Mental Health Commission of Canada

Commission de la santé mentale du Canada

Opening Minds in High School:

Durham Talking About Mental Illness (TAMI) In school Activities: Post Summit

Michelle Koller, Shu-Ping Chen, Bob Heeney, Allison Potts & Heather Stuart

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1 OPENING MINDS: CHANGING HOW WE SEE MENTAL ILLNESS

As part of its 10-year mandate, The Mental Health Commission of Canada (MHCC) embarked on an anti-stigma initiative called *Opening Minds* to change the attitudes and behaviours of Canadians towards people with a mental illness. *Opening Minds* is the largest systematic effort undertaken in Canadian history to reduce the stigma and discrimination associated with mental illness. *Opening Minds* is taking a targeted approach, initially reaching out to healthcare providers, youth, the workforce and media. *Opening Mind's* philosophy is to build on the strengths of existing programs from across the county and to scientifically evaluate their effectiveness. A key component of programs being evaluated is contact-based educational sessions, where target audiences hear personal stories from and interact with individuals who have experience with a mental illness and have recovered or are managing their illness. *Opening Mind's* goal is to replicate effective programs nationally, develop new interventions to address gaps in existing programs and add other target groups over time.

For more information, go to: www.mentalhealthcommission.ca/English/Pages/OpeningMinds.aspx

2 INTRODUCTION AND PURPOSE

Stigma and discrimination have gained the attention of the public health and policy communities as a hidden and costly burden cause by society's prejudicial reaction to people with a mental illness (World Health Organization, 2001). Stigma and discrimination pose major obstacles in virtually every life domain, carrying significant negative social and psychological impacts. Reducing stigma and discrimination have become important policy objectives at both international and national levels (Sartorius & Schulze, 2005). The 2009 launch of the Mental Health Commission's *Opening Minds* anti-stigma/anti-discrimination initiative marked the largest systematic effort to combat mental illness related-stigma in Canadian history.

The *Opening Minds* program has partnered with a number of programs that deliver contact-based education to primary and high school students throughout Canada. Contact-based education involves people who have experienced a mental illness educating students by telling their personal stories and allowing time for active discussion. In some cases, teacher lesson plans accompany the classroom presentations.

This report is intended to provide programs with an overview of their key evaluation results. A subsequent initiative will examine each program's components in depth in order to highlight the active ingredients that are associated with the largest change. This initial report presents the combined findings of the Durham and York Regions TAMI (Talking About Mental Illness) programs. Extensive appendices are provided containing tabular data for each of the separate interventions but these are not discussed in detail in this report.

3 DURHAM TAMI PROGRAM OVERVIEW

The Durham TAMI Coalition will provide the assembly model to schools that have participated in a summit and want to continue to increase awareness of mental illness and stigma in their school community. The week-long awareness program that the summit student ambassadors create includes an assembly. School-based activities surround an assembly which invites all students to participate in a contact-based educational session that includes a presentation on the mental health continuum, myths and stereotypes, prejudice and discrimination, and facts and truths. It challenges all students to begin to answer the question "What would it take for you to take action and create a school community of inclusion and acceptance?" Students hear a story of hope and recovery from a Durham TAMI speaker and are invited to engage in a Q&A so that they leave the assembly with a clearer understanding of mental health and wellness and the impact stigma has on those who wish to seek help.

4 APPROACH TO DATA COLLECTION

Students were surveyed before and after the contact-based intervention. All programs participating in this network initiative used the same pre- and post-test survey questionnaires to collect their data. These surveys were adapted from items used by the six contact-based programs that participated in the instrument development phase of this project. The resulting Stigma Evaluation Survey contained 22 self-report items. Of these:

- 11 items measured **stereotyped attributions**
    - controllability of illness – 4 items,
    - potential for recovery – 2 items, and
    - potential for violence and unpredictability – 5 items
- 11 items measured expressions of **social tolerance**, which include both social distance and social responsibility items
    - desire for social distance – 7 items, and
    - social responsibility for mental health issues – 4 items

All items were scored on a 5-point agreement scale, ranging from strongly agree to strongly disagree. To avoid potential response sets, some items were positively worded while others were negatively worded. Items were

scored so that higher scores on any item would reflect higher levels of stigma. The scales had good reliability in this pooled sample with a pre-test Cronbach's alpha of 0.84 for the stereotype scale and 0.87 for the social tolerance scale. Both are well above the conventional threshold of .70, indicating that they are reliable. Information on gender, age, grade and prior contact with someone with a mental illness (close friend or family member) was also collected.

5 APPROACH TO DATA COLLECTION

5.1 Sample Characteristics

Four hundred and five high school students completed the pre-test and post-test surveys. The characteristics of the students are presented in **Table 1**. Just over one half (54%) were female. Most were either 14 (57%) or 17 (30%) years old and almost everyone (99%) was in either grade 9 or grade 12. On the pre-test, three quarters (77%) of the students indicated they knew someone with a mental illness and 23% indicated that they had a mental illness.

Table 1. Sample characteristics for those who completed both the pre-test and post-test

Characteristic	% (N=405)
Gender	
• Male	46.4% (183)
• Female	53.6% (211)
• Missing	-- (11)
Age	
• 13	5.0% (20)
• 14	57.4% (232)
• 15	2.0%(8)
• 16	3.2% (13)
• 17	30.0% (121)
• 18	2.5% (10)
• Missing	--(1)
Grade	
• 9	63.3% (255)
• 10	1.2% (5)
• 12	35.5% (143)
• Missing	-- (2)
Contact Pre-test - Does someone you know have a mental illness*	
• No	13.5% (52)
• Uncertain	21.9% (84)
• Close friend	12.8% (49)
• Family member	18.0% (69)
• Somebody else	21.4% (82)
• I do	23.2% (89)
• Missing	-- (21)
* Multiple responses accepted	

4.2 Stereotyped Attributions

With the exception of the items violence and predictability, at the time of the pre-test, the majority of respondents held positive (non-stereotypical) attitudes toward people with a mental illness. For example, before the intervention students tended to disagree with the common stereotypes that people with a mental illness get what they deserve (76% disagree) or that people with a mental illness could snap out of it if they wanted to (76% disagreed). However, only about one quarter (26%) disagreed with the stereotype that you can never know what someone with a mental illness is going to do, and only 31% disagreed with the stereotype that people with a mental illness become violent if not treated (see **Appendix A** for detailed tables).

