

Topline questionnaire

2017 PEW RESEARCH CENTER'S AMERICAN TRENDS PANEL

WAVE 27 May

FINAL TOPLINE

May 1 – May 15, 2017

TOTAL N=4,135

ASK IF EMPLOYED (F_E3_FINAL=1,2) [N=2,629]:

INDUSTRY What industry or field do you currently work in? If you have multiple jobs, please choose the one that you consider to be your main or primary occupation.

May 1-
May 15
2017

7	Hospitality or service
12	Health care
11	Manufacturing, mining, or construction
10	Retail
9	Education
7	Banking, finance, accounting, real estate, or insurance
4	Transportation
7	Government, public administration or military
7	Information/Technology
21	Other
4	Not currently employed
0	No answer

ASK IF EMPLOYED (INDUSTRY=1-10) [N=2,510]:

JOB DUTY Does your work involve any of the following duties or tasks? **[RANDOMIZE WITH E ALWAYS LAST]**

[Check all that apply]

		<u>Selected</u>	<u>Not selected</u> <u>/No answer</u>
a.	Manual or physical labor May 1-May 15, 2017	41	59
b.	Managing others May 1-May 15, 2017	39	61
c.	Working directly with clients or customers May 1-May 15, 2017	66	34
d.	Data processing or analysis May 1-May 15, 2017	40	60
e.	None of these [EXCLUSIVE PUNCH] May 1-May 15, 2017	7	93

ASK ALL:

PREDICT

Do you think each of the following things will or will not happen in the next 20 years?

[RANDOMIZE ITEMS]

	<u>Will definitely happen</u>	<u>Will probably happen</u>	<u>Will probably NOT happen</u>	<u>Will definitely NOT happen</u>	<u>No answer</u>
a. Doctors will rely on computer programs to diagnose most diseases and determine treatments May 1-May 15, 2017	21	58	18	2	0
b. Most stores and retail businesses will be fully automated and involve little or no human interaction between customers and employees May 1-May 15, 2017	13	52	32	2	0
c. Most deliveries in cities will be made by robots or drones instead of humans May 1-May 15, 2017	12	53	31	4	0
d. When people want to buy most common products, they will create them at home using a 3-D printer May 1-May 15, 2017	7	36	50	7	0

ASK ALL:

CARS1

How much have you seen or heard about the effort to develop driverless vehicles – that is, cars and trucks that can operate on their own without a human driver?

May 1-
May 15
2017

35	A lot
59	A little
6	Nothing at all
0	No answer

ASK IF HAVE HEARD A LOT OR LITTLE ABOUT DRIVERLESS VEHICLES (CARS1=1-2)
[N=3,977]:

CARS2 Has what you've seen or heard about driverless vehicles been mostly positive, mostly negative, or a mix of both?

May 1-
 May 15
2017
 22 Mostly positive
 12 Mostly negative
 66 A mix of both
 0 No answer

RANDOMIZE ORDER OF CARS3a AND CARS3b

ASK ALL:

CARS3a How ENTHUSIASTIC are you, if at all, about the development of driverless vehicles?

May 1-
 May 15
2017
 11 Very enthusiastic
 28 Somewhat enthusiastic
 38 Not too enthusiastic
 22 Not at all enthusiastic
 0 No answer

CARS3b How WORRIED are you, if at all, about the development of driverless vehicles?

May 1-
 May 15
2017
 14 Very worried
 39 Somewhat worried
 35 Not too worried
 11 Not at all worried
 0 No answer

ASK ALL:

CARS4 How long, if ever, do you think it will take for MOST of the vehicles on the road to be driverless, rather than driven by humans?

May 1-
 May 15
2017
 9 Less than 10 years
 56 10 to less than 50 years
 23 50 to less than 100 years
 5 100 or more years
 8 It will never happen
 0 No answer

ASK ALL:

CARS5 Would you, personally, want to ride in a driverless vehicle if you had the opportunity?

May 1-

May 15

2017

44	Yes
56	No
0	No answer

ASK IF ANSWERED CARS5 (CARS5=1-2) [N=4,129]:

CARS6 What is the main reason you [IF CARS5=1 "would"; IF CARS5=2 "would not"] want to ride in a driverless vehicle?

