2017 Tour of Manufacturing

Survey of Tour Hosts and Participants

MARCH 2018

Prepared by:
Sarah Gehrig

451 Lexington Parkway North | Saint Paul, Minnesota 55104
651-280-2700 | www.wilderresearch.org

Wilder Research
Information. Insight. Impact.

Contents

Figures

Introduction

In fall 2017, the 360 Center of Excellence and its partners coordinated over 147 manufacturing businesses across Minnesota to provide tours of their facilities for students and educators, job seekers, other manufacturers, and the general public. The event, called the Dream It. Do It. Minnesota Statewide Tour of Manufacturing, took place throughout the month of October. Since the Tour began in 2011, 360 estimates that more than 60,000 people have participated, including nearly 20,000 during the 2017 Tour alone.

To help understand the implementation and impact of the tours, Wilder Research developed a paper survey that was administered to Tour participants, as well as a web-based survey for the manufacturing businesses that hosted the tours. This report highlights findings from both surveys. For additional information, see the Appendix.

Findings

Participation in the Tour of Manufacturing

Based on estimates provided by 19 host respondents, Tour of Manufacturing participation ranged from 20 to 340 people with an average of 121 participants per site. Based on the hosts who responded to the survey, the total estimated number of participants was 2,061 (Figure 1). It should be noted that Tour of Manufacturing hosts could estimate the number of attendees however they chose; therefore the method for estimation across sites is inconsistent. The most common methods were a sign-in sheet and a simple headcount of participants. One site did not know how many visitors they hosted.

1. Estimated number of visitors (N=19)

	N
Minimum	20
Maximum	340
Average (per respondent site)	121
Total (all respondent sites)	2,061

Note. One site did not know how many visitors they had.

At the tours, visitors were asked to provide their demographic information. Nearly all respondents who completed the survey were youth (94%), and nearly two-thirds (65%) were male (Figure 2).

2. Participant respondent demographics

	N	%
Gender (N=322)		
Male	196	65%
Female	107	35%
Age (N=321)		
Under 18 years old	301	94%
18-25 years old	16	5%
26-45 years old	2	1%
46 and older	2	1%

Note. Due to rounding, percentages may not add up to 100%.

Learning about the Tour of Manufacturing

Participants were most likely to learn about the Tour of Manufacturing through school (96%), followed by family members or friends (9%) and signs or other marketing in town (3%). Only 1 percent or less respondents had heard about the Tour in a different way, through the Chamber of Commerce, Facebook, a manufacturer, the newspaper, radio, Tour of Manufacturing website, work, or Twitter.

Hosts most often heard about the Tour of Manufacturing through a local Chamber of Commerce (25%), Dreamitdoitmn.com (20%) or an email they received (15%). Fewer had heard about the Tour through a manufacturing association (5%) or the state Chamber of Commerce (5%). Six respondents (30%) heard about the Tour of Manufacturing through other means, such as previous participation in the Tour (3 respondents), a local high school (1 respondent), or through a local technical education teacher (1 respondent).

Preparing businesses for their tours

To help businesses prepare for the Tour of Manufacturing, 360 staff sent hosts a variety of marketing and informational materials intended to increase participation. Six of the 20 respondents said they had used one or more of these materials. The most frequently used were a company listing on the Tour of Manufacturing website (5 respondents). Other methods were used by three or fewer of the six respondents.

Slightly over half of the hosts who responded to the survey (55%) reported that their tours were open to the public; the others were exclusively for schools (45%). Nearly half (45%) of respondents said that the primary audience for their tours was schools, and 30 percent said their primary audience was both schools and the community at large. Meanwhile, 15 percent said that the community was their primary audience, and 10 percent said they had another target audience.

Satisfaction with the Tour of Manufacturing

Overall, both participants and hosts of the 2017 Tour of Manufacturing reported high levels of satisfaction. Hosts were particularly pleased with the engagement of participants and the opportunity to build awareness of manufacturing careers.

- Nearly all of the participants surveyed (97%) were at least satisfied with their experience at the Tour of Manufacturing, and 41 percent reported they were very satisfied.
- Most of the surveyed hosts (95%) reported that their participation in the Tour of Manufacturing was at least somewhat worthwhile and all reported that they plan to participate again (68% "Yes, certainly" and 32% "Yes, maybe").

