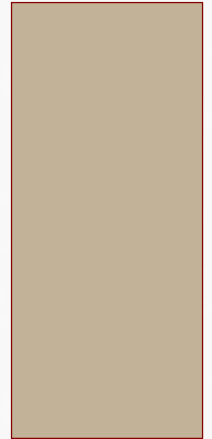




PREVENTING INTENTIONAL DEATH BY RAIL

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BACKGROUND

- Trespassing and railway suicides are two interrelated issues of concern in the railway system. These issues are generally related to severe injury or untimely deaths.
- 2012: 19 Suicides on Western city railway ; 2013: 7
- 2012: 8 Trespassing incidents on Western city railway; 2013: 9
- Death on the railway has a vast impact:
 - Individual and family
 - Community
 - Operator
 - Organizational
 - Economic

BACKGROUND: REVIEW OF RAILWAY SUICIDE

- Suicide involving trains accounted for 12% of all suicides.
- Up to 94% of attempts were found to result in death.
- Suicides occur in proximity to railroad crossings:
 - 43% percent of suicides occurred within 0.1 mile from a crossing.
 - 66% occurred within 0.3 miles from a crossing (Botha, Elmasu, & Leitzell, 2010).
- Behavioral patterns:
 - Left personal belongings, avoided eye contact, and exhibited erratic gestures (Lukaschek, Baumert, & Ladwig, 2011)
 - 84% had exhibited at least three risk factors associated with suicide completion
 - 50% had five risk factors, namely: withdrawal, anger, anxiety, and statements of hopelessness.
- As many as 83% of the suicide completers had a psychiatric diagnosis of some sort (Krysinska & De Leo, 2008).

BACKGROUND: PREVENTION

- Physical barriers
- Crisis lines
- Signage
- **Suicide prevention training programs**
- **Community Awareness**

BACKGROUND: PREVENTION PROGRAMS

- Ecological model for prevention suicide (Bean & Baber, 2011)
- Gatekeeper Training
- The US Air Force (USAF) community based intervention program focusing on training of community personnel in the recognition of early warning signs in potential victims that resulted in a reduction of 33% in suicide rates.
- The Toronto Transit Commission (TTC)

CURRENT STUDY

A three part study aimed to reduce the occurrence of intentional and unintentional deaths on the railway and increase pedestrian safety awareness through:

1. implementation of a community awareness and educational safety campaign;
2. implementation of a comprehensive ecologically framed suicide prevention and safety training program for transit personnel; and
3. Investigate the characteristics, patterns & trends of occurrences of the various locations.

METHODOLOGY

Developed and administered a survey that addresses baseline attitudes, knowledge, and self-efficacy of community members' as they relate to suicide prevention in on the railways.

- Administered to persons attending railroad days events in three Western US cities.

Expanded the community survey to relate to suicide prevention among transit employees. Administered to 3 groups:

1. Transit employees who attended a suicide prevention training.
2. Comparison group of employees who did not attend the training.
3. Comparison group of counseling psychology masters students.

1. TRANSIT EMPLOYEES: TRAINING GROUP A

- N=15
- 34.8% male
- Age ranged from 22-63; mean 42.89
- 34.8% African American, 21.7% White, 21.7% Hispanic, 13% Other
- Years in TP ranged from 1–22 years; mean 10.86
- Education ranged from GED to masters degree

