EDUCATING YOUNGER DRIVERS IN THE PACIFIC NORTHWEST REGARDING THE DANGERS OF DISTRACTED DRIVING (PHASE II)

FINAL PROJECT REPORT

by

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16. Abstract

The goal of this outreach project was to examine driver distraction among high school and college students in the Pacific Northwest. Specifically, to identify secondary tasks they consider distracting and determine their self-reported engagement in those same secondary tasks while driving. An interactive presentation was developed and administered to 2,500 younger drivers (approximately 600 participants in each of the four states Alaska, Idaho, Oregon, and Washington). Younger Drivers were recruited from high schools and universities in each state. Of those participants, 2,378 younger drivers responded to a pre- and post-survey administered immediately before and two weeks after the presentation. The purpose of the survey was to measure the degree to which the interactive presentation improved younger driver perspectives regarding the hazards of distracted driving. Results indicated that the interactive presentation positively influenced younger driver perspectives, meaning that after the interactive presentation, younger drivers were more likely to correctly identify different types of distracted driving.

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List of Abbreviations

GRA: Graduate Research Assistant
OSU: Oregon State University
PacTrans: Pacific Northwest Transportation Consortium
UAA: University of Anchorage Alaska
UI: University of Idaho
UW: University of Washington
WSU: Washington State University

NSHS: North Salem High School
WSHS: West Salem High School

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Executive Summary

The goal of this outreach project was to examine driver distraction among young drivers, ranging from 14 to 19 years of age, including the tasks they considered to be distracting and their self reported levels of engagement in those same distracting tasks. This study differs from other young driver distracted driving studies in two significant ways:

1) pre-and-post- survey responses were collected to assess the influence of an interactive presentation given to teenage student participants, and

2) the sample of teenage students was collected across a region of the country (the pacific northwest). This research effort addresses the following four objectives:

- Develop an interactive presentation regarding teenage distracted driving that engages a variety of student learning styles,
- Administer the presentation to a cross section of teenage students across the Pacific Northwest,
- Determine existing self-reported perspectives of teenage drivers regarding the hazards of distracted driving, and
- Determine if the newly developed interactive presentation improves those perspectives.

First, a pre-survey was administered initially to teenagers in high schools or colleges, then a treatment (i.e. the interactive presentation) was conducted, and finally a post survey was administered. In total, almost 2,500 teenagers from Anchorage, AK, Corvallis, OR, Moscow, ID, Pullman, WA, and Seattle, WA participated in presentations, and 2,378 returned the surveys. Results from the pre- and post-surveys demonstrated that:

- Teenagers' perceived tasks associated with mobile devices to be more distracting than those associated with vehicle related tasks, like tuning the radio or adjusting climate controls.
- Forty percent of university respondents and 24 percent of high school respondents identified additional secondary tasks that they regularly engaged in while driving. Specifically, 36 percent of those university respondents and 26 percent of those high school respondents stated that they changed clothes or shoes while driving.
- In nearly all cases the percentage of responses agreed that an activity was a distraction was larger in the post-survey when compared to the pre-survey. It was also determined that the shifts in perspectives were more significant for students who responded to the presentation immediately after as compared to two weeks after.

Chapter 1 Introduction

Distracted driving is defined as being engaged in tasks not specific to operating and maneuvering a vehicle. There are many factors associated with driver distraction. For example, Ranney, Mazzae, Garrott, and Goodman (2000) characterized distracted driving to include anything that distracts a driver from the primary task of driving and further categorized distraction into four types: visual (e.g., looking inside of a purse), auditory (e.g., engaging in conversation), biomechanical (e.g., adjusting the radio station), and cognitive (e.g., being lost in thought). The increased availability, acceptance, and use of cell phones and navigation systems means that drivers are often engaged in more than one type of distraction at a time.

Engaging in distracting tasks while driving is a significant safety concern. Crashes caused by distracted drivers contributed to over 3,300 fatalities in 2011 and a further approximate of 387,000 motor vehicle injuries (NHTSA 2013). In the 100-Car Naturalistic study conducted by Virginia Tech Transportation Institute (VTTI), driver inattention and distraction was associated with 78% of crashes and 65% of near-crashes (Klauer, Dingus, Neale, Sudweeks, & Ramsey 2006). Distraction has been shown to lead to degradation in driving performance. For example, Cooper et al. (2003) found that the margin of safety for drivers was significantly reduced with the addition of distraction during a short-weave task and a left-turn decision task.

The degree of risk for a task can be characterized by its frequency, duration, and context (NHTSA 2010a). That is, there are differences between reaching for an item on the floor pan versus continuing a conversation on the phone during heavy traffic. Overall, novice drivers have been shown to have some of the highest crash rates per mile (Sarkar and Andreas 2004). Not only do novice drivers lack the experience needed to understand task risk, but also driving is much less automated for them and requires more of their attentional capacity (Lansdown 2002).

Teenage drivers are particularly vulnerable because of their high propensity to engage in distraction. Teenage drivers are the strongest users of cell phones and tend to be early adopters of new technology (Lee 2007), and they are more likely to use a hand-held cell phone while driving than any other age group (NHTSA 2010b).

In addition, some studies show differences in distracted driving behavior between males and females. In an observational study, females were found to be 70% more likely to use a cell phone while driving as compared to males (Foss, Goodwin, McCartt, and Hellinga 2009). However both genders are at high risk, as males were found more likely to turn around to talk to others in a vehicle while driving (Goodwin, Foss, Harrell, and O'Brien 2012).

Numerous strategies have been deployed to reduce distracted driving; including laws, in-vehicle technology, and educational campaigns. Many studies use simulators or on-road controlled studies to observe changes in driver performance with the onset of distracting tasks. Appropriate feedback can help diminish both the impact and the amount of risk-taking behavior by teenage drivers (Donmez, Boyle, and Lee 2007, 2008a, 2008b). Video and parental feedback provided in an Iowa study showed that the number of safety-relevant events could be reduced (McGehee, Raby, Carney, Lee, and Reyes 2007). The presence of passengers has also been shown to affect driver engagement in distraction and increased risk-taking by teenage drivers has been associated with the presence of teenage peer passengers (Curry, Mirman, Kallan, Winston, and Durbin 2012). Because driver behavior is affected by the behavior of passengers in a vehicle, it is beneficial to educate all teenagers about the dangers of distracted driving.

Many secondary tasks are difficult to examine in a controlled setting or are unsafe to examine in actual driving conditions. Surveys can be particularly helpful in capturing self-identified behavior that may not otherwise be observed (Mann, Vingilis, Leigh, Anglin, &

Blefgen 1986). Although it is not known definitively that perceptions of a phenomena relate to actual behaviors for distracted driving, previous research has shown that survey responses correlate strongly with actual driver behaviors (i.e. speed perception and selection) both in the field and studies using simulators (Hurwitz and Knodler 2007).

The goal of this study is to examine driver distraction among teenagers using self-reported data in a before and after interactive presentation. The interactive presentation is designed to expose students to a variety of evidence showing how activities performed while driving can result in distractions that significantly reduce their ability to drive safely.

It differs from other teenage distracted driving studies in two significant ways:

1) pre-/post- survey responses were collected to assess the influence of an interactive presentation given to teenage student participants, and

2) the sample of teenage students was collected across a region of the country (the pacific northwest). This research effort addresses the following four objectives:

- Develop an interactive presentation regarding teenage distracted driving that engages a variety of student learning styles,
- Administer the presentation to a cross section of teenage students across the Pacific Northwest,
- Determine existing self-reported perspectives of teenage drivers regarding the hazards of distracted driving, and
- Determine if the newly developed interactive presentation improves those perspectives.

Chapter 2 Methods

The study included a before, intervention/treatment, and after phase. The aim was to evaluate the effectiveness of an interactive presentation in changing students' attitudes and perceptions about distracted driving.

Immediately before the presentation, as the students entered the classroom or auditorium they were handed the pre-surveys. As soon as the students were seated, they were instructed to respond to the pre-survey by several researchers present in the classroom. Upon completion of the pre-survey, student researchers collected the surveys and the interactive presentation was delivered. Either immediately or two weeks later the post-surveys were administered by several researchers or by the high school teachers.

2.1 Pre- and Post-Survey Content

A four-page pre-survey and one-page post-survey were developed for deployment at each high school. Both the pre- and post-survey asked students to rate (on a seven point Likert scale) how distracting they perceived specific activities to be while driving. These two surveys also asked about general demographics such as gender, year in school and age.

Additionally, the pre-survey asked more specific questions about driving history and experience, license type and training, driving frequency and duration, and how often and when they and/or their parent engage in specific secondary tasks. The pre-survey took approximately 10-15 minutes to complete, while the post-survey took approximately 5-10 minutes.