Figure 1 shows the proportion of students who made any change on the controllability items from pre-test to post-test (where pre-test and post-test surveys were individually matched). The greatest positive shift (reflecting reduced stigma) was for the item "People with mental illnesses often don't try hard enough to get better" (40% improvement). The proportion that improved their response on the item "People with mental illnesses could snap out of it if they wanted to" was 32%. There was a 31% improvement for "People with a mental illness tend to bring it on themselves" and a 25% improvement for the item "Most people with mental illness get what they deserve."

The majority of students (44%-67%) did not change scores. Percentages varied by item. These reflected two conditions: either they already held a non-stigmatizing attitude and stayed the same or they had a negative attitude on the pre-test and did not improve. A detailed item-by-item breakdown is shown in **Appendix A**. A relatively small proportion of students (9%-15%) showed a negative change.

Figure 1. Proportion of students who made any change on the Likert scale from pre-test to post-test – Controllability Items (n=326 pre-test/post-test pairs)
The bars show the proportion (%) of students who had a post-test score that was worse than the pre-test score, did not change, and got better (became less stigmatizing)

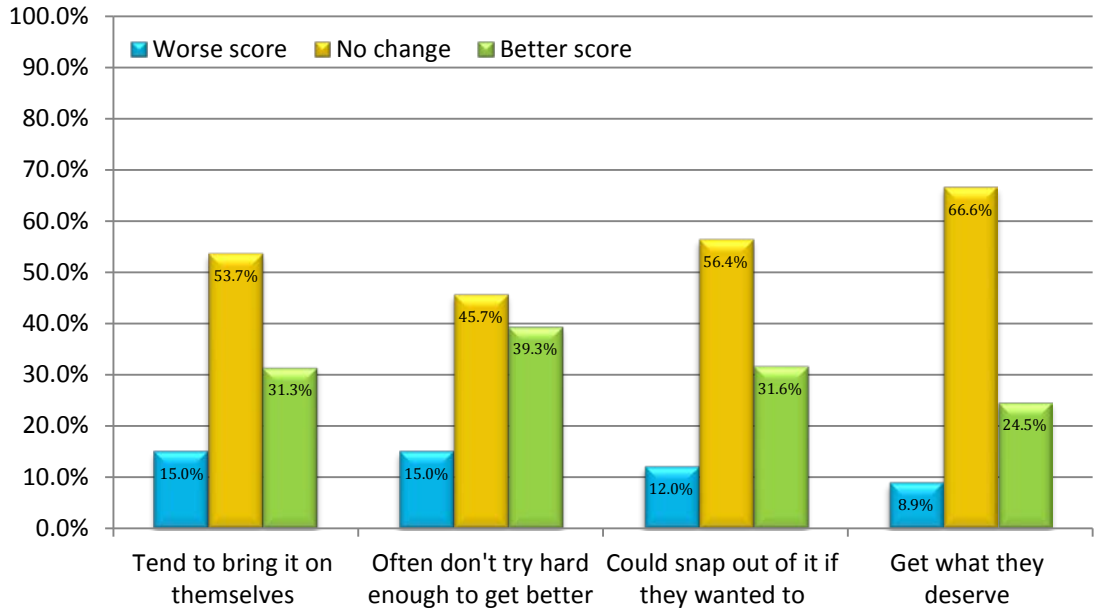


Figure 2 shows the proportion of students who made any change on the recovery items. Almost one half (48%) improved on the item, "most people with a mental illness are too disabled to work" and one quarter (25%) improved on the item, "people with serious mental illnesses need to be locked away". Students whose scores did not change reflected two conditions: either they already held a non-stigmatizing attitude and stayed the same or they had a negative attitude on the pre-test and did not improve. A small proportion of students (7% and 16%) showed a negative change. Please refer to **Appendix A** for specifics.

Figure 2. Proportion of students who made any change on the Likert scale from pre-test to post-test – Recovery items (n=326 pre-test/post-test pairs)

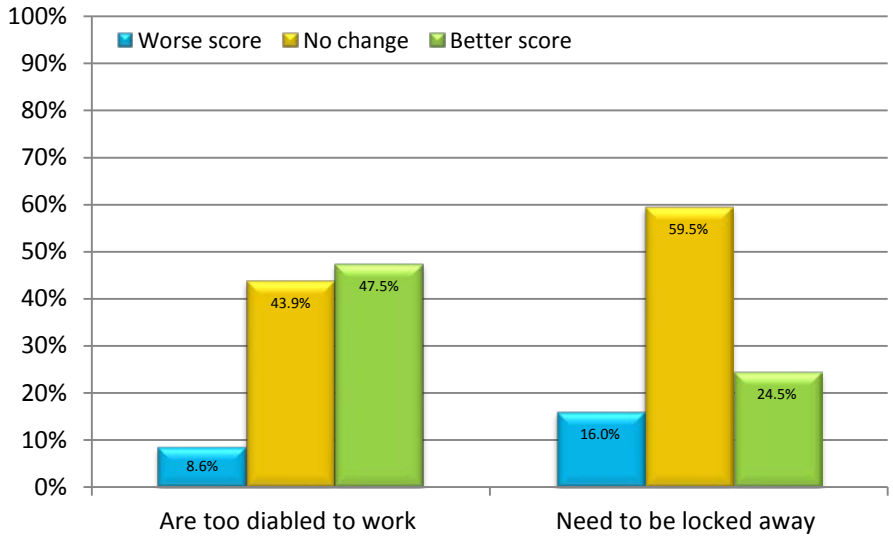
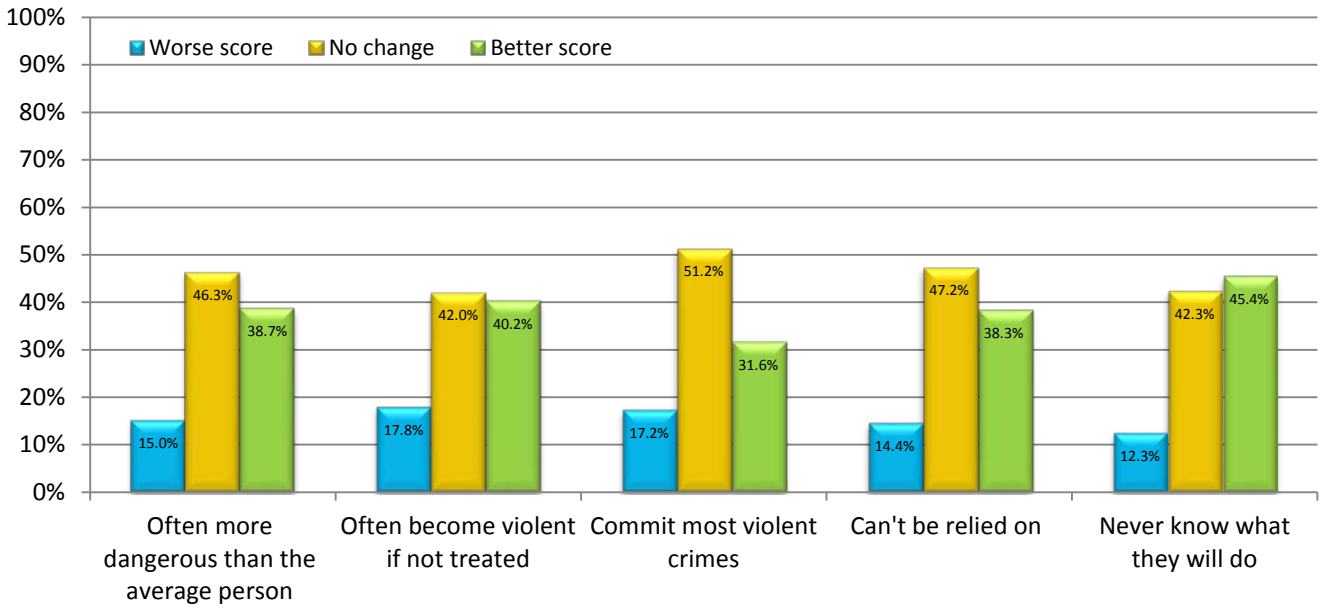


