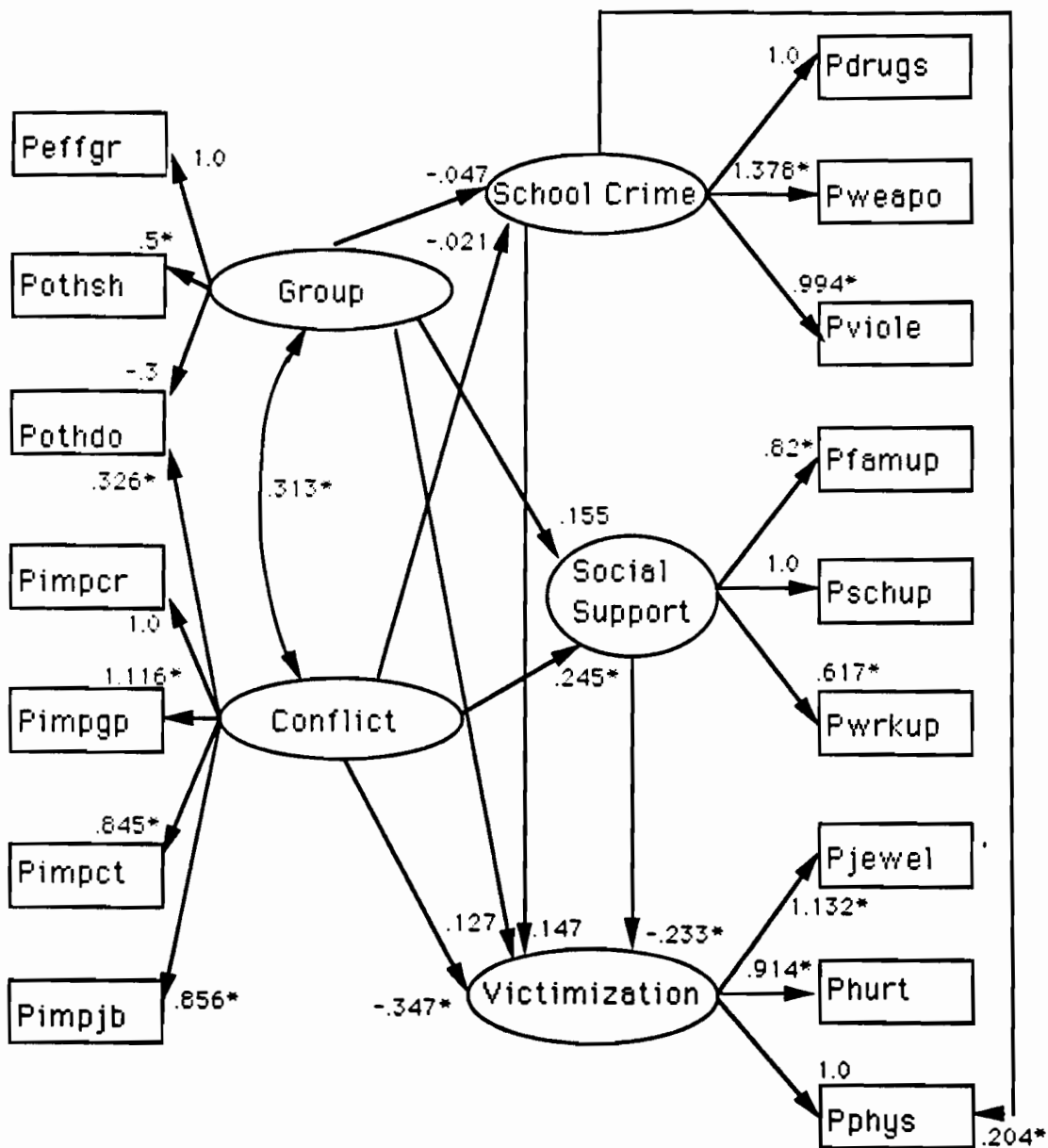
Model fit: P = .977 for the MLE  
 Variance explained by the structural equations: .071  
 Goodness of fit index: .973  
 Adjusted goodness of fit index: .95  
 Root mean square residual: .078