Attitudes toward manufacturing

The 2017 participant survey focused on the "perceptions of manufacturing" questions developed in 2013, which ask participants to rate their interest in science, technology, engineering and math (STEM) and manufacturing careers, as well as their awareness and perceptions of those careers. Respondents were asked to recall their opinions of these factors before they attended the Tour of Manufacturing, as well as comment on their opinions after attending the event. In all areas, participant attitudes regarding STEM and manufacturing were higher after the Tour of Manufacturing.

Participants' perceptions of manufacturing careers saw the greatest increase of any other pre-post survey question. Whereas 28 percent of respondents thought manufacturing careers were good before the Tour of Manufacturing, 60 percent felt this away after attending the event (Figure 3). Overall, 49 percent of respondents improved their perceptions of manufacturing careers (this means movement from any lower category into a higher one), while another 28 percent maintained their already high perceptions of manufacturing careers (Figure 4).

3. Perceptions of manufacturing careers (pre- and post-Tour)

Perceptions of manufacturing careers	Before Tour (N=321)	After Tour (N=318)	Change
I thought/think they were/are good	89 (28%)	191 (60%)	+102
I thought/think they were/are just OK	126 (39%)	80 (25%)	-46
I didn't/don't think they were/are good	29 (9%)	18 (6%)	-11
I didn't/don't think about them	50 (16%)	11 (3%)	-39
I'm not sure	27 (8%)	18 (6%)	-9

4. Change in perceptions of manufacturing careers (N=279)

Positive perceptions of manufacturing careers	N	%
Increased – more positive	136	49%
Maintained high perceptions	78	28%
Maintained moderate or low perceptions	51	18%
Decreased – less positive	14	5%

Note. "Maintained high perceptions" means that the participant's interest level was "good" both before and after the Tour of Manufacturing. "Maintained moderate or low perceptions" means that participant interest level was either "okay", "not good" or "didn't think about it" both before and after the Tour of Manufacturing.

In general, respondents' awareness of and interest in manufacturing careers saw greater increases than interest in STEM.

- With respect to statistical significance, males and females were equally likely to demonstrate an increase in interest in STEM and interest in, awareness of, and perceptions of manufacturing careers.
- Both males and females were most likely to improve their perceptions of manufacturing careers (55% for females, 45% for males).

Participants were asked to select words they felt best described manufacturing careers from a list of five positive (*) and five negative adjectives (Figure 5). Three of the four most frequently checked descriptors were positive.

5. Descriptions of manufacturing careers

Words that best describe manufacturing careers	N	%
Noisy	171	54%
Creative*	170	53%
Advanced*	168	53%
Fun*	167	52%
Hard	126	39%
Exciting*	124	39%
Modern*	98	31%
Dirty	91	29%
Dangerous	87	27%
Dark	14	4%

Note. Percentages equal more than 100% because respondents were able to give multiple responses. Asterisks denote positive adjectives.

Experiences of the Tour of Manufacturing hosts

Tour of Manufacturing hosts were generally pleased with the level of engagement shown by participants and greatly valued the opportunity to build awareness of and interest in manufacturing careers. Manufacturers found the event to be valuable in several ways.

- The **most valuable** aspect of the Tour (offered by respondents in an open-ended question) was increased awareness for their business or the manufacturing field (50%).

- When asked about five specific items related to the value of the Tour of Manufacturing, more than half of respondents reported that building awareness of or interest in manufacturing as a career option (85%) and marketing or building awareness of their business to the public (65%) were very valuable components of the event. Smaller percentages reported that identifying potential employees or workers (42%), employees interacting with people outside the organization (35%), or identifying potential customers (11%) were very valuable.
- When asked about three items related to the success of the Tour of Manufacturing, three-quarters (75%) said that the engagement of Tour of Manufacturing participants was very successful this year. Smaller percentages said that the tour attracted the people they wanted (35%) and that the number of tour participants was very successful (30%).
- The **most successful** aspect of the Tour of Manufacturing, according to hosts, was raising awareness about their business (42%).

