An Evaluation of the L-380 Fireline Leadership Training

A report prepared for the
NWCG Leadership Committee
under contract to the
USDI Bureau of Land Management

Guidance Group, Inc.
Strategic Services for Fire Organizations

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Executive Summary

Since 2000, approximately 7,000 people have completed the Fireline Leadership (L-380) training program, and the course provides a foundational element of the overall National Wildfire Coordinating Group (NWCG) leadership training curriculum. Consequently, L-380 represents training of strategic importance to the NWCG and its member agencies.

Given the importance of this training, the scope of participation, and the relative costs to the participating agencies, the sponsor organizations recognize their strong incentive to evaluate the L-380 program to maximize the return on their substantial investment in this training. In fact, when chartering its Leadership Committee and leadership training curriculum, the NWCG charged the Committee with establishing a mechanism for evaluating the effectiveness of leadership training, with the objective being to accurately assess how the leadership training impacted job performance.

The following evaluation employed a quantifiable and methodologically defensible method for collecting and analyzing training related data, with the intent of evaluating the L-380 training to determine whether the training is on track. This evaluation provides a systematic, quantitative approach to evaluation. Such an approach allows the Leadership Committee to determine whether the NWCG leadership training is effective, uses the L-380 course as a pilot for determining whether the NWCG leadership curriculum is bringing about change in participant performance on key leadership competencies forming the core of the programs, and assesses whether the NWCG leadership training curriculum is effectively promoting cultural change in the workforce by evaluating whether behaviors are extending into the organization beyond the training environment.

The evaluation strategy employed uses self-report data as a source of feedback on the L-380 training. The evaluation method evaluates the L-380 training at Kirkpatrick Level 3 (Behavior) via a retrospective pretest and posttest administered to both trainees and supervisors. Specifically, this evaluation effort solicited information from 800 people (400 training participants and 400 supervisors of training participants), using a web-based application of the method developed by DeGrosky (2005a, 2005b.) Ultimately, the contractor obtained 351 useable surveys (210 supervisors and 141 participants), providing the database from which the evaluation was made. Previous testing showed that Level 3 (Behavior) could be effectively measured with reasonable confidence using these self-reporting instruments (DeGrosky, 2005a).

The evaluation surveys measured the effectiveness of the L-380 training against 36 elements reflecting the learning targets addressed by the L-380 training (DeGrosky, 2005a). The results of the following evaluation indicate that the L-380 training is producing significant improvement between the pre-training period and the post-training period on all elements measured, indicating that both participants and their supervisors have witnessed improvement in the behaviors and performance of the course participants six months to one-year beyond the training.

At its core, this evaluation measures the extent to which people observed behavior or performance (associated with the learning targets of the training) in the workplace beyond the training environment, both before and after the training. The learning targets represent a combination of behaviors, attitudes and skills. Since those behaviors, attitudes and skills are desirable, the participating agencies would regard increasing detection of them in the workplace as "improvement." In addition, since these behaviors, attitudes and skills correspond to the learning targets of the training, we may assume with confidence that the observed improvement is due, at least in part, to the training. The evaluation also gauges how far the desired performance has diffused or penetrated into the workforce – in other words, the percentage of participants demonstrably engaging in the desired performance.

This evaluation demonstrates that improvement occurred on every element measured. It also demonstrates that both the rate of improvement and the degree of diffusion into the workplace culture varies by learning target. Generally speaking, in the results of this evaluation, evaluation elements, and therefore the L-380 learning targets, fall into four categories, as follow:

1. Those for which the evaluation indicates both a dramatic rate of improvement and deep diffusion into the workplace. Learning targets falling into this category include:

   <u>Learning Target Number/Description</u>

   11. Recognizing values and character associated with good leadership
   12. Understanding the role, duties, and responsibilities of a leader
   15. Knowing the process of delegation
   16. Effectively delegating tasks to subordinates
   22. Fostering team cohesion
   24. Planning and conducting After Action Reviews (AAR)
   25. Effectively participating in After Action Reviews (AAR)
   32. Maintaining situational awareness in the leadership environment
   35. Understanding role that ethics/ethical decision-making play in leadership
   36. Understanding the relationship between values and leadership

2. Those for which the evaluation indicates a relatively moderate rate of improvement, when compared to other learning targets, but for which deep diffusion is still indicated. Learning targets falling into this category include:

Learning Target Number/Description

1. Balancing the needs and expectations of leader, follower, organization
4. Providing effective briefings
8. Communicating intent as a leader when leading others
10. Understanding the leadership environment
17. Understanding the power to influence
19. Engaging in their own self-development
20. Assisting subordinates with their personal development
21. Building a team and fostering teamwork
31. Familiarity with the concept of situation awareness (SA) and the SA cycle
34. Understanding decision-making and the decision-making cycle

3. Those for which the evaluation indicates a strong rate of improvement, but more moderate diffusion into the workplace. Learning targets falling into this category include:

Learning Target Number/Description

2. Understanding people's behavior
5. Effectively applying communication tools
13. Understanding interpersonal conflict
18. Understanding when different leadership styles are appropriate
30. Familiarity with traumatic/critical incident stress and related responsibilities

4. Those for which the evaluation indicates both a relatively modest rate of improvement and relatively moderate diffusion into the workplace when compared to other learning targets. Learning targets falling into this category include:

Learning Target Number/Description

3. Effectively influencing people to change their behavior
6. Developing a vision for the unit
7. Creating goals to achieve their unit's vision
9. Effectively providing performance feedback to subordinates
14. Effectively resolving interpersonal conflict
23. Planning and conducting training that develops subordinates' skills
26. Preventing, managing and mitigating human error
27. Understanding the relationships between fear, stress and human error
28. Mitigating one's own stress/prevent it from contributing to human error
29. Mitigating subordinates' stress/prevent it from contributing to human error
33. Understanding relationships between experience, memory and DM

As previously mentioned, the methods employed in this effort measure the extent to which respondents observed certain behaviors or performance in the workplace beyond the training environment, both before and after the L-380 training. The evaluation can, and should, be used to guide the continuous improvement of the training. However, the end-users of this evaluation should not treat it as a static, "report card" type of assessment and the sole determinant of whether a portion of the training "works" or not.

A wide array of variables may explain why the improvement rate or degree of diffusion for a given learning target may lag behind others. For example:

1. Some of L-380 learning targets depend on long-term changes in agency culture – changes that may have not yet reached their "tipping point" in NWCG agencies.

2. Supervisors have reported that some L-380 participants, apprentices in particular, are not yet at the stage in their career where they would perform responsibilities covered by L-380 learning targets.

3. Not all L-380 participants return to a workplace that represents a tolerant, fertile environment in which participants may promptly put their newfound skills to work.

4. L-380 participants and their supervisors often see the effect of the training similarly, but often see the scale of effect differently. L-380 participants often assess their performance more highly than do their supervisors both before and after the training.

5. It remains quite possible that supervisors simply lack the opportunity to observe their subordinates engaged in the behaviors associated with some L-380 learning targets, particularly those typically exercised in the incident or field environment. The end user of this report should at least consider this factor whenever the evaluation indicates that an unusually high percentage of supervisors lacked sufficient opportunity to judge performance on a given learning target.

Consequently, when using this evaluation to guide the continuous improvement of the L-380 training, the stewards of the training must critically evaluate, on a case-by-case basis, the possible causes when the rate of improvement or degree of diffusion for a given learning target lags behind other learning targets. One must not assume, given the possibilities, that a lagging learning target automatically implies a need for substantive improvement in the training. It is the opinion of the evaluation contractor that when those responsible for the training carefully consider the learning targets showing only modest improvement or impact in this way, substantial changes to the L-380 training will, and should, remain fairly exceptional. This is not to imply that no improvement to the L-380 training is warranted, simply that critical evaluation must precede decisions to modify training approaches to assure that a training solution is, indeed, merited.

At the bottom line, the results of the evaluation indicate that the L-380 training is producing significant improvement in performance of course participants between the pre-training period and the post-training period on all learning targets measured six months to one-year beyond the training, and that both participants and their supervisors have witnessed the improvement. Continued monitoring and evaluation will indicate whether the sponsoring agencies are able to sustain and improve upon that success.

Comprehensive Comparison of Evaluation Elements/Learning Targets

LEARNING TARGET	Change in Strong Agreement	Change in Strong Disagreement	Organizational Penetration
1. Balancing needs and expectations	+10.9%	-15.0%	72.7%
2. Understanding people's behavior.	+16.6%	- 6.0%	65.0%
3. Effectively influencing people to change their behavior	+8.0%	-2.0%	53.0%
4. Providing effective briefings	+19.0%	-5.0%	79.0%
5. Effectively applying communication tools	+16.0%	-4.0%	58.0%
6. Developing a vision for the unit	+7.7%	-4.0%	38.1%
7. Creating goals needed to achieve their unit's vision	+6.0%	-8.0%	47.0%
8. Communicating intent as a leader when leading others	+12.2%	-2.0%	76.6%
9. Effectively providing performance feedback	+10.5%	-1.9%	63.8%
10. Understanding the leadership environment	+13.1%	-8.5%	71.5%
11. Values and character associated with good leadership	+23.1%	-3.3%	77.2%
12. Role, duties and responsibilities of a leader	+23.0%	-19.1%	75.0%
13. Understanding interpersonal conflicts	+14.9%	- 4.0%	67.0%
14. Effectively resolving interpersonal conflicts	+3.7%	-7.1%	50.1%
15. Knowing the process of delegation	+21.1%	-1.3%	80.7%
16. Effectively delegating tasks to subordinates	+22.2%	-7.0%	77.7%
17. Understanding the power to influence	+14.6%	-5.1%	72.4%
18. Appropriate leadership styles	+14.3%	-5.4%	63.9%
19. Engaging in own self-development	+17.4%	-1.1%	79.0%
20. Assisting subordinates with their personal development	+18.6%	-1.1%	72.1%
21. Building a team and fostering teamwork	+14.5%	-1.7%	74.1%
22. Fostering team cohesion	+31.7%	-1.4%	91.5%
23. Effective training that develops subordinate's skills	+10.8%	-3.7%	61.8%
24. Planning and conducting After Action Reviews (AAR)	+20.2%	-3.5%	76.1%
25. Effectively participating in an After Action Review (AAR)	+27.9%	-24.5%	83.8%
26. Preventing, managing and mitigating human error	+4.8%	-2.5%	63.8%
27. Relationships between fear, stress and human error	+10.6%	-3.4%	67.6%
28. Mitigating one's own stress/human error	+10.5%	-2.0%	64.7%
29. Mitigating subordinates stress/human error	+5.4%	-2.5%	56.1%
30. Traumatic/critical incident stress and responsibilities	+18.0%	-15.6%	64.1%
31. The concept of situation awareness and the SA cycle	+15.0%	-.7%	92.2%
32. Situation awareness in the leadership environment	+23.0%	-1.0%	83.0%
33. Relationships between experience, memory and DM	+10.2%	-3.2%	59.8%
34. Decision-making and the decision-making cycle	+16.8%	-3.7%	70.9%
35. The role that ethics/ethical DM play in leadership	+26.4%	-.6%	78.6%
36. The relationship between values and leadership	+22.2%	-2.6%	77.5%

Understanding the Evaluation Results

The evaluation surveys measured the effectiveness of the L-380 training against the learning targets, identified as areas of competence addressed by the L-380 training (DeGrosky, 2005). The survey administered to participants contains 36 questions and the survey administered to supervisors of participants contains 37.

In the interest of communicating the clearest, most complete, and most accurate picture of whether the training is producing the desired effect, this report presents the data by three means; reporting on the perspective of the participant, the perspective of the supervisor, and by combining those perspectives into an overall effect. The analysis representing the core of this evaluation derives primarily from the overall, combined effect. While the report provides analysis, the reader may also compare and contrast among the three sources of data and draw their own conclusions.

The evaluation appearing on the following pages is organized as follows:

For each learning target, the data obtained from participant surveys appear first. The data are first summarized in tabular form. The first data table presents participant responses pertaining to their attitude, performance or behavior before taking the L-380 training. The second data table presents participant responses pertaining to their attitude, performance or behavior six months to one-year after taking the L-380 training.

Graphic representation of the participant data follows the pair of data tables. Please note that the reader should not attempt to directly correlate the graphs and preceding data tables, as the graphs are derived from only a portion of the data in the tables and display the data used in a combined form.

The bar charts present the percentage of respondents reporting 1) agreement or strong agreement with the statement before the training, 2) agreement or strong agreement with the statement after the training, 3) disagreement or strong disagreement with the statement before the training, and 4) disagreement or strong disagreement with the statement after the training. The bar charts are paired, so that the reader may easily compare participant responses pertaining to their performance before the training with corresponding responses pertaining to their performance six months to one-year after the training.

The effectiveness of the training, from the participant perspective, lies in this comparison of the differences between respondents' answers reflecting their attitude, performance or behavior before taking the L-380 training and their responses pertaining to their attitude, performance or behavior six months to one-year after taking the training. In general, those interested in the success of this training would seek rising agreement and falling disagreement with the survey statements.

For each learning target, following the data obtained from participant surveys, the data obtained from supervisor surveys appears. Like the participant data, the data are first summarized in tabular form, followed by corresponding bar charts presenting the data graphically. Also like the participant data, the reader should not attempt to directly correlate the graphs and preceding data tables, as the graphs are derived from only a portion of the data in the tables and display the data used in a combined form. The effectiveness of the training, from the supervisors' perspective, lies in the comparison of the differences between respondents' answers regarding the attitude, performance or behavior of their subordinates before taking the L-380 training and their responses pertaining to their subordinate six months to one-year after taking the training. In general, those interested in the success of this training would seek rising agreement and falling disagreement with the statements presented in the survey.

For each learning target, data combining the input of participants and supervisors appears in graphic presentation (only). The combined, or aggregated, data presents an important element of this evaluation, critical to understanding the overall effectiveness of the L-380 training. As the reader will see, while L-380 participants and their supervisors typically see the effect of the training similarly, they often see the scale of effect differently. In a pattern that the reader will see repeated throughout this evaluation, participants often assess their performance more highly than did their supervisors both before and after the training. For some learning targets, participant perspectives and supervisor perspectives, for the same learning target, can vary by as much as 40 or 50 percent. The combined data provides an important element of the evaluation, and one that is critical to the final analysis for those readers who want to know whether the training is working.

Finally, following the data tables and graphic representations for each learning target, this report presents a succinct, written analysis of the efficacy of L-380 training for that learning target.

Evaluation Results

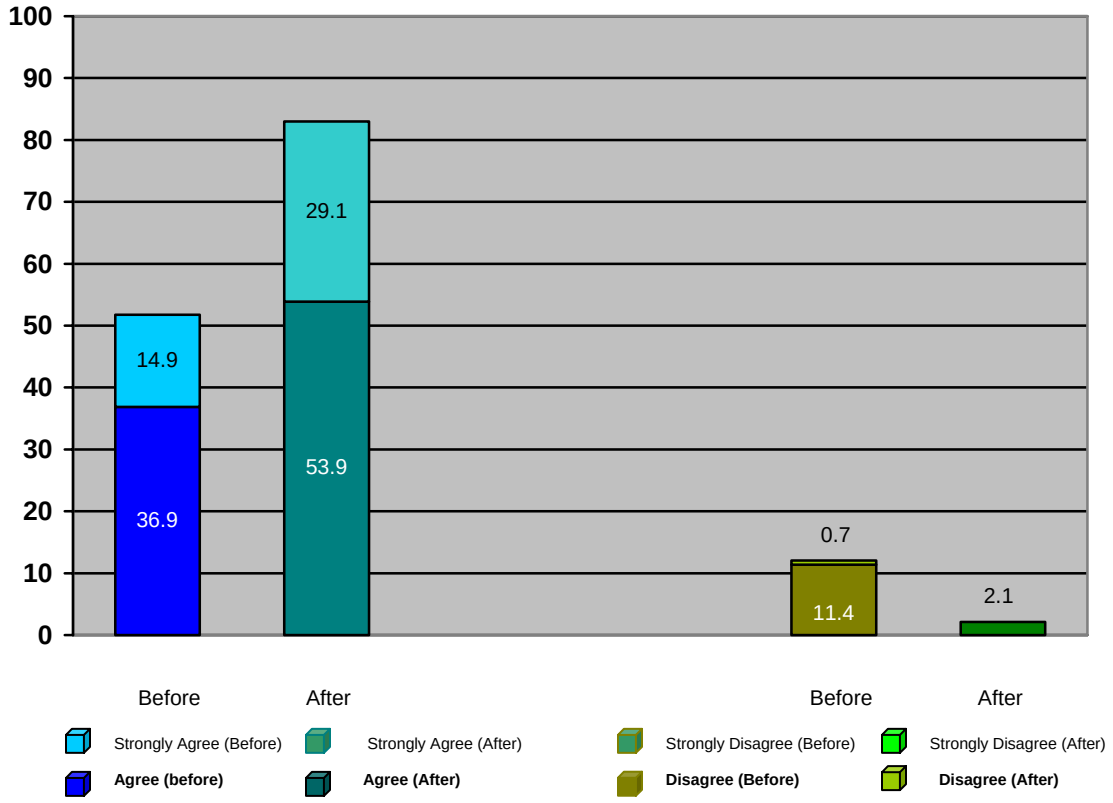
1. I balance the needs and expectations of leader, follower, and organization.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I balance the needs and expectations of leader, follower, and organization.	14.9%	36.9%	36.2%	11.4%	<1%	141
Total	21	52	51	16	1	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I balance the needs and expectations of leader, follower, and organization.	29.1%	53.9%	14.9%	2.1%	0	141
Total	41	76	21	3	0	141



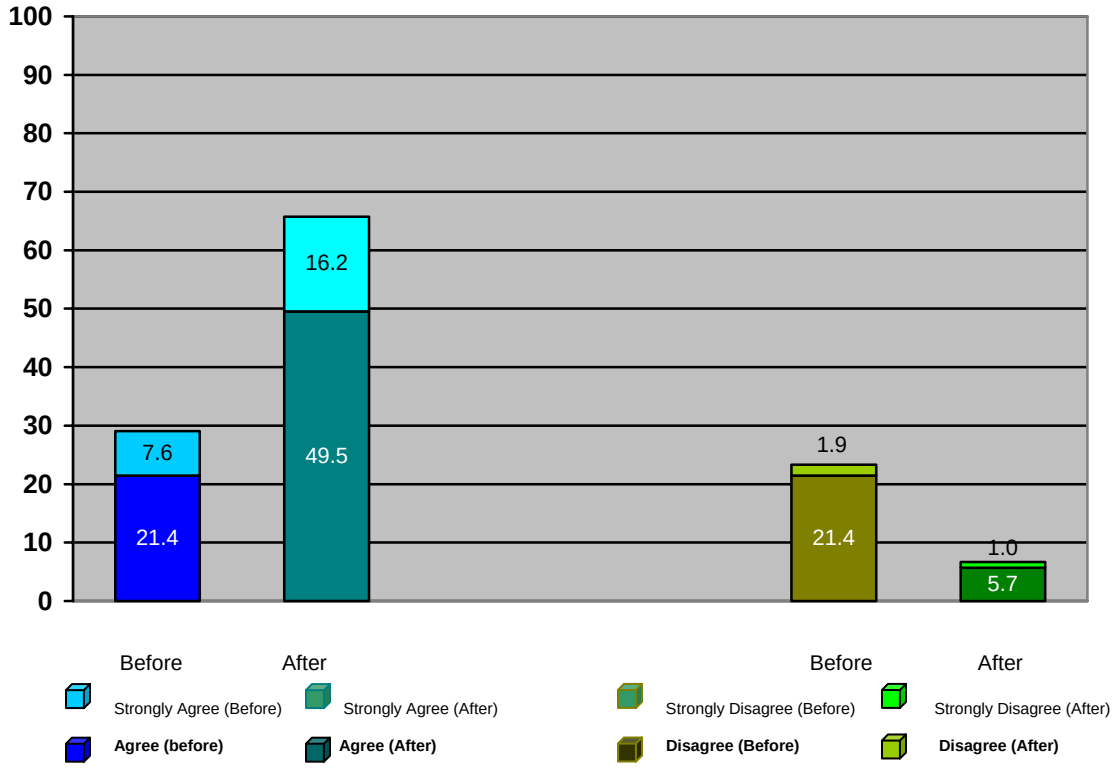
1. Balances the needs and expectations of leader, follower, and organization.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Balances the needs and expectations of leader, follower, and organization.	7.6%	21.4%	42.9%	21.4%	1.9%	4.8%	210
Total	16	45	90	45	4	10	210

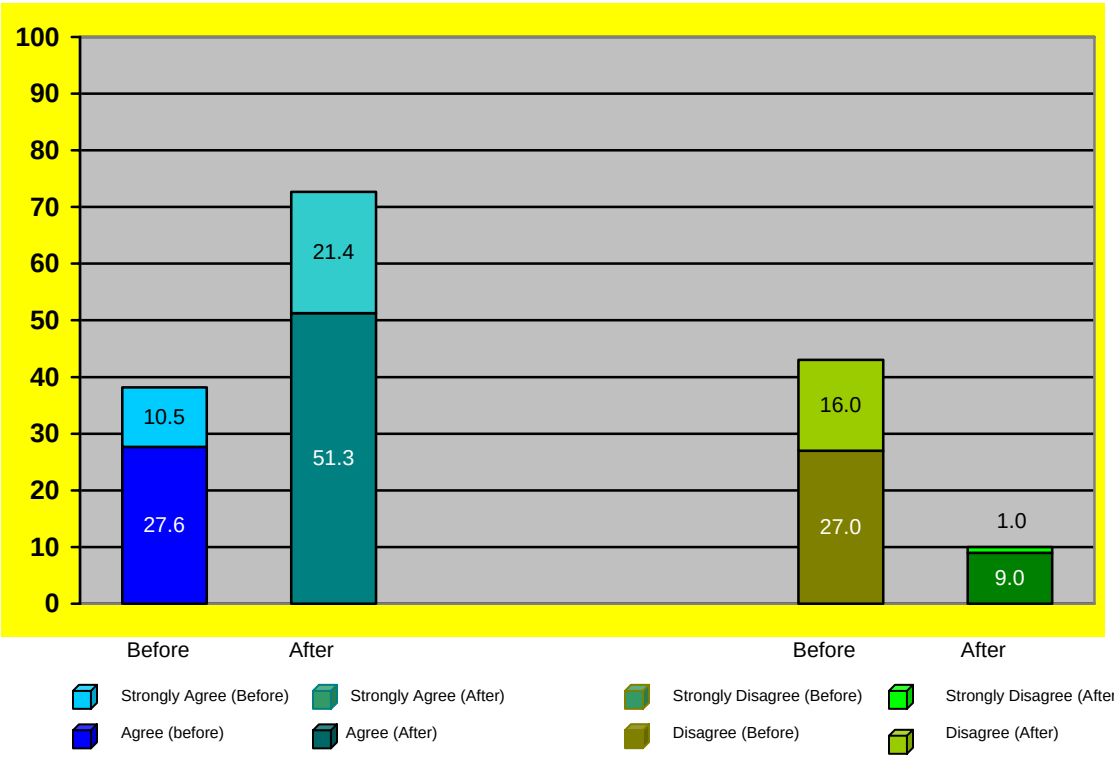
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Balances the needs and expectations of leader, follower, and organization.	16.2%	49.5%	25.2%	5.7%	1%	2.4%	210
Total	34	104	53	12	2	5	210



1. Balancing the needs and expectations of leader, follower, and organization.

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect when measured against this particular learning target, and that moderate room for continued improvement exists. The effectiveness of the training lies in the comparison of the differences between respondents' answers pertaining to the pre-training and post-training periods. The data indicate sharply rising agreement and precipitously falling disagreement by both participants and supervisors. The extremes in the data provide the strongest indicator. The percentage of both participants and supervisors strongly agreeing at least doubled and the percentage of respondents strongly disagreeing dropped to insignificant levels. Unlike other learning targets, discussed elsewhere, only a relatively small percentage of supervisors felt that they had not had sufficient opportunity to judge performance in this area.

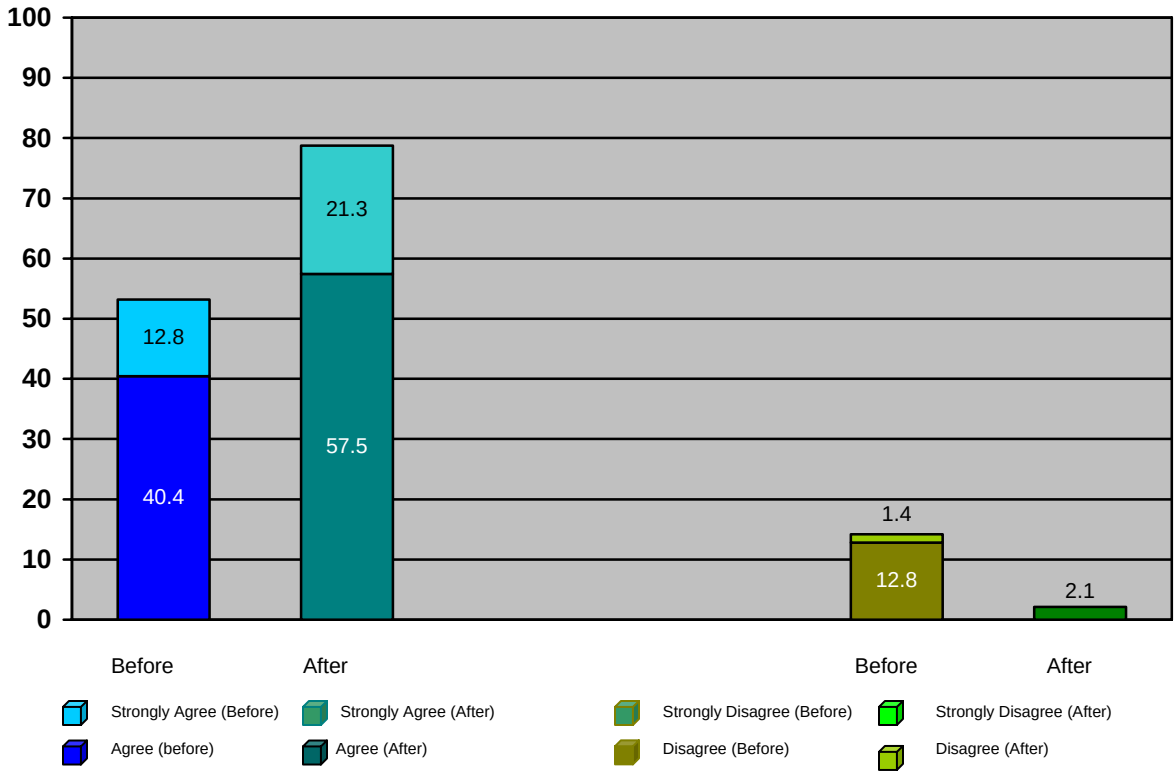
2. I understand people's behavior.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I understand people's behavior.	12.8%	40.4%	32.6%	12.8%	1.4%	141
Total	18	57	46	18	2	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I understand people's behavior.	21.3%	57.5%	19.2%	2.1%	0	141
Total	30	81	27	3	0	141



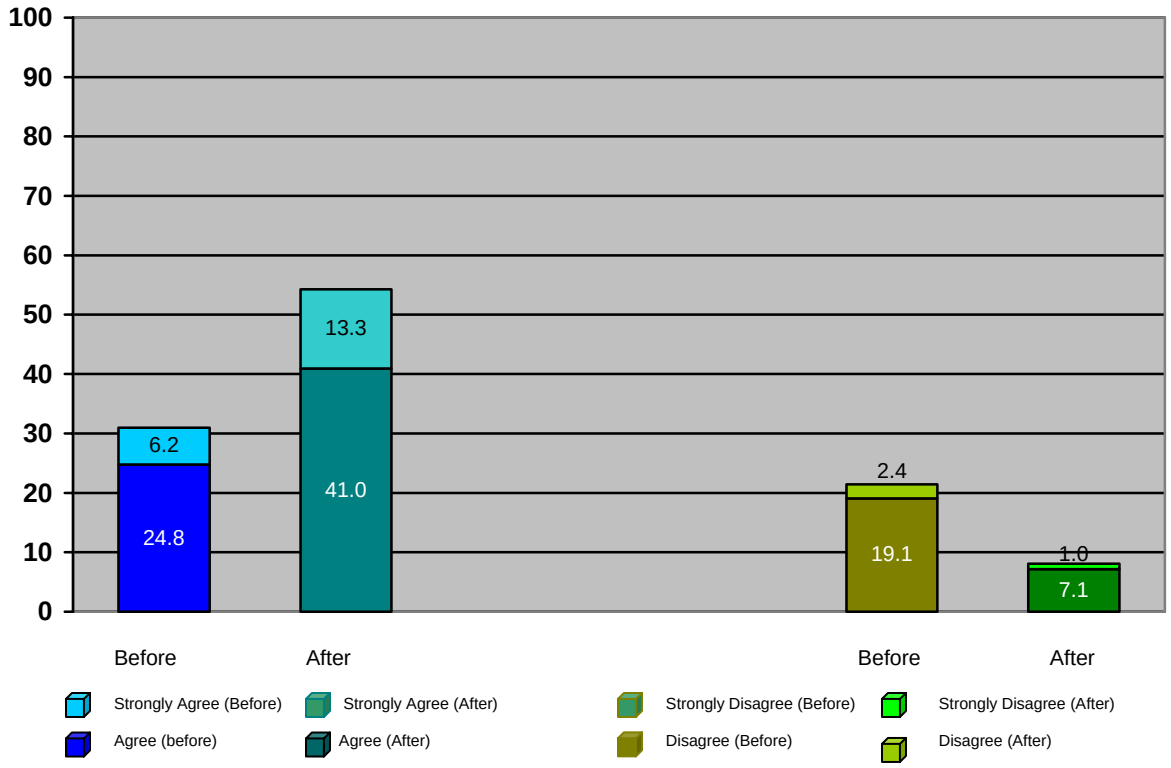
2. Understands people's behavior.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands people's behavior.	6.2%	24.8%	44.3%	19.1%	2.4%	3.3%	210
Total	10	41	74	57	9	19	210

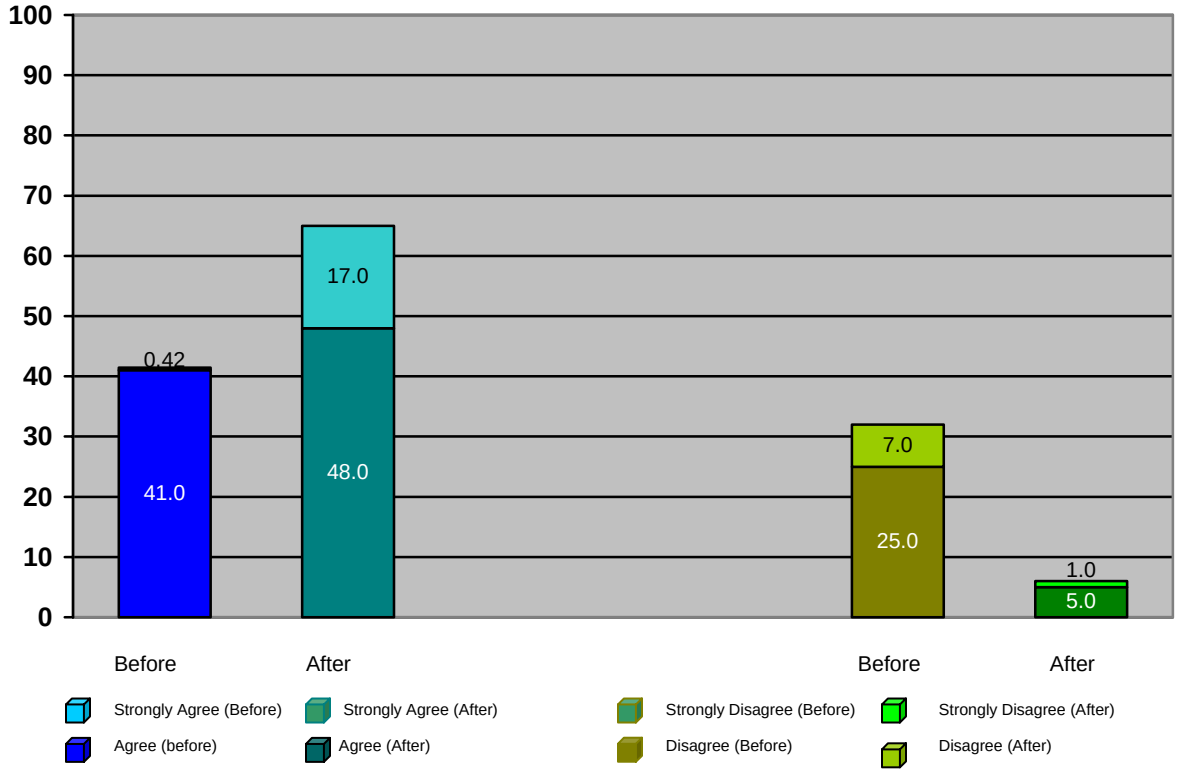
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands people's behavior.	13.3%	41%	35.7%	7.1%	<1%	1.9%	210
Total	19	72	79	27	1	12	210



2. Understanding people's behavior.

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect when measured against this particular learning target, and that moderate room for continued improvement exists. Again, the effectiveness of the training lies in the comparison of the differences between respondents' answers pertaining to the pre-training and post-training periods.

The data indicate significantly rising agreement and falling disagreement by both participants and supervisors. As in all cases, the extremes in the data provide the strongest indicator. The percentage of participants strongly agreeing improved by nearly 8% and doubled among supervisors. The percentage of respondents strongly disagreeing dropped to insignificant levels. Unlike other learning targets, discussed elsewhere, only a very small percentage of supervisors felt that they had not had sufficient opportunity to judge performance in this area.

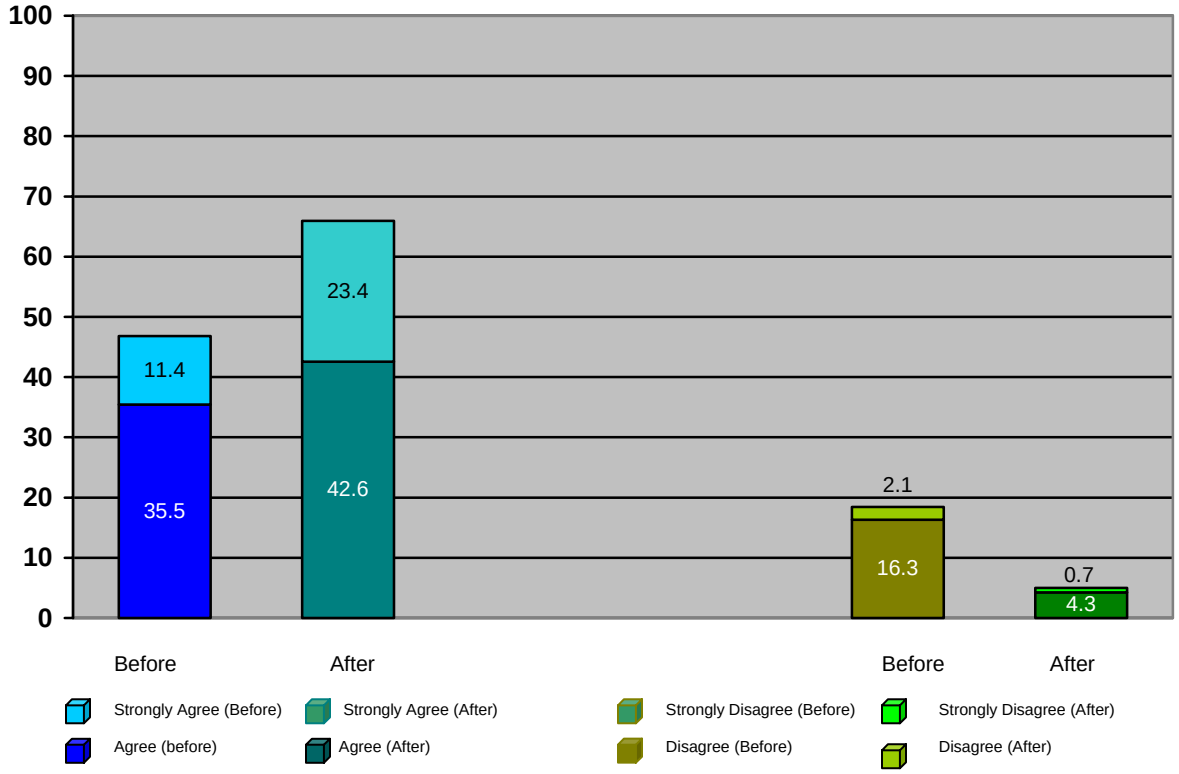
3. I effectively influence people to change their behavior when it does not meet standards.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I effectively influence people to change their behavior when it does not meet standards	11.4%	35.5%	34.8%	16.3%	2.1%	141
Total	16	50	49	23	3	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I effectively influence people to change their behavior when it does not meet standards	23.4%	42.6%	29.1%	4.3%	<1%	141
Total	33	60	41	6	1	141



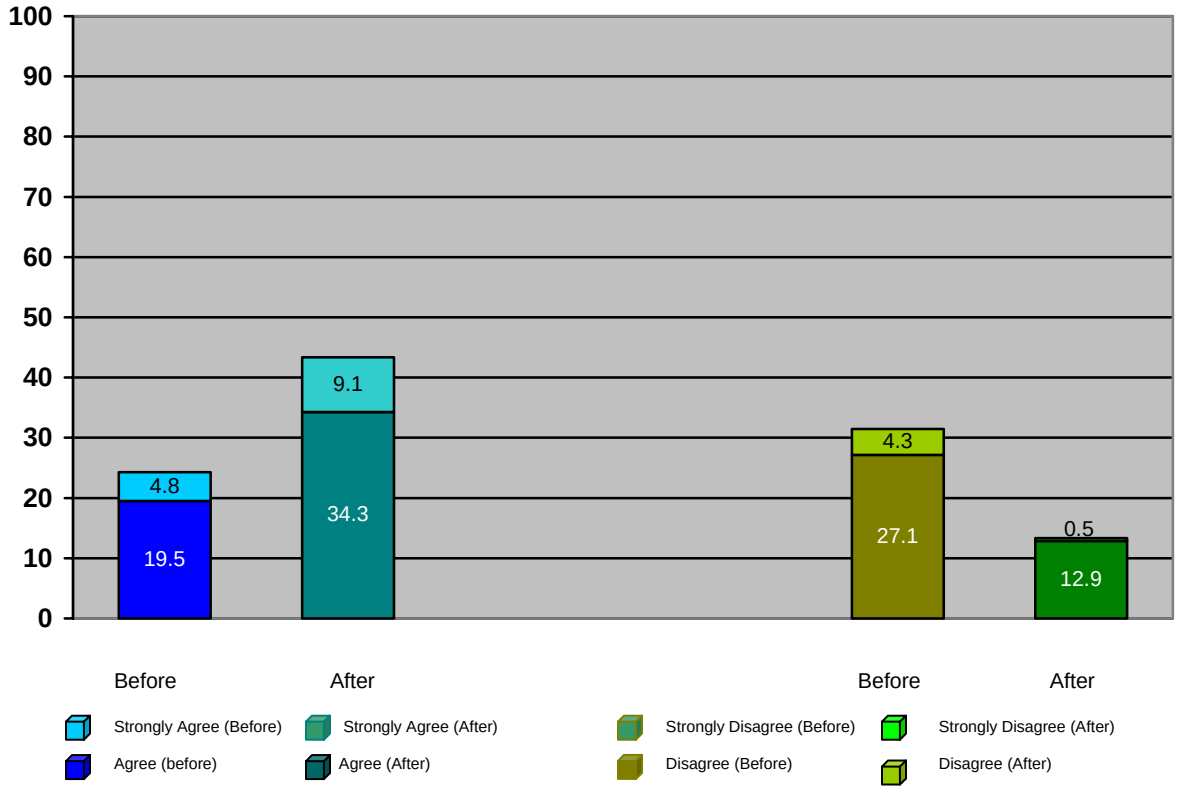
3. Effectively influences people to change their behavior when it does not meet standards.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Effectively influences people to change their behavior when it does not meet standards	4.8%	19.5%	35.2%	27.1%	4.3%	9.1%	210
Total	10	41	74	57	9	19	210

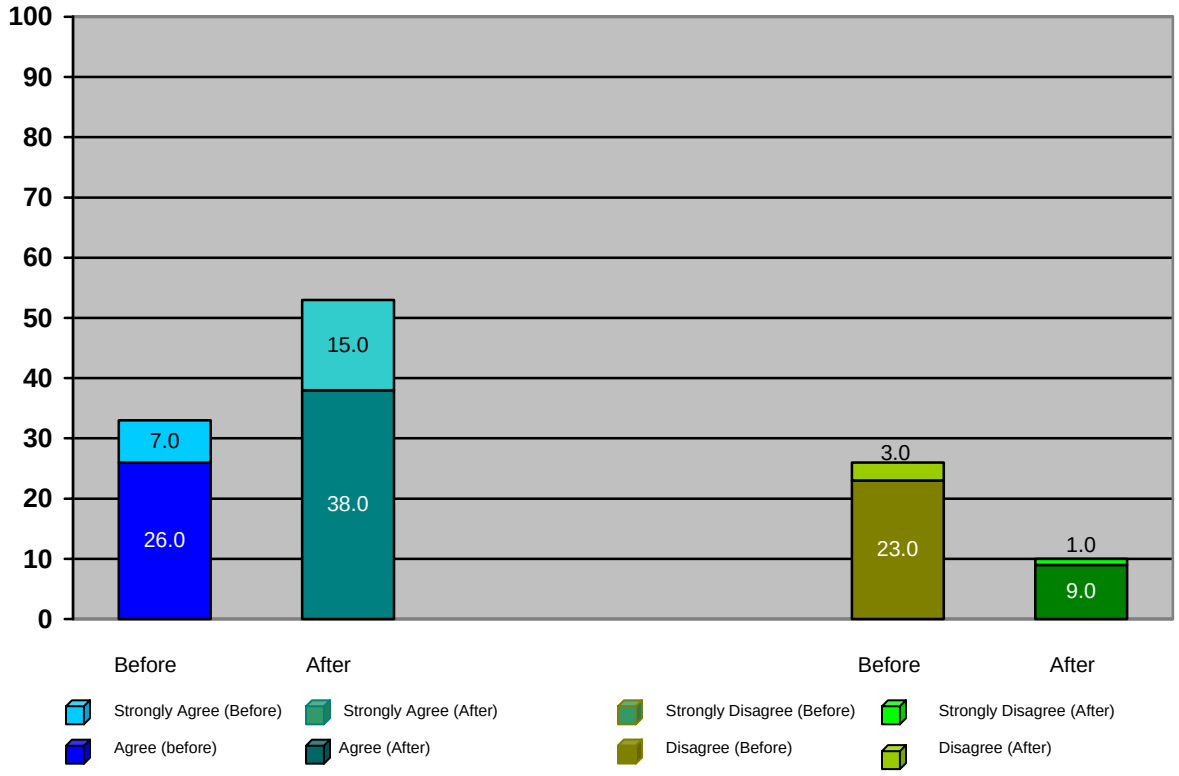
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Effectively influences people to change their behavior when it does not meet standards	9.1%	34.3%	37.6%	12.9%	<1%	5.7%	210
Total	19	72	79	27	1	12	210



3. Effectively influencing people to change their behavior when it does not meet standards.

Combined



Analysis:

While not quite as strong as other learning targets, this data still indicates that the L-380 training is producing the desired improvements in the participants' behavior and performance. As discussed previously, the comparison of the differences between the extremes in the response data provide the strongest indicator of effectiveness of the training. The data indicate more than a doubling of the percentage of participants reporting that they strongly agree that they can effectively influence people to change their behavior when it does not meet standards. The percentage of respondents, both participant and supervisor, strongly disagreeing dropped to insignificant levels. However, the data also indicate considerable room for continued improvement on this particular learning target.

A slightly higher percentage of supervisors than average (9% before and nearly 6% after) reported that they had not had sufficient opportunity to judge performance in this area.