Figure 3 shows the proportion of students who made any change on the items dealing with violence and unpredictability. All showed a large improvement of 32% or more. The greatest improvement was for the items "You can never know what someone with a mental illness is going to do" (45% improvement), "People with mental illnesses often become violent if not treated" (40% improvement) and "People with a mental illness are often more dangerous than the average person" (39% improvement). Students whose scores did not change reflected two conditions: either they already held a non-stigmatizing attitude and stayed the same or they had a negative attitude on the pre-test and did not improve. Some students (12% and 18%) showed a negative change. Please refer to **Appendix A** for specifics.

Figure 3. Proportion of students who made any change on the Likert scale from pre-test to post-test – Violence/unpredictability items (n=326 pre-test/post-test pairs)

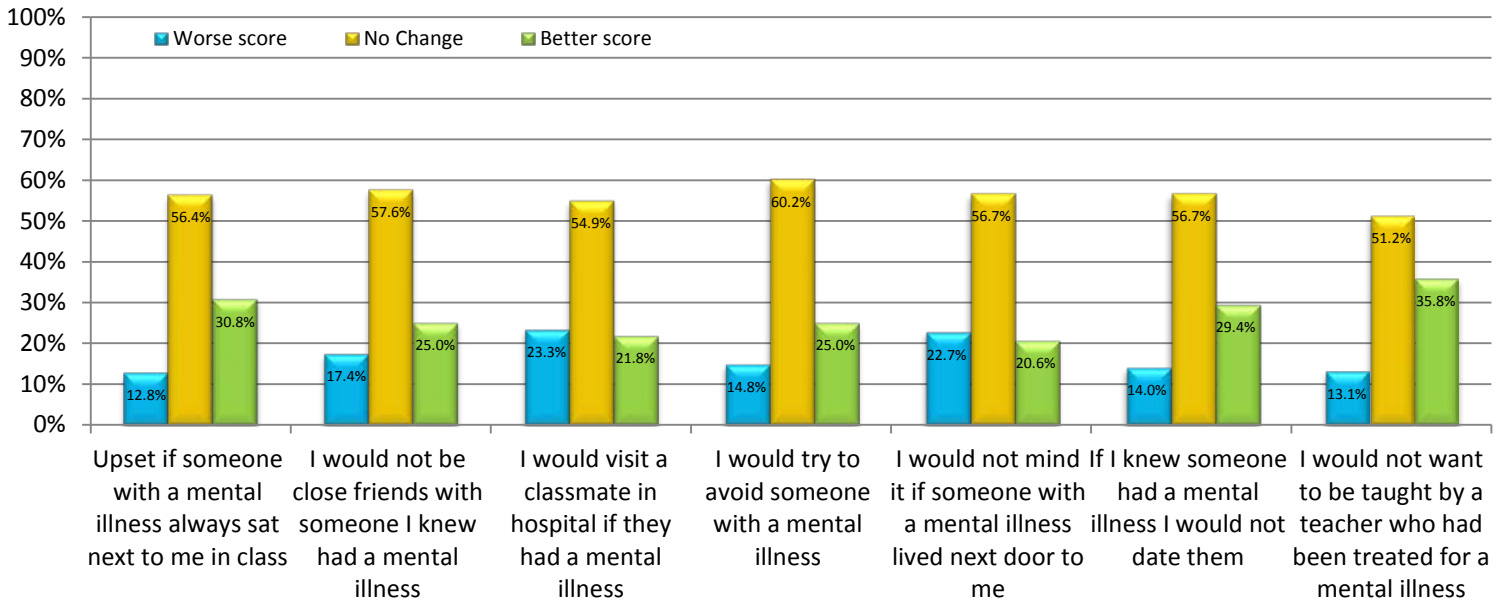


5.3 Expressions of Social Distance

Prior to the intervention, students showed generally positive, non-stigmatizing responses to six out of the seven social distance items. For example, 81% agreed with the statement "I would not mind if someone with a mental illness lived next door to me" and 77% disagreed with the statement "I would try to avoid someone with a mental illness" (see **Appendix A** for detailed tables). However, only 29% disagreed with the item "If I know someone had a mental illness I would not date them."

Figure 4 shows the proportion of students who made any change on the social distance items. All items showed improvement. For example, following the intervention there was a 36% improvement for the item "I would not want to be taught by a teacher who had been treated for a mental illness" and a 31% improvement for the item "I would be upset if someone with a mental illness always sat next to me in class." Students whose scores did not change reflected two conditions: either they already held a non-stigmatizing attitude and stayed the same or they had a negative attitude on the pre-test and did not improve. Some students (13%-23%) showed a negative change (see **Appendix A**).