There were also some challenges and suggestions for support reported by the Tour of Manufacturing hosts.

- In an open-ended question, the biggest challenge reported by hosts was having sufficient capacity, planning, or time to host the tour (37%). In a related closed-ended question, about one in five hosts said the following aspects of the tour were "very" or "somewhat" challenging: providing staff time to lead the tours (20%), interrupting the manufacturing process (17%), and interrupting office business functions (17%).
- In terms of additional support, hosts primarily wanted more help with marketing of the tour (4 respondents); others suggested more preparation for students, recruiting additional manufacturers to participate, and having more interactive pages on the Dream It. Do It. website.

Conclusion

Overall, the findings from the Tour of Manufacturing surveys are positive. Participants had a high level of satisfaction with the tours, indicating that they increased their awareness of and interest in manufacturing careers as well as their positive perceptions of those careers. Younger respondents were more likely to increase their perceptions about manufacturing careers than older participants, and women were more likely than men to increase their perceptions of manufacturing careers (this was true on all "change" questions asked).

Hosts were also generally pleased with the event and appreciated the resulting public awareness and participant engagement. That being said, the most common challenges reported were a lack of participants at some host sites and providing staff time to lead the tours. Several hosts also mentioned that they would like help with marketing materials and increasing involvement in their tour (both in terms attendance and local partnerships). Given that one of the most valuable and successful aspects of the Tour for hosts is building awareness of their business, 360 staff may want to consider providing additional marketing and networking assistance to businesses for the 2016 Tour of Manufacturing in order to help increase attendance.

Appendix

Survey methodology

Figure A1 shows the total number of completed participant and host surveys since data collection began in 2012. For the 2016 Tour, 360 conducted its own data collection among hosts and participants, and data from these reports was unavailable at the time of publishing.

For the participant survey, Wilder Research and 360 staff asked sites to distribute self-administered, paper questionnaires to participants, as was done in recent years. Staff from each host distributed copies of the survey to participants and returned completed surveys to 360. A total of 322 people—primarily youth—completed the survey.

For the host survey, Wilder Research emailed a survey link to 40 business representatives with an available email address. Two of 360's community partners, who helped organize the Tour, sent a survey link to approximately 11 additional employers. Overall, 20 hosts completed the survey. Assuming the open web link was sent only to the 11 employers identified by 360, we estimate the survey achieved a response rate of 39 percent.

A1. Number of completed surveys, by year

	Participant surveys	Host surveys
2012	117*	21
2013	28*	35
2014	391	34
2015	239	52
2016	N/A	N/A
2017	322	20

* Indicates online survey administration. During 2014, 2015, and 2017, the survey was administered in-person by paper.

Data tables

Participant survey

P1. How participants heard about the Tour

	N	%
School	310	96%
Family member or friend	30	9%
Signs or other marketing in town	10	3%
Chamber of Commerce	4	1%
Facebook	3	1%
Manufacturer	4	1%
Newspaper	3	1%
Radio	4	1%
Tour of Manufacturing website	2	1%
Work	2	1%
Twitter	1	<1%
Other	0	0%

Note. Percentages may equal more than 100% as respondents were able to give multiple responses.

P2. Overall satisfaction with the Tour

	N	%
Very satisfied	132	41%
Satisfied	180	56%
Dissatisfied	7	2%
Very dissatisfied	3	1%

P3. Change in interest in STEM

	N	%
Increased	65	21%
Maintained high interest	78	25%
Maintained moderate or low interest	155	49%
Decreased	19	6%

Note. "Maintained high interest" means that the participant's interest level was "A lot" both before and after the Tour of Manufacturing. "Maintained moderate or low interest" means the participant's interest level was either "some", "very little" or "not at all" both before and after the Tour of Manufacturing.

P4. Change in interest in manufacturing careers

	N	%
Increased	107	34%
Maintained high interest	41	13%
Maintained moderate or low interest	156	49%
Decreased	13	4%

Note. "Maintained high interest" means that the participant's interest level was "A lot" both before and after the Tour of Manufacturing. "Maintained moderate or low interest" means the participant's interest level was either "some", "very little" or "not at all" both before and after the Tour of Manufacturing.

