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## 2002 “Sleep in America” Poll

Prepared by:



Date:  
March 2002

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## Background, Purpose and Objectives

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The National Sleep Foundation commissioned WB&A Market Research to conduct a national survey among adults in the United States – the 2002 “Sleep in America” Poll. The primary objectives of this research were to answer the following questions of adults residing in the United States:

1. What are the sleep habits of American adults?
2. How do adults’ sleep habits relate to daytime performance, activities, and moods?
3. How many and how often do adults experience various types of sleep disorders?
4. What types of sleep medications do adults use to treat their sleep disorders?
5. What are their experiences with driving drowsy?
6. What are the public’s opinions about sleep-related policies?
7. What are the effects of the September 11 tragedy on Americans’ sleep habits?

What follows are the results of the 2002 “Sleep in America” Poll.

*NSF wishes to acknowledge the volunteer work of the members of its 2002 Poll Task Force and particularly the in-depth assistance and analysis provided by Dr. James K. Walsh. In appreciation of task force members:*

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## Methodology

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In order to collect the information, telephone interviews were conducted between October 1, 2001 and December 10, 2001 among a random sample of 1,010 adults. The survey averaged 20 minutes in length. In order to qualify for this study, participants had to be:

- At least 18 years of age; and
- Living within the continental United States.

A random sample of telephone numbers was purchased from SSI (Survey Sampling, Inc.). In addition, quotas were established by region, based on U.S. Census household data. An equal number of males and females were interviewed. Most of the interviewing was conducted on weekdays between 5:00 p.m. and 9:00 p.m., Saturdays between 10:00 a.m. and 4:00 p.m., and Sundays 4:00 p.m. and 8:00 p.m. by professional interviewers calling from WB&A's interviewing facility located near Annapolis, Maryland.

Because, in research, the entire population is typically not interviewed, but rather a sample of that population is surveyed, the data are subject to sampling error. The maximum sampling error of the data for the total sample of 1,010 interviews is 3.1 percentage points at the 95% confidence level. However, depending upon the data being examined, the fluctuation may be smaller. Standard errors are shown below for various percentages.

		40%	30%	20%	10%	1%
		or	or	or	or	or
If the percentage found is around:	<u>50%</u>	<u>60%</u>	<u>70%</u>	<u>80%</u>	<u>90%</u>	<u>99%</u>
Then, the standard error, in percentage points would be:						
Total sample (n = 1,010)	±3.1	±3.0	±2.8	±2.5	±1.9	±0.6

For example, if a question in the study asked among the total sample yielded a percentage of 20%, then we can be sure 95 out of 100 times that the true percentage would lie between 17.5% and 22.5% (20% ±2.5 percentage points).

## **Executive Summary**

## Executive Summary – Sleep Habits

The 2002 “Sleep in America” Poll indicates that, on average, respondents are sleeping 6.9 hours during the weekdays and an average of 7.5 hours on the weekends.

- A significant proportion of respondents (39%) report getting less than seven hours of sleep on weeknights. In fact, more than two-thirds (68%) are getting less than eight hours of sleep on weeknights.
- Some of the people are increasing their sleep time on the weekends, as more than one-half (52%) are getting eight hours of sleep or more on the weekends (compared to 30% on weekdays).
- Respondents who tend to sleep less during the week are more likely to be males (6.7) vs. females (7.0), those who are between the ages of 18-29 (6.9) and 30-64 (6.7) vs. those who are 65 or older (7.3), those with children in the household (6.7) vs. those without children (6.9), and shift workers (6.5) vs. regular day shift workers (6.8).

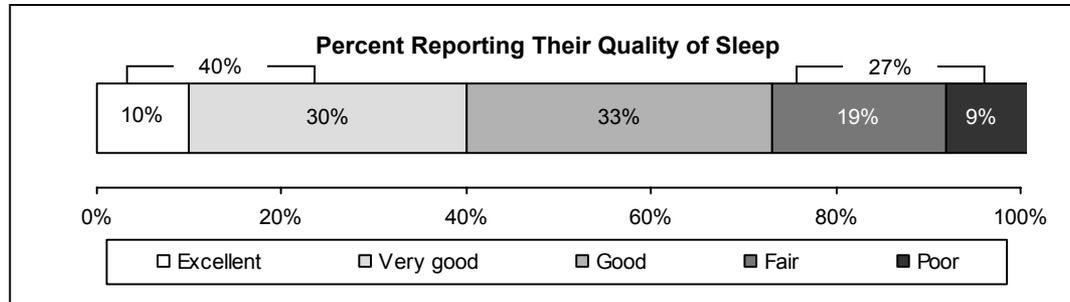
As shown in the tables below, the number of hours slept on weekdays and weekends has remained consistent over the last four years (1998-2002). The timing of sleep (bedtimes and wake-up times on weekends and weekdays) also has not changed during this time period (not shown).