OPEN-ENDED RESPONSES NOT SHOWN**RANDOMIZE ORDER OF CARS7a AND CARS7b****ASK ALL:**

CARS7a How safe would you feel sharing the road with a driverless passenger vehicle?

May 1-

May 15

2017

11	Very safe
37	Somewhat safe
35	Not too safe
17	Not safe at all
0	No answer

CARS7b How safe would you feel sharing the road with a driverless freight truck?

May 1-

May 15

2017

8	Very safe
26	Somewhat safe
33	Not too safe
32	Not safe at all
0	No answer

ASK ALL:

CARS8 If driverless vehicles become widespread, do you think that the number of people killed or injured in traffic accidents will [increase, decrease/decrease, increase], or stay about the same? **[RANDOMIZE OPTIONS; OPTION 3 ALWAYS LAST]**

May 1-

May 15

2017

30	Increase
39	Decrease
31	Stay about the same
0	No answer

ASK ALL:

CARS9 Would you strongly favor, favor, oppose, or strongly oppose the following rules and regulations for driverless vehicles? **[RANDOMIZE]**

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>No answer</u>
a. Requiring them to travel in dedicated lanes May 1-May 15, 2017	47	36	12	5	0
b. Restricting them from traveling near certain areas, such as schools May 1-May 15, 2017	34	35	24	7	0
c. Requiring them to have a person in the driver's seat who could take control in an emergency situation May 1-May 15, 2017	53	34	10	3	0

ASK ALL:

CARS10 If driverless vehicles become widespread, which of the following do you think are likely to happen as a result? **[RANDOMIZE ITEMS]**

	<u>Yes, likely</u>	<u>No, not likely</u>	<u>No answer</u>
a. Elderly and disabled people will be able to live more independently May 1-May 15, 2017	75	25	0
b. Many people who drive for a living would lose their jobs May 1-May 15, 2017	81	19	0
c. Owning a car would become much less important to people May 1-May 15, 2017	43	56	1
d. Most people would never learn how to drive a car on their own May 1-May 15, 2017	70	30	0
e. There would be much less traffic in major cities May 1-May 15, 2017	28	72	0

On a different subject...

ASK ALL:

WORK2 Would you say that society generally places TOO MUCH importance on working and having a job, NOT ENOUGH importance on working and having a job, or is it just about right?

May 1- May 15 <u>2017</u>	
19	Too much importance
50	Not enough importance
31	Just about right
0	No answer

ASK IF EMPLOYED (INDUSTRY=1-10) [N=2,510]:

WORK3 Have the following technologies had a [positive impact, a negative impact / negative impact, positive impact], or no impact either way on you and your job or career?

[RANDOMIZE ORDER; RANDOMIZE RESPONSE CATEGORIES, ITEM 3 ALWAYS LAST]

	<u>Positive impact</u>	<u>Negative impact</u>	<u>No impact either way</u>	<u>No answer</u>
a. Industrial robots May 1-May 15, 2017	27	14	58	1
b. Word processing or spreadsheet software May 1-May 15, 2017	70	5	25	1
c. Email or social media May 1-May 15, 2017	60	16	24	1
d. Software that manages your daily work schedule or routine May 1-May 15, 2017	54	9	36	1
e. Smartphones May 1-May 15, 2017	67	13	20	0
f. Technologies that help customers serve themselves on their own May 1-May 15, 2017	48	12	40	0

ASK IF EMPLOYED (INDUSTRY=1-10) [N=2,510]:

Thinking about the different technologies you have used or that have impacted you over the course of your career...

RANDOMIZE ORDER OF WORK4a, WORK4b AND WORK4c

WORK4a Thinking about how DEMANDING your work is, has technology generally made your work...

May 1- May 15 <u>2017</u>	
39	More demanding
29	Less demanding
32	No impact either way
0	No answer

WORK4b Thinking about how INTERESTING your work is, has technology generally made your work...

May 1- May 15 <u>2017</u>	
53	More interesting
12	Less interesting
34	No impact either way
0	No answer

WORK4c Thinking about opportunities for advancement in your career, do you feel that technology has...

May 1- May 15 <u>2017</u>	
46	Increased your opportunities
13	Decreased your opportunities
40	No impact either way
0	No answer

Please consider the following scenario...