P5. Change in awareness of careers in manufacturing

	N	%
Increased	130	41%
Maintained high awareness	64	20%
Maintained moderate or low awareness	109	35%
Decreased	11	4%

Note. "Maintained high awareness" means that the participant's awareness level was "A lot" both before and after the Tour of Manufacturing. "Maintained moderate or low awareness" means the participant's awareness level was either "some", "very little" or "not at all" both before and after the Tour of Manufacturing.

P6. Change in perceptions of manufacturing careers

	N	%
Increased	136	49%
Maintain high positive perception	78	28%
Maintained moderate or low perception	51	18%
Decreased	14	5%

Note. "Maintained high positive perception" means that the participant's perception level was "good" both before and after the Tour of Manufacturing. "Maintained moderate or low perception" means the participant perception level was either "okay", "not good" or "didn't think about it" both before and after the Tour of Manufacturing. The number of respondents to this question is lower than the others because the question also offers the response option "I am not sure;" people who answered "I am not sure" are omitted here.

P7. Interest in STEM (pre- and post-Tour)

Interested in science, technology, engineering, or math	Before Tour (N=319)	After Tour (N=317)	Change
A lot	85 (27%)	115 (36%)	+30 people
Some	158 (50%)	141 (44%)	-17 people
Very little	52 (16%)	41 (13%)	-11 people
Not at all	24 (8%)	20 (6%)	-4 people

P8. Interest in manufacturing careers (pre- and post-Tour)

Interested in manufacturing careers	Before Tour (N=318)	After Tour (N=319)	Change
A lot	45 (14%)	91 (29%)	+46 people
Some	132 (42%)	141 (44%)	+9 people
Very little	97 (31%)	57 (18%)	-40 people
Not at all	44 (14%)	30 (9%)	-14 people

P9. Awareness of careers in manufacturing (pre- and post-Tour)

Aware of careers in manufacturing	Before Tour (N=314)	After Tour (N=314)	Change
A lot	70 (22%)	147 (47%)	+77 people
Some	143 (46%)	121 (39%)	-22 people
Very little	74 (24%)	30 (10%)	-44 people
Not at all	27 (9%)	16 (5%)	-11 people

P10. Perceptions of manufacturing careers (pre- and post-Tour)

Perceptions of manufacturing careers	Before Tour (N=321)	After Tour (N=318)	Change
I thought/think they were/are good	89 (28%)	191 (60%)	+102
I thought/think they were/are just OK	126 (39%)	80 (25%)	-46
I didn't/don't think they were/are good	29 (9%)	18 (6%)	-11
I didn't/don't think about them	50 (16%)	11 (3%)	-39
I'm not sure	27 (8%)	18 (6%)	-9

P11. Adjectives for manufacturing careers, open-ended

	N	%
Smart/educated	59	20%
Hard-working/motivated/dedicated	59	20%
Interesting/fun/exciting/cool/awesome/amazing	56	19%
Challenging/difficult/dangerous/intense	31	10%
Hands-on/builder/welder/constructing things	23	8%
Machines/metal	21	7%
Highly paid/good job/career	20	7%
Technological/good at math/science/programming/designing/ robotics/engineer	14	5%
Talented/skilled	10	3%
Creative/inventive/problem solver	8	3%
Someone I know (e.g. dad, mom, uncle, aunt)	6	2%
Doing boring/dull/tedious/repetitive work	4	1%
Precision/detailed	4	1%
Busy	4	1%
Nothing	2	1%
Essential/important/needed/critical	2	1%
Dirty/smelly	1	0%
Other	59	20%

Note. Percentages may equal more than 100% as respondents were able to give multiple responses. Open-ended responses to the questions were coded into the above categories.

P12. Descriptions of manufacturing careers

Words that best describe manufacturing careers	N	%
Noisy	171	54%
Creative*	170	53%
Advanced*	168	53%
Fun*	167	52%
Hard	126	39%
Exciting*	124	39%
Modern*	98	31%
Dirty	91	29%
Dangerous	87	27%
Dark	14	4%

* Indicates positive words. Percentages may equal more than 100% as respondents were able to give multiple responses.