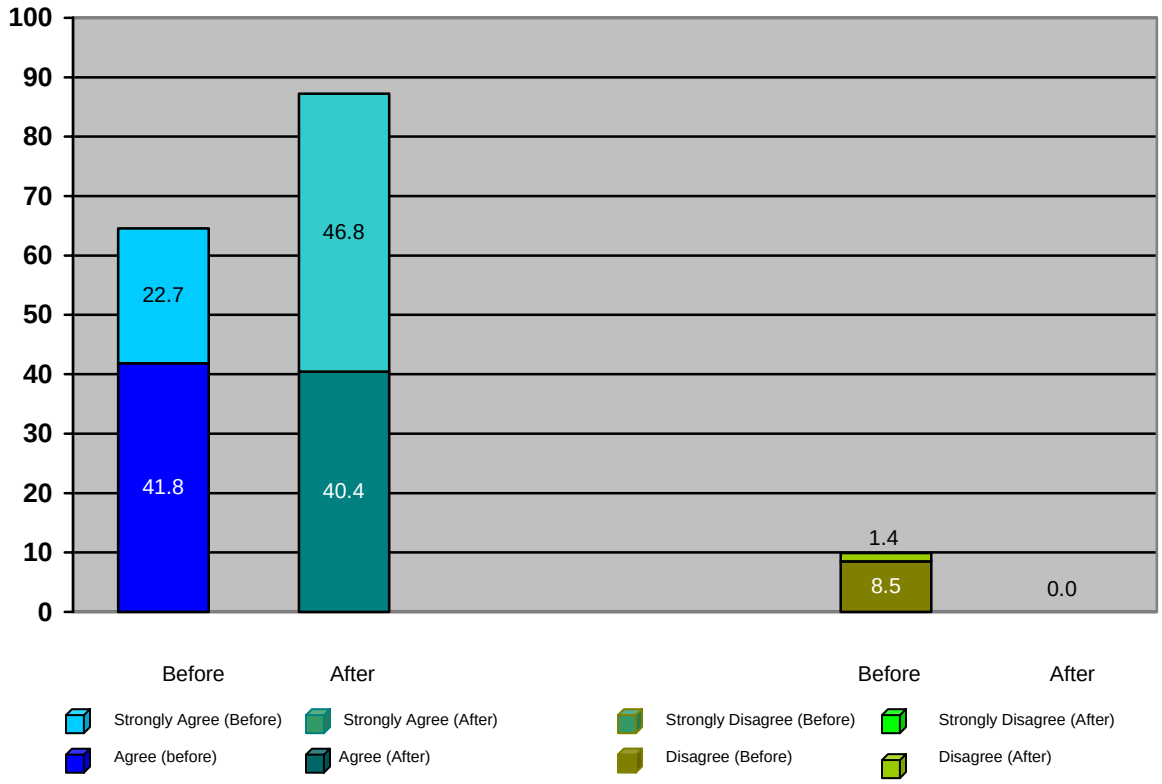
4. I provide effective briefings.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I provide effective briefings.	22.7%	41.8%	25.5%	8.5%	1.4%	141
Total	32	59	36	12	2	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I provide effective briefings.	46.8%	40.4%	12.1%	<1%	0	141
Total	66	57	17	1	0	141



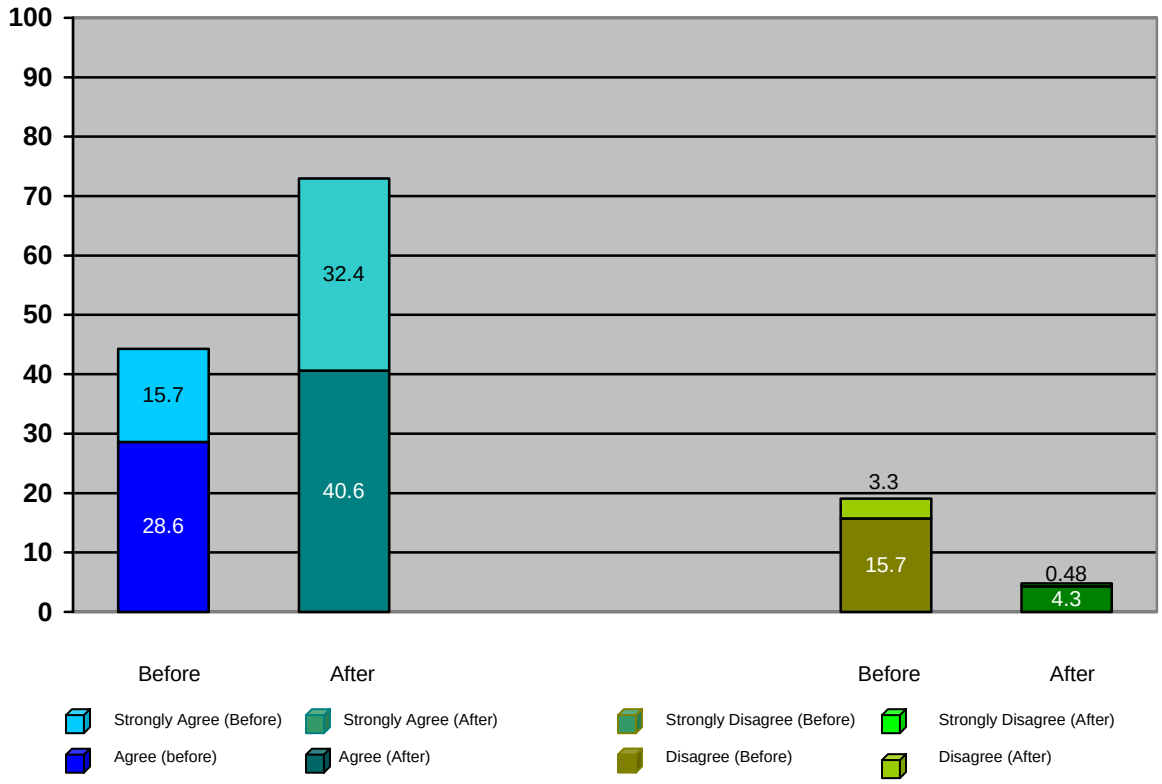
4. Provides effective briefings.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Provides effective briefings.	15.7%	28.6%	27.1%	15.7%	3.3%	9.5%	210
Total	33	60	57	33	7	20	210

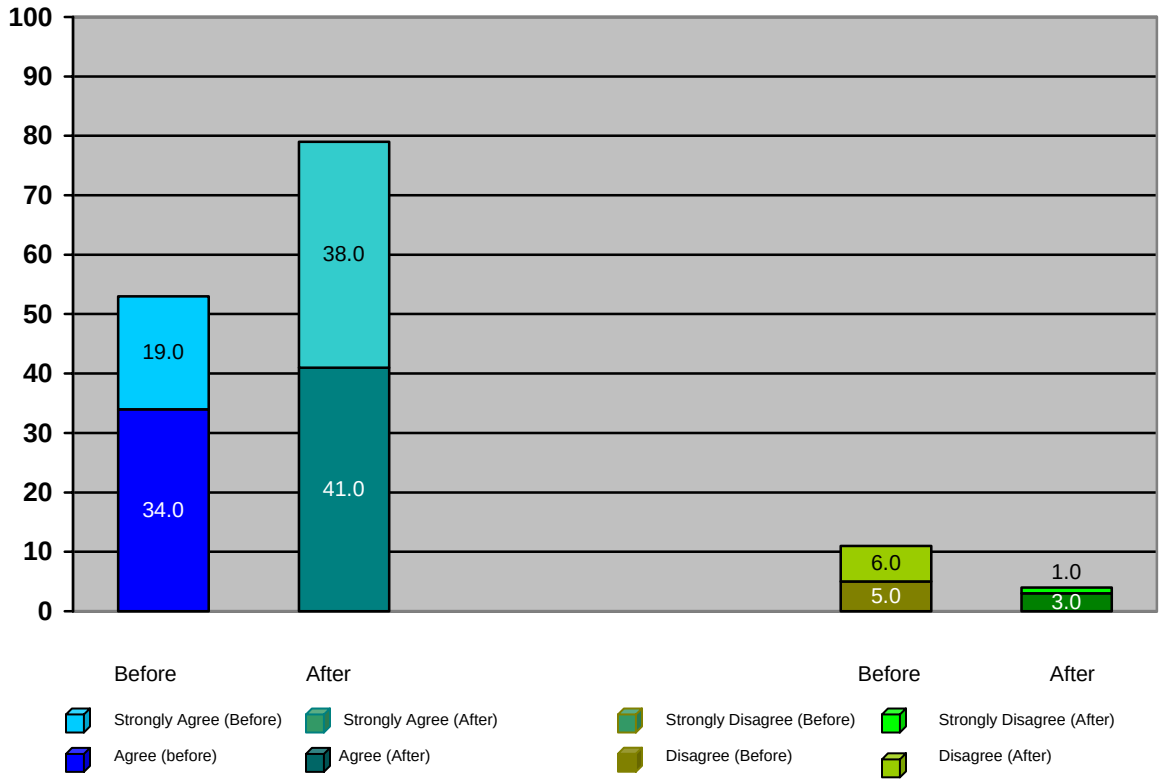
Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Provides effective briefings.	32.4%	41.0%	15.2%	4.3%	<1%	6.7%	210
Total	68	86	32	9	1	14	210



4. Providing effective briefings.

Combined



Analysis:

This data clearly indicates that the L-380 training is producing the desired effect when measured against this particular learning target, even more notable because this learning target represents an area where considerable confidence existed prior to the training. Moderate room for continued improvement exists. At the extremes, the data indicate very strong improvement, with the percentages of both participants and supervisors strongly agreeing more than doubling and the percentages of respondents disagreeing falling to insignificant levels.

A relatively high percentage of supervisors (9.5% before and nearly 7% after) reported that they had not had sufficient opportunity to judge performance in this area.

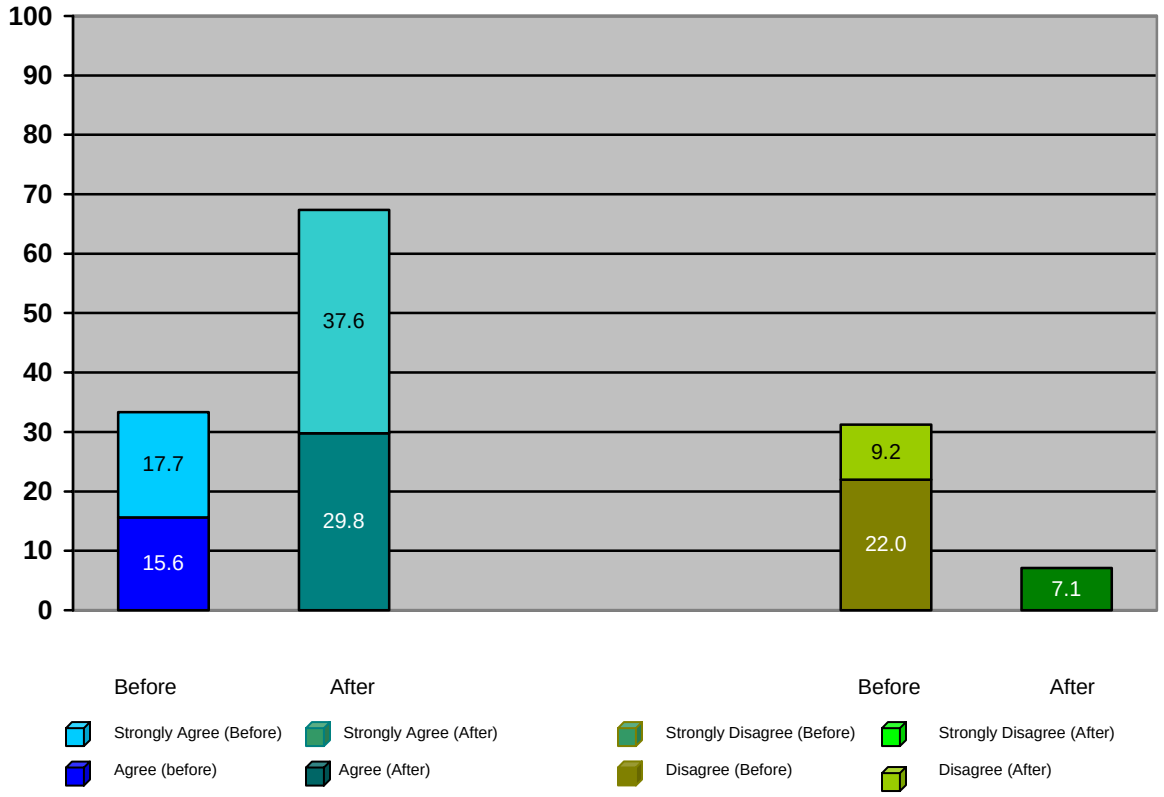
5. **I effectively apply communication tools including the “I message” and active listening techniques.**

Participants (Before)

Answer	Agree 5	2	3	4	Disagree 1	Responses
I effectively apply communication tools including the "I message" and active listening techniques	17.7%	15.6%	35.5%	22%	9.2%	141
Total	25	22	50	31	13	141

Participants (After)

Answer	Agree 5	2	3	4	Disagree 1	Responses
I effectively apply communication tools including the "I message" and active listening techniques	37.6%	29.8%	25.5%	7.1%	0	141
Total	53	42	36	10	0	141



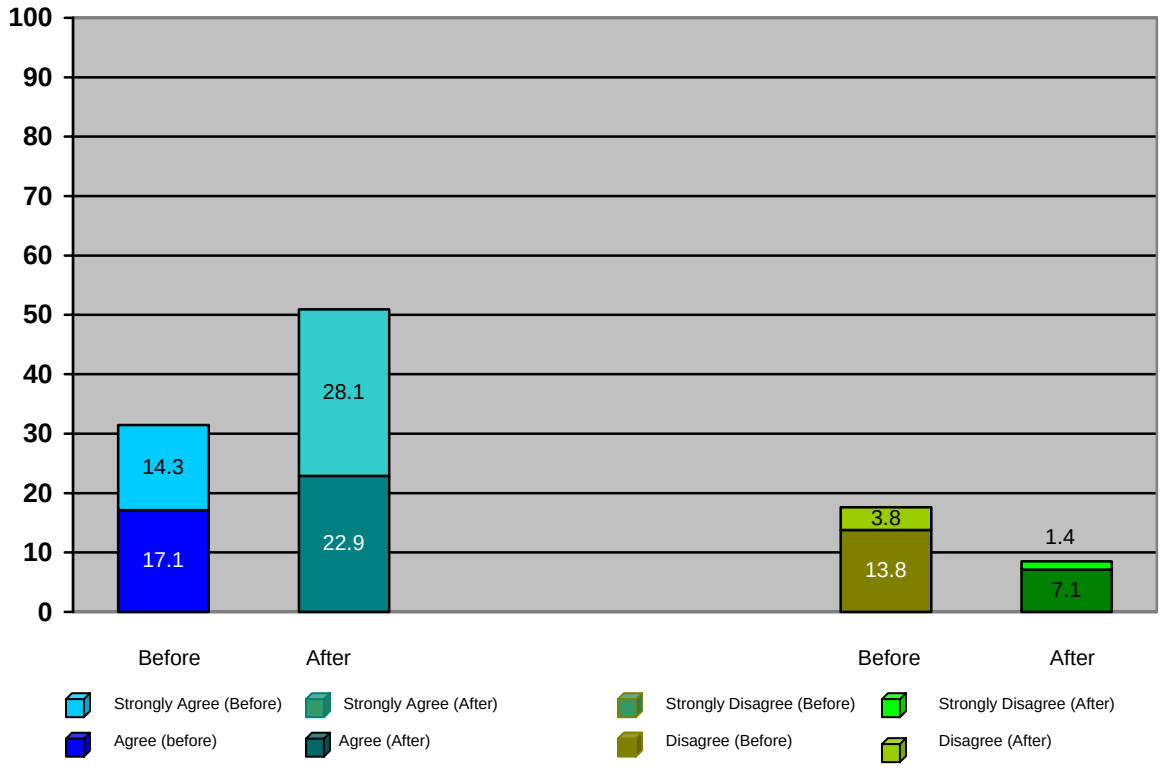
5. Applies communication tools to communicate effectively.

Supervisors (Before)

Answer	Agree 5	2	3	4	Disagree 1	N/A	Responses
Applies communication tools to communicate effectively	14.3%	17.1%	44.8%	13.8%	3.8%	6.2%	210
Total	30	36	94	29	8	13	210

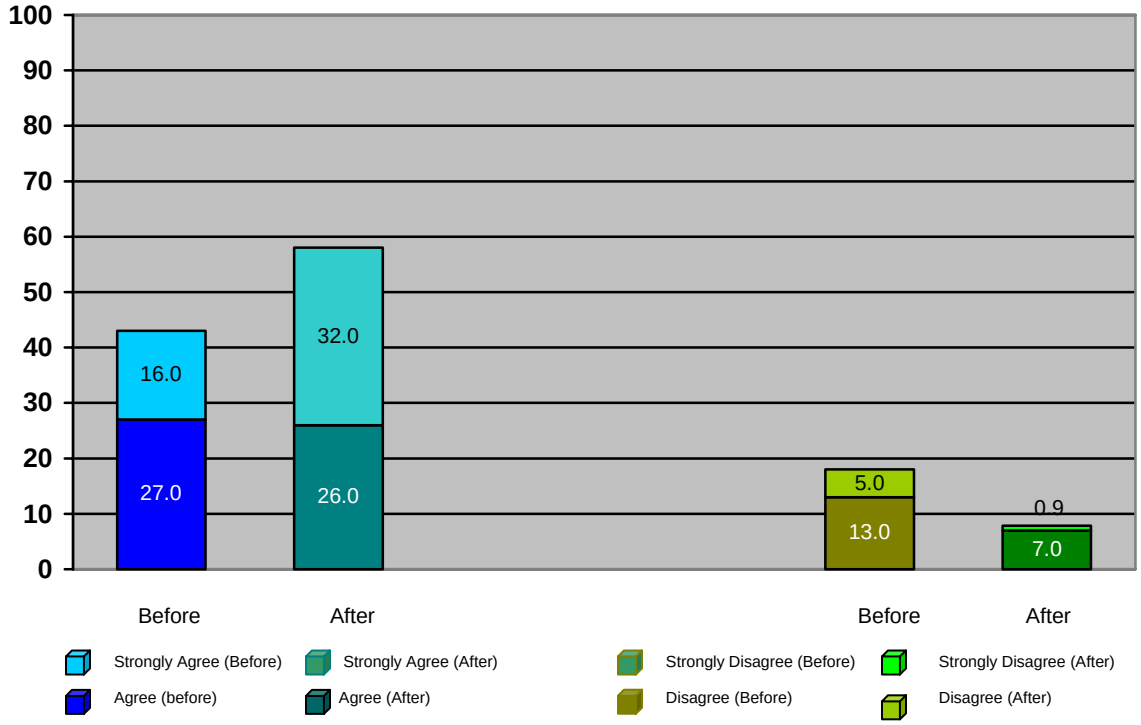
Supervisors (After)

Answer	Agree 5	2	3	4	Disagree 1	N/A	Responses
Applies communication tools to communicate effectively	28.1%	22.9%	38.6%	7.1%	1.4%	1.9%	210
Total	59	48	81	15	3	4	210



5. Effectively applying communication tools.

Combined



Analysis:

This data clearly indicates that the L-380 training is producing the desired effect when measured against this particular learning target, and that considerable room for continued improvement exists. Unlike other learning targets, supervisors actually showed more confidence in their subordinates than subordinates showed in themselves for this element.

This learning target represents one area in which participants and supervisors largely agreed on the participants' capabilities. At the extremes, the data indicate very strong improvement, with the percentage of both participants and supervisors strongly agreeing more than doubling. The percentages of respondents disagreeing fell sharply, with no participants, and only 1.4% of supervisors strongly disagreeing. However, while producing the desired effect, apparently both training participants and their supervisors feel that the workforce has room for continued improvement on this learning target.

A relatively small percentage of supervisors (6.2% before and about 2% after) reported that they had not had sufficient opportunity to judge performance in this area.

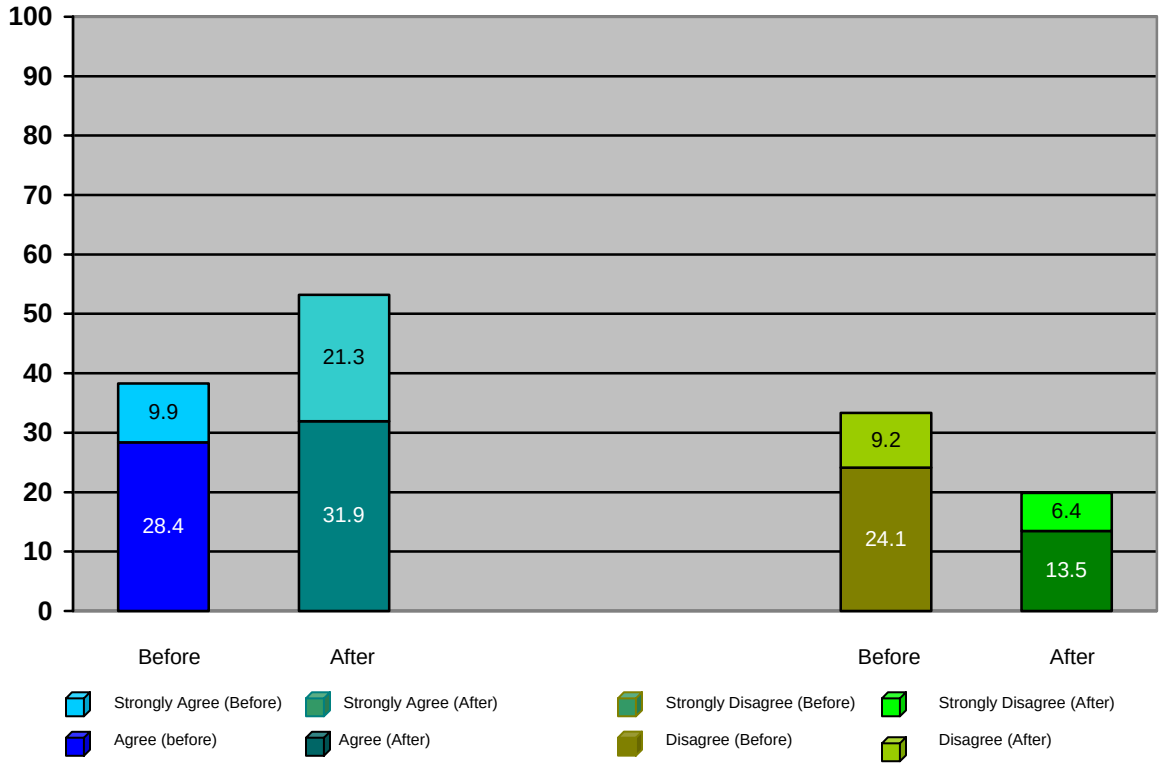
6. We have developed a vision for our unit by identifying and refining values.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
We have developed a vision for our unit by identifying and refining values	9.9%	28.4%	28.4%	24.1%	9.2%	141
Total	14	40	40	34	13	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
We have developed a vision for our unit by identifying and refining values	21.3%	31.2%	27%	13.5%	6.4%	141
Total	30	45	38	19	9	141



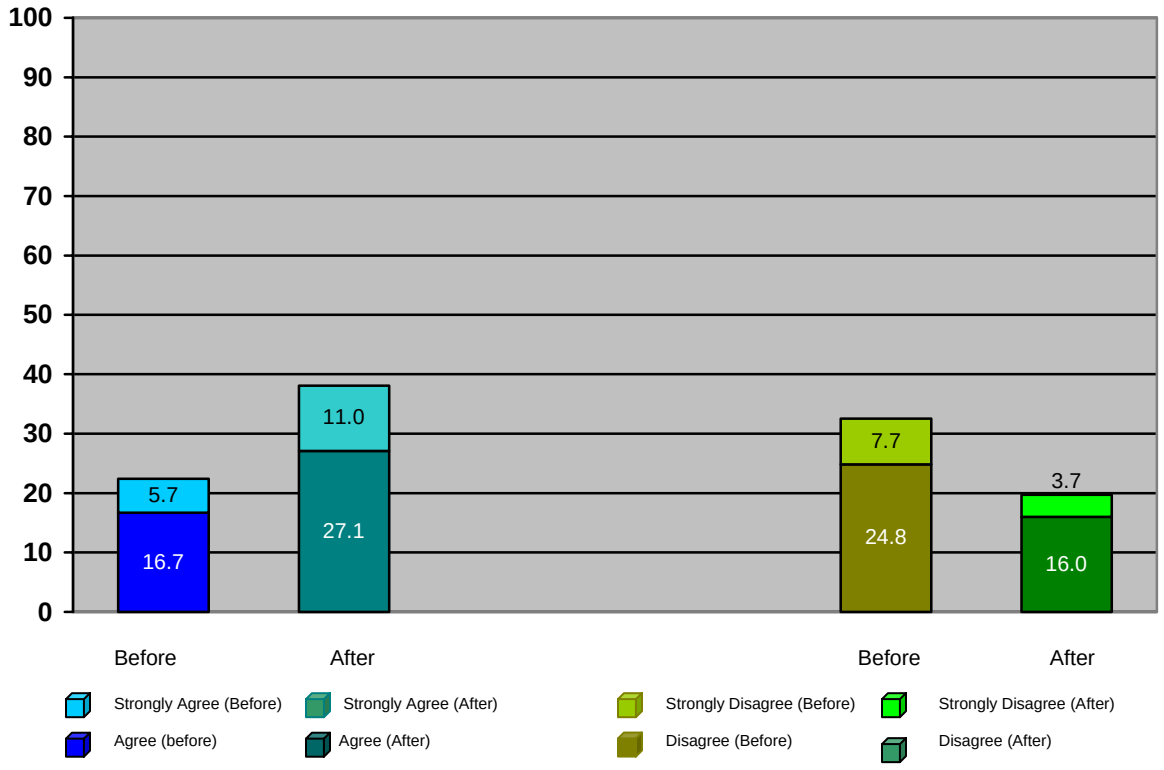
6. Developed a vision for their unit.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Developed a vision for their unit	5.7%	16.7%	31.9%	25.2%	6.7%	13.8%	210
Total	12	35	67	53	14	29	210

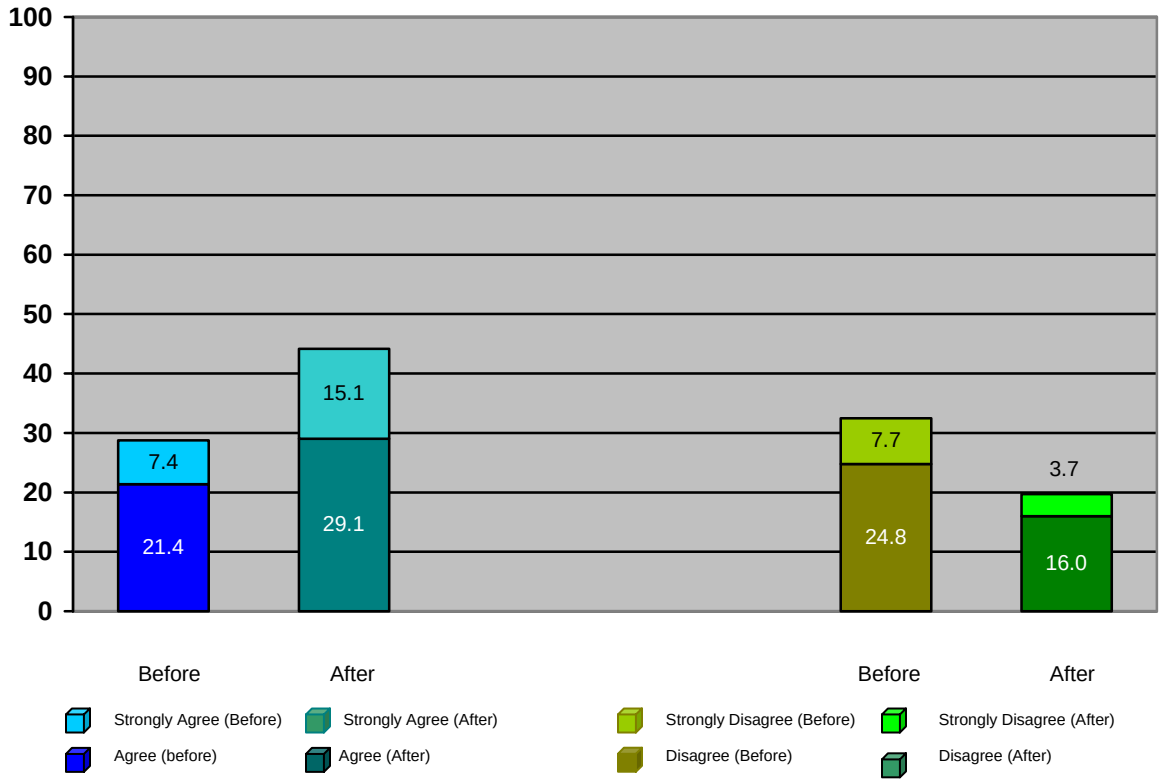
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Developed a vision for their unit	11%	27.1%	30.1%	17.6%	1.9%	11.4%	210
Total	23	57	65	37	4	24	210



6. Developing a vision for the unit.

Combined



Analysis:

This data indicates that the L-380 training is producing the desired effect when measured against this particular learning target. However, it also represents an area in which substantial room for continued improvement exists, and one might speculate that this learning target may remain outside the current role and responsibilities of many L-380 participants.

The extremes in the data indicate strong improvement, though extensive room for continued improvement is also indicated. The percentage of participants strongly agreeing more than doubled, while the percentage of supervisors strongly agreeing more than doubled as well. The percentages of respondents disagreeing remained relatively high compared to other learning targets. In addition, a substantial percentage of supervisors (nearly 14% before and over 11% after) reported that they had not had sufficient opportunity to judge performance in this area. Again, these anomalies in the data may indicate that this learning target may remain outside the current role and responsibilities of many L-380 participants.

The L-380 training appears to be producing the desired effect, but apparently both training participants and their supervisors feel that the workforce has considerable room for continued improvement on this learning target.

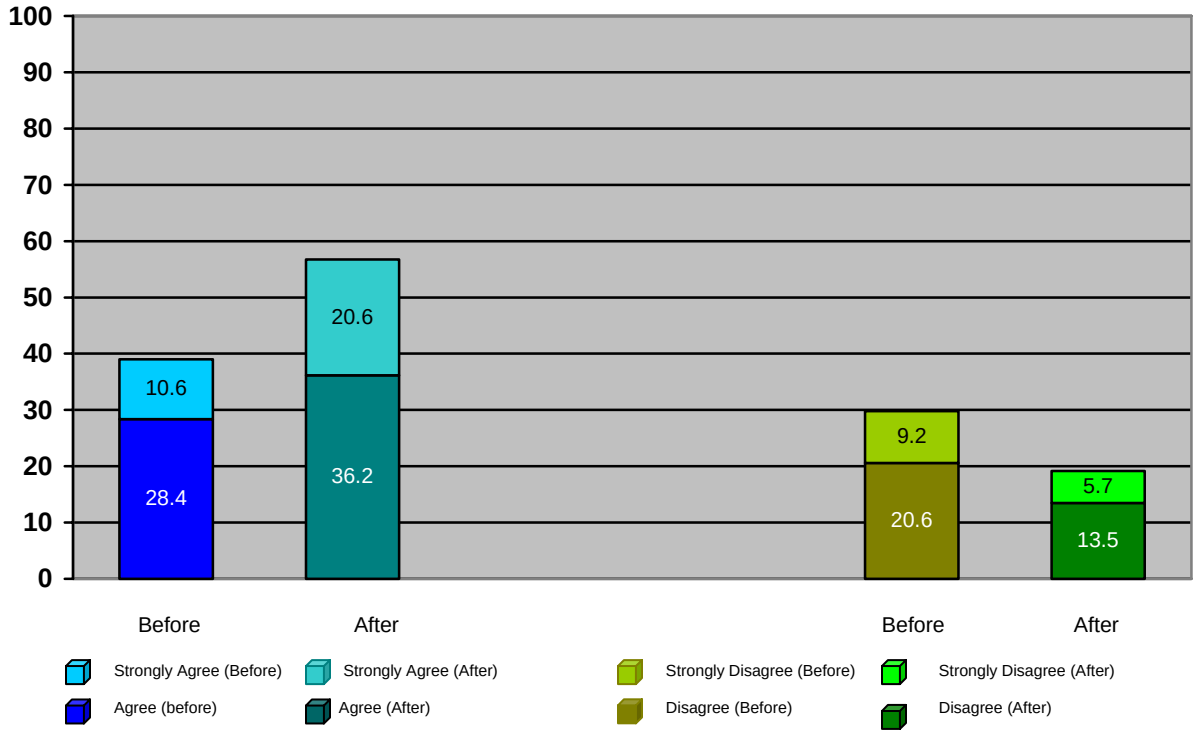
7. We have created goals needed to achieve our vision.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
We have created goals needed to achieve our vision	10.6%	28.4%	31.2%	20.6%	9.2%	141
Total	15	40	44	29	13	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
We have created goals needed to achieve our vision	20.6%	36.2%	24.1%	13.5%	5.7%	141
Total	29	51	34	19	8	141



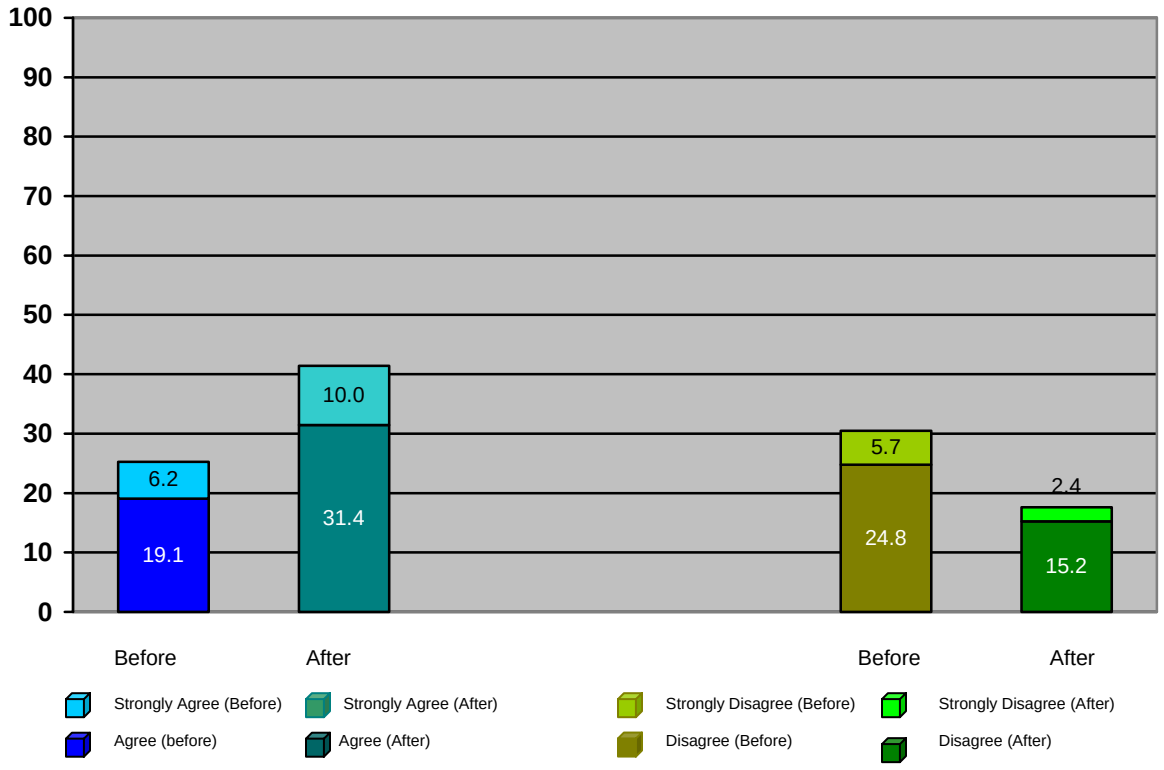
7. Have created goals to achieve their unit's vision.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Have created goals needed to achieve their unit's vision	6.2%	19.1%	31%	24.8%	5.7%	13.3%	210
Total	13	40	65	52	12	28	210

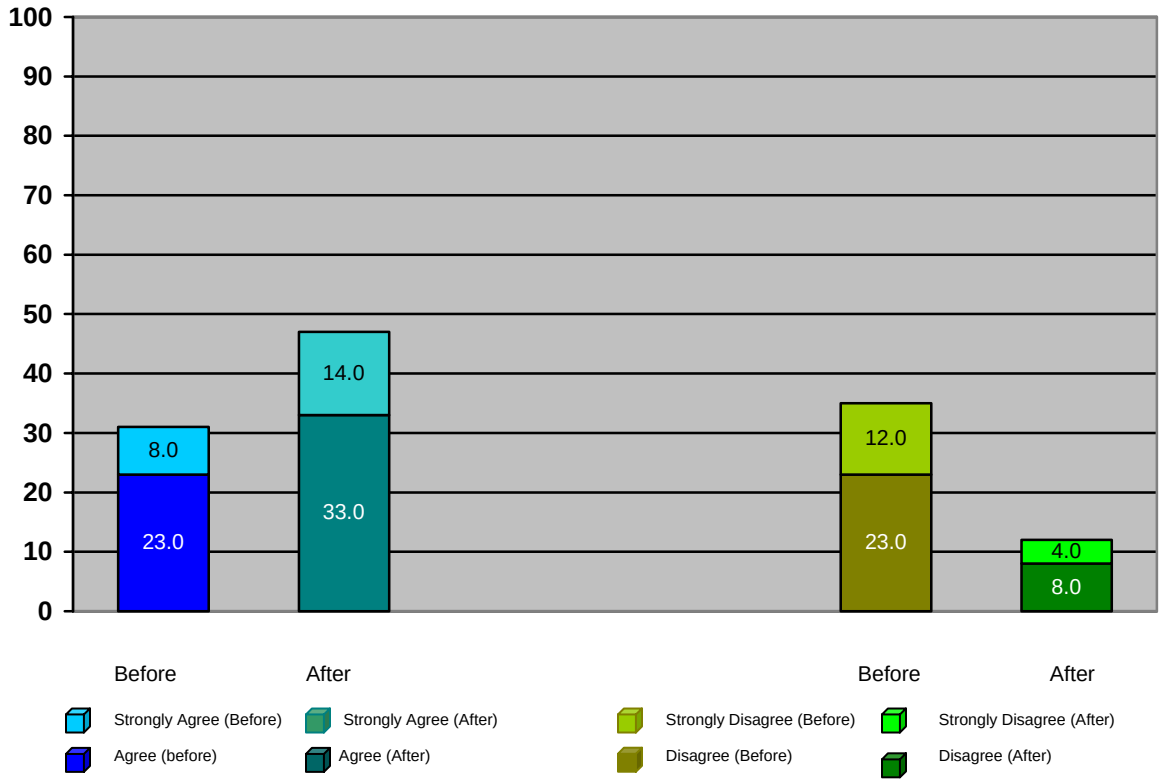
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Have created goals needed to achieve their unit's vision	10%	31.4%	31.9%	15.2%	2.4%	9.1%	210
Total	21	66	67	32	5	19	210



7. Creating goals to achieve their unit's vision.

Combined



Analysis:

This data indicates that the L-380 training is producing the desired effect when measured against this particular learning target, but like the related organizational vision learning target, this learning target represents another area in which substantial room for continued improvement exists. However, one might also argue that, like the related learning target, this one may remain outside the current role and responsibilities of many L-380 participants.

The extremes in the data confirm moderate to strong improvement, and that extensive room for continued improvement is indicated. The percentage of participants strongly agreeing nearly doubled, but only to 20%. The percentage of supervisors strongly agreeing also rose, but only to 10%. The percentages of respondents disagreeing remained relatively high when compared to most learning targets. A substantial percentage of supervisors (over 13% before and just over 9% after) reported that they had not had sufficient opportunity to judge performance in this area. The L-380 training appears to be producing the desired effect, but apparently both training participants and their supervisors feel that the workforce has considerable room for continued improvement on this learning target. The consistency between respondent data pertaining to this question and the previous question relating to vision elicits confidence in the data.

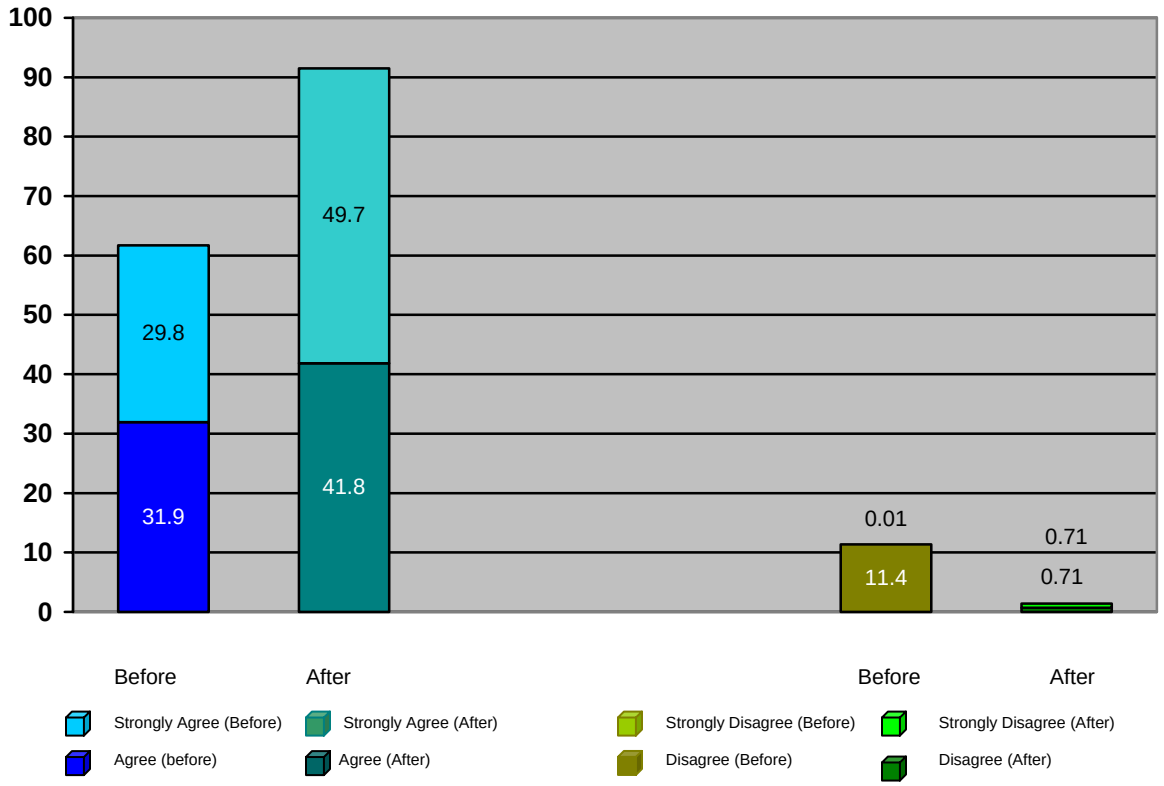
8. When leading others, I communicate my intent as a leader.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
When leading others, I communicate my intent as a leader	29.8%	31.9%	26.2%	11.4%	<1%	141
Total	42	45	37	16	1	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
When leading others, I communicate my intent as a leader	49.7%	41.8%	7.1%	<1%	<1%	141
Total	70	59	10	1	1	141



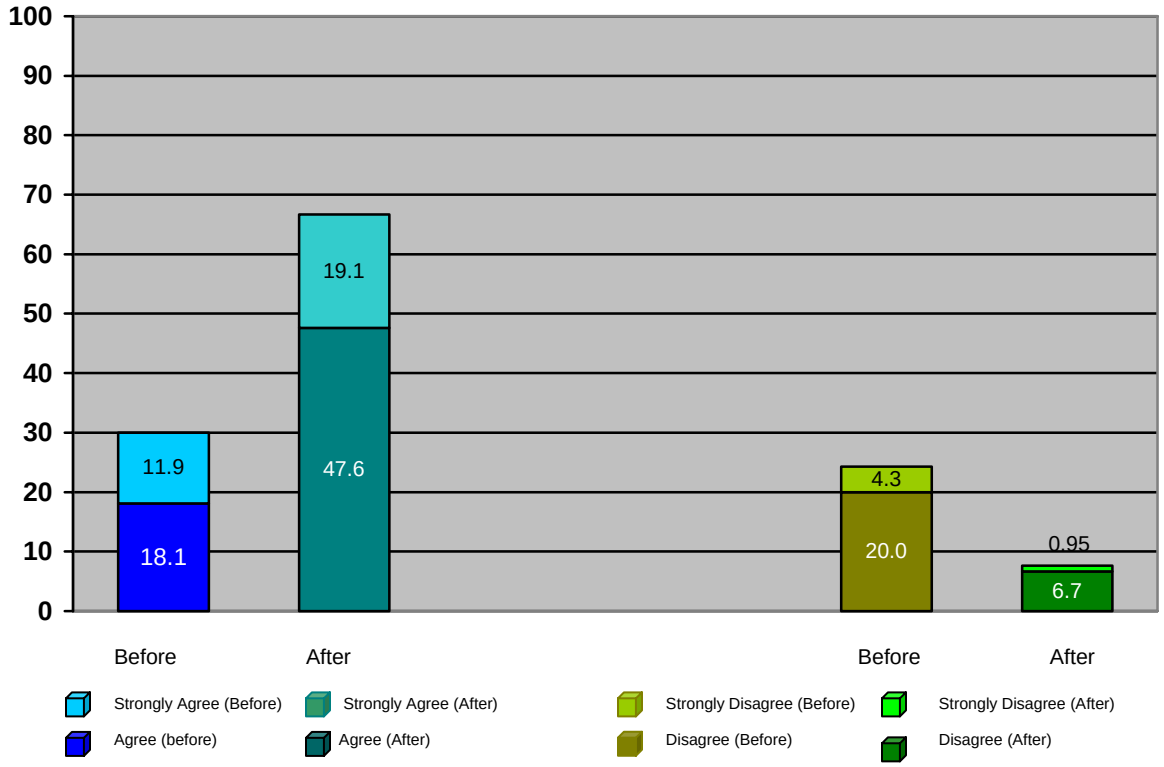
8. When leading others, communicates their intent as a leader.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
When leading others, communicates their intent as a leader	11.9%	18.1%	37.1%	20%	4.3%	8.6%	210
Total	25	38	78	42	9	18	210

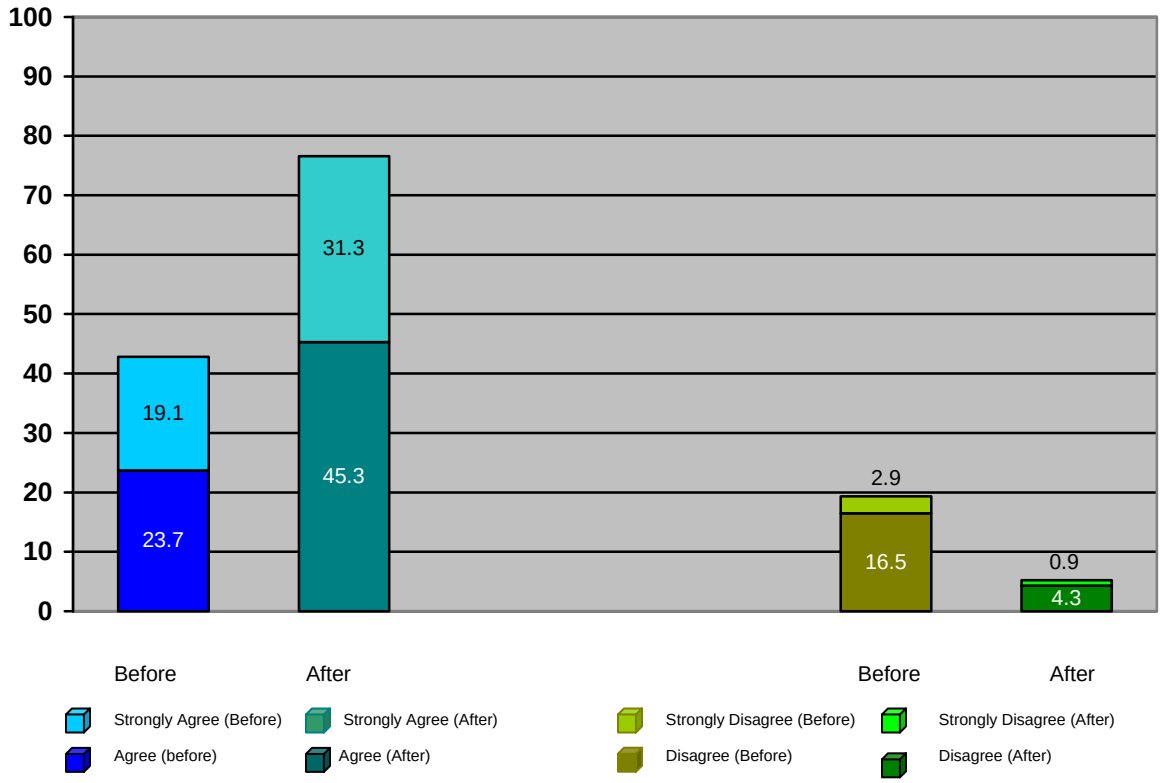
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
When leading others, communicates their intent as a leader	19.1%	47.6%	21%	6.7%	<1%	4.8%	210
Total	40	100	44	14	2	10	210



8. Communicating intent as a leader when leading others.

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect when measured against this particular learning target. As with other learning targets, we see that participants assessed their performance in this area considerably more highly than did their supervisors both before and after the training.

However, both indicate sharply rising agreement and precipitously falling disagreement. When viewed in the aggregate, the extremes in the data paint a different image than might be suggested by participants' self-assessment alone, indicating strong improvement, with moderate room for continued improvement still indicated. A fairly typical percentage of supervisors (nearly 9% before and almost 5% after) reported that they had not had sufficient opportunity to judge performance in this area.

The L-380 training appears to be clearly producing the desired effect, but room for continued improvement on this learning target remains.