New developments in robotics and computing are changing the nature of many jobs. Today, these technologies are mostly being used in certain settings to perform routine tasks that are repeated throughout the day. But in the future, robots and computers with advanced capabilities may be able to do most of the jobs that are currently done by humans today.

ASK ALL:

ROBJOB1 How much have you heard, read, or thought about this idea before today?

May 1- May 15 <u>2017</u>	
24	A lot
61	A little
14	Nothing at all
0	No answer

ASK ALL:

ROBJOB2 Based on what you know, does this concept seem...

May 1-

May 15

2017

20	Extremely realistic
57	Somewhat realistic
17	Not very realistic
5	Not at all realistic
1	No answer

ASK ALL, RANDOMIZE ORDER OF ROBJOB3a AND ROBJOB3b:

ROBJOB3 Thinking about the possibility that computers and robots could do most of the work currently done by humans...

- a. How ENTHUSIASTIC are you, if at all, about this possibility for society as a whole?

May 1-

May 15

2017

6	Very enthusiastic
27	Somewhat enthusiastic
47	Not too enthusiastic
20	Not at all enthusiastic
0	No answer

- b. How WORRIED are you, if at all, about this possibility for society as a whole?

May 1-

May 15

2017

25	Very worried
48	Somewhat worried
23	Not too worried
4	Not at all worried
0	No answer

ASK ALL:

ROBJOB4

If robots and computers were able to perform most of the jobs currently being done by humans, do you think the following are likely or not likely to happen as a result?

[RANDOMIZE]

	<u>Yes, likely</u>	<u>No, not likely</u>	<u>No answer</u>
a. Inequality between rich and poor would be much worse than it is today May 1-May 15, 2017	76	23	1
b. People would have a hard time finding things to do with their lives May 1-May 15, 2017	64	36	0
c. People would be able to focus less on work and more on the things that really matter to them in life May 1-May 15, 2017	42	57	1
d. The economy as a whole would be much more efficient May 1-May 15, 2017	43	56	1
e. The economy would create many new, better-paying jobs for humans May 1-May 15, 2017	25	75	1
f. Humans would find their jobs more meaningful and fulfilling since machines would mostly be doing things that humans find unappealing May 1-May 15, 2017	40	59	1

ASK ALL:

ROBJOB5

In the event that robots and computers are able to do most of the jobs that are done by humans today, would you favor or oppose the following? **[RANDOMIZE]**

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>No answer</u>
a. If the federal government provided all Americans with a guaranteed income that would allow them to meet their basic needs May 1-May 15, 2017	31	30	21	18	1
b. If robots and computers were mostly limited to doing jobs that are dangerous or unhealthy for humans to do May 1-May 15, 2017	47	38	11	3	0
c. If people had the option of paying extra to interact with a human, rather than a robot or computer, when buying a product or service May 1-May 15, 2017	22	41	24	13	1
d. If the federal government created a national service program that paid people to perform tasks even if a robot or computer could do those tasks faster or cheaper May 1-May 15, 2017	21	37	29	12	1

RANDOMIZE ORDER OF ROBJOB6 AND ROBJOB7**ASK ALL:**

ROBJOB6

Which of the following statements best describes how you feel, even if neither is exactly right? **[RANDOMIZE OPTIONS]**

May 1-
May 15
2017

50	The government would have an obligation to take care of people whose jobs are displaced by robots and computers, even if that meant raising taxes substantially
49	Individuals would have an obligation to take care of their own financial well-being, even if robots and computers have already taken many of the jobs they might be qualified for
1	No answer

ASK ALL:

ROBJOB7

Which of the following statements best describes how you feel, even if neither is exactly right? **[RANDOMIZE OPTIONS]**

May 1-
May 15
2017

41

If businesses can receive better work at lower cost by replacing humans with robots and computers, they are justified in doing so

58

There should be limits on how many jobs businesses can replace with robots and computers, even if they can do those jobs better and more cheaply than humans can

1

No answer

ASK ALL:

ROBJOB8

Do you think it is very likely, somewhat likely, not very likely, or not at all likely that the following jobs will be mostly replaced by robots or computers in your lifetime?