P13. Gender

	N	%
Male	196	65%
Female	107	35%

P14. Age

	N	%
Under 18	301	34%
18-25 years old	16	5%
26-45 years old	2	1%
46 and older	2	1%

Note. Due to rounding, percentages may add up to more than 100%.

Participant survey cross-tabs by age

P15. Interest in STEM, by age

	Pre-Tour		Post-Tour	
	Under 18 (N=298)	18 or older (N=20)	Under 18 (N=297)	18 or older (N=19)
A lot	79 (27%)	6 (30%)	109 (37%)	5 (26%)
Some	149 (50%)	8 (40%)	131 (44%)	10 (53%)
Very little	48 (16%)	4 (20%)	38 (13%)	3 (16%)
Not at all	22 (7%)	2 (10%)	19 (6%)	1 (5%)

P16. Overall change in interest in STEM, by age

	Under 18 (N=297)	18 or older (N=19)
Increased (N=64)	60 (20%)	4 (21%)
Maintained high interest (N=78)	75 (25%)	3 (16%)
Maintained moderate or low interest (N=155)	147 (49%)	8 (42%)
Decreased (N=19)	15 (5%)	4 (21%*)

Note. "Maintained high interest" means that the participant's interest level was "A lot" both before and after the Tour of Manufacturing. "Maintained moderate or low interest" means the participant's interest level was either "some", "very little" or "not at all" both before and after the Tour of Manufacturing.

* The relationship between age and the change in interest in STEM is not due to chance and is statistically significant.

P17. Interest in manufacturing careers, by age

	Pre-Tour		Post-Tour	
	Under 18 (N=298)	18 or older (N=20)	Under 18 (N=298)	18 or older (N=20)
A lot	40 (13%)	4 (21%)	85 (29%)	6 (30%)
Some	123 (41%)	9 (47%)	129 (43%)	11 (55%)
Very little	94 (32%)	3 (16%)	55 (18%)	2 (10%)
Not at all	41 (14%)	3 (16%)	29 (10%)	1 (5%)

P18. Change in interest in manufacturing careers, by age

	Under 18 (N=297)	18 or older (N=19)
Increased (N=107)	102 (34%)	5 (26%)
Maintained high interest (N=41)	38 (13%)	3 (16%)
Maintained moderate or low interest (N=156)	147 (49%)	9 (47%)
Decreased (N=12)	10 (3%)	2 (11%)

Note. "Maintained high interest" means that the participant's interest level was "A lot" both before and after the Tour of Manufacturing. "Maintained moderate or low interest" means the participant's interest level was either "some", "very little" or "not at all" both before and after the Tour of Manufacturing.

P19. Awareness of careers in manufacturing, by age, post-Tour

	Pre-Tour		Post-Tour	
	Under 18 (N=294)	18 or older (N=19)	Under 18 (N=294)	18 or older (N=19)
A lot	66 (22%)	4 (21%)	138 (47%)	8 (42%)
Some	133 (45%)	9 (47%)	113 (38%)	8 (42%)
Very little	70 (24%)	4 (21%)	28 (10%)	2 (11%)
Not at all	25 (9%)	2 (11%)	15 (5%)	1 (5%)

P20. Change in awareness of careers in manufacturing, by age

	Under 18 (N=294)	18 or older (N=19)
Increased (N=129)	121 (41%)	8 (42%)
Maintained high interest (N=64)	60 (20%)	4 (21%)
Maintained moderate or low interest (N=109)	103 (35%)	6 (32%)
Decreased (N=11)	10 (3%)	1 (5%)

Note. "Maintained high awareness" means that the participant's awareness level was "A lot" both before and after the Tour of Manufacturing. "Maintained moderate or low awareness" means the participant's awareness level was either "some", "very little" or "not at all" both before and after the Tour of Manufacturing.