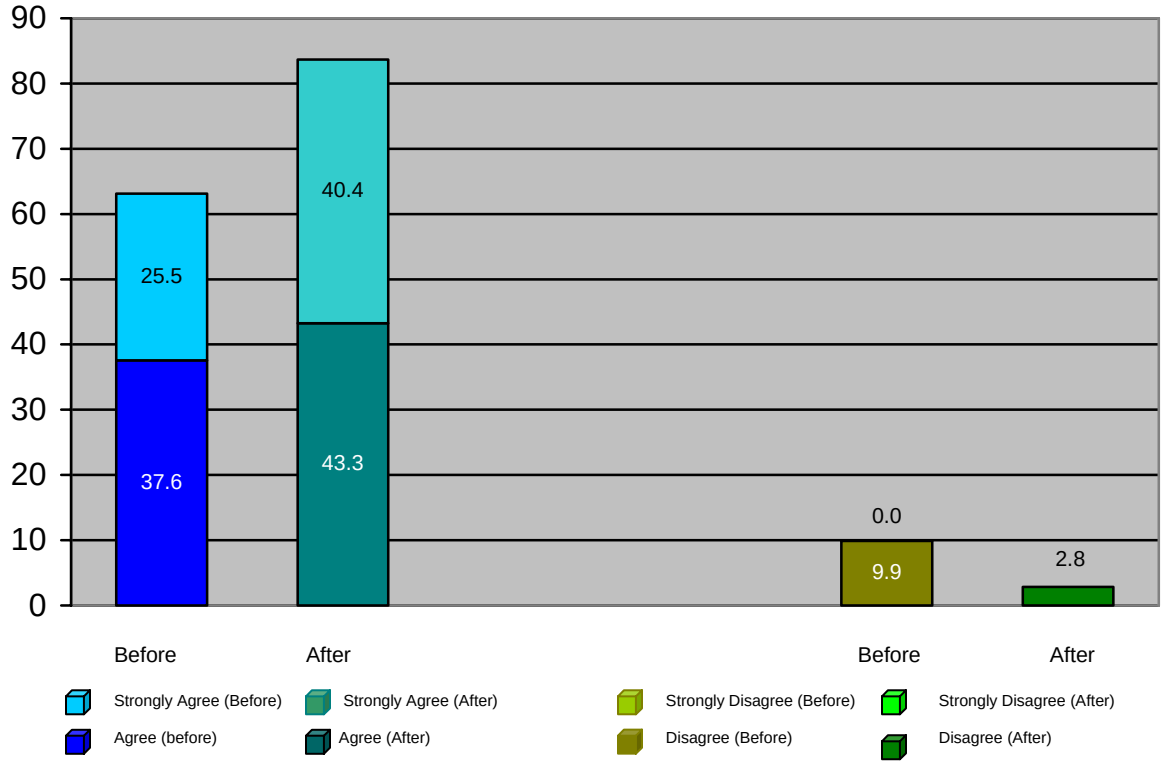
9. I effectively provide performance feedback to my subordinates.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I effectively provide performance feedback to my subordinates	25.5%	37.6%	26.2%	9.9%	<1%	141
Total	36	53	37	14	1	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I effectively provide performance feedback to my subordinates	40.4%	43.3%	13.5%	2.8%	0	141
Total	57	61	19	4	0	141



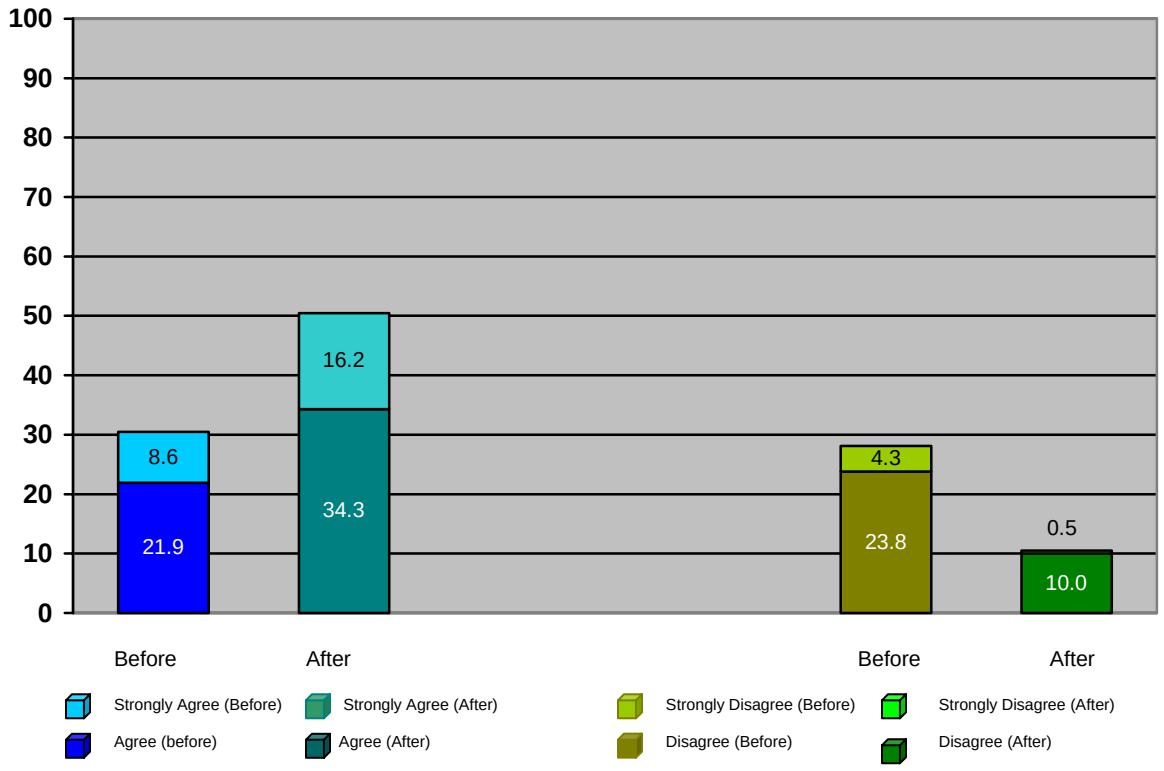
9. Effectively provides performance feedback to subordinates.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Effectively provides performance feedback to subordinates	8.6%	21.9%	31%	23.8%	4.3%	10.5%	210
Total	18	46	65	50	9	22	210

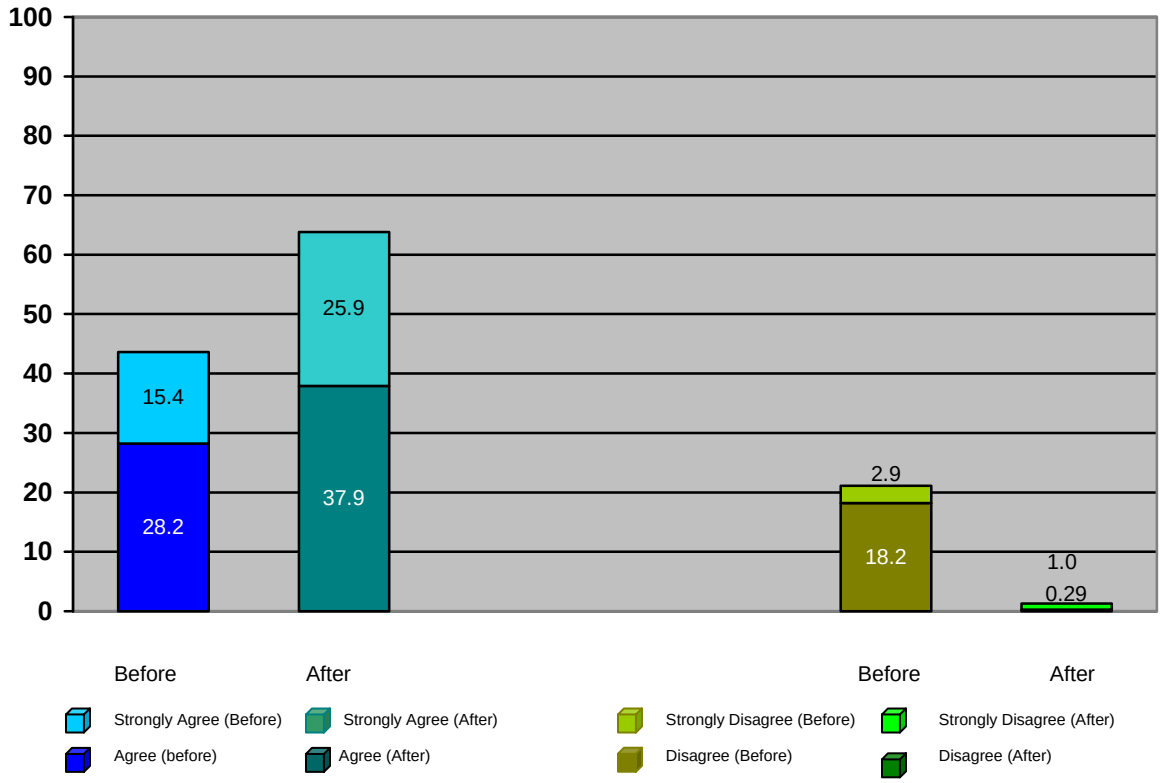
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Effectively provides performance feedback to subordinates	16.2%	34.3%	30%	10%	<1%	9.1%	210
Total	34	72	63	21	1	19	210



9. Effectively providing performance feedback to subordinates.

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect when measured against this particular learning target. Again we see that participants assessed their performance in this area considerably more highly than did their supervisors both before and after the training.

However, when viewed in the aggregate, the extremes in the data indicate strong improvement, with considerable room for continued improvement remaining. The percentages of respondents disagreeing strongly fell to insignificant levels. A significant percentage of supervisors (10.5% before and over 9% after) reported that they had not had sufficient opportunity to judge performance in this area. The L-380 training appears to be clearly producing the desired effect, but room for continued improvement on this learning target remains.

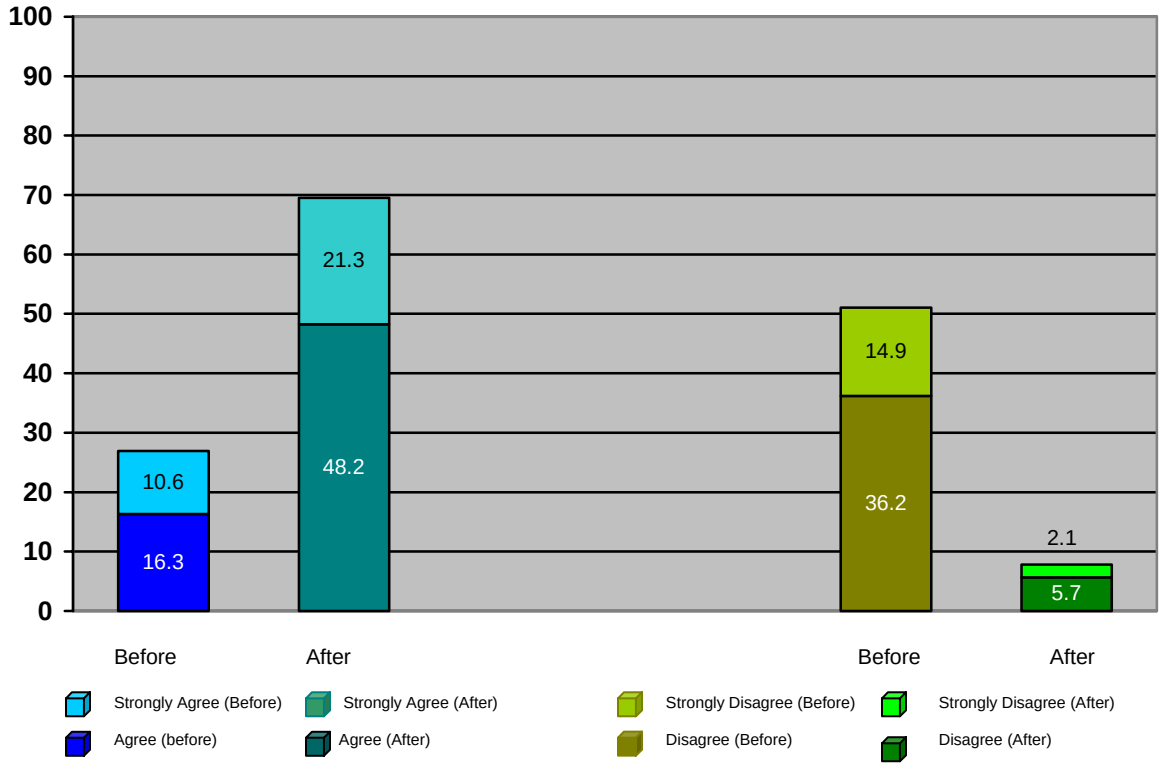
10. I am familiar with the four elements of the leadership environment.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I am familiar with the four elements of the leadership environment	10.6%	16.3%	22%	36.2%	14.9%	141
Total	15	23	31	51	21	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I am familiar with the four elements of the leadership environment	21.3%	48.2%	22.7%	5.7%	2.1%	141
Total	30	68	32	8	3	141



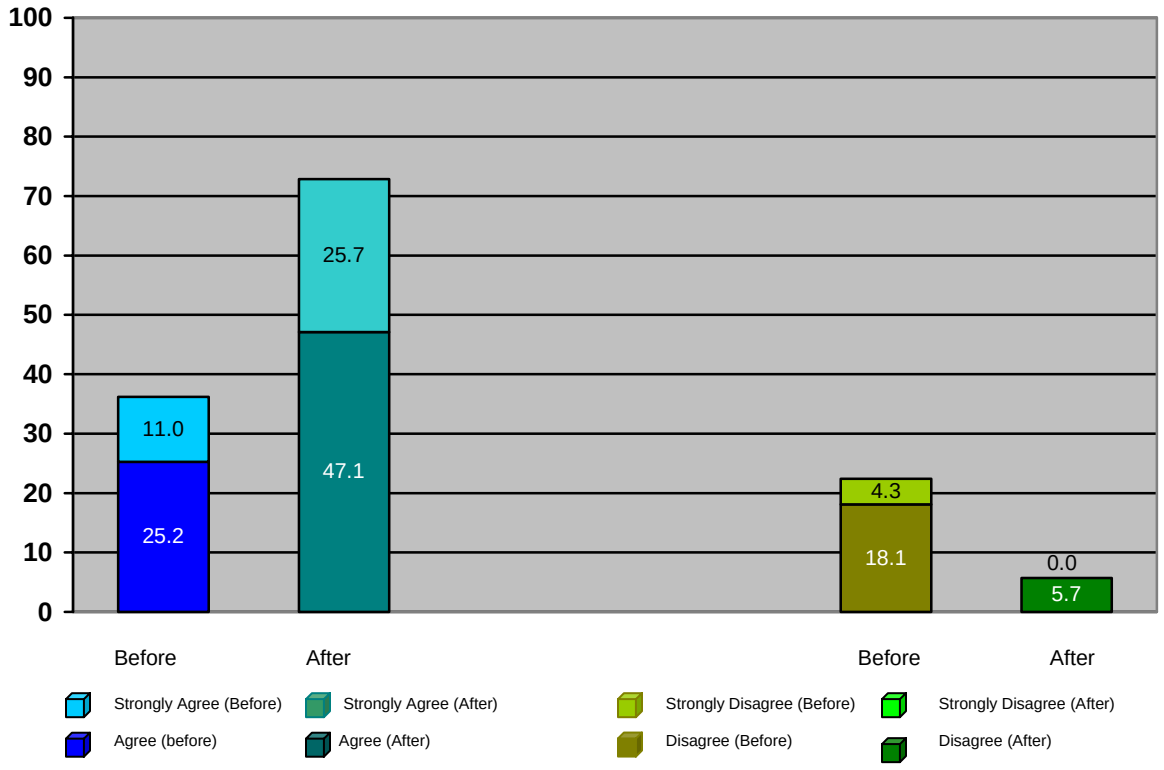
10. Understands the leadership environment.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands the leadership environment	11%	25.2%	38.1%	18.1%	4.3%	3.3%	210
Total	23	53	80	38	9	7	210

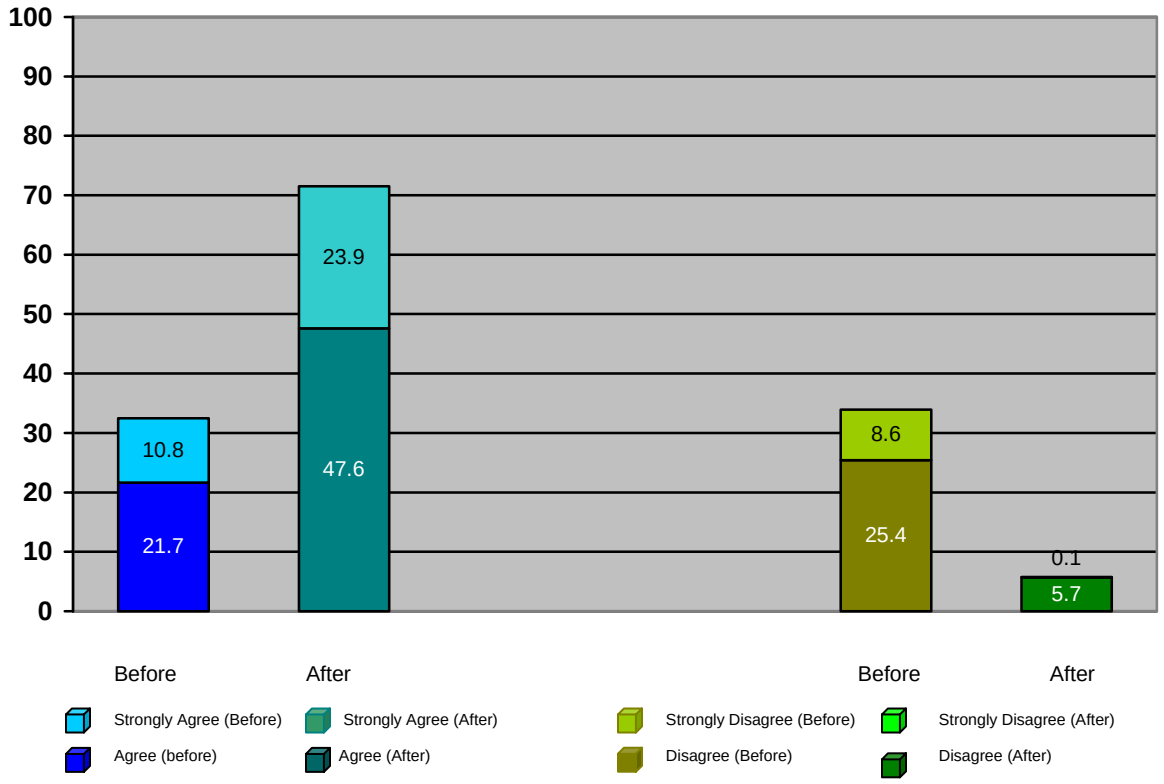
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands the leadership environment	25.7%	47.1%	20%	5.7%	0	1.4%	210
Total	54	99	42	12	0	3	210



10. Understanding the leadership environment.

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect when measured against this particular learning target.

Unlike other learning targets, more supervisors than participants agreed or strongly agreed that their subordinate understood the leadership environment prior to attending the L-380 training, and far fewer supervisors than participants disagreed or strongly disagreed. This seeming anomaly can be explained by the fact that participants were asked about four specific elements of the leadership environment, while supervisors were asked more generically about the overall leadership environment.

The extremes in the data indicate very strong improvement, with moderate room for continued improvement remaining. The percentage of participants strongly agreeing nearly doubled, with the percentage of supervisors strongly agreeing more than doubling. A relatively small percentage of supervisors reported that they had not had sufficient opportunity to judge performance in this area. The L-380 training appears to be clearly producing the desired effect, but some room for continued improvement on this learning target remains.

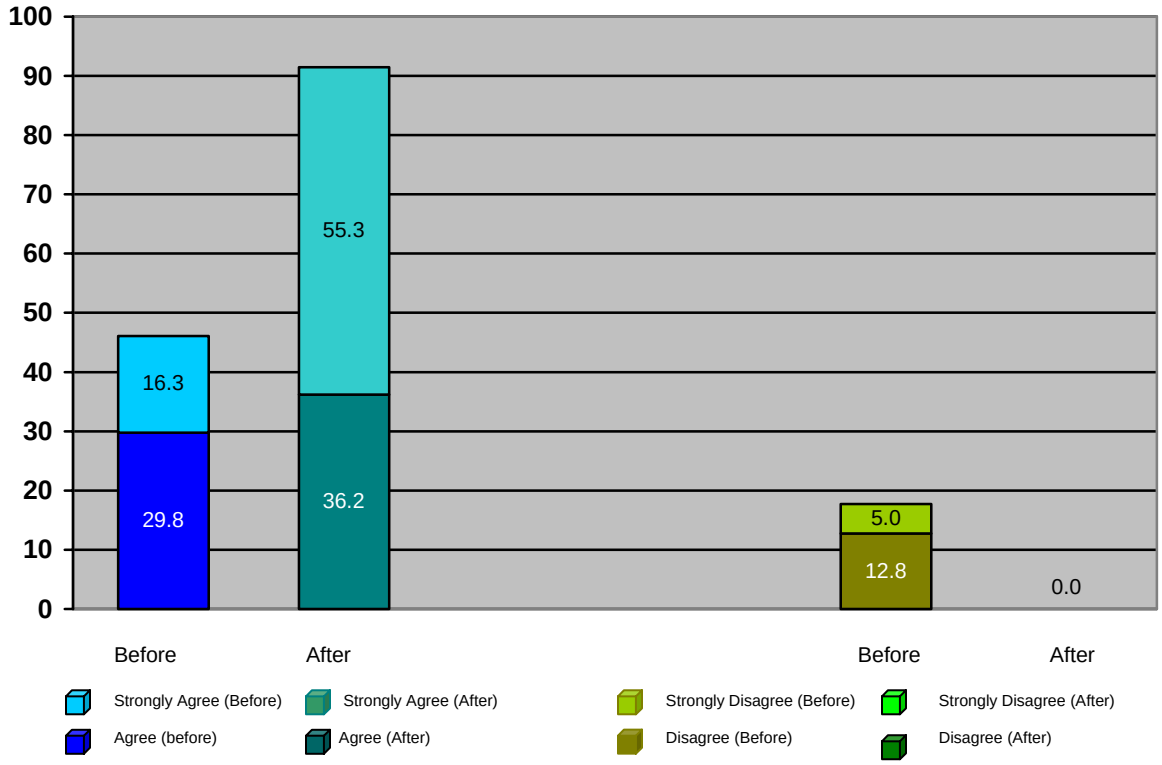
11. I recognize the relationship between values, character, and leadership.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I recognize the relationship between values, character, and leadership	16.3%	29.8%	36.2%	12.8%	5%	141
Total	23	42	51	18	7	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I recognize the relationship between values, character, and leadership	55.3%	36.2%	8.5%	0	0	141
Total	78	51	12	0	0	141



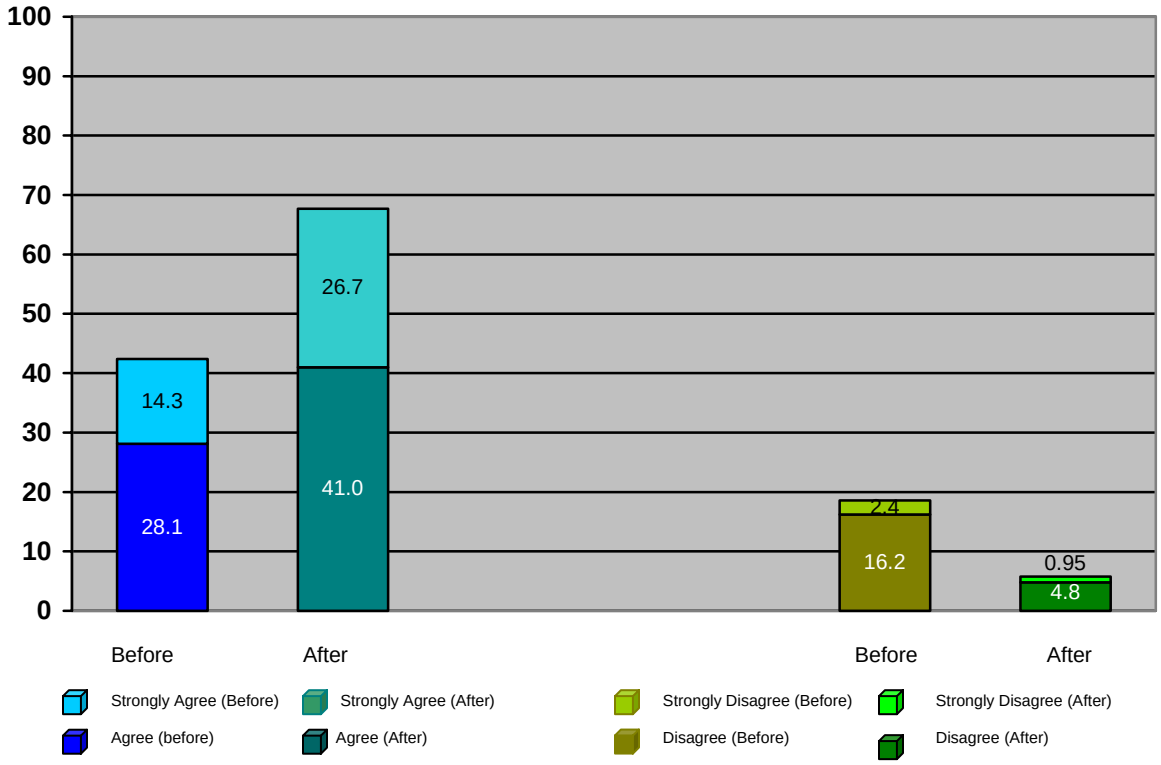
11. Demonstrates values and character associated with good leadership.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Demonstrates values and character associated with good leadership	14.3%	28.1%	34.8%	16.2%	2.4%	4.3%	210
Total	30	59	73	34	5	9	210

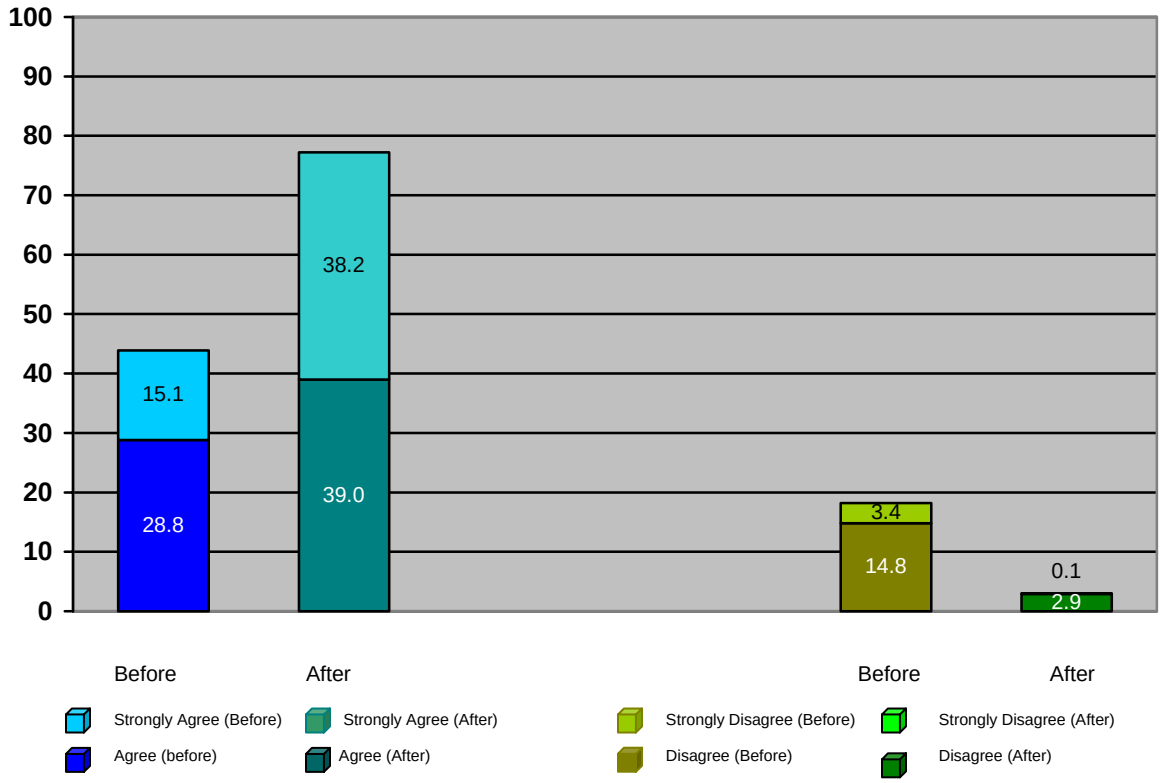
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Demonstrates values and character associated with good leadership	26.7%	41%	25.7%	4.8%	<1%	<1%	210
Total	56	86	54	10	2	2	210



11. Values and character associated with good leadership.

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect when measured against this particular learning target.

The percentage of participants agreeing that they recognized the relationship between values, character, and leadership doubled to a very high level, while the percentage of supervisors agreeing or strongly agreeing rose strongly as well, but not to such a high level. When viewed in the aggregate, the extremes in the data indicate strong improvement, with moderate room for continued improvement. The percentage of participants strongly agreeing rose dramatically from 16.3% before the training to over 55% after, with the percentage of supervisors strongly agreeing nearly doubling. The percentages of respondents disagreeing strongly fell to 0 for participants and to less than 1% for supervisors. A relatively small percentage of supervisors reported that they had not had sufficient opportunity to judge performance in this area. The L-380 training appears to be clearly producing the desired effect, but moderate room for continued improvement on this learning target remains.

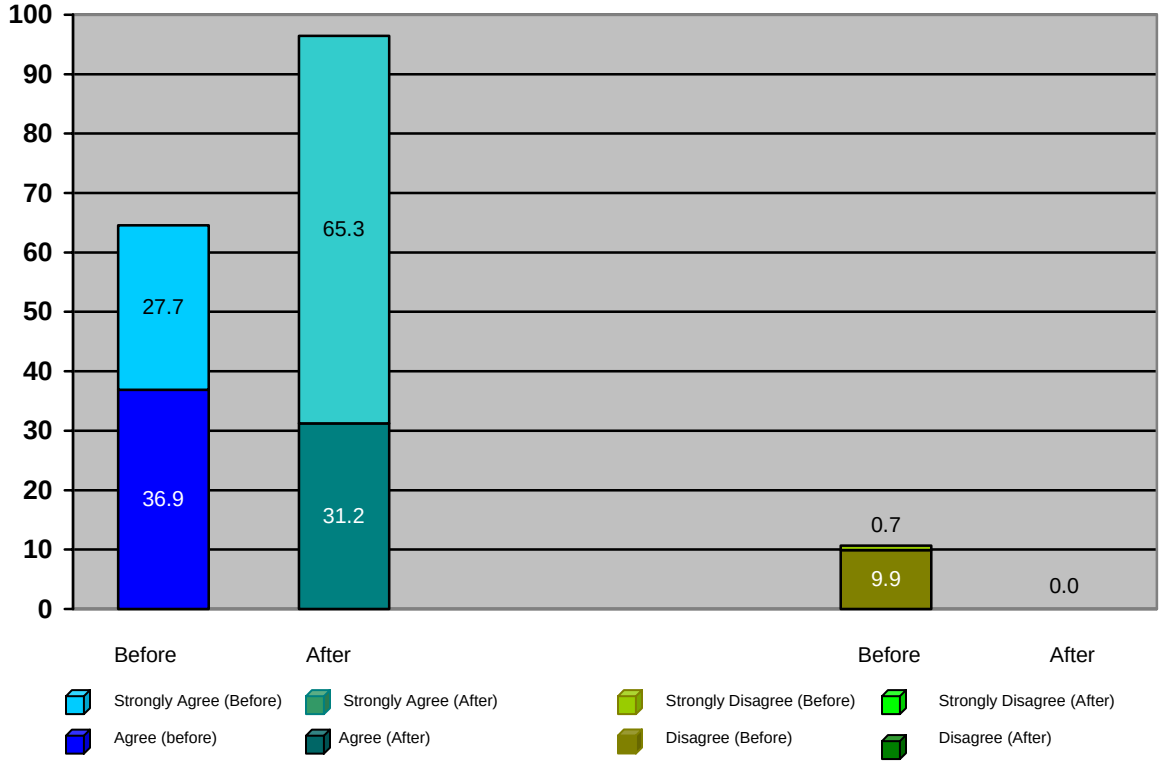
12. I understand the role, duties, and responsibilities of a leader.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I understand the role, duties, and responsibilities of a leader	27.7%	36.9%	24.8%	9.9%	<1%	141
Total	39	52	35	14	1	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I understand the role, duties, and responsibilities of a leader	65.3%	31.2%	3.6%	0	0	141
Total	92	44	5	0	0	141



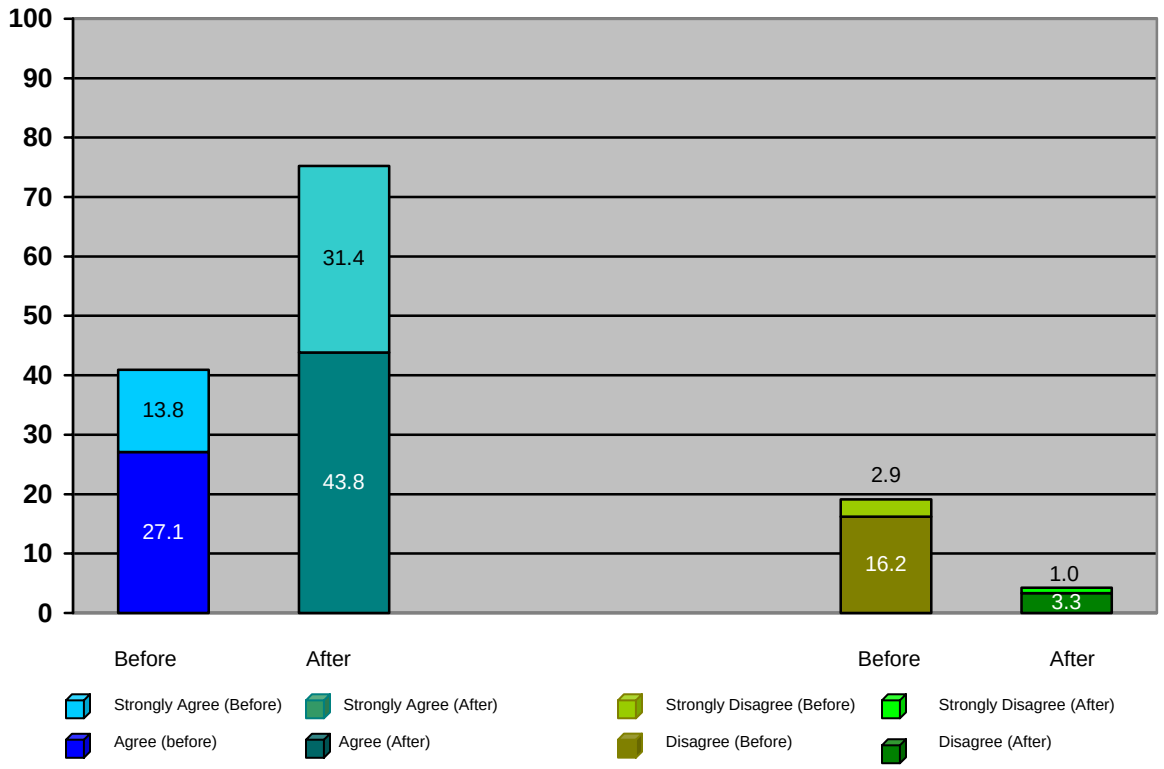
12. Understands the role, duties, and responsibilities of a leader.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands the role, duties, and responsibilities of a leader	13.8%	27.1%	36.7%	16.2%	2.9%	3.3%	210
Total	29	57	77	34	6	7	210

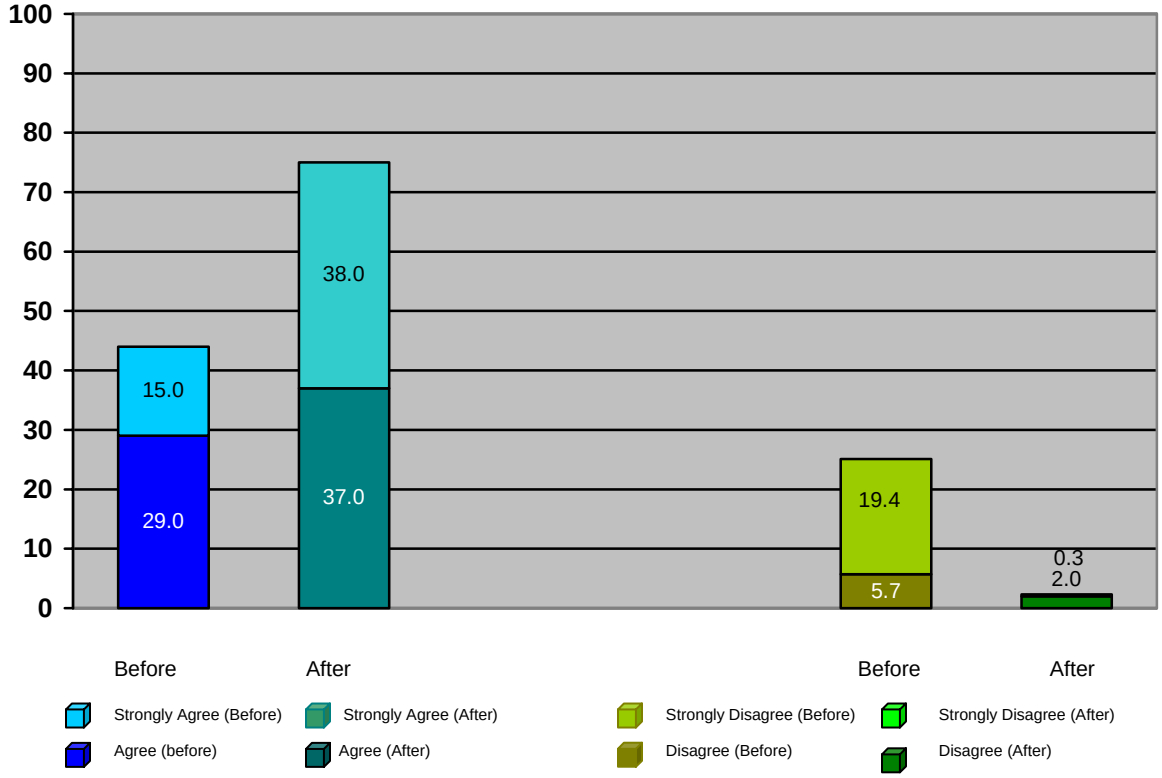
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands the role, duties, and responsibilities of a leader	31.4%	43.8%	19.1%	3.3%	<1%	1.9%	210
Total	66	92	40	7	1	4	210



12. Understanding the role, duties, and responsibilities of a leader.

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect when measured against this particular learning target. Like a few other learning targets, the improvement indicated by this data is notable in that there was already a relatively high level of confidence on this learning target prior to the training. 64.6% of participants agreed or strongly agreed that prior to attending the training they understood the role, duties, and responsibilities of a leader, with nearly 97% of participants agreeing or strongly agreeing six months to one year after the training. About 41% of supervisors agreed or strongly agreed that their subordinate understood the role, duties, and responsibilities of a leader prior to attending the L-380 training, with 75% agreeing or strongly agreeing after. After the training, no participants and about 6% of supervisors still disagreed or strongly disagreed that L-380 participants were familiar with the leadership environment.

The extremes in the data indicate strong improvement. A relatively small percentage of supervisors (3.3% before and less than 2% after) reported that they had not had sufficient opportunity to judge performance in this area. The L-380 training appears to be clearly producing the desired effect when measured against this learning target, with some room for continued improvement still remaining.

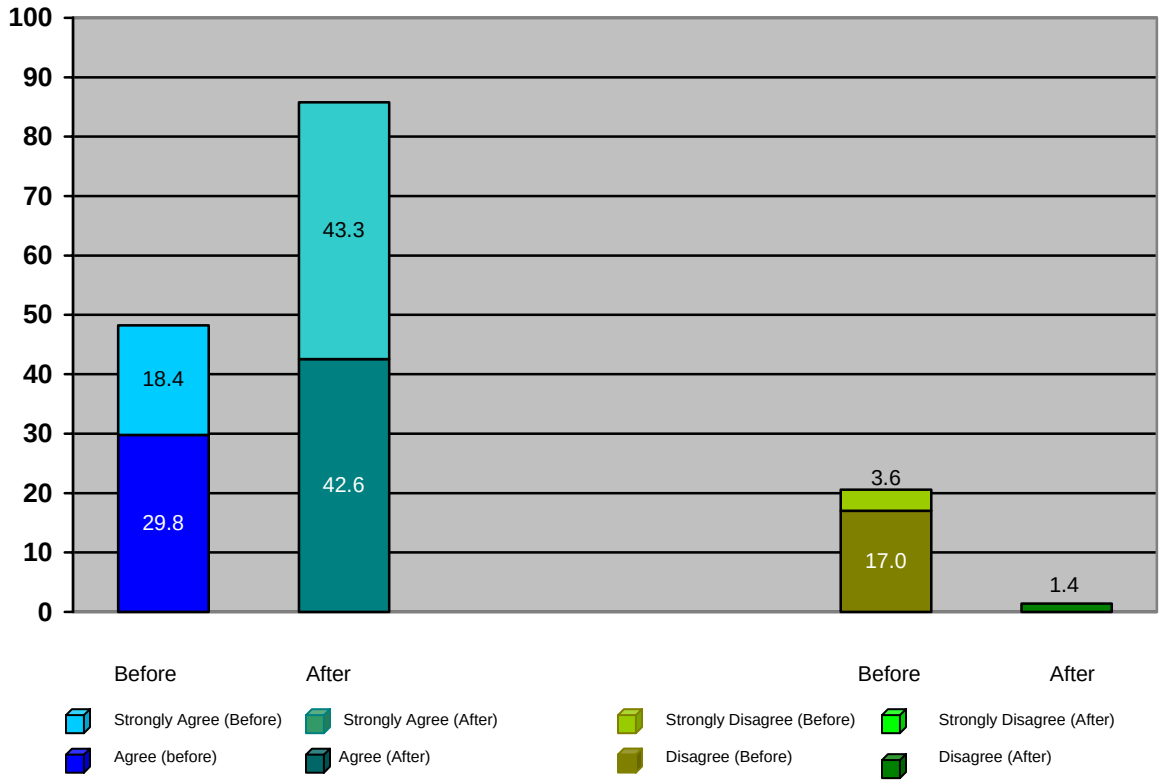
13. I understand interpersonal conflict.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I understand interpersonal conflict	18.4%	29.8%	31.2%	17%	3.6%	141
Total	26	42	44	24	5	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I understand interpersonal conflict	43.3%	42.6%	12.8%	1.4%	0	141
Total	61	60	18	2	0	141



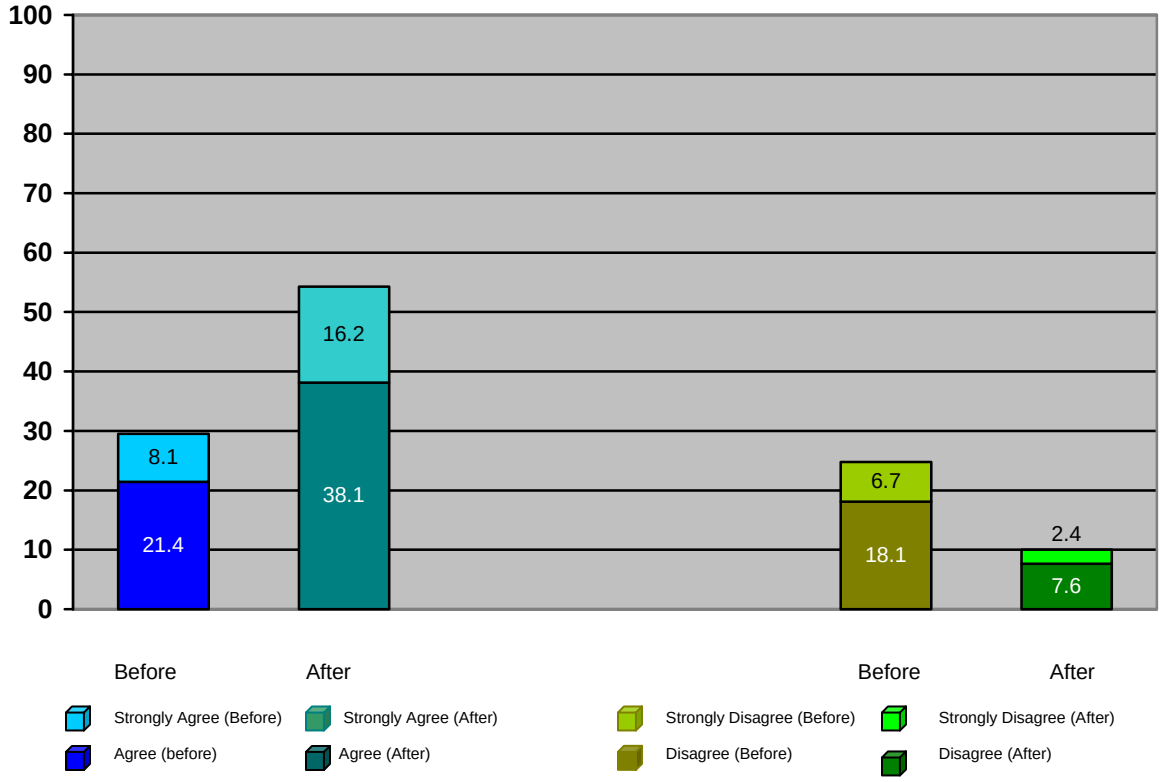
13. Understands interpersonal conflict.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands interpersonal conflict	8.1%	21.4%	40.5%	18.1%	6.7%	5.2%	210
Total	17	45	85	38	14	11	210

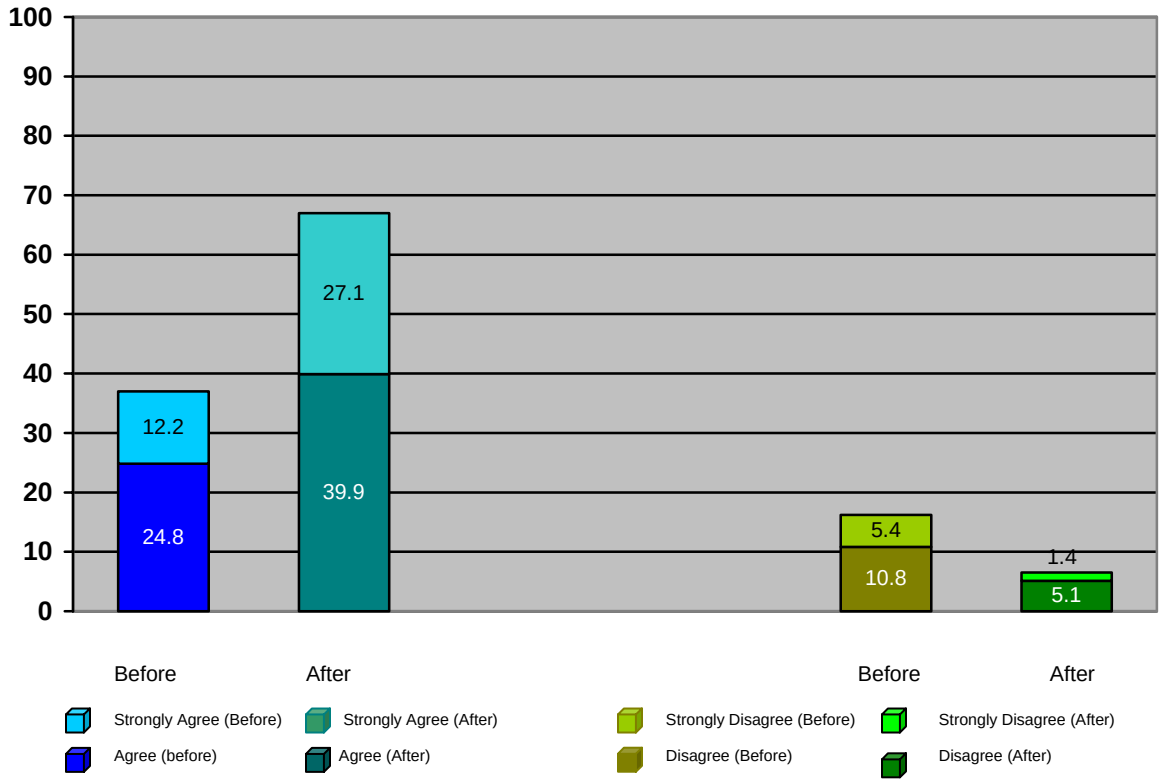
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands interpersonal conflict	16.2%	38.1%	33.8%	7.6%	2.4%	1.9%	210
Total	34	80	71	16	5	4	210



13. Understanding interpersonal conflict.

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect when measured against this particular learning target.

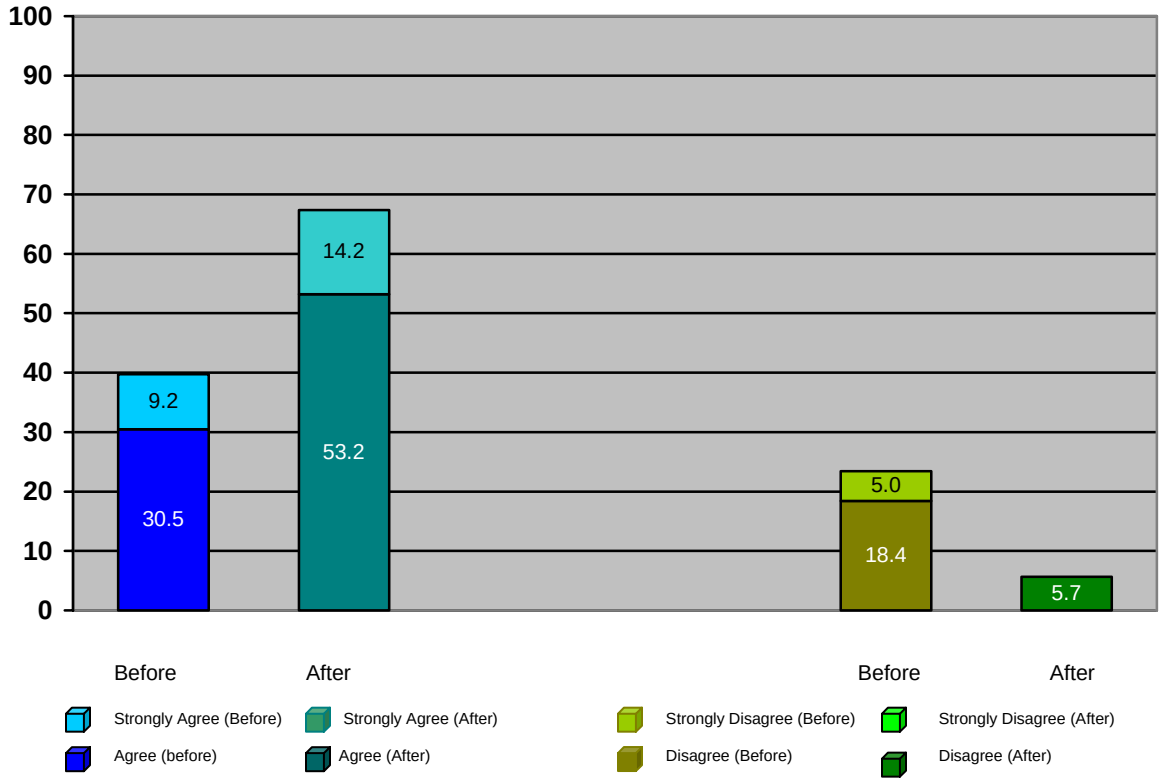
The extremes in the data indicate strong improvement, though moderate room for improvement still exists. The percentage of participants strongly agreeing rose dramatically, more than doubling. The percentage of supervisors strongly agreeing also doubled. The percentages of respondents disagreeing strongly fell to 0 for participants and to 2.4% for supervisors. A relatively small percentage of supervisors (5.2% before and less than 2% after) reported that they had not had sufficient opportunity to judge performance in this area. The L-380 training appears to be clearly producing the desired effect when measured against this learning target, but improvement could be continued.