2.2 Interactive Presentation Motivation

Educational interventions that have been succesful in changing student attitudes and behavior have included two complementary approaches: presentation of a diverse set of evidence and active engagement with the material (Vosniadou 1994; Vosniadou 2008).

A broad and diverse set of evidence suggests that engaging students in the learning process during a presentation is effective in changing their conceptual understanding (Hake 2002; Prince 2004; Chi 2009). Active learning requires students to do more than passively listen. It requires activities such as writing, discussion, and tactile problem-solving that engage students in higher order thinking tasks such as analysis, synthesis, and evaluation.

Additionally, students report preferences for a wide variety of learning styles. Numerous models have been proposed to describe these learning styles. Of these, the Felder-Silverman learning styles model (Felder and Silverman 1988) has gained significant traction in the engineering community. For our purposes, it is important to recognize that student learning outcomes can be improved if content is presented in a way that resonates across the diverse learning preferences of students. The spectrum of teaching styles described by Felder and Silverman include concrete and abstract content, visual and verbal presentation, inductive and deductive organization, active and passive participation, and sequential and global perspectives. *As such a variety of teaching styles were incorporated into the presentation*.

2.3 Interactive Presentation Content

The interactive presentation was developed so that students with different learning styles would be exposed to a variety of evidence that suggests many secondary tasks performed while driving can result in distraction, significantly impacting driving performance. Evidence included research outcomes, videos of naturalistic driving, static images, hands on demonstrations, and the use of inductive and deductive reasoning through extensive questioning. To promote a more interactive classroom environment, preplanned questions were used throughout the presentation and two activities, one involving every student participant and one involving several students at

the front of the classroom were included. Table 2.1 describes the topics, the types of evidence presented, and the intended outcomes of the presentation.

Table 2.1 Presentation Components

Topics:	Evidence Presented:	Intended Outcome:
What is transportation Engineering and human factors?	Figures and photos describing transportation engineering and human factors.	Students can describe what transportation and human factors engineers study.
What constitutes distracted driving?	Video clips and photos of a bus driver engaged in multiple simultaneous distractions.	Students can identify distraction tasks and their motor, cognitive, visual and audible components.
What are the impacts of distracted driving?	Video clips of naturalistic texting, application of makeup, and tuning radio resulting in crashes. Research results of distraction of driver performance. Activities on attention and cognitive load.	Student beliefs that distracted driving increases crash likelihood are strengthened.
How do we quantify driver behavior?	Photos of instrumented vehicles, driving simulators, and data collection systems.	Students exposed to university level engineering research facilities.
How can we mitigate distracted driving?	Research results and photos of materials from feedback studies.	Students exposed to how engineers solve problems.

To ensure consistency, an instructor's guide was developed for use by all presenters. These notes included summaries of the major points that needed to be communicated, the amount of time that should be spent, and the expected student outcomes for each slide. A video recorded presentation was also available for distance learning.

2.4 Participants

Participants in this study were recruited from high schools and universities in relative proximity to Anchorage, Alaska, Corvallis, Oregon, Seattle and Pullman, Washington, and Moscow, Idaho (Figure 2.1).

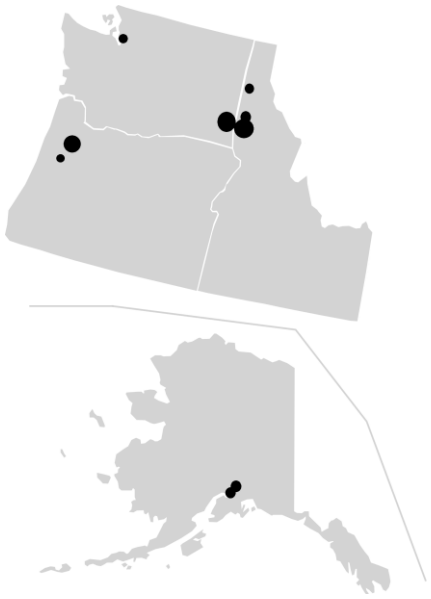

Figure 2.1 Locations of Data Collection Sites in the Pacific Northwest

In total, approximately 2,500 teenagers participated in the information sessions, and 2,378 returned the surveys. This number represents two groups, high school students (1,008 participants) and university students (1,378 participants). The mean age of high school students was 16.98 years with standard deviation of 1.31 years. While the mean age of college students was 21.44 years with standard deviation of 5.68 years. The percentage of males and females at the high school were 49% (n=467) and 46.3% (n=494), respectively. The gender split for the colleges was 59.5% (n=814) male and 36.7% (n=503) female. On average, high school participants reported driving 4.71 days per week with a standard deviation of 2.50, and 5.82 days

per week for the college students with 1.80 a standard deviation. Years of driving experience for the high school students ranged from 0.37 years in Moscow (UI), to 0.74 years in Anchorage (Wasilla-UAA), to 0.77 years in Pullman (PHS-WSU), to 0.86 years in West Salem High School (WSHS), and 0.94 years in North Salem High School (NSHS). However, the years of driving experience for the university students ranged from 2.21 years in UW, to 2.98 years in Corvallis, to 3.68 years in WSU, to 4.39 years in Moscow (UI), and 6.03 years in Anchorage (UAA).

Participants were not individually compensated for their participation. However, a raffle for a $50 gift card was used to link pre- and post- survey responses, and ultimately thank the participants for their participation. Detailed participant demographics are included for university participants in Tables 2.2 and 2.4 and for high school participants in Tables 2.3 and 2.5. The use of human subjects in this study was reviewed and approved by the Institutional Review Board (IRB) at each participating institution.

Table 2.2 University Participant Demographics

	OSU n (%)	UAA Spring n (%)	UAA Summer n (%)	UAA Fall n (%)	UW n (%)	WSU n (%)	U of I n (%)	Combined n (%)
Total	188 (13.7)	310 (22.6)	129 (9.42)	239 (17.4)	177 (12.9)	98 (7.15)	229 (16.7)	1370 (100)
Grade Level								
Freshman	132 (70.2)	83 (26.8)	9 (6.98)	129 (54.2)	149 (84.2)	6 (6.12)	57 (24.9)	565 (23.8)
Sophomore	29 (15.4)	88 (28.4)	20 (15.5)	65 (27.3)	1 (0.56)	60 (61.2)	81 (35.4)	344 (14.5)
Junior	16 (8.51)	73 (23.5)	44 (34.1)	24 (10.1)	2 (1.13)	24 (24.5)	36 (15.7)	219 (9.21)
Senior	1 (0.05)	55 (17.7)	44 (34.1)	17 (7.1)	0 (0)	6 (6.12)	55 (24.0)	178 (7.49)
Type of License								
None	7 (3.72)	2 (0.65)	2 (1.55)	8 (3.4)	6 (3.40)	3 (3.06)	5 (2.2)	33 (1.39)
Permit	6 (3.19)	12 (3.87)	9 (6.98)	22 (9.2)	10 (5.65)	4 (4.08)	0 (0)	63 (2.65)
Provisional	44 (23.4)	4 (1.29)	4 (3.10)	7 (2.9)	19 (10.7)	13 (13.3)	0 (0)	91 (3.83)
Full	120 (63.8)	279 (90.0)	105 (81.4)	193 (81.1)	118 (66.7)	76 (77.6)	224 (97.8)	1115 (46.89)

Table 2.3 High School Participant Demographics

	NSHS n (%)	WSHS n (%)	Wasilla HS n (%)	Pullman HS n (%)	U of I HS Data n (%)	Combined n (%)
Total	350 (34.7)	140 (13.9)	35 (3.47)	112 (11.1)	371 (36.8)	1008 (100)
Grade Level						
Freshman	0 (0)	1 (0.71)	0 (0)	0 (0)	109 (29.4)	110 (10.9)
Sophomore	3 (0.86)	0 (0)	0 (0)	0 (0)	143 (38.5)	146 (14.5)
Junior	156 (44.6)	56 (40.0)	24 (68.6)	78 (69.6)	57 (15.4)	371 (36.8)
Senior	159 (45.4)	69 (49.3)	11 (31.4)	34 (30.4)	59 (15.9)	332 (32.9)
Type of License						
None	82 (23.4)	29 (20.7)	2 (5.71)	12 (10.7)	53 (14.3)	178 (17.7)
Permit	98 (28.0)	37 (26.4)	4 (11.4)	23 (20.5)	59 (15.9)	221 (21.9)
Provisional	46 (13.1)	23 (16.4)	3 (8.57)	51 (45.5)	97 (26.1)	220 (21.8)
Full	59 (16.9)	27 (19.3)	26 (74.3)	24 (21.4)	156 (42.0)	292 (29.0)