	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>
Less than 6 hours	12%	12%	13%	13%	15%
6 to 6.9 hours	23	22	24	18	24
7 to 7.9 hours	28	31	30	31	29
8 or more hours	35	35	33	38	30
Mean (# of hours)	na	7.0	6.9	7.0	6.9
Median (# of hours)	na	na	na	7.0	7.0

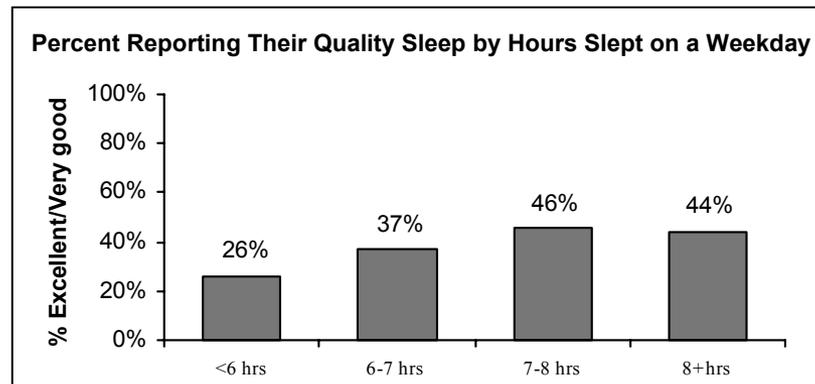
	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>
Less than 6 hours	8%	8%	9%	7%	10%
6 to 6.9 hours	14	14	14	10	12
7 to 7.9 hours	23	20	21	21	22
8 or more hours	53	58	56	61	52
Mean (# of hours)	na	7.6	7.5	7.8	7.5
Median (# of hours)	na	na	na	8.0	8.0

## Executive Summary – Sleep Quality

The majority of respondents (73%) rate the quality of their sleep as being good or better. In fact, 40% rate their sleep as either excellent or very good. Conversely, more than one-fourth (27%) categorize their sleep quality as fair or poor.



A significant factor contributing to "quality of sleep" is how much sleep people report they get, as seen on the following graph.



Those who rate their sleep as either excellent or very good tend to be:

- Respondents who are 65 years of age or older (53%) compared to those between the ages of 18 and 29 (37%) or 30 and 64 (38%);
- Those who rated their overall health as either excellent or very good (51%) vs. good (31%) or either fair or poor (18%);
- Adults without children in their household (43%) compared to those with children (35%); and
- Those who rarely or never experience daytime sleepiness (49% vs. 25% a few days a month or more).