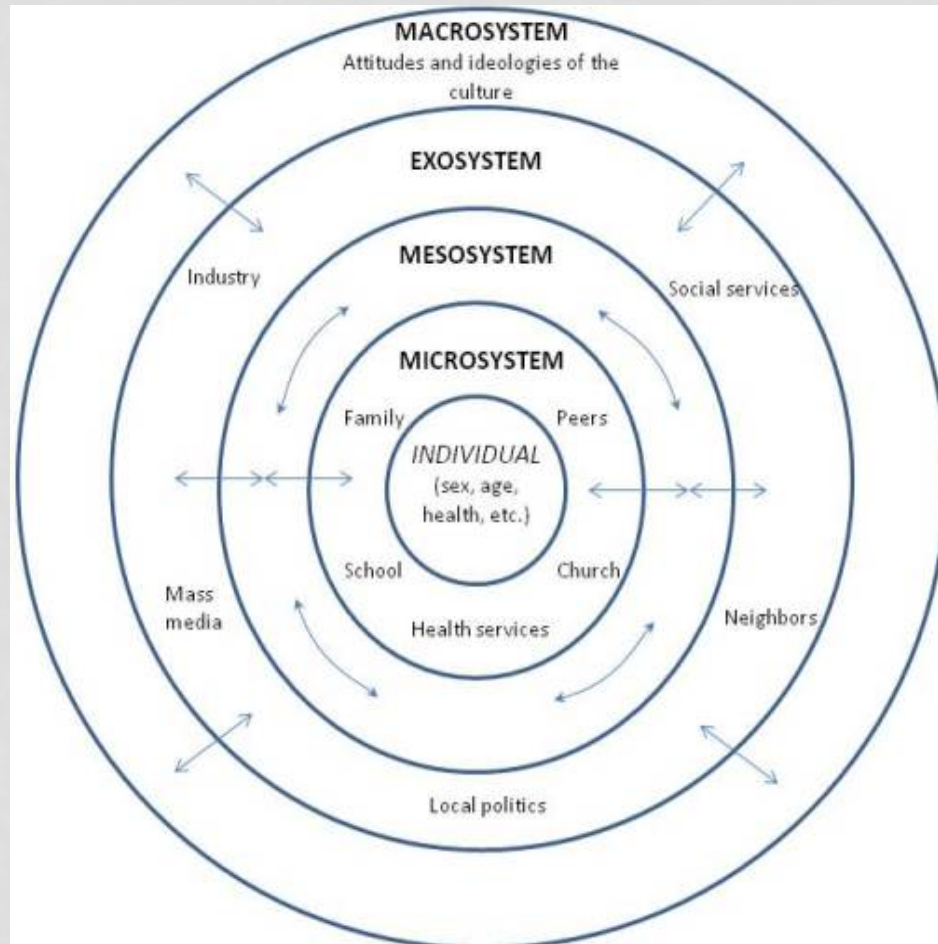
2. TRANSIT EMPLOYEES: TRAINING GROUP B

- N=45
- 53% male
- Age ranged from 25-79; mean of 59.25
- 68.9% African American, 20% Hispanic, 4.4% White, 2.2% Asian, 2.2% Other.
- Years in Transportation ranged from 6 - 40 years.
- Education ranged from high school diploma to master's degree

3. TRANSIT EMPLOYEES: COMPARISON GROUP

- N=16
- 47.6% male
- Age ranged from 23-62; mean of 36.33
- 33.3% White, 28.6% Asian, 23.8% Hispanic, 9.5 Other, 4.8% African American, 4.8% Hawaiian or Pacific Islander
- Years in TP range from less than 2 years – 34 years; mean of 10.22 years.
- Education ranged from GED to doctorate

OUR APPROACH



PROGRAM GOALS

- ✓ Increase Awareness
- ✓ Reduce Stigma
- ✓ Engage Community
- ✓ Improve Identification/Surveillance
- ✓ Enhance Employees' Self-efficacy
- ✓ Prevent Premature Deaths/Suicides

PROGRAM EVALUATION: THEORY OF CHANGE MODEL

Immediate

Knowledge
Attitudes
Self-efficacy
Stigma Reduction

Intermediate

Partnerships
Community Support
Stigma Reduction

Long-term

Reduction of Suicide Rates
Economic Benefits

DATA ANALYSIS PLAN

- Reliability analysis
- Paired and independent sample t tests to:
 1. Compare differences between pre and post training in transit employees.
 2. Determine demographic differences.
 3. Compare differences between transit employees and comparison groups.

RESULTS: RELIABILITY ANALYSIS

Sample Questions

Attitudes:

- Suicide prevention is not my responsibility.