Table 2.4 University Participant Driving Experience

	OSU n (%)	UAA Spring n (%)	UAA Summer n (%)	UAA Fall n (%)	UW n (%)	WSU n (%)	U of I n (%)	Combined n (%)
Drivers Education Training								
Yes	85 (45.2)	140 (45.2)	64 (49.6)	89 (37.4)	129 (72.9)	84 (85.7)	203 (88.6)	794 (58.0)
No	83 (44.1)	144 (46.5)	53 (41.1)	120 (50.4)	15 (8.47)	10 (10.2)	26 (11.4)	451 (32.9)
Not Yet	7 (3.72)	10 (3.23)	3 (2.33)	17 (7.1)	6 (3.39)	2 (2.04)	0 (0)	45 (3.28)
Crashes								
Yes	75 (39.9)	178 (57.4)	73 (56.6)	93 (54.2)	43 (24.3)	33 (33.7)	78 (34.1)	573 (41.8)
No	102 (54.3)	122 (39.4)	49 (38.0)	134 (56.3)	134 (75.7)	63 (64.3)	151 (65.9)	755 (55.1)
Moving Violations								
Yes	56 (29.8)	99 (31.9)	40 (31.0)	52 (39.1)	17 (9.60)	31 (31.6)	146 (63.8)	441 (32.2)
No	122 (64.9)	196 (63.2)	68 (62.0)	173 (56.3)	160 (90.4)	64 (65.3)	83 (36.2)	866 (63.2)

Table 2.5 High School Participant Driving Experience

	NSHS n (%)	WSHS n (%)	Wasilla HS n (%)	Pullman HS n (%)	U of I HS Data n (%)	Combined n (%)
Drivers Education Training						
Yes	26 (7.43)	29 (20.7)	8 (22.9)	88 (78.6)	322 (86.8)	473 (46.9)
No	175 (50.0)	63 (45.0)	22 (62.9)	11 (9.82)	12 (3.24)	283 (28.1)
Not Yet	69 (19.7)	15 (10.7)	4 (11.4)	10 (8.93)	28 (7.55)	126 (12.5)
Crashes						
Yes	73 (20.1)	14 (10.0)	13 (37.1)	34 (30.4)	114 (30.7)	248 (24.6)
No	236 (67.4)	107 (76.4)	22 (62.9)	76 (67.9)	219 (59.0)	660 (65.5)
Moving Violations						
Yes	9 (2.57)	1 (7.14)	3 (8.57)	3 (2.68)	173 (46.6)	189 (18.8)
No	296 (84.6)	121 (86.4)	32 (91.4)	107 (95.5)	198 (53.4)	754 (74.8)

Chapter 3 Results

3.1 Data Visualization and Analysis

To facilitate the visualization and analysis of the pre/post survey responses, descriptive plots, were created. Figure 3.1 provides an example of the mechanism used in most of the analyses to follow. As noted earlier, each individual survey item provided a Likert type scale with seven anchor points ranging from one (strongly disagree) to 4 (neutral) to seven (strongly agree). Each response along this continuum is coded with a single color. The widths of each color bar correspond to the percentage of total responses for that particular Likert scale. Each row of the figure is centered on Likert anchor number four (neutral), and the percentage of responses to that number are displayed. The percentage displayed on the left edge of the row is the total percentage of response one, two and three, which collectively represent a statement of disagreement. Conversely, the percentage displayed on the right edge of the row is the total percentage of response five, six and seven, which collectively represent a statement of agreement. Shifts in these percentages between pre and post surveys provide evidence as to the effect (positive or negative) that the interactive demonstration had on student perceptions towards distraction.

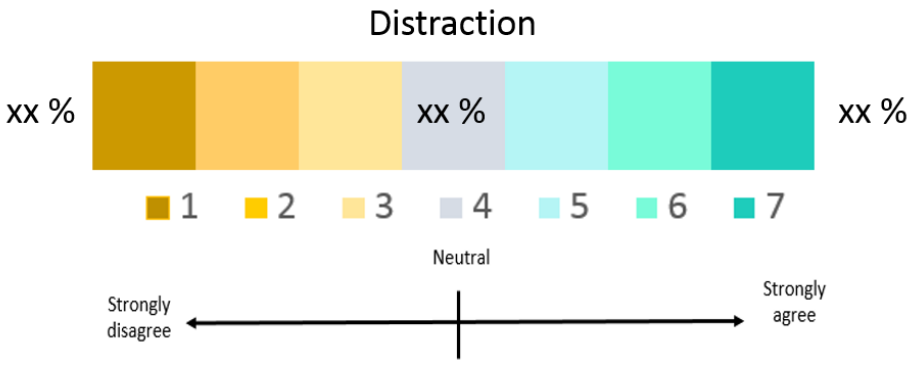

Figure 3.1 Annotated Example of Visualization Format

3.2 Impact of Interactive Presentation

To determine if the interactive presentation improved teenage driver perceptions regarding the distraction of certain secondary activities while driving, researchers developed visualizations combining results of both the pre- and post-surveys. The analysis was conducted for data collected at each high school and university individually.

Figures 3.2 and 3.3 show the responses for the pre- and post-survey question, “which of the following do you think is a distraction while driving,” collected from predominantly freshmen at WSU and predominantly juniors and seniors at NSHS. The data from these locations is consistent with the data from the other locations (see appendix). Each distraction activity includes two rows of data, before and after. Again, these are based on a seven point Likert scale with no perceived distraction corresponding to 1 and highly distracting at 7. Shifts towards the right in responses for each activity between the before and after data demonstrate an increase in the perceived level of distraction.