Figure 4. Proportion of students who made any change on the Likert scale from pre-test to post-test – Social distance items (n=344 pre-test/post-test pairs)

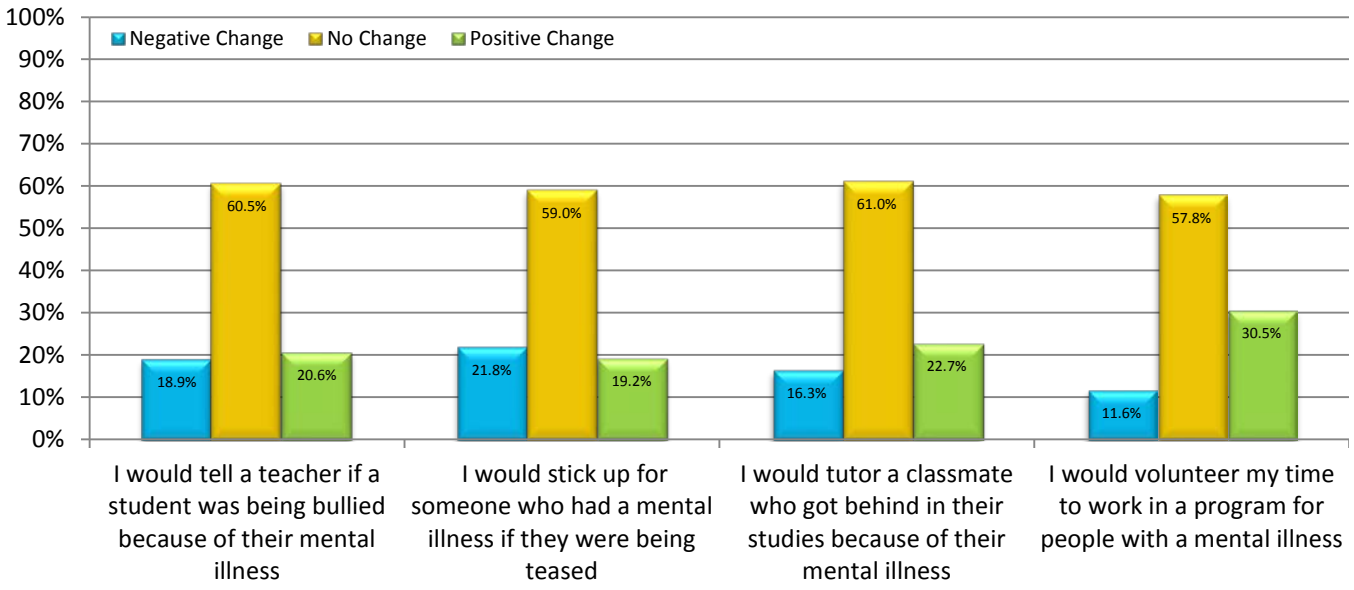


5.4 Social Responsibility

Before the program intervention, students were generally socially conscious. For the items "I would stick up for someone who had a mental illness if they were being teased" and "I would tell a teacher if a student was being bullied because of their mental illness," 84% and 80% respectively agreed or strongly agreed (see **Appendix A** for detailed tables).

Figure 5 shows the proportion of students who made any change on the social responsibility items. The highest positive change was seen for the item "I would volunteer my time to work in a program for people with mental illness" (31% improvement). Students whose scores did not change reflected two conditions: either they already held a non-stigmatizing attitude and stayed the same or they had a negative attitude on the pre-test and did not improve. A proportion of students (12% and 22%) showed a negative change (see **Appendix A**).

Figure 5. Proportion of students who made any change on the Likert scale from pre-test to post-test – Social responsibility items (n=344 pre-test/post-test pairs)



6 PROGRAM SUCCESS

In order to provide a measure of the overall success of the intervention, we chose (*a priori*) a cut-off score of 80% correct. Though somewhat arbitrary, we have used this cut-off in previous work to count the number of students who achieve an "A" grade or higher following an educational session. More specifically, success was measured by comparing the proportion of students who obtained 80% or more correct (non-stigmatizing) answers on the post-test compared to the pre-test.

Figure 6 shows the cumulative percent of items reflecting non-stigmatizing responses for the stereotype scale. Prior to the intervention, 28% of students gave a non-stigmatizing response to at least 9 of the 11 stereotype items reflecting 80% correct (corresponding to the red-dotted line on the graph below). At post-test, this had increased to 53% (reflecting a 25% improvement overall). When item scores were aggregated to reflect a scale value out of 55, the average (median) score dropped from 25 at the pre-test to 21 at the post-test (reflecting a 7% drop in the average scale score).

Figure 6. Cumulative percent of stereotype scale items reflecting non-stigmatizing responses (n=326)