14. I can effectively resolve interpersonal conflict.

Participants

Answer	Agree 5	4	3	2	Disagree 1	Responses
I can effectively resolve interpersonal conflicts	9.2%	30.5%	36.9%	18.4%	5%	141
Total	13	43	52	26	7	141

Answer	Agree 5	4	3	2	Disagree 1	Responses
I can effectively resolve interpersonal conflicts	14.2%	53.2%	27%	5.7%	0	141
Total	20	75	38	8	0	141



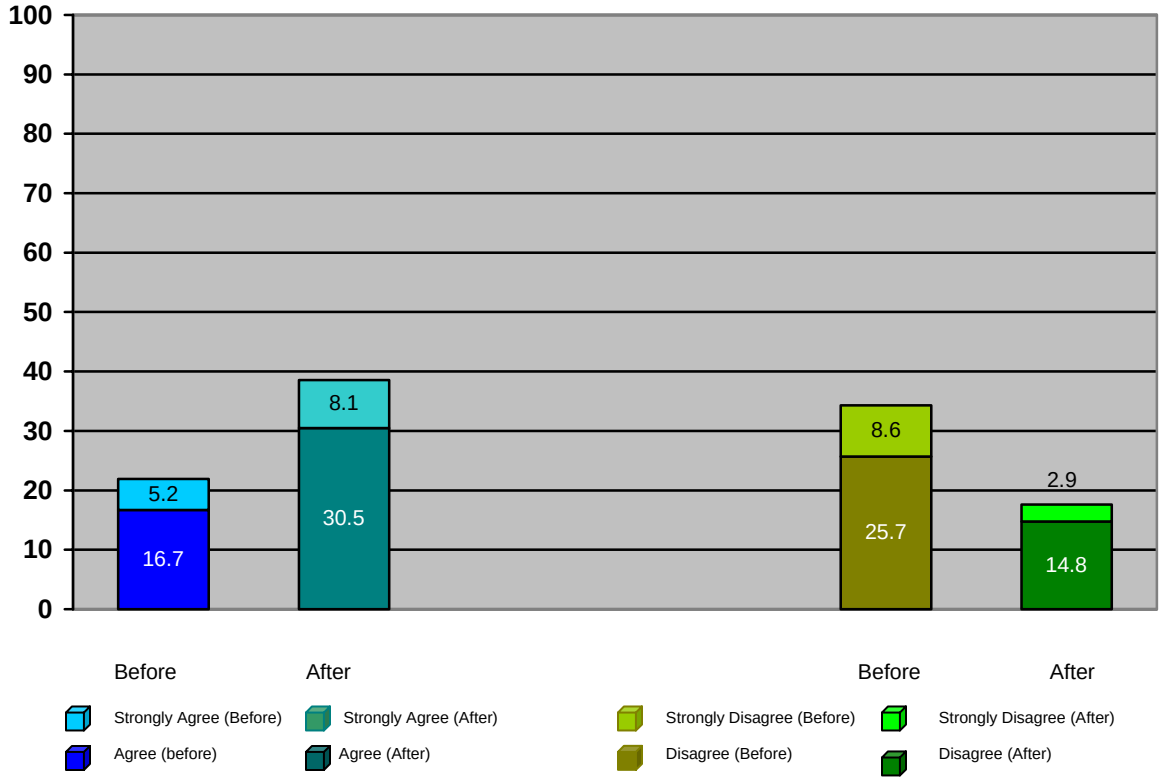
14. Can effectively resolve interpersonal conflict.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Can effectively resolve interpersonal conflicts	5.2%	16.7%	37.1%	25.7%	8.6%	6.7%	210
Total	11	35	78	54	18	14	210

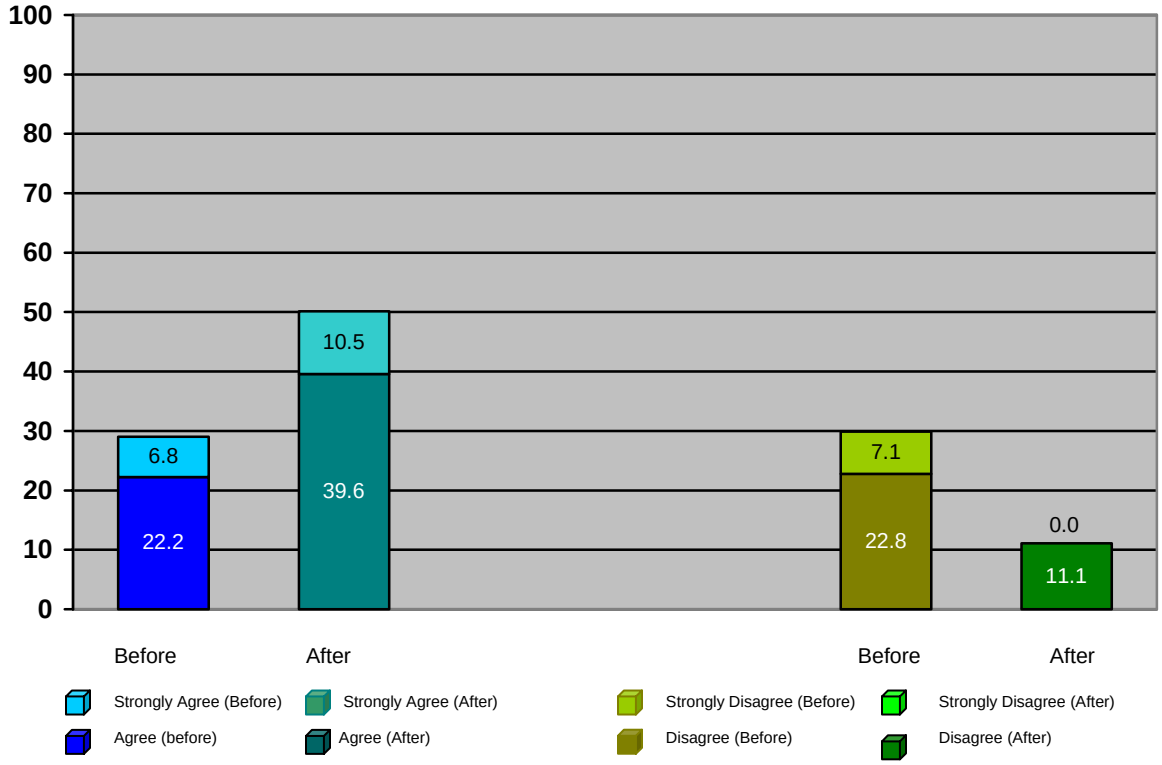
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Can effectively resolve interpersonal conflicts	8.1%	30.5%	39.5%	14.8%	2.9%	4.3%	210
Total	17	64	83	31	6	9	210



14. Effectively resolving interpersonal conflict.

Combined



Analysis:

This data reinforces that the conclusion that the L-380 training is producing the desired effect pertaining to interpersonal conflict when measured against this particular learning target. However, it also appears that while L-380 participants and, to a lesser extent, their supervisors feel confident that they understand interpersonal conflict, they are less confident about their ability to actually resolve that conflict effectively and room for improvement remains.

The extremes in the data indicate improvement, though substantial room for continued improvement is clearly indicated. The percentage of participants strongly agreeing rose from only 9.2% before the training to just over 14.2% after. The percentage of supervisors strongly agreeing rose from just 5.2% to just over 8%. On the other hand, the percentages of respondents disagreeing strongly fell to 0 for participants and to 2.9% for supervisors. A smaller than average percentage of supervisors (6.7% before and less than 4.2% after) reported that they had not had sufficient opportunity to judge performance in this area. The L-380 training appears to be clearly producing the desired effect when measured against this learning target, but improvement could be continued, with substantial room for additional improvement indicated.

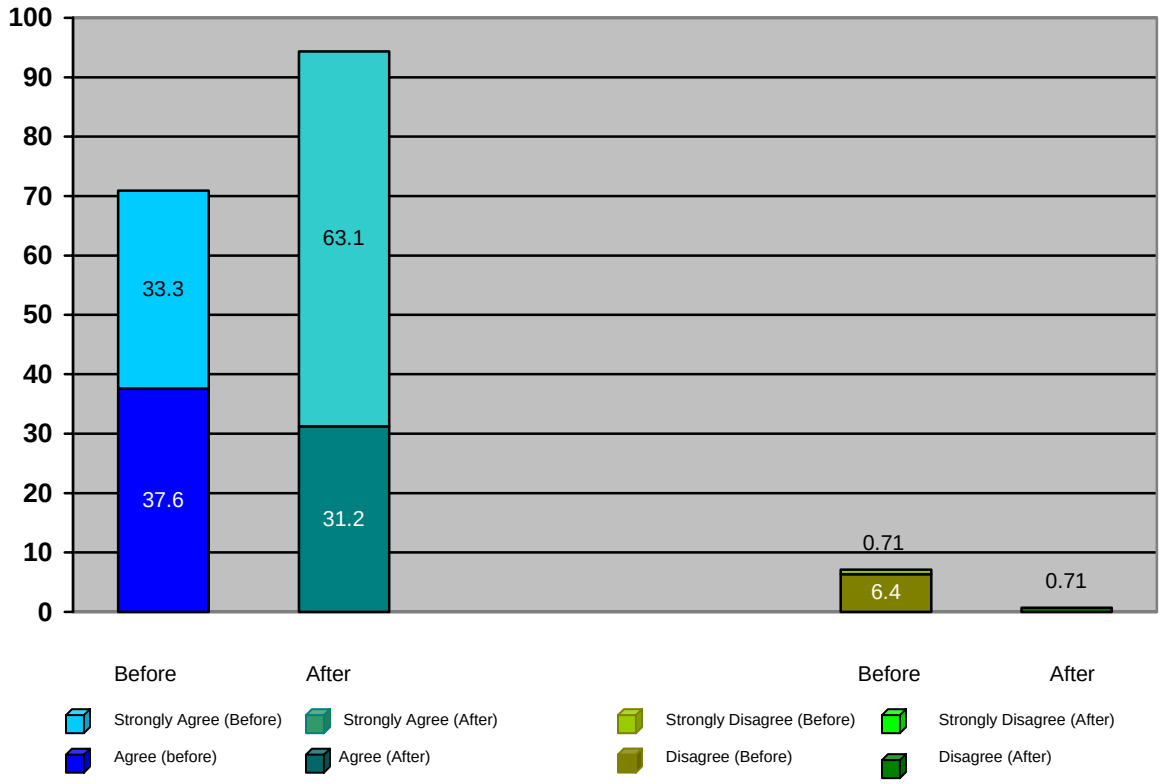
15. I know the process of delegation.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I know the process of delegation	33.3%	37.6%	22%	6.4%	<1%	141
Total	47	53	31	9	1	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I know the process of delegation	63.1%	31.2%	5%	<1%	0	141
Total	89	44	7	1	0	141



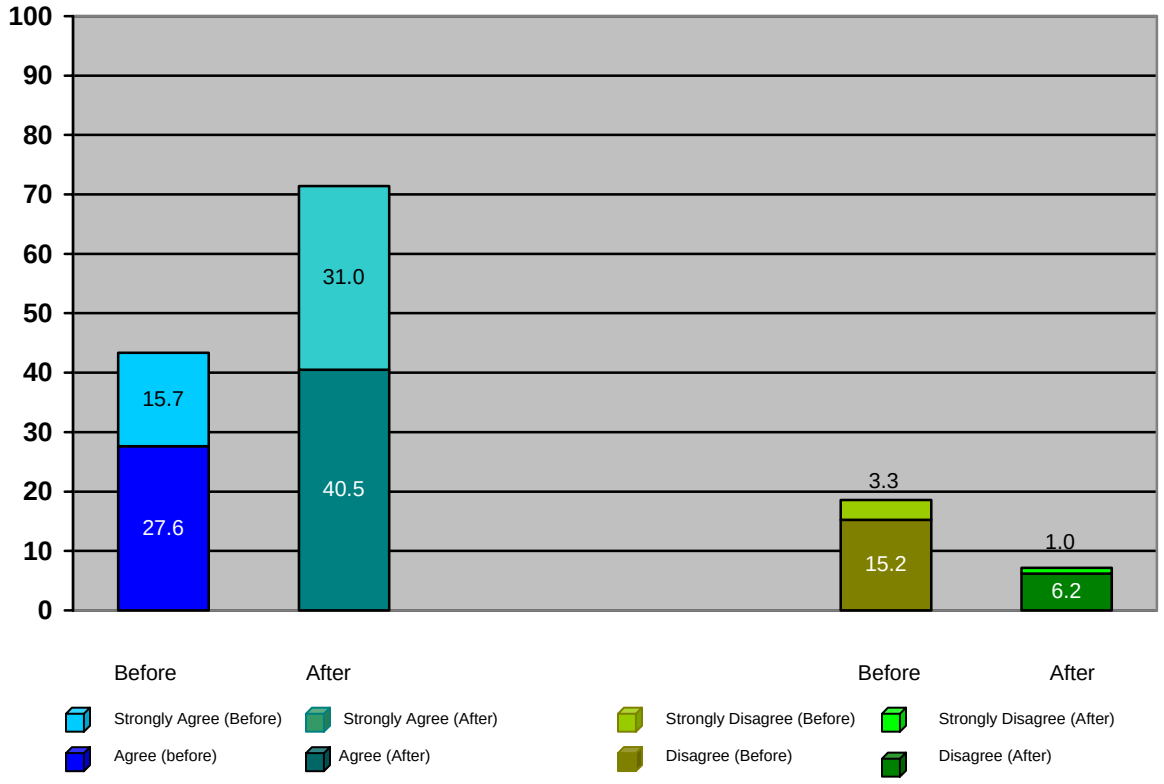
15. Knows the process of delegation.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Knows the process of delegation	15.7%	27.6%	31.4%	15.2%	3.3%	6.7%	210
Total	33	58	66	32	7	14	210

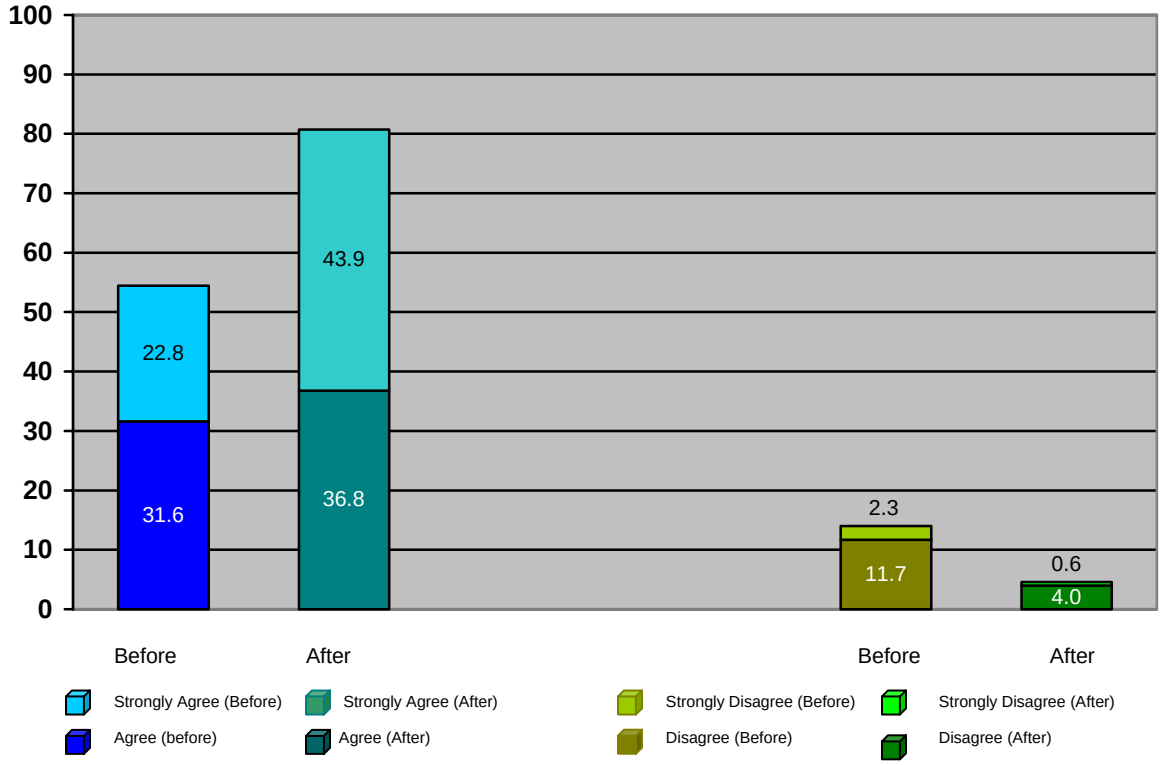
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Knows the process of delegation	31%	40.5%	19.1%	6.2%	1%	2.4%	210
Total	65	85	40	13	2	5	210



15. Knowing the process of delegation.

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect when measured against this particular learning target. The extremes in the data indicate relatively strong improvement, though some room for continued improvement is indicated. The percentage of participants strongly agreeing rose from 33.3% before the training to just over 63% after. The percentage of supervisors strongly agreeing rose from nearly 16% to 31%. The percentages of respondents disagreeing strongly fell to 0 for participants and to 1% for supervisors. A smaller than typical percentage of supervisors (6.7% before and less than 2.4% after) reported that they had not had sufficient opportunity to judge performance in this area. The L-380 training appears to be clearly producing the desired effect when measured against this learning target, but improvement could be continued.

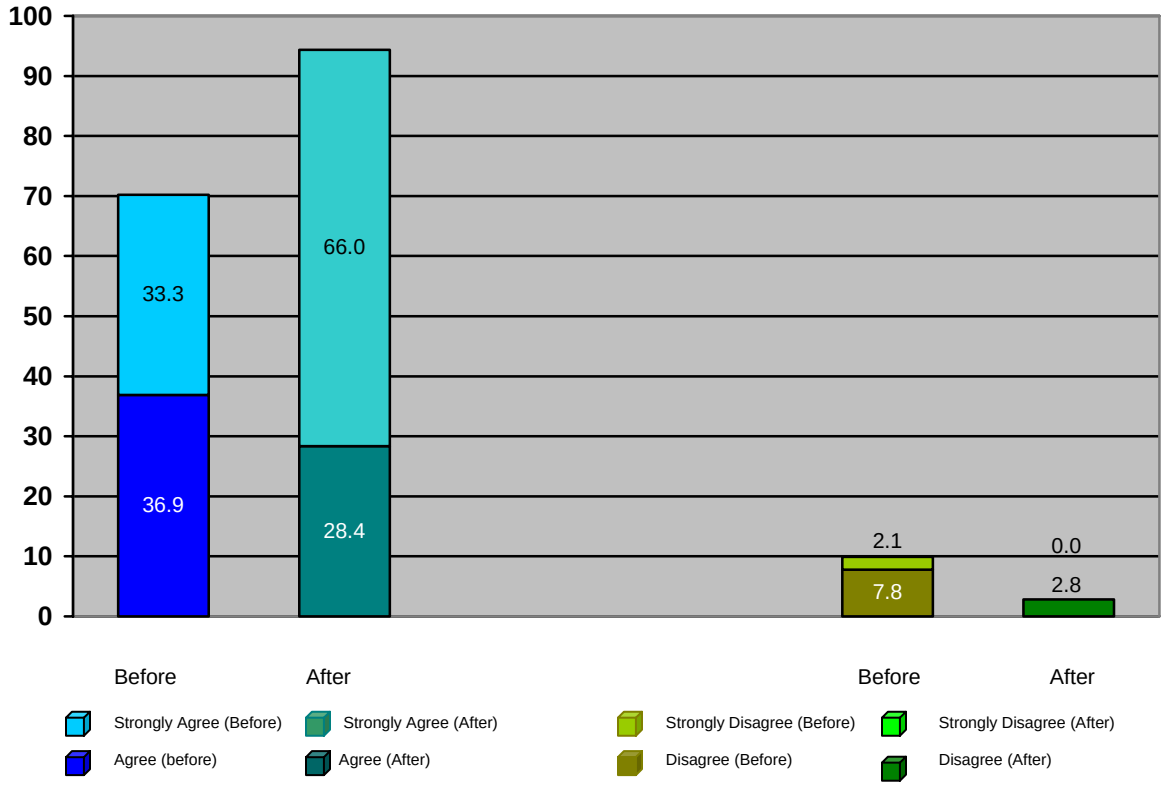
16. I can delegate tasks to subordinates.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I can delegate tasks to subordinates	33.3%	36.9%	19.9%	7.8%	2.1%	141
Total	47	52	28	11	3	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I can delegate tasks to subordinates	66%	28.4%	2.8%	2.8%	0	141
Total	93	40	4	4	0	141



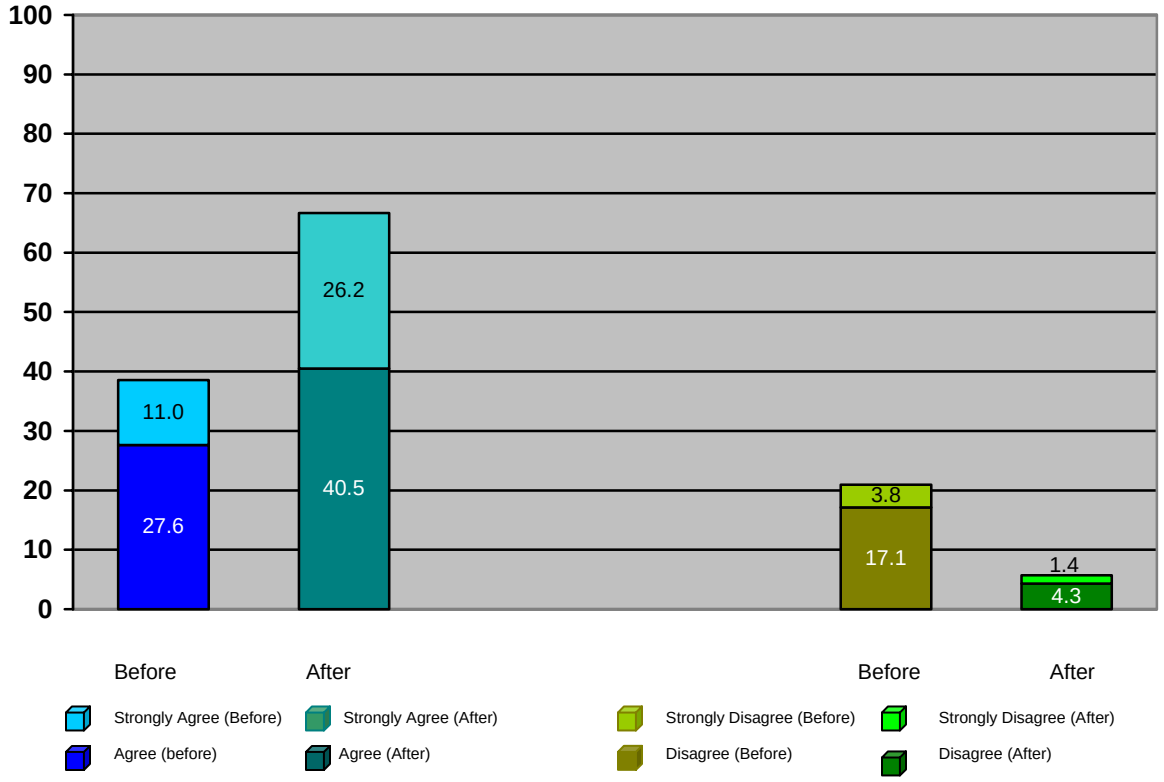
16. Can effectively delegate tasks to subordinates.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Can delegate tasks to subordinates	11%	27.6%	31.4%	17.1%	3.8%	9.1%	210
Total	23	58	66	36	8	19	210

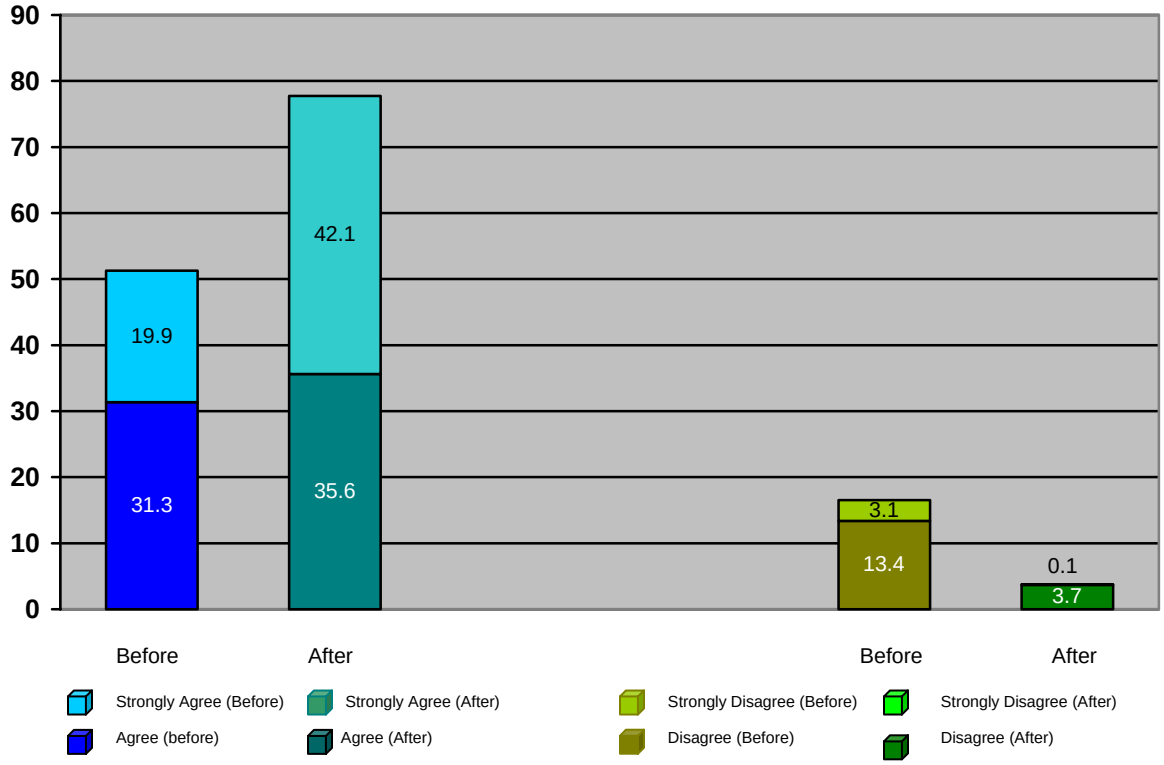
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Can delegate tasks to subordinates	26.2%	40.5%	21.9%	4.3%	1.4%	5.7%	210
Total	55	85	46	9	3	12	210



16. Effectively delegating tasks to subordinates.

Combined



Analysis:

This data reinforces that the conclusion that the L-380 training is producing the desired effect pertaining to delegation when measured against this particular learning target. While the data is very similar to the previous learning target (a desirable correlation that reinforces this analysis), aspects of the data pertaining to this learning target, in some ways, indicates stronger improvement in this area.

The extremes in the data indicate strong improvement, though like most learning targets, moderate room for continued improvement is indicated. The percentage of participants strongly agreeing nearly doubled, with the percentage of supervisors strongly agreeing more than doubling. The percentages of respondents disagreeing strongly fell to 0 for participants and to just over 1% for supervisors. A slightly higher than average percentage of supervisors (9.1% before and less than 5.7% after) reported that they had not had sufficient opportunity to judge performance in this area. The L-380 training appears to be clearly producing the desired effect when measured against this learning target. However, like with nearly all the learning targets, improvement could be continued.

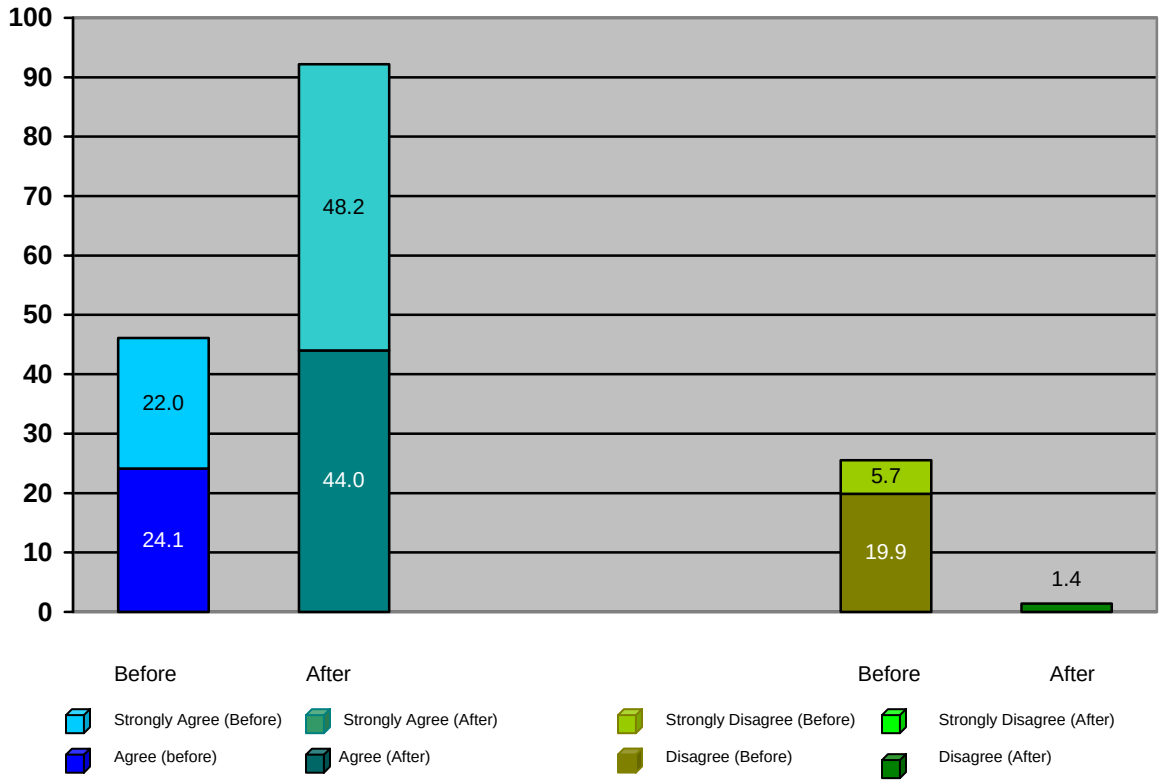
17. I understand sources of power.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I understand sources of power	22%	24.1%	28.4%	19.9%	5.7%	141
Total	31	34	40	28	8	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I understand sources of power	48.2%	44%	6.4%	1.4%	0	141
Total	68	62	9	2	0	141



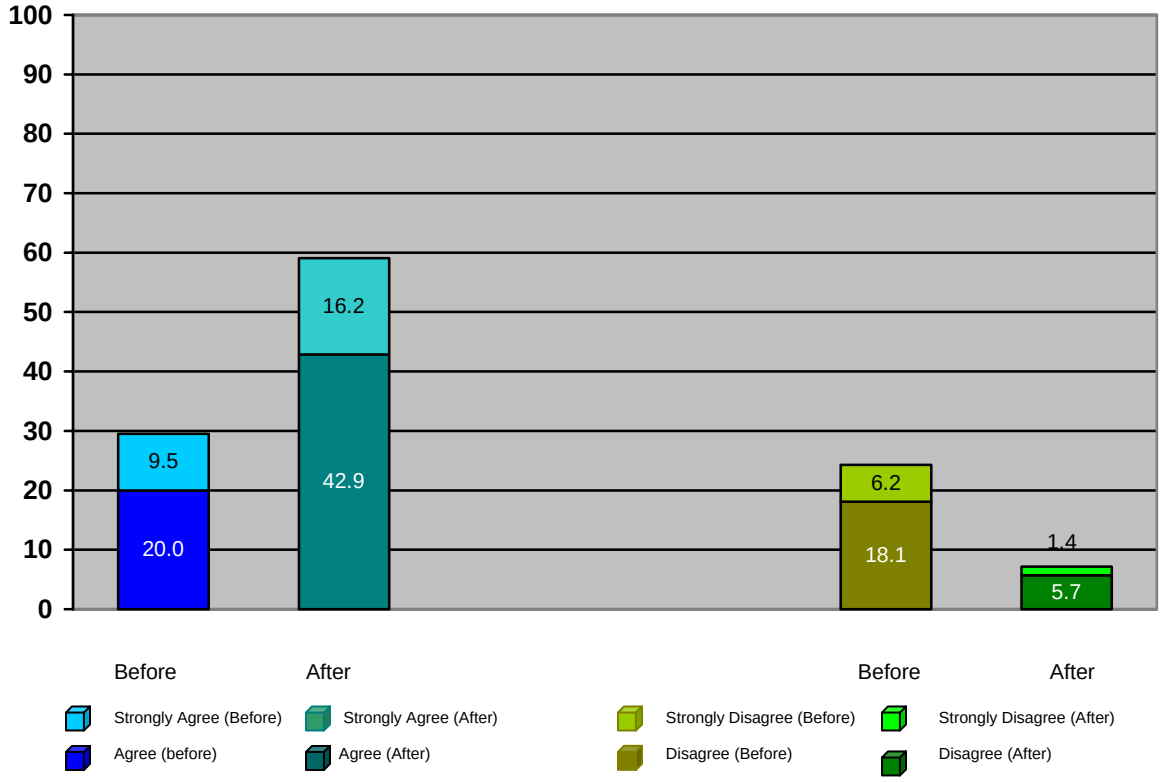
17. Understands their power to influence.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understand their power to influence	9.5%	20%	39.5%	18.1%	6.2%	6.7%	210
Total	20	42	83	38	13	14	210

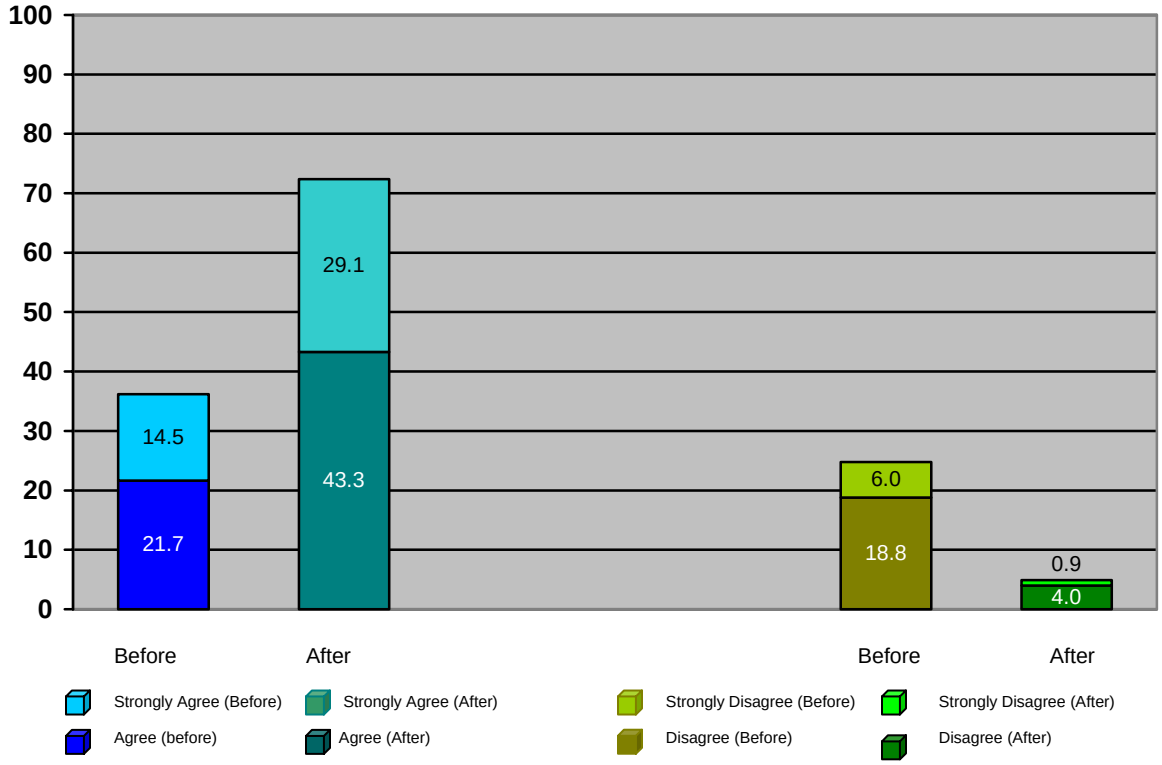
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understand their power to influence	16.2%	42.9%	31.4%	5.7%	1.4%	2.4%	210
Total	34	90	66	12	3	5	210



17. Understanding the power to influence.

Combined



Analysis:

This data indicates that the L-380 training is producing the desired effect, indicating very strong improvement when measured against this particular learning target. When examined in the aggregate, the data indicates that some moderate room for improvement remains.

The percentage of participants agreeing or strongly agreeing that prior to attending the training they understood sources of power, doubled and the percentage of supervisors who agreed or strongly agreed with the corresponding statement nearly doubled. A relatively high 25.6% of participants disagreed or strongly disagreed that they understood sources of power prior to the training. Similarly, about 24% of supervisors disagreed or strongly disagreed that their subordinates understood their power to influence people prior to the training. After the training, just over 1% of participants and about 7% of supervisors still disagreed or strongly disagreed that L-380 participants could effectively resolve interpersonal conflict.

The extremes in the data indicate very strong improvement, though like most learning targets, moderate room for continued improvement is indicated. A smaller than typical percentage of supervisors (6.7% before and 2.4% after) reported that they had not had sufficient opportunity to judge performance in this area.

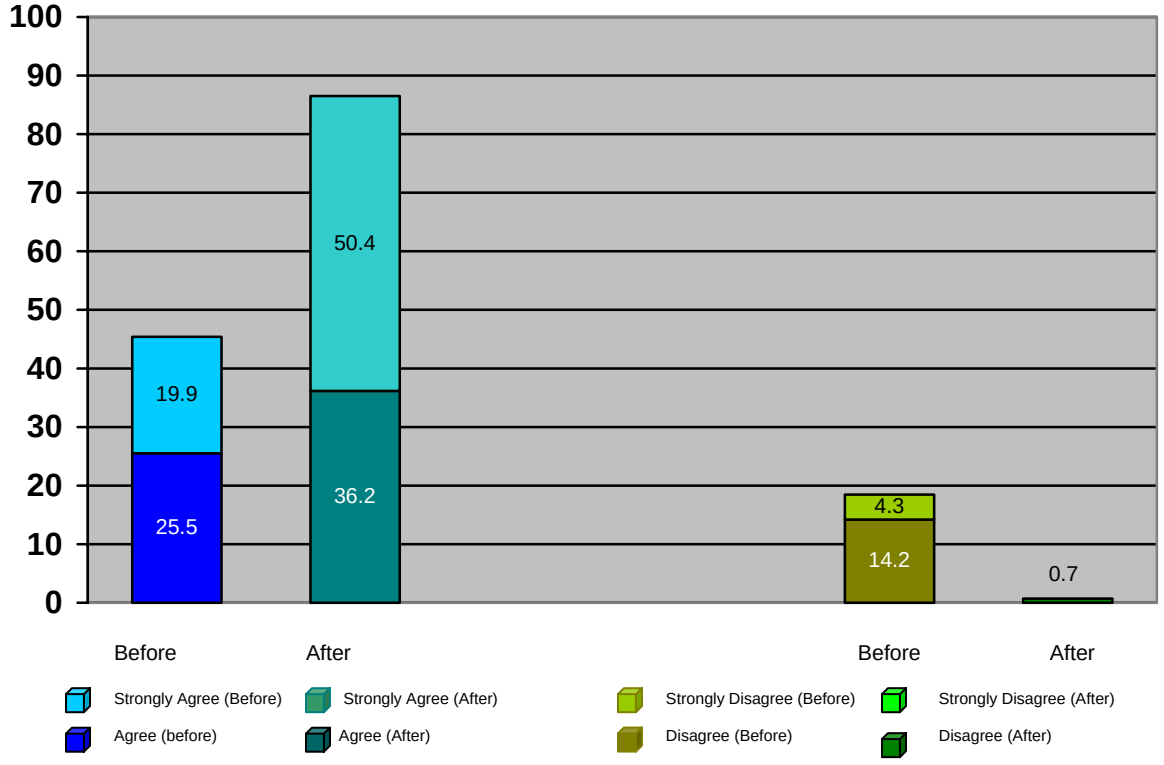
18. I know when different leadership styles are appropriate.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I know when different leadership styles are appropriate	20%	26%	36%	14%	4%	141
Total	28	36	51	20	6	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I know when different leadership styles are appropriate	50%	36%	13%	1%	0	141
Total	71	51	18	1	0	141



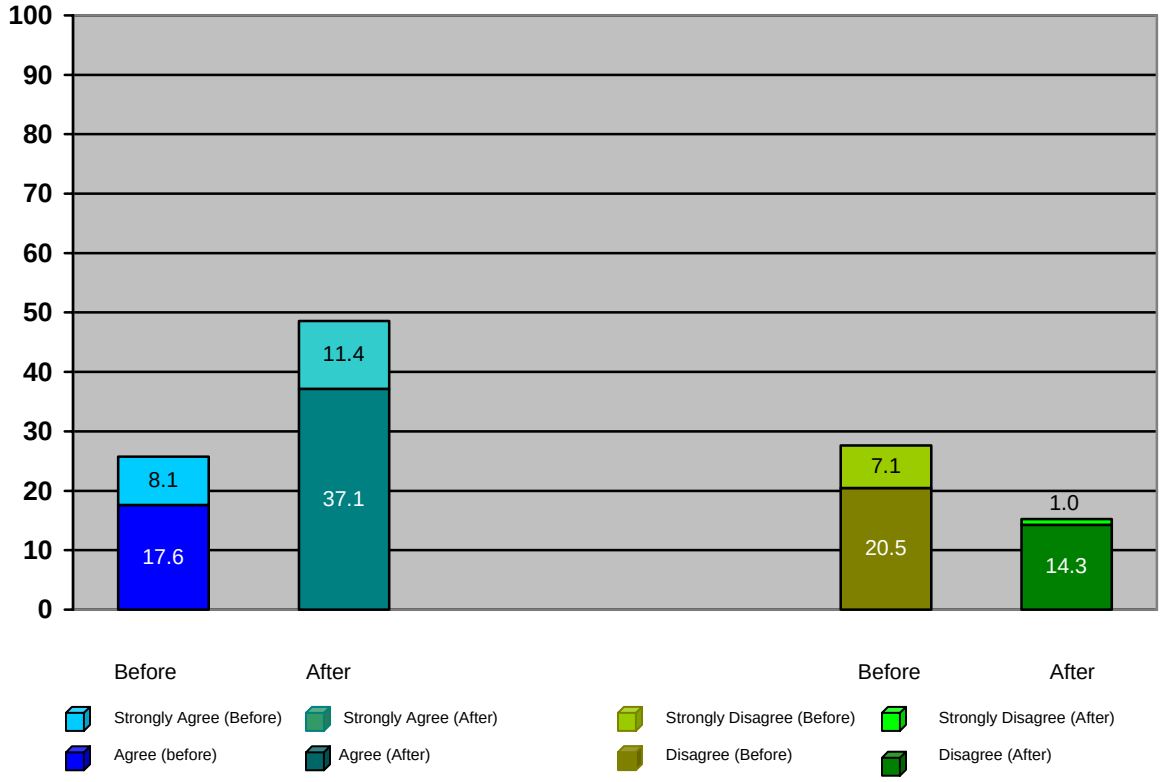
18. Understands when different leadership styles are appropriate.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands when different leadership styles are appropriate	8.1%	17.6%	38.6%	20.5%	7.1%	8.1%	210
Total	17	37	81	43	15	17	210

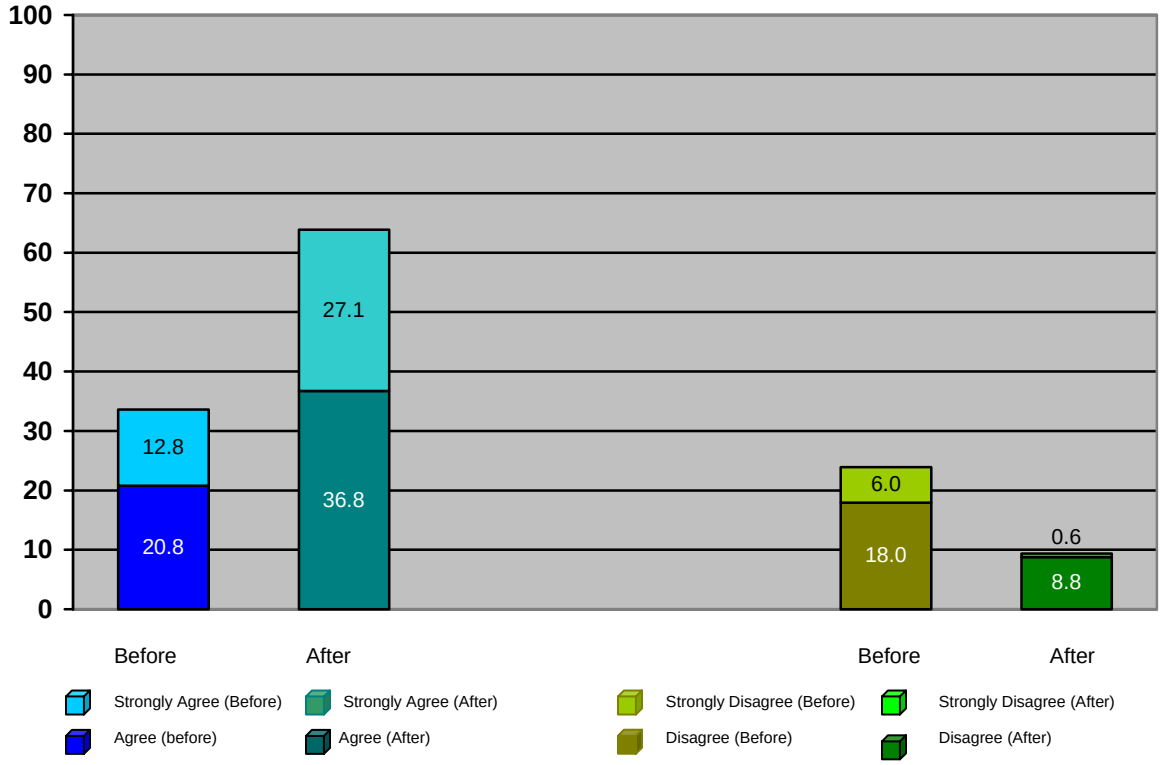
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands when different leadership styles are appropriate	11.4%	37.1%	30.5%	14.3%	<1%	5.7%	210
Total	24	78	64	30	2	12	210



18. Understanding when different leadership styles are appropriate.

Combined



Analysis:

This data indicates that the L-380 training is producing the desired effect, indicating relatively strong improvement when measured against this particular learning target. However, this learning target also represents one area in which the perspectives of training participants and their supervisors diverge rather sharply. For example, 46% of participants agreed or strongly agreed that prior to attending the training they knew when different leadership styles were appropriate, with 86% of participants agreeing or strongly agreeing six months to one year after the training. However, less than 26% of supervisors agreed or strongly agreed with the corresponding statement describing their subordinate prior to attending the L-380 training, with 48.5% agreeing or strongly agreeing after. After the training, less than 1% of participants, but a relatively high 15% of supervisors still disagreed or strongly disagreed that L-380 participants could effectively resolve interpersonal conflict.