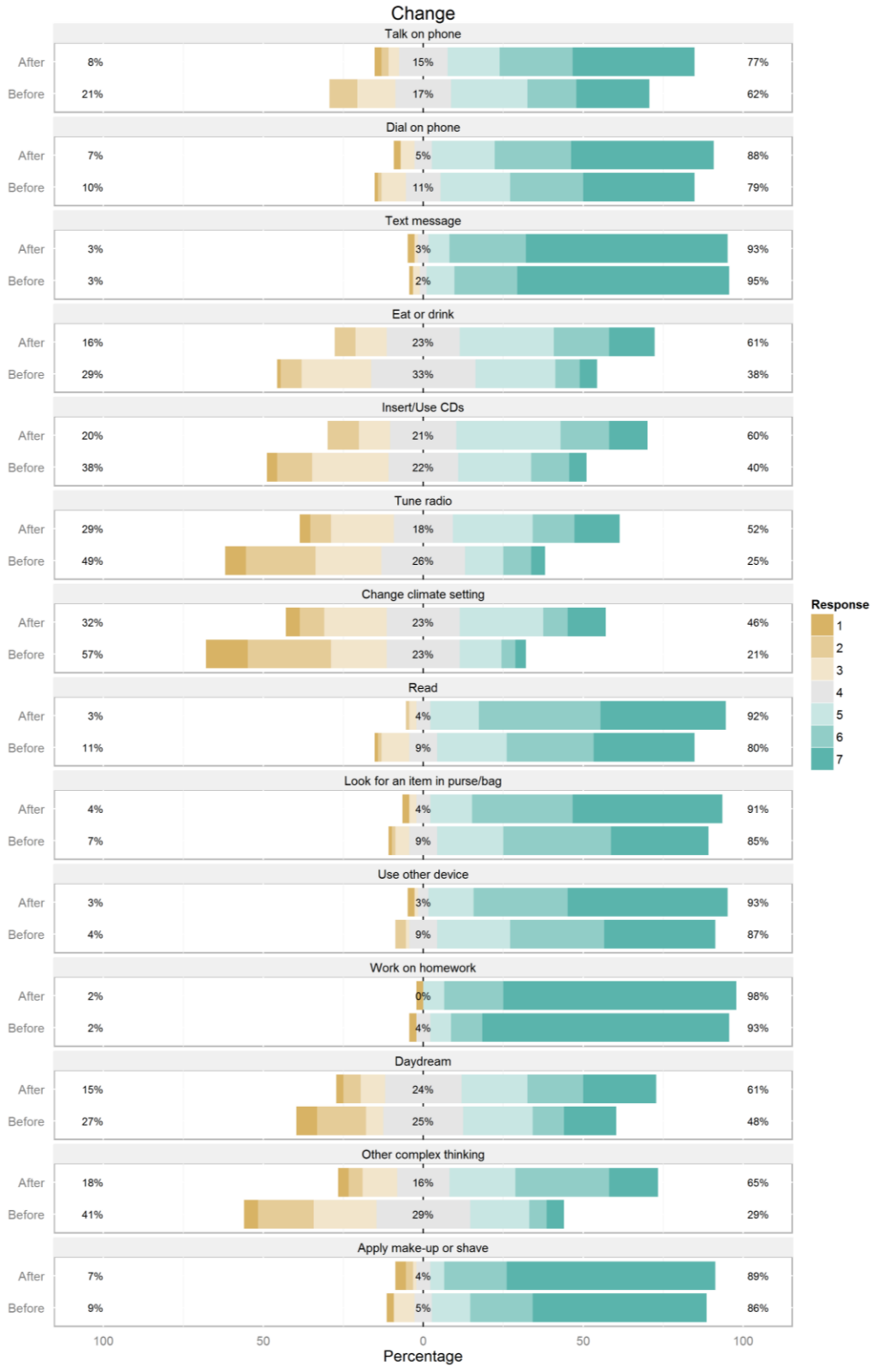

Figure 3.2 Responses to Distracting Activities in Pre- and Post-Survey at WSU

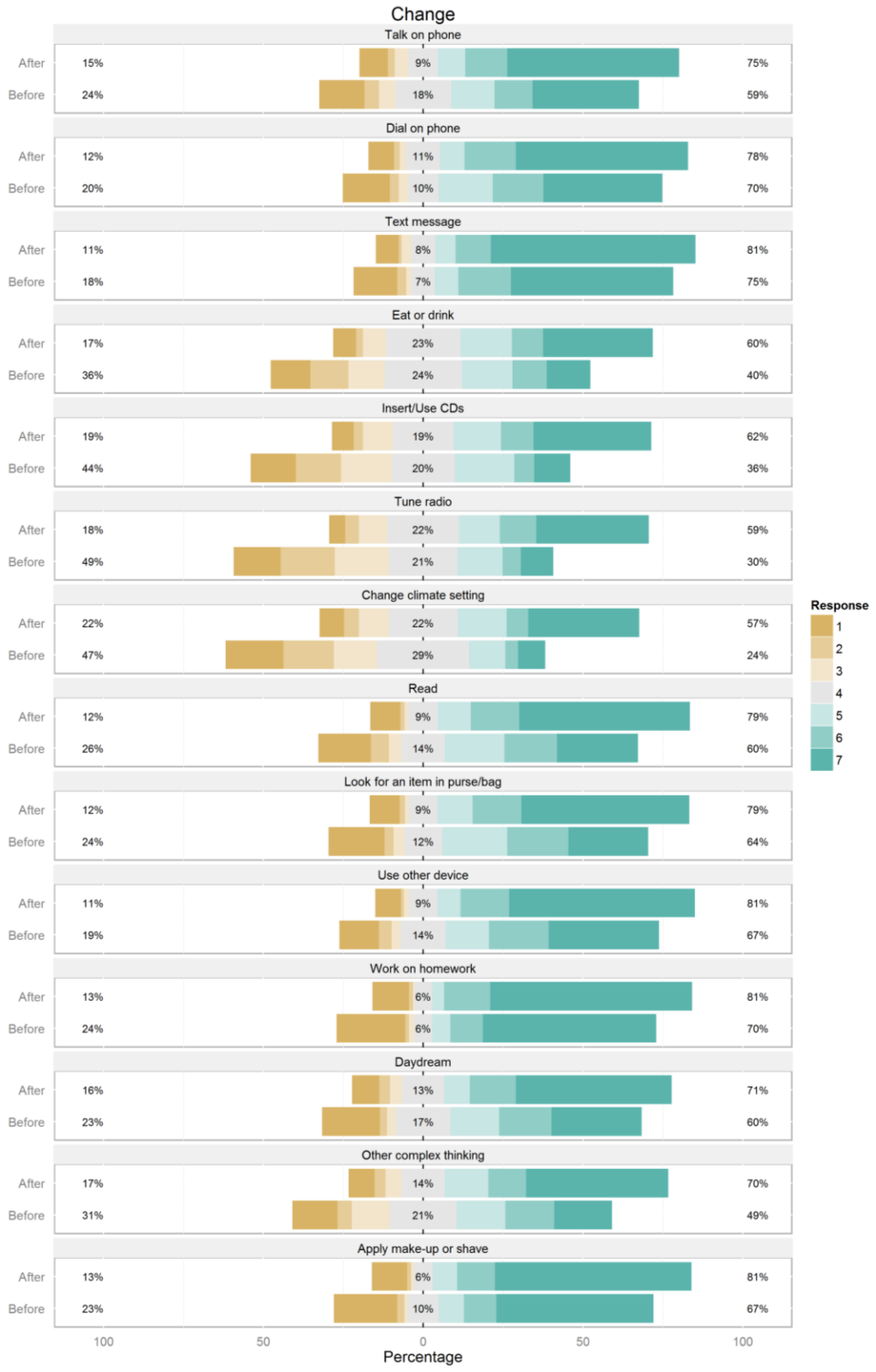

Figure 3.3 Responses to Distracting Activities in Pre- and Post-Survey at NSHS

A variety of insight can be gleaned from Figures 3.2 and 3.3. The percentage of neutral responses decreased after the interactive demonstration for nearly every activity. For example:

- Neutral responses for the, "other complex thinking" activity changed from 29 percent in the before survey to 16 percent in the post survey; a 13 percent reduction at WSU.
- The percentage of responses disagreeing that a secondary task is distracting decreased after the presentation. Of the 14 activities considered, 12 had lower disagreement percentages at WSU and 14 had lower disagreement percentages at NSHS.
- The percentage of responses agreeing that a secondary task is distracting increased after the presentation. This was consistent for all activities at WSU and NSHS.
- Daydreaming and other "complex thinking", both of which can be considered cognitive distractions, showed larger pre- and post-survey shifts, 12 and 14 percent, respectively than those associated with mobile devices.
- Tuning the radio, changing climate settings, and inserting/using CDs, all of which can be considered motor, visual, and cognitive distractions, showed larger pre/post shifts than those associated with mobile devices.

The patterns of participant response seen in the examples of WSU and NSHS were consistent for the other demonstration sites. As such, this evidence is suggestive that the interactive demonstration generated a positive influence on teenage driver perceptions of the distraction associated by secondary tasks while driving.

3.3 Distracting Activities

Students were asked to describe other secondary tasks that they commonly engaged in while driving (Figure 3.4). Approximately 40 percent of the university respondents and 24

percent of the high school participants described additional secondary tasks. It was found that almost 36 percent of university respondents and 26 percent of high school respondents changed clothes or shoes while driving, which was followed by interacting with passengers, and singing and dancing. Other activities during driving included a variety of personal grooming tasks, experiencing road rage and steering the vehicle (driving) with their knees.