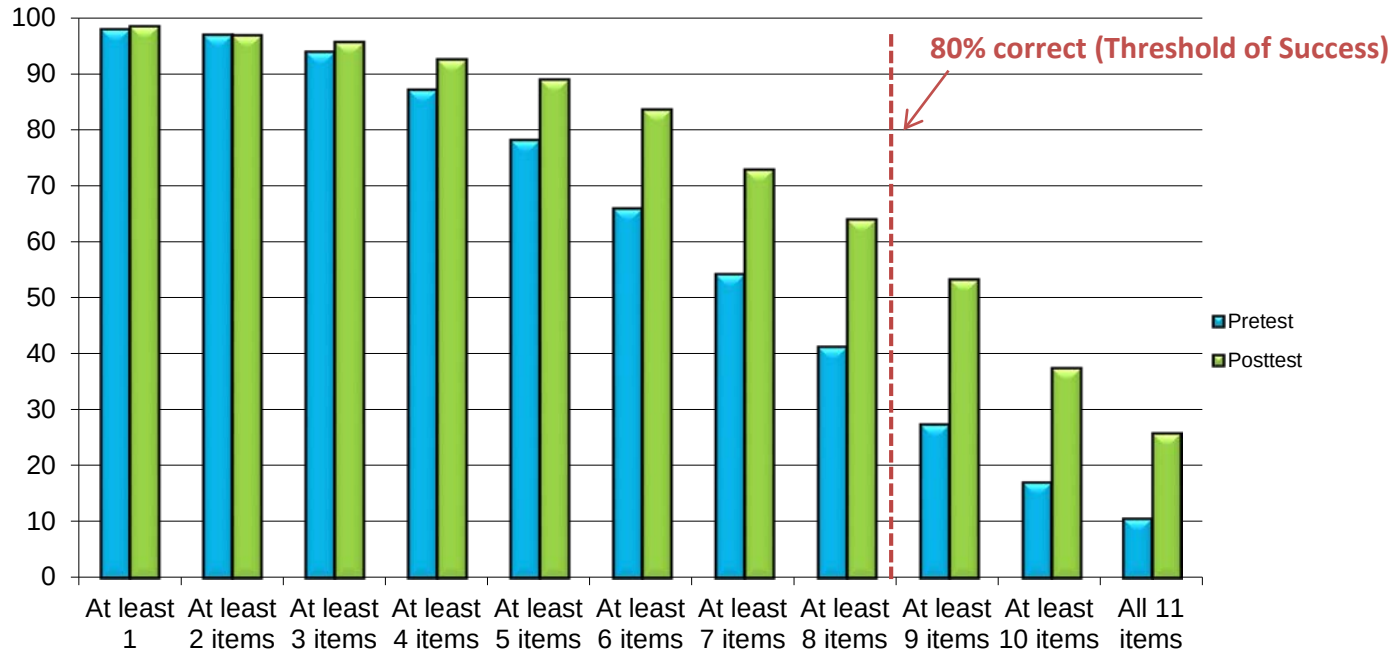


Figure 7 shows the cumulative percent of items reflecting non-stigmatizing responses for the social tolerance scale. Prior to the intervention, 41% of the students gave a non-stigmatizing response to 9 of the 11 items reflecting 80% correct (corresponding to the red-dotted line on the graph below). At post-test this had increased to 53% (reflecting a 12% improvement overall). When item scores were aggregated to reflect a scale value out of 55, the average (median) score dropped from 24 at the pre-test to 23 at the post-test (reflecting a 2% drop in the average scale score).

Figure 7. Cumulative Percent of Tolerance Items Reflecting Non-stigmatizing response (344)

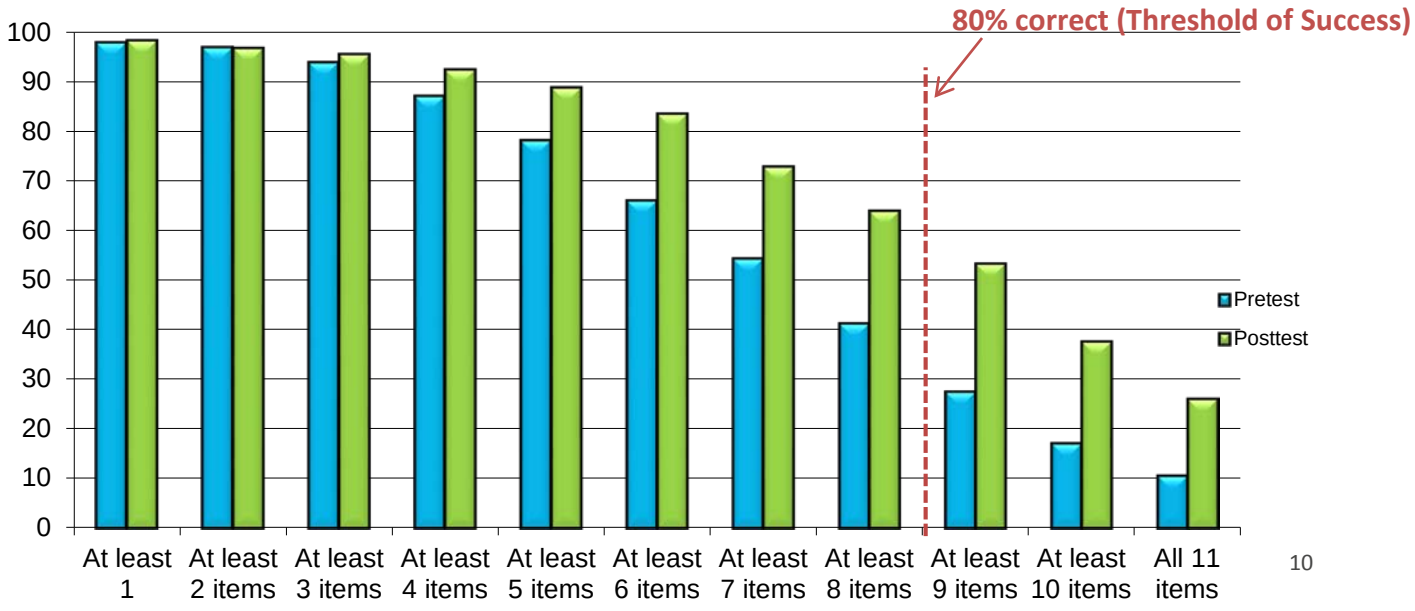
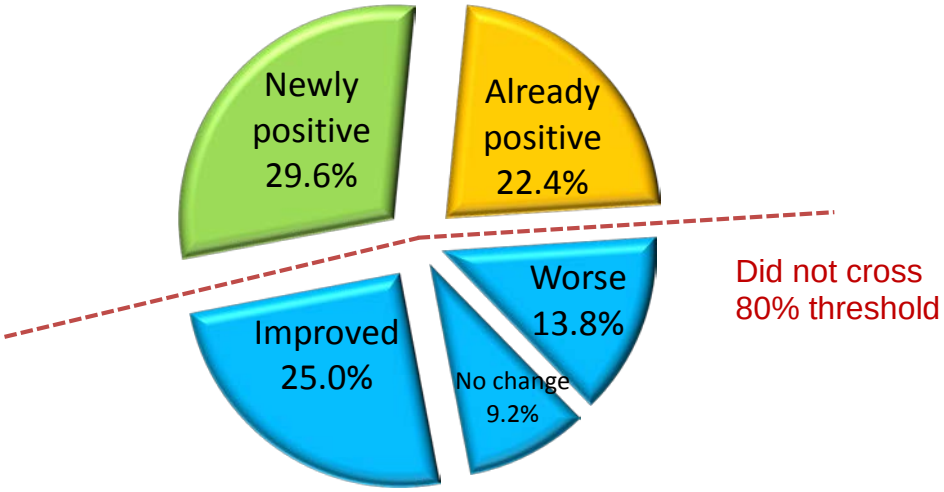