Self-Efficacy

- I feel confident that I can help, in some small way, prevent suicide.

Knowledge

- How would you rate your level of understanding of suicide risk factors

Scale	N	Mean	SD	Cronbach's Alpha
1. Attitudes	16	35.57	7.40	.808
2. Self-efficacy	13	47.51	6.57	.860
3. Declared Knowledge	6	17.92	4.32	.901

ATTITUDES: PRE VS. POST TRAINING

Participants' attitudes did not significantly improve as a result of the training.

Attitudes	Mean	SD	T	Sig
Pre Training	31.40			
Post Training	32.87	6.75	-.842	.414

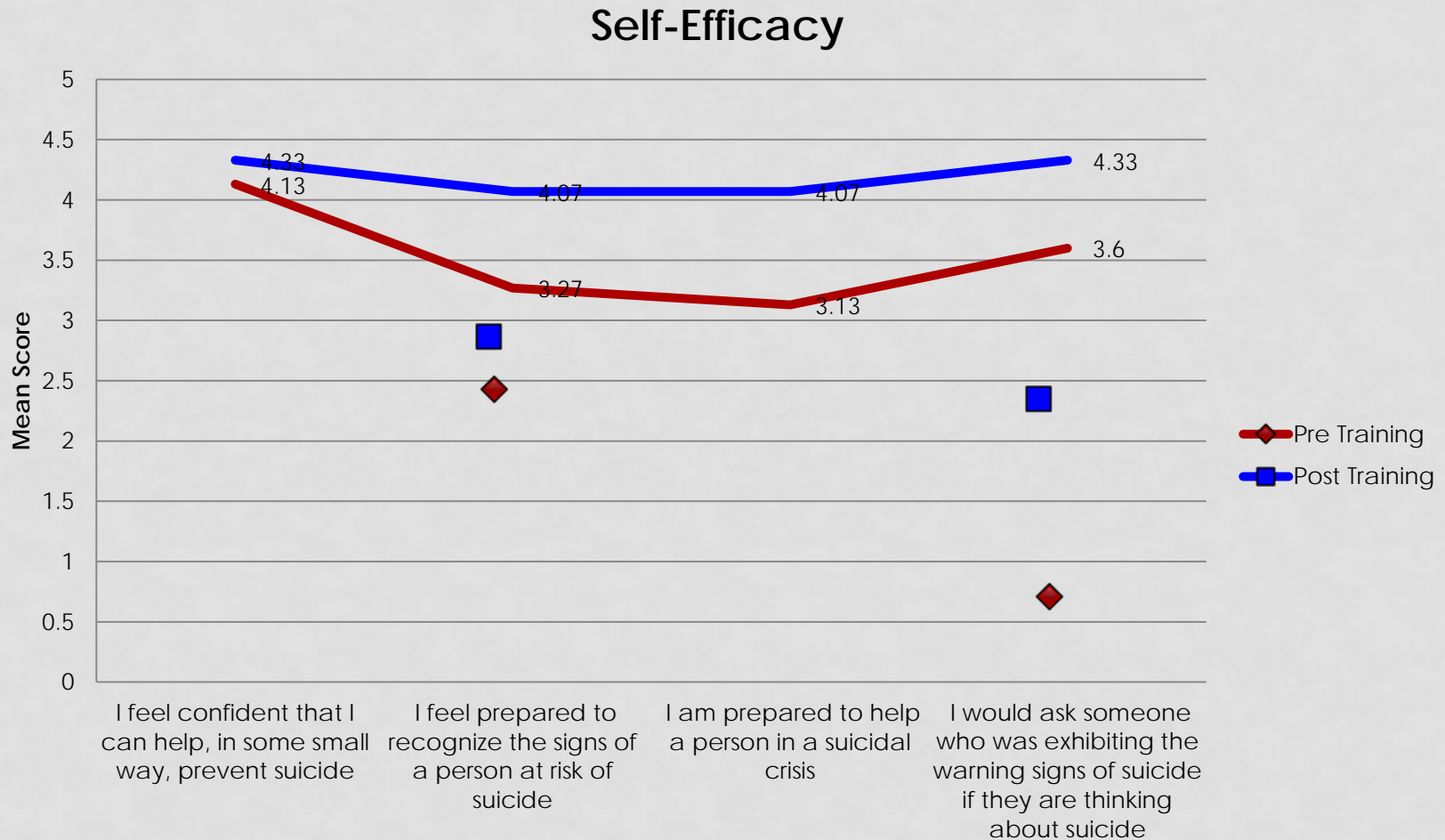
Attitudes	Mean	SD	T	Sig
Initial	35.75			
Follow up	35.50	4.46	.224	.826