P21. Perceptions of manufacturing careers, by age

	Pre-Test		Post-Test	
	Under 18 (N=301)	18 or older (N=20)	Under 18 (N=298)	18 or older (N=20)
I thought they were good	82 (27%)	7 (35%)	178 (60%)	13 (65%)
I thought they were just ok	118 (39%)	8 (40%)	76 (26%)	4 (20%)
I didn't think they were good	28 (9%)	1 (5%)	17 (6%)	1 (5%)
I didn't think about them	48 (16%)	2 (10%)	10 (3%)	1 (5%)
I am not sure	25 (8%)	2 (10%)	17 (6%)	1 (5%)

P22. Change in perceptions of manufacturing careers, by age

	Under 18 (N=261)	18 or older (N=18)
Increased (N=136)	129 (49%)	7 (39%)
Maintained high perception- (N=78)	73 (28%)	5 (28%)
Maintained moderate or low perception- (N=51)	49 (19%)	2 (11%)
Decreased (N=14)	10 (4%)	4 (22%*)

Note. "Maintained high perception" means that the participant's perception level was "good" both before and after the Tour of Manufacturing. "Maintained moderate or low perception" means the participant perception level was either "okay", "not good" or "didn't think about it" both before and after the Tour of Manufacturing.

* The relationship between age and the change in perceptions of manufacturing careers is not due to chance and is statistically significant

Participant survey cross-tabs by gender

P23. Interest in STEM, by gender

	Pre-Test		Post-Test	
	Male (N=193)	Female (N=107)	Male (N=193)	Female (N=107)
A lot	58 (30%)	20 (19%)	79 (41%)	28 (26%)
Some	97 (50%)	54 (50%)	82 (43%)	51 (48%)
Very little	25 (13%)	22 (21%)	22 (12%)	16 (15%)
Not at all	13 (7%)	11 (10%)	8 (4%)	12 (11%)

P24. Interest in manufacturing careers, by gender

	Pre-Test		Post-Test	
	Male (N=193)	Female (N=106)	Male (N=194)	Female (N=106)
A lot	37 (19%)	5 (5%)	72 (37%)	13 (12%)
Some	97 (50%)	28 (26%)	88 (45%)	42 (40%)
Very little	44 (23%)	46 (43%)	23 (12%)	33 (31%)
Not at all	15 (8%)	27 (25%)	11 (6%)	18 (17%)

P25. Awareness of manufacturing careers, by gender

	Pre-Test		Post-Test	
	Male (N=189)	Female (N=106)	Male (N=189)	Female (N=106)
A lot	54 (29%)	13 (12%)	102 (54%)	37 (35%)
Some	88 (47%)	46 (43%)	68 (36%)	43 (41%)
Very little	37 (20%)	32 (30%)	15 (8%)	14 (13%)
Not at all	10 (5%)	15 (14%)	4 (2%)	12 (11%)

P26. Perceptions of manufacturing careers, by gender

	Pre-Test		Post-Test	
	Male (N=196)	Female (N=107)	Male (N=193)	Female (N=107)
I thought they were good	63 (32%)	19 (18%)	121 (63%)	54 (50%)
I thought they were just ok	84 (43%)	37 (35%)	46 (24%)	33 (31%)
I didn't think they were good	21 (11%)	6 (6%)	10 (5%)	8 (7%)
I didn't think about them	17 (9%)	33 (31%)	5 (3%)	6 (6%)
I am not sure	11 (6%)	12 (11%)	11 (6%)	6 (6%)

P27. Change in interest in STEM, by gender

	Male (N=191)	Female (N=107)
Increased (N=60)	41 (21%)	19 (18%)
Maintained high interest (N=72)	53 (28%)	19 (18%)
Maintained moderate or low interest (N=149)	88 (46%)	61 (57%)
Decreased (N=17)	9 (5%)	8 (7%)

Note. "Maintained high interest" means that the participant's interest level was "A lot" both before and after the Tour of Manufacturing. "Maintained moderate or low interest" means the participant's interest level was either "some", "very little" or "not at all" both before and after the Tour of Manufacturing.

P28. Change in interest in manufacturing careers, by gender*

	Male (N=192)	Female (N=106)
Increased (N=97)	58 (30%)	39 (37%)
Maintained high interest (N=40)	37 (19%)	3 (3%*)
Maintained moderate or low interest (N=150)	92 (48%)	58 (55%)
Decreased (N=11)	5 (3%)	6 (6%)

Note. "Maintained high interest" means that the participant's interest level was "A lot" both before and after the Tour of Manufacturing. "Maintained moderate or low interest" means the participant's interest level was either "some", "very little" or "not at all" both before and after the Tour of Manufacturing.