\*  $t \geq 1.96$



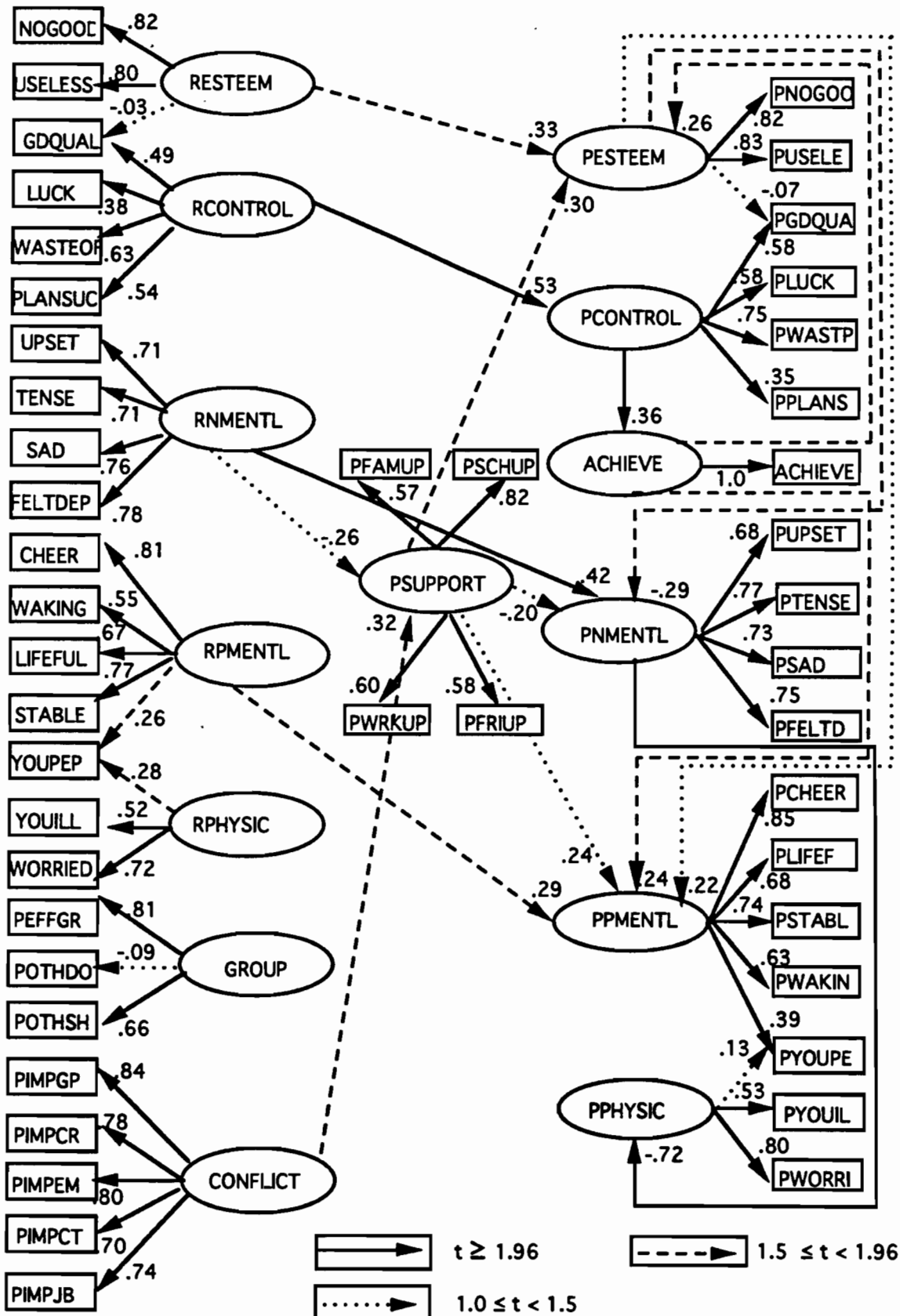
Model fit: P = .295 for the MLE  
 Variance explained by the structural equations: .212  
 Goodness of fit index: .964  
 Adjusted goodness of fit index: .908  
 Root mean square residual: .047