When examined in the aggregate, the data indicates significant effect from the training, but also that significant room for continued improvement remains. The extremes in the data indicate that participants feel very strong improvement with moderate room for continued improvement. However, supervisors observed more moderate effects from the training on this learning target and saw more opportunity for continued improvement. The percentage of supervisors reporting that they had not had sufficient opportunity to judge performance in this area was average.

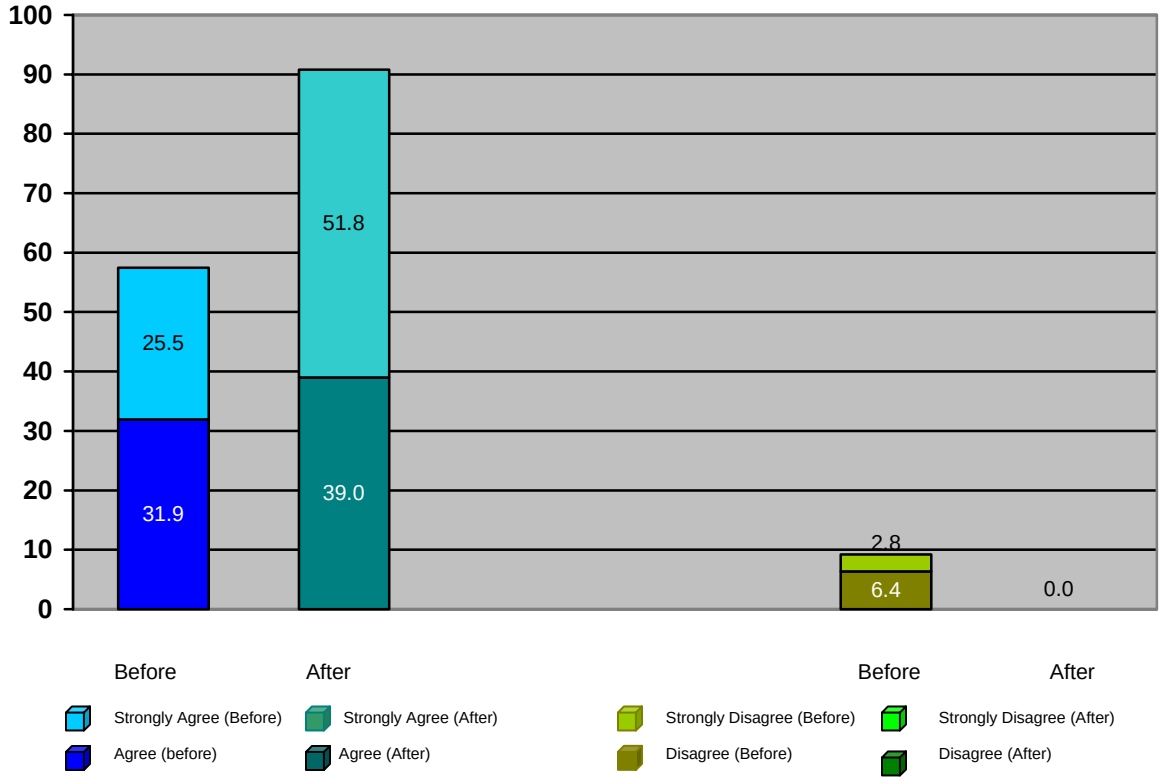
19. I have engaged in my own self-development.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I have engaged in my own self development	25.5%	31.9%	33.3%	6.4%	2.8%	141
Total	36	45	47	9	4	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I have engaged in my own self development	51.8%	39%	9.2%	0	0	141
Total	73	55	13	0	0	141



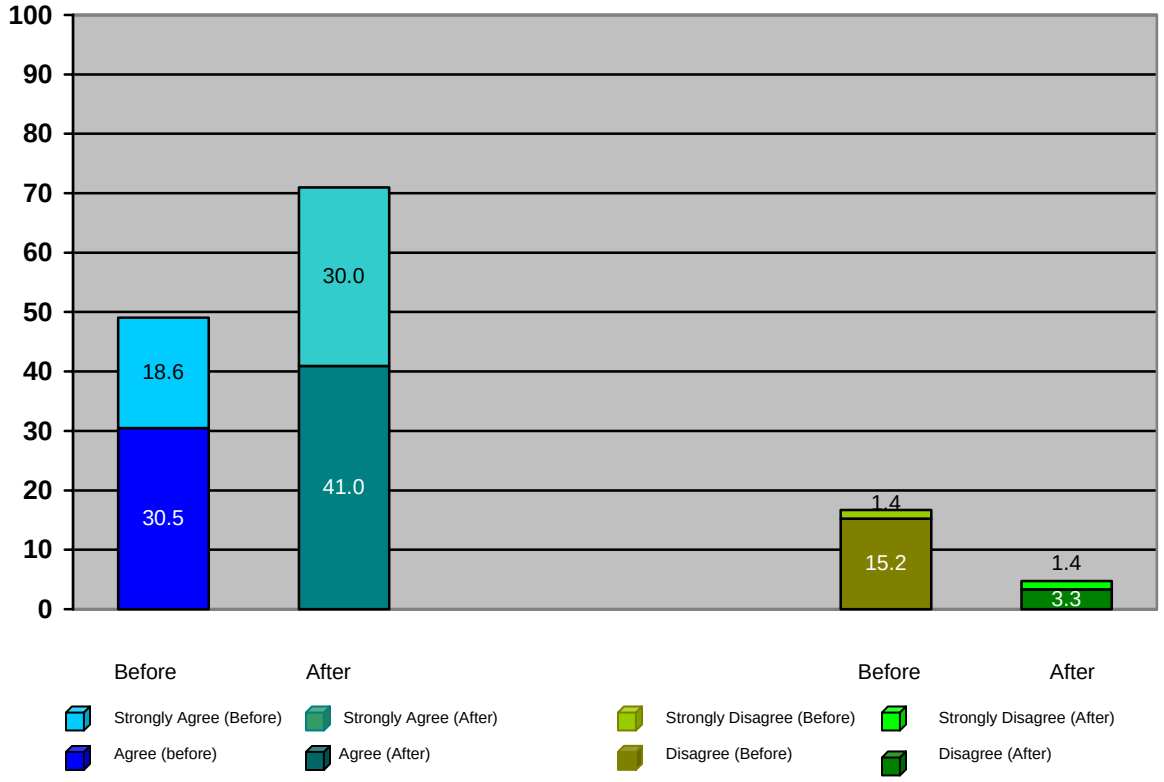
19. Engages in own self-development.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Engages in personal self development	18.6%	30.5%	30%	15.2%	1.4%	4.3%	210
Total	39	64	63	32	3	9	210

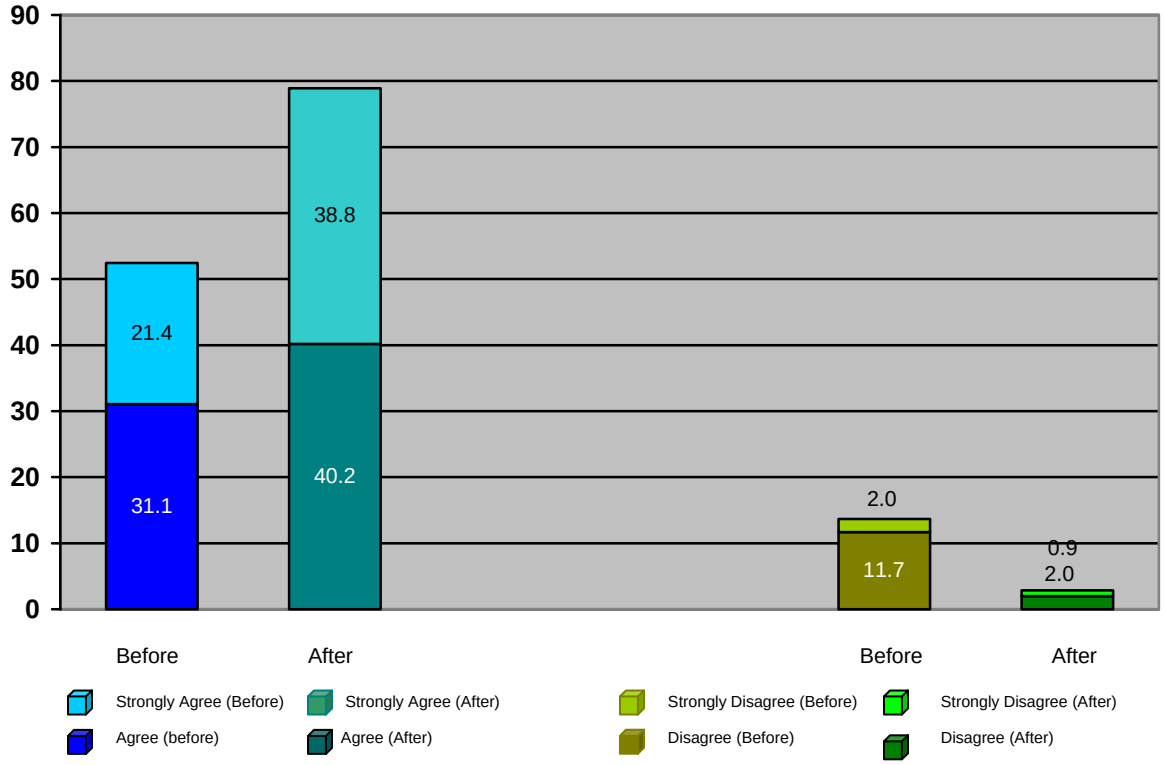
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Engages in personal self development	30%	41%	22.9%	3.3%	1.4%	1.4%	210
Total	63	86	48	7	3	3	210



19. Engaging in own self-development.

Combined



Analysis:

This data indicates that the L-380 training is producing the desired effect, indicating strong improvement when measured against this particular learning target. When examined in the aggregate, the data indicates significant effect from the training, along with some moderate room for continued improvement remaining.

Though relatively high when compared to other learning targets, a surprisingly low 57.4% of participants agreed or strongly agreed that, prior to attending the training, they had engaged in their own self-development, with nearly 91% of participants agreeing or strongly agreeing six months to one year after the training.

The extremes in the data indicate that participants feel strong improvement, though like most learning targets, still can envision some moderate room for continued improvement. Supervisors saw similar effects from the training on this learning target, but saw more opportunity for continued improvement. A lower percentage of supervisors than is typical (4.3% before and 1.4% after) reported that they had not had sufficient opportunity to judge performance in this area. The L-380 training appears to be producing the desired effect when measured against this learning target. However, it appears that moderate room for continued improvement remains.

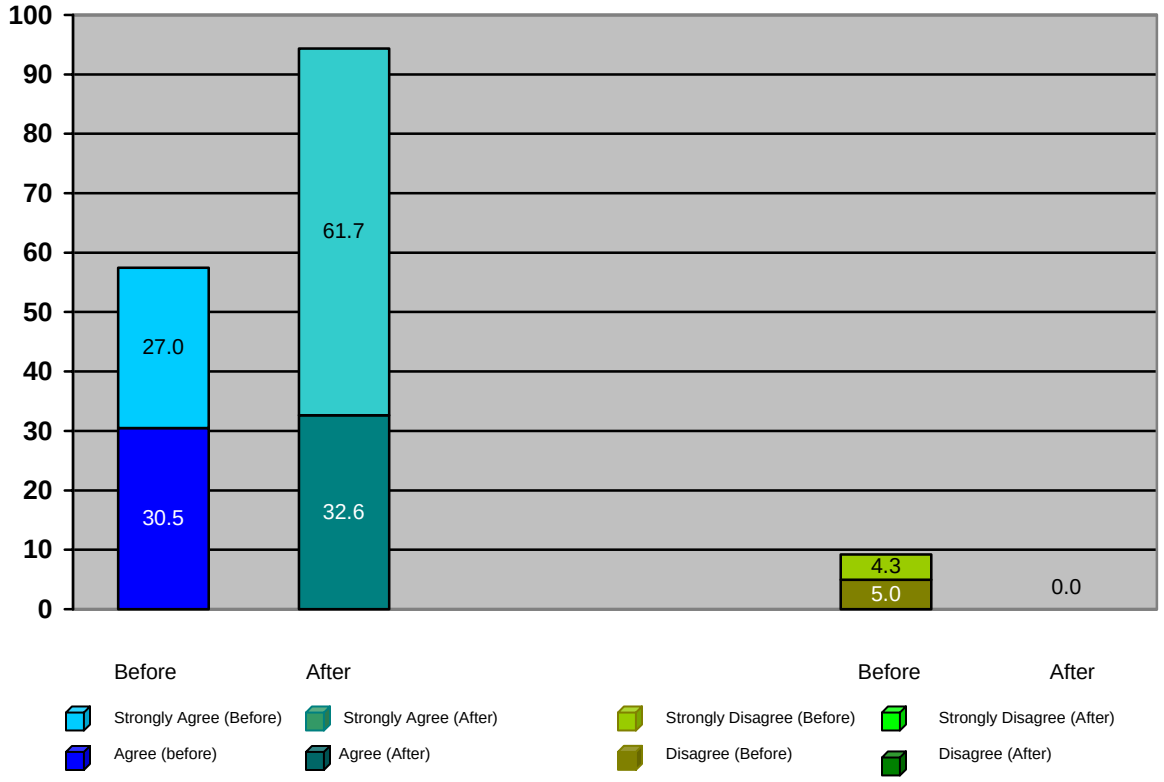
20. I am prepared to assist my subordinates with their personal development.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I am prepared to assist my subordinates with their personal development	27%	30.5%	33.3%	5%	4.3%	141
Total	38	43	47	7	6	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I am prepared to assist my subordinates with their personal development	61.7%	32.6%	5.7%	0	0	141
Total	87	46	8	0	0	141



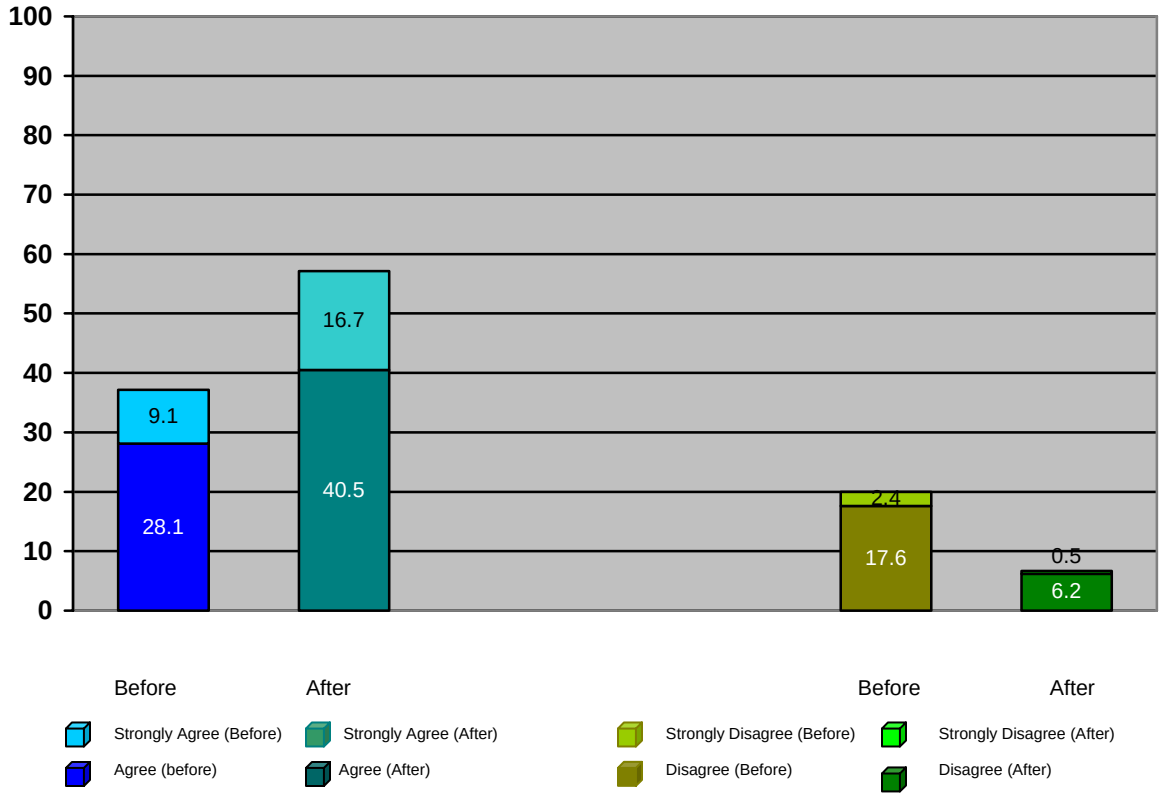
20. Assists their subordinates with their personal development.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Assists their subordinates with their personal development	9.1%	28.1%	28.57%	17.6%	2.4%	14.3%	210
Total	19	59	60	37	5	30	210

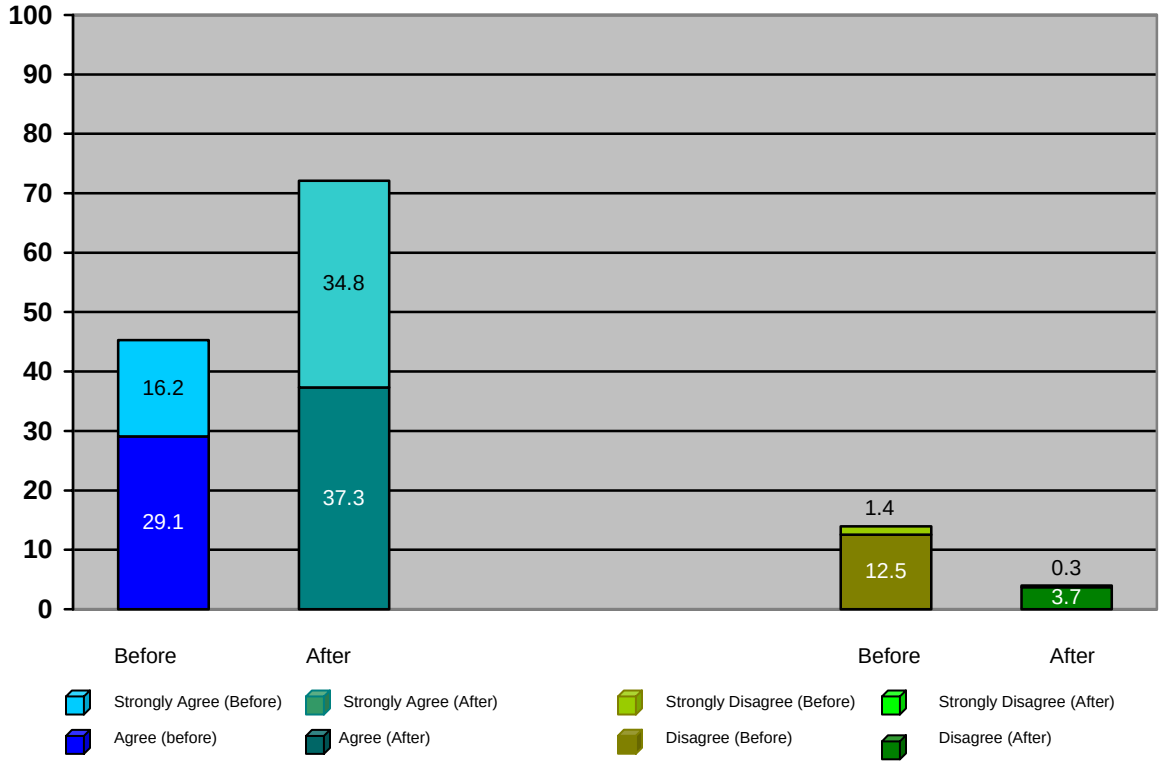
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Assists their subordinates with their personal development	16.7%	40.5%	27.6%	6.2%	<1%	8.6%	210
Total	35	85	58	13	1	18	210



20. Assisting subordinates with their personal development.

Combined



Analysis:

This data indicates that the L-380 training is producing the desired effect, indicating relatively strong improvement when measured against this particular learning target. When examined in the aggregate, the data indicates significant effect from the training, along with some moderate room for continued improvement remaining.

A relatively high 57.5% of participants agreed or strongly agreed that prior to attending the training they were prepared to assist their subordinates with their personal development, with over 94% of participants agreeing or strongly agreeing six months to one year after the training. Another area on which participants and their supervisors diverge, just over 37% of supervisors agreed or strongly agreed with the corresponding statement that their subordinate had assisted their subordinates with their personal development prior to attending the L-380 training, with just over 57% agreeing or strongly agreeing after. Only 9.3% of participants disagreed or strongly disagreed that they were prepared to assist their subordinates with their personal development prior to the training, while 20% of supervisors disagreed or strongly disagreed that their subordinates assisted their subordinates with their personal development prior to the training. Fortunately, after the training, no participants and about 6% of supervisors still disagreed or strongly disagreed that L-380 participants assisted their subordinates with their personal development.

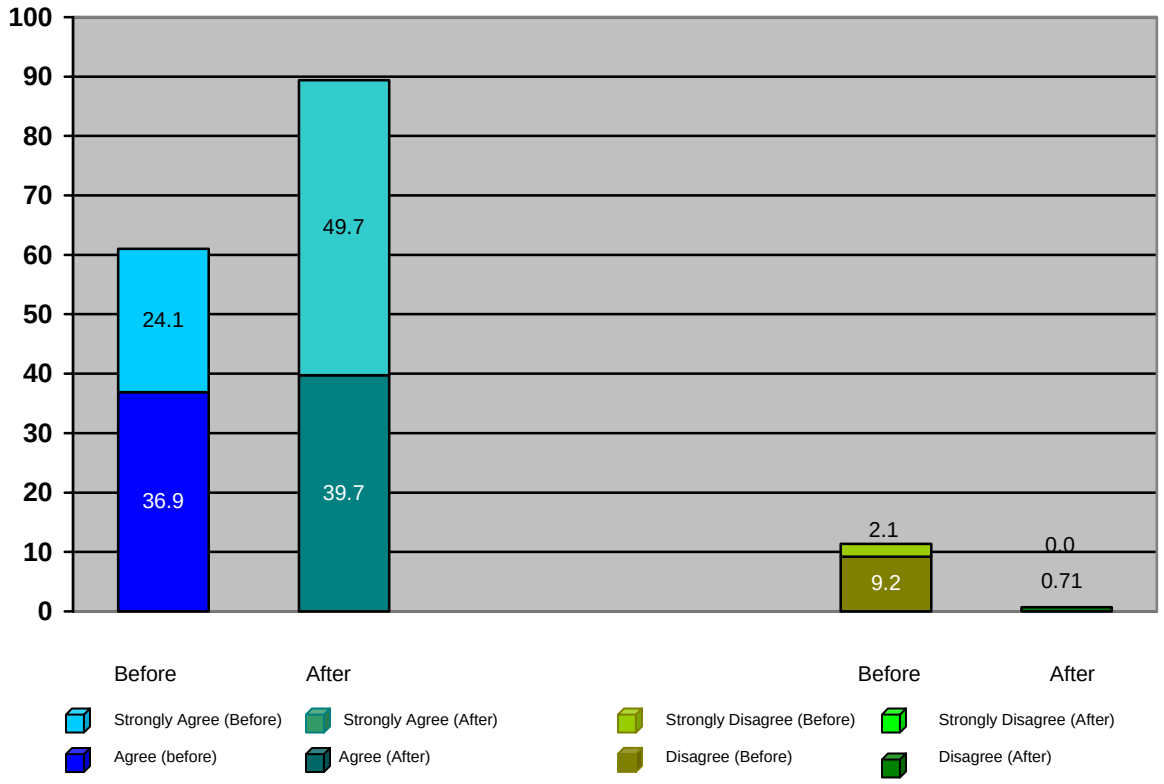
The extremes in the data indicate relatively strong improvement, though like most learning targets, some moderate room for continued improvement is still indicated. The percentage of participants strongly agreeing rose sharply, more than doubling. The percentage of supervisors strongly agreeing also rose sharply. The percentages of respondents disagreeing strongly fell to nearly 0 for participants and less than 4% for supervisors. However, an unusually high percentage of supervisors than is typical (14.3% before and 8.6% after) reported that they had not had sufficient opportunity to judge performance in this area. The L-380 training appears to be producing the desired effect when measured against this learning target. However, as is typical, it appears that some room for continued improvement remains.

21. I can build a team and foster teamwork.

Participants

Answer	Agree 5	4	3	2	Disagree 1	Responses
I can build a team and foster teamwork	24.1%	36.9%	27.7%	9.2%	2.1%	141
Total	34	52	39	13	3	141

Answer	Agree 5	4	3	2	Disagree 1	Responses
I can build a team and foster teamwork	49.7%	39.7%	9.9%	<1%	0	141
Total	70	56	14	1	0	141



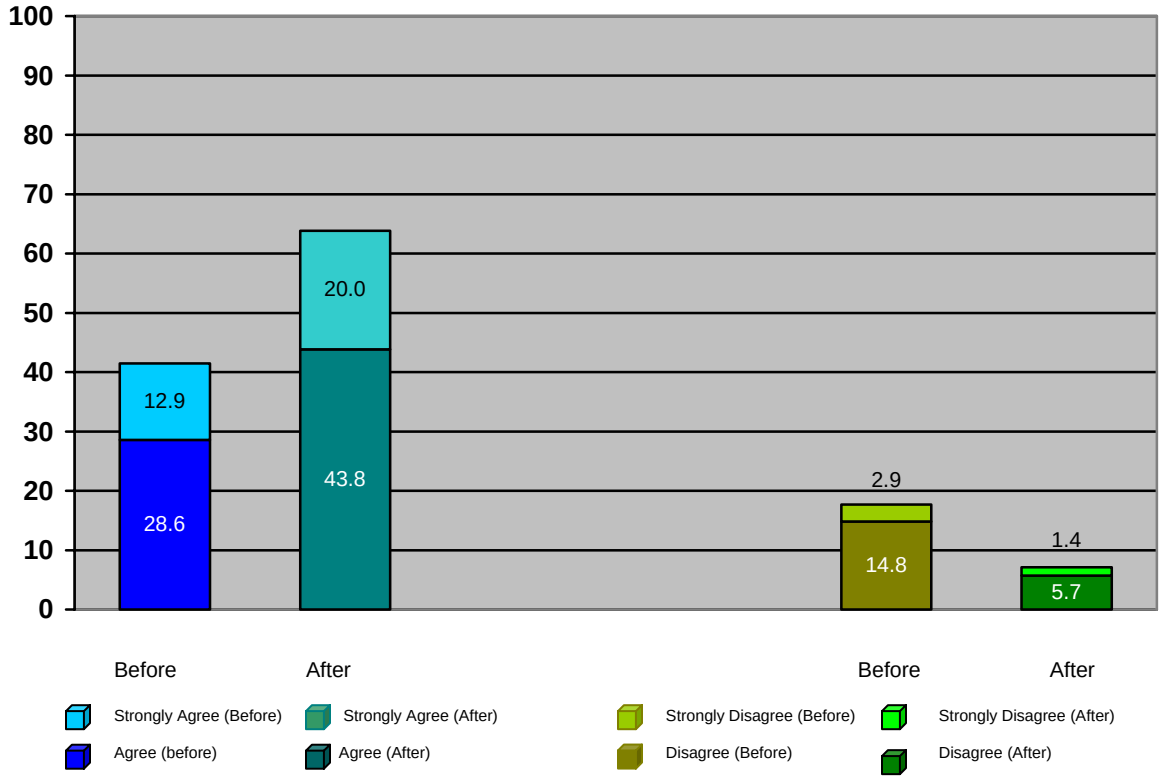
21. Builds a team and fosters teamwork.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Builds a team and fosters teamwork	13%	29%	31%	15%	2%	10%	210
Total	27	60	65	31	6	21	210

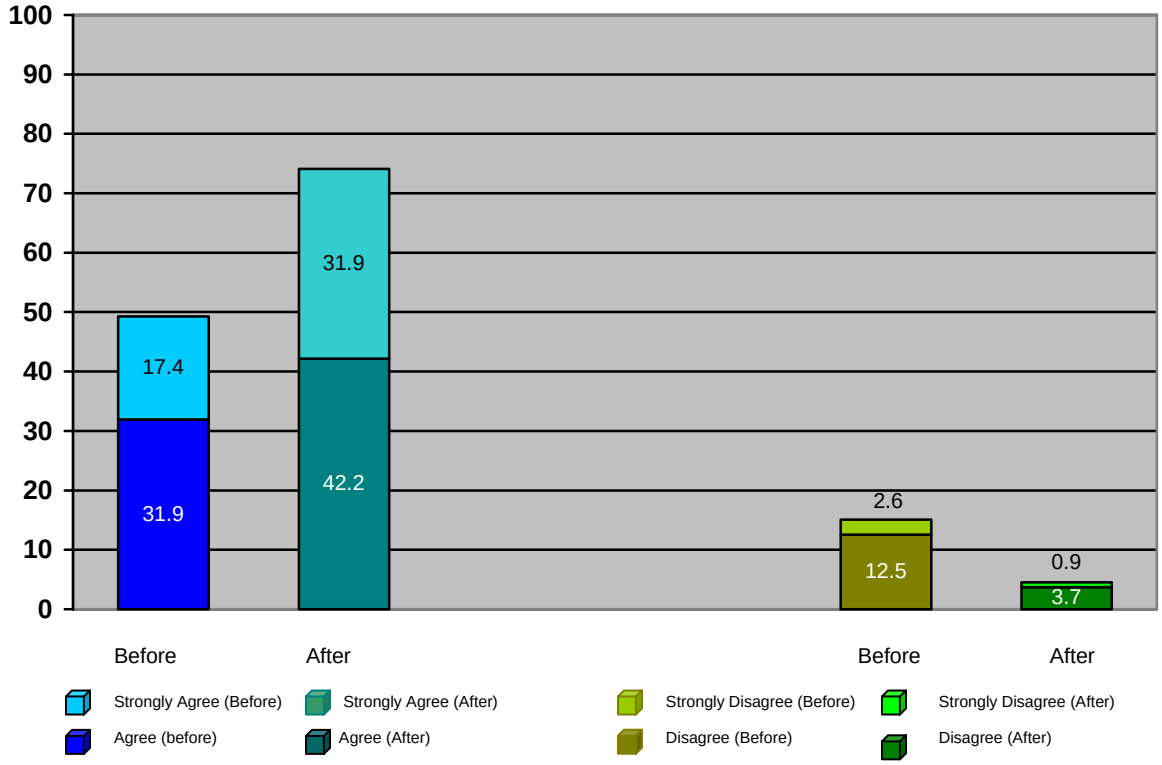
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Builds a team and fosters teamwork	20%	44%	24%	6%	1%	5%	210
Total	42	92	50	12	3	11	210



21. Building a team and fostering teamwork.

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect, indicating notable improvement when measured against this particular learning target. When examined in the aggregate, the data indicates a moderate effect from the training, along with moderate room for continued improvement remaining.

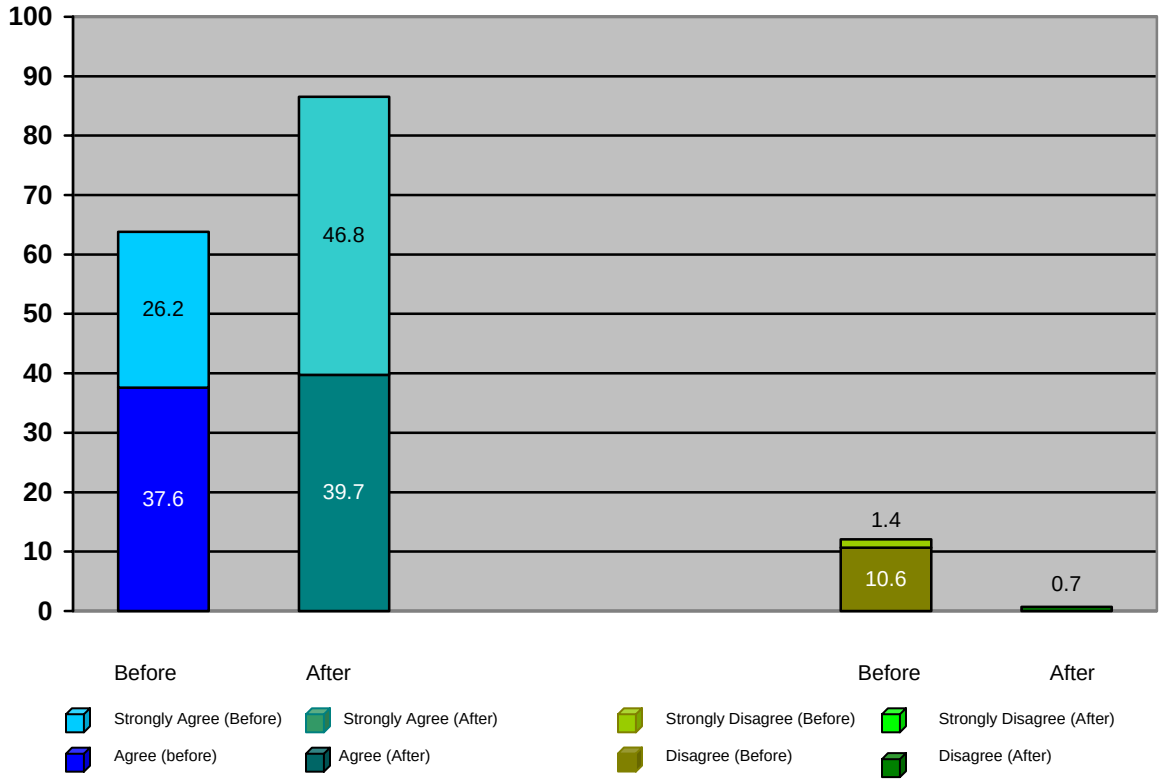
The extremes in the data also indicate moderate improvement, with relatively substantial room for continued improvement still indicated. The percentage of participants strongly agreeing more than doubled, with he percentage of supervisors strongly agreeing rising more moderately. The percentages of respondents disagreeing strongly fell to 0 for participants and 1% for supervisors. A higher than usual percentage of supervisors (10% before and 5% after) reported that they had not had sufficient opportunity to judge performance in this area. The L-380 training appears to be producing the desired effect when measured against this learning target. However, it appears that considerable room for continued improvement remains.

22. I foster team cohesion.

Participants

Answer	Agree 5	4	3	2	Disagree 1	Responses
I foster team cohesion	26.2%	37.6%	24.1%	10.6%	1.4%	141
Total	37	53	34	15	2	141

Answer	Agree 5	4	3	2	Disagree 1	Responses
I foster team cohesion	46.8%	39.7%	12.8%	<1%	0	141
Total	66	56	18	1	0	141

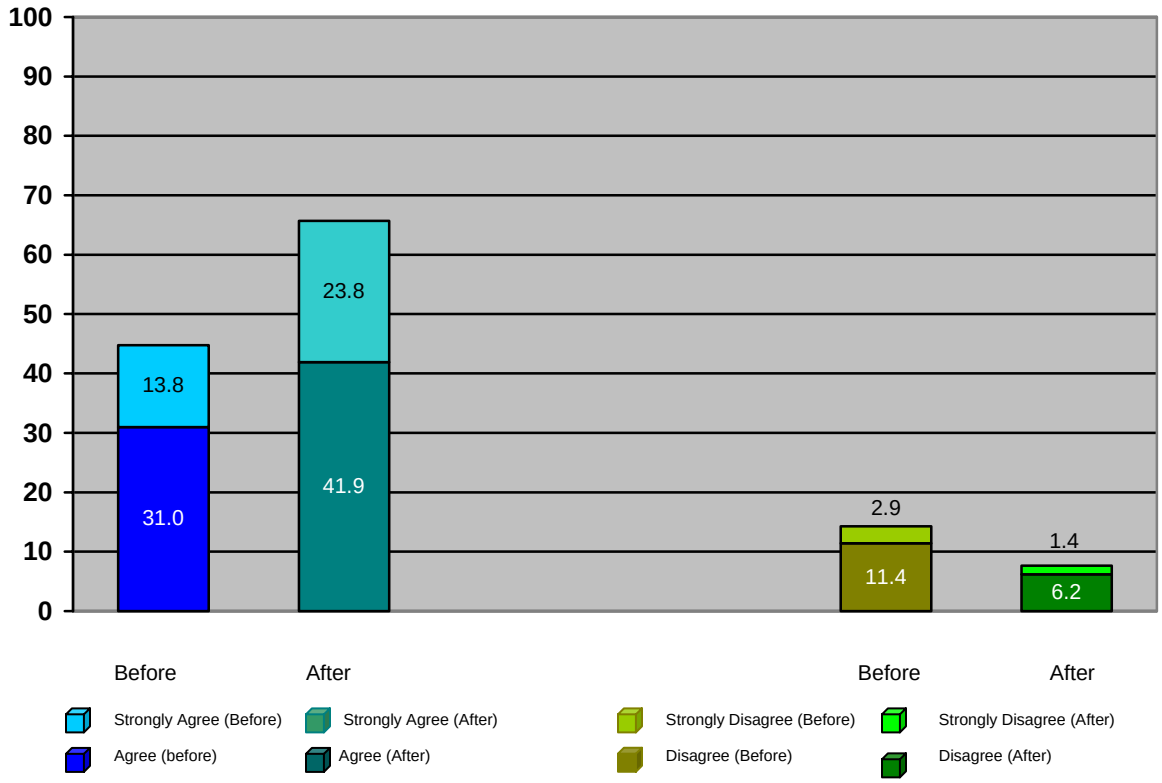


22. Fosters team cohesion.

Supervisors

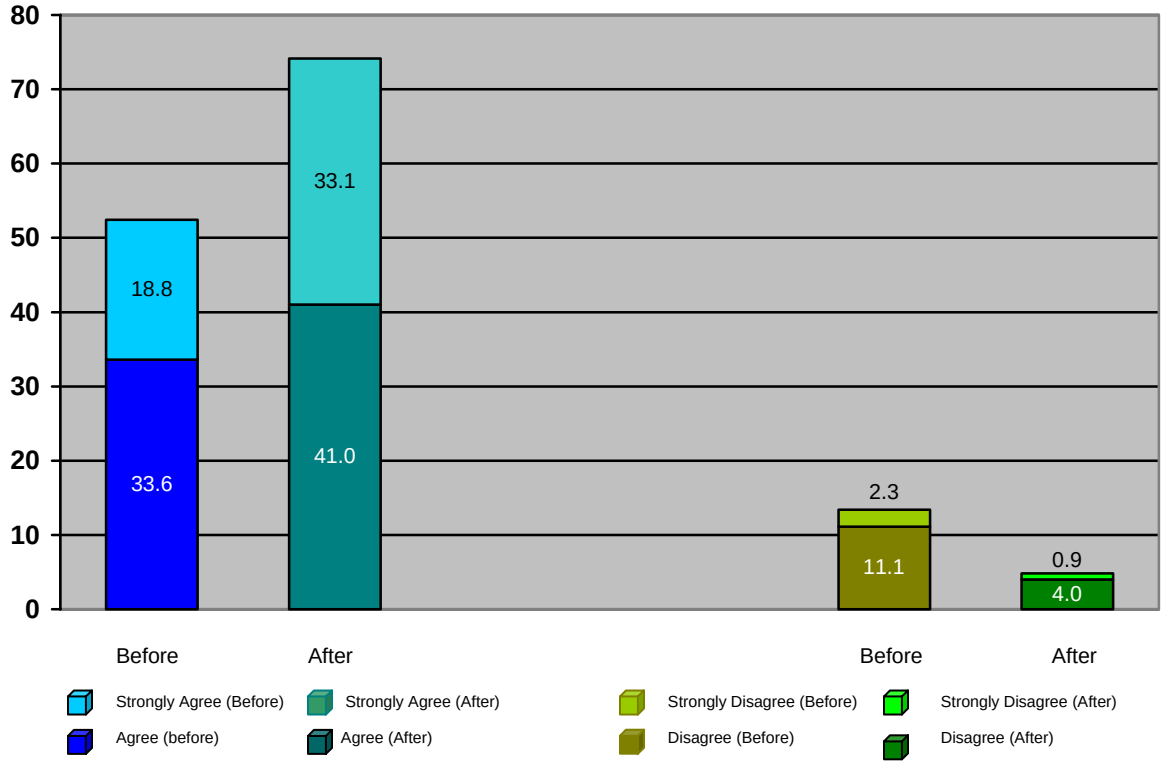
Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Fosters team cohesion	13.8%	31%	35.2%	11.4%	2.9%	5.7%	210
Total	29	65	74	24	6	12	210

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Fosters team cohesion	23.8%	41.9%	23.8%	6.2%	1.4%	2.9%	210
Total	50	88	50	13	3	6	210



22. Fostering team cohesion.

Combined



Analysis:

This data also indicates that the L-380 training is clearly producing the desired effect, indicating very strong improvement when measured against this particular learning target. When examined in the aggregate, the data indicates significant effect from the training, along with a small margin for continued improvement remaining. This is even more notable in that a relatively high level of confidence existed in this area prior to the training.

A fairly high 34.7% of participants disagreed or strongly disagreed that they fostered team cohesion prior to the training. Surprisingly, only 14.3% of supervisors disagreed or strongly disagreed that their subordinates fostered team cohesion prior to the training. After the training, a fairly high percentage, about 14%, of participants still disagreed or strongly disagreed that they fostered team cohesion. Conversely, only about 8% of supervisors still disagreed or strongly disagreed that L-380 participants assisted their subordinates with their personal development.

The extremes in the data indicate very strong improvement, though like most learning targets, some room for continued improvement is still indicated. A lower than average percentage of supervisors (5.7% before and 2.9% after) reported that they had not had sufficient opportunity to judge performance in this area.

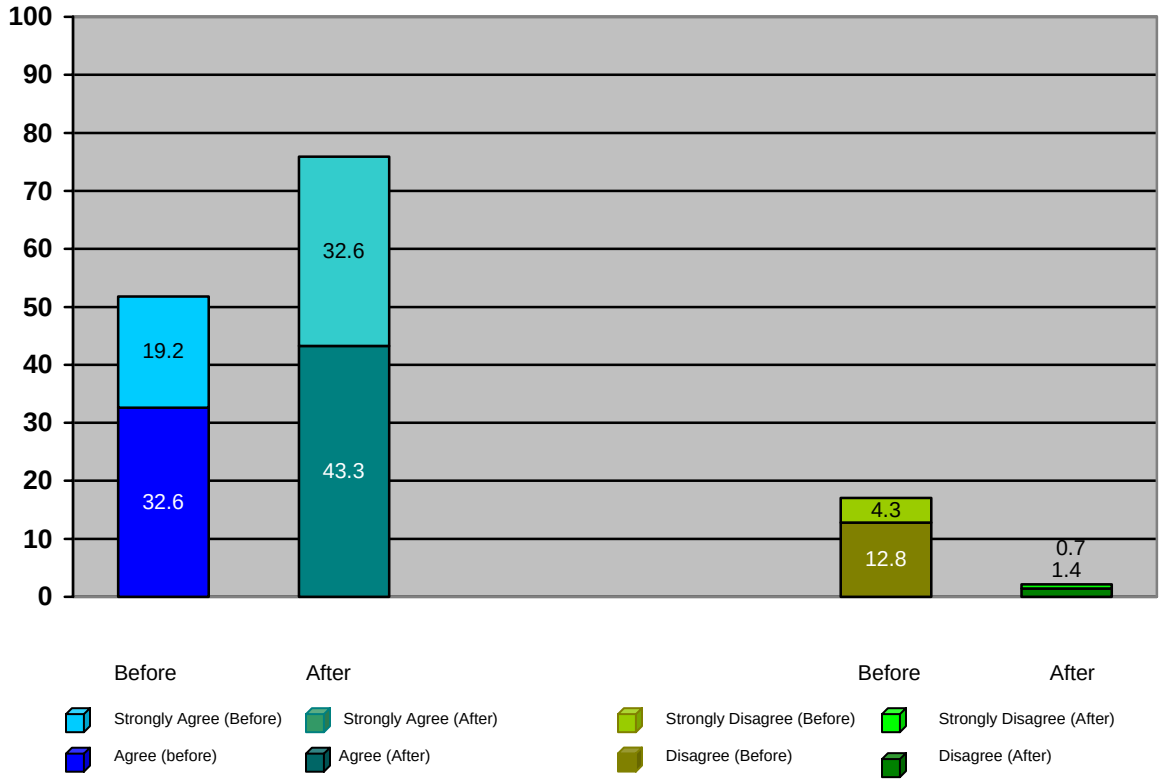
23. I plan and conduct effective training that develops my subordinates' skills.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I plan and conduct effective training that develops my subordinates' skills	19.2%	32.6%	31.2%	12.8%	4.3%	141
Total	27	46	44	18	6	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I plan and conduct effective training that develops my subordinates' skills	32.6%	43.3%	22%	1.4%	<1%	141
Total	46	61	31	2	1	141



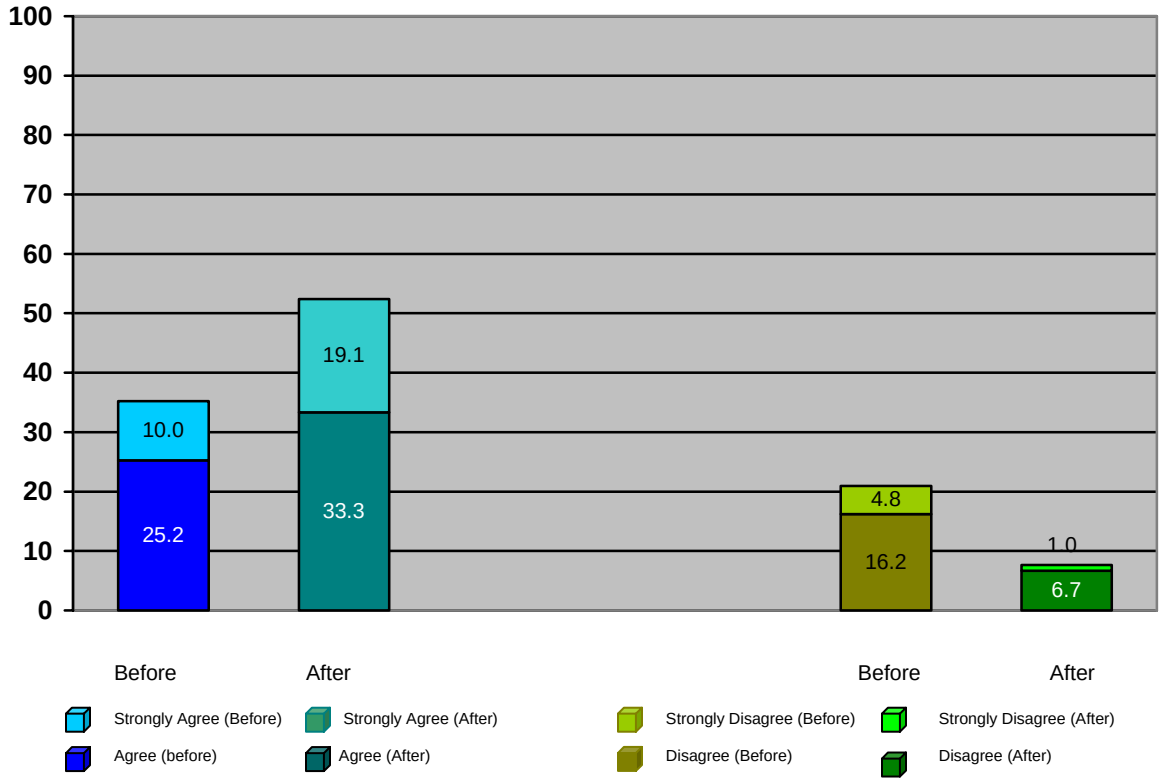
23. Plans and conducts effective training that develops their subordinates' skills.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Plans and conducts effective training that develops their subordinates' skills	10%	25.2%	29.1%	16.2%	4.8%	14.8%	210
Total	21	53	61	34	10	31	210

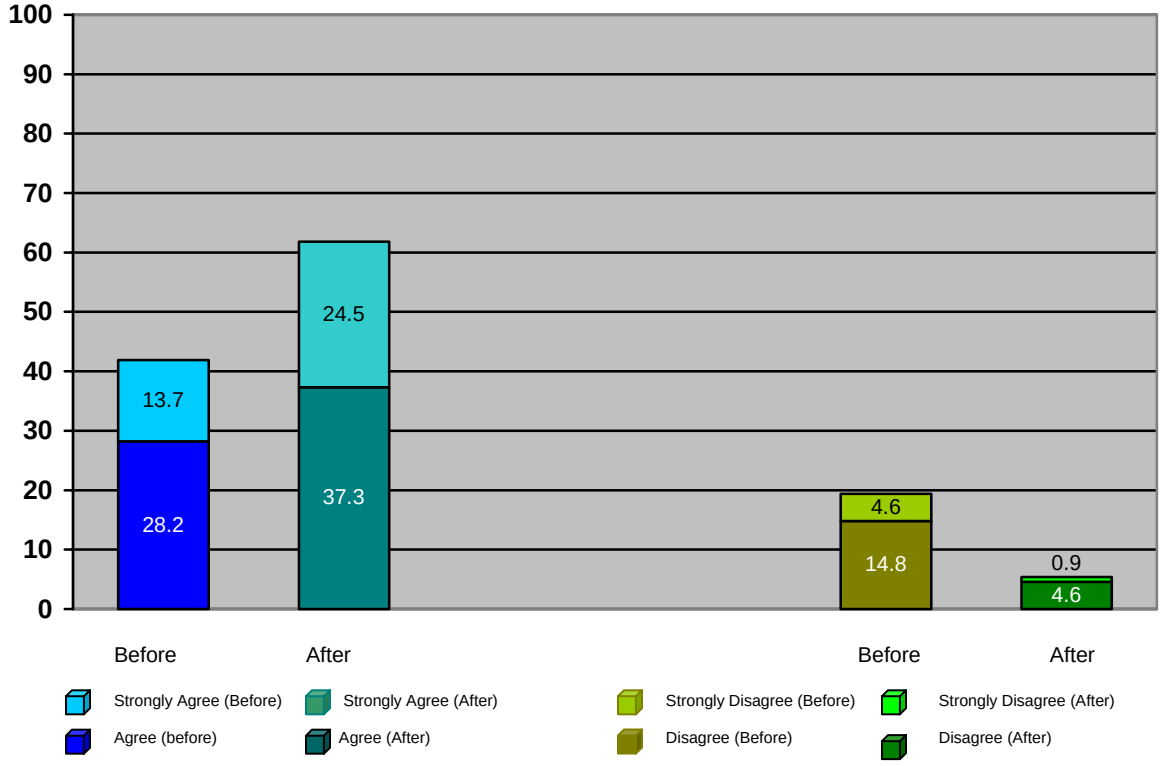
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Plans and conducts effective training that develops their subordinates' skills	19.1%	33.3%	26.2%	6.7%	<1%	13.8%	210
Total	40	70	55	14	2	29	210



23. Planning and conducting effective training that develops subordinates' skills.

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect, indicating moderate improvement when measured against this particular learning target. When examined in the aggregate, the data indicates moderate effect from the training, along with a significant margin for continued improvement remaining.