SELF EFFICACY: PRE VS. POST TRAINING

Self-efficacy significantly improved as a result of the training. Participants who did not attend the training did not show significant improvements in self-efficacy.

Self-Efficacy	Mean	SD	T	Sig
Pre Training	45.67			
Post Training	54.33	8.10	-4.142	.001
Self-Efficacy	Mean	SD	T	Sig
Initial	44.25			
Follow up	45.75	4.65	-1.291	.216

SELF-EFFICACY



KNOWLEDGE: PRE VS. POST TRAINING

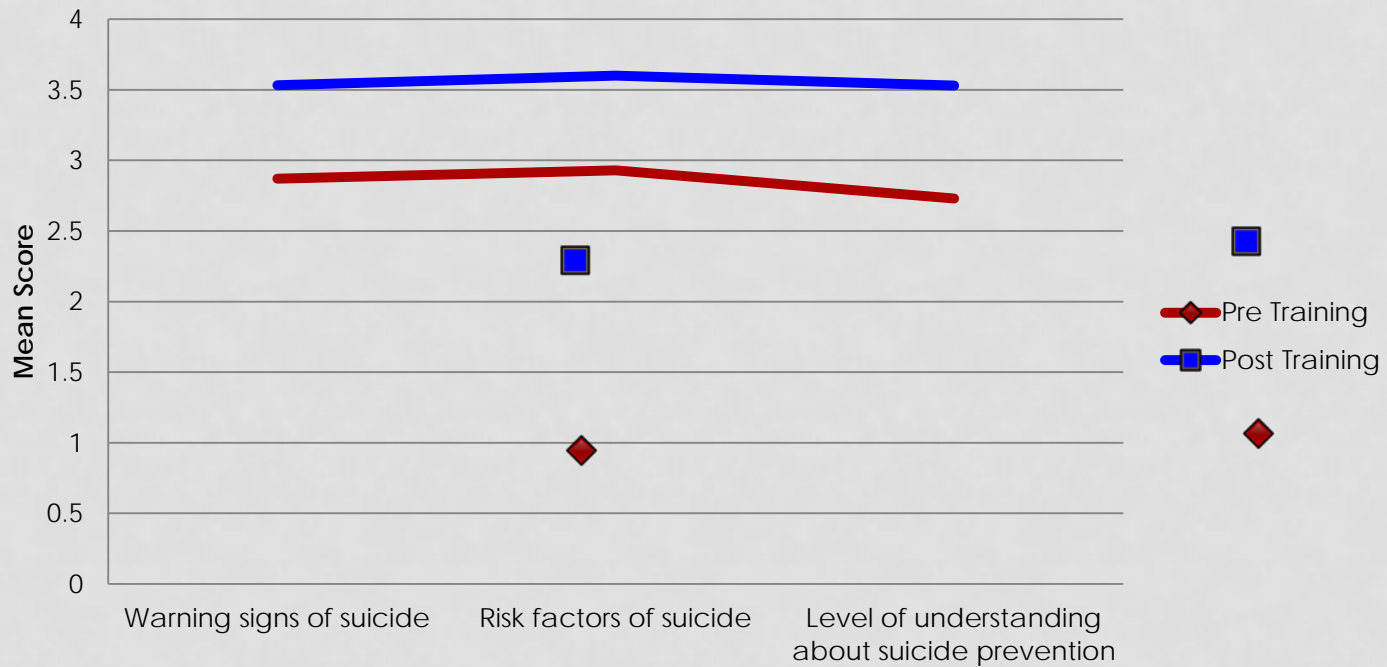
Knowledge significantly improved as a result of the training. Participants who did not attend the training did not show significant improvements in self-efficacy