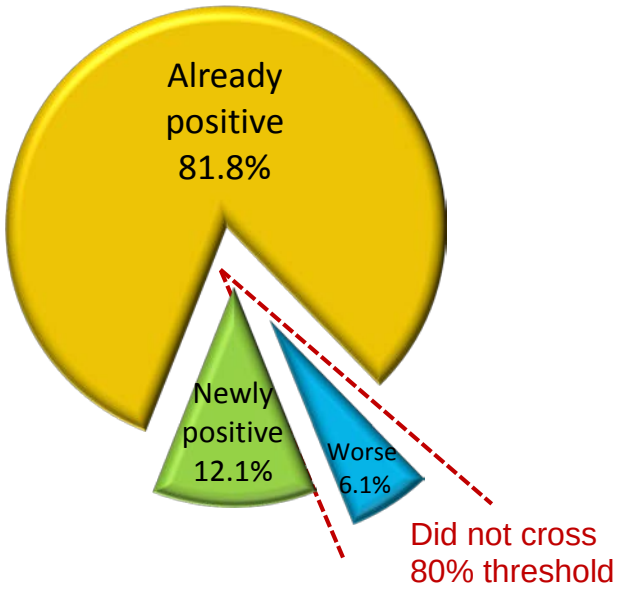
Figure 8 and 9 show the change in stereotype and social tolerance scale scores. Prior to the intervention, more respondents were positive (80% threshold, 9 out of 11 positive responses) on the tolerance scale (36%) compared to the stereotype scale (22%). After the intervention, the percent that improved their attitudes by crossing the 80% threshold was 30% (stereotype scale) and 19% (tolerance scale). The percent that improved their scores but did not cross the 80% threshold was 25% (stereotype scale) and 13% (tolerance scale).

Figure 8. Change in stereotype scale score (n=304)



Notes: To adjust for regression to the mean, pre-test outliers (those whose pre-test scale scores were over 2 standard deviations beyond the mean) where omitted from this analysis.

Figure 9. Change in social tolerance scale score (n=33)



7 CONCLUSION

This report describes the results of a contact-based anti-stigma intervention and activities provided to high school students. They were organized by a small group of students and a teacher who attended an anti-stigma summit and took on the task of taking that message back to the students in their school. The results show that this program was successful in improving the proportion of students who got 80% of the answers correct, so received an “A” grade on the tests used to assess social stereotypes and social tolerance. The programs achieved greater success in diminishing stereotyped attitudes (reflecting a 7% difference in aggregated scale scores) than in expressions of social tolerance (reflecting a 2% difference in aggregated scale scores). In addition, a small number of students continued to hold stigmatizing beliefs despite their participation.

These findings suggest that certain elements of the programs appear to be working. For example, program staff consider that the speakers’ stories are central to their success along with consistent coordination, training, support and messaging. However, they also consider that there is need for ongoing investigation into the program messages that may be less potent in effecting change or that may be consolidating stereotypes.

Considering that some students did not move in the expected direction, there may be some value in assessing their ‘readiness for change’ in future evaluations to determine if their stage of change is predictive of program outcomes. Qualitative investigation may also help identify the active ingredients in the program or why some students benefited more than others. Since data collection, the Durham TAMI Coalition has designed a supportive and educational website that can be used by teachers and students in designing and delivering mental health or anti-stigma awareness activities. The programs provide an opportunity to empower youth activism by encouraging schools to identify student mental health leaders and activists as the summit participants. The increasing demand for the program has also created a need to increase the speaker base with a wider variety of story content.

Appendix – Durham TAMI In School Activities: Post Summit

Stigma Stereotype Results

Controllability Items

Stereotyped Attributions Items	Pre-test % (n=326)	Post-test % (n=326)	% Change
4. People with a mental illness tend to bring it on themselves			
• Strongly disagree/disagree	69.0% (225)	78.2% (255)	9.2
• Unsure	18.7 % (61)	13.5% (44)	-5.2
• Strongly agree/agree	12.3% (40)	8.3% (27)	-4
5. People with mental illnesses often don't try hard enough to get better			
• Strongly disagree/disagree	71.5% (233)	85.0% (277)	13.5
• Unsure	20.2% (66)	10.1 % (33)	-10.1
• Strongly agree/agree	8.3% (27)	4.9% (16)	-3.4
6. People with a mental illness could snap out of it if they wanted to			
• Strongly disagree/disagree	76.4% (249)	85.9% (280)	9.5
• Unsure	16.3 % (53)	9.8% (32)	-6.5
• Strongly agree/agree	7.4 % (24)	4.3% (14)	-3.1
14. Most people with a mental illness get what they deserve			
• Strongly disagree/disagree	76.4% (249)	86.5% (282)	10.1
• Unsure	22.1% (72)	11.7% (38)	-10.4
• Strongly agree/agree	1.5% (5)	1.8% (6)	0.3

Recovery Items

Stereotyped Attributions Items	Pre-test % (n=326)	Post-test % (n=326)	% Change
3. Most people with a mental illness are too disabled to work			
• Strongly disagree/disagree	70.2% (229)	89.0% (290)	18.8
• Unsure	22.1% (72)	6.7% (22)	-15.4
• Strongly agree/agree	7.7 % (25)	4.3 % (14)	-3.4
15. People with serious mental illnesses need to be locked away			
• Strongly disagree/disagree	76.1% (248)	82.5% (269)	6.4
• Unsure	15.3% (50)	12.6% (41)	-2.7
• Strongly agree/agree	8.6% (28)	4.9% (16)	-3.7

Violence/Unpredictability Items

Stereotyped Attributions Items	Pre-test % (n=326)	Post-test % (n=326)	% Change
7. People with a mental illness are often more dangerous than the average person			
• Strongly disagree/disagree	50.9% (166)	67.5 % (220)	16.6
• Unsure	30.4% (99)	18.7% (61)	-11.7
• Strongly agree/agree	18.7% (61)	13.8% (45)	-4.9
8. People with a mental illness often become violent if not treated			
• Strongly disagree/disagree	31.0% (101)	50.6% (165)	19.6
• Unsure	45.4% (148)	29.8% (97)	-15.6
• Strongly agree/agree	23.6% (77)	19.6% (64)	-4.0
10. Most violent crimes are committed by people with a mental illness			
• Strongly disagree/disagree	61.0% (199)	67.5% (220)	6.5
• Unsure	22.4% (73)	22.4% (73)	0.0
• Strongly agree/agree	16.6% (54)	10.1% (33)	-6.5
11. You can't rely on someone with a mental illness			
• Strongly disagree/disagree	62.9% (205)	73.0% (238)	10.1
• Unsure	23.6% (77)	19.3% (63)	-4.3
• Strongly agree/agree	13.5% (44)	7.7% (25)	-5.8
12. You can never know what someone with a mental illness is going to do			
• Strongly disagree/disagree	25.5%(83)	44.8% (146)	19.3
• Unsure	34.7% (113)	30.1% (98)	-4.6
• Strongly agree/agree	39.9% (130)	25.2% (82)	-14.7