## Executive Summary – Symptoms of Sleep Disorders

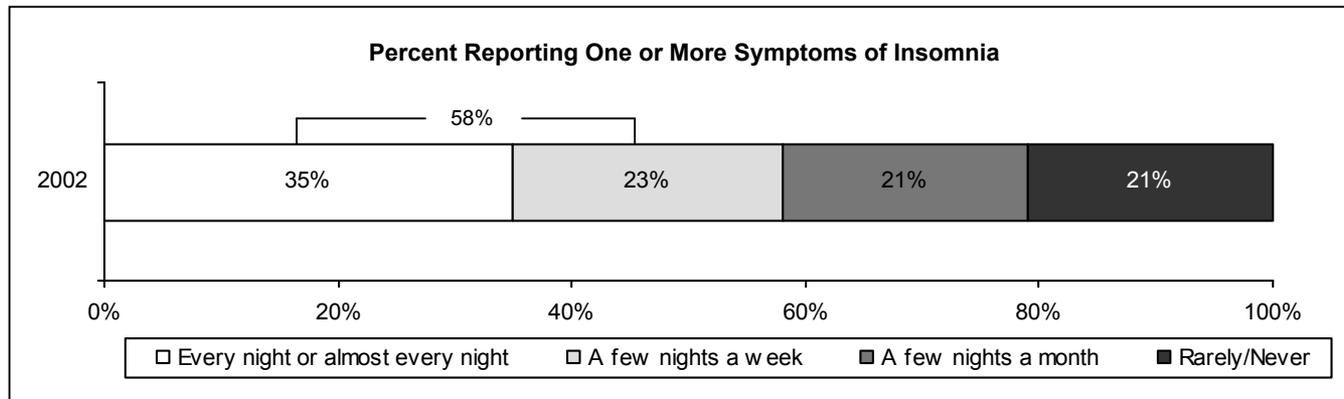
### Insomnia

Insomnia is defined as any of the following symptoms: difficulty falling asleep, waking a lot during the night, waking up too early and not being able to get back to sleep, and waking up feeling unrefreshed.

More than one-half of the respondents (58%) report having experienced at least one of the four symptoms of insomnia at least a few nights a week (see graph below). In fact, 35% say they experienced at least one of these four symptoms of insomnia every night or almost every night in the past year.

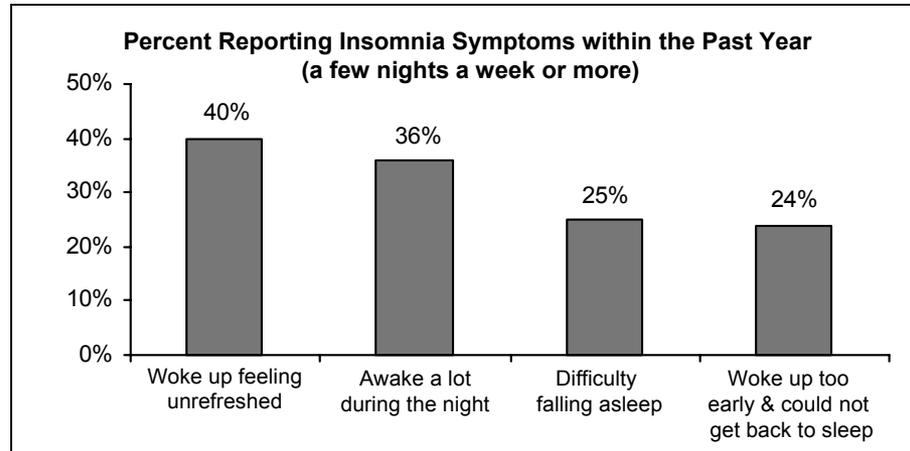
Adults who are more likely to experience symptoms of insomnia at least a few nights a week include:

- Females (63%) vs. males (54%);
- Adults aged 18 to 29 (68%) or 30 to 64 (59%) compared to adults aged 65 or older (44%);
- Those who have children in the household (66%) compared to those without children in the household (54%);
- Those who experience daytime sleepiness at least a few days a month (75% vs. 49% rarely or never); and
- Those who say they are in fair or poor health (80% vs. 64% good or 49% excellent or very good health).