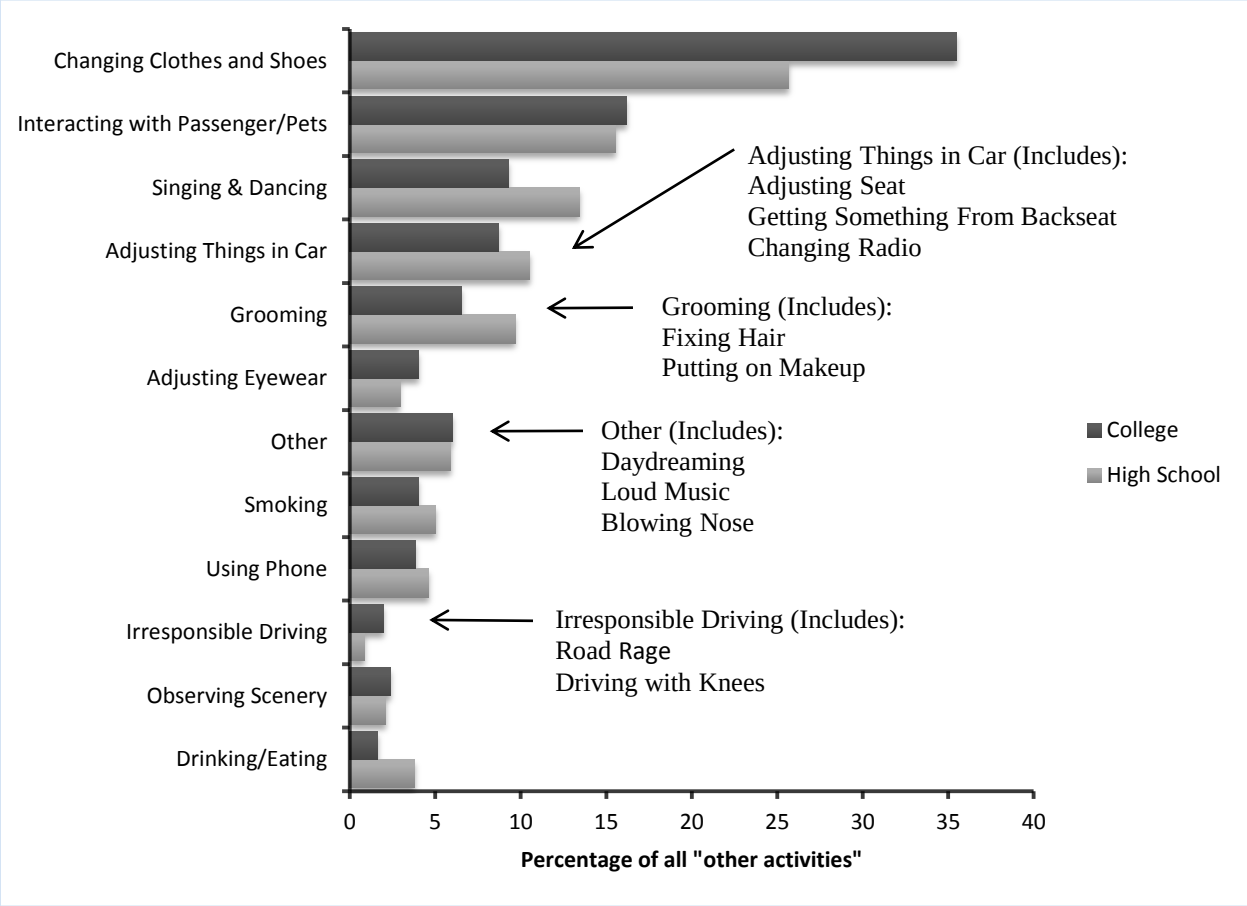

Figure 3.4 Other Distracting Activities during Driving

Chapter 4 Conclusions and Recommendations

In total, almost 2,500 teenagers from Anchorage, AK, Corvallis, OR, Moscow, ID, Pullman, WA, and Seattle, WA participated in presentations with 2,378 returning the surveys. Results from the surveys demonstrated that:

- Teenagers perceived tasks associated with mobile devices to be more distracting than those associated with vehicle-installed devices (tuning the radio, adjusting climate controls).
- Forty percent of university respondents and 24 percent of high school respondents identified additional secondary tasks that they regularly engaging in while driving. Specifically, 36 percent of those university respondents and 26 percent of those high school respondents stated that they changed clothes or shoes while driving.
- In nearly all cases the percentage of responses agreeing that an activity was a distraction was larger in the post-survey when compared to the pre-survey. It was also determined that the shifts in perspectives were more significant for students who responded to the presentation immediately after as compared to two weeks after.

This outreach project has demonstrated that it is feasible to shift self-reported teenage driver perceptions regarding the hazard of distracted driving, however more work needs to be done in this area. Future work should consider the following:

- In total, between Phases I and II of this project 3,900 teenagers participated in these efforts but thousands more need to be engaged if social norms are to be influenced. To achieve this, hundreds of additional presentations need to be conducted by members of the project team as well as others trained in this content area.

- The presentations as well as the facilitators guide should be made readily available so that high school teachers and others can continue to engage high school students with the presentation around the region.
- The results from the pre- and post-survey provided critical data that can contribute to the development of full scale driving simulator studies, providing a means of directly observing teenage driving behavior in the Pacific Northwest.