[RANDOMIZE]

	<u>Very likely</u>	<u>Somewhat likely</u>	<u>Not very likely</u>	<u>Not at all likely</u>	<u>No answer</u>
a. Software engineer May 1-May 15, 2017	15	38	35	12	1
b. Legal clerk May 1-May 15, 2017	13	36	38	12	1
c. Nurse May 1-May 15, 2017	4	16	46	34	1
d. Construction worker May 1-May 15, 2017	10	32	39	19	0
e. Fast food worker May 1-May 15, 2017	38	39	17	6	0
f. Teacher May 1-May 15, 2017	10	26	38	26	1
g. Insurance claims processor May 1-May 15, 2017	22	44	27	7	0

ASK IF EMPLOYED (INDUSTRY=1-10) [N=2,510]:

ROBJOB9

How likely, if at all, do you think it is that YOUR OWN job or profession will be mostly done by robots or computers in your lifetime?

May 1-
May 15
2017

7

Very likely

23

Somewhat likely

40

Not very likely

30

Not at all likely

0

No answer

ASK ALL:

WORK5a Have you yourself ever lost a job because your employer replaced your position with a machine, robot or computer program?

May 1-	
May 15	
<u>2017</u>	
2	Yes
94	No
4	I'm not sure
0	No answer

ASK IF HAVE LOST A JOB DUE TO AUTOMATION (WORK5a=1) [N=83]:

WORK5b When you lost a job for this reason, was your next job...

May 1-	
May 15	
<u>2017</u>	
36	A job you liked better
17	A job you liked worse
34	A similar job
13	Did not find a new job
0	No answer

ASK ALL:

WORK6 Have you ever had your pay or hours reduced because your employer replaced some aspect of your job with a machine, robot or computer program?

May 1-	
May 15	
<u>2017</u>	
5	Yes
91	No
4	I'm not sure
1	No answer

ASK ALL:

WORK7 Do you personally KNOW anyone who has lost a job, or had their pay or hours reduced, because their employer replaced their work with a machine, robot or computer program?

May 1-	
May 15	
<u>2017</u>	
18	Yes
81	No
1	No answer

[ASSIGN PARTICIPANTS TO RECEIVE ONE OF THE FOLLOWING TWO VIGNETTES BASED ON FORM SPLIT]**ASK IF FORM 1 [N=2,045]:**

Next, please consider the following scenario...

Today, many older adults move into assisted living facilities when they can no longer live independently. In the future, people could be provided with a robot caregiver that would allow them to continue living in their own home as they age. This robot would be available 24 hours a day to help with household chores, test vital signs and dispense medication, or call for assistance in an emergency. It would also have conversational skills and could serve as a companion for people who live alone.

CAREGIV1 How much have you heard, read, or thought about this idea before today?

May 1- May 15 <u>2017</u>	
6	A lot
29	A little
65	Nothing at all
0	No answer

CAREGIV2 Based on what you know, does this concept seem...

May 1- May 15 <u>2017</u>	
10	Extremely realistic
49	Somewhat realistic
29	Not very realistic
11	Not at all realistic
0	No answer

ASK IF FORM 1 [N=2,045]:

CAREGIV3 Thinking about the possibility that older adults could have this type of robot caregiver...
[RANDOMIZE ORDER]

- a. How ENTHUSIASTIC are you, if at all, about this possibility for society as a whole?

May 1- May 15 <u>2017</u>	
9	Very enthusiastic
35	Somewhat enthusiastic
38	Not too enthusiastic
18	Not at all enthusiastic
0	No answer

- b. How WORRIED are you, if at all, about this possibility for society as a whole?

May 1- May 15 <u>2017</u>	
14	Very worried
33	Somewhat worried
43	Not too worried
10	Not at all worried
0	No answer

ASK IF FORM 1 [N=2,045]:

CAREGIV4 Would you, personally, be interested in this type of robot caregiver for yourself or a member of your family?

May 1-
May 15
2017

41	Yes
59	No
0	No answer

ASK IF CAREGIV4=1-2 [N=2,039]:

CAREGIV5 What is the main reason you [IF CAREGIV4=1 "would"; IF CAREGIV4=2 "would not"] be interested in this type of robot caregiver?