The extremes in the data also indicate relatively strong improvement, though substantial room for continued improvement is still indicated. The percentage of supervisors strongly agreeing rose from 10% to just over 19%. The percentages of respondents disagreeing strongly fell to less than 1% for both participants and supervisors. Relative to other learning targets, a significantly higher percentage of supervisors (14.9% before and 13.9% after) reported that they had not had sufficient opportunity to judge performance in this area. The L-380 training appears to be producing the desired effect when measured against this learning target. However, it appears that considerable room for continued improvement remains.

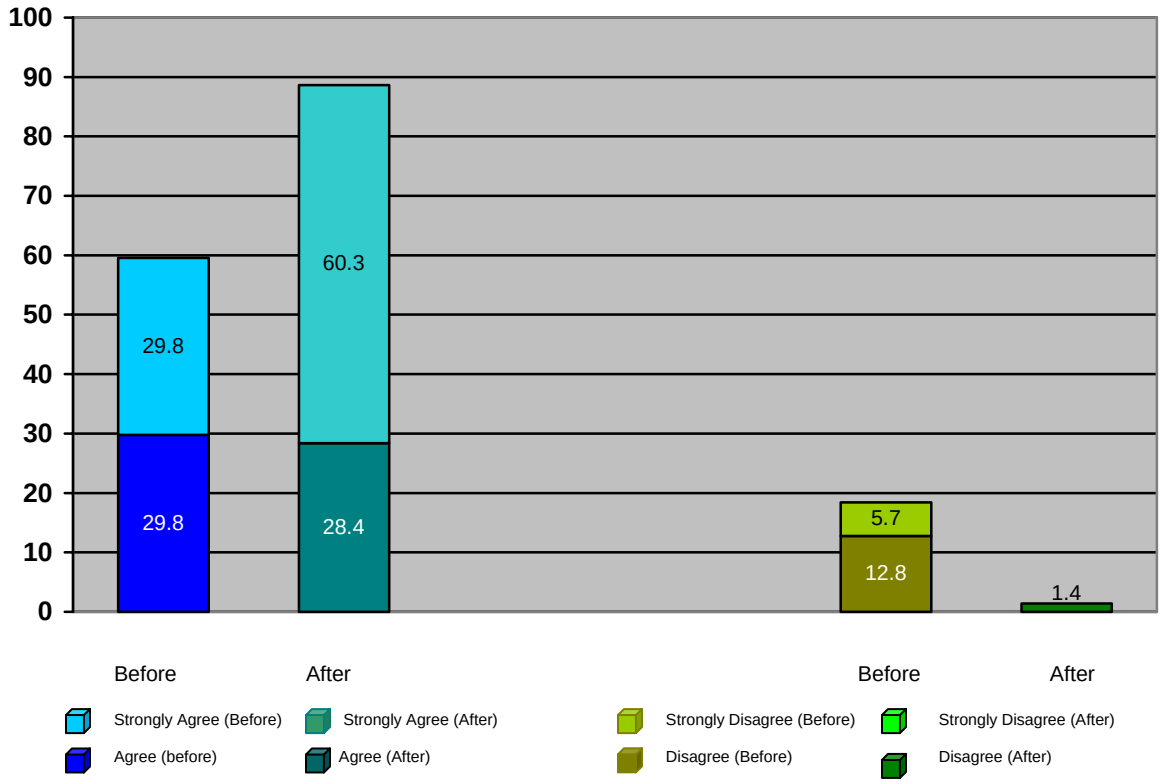
24. I conduct After Action Reviews (AAR)

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I conduct After Action Reviews (AAR)	29.8%	29.8%	22%	12.8%	5.7%	141
Total	42	42	31	18	8	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I conduct After Action Reviews (AAR)	60.3%	28.4%	9.9%	1.4%	0	141
Total	85	40	14	2	0	141



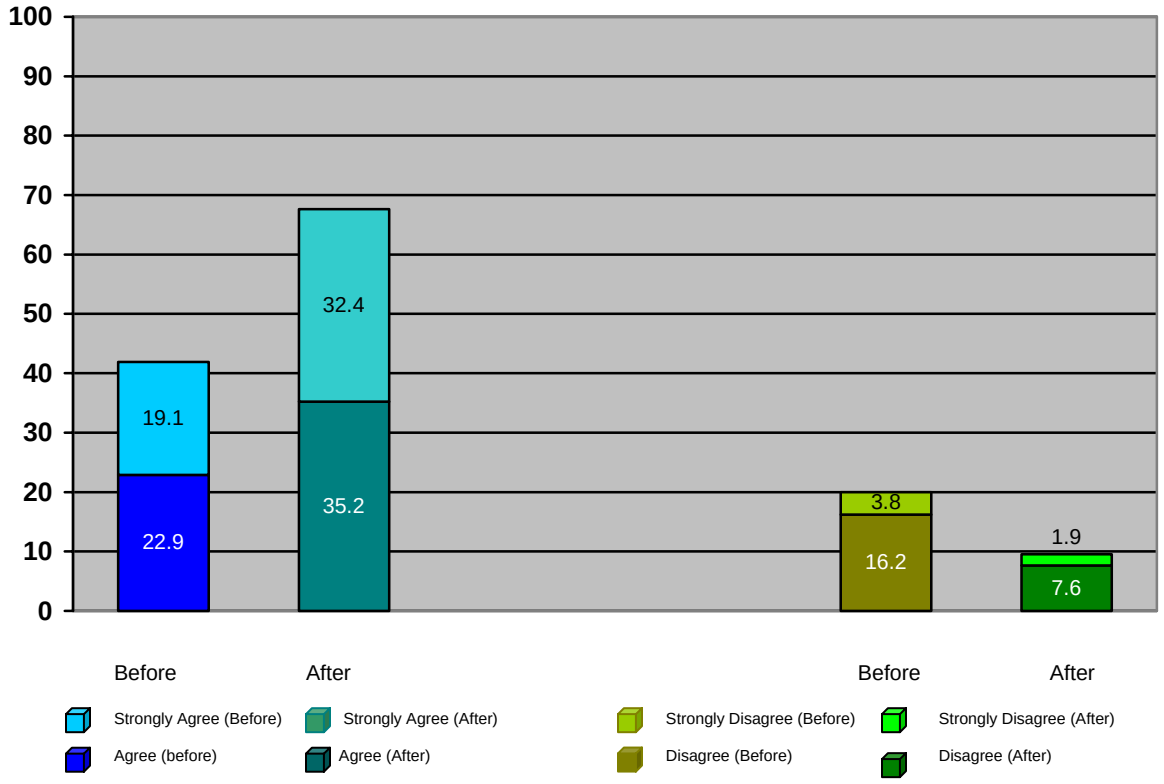
24. Conducts After Action Reviews (AAR)

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Conducts After Action Reviews (AAR)	19.1%	22.9%	25.7%	16.2%	3.8%	12.4%	210
Total	40	48	54	34	8	26	210

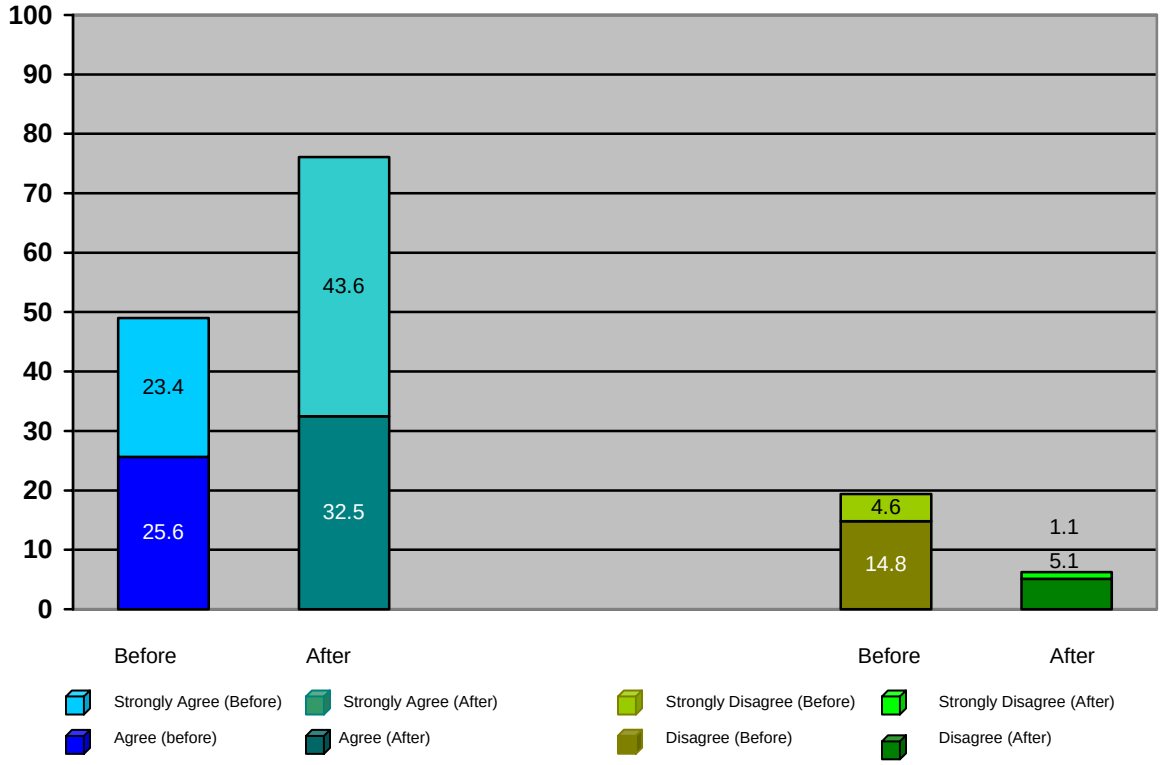
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Conducts After Action Reviews (AAR)	32.4%	35.2%	16.2%	7.6%	1.9%	6.7%	210
Total	68	74	34	16	4	14	210



24. Conducting After Action Reviews (AAR)

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect, indicating strong improvement when measured against this particular learning target. When examined in the aggregate, the data indicates significant effect from the training, with moderate room for continued improvement remaining.

The extremes in the data indicate strong improvement, though like most learning targets, some space for continued improvement is still indicated. The percentage of participants strongly agreeing more than doubled. The percentage of supervisors strongly agreeing rose from about 19% to just over 32%. The percentages of respondents disagreeing strongly fell to 0 for participants and less than 2% for supervisors. A relatively high percentage of supervisors (12.4% before and 6.7% after) reported that they had not had sufficient opportunity to judge performance in this area. The L-380 training appears to be producing the desired effect when measured against this learning target. However, as is typical, it appears that moderate room for continued improvement remains.

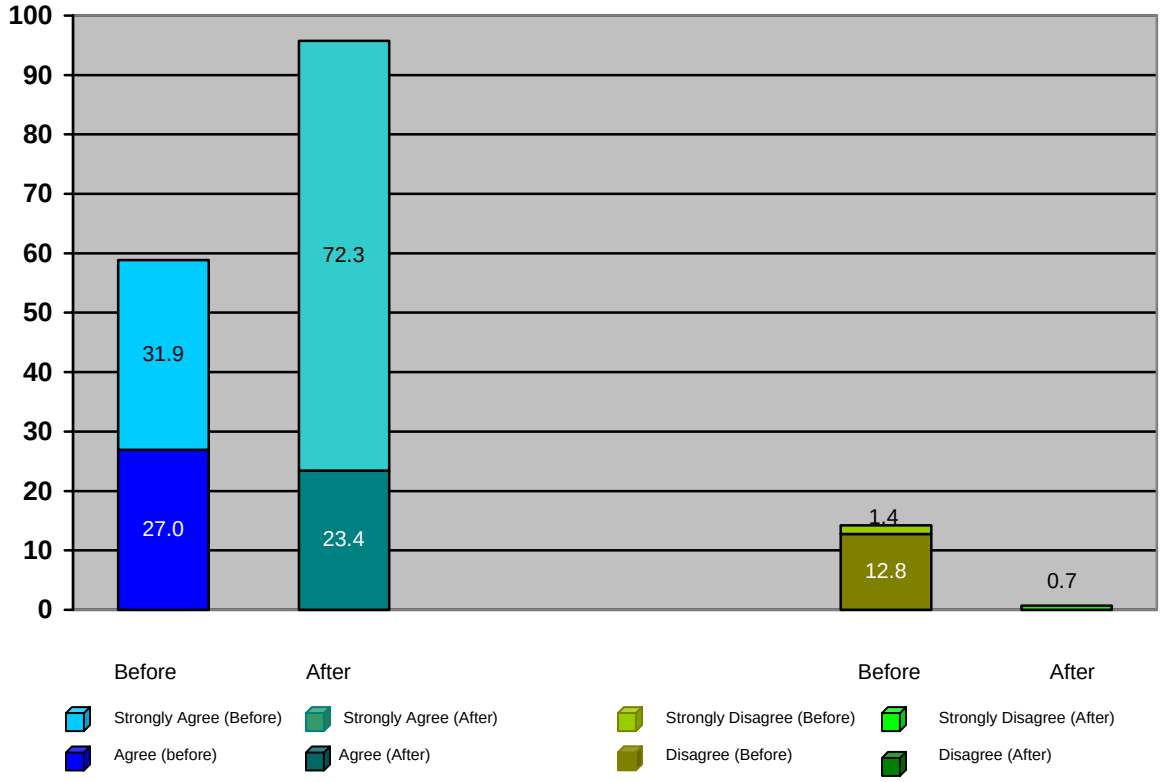
25. I can effectively participate in an AAR

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I can effectively participate in an AAR	31.9%	27%	27%	12.8%	1.4%	141
Total	45	38	38	18	2	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I can effectively participate in an AAR	72.3%	23.4%	3.6%	0	<1%	141
Total	102	33	5	0	1	141



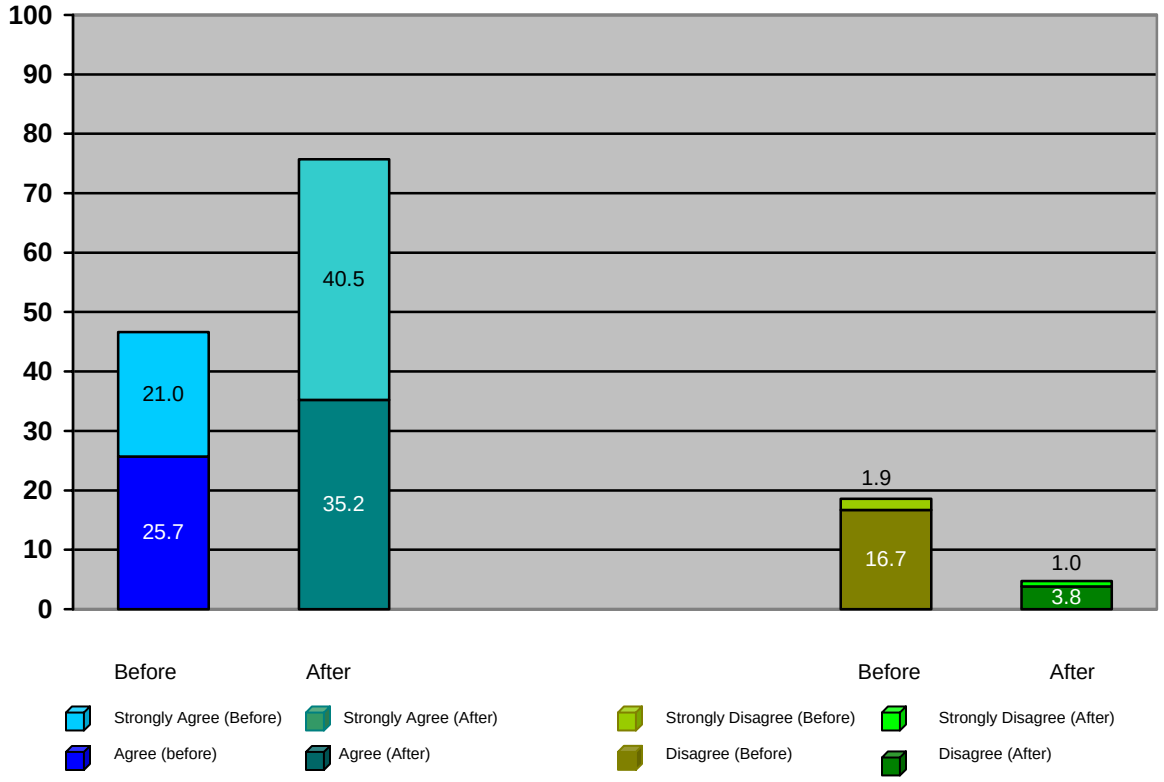
25. Effectively participates in After Action Reviews (AAR)

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Effectively participates in After Action Reviews (AAR)	21%	25.7%	29.1%	16.7%	1.9%	5.7%	210
Total	44	54	61	35	4	12	210

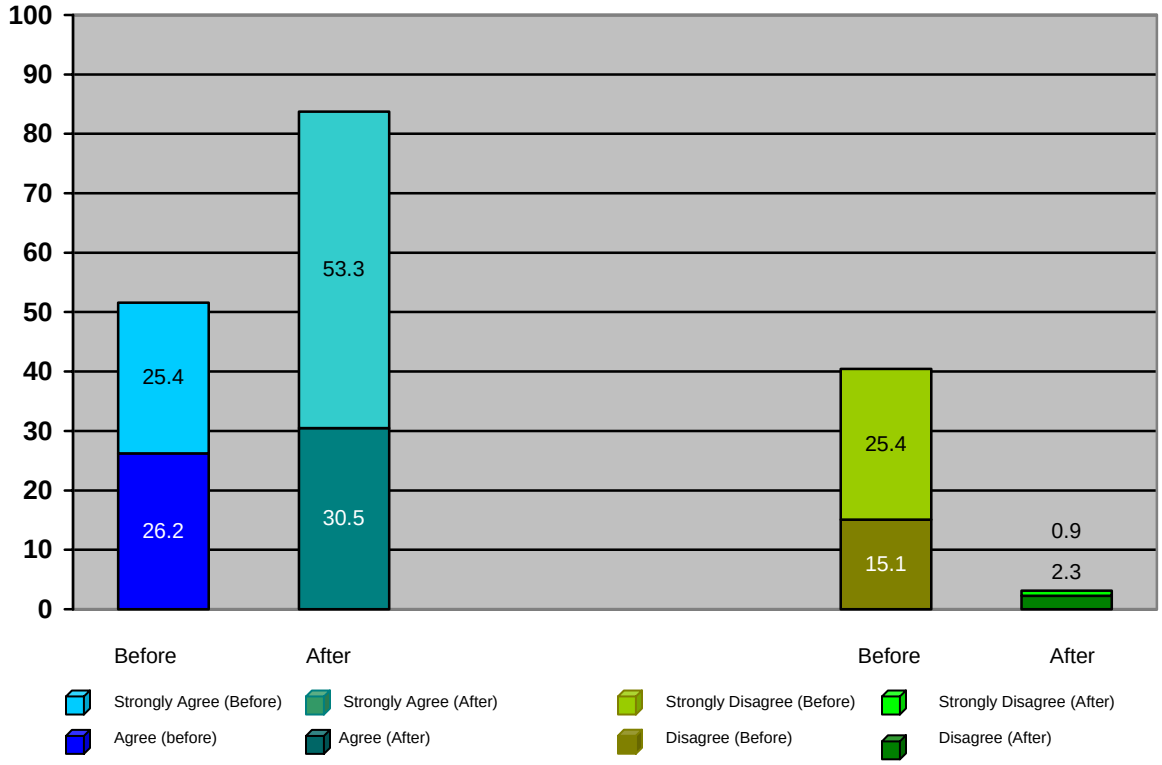
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Effectively participates in After Action Reviews (AAR)	40.5%	35.2%	17.1%	3.8%	<1%	2.4%	210
Total	85	74	36	8	2	5	210



25. Effectively participating in After Action Reviews (AAR)

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect, indicating strong improvement when measured against this particular learning target. When examined in the aggregate, the data indicates significant effect from the training, along with some room for continued improvement remaining.

The extremes in the data indicate very strong improvement, though like most learning targets, some space for continued improvement is still indicated. The percentage of participants strongly agreeing more than doubled, with the percentage of supervisors strongly agreeing rose from about 21% to over 40%. The percentages of respondents disagreeing strongly fell to less than 1% for both participants and supervisors. A lower than typical percentage of supervisors (5.7% before and 2.4% after) reported that they had not had sufficient opportunity to judge performance in this area. The L-380 training clearly appears to be producing the desired effect when measured against this learning target. However, as is typical, it appears that moderate room for continued improvement remains.

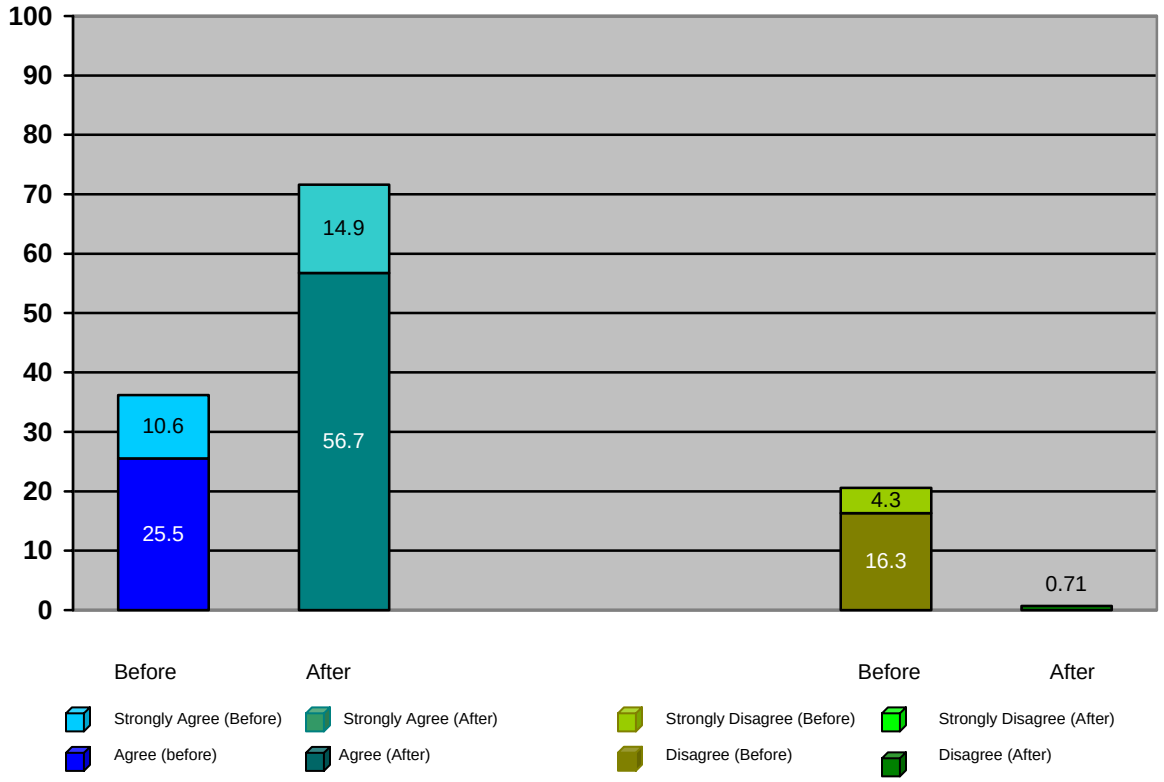
26. I can recognize, prevent, manage and mitigate human error.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I can recognize, prevent, manage and mitigate human error	10.6%	25.5%	43.3%	16.3%	4.3%	141
Total	15	36	61	23	6	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I can recognize, prevent, manage and mitigate human error	14.9%	56.7%	27.7%	<1%	0	141
Total	21	80	39	1	0	141



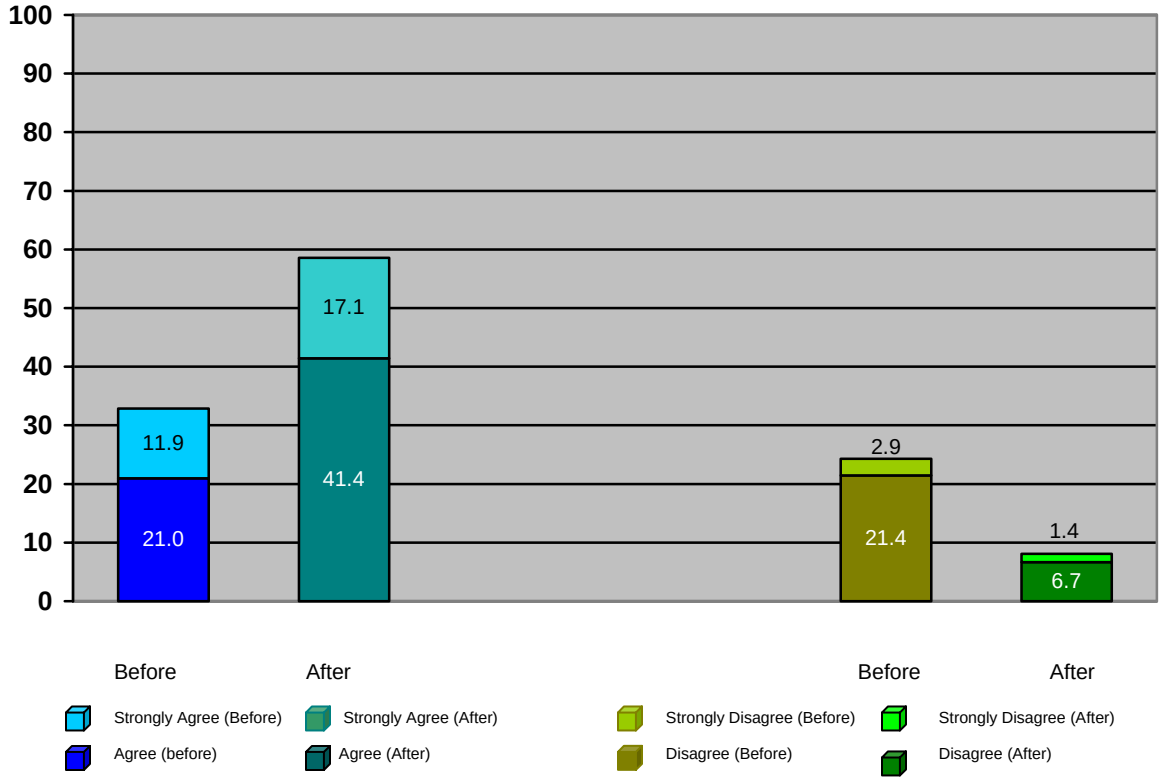
26. Prevents, manages and mitigates human error.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Prevents, manages and mitigates human error	11.9%	21%	36.7%	21.4%	2.9%	6.2%	210
Total	25	44	77	45	6	13	210

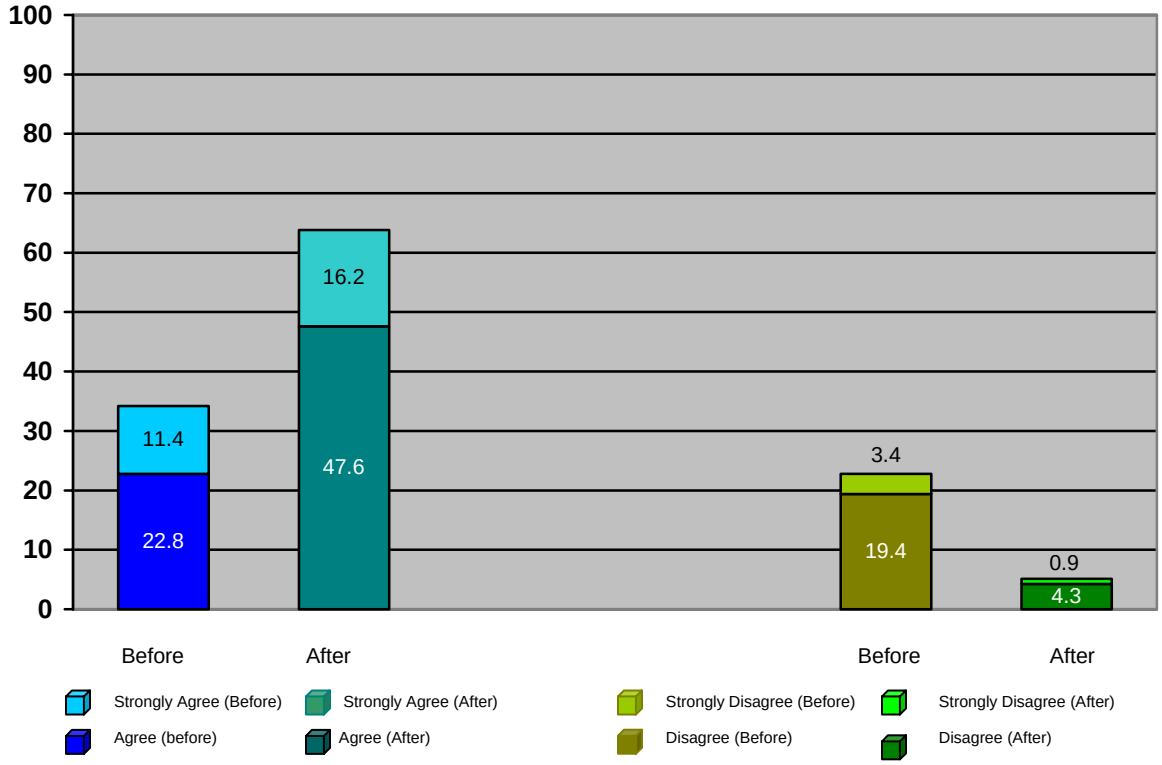
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Prevents, manages and mitigates human error	17.1%	41.4%	28.6%	6.7%	1.4%	4.8%	210
Total	36	87	60	14	3	10	210



26. Preventing, managing and mitigating human error.

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect, indicating fairly strong improvement when measured against this particular learning target. When examined in the aggregate, the data indicates significant effect from the training, along with significant room for continued improvement remaining.

The percentage of participants who agreed or strongly agreed nearly doubled, and nearly 33% of supervisors agreed or strongly agreed that their subordinate could recognize, prevent, manage and mitigate human error prior to attending the L-380 training, with nearly 59% agreeing or strongly agreeing after. After the training, no participants and just over 1% of supervisors still disagreed or strongly disagreed that L-380 participants conduct after action reviews.

The extremes in the data for this learning target indicate relatively strong improvement as well as significant space for continued improvement. A lower than average percentage of supervisors (6.2% before and 4.8% after) reported that they had not had sufficient opportunity to judge performance in this area. The L-380 training appears to be producing the desired effect when measured against this learning target. However, it appears that room for continued improvement remains.

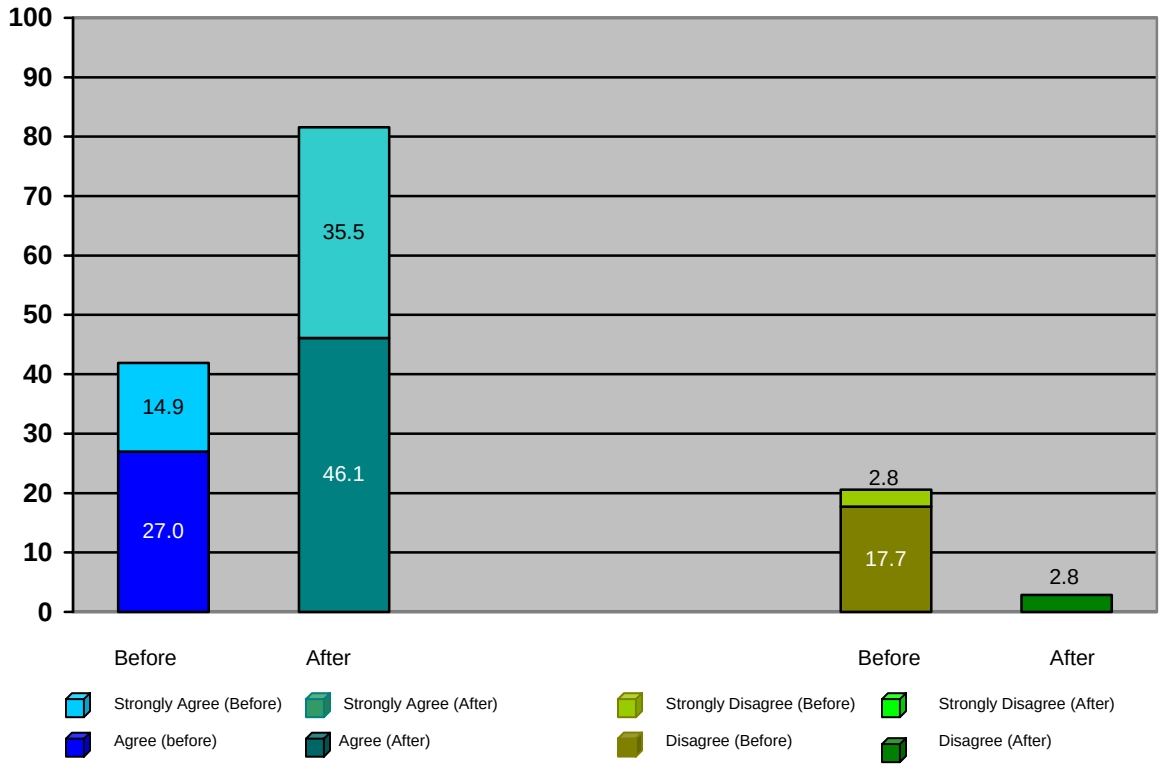
27. I am familiar with the relationships between fear, stress and human error.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I am familiar with the relationships between fear, stress and human error	14.9%	27%	37.6%	17.7%	2.8%	141
Total	21	38	53	25	4	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I am familiar with the relationships between fear, stress and human error	35.5%	46.1%	15.6%	2.8%	0	141
Total	50	65	22	4	0	141



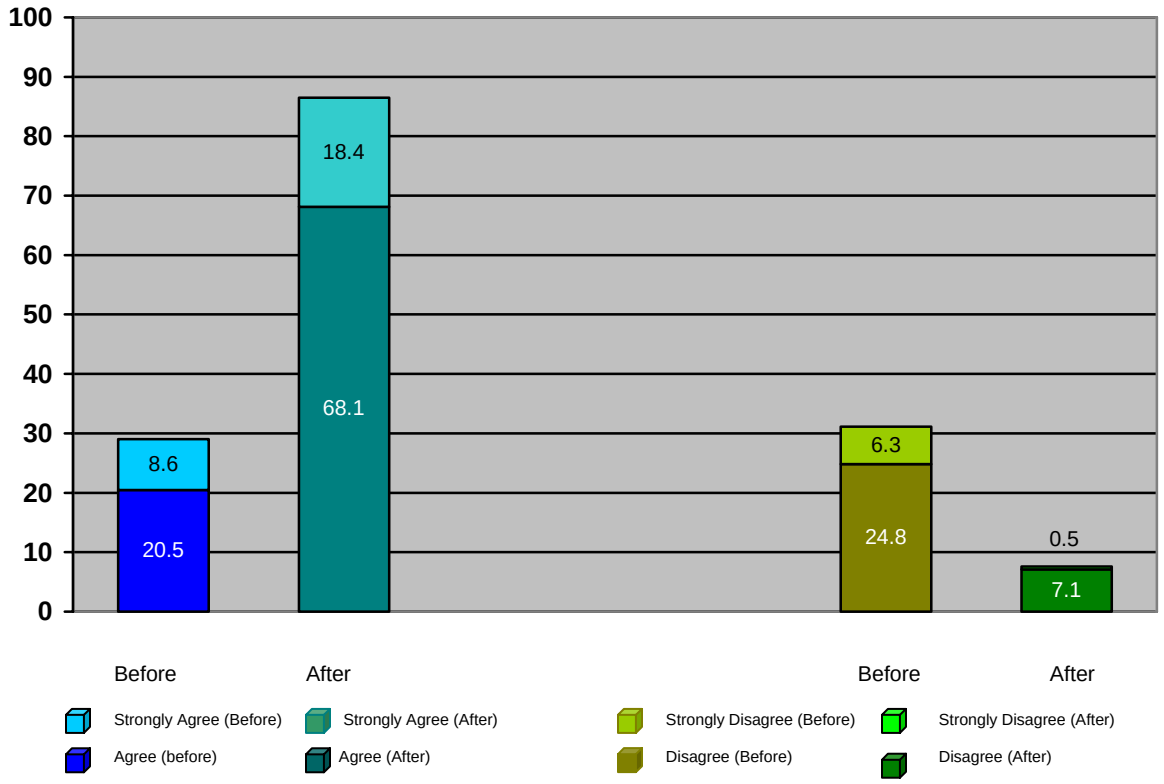
27. Understands the relationships between fear, stress and human error.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands the relationships between fear, stress and human error	8.6%	20.5%	62.4%	24.8%	6.3%	12.1%	210
Total	18	43	88	35	9	17	210

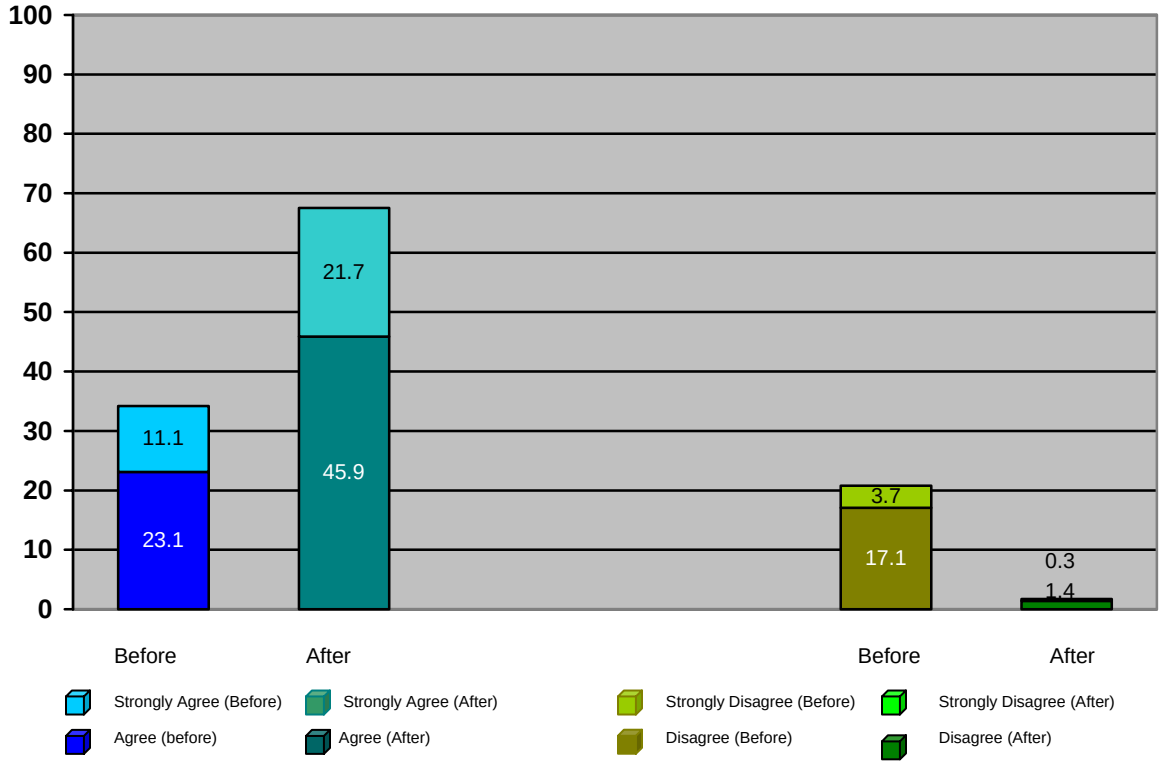
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands the relationships between fear, stress and human error	18.4%	68.1%	46.1%	7.1%	<1%	8.5%	210
Total	26	96	65	10	1	12	210



27. Understanding the relationships between fear, stress and human error.

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect, indicating very strong improvement when measured against this particular learning target. When examined in the aggregate, the data indicates significant effect from the training, along with considerable room for continued improvement remaining.

The extremes in the data indicate that the L-380 training is making improvement, and that room for continued improvement remains. The percentage of participants strongly agreeing more than doubled, though the percentage of supervisors strongly agreeing rose from about 13% to just over 18%. The percentages of respondents disagreeing strongly fell to 0 for participants and less than 1% for supervisors. A higher than average percentage of supervisors (12.1% before and 8.5% after) reported that they had not had sufficient opportunity to judge performance in this area. The L-380 training appears to be producing the desired effect when measured against this learning target. However, it appears that considerable room for continued improvement remains.

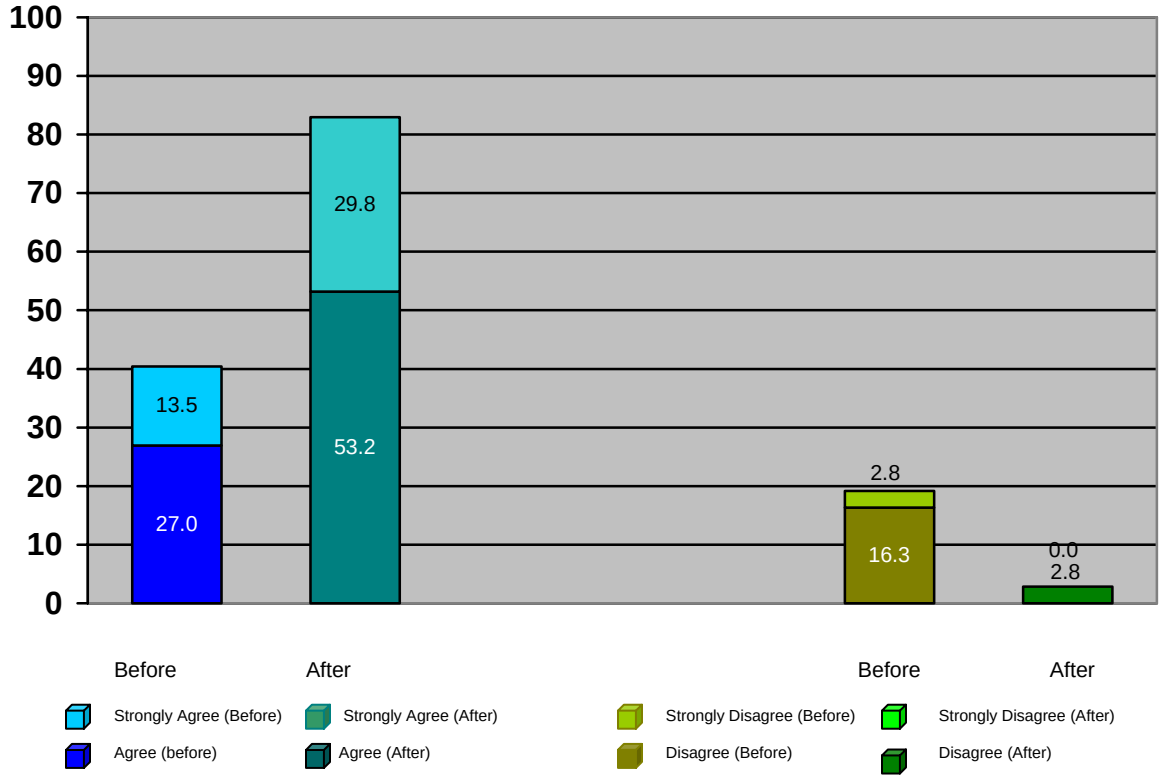
28. I understand how stress impacts human performance and can mitigate my own stress to prevent stress reactions from contributing to human error.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I understand how stress impacts human performance and can mitigate my own stress to prevent stress reactions from contributing to human error	13.5%	27%	40.4%	16.3%	2.8%	141
Total	19	38	57	23	4	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I understand how stress impacts human performance and can mitigate my own stress to prevent stress reactions from contributing to human error	29.8%	53.2%	14.2%	2.8%	0	141
Total	42	75	20	4	0	141



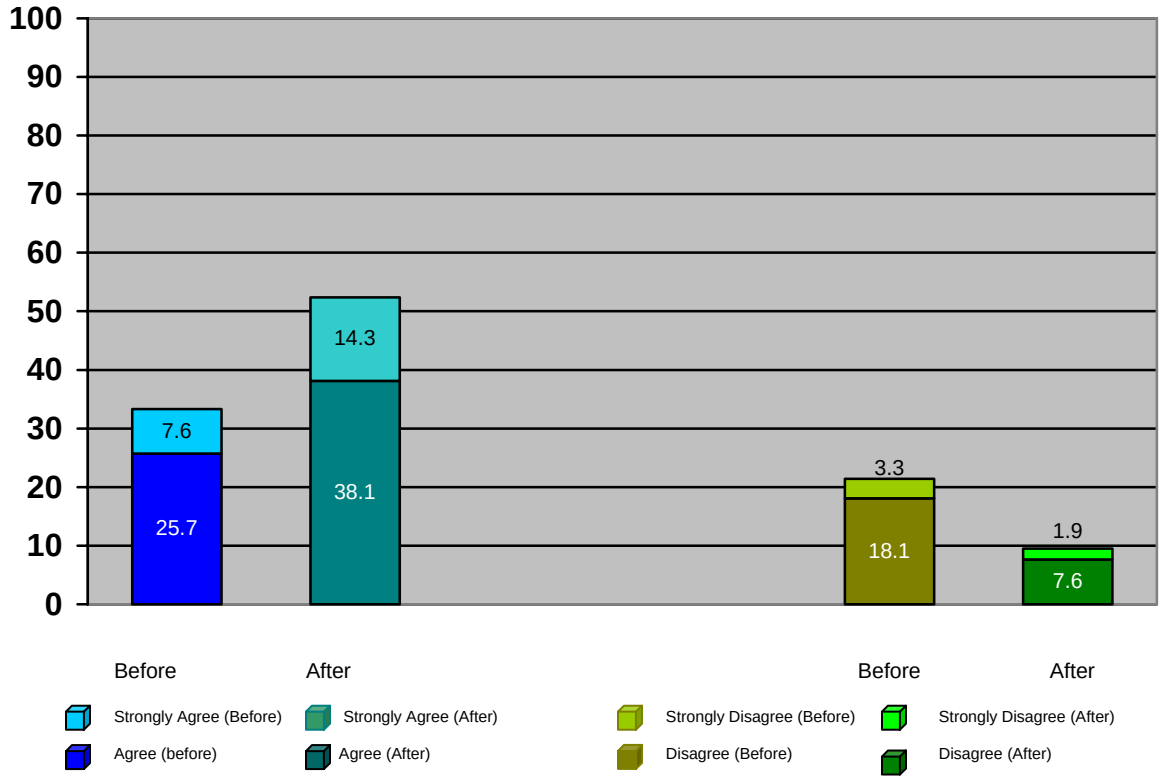
28. Mitigates their own stress to prevent stress reactions from contributing to human error.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Mitigates their own stress to prevent stress reactions from contributing to human error	7.6%	25.7%	37.1%	18.1%	3.3%	8.1%	210
Total	16	54	78	38	7	17	210

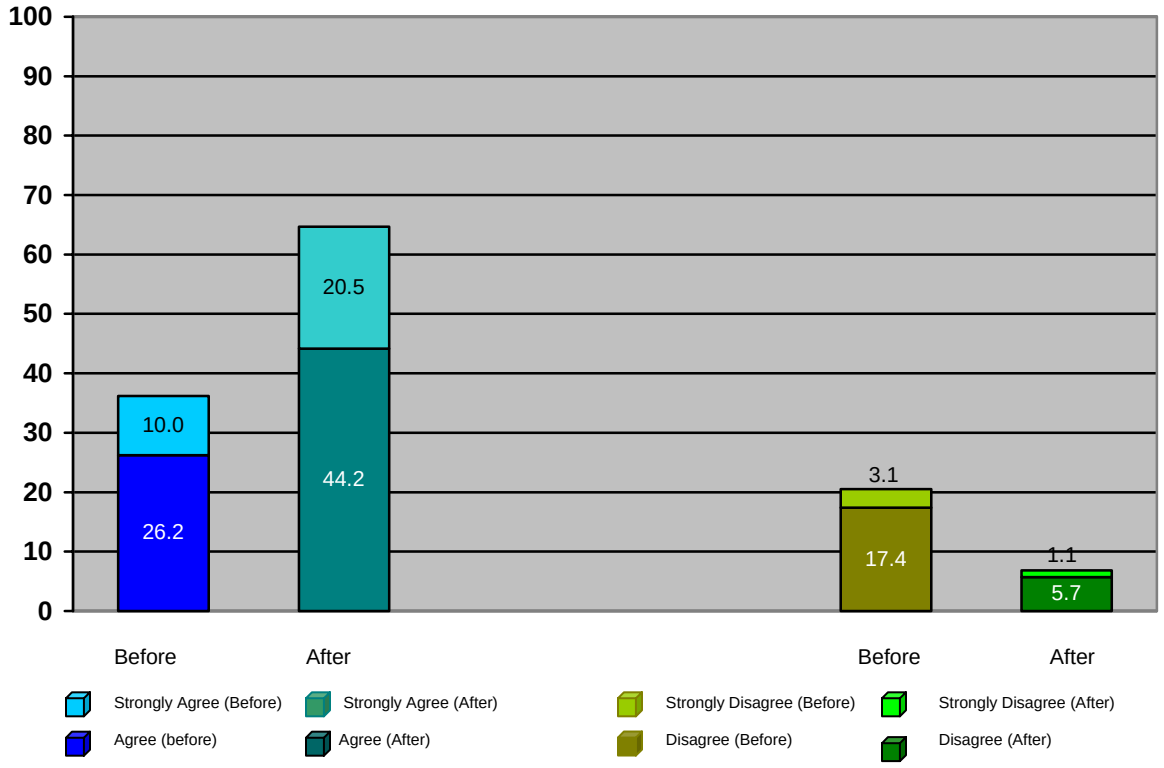
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Mitigates their own stress to prevent stress reactions from contributing to human error	14.3%	38.1%	32.9%	7.6%	1.9%	5.2%	210
Total	30	80	69	16	4	11	210



28. Mitigating their own stress to prevent stress reactions from contributing to human error.

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect, indicating strong improvement when measured against this particular learning target. When examined in the aggregate, the data indicates significant effect from the training, along with ample room for continued improvement remaining.