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Appendix

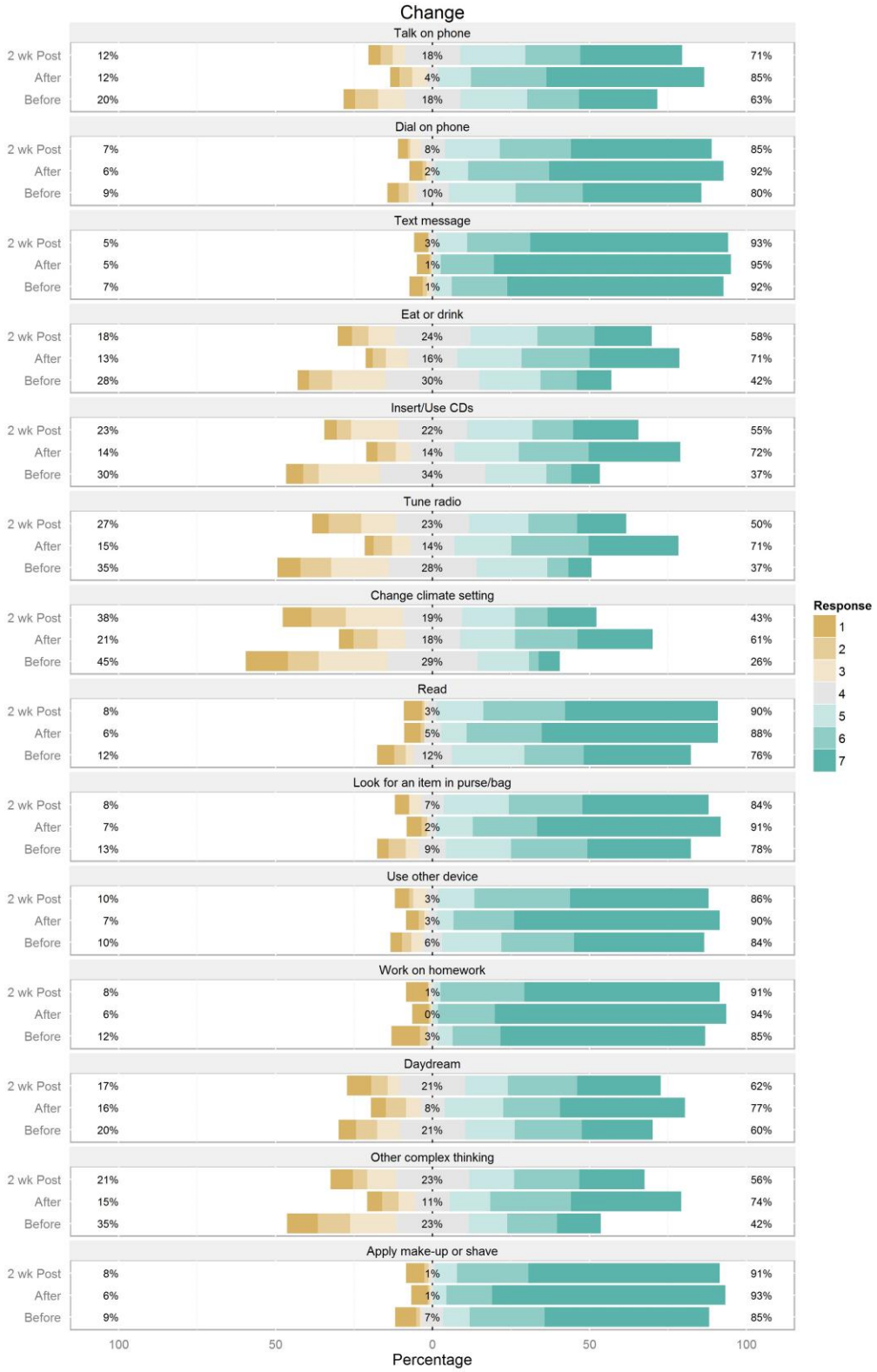

Figure A.1 Responses to Distracting Activities in Pre- and Post-Survey at OSU

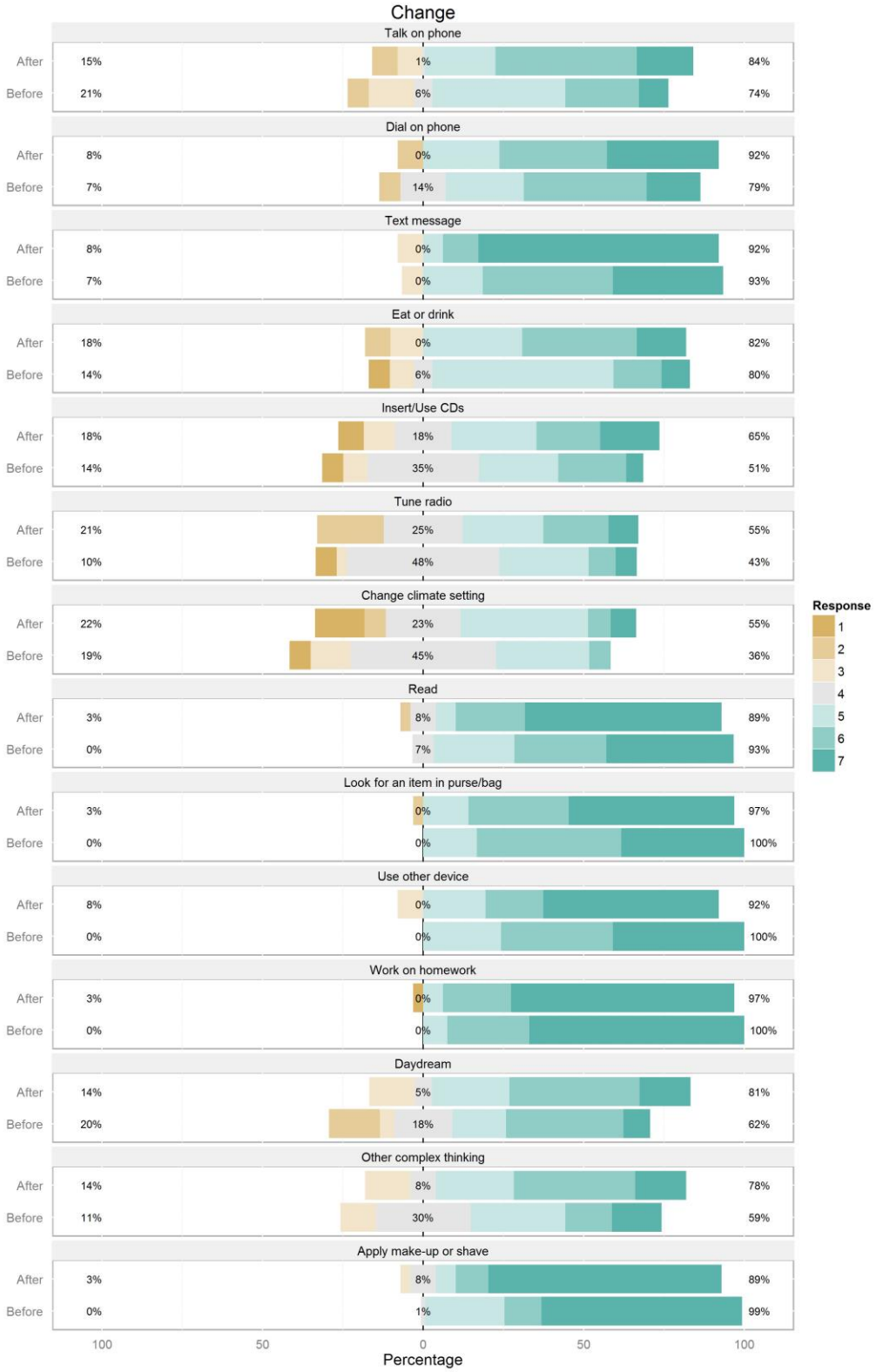

Figure A.2 Responses to Distracting Activities in Pre- and Post-Survey at UI

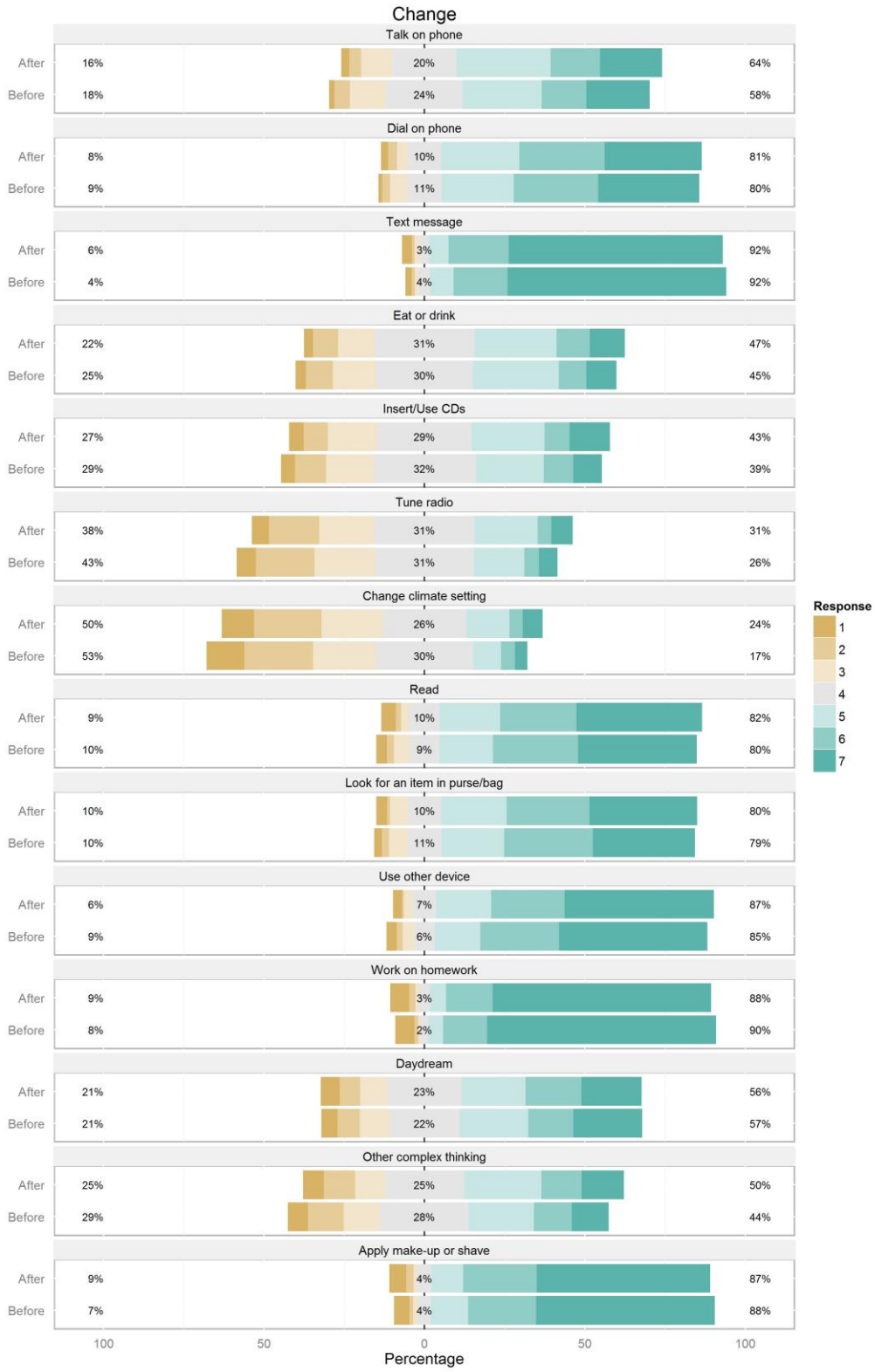