OPEN-ENDED RESPONSES NOT SHOWN**ASK IF FORM 1 [N=2,045]:**

CAREGIV6 If robot caregivers such as these were developed, do you think the following are likely or not likely to happen as a result? **[RANDOMIZE ITEMS]**

	<u>Yes, likely</u>	<u>No, not likely</u>	<u>No answer</u>
a. Young people would feel less worried about caring for their aging relatives May 1-May 15, 2017	70	30	1
b. Society would save money on caring for older adults May 1-May 15, 2017	51	47	1
c. Many older adults would treat their robot caregiver like a human friend May 1-May 15, 2017	56	43	1
d. Older adults would feel more isolated than they do today May 1-May 15, 2017	64	35	1
e. Older adults would feel more independent and self-sufficient May 1-May 15, 2017	59	40	1
f. These robots would only be used by people who could not afford a human caregiver for their loved one May 1-May 15, 2017	42	56	2

ASK IF FORM 1 [N=2,045]:

CAREGIV7 Would you feel better, worse, or would it not make a difference if the robot caregiver in this scenario had a camera so that a human operator could monitor the situation at all times?

May 1-	
May 15	
<u>2017</u>	
48	Better
20	Worse
32	No difference
0	No answer

ASK IF FORM 2 [N=2,090]:

Next, please consider the following scenario...

Today, when companies are hiring they typically have someone read applicants' resumes and conduct personal interviews to choose the right person for the job. In the future, computer programs may be able to provide a systematic review of each applicant without the need for human involvement. These programs would give each applicant a score based on the content of their resume, application, or standardized tests for skills such as problem solving or personality type. Applicants would then be ranked and hired based on those scores.

HIRING1 How much have you heard, read, or thought about this idea before today?

May 1-	
May 15	
<u>2017</u>	
9	A lot
34	A little
57	Nothing at all
0	No answer

HIRING2 Based on what you know, does this concept seem...

May 1-	
May 15	
<u>2017</u>	
12	Extremely realistic
47	Somewhat realistic
28	Not very realistic
13	Not at all realistic
0	No answer

ASK IF FORM 2 [N=2,090]:

HIRING3 Thinking about the possibility that job candidates might be evaluated using this sort of computer program... **[RANDOMIZE ORDER]**

- a. How ENTHUSIASTIC are you, if at all, about this possibility for society as a whole?

May 1-
May 15
2017

3	Very enthusiastic
19	Somewhat enthusiastic
49	Not too enthusiastic
28	Not at all enthusiastic
1	No answer

- b. How WORRIED are you, if at all, about this possibility for society as a whole?

May 1-
May 15
2017

21	Very worried
46	Somewhat worried
25	Not too worried
7	Not at all worried
1	No answer

ASK IF FORM 2 [N=2,090]:

HIRING4 Would you, personally, want to apply for a job that used this type of computer program to make hiring decisions?

May 1-
May 15
2017

22	Yes
76	No
1	No answer

ASK IF HIRING4=1-2 [N=2,076]:

HIRING5 What is the main reason you [IF HIRING4=1 "would"; IF HIRING4=2 "would not"] want to apply for a job that uses this type of computer program to make hiring decisions?

OPEN-ENDED RESPONSES NOT SHOWN

ASK IF FORM 2 [N=2,090]:

HIRING6 Do you think these computer programs would do a better job, a worse job, or do about the same as humans when it comes to... **[RANDOMIZE ITEMS]**

	<u>Better job than humans</u>	<u>Worse job than humans</u>	<u>About the same</u>	<u>No answer</u>
a. Hiring candidates who are well-qualified May 1-May 15, 2017	25	42	32	1
b. Hiring candidates who fit well with the company's culture May 1-May 15, 2017	12	60	28	1
c. Choosing candidates from a diverse range of backgrounds May 1-May 15, 2017	27	42	31	1
d. Providing opportunities for candidates with non-traditional experiences May 1-May 15, 2017	13	58	28	1

ASK IF FORM 2 [N=2,090]:

HIRING7 Would you feel better, worse, or would your opinion of this scenario not change in each of the following scenarios... **[RANDOMIZE ITEMS]**

- a. If these computer programs included public data about each candidate – such as the material they post on social media – in making their evaluations

May 1-
May 15
2017

19	Better
50	Worse
29	No difference
1	No answer

- b. If companies used these computer programs to conduct initial screenings of potential candidates, but then interviewed those candidates in the traditional way

May 1-
May 15
2017

57	Better
17	Worse
25	No difference
1	No answer

e