The percentage of participants who agreed or strongly agreed doubled. When asked a corresponding question, just over 33% of supervisors agreed or strongly agreed that their subordinate mitigated their own stress to prevent stress reactions from contributing to human error prior to attending the L-380 training, with 52.4% agreeing or strongly agreeing after.

The extremes in the data indicate that the L-380 training is making improvement, and that some considerable room for continued improvement remains. The percentage of participants strongly agreeing more than doubled. The percentages of respondents disagreeing strongly fell to 0 for participants and less than 2% for supervisors. A typical percentage of supervisors (8.1% before and 5.2% after) reported that they had not had sufficient opportunity to judge performance in this area. The L-380 training appears to be producing the desired effect when measured against this learning target. However, as is typical, it appears that room for continued improvement remains.

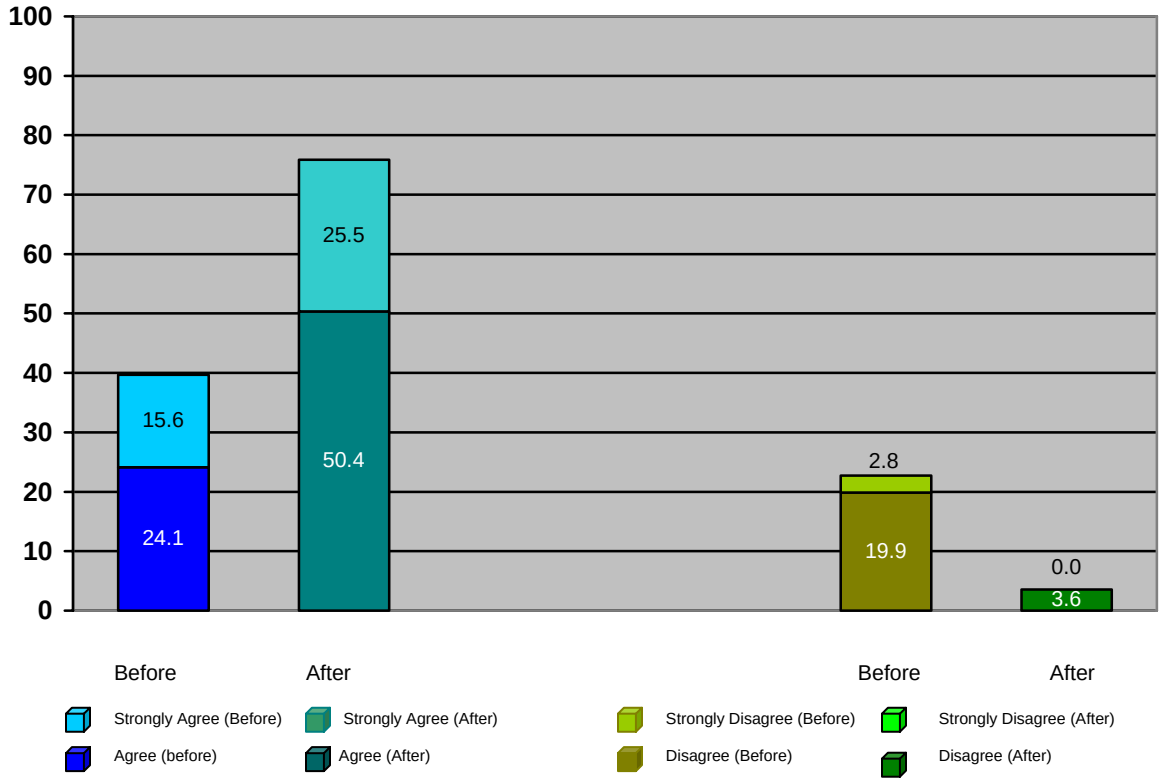
29. I understand how stress impacts human performance and help my subordinates' mitigate their stress to prevent stress reactions from contributing to human error.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I understand how stress impacts human performance and help my subordinates mitigate their stress to prevent stress reactions from contributing to human error	15.6%	24.1%	37.6%	19.9%	2.8%	141
Total	22	34	53	28	4	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I understand how stress impacts human performance and help my subordinates mitigate their stress to prevent stress reactions from contributing to human error	25.5%	50.4%	20.6%	3.6%	0	141
Total	36	71	29	5	0	141



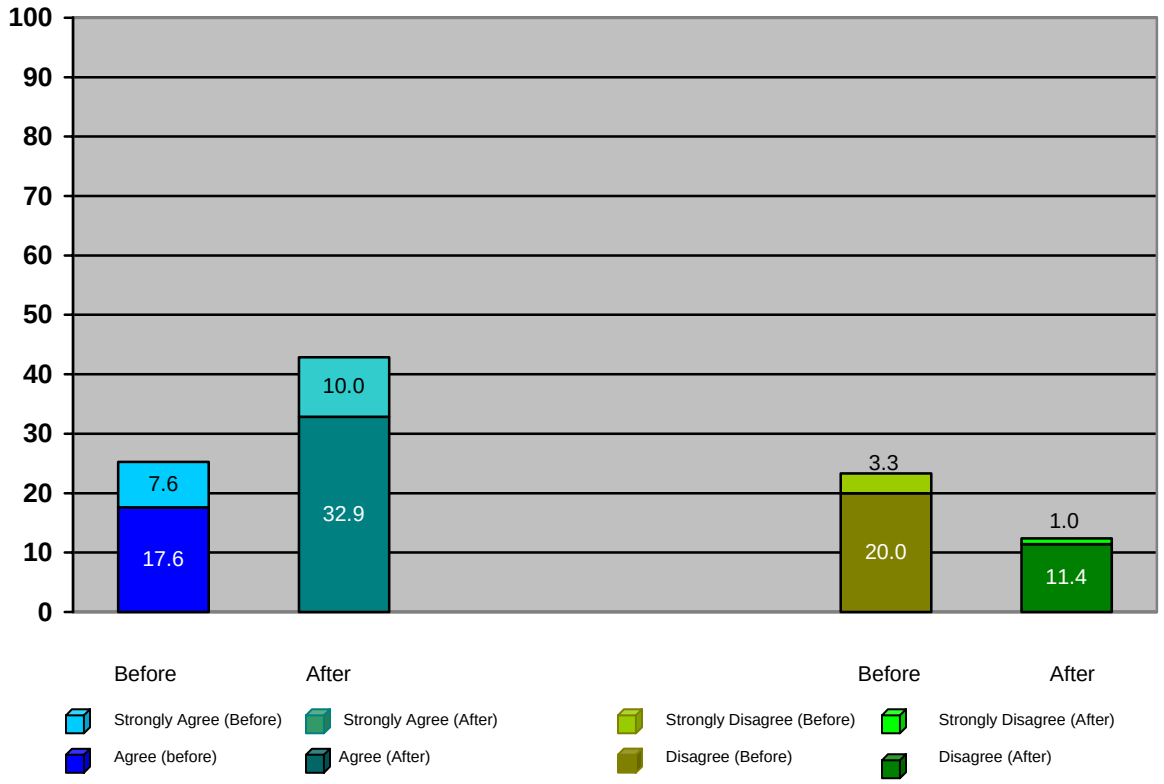
29. Helps subordinates' mitigates their stress to prevent stress reactions from contributing to human error.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Helps subordinates mitigate their stress to prevent stress reactions from contributing to human error	7.6%	17.6%	35.7%	20%	3.3%	15.7%	210
Total	16	37	75	42	7	33	210

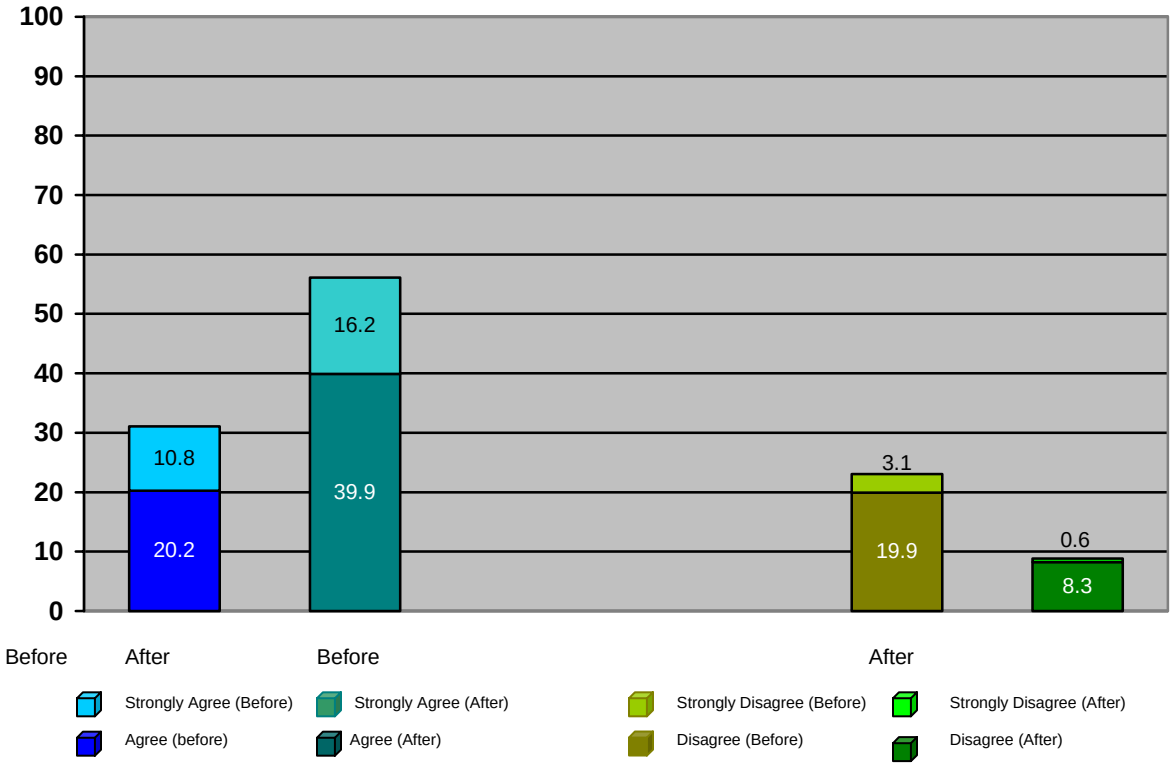
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Helps subordinates mitigate their stress to prevent stress reactions from contributing to human error	10%	32.9%	34.3%	11.4%	<1%	10.5%	210
Total	21	69	72	24	2	22	210



29. Mitigating subordinates' stress to prevent stress reactions from contributing to human error.

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect, indicating improvement when measured against this particular learning target. When examined in the aggregate, the data indicates positive effect from the training, along with substantial room for continued improvement remaining.

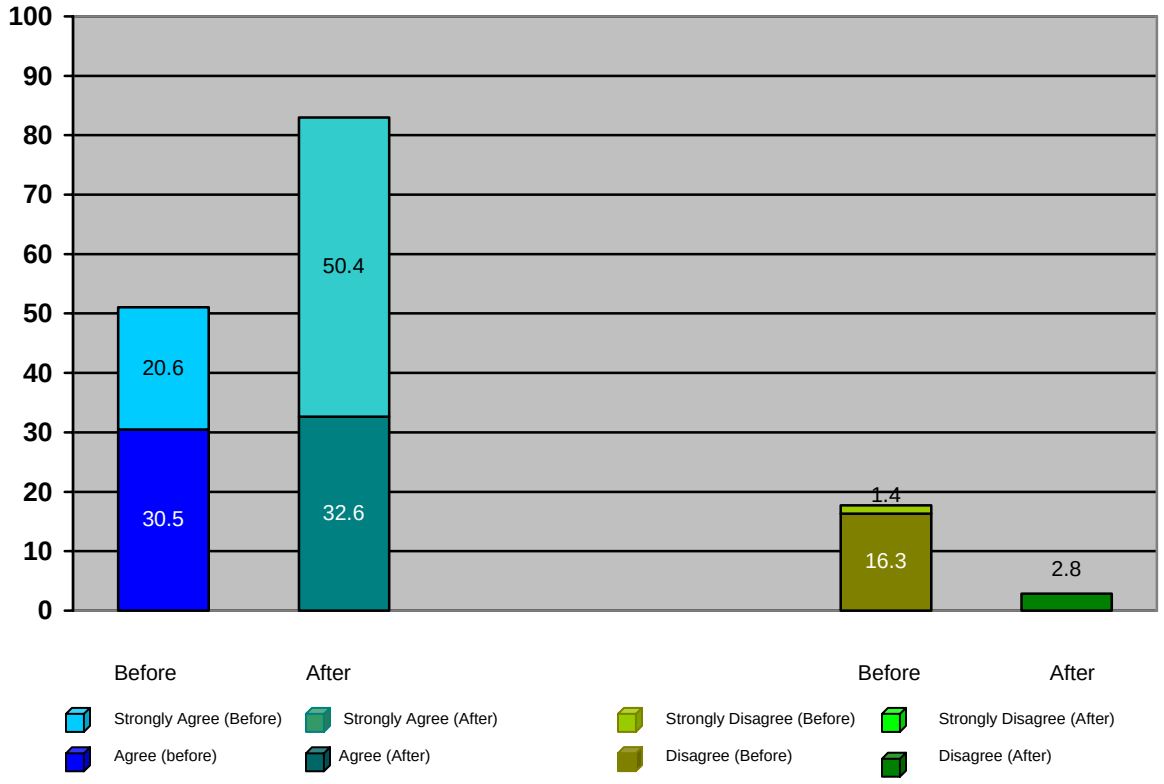
The extremes in the data indicate that the L-380 training is causing some improvement, and that considerable room for continued improvement remains. A much higher than average percentage of supervisors (15.7% before and 10.5% after) reported that they had not had sufficient opportunity to judge performance in this area. This result is to be expected, considering the low frequency with supervisors may observe L-380 participants exercising these skills. The L-380 training appears to be producing the desired effect when measured against this learning target. However, it appears that very considerable room for continued improvement remains.

30. I am familiar with traumatic/critical incident stress and my responsibilities for finding assistance for my subordinates when traumatic events occur.

Participants

Answer	Agree 5	4	3	2	Disagree 1	Responses
I am familiar with traumatic/critical incident stress and my responsibilities for finding assistance for my subordinates when traumatic events occur	20.6%	30.5%	31.2%	16.3%	1.4%	141
Total	29	43	44	23	2	141

Answer	Agree 5	4	3	2	Disagree 1	Responses
I am familiar with traumatic/critical incident stress and my responsibilities for finding assistance for my subordinates when traumatic events occur	50.4%	32.6%	14.2%	2.8%	0	141
Total	71	46	20	4	0	141

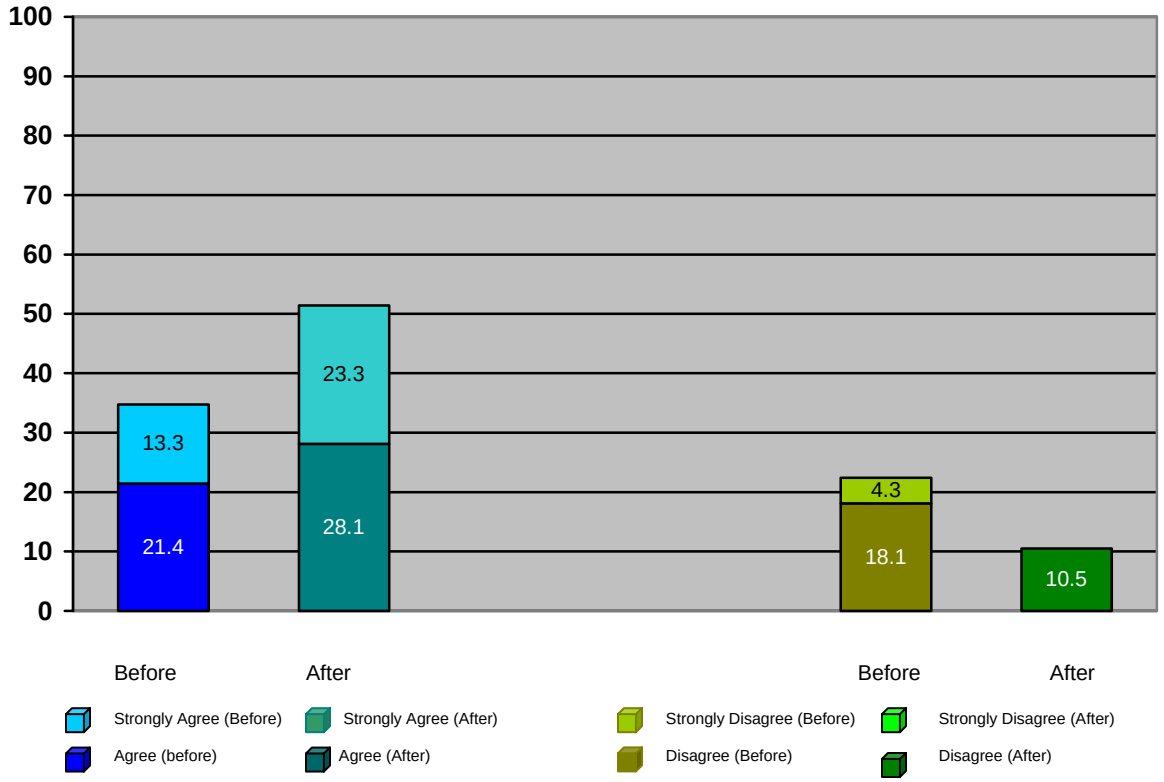


30. Familiar with traumatic/critical incident stress and their responsibilities for finding assistance for my subordinates when traumatic events occur.

Supervisors

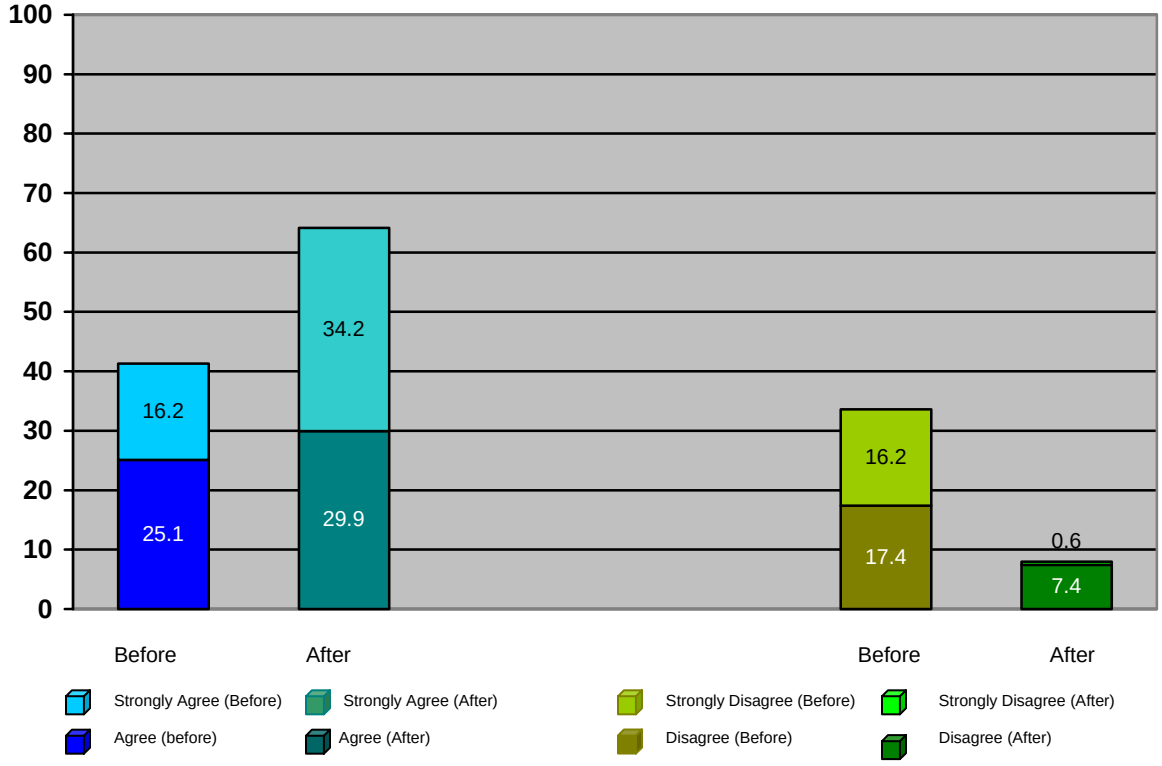
Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Familiar with traumatic/critical incident stress and their responsibilities for finding assistance for their subordinates when traumatic events occur	13%	21%	29%	18%	4%	14%	210
Total	28	45	61	38	9	29	210

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Familiar with traumatic/critical incident stress and their responsibilities for finding assistance for their subordinates when traumatic events occur	23.3%	28.1%	24.29%	10.5%	<1%	12.9%	210
Total	49	59	51	22	2	27	210



30. Familiarity with traumatic/critical incident stress and responsibilities for finding assistance for subordinates when traumatic events occur.

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect, indicating moderately strong improvement when measured against this particular learning target. When examined in the aggregate, the data indicates good effect from the training, along with more than moderate room for continued improvement remaining.

About 51% of participants agreed or strongly agreed that prior to attending the training they were familiar with traumatic/critical incident stress and their responsibilities for finding assistance for their subordinates when traumatic events occurred, with 83% of participants agreeing or strongly agreeing six months to one year after the training. When asked a corresponding question, the percentage of supervisors that agreed or strongly agreed more than doubled.

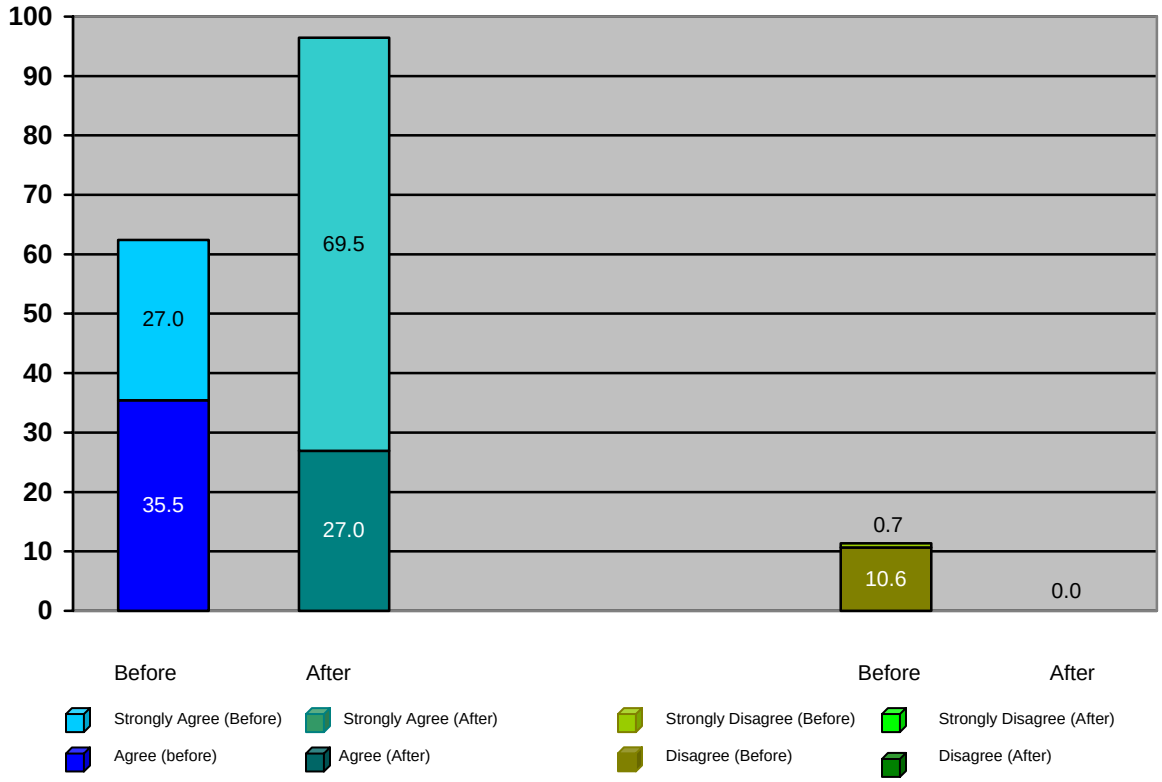
The extremes in the data indicate that the L-380 training is causing relatively strong improvement, and that substantial room for continued improvement remains. A much higher than average percentage of supervisors (14% before and 12.9% after) reported that they had not had sufficient opportunity to judge performance in this area. This result is to be expected, considering the low frequency with which L-380 participants exercise these skills.

31. I am familiar with the concept of situation awareness and the situation awareness cycle.

Participants

Answer	Agree 5	4	3	2	Disagree 1	Responses
I am familiar with the concept of situation awareness and the situation awareness cycle	27%	35.5%	26.2%	10.6%	<1%	141
Total	38	50	37	15	1	141

Answer	Agree 5	4	3	2	Disagree 1	Responses
I am familiar with the concept of situation awareness and the situation awareness cycle	69.5%	27%	3.6%	0	0	141
Total	98	38	5	0	0	141



This question not asked of supervisors.

Analysis:

This question was asked only of participants, and the data indicates that the L-380 training is clearly producing the desired effect, indicating very strong improvement when measured against this particular learning target.

Nearly 97% of participants agreed or strongly agreed that they were familiar with the concept of situation awareness and the situation awareness cycle six months to one year after the training. After the training, no participants still disagreed or strongly disagreed that they are familiar with the concept of situation awareness and the situation awareness cycle.

The extremes in the data indicate that the L-380 training is causing very strong improvement, and that only some small room for continued improvement remains. The percentage of participants strongly agreeing nearly tripled. The percentages of respondents disagreeing strongly fell to 0. The L-380 training appears to be producing the desired effect when measured against this learning target, with only a little room for continued improvement remaining.

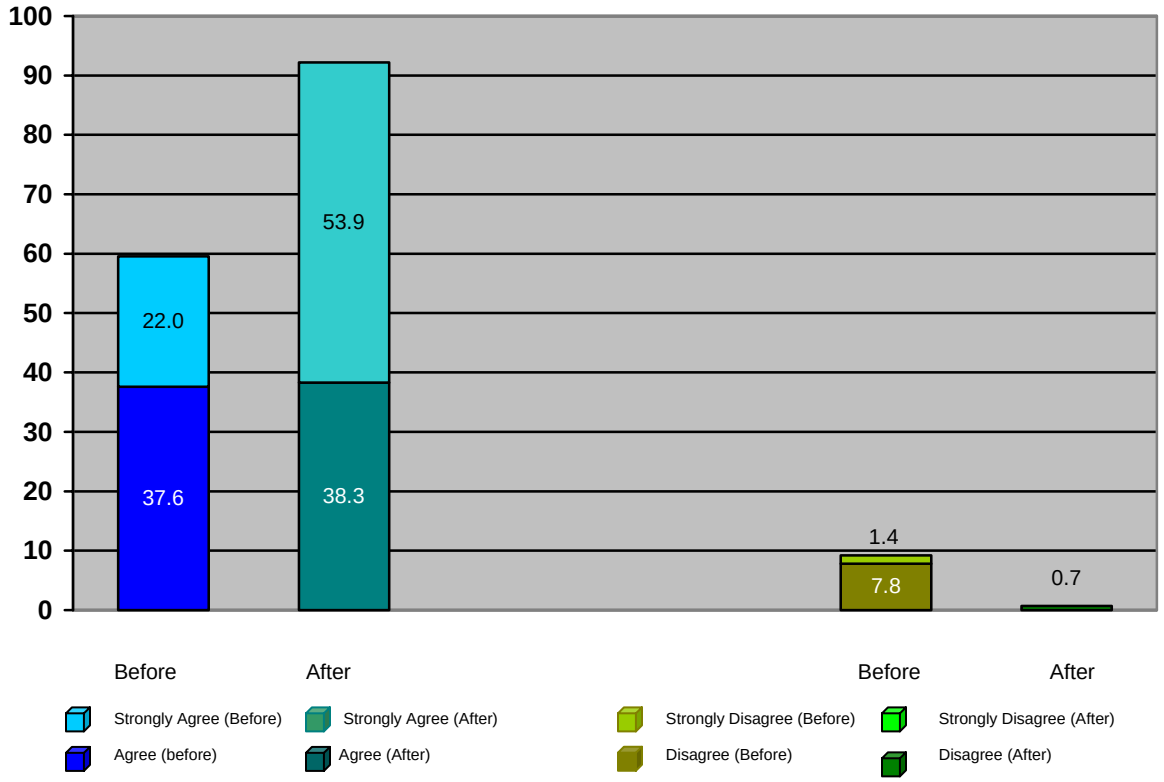
32. I maintain my situational awareness in the leadership environment.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Respons es
I maintain my situational awareness in the leadership environment	22%	37.6%	31.2%	7.8%	1.4%	141
Total	31	53	44	11	2	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I maintain my situational awareness in the leadership environment	53.9%	38.3%	7.1%	<1%	0	141
Total	76	54	10	1	0	141



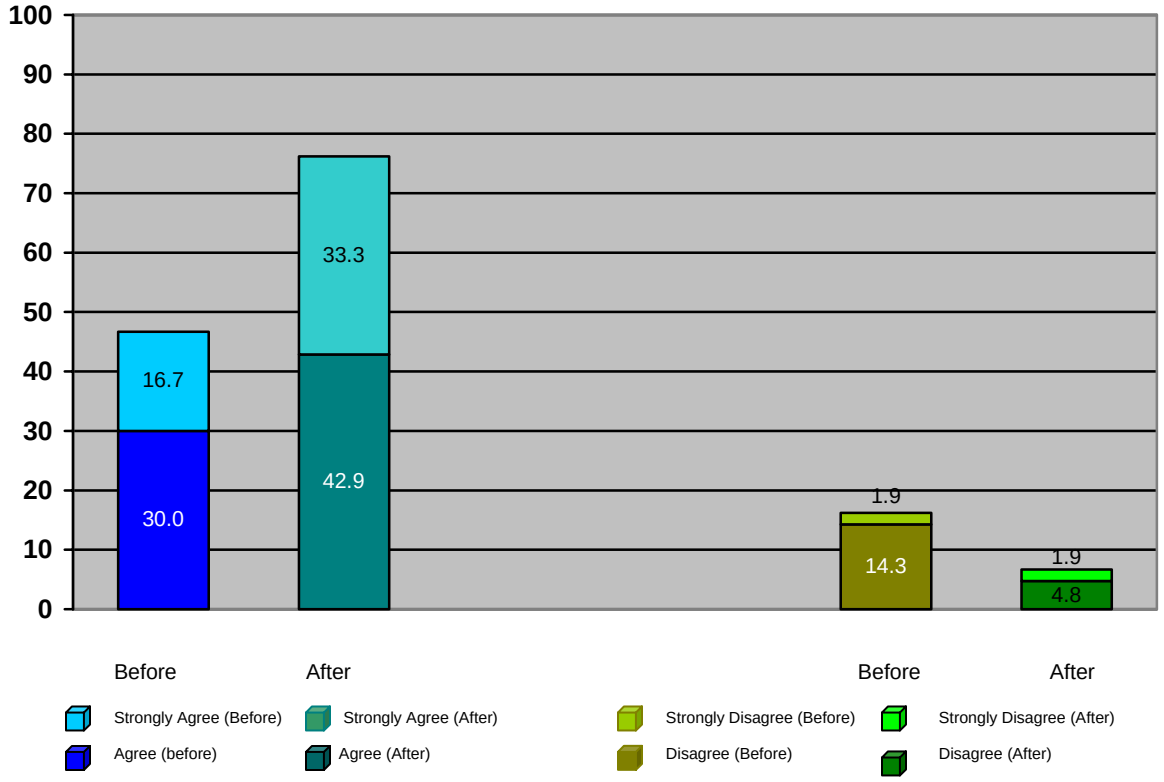
32. Maintains situational awareness in the leadership environment.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Maintains situational awareness in the leadership environment	16.7%	30%	29.1%	14.3%	1.9%	8.1%	210
Total	35	63	61	30	4	17	210

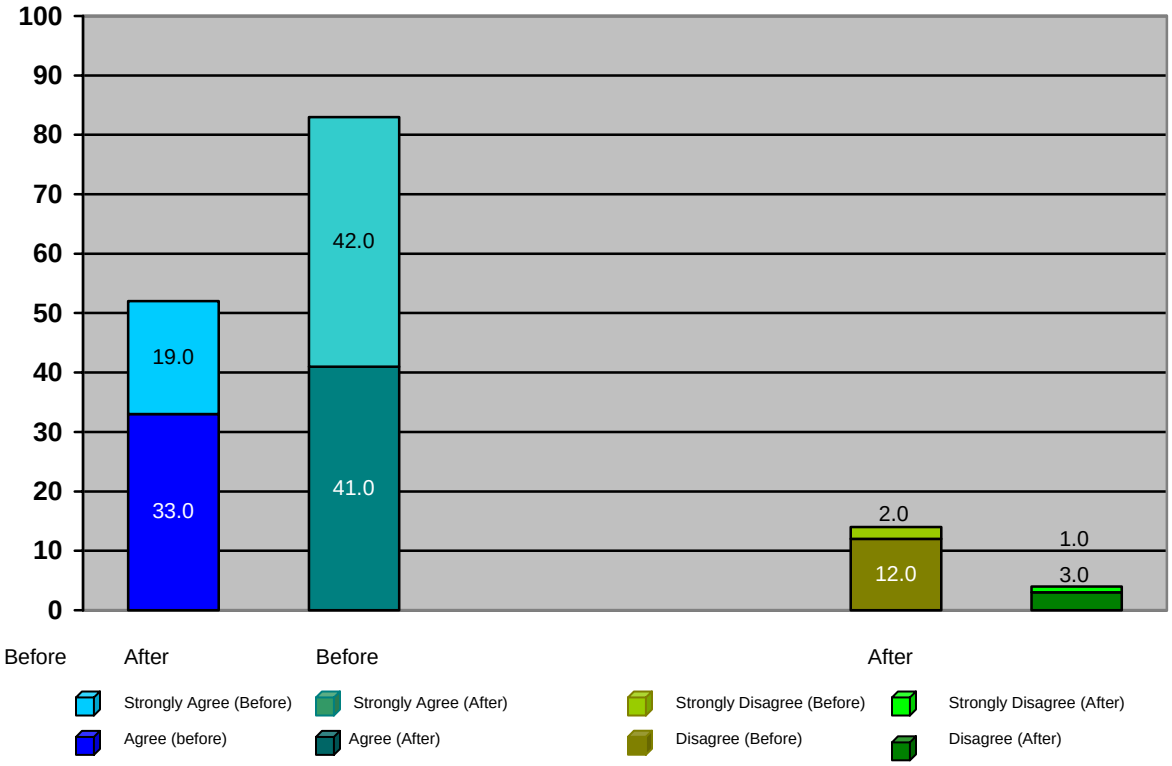
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Maintains situational awareness in the leadership environment	33.3%	42.9%	13.8%	4.8%	1.9%	3.3%	210
Total	70	90	29	10	4	7	210



32. Maintaining situational awareness in the leadership environment.

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect, indicating moderately strong improvement when measured against this particular learning target. When examined in the aggregate, the data indicates good effect from the training, along with some room for continued improvement remaining.

The extremes in the data also indicate that the L-380 training is causing strong improvement, and that some room for continued improvement remains. The percentage of participants strongly agreeing more than doubled, and the percentages of respondents disagreeing fell to 0 for participants, and remained static at 1.9% for supervisors. A fairly typical percentage of supervisors (8.1% before and 3.3% after) reported that they had not had sufficient opportunity to judge performance in this area. The L-380 training appears to be producing the desired effect when measured against this learning target. However, as is typical, it appears that moderate room for continued improvement remains.

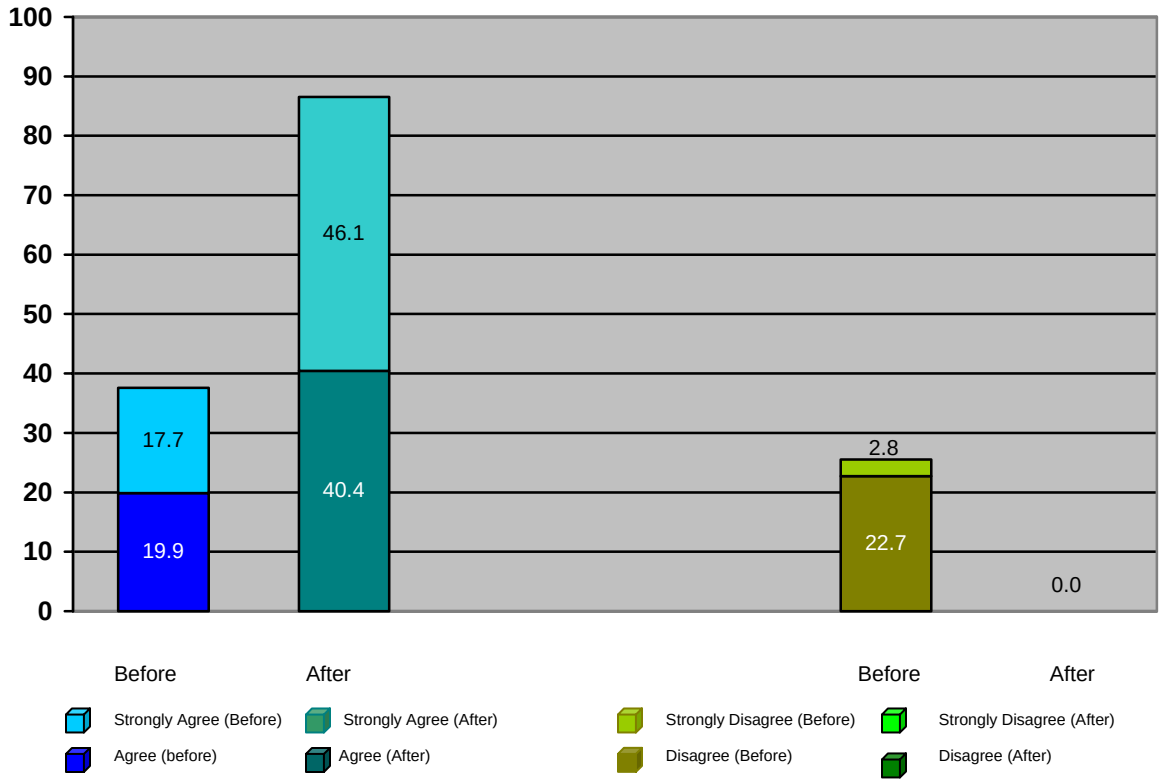
33. I am familiar with memory mechanics and understand the relationship between experience, memory and decision-making.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I am familiar with memory mechanics and understand the relationship between experience, memory and decision-making	17.7%	19.9%	36.9%	22.7%	2.8%	141
Total	25	28	52	32	4	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I am familiar with memory mechanics and understand the relationship between experience, memory and decision-making	46.1%	40.4%	13.5%	0	0	141
Total	65	57	19	0	0	141



The two questions below, when asked of supervisors, divide the single question asked of participants above.

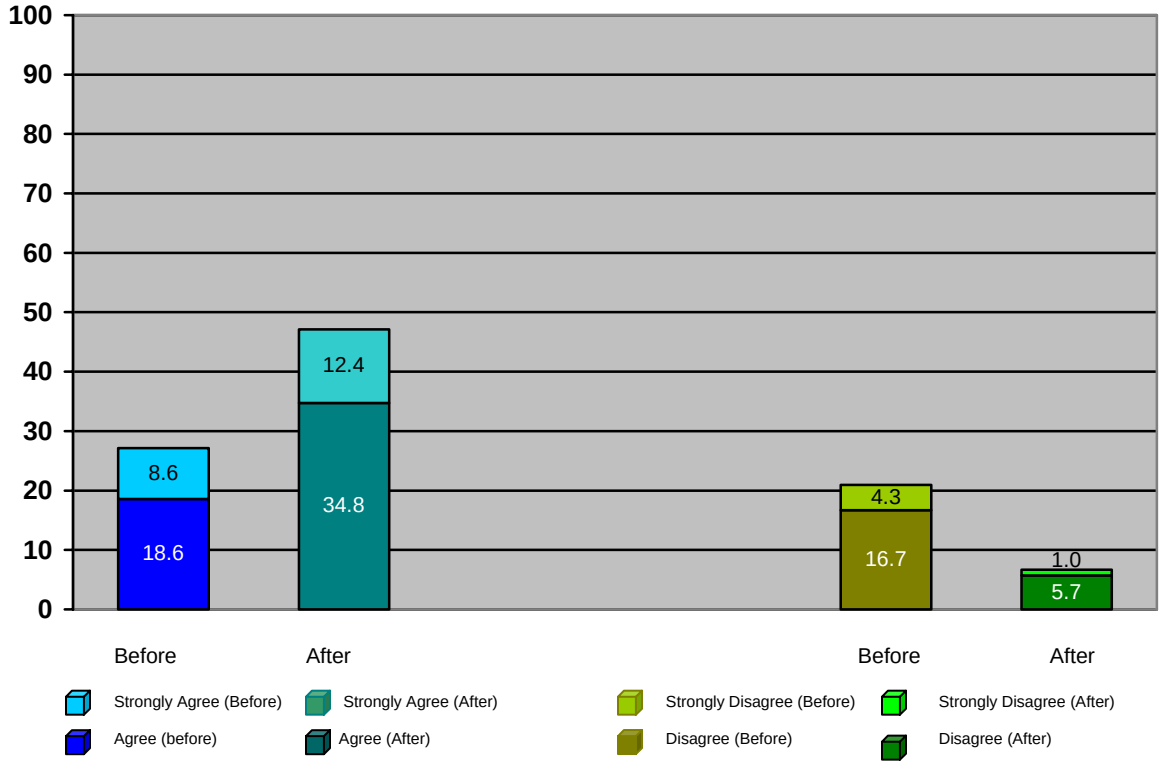
33a. Familiar with memory mechanics.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Familiar with memory mechanics	8.6%	18.6%	36.2%	16.7%	4.3%	15.7%	210
Total	18	39	76	35	9	33	210

Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Familiar with memory mechanics	12.4%	34.8%	29.5%	5.7%	<1%	16.7%	210
Total	26	73	62	12	2	35	210



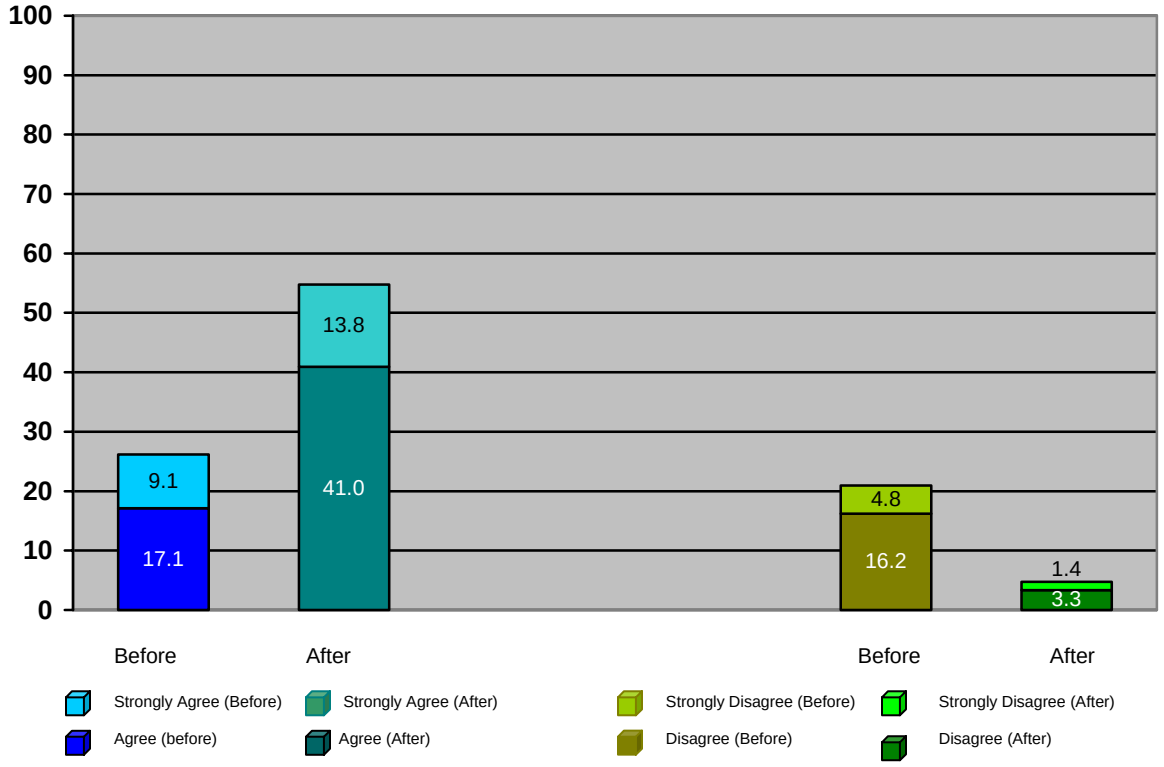
33b. Understands the relationship between experience, memory and decision-making.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands the relationship between experience, memory and decision-making	9.1%	17.1%	40.48%	16.2%	4.8%	12.38%	210
Total	19	36	85	34	10	26	210

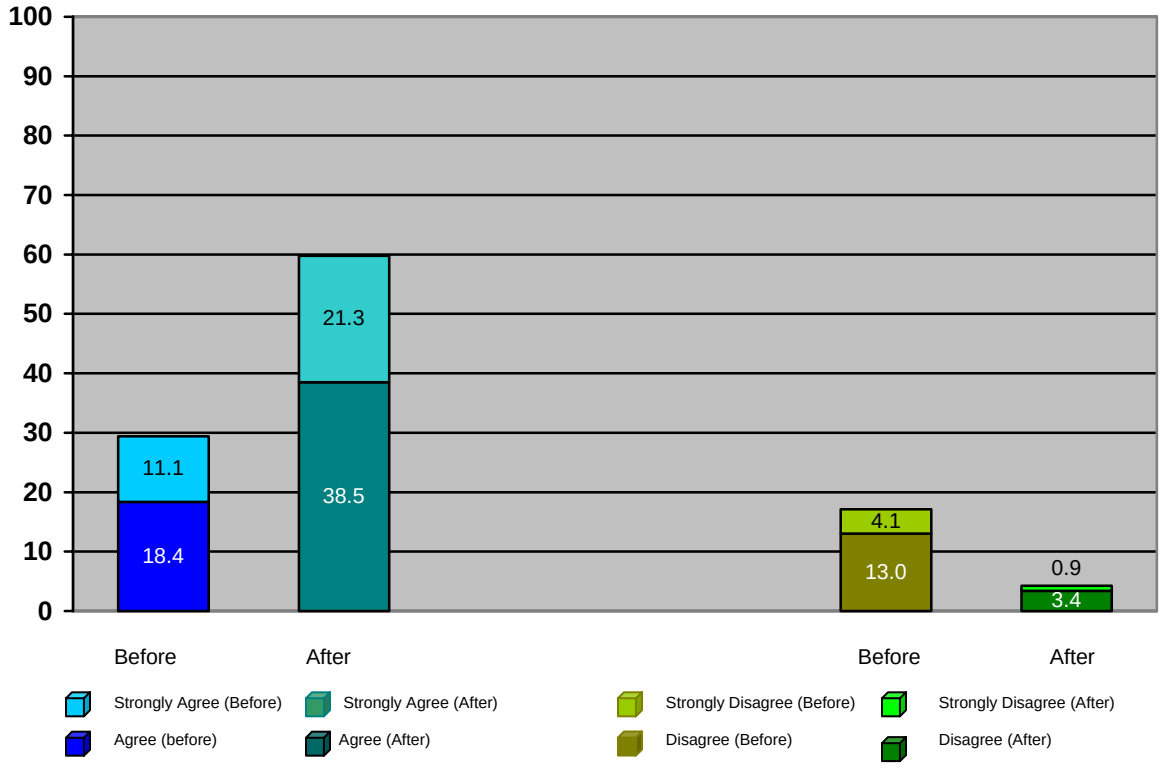
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands the relationship between experience, memory and decision-making	13.8%	41%	30.5%	3.3%	1.4%	10%	210
Total	29	86	64	7	3	21	210



33. Understanding the relationship between experience, memory and decision-making.

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect, indicating very strong improvement when measured against this particular learning target. When examined in the aggregate, the data indicates a significant effect from the training, along with considerable room for continued improvement remaining.