Figure A.3 Responses to Distracting Activities in Pre- and Post-Survey at UAA

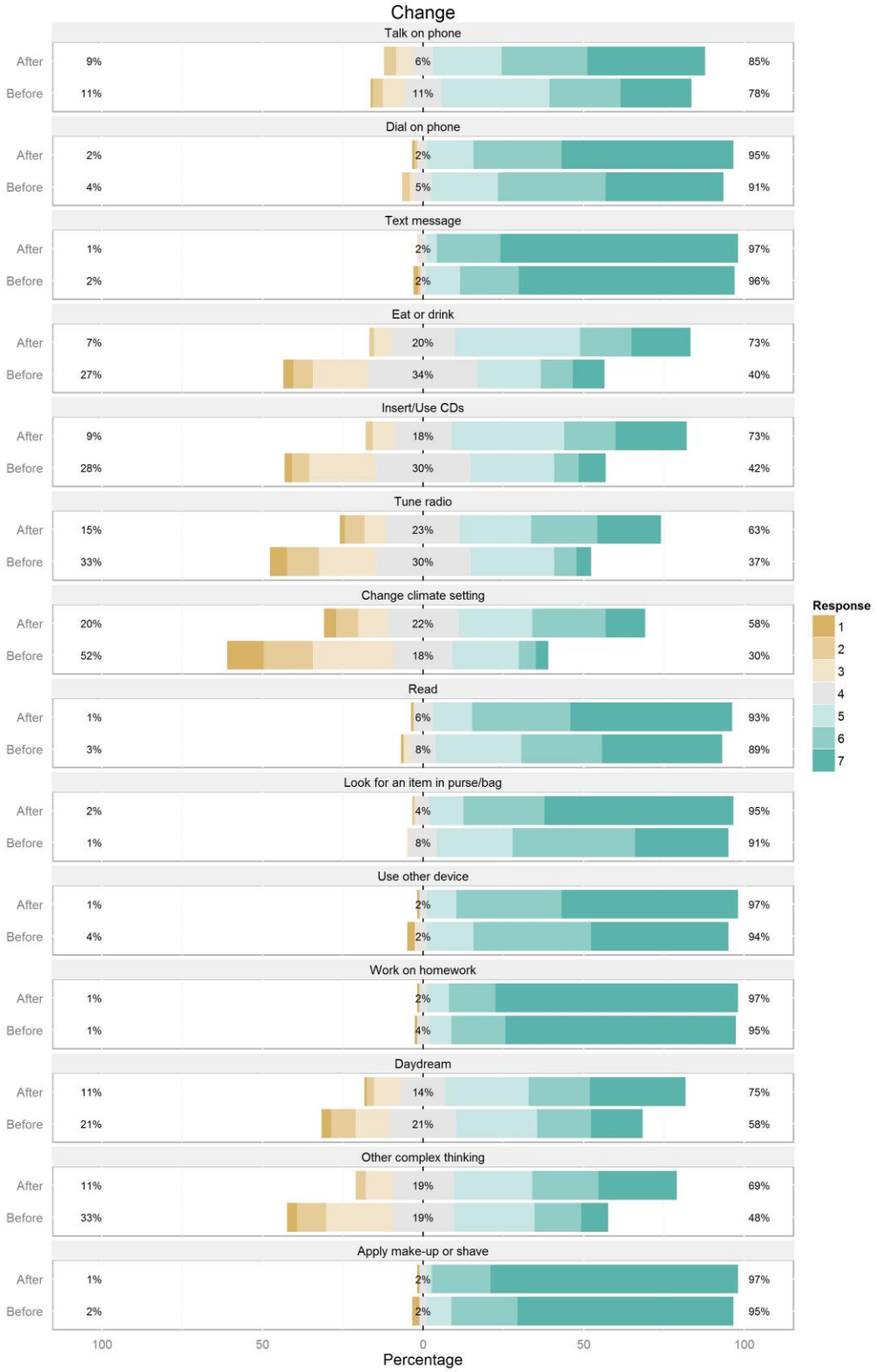

Figure A.4 Responses to Distracting Activities in Pre- and Post-Survey at UW

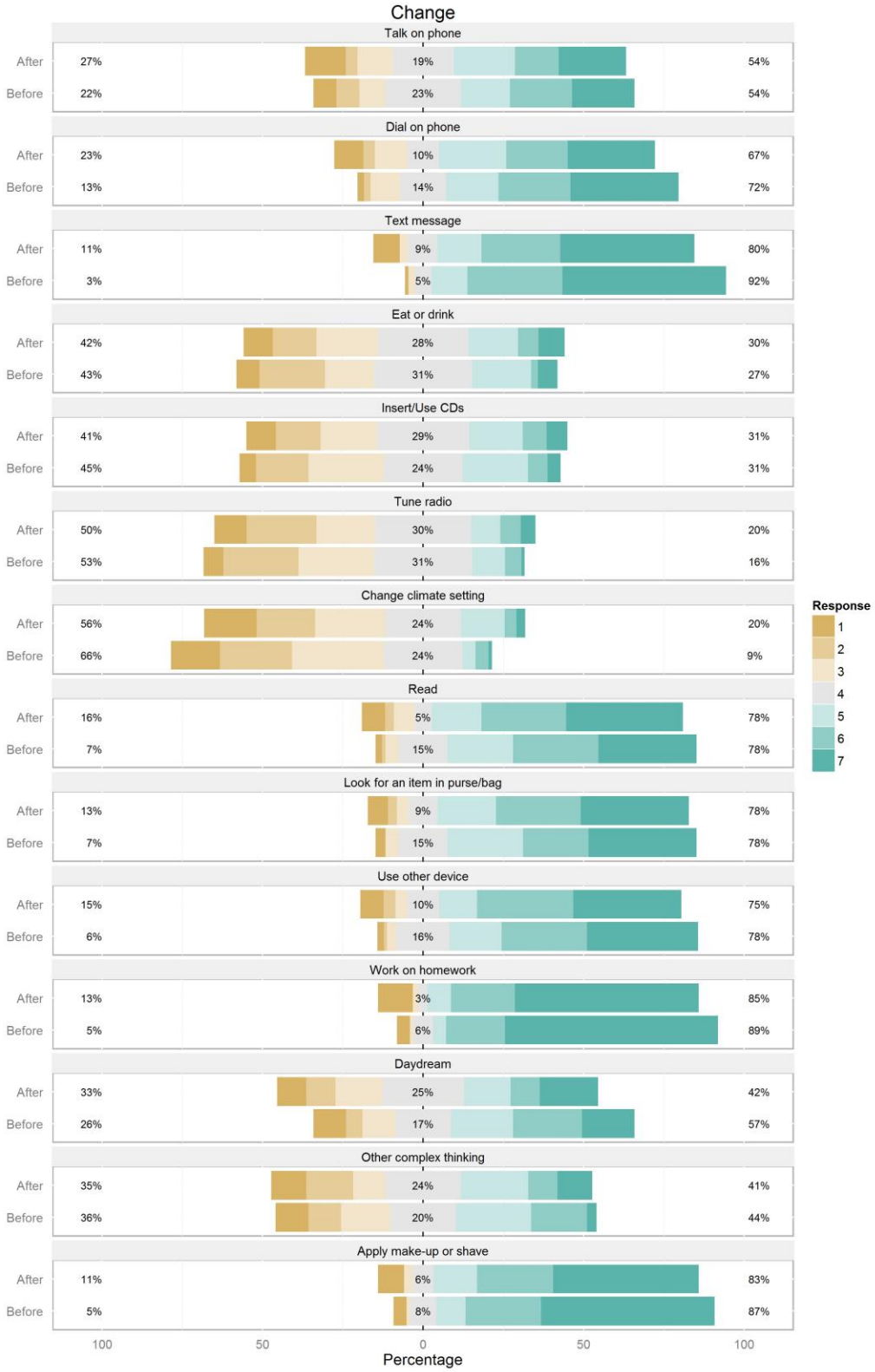

Figure A.5 Responses to Distracting Activities in Pre- and Post-Survey at Pullman HS