Knowledge	Mean	SD	T	Sig
Pre Training	17.13			
Post Training	21.33	3.10	-5.250	.000

Knowledge	Mean	SD	T	Sig
Initial	14.89			
Follow up	14.13	4.19	.716	.485

KNOWLEDGE

Rating of Knowledge



ATTITUDES REGARDING TRAINING

- 95.4% would recommend the training to their coworkers.
- 86.4% attitudes towards suicide changed since the training.
- 81.7% more confident of ability to prevent suicide.
- 77.3% report a clearer understanding of their role.

TRAINING GROUP A VS. GROUP B

Items	Group	Mean	Std. Dev.	t	Sig.
Attitudes	Training A	32.87	8.88		
	Training B	38.10	7.40	-2.21	.031
Self-Efficacy	Training A	54.33	7.05		
	Training B	47.65	5.03	3.92	.000
Knowledge	Training A	21.33	4.13		
	Training B	17.70	3.71	3.17	.002

Independent sample t test revealed significant differences between the two transit organizations' post training scores

GENDER DIFFERENCES

Overall, men seem to be less accepting of suicidal intent and may associate more stigma to suicide than women. There is no significant difference between men and women in regards to self-efficacy and knowledge

All transit employees post training N=60

Items	Group	N	Mean	t	Sig.
Attitudes	Male	35	38.80		
	Female	36	34.08	2.68	.009
Self-Efficacy	Male	34	47.41		
	Female	37	49.76	1.54	.128
Knowledge	Male	37	17.57		
	Female	36	18.03	.447	.657

AGE DIFFERENCES

Overall, older participants seem to be less accepting of suicidal intent and may associate more stigma to suicide than women. There is no significant difference between age groups in regards to self-efficacy and knowledge

Items	Group	Mean	t	Sig.
Attitudes	20-40	33.86		
	41-80	38.23	-2.18	.033
Self-Efficacy	20-40	49.54		
	41-80	48.50	.608	.546
Knowledge	20-40	18.23		
	41-80	17.64	.506	.615

PERSONAL EXPERIENCES

- Over 66% of transportation employees have some personal experience with suicide:
 - A close personal friend
 - An acquaintance
 - A person from work or school
- 50% know of an employee who has witnessed or been involved in an incident related to suicide.
- 34% of transportation employees do not know anyone who has committed suicide

PERSONAL EXPERIENCES

Personal experiences with suicide do not seem to make a difference in attitudes, knowledge and self efficacy.

Items	Group	N	Mean	t	Sig.
Attitudes	No Personal experience	23	36.79		
	Personal Experience	48	36.23	.281	.780
Self-Efficacy	No Personal experience	23	49.00		
	Personal Experience	48	48.46	.328	.744
Knowledge	No Personal experience	24	18.42		
	Personal Experience	49	17.49	.848	.399

COMMUNITY SAMPLE

- N=453 Western city community members
- 51.8% male
- Age range from 13-80; mean of 44.32
- 44.8% White, 14.1% Hispanic, 6.8% Asian, 6.0% African American, 2.4% Multiracial, .4% Native American or Alaskan Native, 3.8% Other, 8.2% did not identify their race
- Education level ranged from haven't completed high school to doctoral degree
- 4.8% worked on the railroad in some capacity

COMMUNITY ATTITUDES

- 64.6% of people feel that you can talk to suicidal people without making it worse. **This is an area of intervention!**
- General agreement (80.0%) that suicide is preventable.
- General agreement (71.6%) that suicide is a community responsibility.
- 67.4% say they would ask about intent if they observed that there were warning signs for suicide.
- Participants were unsure about whether there were warning signs of suicide. **Another area of intervention!**
- Younger adults believe that suicide is preventable, believe that they can help prevent suicide, and feel more prepared to recognize warning signs than older adults
- Women appear to have better attitudes about suicide prevention.