* The relationship between gender and the change in interest in manufacturing careers is not due to chance and is statistically significant.

P29. Change in awareness of careers in manufacturing, by gender

	Male (N=189)	Female (N=106)
Increased (N=119)	75 (40%)	44 (42%)
Maintained high awareness (N=61)	50 (26%)	11 (10%*)
Maintained moderate or low awareness (N=104)	57 (30%)	47 (44%*)
Decreased (N=11)	7 (4%)	4 (4%)

Note. "Maintained high awareness" means that the participant's awareness level was "A lot" both before and after the Tour of Manufacturing. "Maintained moderate or low interest" means the participant's awareness level was either "some", "very little" or "not at all" both before and after the Tour of Manufacturing.

* The relationship between gender and the change in awareness of manufacturing careers is not due to chance and is statistically significant.

P30. Change in perceptions of manufacturing careers, by gender

	Male (N=137)	Female (N=70)
Increased (N=71)	79 (45%)	51 (55%)
Maintained high perception (N=109)	54 (31%)	17 (18%*)
Maintained moderate or low perception (N=26)	30 (17%)	21 (23%)
Decreased (N=1)	11 (6%)	3 (3%)

Note. "Maintained high perception" means that the participant's perception level was "good" both before and after the Tour of Manufacturing. "Maintained moderate or low perception" means the participant's perception level was either "okay", "not good" or "didn't think about it" both before and after the Tour of Manufacturing.

* The relationship between gender and the change in perceptions of manufacturing careers is not due to chance and is statistically significant.

Host survey

H1. Survey type

	N	%
Email sample	16	80%
Open web survey	4	20%

H2. Days of Tour of Manufacturing participation

	N	%
October 7	7	35%
October 5	5	25%
October 24	5	25%
October 26	2	10%
September 30	1	5%
October 11	1	5%
October 13	1	5%
October 25	1	5%
October 27	1	5%
October 31	1	5%
November 3	1	5%

Note. Percentages may equal more than 100% as respondents were able to give multiple responses. Respondents were allowed to select any day in October, or provide their own "other" date.

H3. How hosts first heard about the Tour of Manufacturing

	N	%
Local Chamber of Commerce	5	25%
Dreamitdoitmn.com	4	20%
Received an email about the Tour	3	15%
Manufacturing association	1	5%
State Chamber of Commerce	1	5%
Other	6	30%

Note. Other responses included previously holding an event (3), through a local organizing group (1), through a local high school (1), or through technical education teachers (1). For those who received an email about the tour, one said they heard about "'MFG Day' through NAM, which led to the MN Statewide Tour" and one through "Heather LaCroix with Force America."

H4. Primary audience for your tour

	N	%
Schools	9	45%
Community	3	15%
Both	6	30%
Other	2	10%

Note. Other responses were both, plus employee families, and schools and nonprofits.

H5. Was your tour open to the public or was it closed?

	N	%
Open to the public	11	55%
Closed tour for schools	9	45%

H6. Estimated number of visitors

	N
Minimum	20
Maximum	340
Average (per respondent site)	121
Total (all respondent sites)	2061

Note. One site did not know how many visitors they had.

H7. Value of individual Tour of Manufacturing components

	Very valuable	Somewhat valuable	A little valuable	Not at all valuable
Building awareness of or interest in manufacturing as a career option (N=20)	85%	10%	5%	0%
Marketing or building awareness of your business to the general public (N=20)	65%	30%	5%	0%
Identifying potential employees or workers (N=19)	42%	37%	16%	5%
Employees interacting with people outside the organization (N=20)	35%	35%	30%	0%
Identifying potential customers (N=19)	11%	5%	53%	32%

H8. Success of individual Tour of Manufacturing components

	Very successful	Somewhat successful	A little successful	Not at all successful
The number of tour participants (N=20)	30%	65%	5%	0%
The engagement of the tour participants (N=20)	75%	20%	5%	0%
The people who attended the tour were who you wanted (N=20)	35%	55%	10%	0%