\*  $t \geq 1.96$

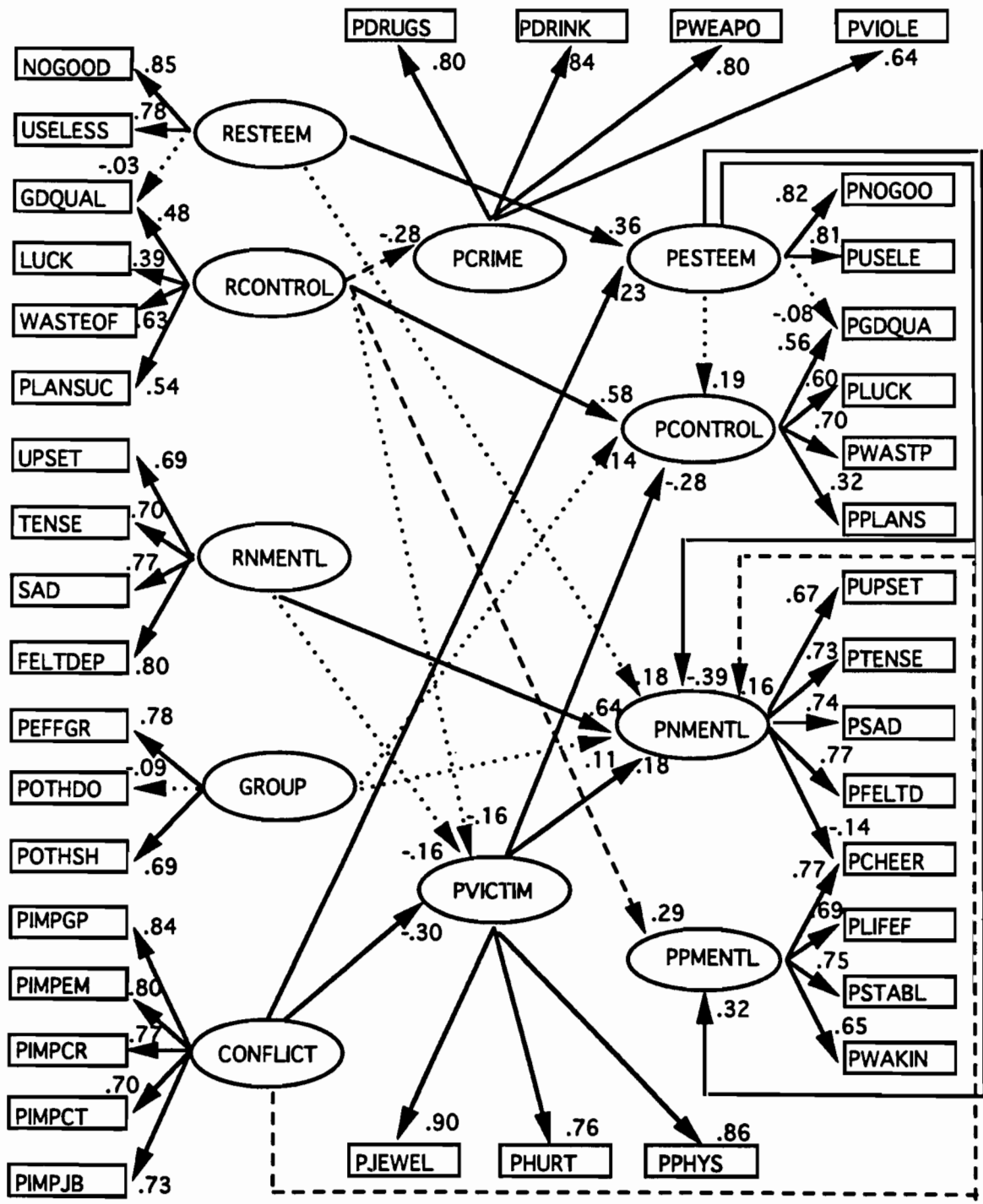


Model fit: P = .102 for the MLE  
 Variance explained by the structural equations: .227  
 Goodness of fit index: .920  
 Adjusted goodness of fit index: .882  
 Root mean square residual: .056

\* t ≥ 1.96







—▶  $t \geq 1.96$

- - -▶  $1.5 \leq t < 1.96$

.....▶  $1.0 \leq t < 1.5$