Proportion of students who made any change on the Likert scale from pre-test to post-test (n=326 pre-test/post-test pairs)

Survey Item	Negative change % (n)	No change % (n)		Positive change % (n)	*McNemar-Bowker* Significance
		Stigmatizing* % (n)	Non-stigmatizing* % (n)		
Controllability Items					
4. People with a mental illness tend to bring it on themselves	15.0% (49)	53.7% (175)		31.3% (102)	χ2 = 29.8; df = 9; p<.001
		10.7% (35)	42.9% (140)		
5. People with mental illnesses often don't try hard enough to get better	15.0% (49)	45.7% (149)		39.3% (128)	χ2 =46.2; df = 9; p<.001
		5.2% (17)	40.5% (132)		
6. People with a mental illness could snap out of it if they wanted to	12.0% (39)	56.4% (184)		31.6% (103)	χ2 =39.8; df = 8; p<.001
		5.8% (19)	50.6% (165)		
14. Most people with a mental illness get what they deserve	8.9% (29)	66.6% (217)		24.5% (80)	χ2 =32.4; df = 7; p<.001
		8.3% (27)	58.3% (190)		
Recovery Items					
3. Most people with a mental illness are too disabled to work	8.6% (28)	43.9% (143)		47.5% (155)	χ2 =100.4;df = 9; p<.001
		5.8% (19)	38% (124)		
15. People with serious mental illnesses need to be locked away	16.0% (52)	59.5% (194)		24.5% (80)	χ2 =18.2;df =10 ; p=.052
		6.7% (22)	52.8% (172)		
Violence/Unpredictability Items					
7. People with a mental illness are often more dangerous than the average person	15.0% (49)	46.3% (151)		38.7% (126)	χ2= 51.2; df = 10; p<.001
		17.2% (56)	29.1% (95)		
8. People with a mental illness often become violent if not treated	17.8% (58)	42.0% (137)		40.2% (131)	χ2 =43.7; df =10; p p<.001
		26.7% (87)	15.3% (50)		
10. Most violent crimes are committed by people with a mental illness	17.2% (56)	51.2% (167)		31.6% (103)	χ2 =21.3; df =10; p=.019
		15.6% (51)	35.6% (116)		
11. You can't rely on someone with a mental illness	14.4% (47)	47.2% (154)		38.3% (125)	χ2 =47.5; df =9; p<.001
		12.6% (41)	34.7% (113)		
12. You can never know what someone with a mental illness is going to do	12.3% (40)	42.3% (138)		45.4% (148)	χ2 =71.0; df =10; p<.001
		28.2% (92)	14.1% (46)		

Notes:

- Base size is those who responded to all the pre- and post-test items (n=326)
- Change was defined as moving on 5-point Likert Scale from the pre-test to the post-test (negative change: toward a more stigmatizing answer; positive change: toward a less stigmatizing answer)
- *The non-stigmatizing response means agree or strongly agree; the stigmatizing response includes unsure, disagree, and strongly disagree
- Statistical tests use the original five point scale, positive change does not necessary imply non stigmatizing response
- Degrees of freedom depend on the number of non-empty cells and may vary by question due to different response patterns

Percent Positive Endorsement of Knowledge Items

	Pre-test % (n=329)	Post-test % (n=326)
None	2.1% (7)	1.5% (5)
At least 1	97.9% (319)	98.5% (321)
At least 2 items	96.9% (315)	96.9% (315)
At least 3 items	93.9% (306)	95.7% (312)
At least 4 items	87.1% (284)	92.6% (302)
At least 5 items	78.2% (255)	89.0% (290)
At least 6 items	66.0% (215)	83.7% (273)
At least 7 items	54.3% (177)	73.0% (238)
At least 8 items	41.4% (134)	64.1% (209)
At least 9 items	27.6% (90)	53.4% (174)
At least 10 times	17.2% (56)	37.7% (123)
All 11 times	10.7% (35)	26.1% (85)

Social Tolerance Results

Social Distance Items

Stereotyped Attributions Items	Pre-test % (n=344)	Post-test % (n=344)	% Change
18. I would be upset if someone with a mental illness always sat next to me in class			
• Strongly disagree/disagree	69.8% (240)	78.8% (271)	9.0
• Unsure	19.8% (68)	14.2% (49)	-5.6
• Strongly agree/ agree	10.5% (36)	7.0 % (24)	-3.5
19. I would not be close friends with someone I knew had a mental illness			
• Strongly disagree/disagree	72.4% (249)	77.3 % (266)	4.9
• Unsure	21.8% (75)	17.7% (61)	-4.1
• Strongly agree/ agree	5.8% (20)	4.9% (17)	-0.9
20. (R) I would visit a classmate in hospital if they had a mental illness			
• Strongly agree/ agree	73.8% (254)	70.9% (244)	-2.9
• Unsure	19.5% (67)	19.2% (66)	-0.3
• Strongly disagree/disagree	6.7% (23)	9.9 % (34)	3.2
21. I would try to avoid someone with a mental illness			
• Strongly disagree/disagree	76.7 % (264)	79.7% (274)	3.0
• Unsure	14.8% (51)	15.7% (54)	0.9
• Strongly agree/ agree	8.4% (29)	4.7% (16)	-3.7
22. (R) I would not mind it if someone with a mental illness lived next door to me			
• Strongly agree/ agree	80.8% (278)	77.6% (267)	-3.2
• Unsure	13.1% (45)	11.3% (39)	-1.8
• Strongly disagree/disagree	6.1 % (21)	11.0% (38)	4.9
24. If I knew someone had a mental illness I would not date them			
• Strongly disagree/disagree	28.5% (98)	37.5 % (129)	9.0
• Unsure	48.3 % (166)	44.2% (152)	-4.1
• Strongly agree/ agree	23.3 % (80)	18.3% (63)	-5.0
25. I would not want to be taught by a teacher who had been treated for a mental illness			
• Strongly disagree/disagree	54.7% (188)	65.1% (224)	10.4
• Unsure	29.7% (102)	23.5% (81)	-6.2
• Strongly agree/ agree	15.7 % (54)	11.3% (39)	-4.4
Note: (R) Signifies the item was reverse coded in the scale calculation. Higher scale scores reflect higher levels of stigma			