2. COUNSELING PSYCHOLOGY MASTERS STUDENTS

- N=35
- 20% male
- Age range from 22-41; mean of 26
- 80% White, 5.7% Hispanic 2.9% Asian, 11.4% did not respond

PRE TRAINING GROUP COMPARISONS

Items	Group	Mean	Std. Dev.	t	Sig.
Suicide prevention is not my responsibility.	Training Group A	1.76	.82		
	Masters Students	1.66	.68	.685	NS
	Community Members	1.98	1.17	-2.04	.044
If someone wants to kill themselves there isn't much we can do to stop them.	Training Group A	1.86	.95		
	Masters Students	1.77	.84	.484	NS
	Community Members	1.92	1.21	-.454	NS
Suicide is preventable.	Training Group A	4.03	.84		
	Masters Students	4.14	.60	-.804	NS
	Community Members	4.12	1.16	-.836	NS
I would ask someone who was exhibiting the warning signs of suicide if they are thinking about suicide.	Training Group A	3.62	.83		
	Masters Students	4.37	0.65	-5.10	.000
	Community Members	3.75	1.15	-1.17	NS
I feel confident that I can help, in some small way, prevent suicide.	Training Group A	3.86	.78		
	Masters Students	4.28	.52	-3.35	.001
	Community Members	3.82	1.02	.405	NS

t values are comparisons of Training group A with masters students and Training group A with community members.

POST TRAINING GROUP COMPARISONS

Items	Group	Mean	Std. Dev.	t	Sig.
Suicide prevention is not my responsibility.	Training Group A	1.87	1.06		
	Masters Students	1.66	.68	-.931	NS
	Community Members	1.99	1.17	-.524	NS
If someone wants to kill themselves there isn't much we can do to stop them.	Training Group A	1.91	1.04		
	Masters Students	1.77	.84	-.059	NS
	Community Members	1.92	1.22	-.015	NS
Suicide is preventable.	Training Group A	4.39	.72		
	Masters Students	4.14	.60	-1.42	NS
	Community Members	4.12	1.16	1.67	NS
I would ask someone who was exhibiting the warning signs of suicide if they are thinking about suicide.	Training Group A	4.37	.65		
	Masters Students	4.37	0.65	.519	NS
	Community Members	3.75	1.15	3.63	.001
I feel confident that I can help, in some small way, prevent suicide.	Training Group A	4.09	.67		
	Masters Students	4.28	.52	1.27	NS
	Community Members	3.82	1.02	1.83	.078

t values are comparisons of Training group A with masters students and Training group A with community members.

CONCLUSIONS

The results suggest that for the most part, Transit employees...

- ✓ Believe that they have a responsibility to helping prevent suicide.
- ✓ Have an open mind about suicide and suicide prevention.
- ✓ Did not feel prepared to recognize or help a suicidal person prior to training. **Improved following training.**
- ✓ Are willing to help someone in need. **improved following training.**
- ✓ Have mixed knowledge about the risk factors and warning signs of suicide. **Improved following training.**
- ✓ Initially did not rate their knowledge of risk factors and warning signs to be high indicating a need to improve self efficacy before the training. **Improved following training.**

Training improved self-efficacy, actual knowledge and perceived knowledge about the risk factors and warning signs.

RECOMMENDATIONS

- Continue suicide training programs.
- Target improving male's and older folks attitudes towards suicide prevention.
- Increase awareness of warning signs of suicide:
 - leaving possessions on platform
 - Intoxication
 - erratic behavior
- Create a safe environment for employees to discuss suicide prevention and share knowledge and experiences.
- Change message to community members and increase and enlist their support and participation in prevention.
- Inform community members about suicide's preventability.
- Results show that community feels it has responsibility. **But, no idea how to help.**
- **Next Steps:** Signage (pre-post community members), additional employee trainings, and additional community events.