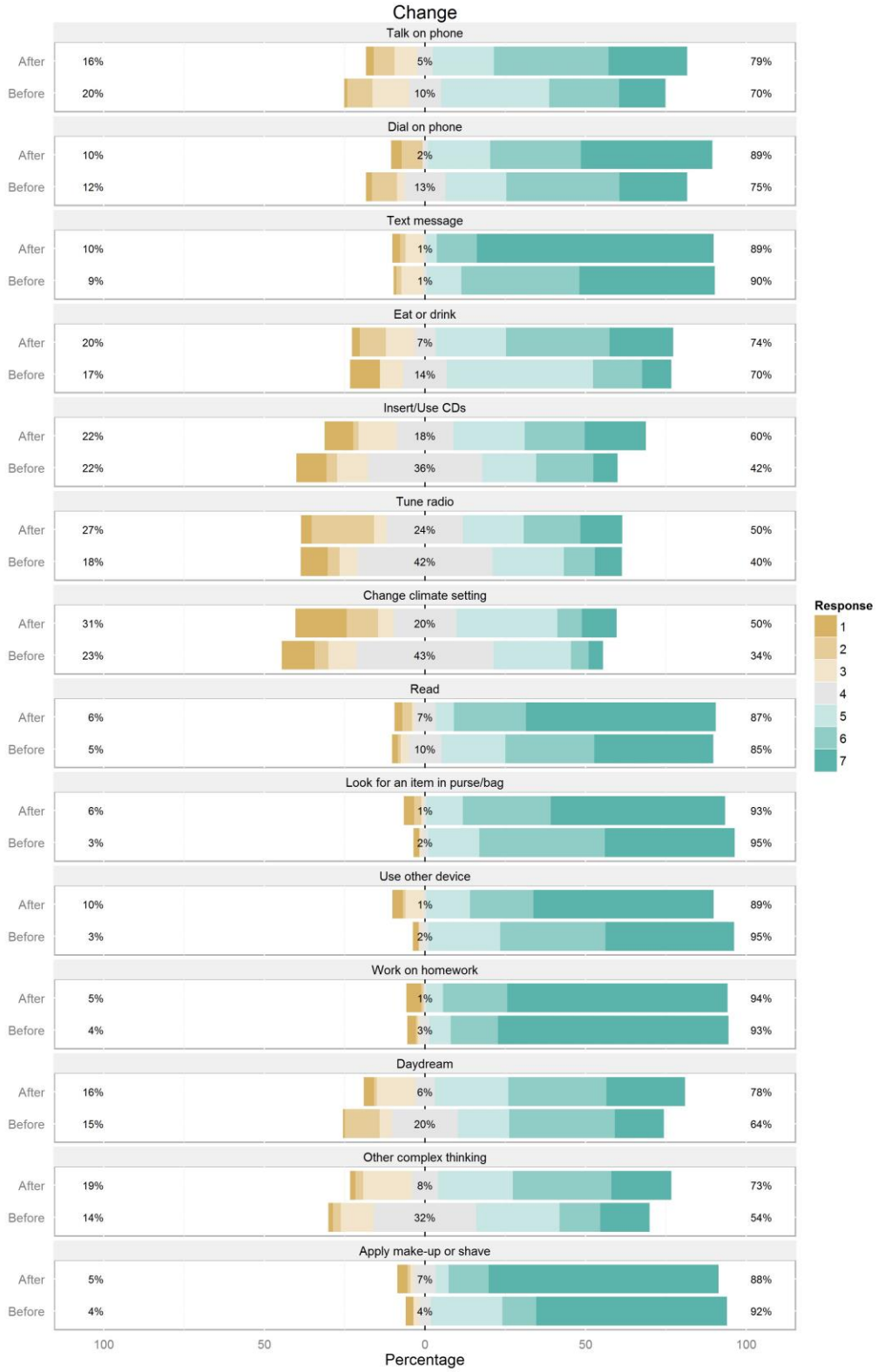

Figure A.6 Responses to Distracting Activities in Pre- and Post-Survey at UIHS

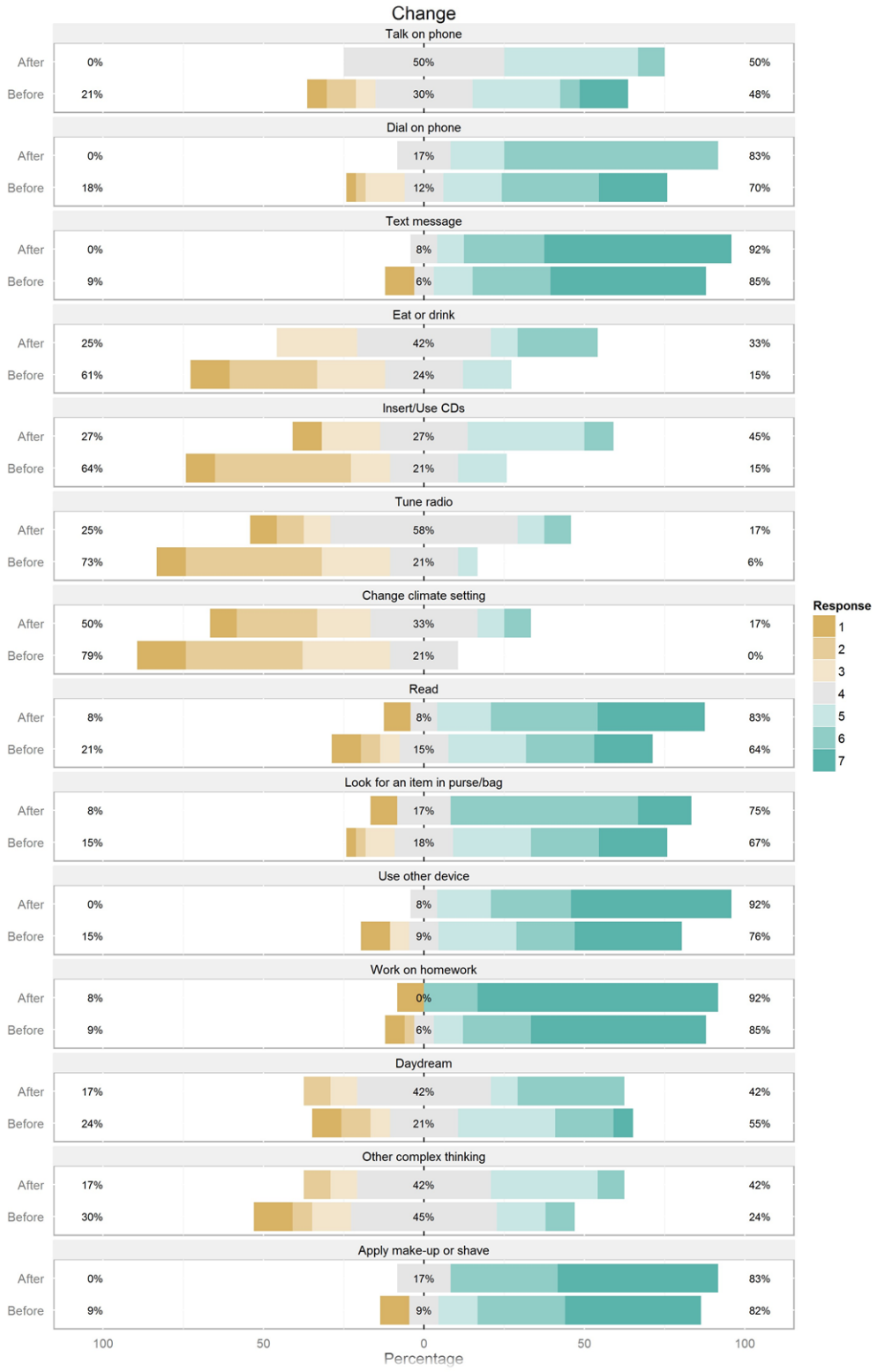

Figure A.7 Responses to Distracting Activities in Pre- and Post-Survey at Wasilla HS

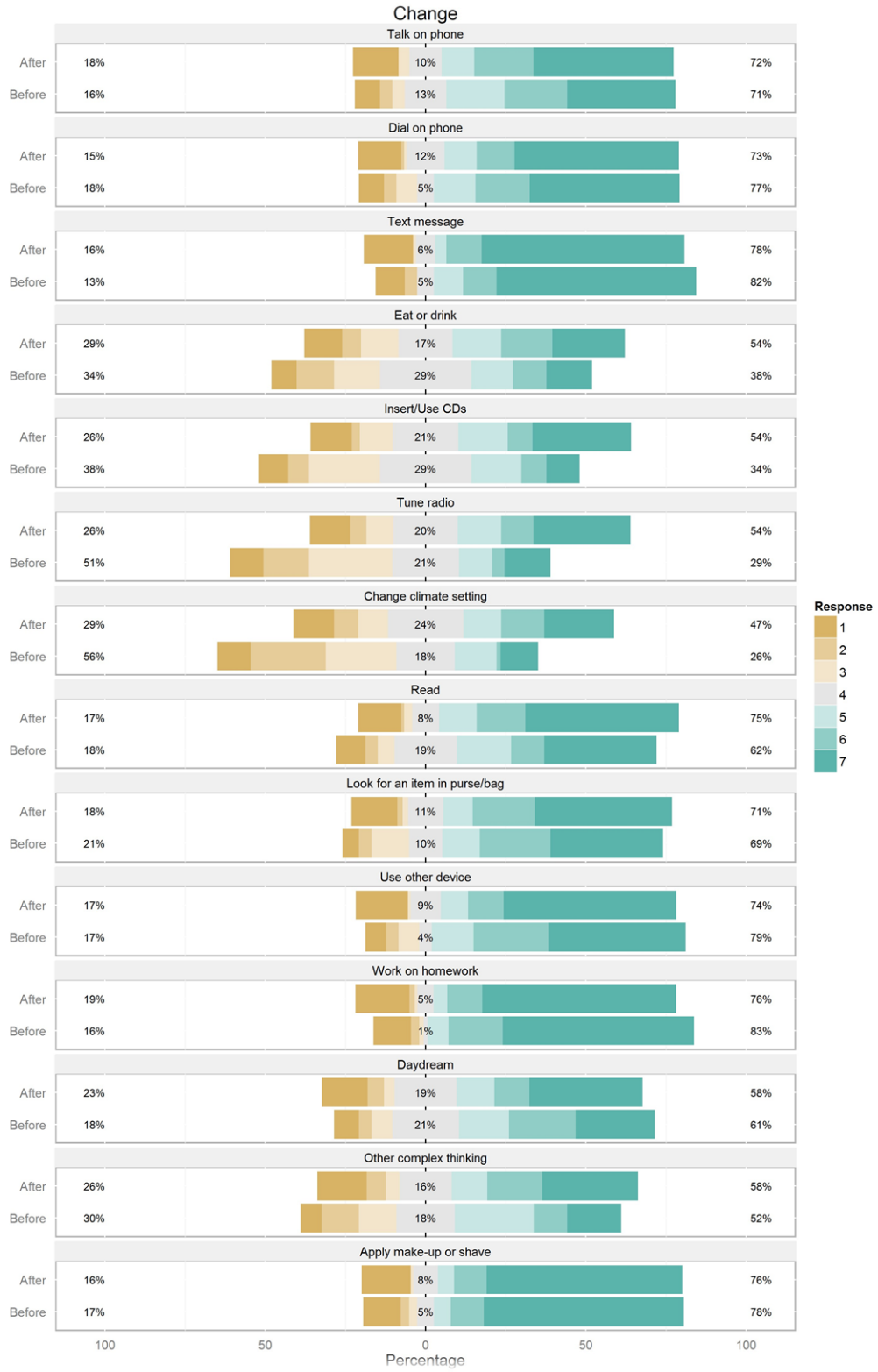

Figure A.8 Responses to Distracting Activities in Pre- and Post-Survey at WSHS