Social Responsibility Items

Stereotyped Attributions Items	Pre-test % (n=368)	Post-test % (n=368)	% Change
28. (R) I would tell a teacher if a student was being bullied because of their mental illness			
• Strongly agree/ agree	79.9 % (275)	79.9% (275)	0.0
• Unsure	14.8 % (51)	14.8% (51)	0.0
• Strongly disagree/disagree	5.2% (18)	5.2 % (18)	0.0
32. (R) I would stick up for someone who had a mental illness if they were being teased			
• Strongly agree/ agree	83.1% (286)	83.7% (288)	0.6
• Unsure	15.7 % (54)	11.3 % (39)	-4.4
• Strongly disagree/disagree	1.2% (4)	4.9 % (17)	3.7
33. (R) I would tutor a classmate who got behind in their studies because of their mental illness			
• Strongly agree/ agree	64.0% (220)	64.8 % (223)	0.8
• Unsure	26.2% (90)	24.4% (84)	-1.8
• Strongly disagree/disagree	9.9% (34)	10.8% (37)	0.9
34. (R) I would volunteer my time to work in a program for people with a mental illness			
• Strongly agree/ agree	49.4% (170)	57.3% (197)	7.9
• Unsure	36.0% (124)	30.5% (105)	-5.5
• Strongly disagree/disagree	14.5% (50)	12.2% (42)	-2.3
Note: (R) Signifies the item was reverse coded in the scale calculation. Higher scale scores reflect higher levels of stigma			

Proportion of students who made any change on the Likert scale from pre-test to post-test (n=344 pre-test/post-test pairs)

Survey Item	Negative change % (n)	No change % (n)		Positive change % (n)	*McNemar-Bowker* Significance
		Stigmatizing* % (n)	Non-stigmatizing* % (n)		
Social Distance Items					
18. I would be upset if someone with a mental illness always sat next to me in class	12.8% (44)	56.4% (194)		30.8% (106)	χ2 = 27.9; df =9; p=.001
		11.9% (41)	44.5% (153)		
19. I would not be close friends with someone I knew had a mental illness	17.4% (60)	57.6% (198)		25.0% (86)	χ2 =12.8; df =8; p=.120
		11.6% (40)	45.9% (158)		
20. (R) I would visit a classmate in hospital if they had a mental illness	23.3% (80)	54.9% (189)		21.8% (75)	χ2 =10.4; df =10; p=.403
		12.8% (44)	42.2% (145)		
21. I would try to avoid someone with a mental illness	14.8% (51)	60.2% (207)		25.0% (86)	χ2 =24.6; df =9; p=.003
		9.3% (32)	50.9% (175)		
22. (R) I would not mind it if someone with a mental illness lived next door to me	22.7% (78)	56.7% (195)		20.6% (71)	χ2 =14.4; df =10; p=.153
		6.4% (22)	50.3% (173)		
24. If I knew someone had a mental illness I would not date them	14.0% (48)	56.7% (195)		29.4% (101)	χ2 =23.35; df =9; p=.006
		40.1% (138)	16.6% (57)		
25. I would not want to be taught by a teacher who had been treated for a mental illness	13.1% (45)	51.2% (176)		35.8% (123)	χ2 =43.3; df =10; p<.001
		17.4% (60)	33.7% (116)		
Social Responsibility Items					
28. (R) I would tell a teacher if a student was being bullied because of their mental	18.9% (65)	60.5% (208)		20.6% (71)	χ2 =6.9; df =8; p=.543
		6.4% (22)	54.1% (186)		
32. (R) I would stick up for someone who had a mental illness if they were being teased	21.8% (75)	59.0% (203)		19.2% (66)	χ2 =12.8; df =3; p=.005*
		5.8% (20)	53.2% (183)		
33. (R) I would tutor a classmate who got behind in their studies because of their mental illness	16.3% (56)	61.0% (210)		22.7% (78)	χ2 =15.8; df =10; p=.105
		19.2% (66)	41.9% (144)		
34. (R) I would volunteer my time to work in a program for people with a mental illness	11.6% (40)	57.8% (199)		30.5% (105)	χ2 =38.93; df =10; p<.001
		27.0% (93)	30.8% (106)		

Notes:

- Base size is those who responded to all the pre- and post-test items (n=344)
- Change was defined as moving on 5-point Likert Scale from the pre-test to the post-test (negative change: toward a more stigmatizing answer; positive change: toward a less stigmatizing answer)
- *The non-stigmatizing response means agree or strongly agree; the stigmatizing response includes unsure, disagree, and strongly disagree
- Statistical tests use the original five point scale, positive change does not necessary imply non stigmatizing response
- Degrees of freedom depend on the number of non-empty cells and may vary by question due to different response patterns

Percent Non-Stigmatizing of Endorsement of Social Distance Items

	Pre-test % (n=344)	Post-test % (n=344)
None	2.0% (7)	2.3% (8)
At least 1	98.0% (337)	97.7% (336)
At least 2 items	95.3% (328)	95.6% (329)
At least 3 items	93.3% (321)	93.6% (322)
At least 4 items	89.2% (307)	88.7% (305)
At least 5 items	84.0% (289)	82.8% (285)
At least 6 items	74.4% (256)	74.4% (256)
At least 7 items	66.3% (228)	68.3% (335)
At least 8 items	54.4% (187)	60.5% (208)
At least 9 items	41.3% (142)	53.5% (184)
At least 10 times	25.3% (87)	37.5% (129)
All 11 times	11.6% (40)	20.1% (69)

Change in Stereotype Scale Score and Social Tolerance Scale Score

	Already positive % (n)	Positive Change % (n)	Did Not Cross 80% Threshold % (n)
Stereotype scale score (n=304)	22.4% (68)	29.6% (90)	48.0% (146)
Social tolerance scale score (n=335)	35.8% (120)	19.1 % (64)	45.1% (151)
Notes: To adjust for regression to the mean, pre-test outliers (those whose pre-test scale scores were over 2 standard deviations beyond the mean) where omitted from this analysis			

The responses to the items on each of the scale can be summed to obtain a scale score. The possible score for each scale ranges from 11 to 55 with a lower score indicating less stigma.

Stereotype Scale Items (n=32)

	Median (interquartile range)
Pre-test	25 (20-23)
Post-test	21 (16-26)

Tolerance Items (n=344)

	Median (interquartile range)
Pre-test	24 (19-28)
Post-test	23 (17.25-28)