H9. Challenges of individual Tour of Manufacturing components

	Very challenging	Somewhat challenging	A little challenging	Not at all challenging
Providing staff time to lead the tours (N=20)	5%	15%	45%	35%
Interrupting manufacturing processes (e.g., line shut down) (N=18)	6%	11%	56%	28%
Interrupting front or back office business functions (not related to manufacturing processes) (N=18)	0%	17%	39%	44%
Assuring participant safety (N=20)	0%	5%	40%	55%
Coordinating the tour participants (e.g., parking) (N=20)	0%	5%	30%	65%
Working with the coordinating organizations (e.g., associations, chambers, 360 Center, etc.) (N=19)	0%	11%	16%	74%

H10. Was your participation in the Tour of Manufacturing worthwhile?

	N	%
Yes, very	14	70%
Yes, somewhat	5	25%
No	0	0%
Not sure	1	5%

H11. Would you participate in the Tour of Manufacturing again?

	N	%
Yes, certainly	13	68%
Yes, maybe	6	32%
No	0	0%
Not sure	0	0%

H12. Participated in Tour of Manufacturing last year

	N	%
Yes	17	85%
No	3	15%

H13. This year, did you download a promotional toolkit after you registered for the Tour?

	N	%
Yes	6	30%
No	14	70%

H14. Materials used in preparation for your tour

	N	%
Company listing on Tour of Manufacturing website	5	83%
Customizable flyers about your local event	3	50%
Letter to schools	3	50%
Public service announcements	2	33%
Dream It. Do It. MN giveaways	2	33%
Press release template	1	17%
Low-cost option to purchase signage	1	17%
Customizable posts for social media	1	17%
Other	1	17%
Customizable radio ad	0	0%

Note. Percentages may equal more than 100% as respondents were able to give multiple responses. The "other" response was "partner with Central MN Manufacturing."

H15. Most useful materials used in preparation for your tour

	N	%
Company listing on Tour of Manufacturing website	2	40%
Customizable flyers about your local event	1	20%
Low-cost option to purchase signage	1	20%
Letter to schools	1	20%

H16. Region

	N	%
Central	5	25%
Metro area	5	25%
West Central	3	15%
South Central	3	15%
Northeast	2	10%
Northwest	1	5%
Southeast	1	5%

Open-ended responses

H17. Method used to count the number of participants

	N	%
Sign-in sheet at event	12	60%
Collected registration information from schools	3	15%
None	3	15%
Tracking the amount of items handed out to participants	2	10%

Note. Three sites reported no method for counting participants. Open-ended responses to the questions were coded into the above categories.

H18. Most valuable aspect of the Tour of Manufacturing

	N	%
Public awareness for business and/or manufacturing field	10	50%
Youth being able to experience the manufacturing field	6	30%
Recruitment of prospective employees	4	20%
Other	2	10%

Note. Percentages may equal more than 100% as respondents were able to give multiple responses. Open-ended responses to the questions were coded into the above categories.

H19. Most successful aspect of the Tour of Manufacturing

	N	%
Raising community awareness of their business	8	42%
Raising student awareness of manufacturer	5	26%
Changing perceptions of manufacturing	2	11%
Other	4	21

Note. Percentages may equal more than 100% as respondents were able to give multiple responses. Open-ended responses to the questions were coded into the above categories.

H20. Biggest challenge or barrier

	N	%
Capacity, planning, or time commitments	7	37%
Student tours of facility	5	26%
Nothing/none	2	11%
Other	5	26%

Note. Percentages may equal more than 100% as respondents were able to give multiple responses. Open-ended responses to the questions were coded into the above categories.

H21. Most useful promotional materials in preparation for the Tour of Manufacturing

	N	%
Company listing on Tour of Manufacturing website	2	40%
Customizable flyers about your local event	1	20%
Low-cost option to purchase signage	1	20%
Letter to schools	1	20%

H22. Other types of support that would have been helpful

	N	%
More promotion	4	50%
None	1	13%
Other	3	38%