The extremes in the data indicate that the L-380 training is causing strong improvement, and that substantial room for continued improvement remains. The percentage of participants strongly agreeing more than doubled, and the percentages of respondents disagreeing fell to 0 for participants, and to relatively low levels for supervisors. A relatively high percentage of supervisors (12.4% before and 10% after) reported that they had not had sufficient opportunity to judge performance in this area. The L-380 training appears to be producing the desired effect when measured against this learning target. However, considerable room for continued improvement remains.

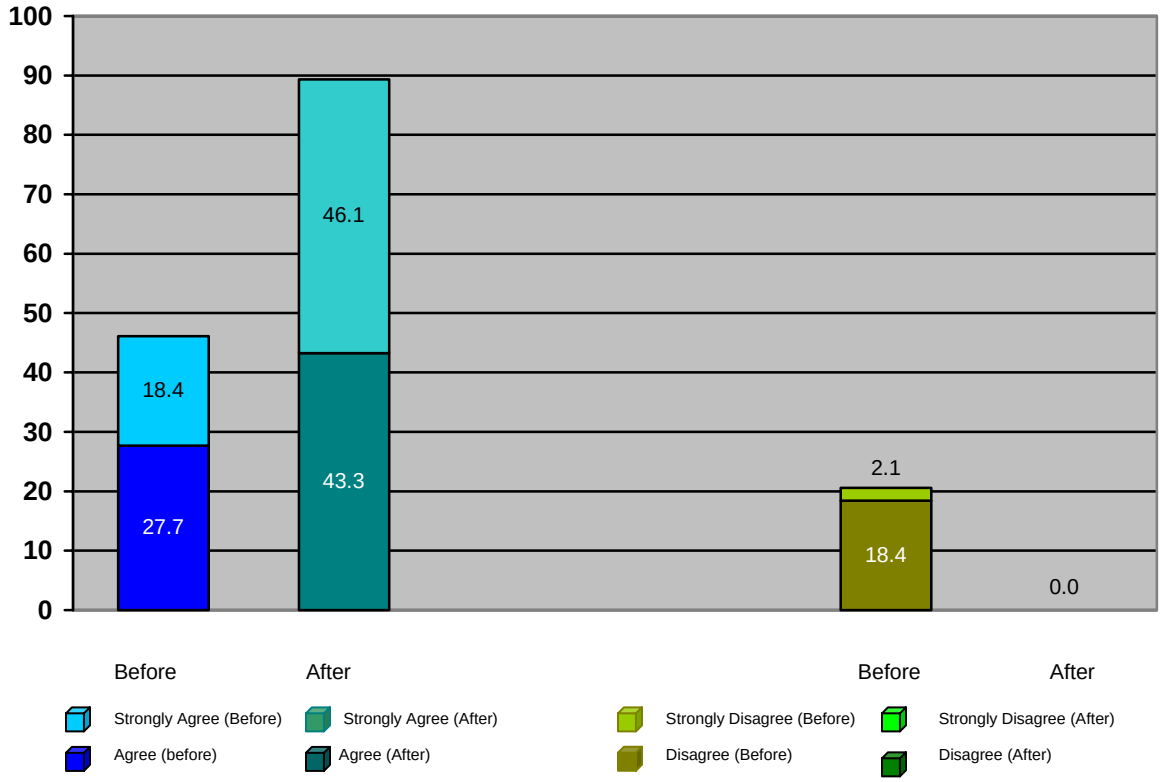
34. I understand decision-making and the decision-making cycle.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I understand decision-making and the decision-making cycle	18.4%	27.7%	33.3%	18.4%	2.1%	141
Total	26	39	47	26	3	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I understand decision-making and the decision-making cycle	46.1%	43.3%	10.6%	0	0	141
Total	65	61	15	0	0	141



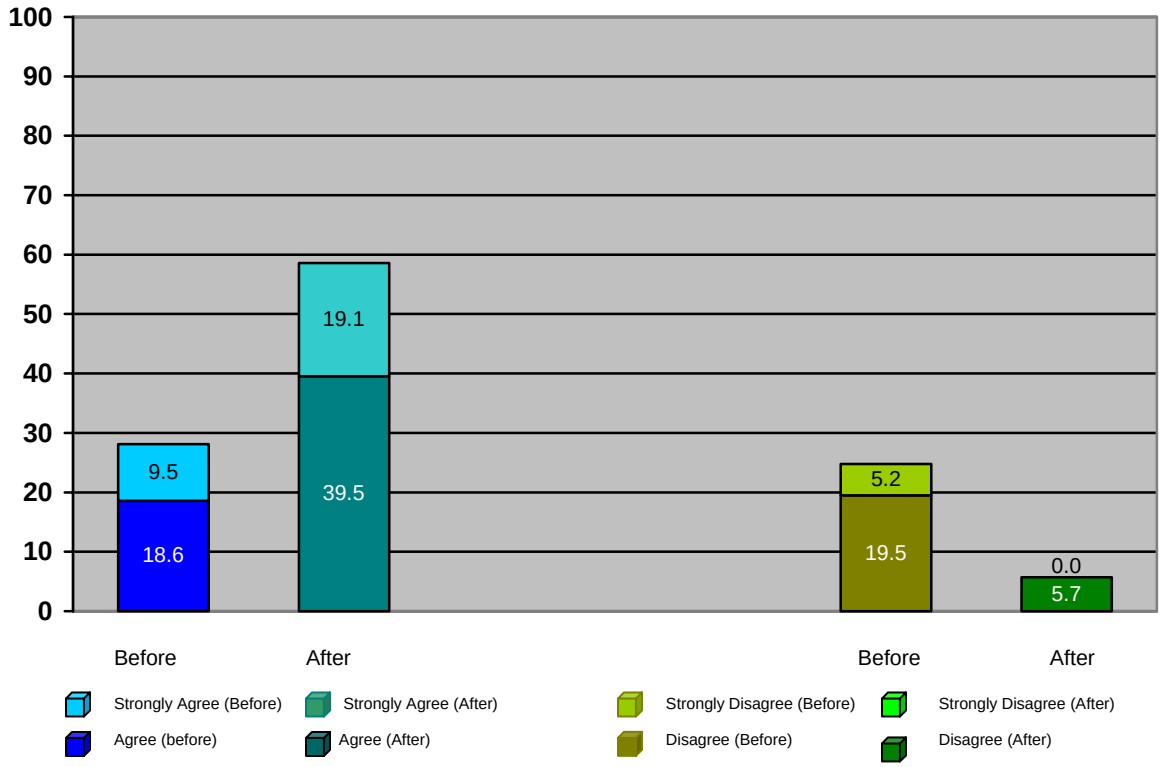
34. Understands decision-making and the decision-making cycle.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands decision-making and the decision-making cycle	9.5%	18.6%	38.6%	19.5%	5.2%	8.6%	210
Total	20	39	81	41	11	18	210

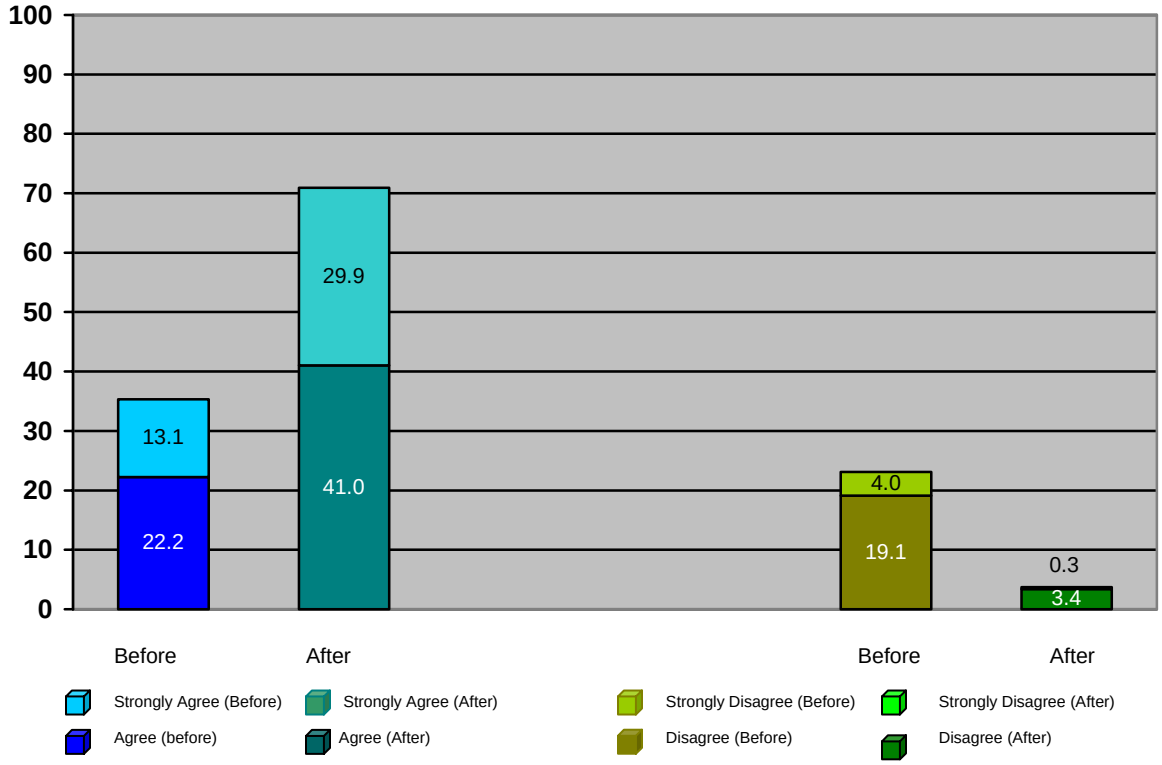
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands decision-making and the decision-making cycle	19.1%	39.5%	30.5%	5.7%	<1%	4.8%	210
Total	40	83	64	12	1	10	210



Understanding decision-making and the decision-making cycle.

34. Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect, indicating very strong improvement when measured against this particular learning target. When examined in the aggregate, the data indicates excellent effect from the training, along with moderate room for continued improvement remaining.

The extremes in the data indicate that the L-380 training is causing very strong improvement, and that moderate room for continued improvement remains. The percentage of participants strongly agreeing more than doubled. Supervisors were not as positive, but still indicated some improvement. The percentages of respondents disagreeing fell to 0 for participants, and less than 6% for supervisors. A fairly typical percentage of supervisors (8.6% before and 4.8% after) reported that they had not had sufficient opportunity to judge performance in this area. The L-380 training appears to be producing the desired effect when measured against this learning target. However, as is typical, it appears that moderate room for continued improvement remains.

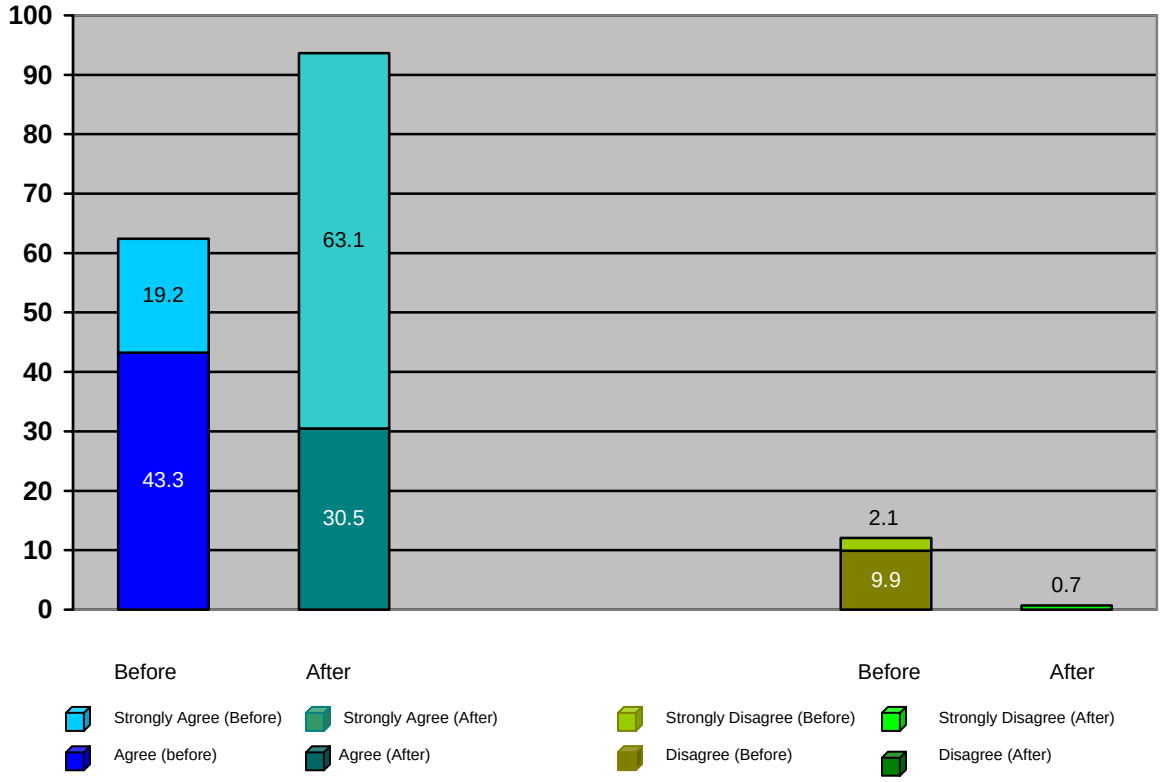
35. I understand the role that ethics and ethical decision-making play in leadership.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I understand the role that ethics and ethical decision-making play in leaders	19.2%	43.3%	25.5%	9.9%	2.1%	141
Total	27	61	36	14	3	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I understand the role that ethics and ethical decision-making play in leadership	63.1%	30.5%	5.7%	0	<1%	141
Total	89	43	8	0	1	141



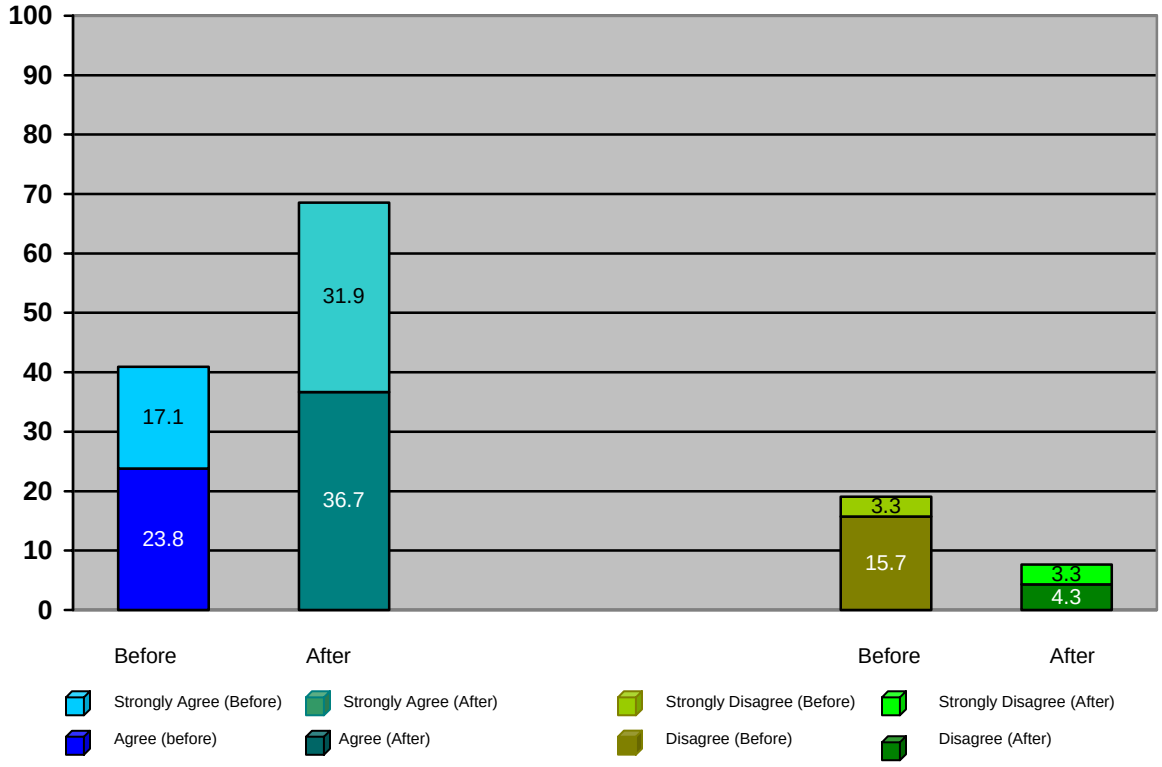
35. Understands the role that ethics and ethical decision-making play in leadership.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands the role that ethics and ethical decision-making play in leadership	17.1%	23.8%	34.8%	15.7%	3.3%	5.2%	210
Total	36	50	73	33	7	11	210

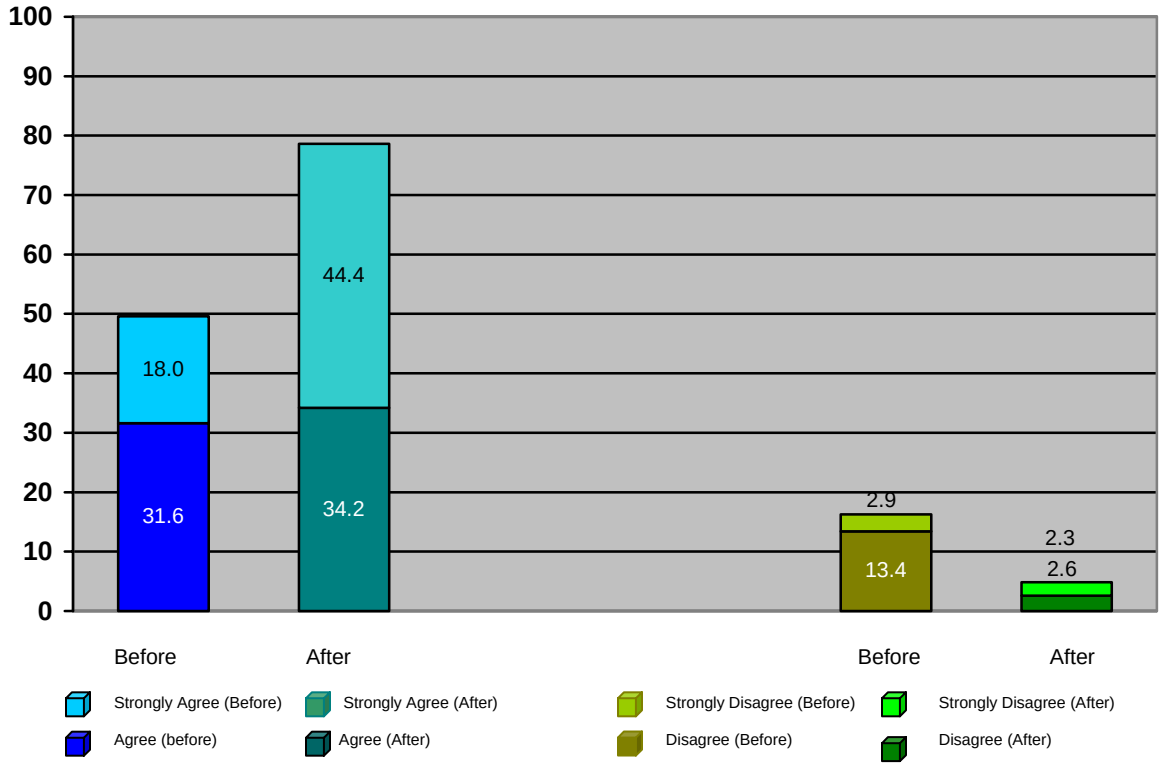
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands the role that ethics and ethical decision-making play in leadership	31.9%	36.7%	19.5%	4.3%	3.3%	4.3%	210
Total	67	77	41	9	7	9	210



35. Understanding the role that ethics and ethical decision-making play in leadership.

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect, indicating strong improvement when measured against this particular learning target. When examined in the aggregate, the data indicates significant effect from the training, along with moderate room for continued improvement remaining.

Showing stronger than usual confidence, about 63% of participants agreed or strongly agreed that prior to attending the training they understood the role that ethics and ethical decision-making play in leadership, with more nearly 94% of participants agreeing or strongly agreeing six months to one year after the training. When asked a corresponding question, just about 41% of supervisors agreed or strongly agreed that their subordinate understood the role that ethics and ethical decision-making play in leadership prior to attending the L-380 training, with nearly 69% agreeing or strongly agreeing after. Only 12% of participants disagreed or strongly disagreed that they understood the role that ethics and ethical decision-making play in leadership prior to the training. A smaller than typical percentage of supervisors reported that they had not had sufficient opportunity to judge performance in this area. The extremes in the data indicate that the L-380 training is causing strong improvement, and that moderate room for continued improvement remains.

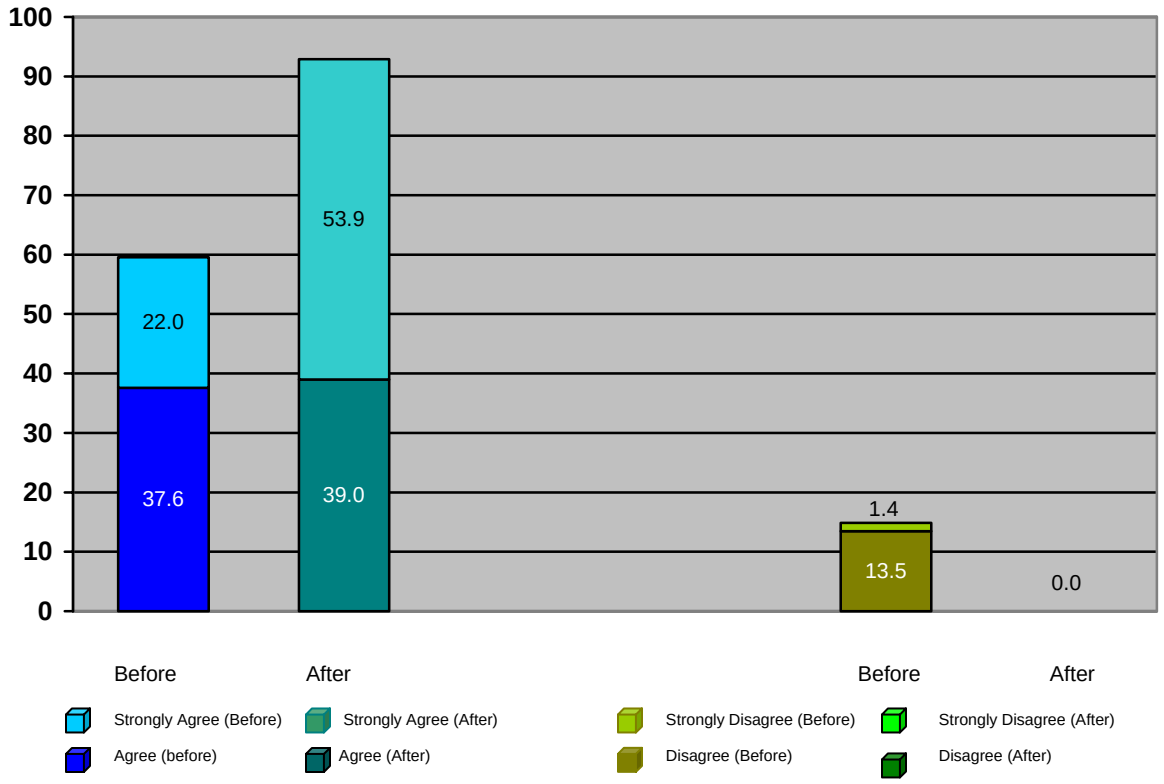
36. I understand the relationship between values and leadership and the importance of values to effective leadership.

Participants (Before)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I understand the relationship between values and leadership and the importance of values to effective leadership	22%	37.6%	25.5%	13.5%	1.4%	141
Total	31	53	36	19	2	141

Participants (After)

Answer	Agree 5	4	3	2	Disagree 1	Responses
I understand the relationship between values and leadership and the importance of values to effective leadership	53.9%	39%	7.1%	0	0	141
Total	76	55	10	0	0	141



The two questions below, when asked of supervisors, divide the single question asked of participants above.

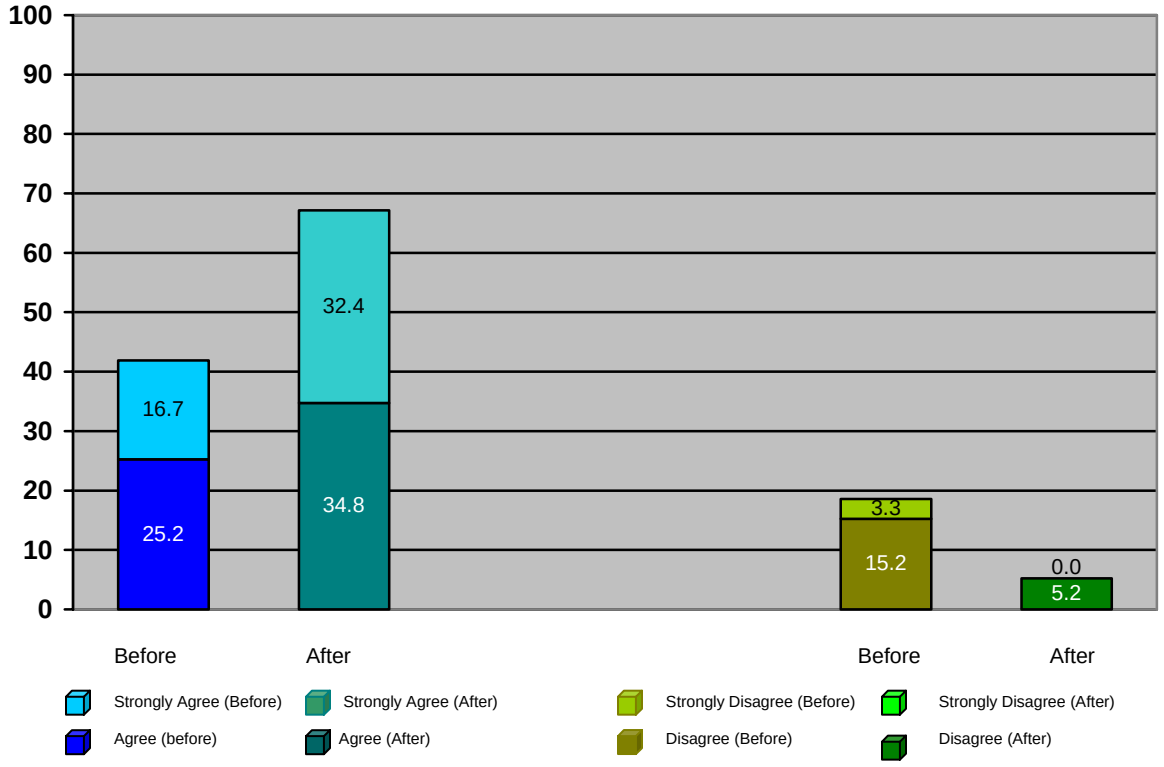
36a. Understands the relationship between values and leadership.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands the relationship between values and leadership	16.7%	25.2%	34.8%	15.2%	3.3%	4.8%	210
Total	35	53	73	32	7	10	210

Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands the relationship between values and leadership	32.4%	34.8%	21.9%	5.2%	<1%	5.2%	210
Total	68	73	46	11	1	11	210



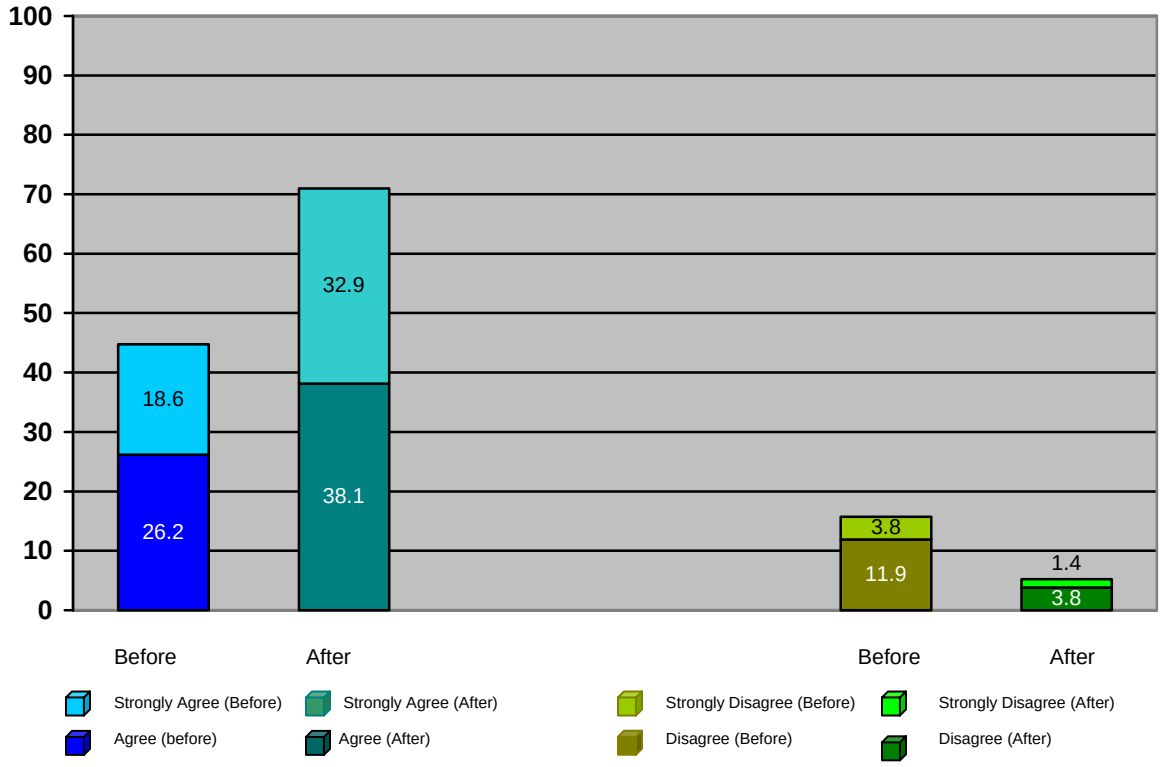
36b. Understands the importance of values to effective leadership.

Supervisors (Before)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands the importance of values to effective leadership	18.6%	26.2%	35.2%	11.9%	3.8%	4.3%	210
Total	39	55	74	25	8	9	210

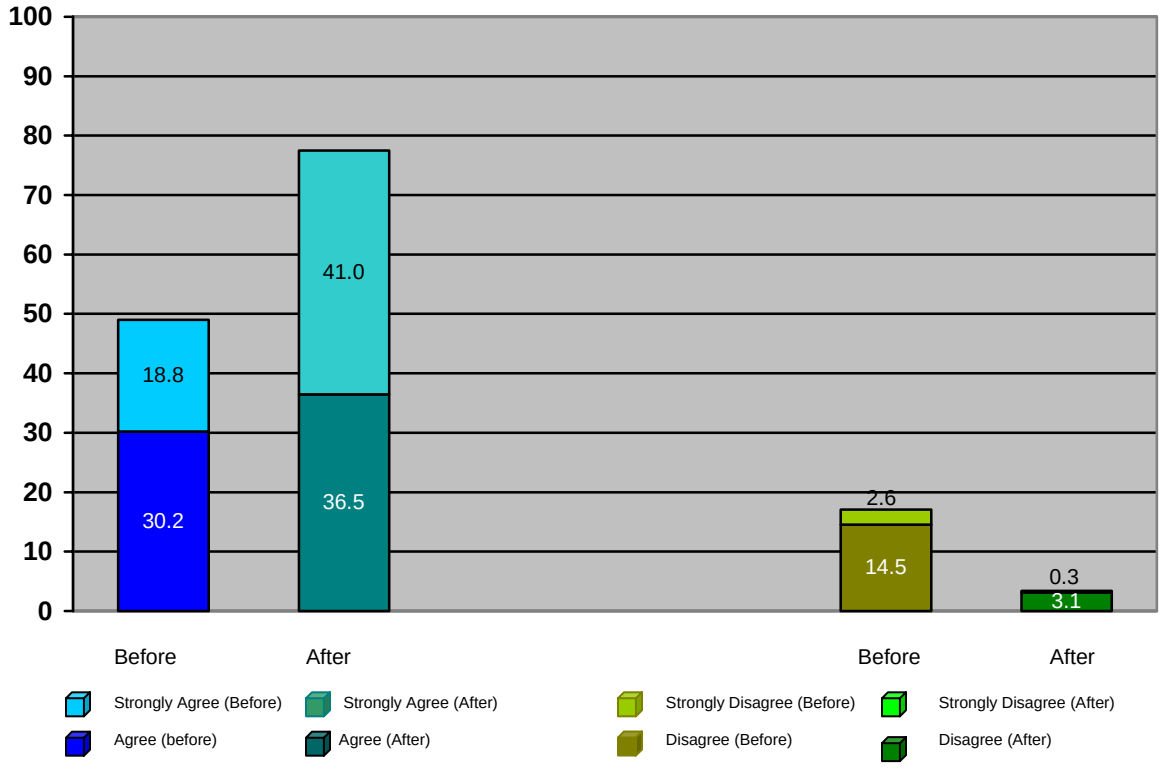
Supervisors (After)

Answer	Agree 5	4	3	2	Disagree 1	N/A	Responses
Understands the importance of values to effective leadership	32.9%	38.1%	20%	3.8%	1.4%	3.8%	210
Total	69	80	42	8	3	8	210



36. Understanding the relationship between values and leadership and the importance of values to effective leadership.

Combined



Analysis:

This data indicates that the L-380 training is clearly producing the desired effect, indicating strong improvement when measured against this particular learning target. When examined in the aggregate, the data indicates significant effect from the training, along with moderate room for continued improvement remaining.

Showing stronger than usual confidence, nearly 60% of participants agreed or strongly agreed that prior to attending the training they understood the relationship between values and leadership and the importance of values to effective leadership, with more nearly 93% of participants agreeing or strongly agreeing six months to one year after the training. When asked a corresponding question, just about 42% of supervisors agreed or strongly agreed that their subordinate understood the relationship between values and leadership prior to attending the L-380 training, with nearly 70% agreeing or strongly agreeing after.

The extremes in the data indicate that the L-380 training is causing strong improvement, and that moderate room for continued improvement remains. A smaller than average percentage of supervisors reported that they had not had sufficient opportunity to judge performance in this area.

Limitations and Lessons Learned

The "Apprentice Problem"

With the assistance of the client organization and the provider of the training, the contractor developed a sample of 400 past participants of L-380 courses and 400 people who supervise L-380 participants.

These samples were selected at random from a population developed from 38 L-380 courses conducted during late 2005 and the first quarter of 2006. The participant population included 757 participants from 38 courses. 348 of those participants, from 18 courses, had attended L-380 as apprentices in the National Interagency Wildland Firefighter Apprenticeship Program (WFAP.) The supervisor population is derived from the participant population and, therefore, reflects the same make-up.

The contract for the evaluation required 200 participants in the sample. To achieve this sample size, the contractor elected to include all courses conducted during the 2005/2006 training season in the population. The contractor drew half the sample from the WFAP courses and half from the non-WFAP courses to avoid skewing the samples. Still, the prevalence of apprentices may explain the high number of supervisors reporting that they had not had sufficient opportunity to judge performance in some areas; and anecdotal evidence supports this assertion. During the evaluation, a number of supervisors contacted the contractor either to seek guidance, report concerns, or to simply refuse to complete the survey: citing their subordinate's status as an apprentice as the reason. Supervisor perspectives fell into three categories:

1) The apprentice is assigned elsewhere while gaining work process hours, and the supervisor of record has had little experience with the apprentice since they completed L-380 (or since initial hire.)

2) The apprentice occupies a stage in their career in which they are not exercising or expected to exercise skills or behaviors addressed in the L-380 training.

3) The apprentice has converted to permanent status, has been reassigned to another unit, and the supervisor of record has had little experience with the apprentice since they completed L-380. Typically, the contractor found that, when sought out, the new supervisor also reported too little experience with the L-380 participant to complete the survey.

Sample Size

The project sought the input of 200 L-380 participants and 200 supervisors. However, the contractor struggled to achieve this full sample. Ultimately, one hundred and forty-one course participants and two hundred and ten supervisors of course participants completed online survey instruments. However, the sample size more than complies with the minimum sample size of 100 participants and 100 supervisors suggested by the user's guide for the evaluation method (DeGrosky,

2005b). In addition, the data shows good face validity, and the Leadership Committee has expressed confidence in the reduced sample. However, since the response rates were inadequate to generate the originally desired sample despite giving participants multiple opportunities over months to complete their simple survey, a discussion of possible causes is in order.

Timing

While we cannot be certain, the project's timing, occurring near the end of a busy and extended fire season and during the normally busy training season likely accounts for some of the difficulty in obtaining desired response rates.

Technology

The decision to base the survey online, while encouraging some potential respondents, may have also dampened participation among others. We know that some potential respondents were unable to respond to the online survey, and the contractor employed some paper surveys to accommodate respondents. E-mail contact with participants not in "pay status" represented a significant barrier that undoubtedly reduced contact and, therefore, response rates.

System Issues

During a previous effort, DeGrosky (2005a; 2005b) found that organizational issues could make surveying past L-380 course participants and the supervisors of past training participants difficult. Specifically, two significant barriers to comprehensive, systematic training evaluation are apparent, and both must be overcome. First, as was the case in 2005, the client organization still lacks a centralized database of the approximately 7,000 people who have completed the L-380 training, a fact that arose again as a challenge to this project, and will continue to challenge efforts to systematically evaluate this training curriculum until corrected.

Second, the mobile and temporal nature of the agency workforce also presents a barrier to systematic evaluation. Employees, particularly entry-level employees and emerging leaders, (the target audience of this training), relocate relatively often in response to career opportunities in agencies that encourage, and nearly require, employees to move-around in order to move-up. In addition, NWCG agencies employ part-time, seasonal, and temporary employees; many of who are within the target audience of the L-380 training. Consequently, at any given time, access to some employees within target population samples can prove problematic, a factor at odds with the longitudinal nature of training evaluation, particularly when employing delayed or repeated measures. This project demonstrated, once again, that it may prove less practical to conduct delayed, post-course evaluation on a project basis, as would be done for a research study. For this reason, in addition to improving data collection and centralizing a database, it appears that using delayed, post-course instruments to evaluate the L-380 training may best be accomplished through a continuous, seven-step process as recommended in the user's guide (DeGrosky, 2005b).

Summary of Conclusions

The results of this evaluation indicate that the L-380 training is producing significant improvement between the pre-training period and the post-training period on all learning targets measured. These findings indicate that both participants and their supervisors have witnessed improvement in the behaviors and performance of the course participants six months to one-year beyond the training.

The evaluation surveys measured the effectiveness of the L-380 training against 36 elements reflecting the learning targets of the training. At its core, this evaluation measures the extent to which people observed behavior or performance associated with the learning targets in the workplace beyond the training environment, both before and after the training. This evaluation also gauges how far the desired performance has diffused into the workforce – in other words, the percentage of participants demonstrably engaging in the desired performance.

This evaluation also demonstrates that improvement occurred on every learning target. However, both the rate of improvement and the degree of diffusion into the workplace culture varies by learning target. On some learning targets, the evaluation indicates both a dramatic rate of improvement and deep diffusion into the workplace. Learning targets falling into this category include:

11. Recognizing values and character associated with good leadership
12. Understanding the role, duties, and responsibilities of a leader
15. Knowing the process of delegation
16. Effectively delegating tasks to subordinates
22. Fostering team cohesion
24. Planning and conducting After Action Reviews (AAR)
25. Effectively participating in After Action Reviews (AAR)
32. Maintaining situational awareness in the leadership environment
35. Understanding role that ethics/ethical decision-making play in leadership
36. Understanding the relationship between values and leadership

In regard to other learning targets, the evaluation identifies a group showing a more moderate rate of improvement, but for which deep diffusion is still indicated. Learning targets falling into this category include:

1. Balancing the needs and expectations of leader, follower, organization
4. Providing effective briefings
8. Communicating intent as a leader when leading others
10. Understanding the leadership environment
17. Understanding the power to influence
19. Engaging in their own self-development
20. Assisting subordinates with their personal development
21. Building a team and fostering teamwork
31. Familiarity with the concept of situation awareness (SA) and the SA cycle
34. Understanding decision-making and the decision-making cycle

The evaluation also identifies a small group of learning targets showing a dramatic rate of improvement, but only moderate diffusion into the workplace. Learning targets falling into this category include:

2. Understanding people's behavior
5. Effectively applying communication tools
13. Understanding interpersonal conflict
18. Understanding when different leadership styles are appropriate
30. Familiarity with traumatic/critical incident stress and related responsibilities

Finally, this evaluation identifies a group of learning targets showing both a relatively moderate rate of improvement and relatively moderate diffusion into the workplace when compared to other learning targets. Learning targets falling into this category include:

3. Effectively influencing people to change their behavior
6. Developing a vision for the unit
7. Creating goals to achieve their unit's vision
9. Effectively providing performance feedback to subordinates
14. Effectively resolving interpersonal conflict
23. Planning and conducting training that develops subordinates' skills
26. Preventing, managing and mitigating human error
27. Understanding the relationships between fear, stress and human error
28. Mitigating one's own stress/prevent it from contributing to human error
29. Mitigating subordinates' stress/prevent it from contributing to human error
33. Understanding relationships between experience, memory and DM

As previously mentioned, the methods employed in this effort measure the extent to which respondents observed certain behaviors or performance in the workplace beyond the training environment. The evaluation can, and should, be used to guide the continuous improvement of the training. However, the end-users of this evaluation should not treat it as a static, "report card" type of assessment and the sole determinant of whether a portion of the training "works" or not.

A wide array of variables may explain why the improvement rate or degree of diffusion for a given learning target may lag behind others. Consequently, when using this evaluation to guide the continuous improvement of the L-380 training, the stewards of the training must critically evaluate, on a case-by-case basis, the possible causes when the rate of improvement or degree of diffusion for a given learning target lags behind other learning targets. One must not assume, given the possibilities, that moderate improvement or penetration automatically implies a need for substantive improvement in the training. It is the opinion of the evaluation contractor that when those responsible for the training carefully consider the learning targets showing only modest improvement or impact in this way, substantial changes to the L-380 training will, and should, remain fairly exceptional. This is not to imply that no improvement to the L-380 training is warranted, simply that critical evaluation must precede decisions to modify training approaches to assure that a training solution is warranted.

Agreement with the survey statements rose for every learning target with agreement, when viewed in the aggregate, rising from 15% to 40%. Conversely, disagreement with the survey statements fell for every learning target with disagreement, when viewed in the aggregate, falling from 2% to 30%.

Generally speaking, the ability of supervisors to assess the attitudes, performance or behaviors of their subordinates both before and after the L-380 training appears to be adequate for most learning targets. On average, just over 8% of supervisors reported that they had not had sufficient opportunity to judge the performance of their subordinates pertaining to L-380 learning targets prior to the training, with less than 6% questioning their ability to judge performance post-training. Considerably more supervisors reported that they had not had sufficient opportunity to judge performance regarding a relatively small sub-set of learning targets.

Given these findings, one can say with confidence that the L-380 training, when compared against its learning targets, is producing the desired effect on the attitudes, behavior and performance of L-380 participants. While it may not yet be clear that the NWCG leadership training curriculum is effectively promoting cultural change in the workforce, it is clear that behaviors are extending into participating organizations beyond the training environment. As one might expect, the evaluation clearly indicates that room for continued improvement remains, in degrees that vary by learning target.

At the bottom line, the results of the evaluation indicate that the L-380 training is producing significant improvement in the performance of course participants between the pre-training period and the post-training period on all learning targets measured six months to one-year beyond the training. Apparently, both participants and their supervisors have witnessed the improvement. Continued monitoring and evaluation will indicate whether the sponsoring agencies are able to sustain and improve upon that success.

References

DeGrosky, M. (2005a). A Method for Evaluating The Fireline Leadership Training. Unpublished master's thesis. Fort hays State University, Hays, KS USA.

DeGrosky, M. (2005b). User's Manual: Evaluation Method L-380 Training. NWCG Training Working Team: Leadership Committee.