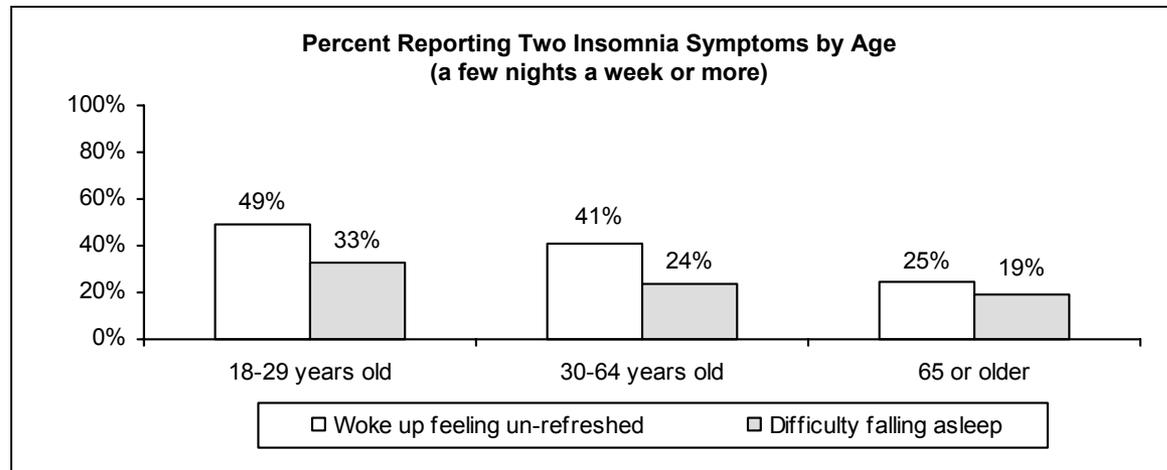


## Executive Summary – Symptoms of Sleep Disorders (cont'd)

More common symptoms of insomnia, experienced at least a few nights a week in the past year were waking up feeling unrefreshed (40%) and/or being awake a lot during the night (36%). These were followed by approximately one-fourth of respondents who said that they had difficulty falling asleep (25%) and/or woke up too early and could not get back to sleep (24%) at least a few nights a week.



Two symptoms of insomnia, waking up feeling unrefreshed and difficulty falling asleep, are more likely to be experienced by 18 to 29 year olds and 30 to 64 year olds than those 65 or older.



## Executive Summary – Symptoms of Sleep Disorders (cont'd)

**Insomnia is defined as any of the following symptoms: difficulty falling asleep, waking a lot during the night, waking up too early and not being able to get back to sleep, and waking up feeling unrefreshed.**

More than one-half of the respondents (58%) report having experienced at least one of the four symptoms of insomnia at least a few nights a week (see graph below). In fact, 35% say that they experienced at least one of these four symptoms of insomnia every night or almost every night in the past year.

**Snoring: Frequent or loud snoring is a symptom of sleep apnea.**

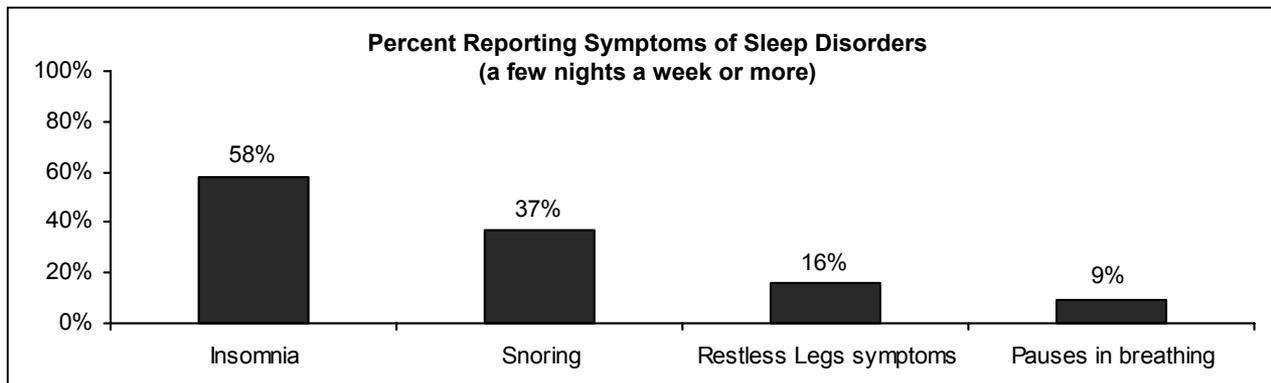
Thirty-seven percent (37%) of adults report that they have snored at least a few nights a week in the past year. In fact, 27% say that they snore every night or almost every night. Males are more likely than females to report snoring at least a few nights a week during the past year (42% vs. 31%).

**Pauses in breathing: Observed or experienced pauses in breathing during sleep can be a symptom of sleep apnea.**

Nine percent (9%) of adults report experiencing pauses in breathing during sleep at least a few nights a week over the past year. Males are more likely than females to say that they experience pauses in breathing at least a few nights a week in the last year (11% vs. 7%).

**Unpleasant, tingling feelings in legs: A common report of those with restless legs symptoms.**

Symptoms of Restless Legs (RLS) were reported by 16% of the respondents. Respondents who are 18 to 29 years of age are less likely than older adults to report experiencing RLS at least a few nights a week (8% vs. 17%-18%).



Of the many adults reporting symptoms, less than one in ten have been diagnosed with insomnia (6%), sleep apnea (4%) or RLS (4%). Even fewer respondents have been treated for insomnia (4%), sleep apnea (2%) or RLS (1%).

## Executive Summary – Symptoms of Sleep Disorders (cont'd)

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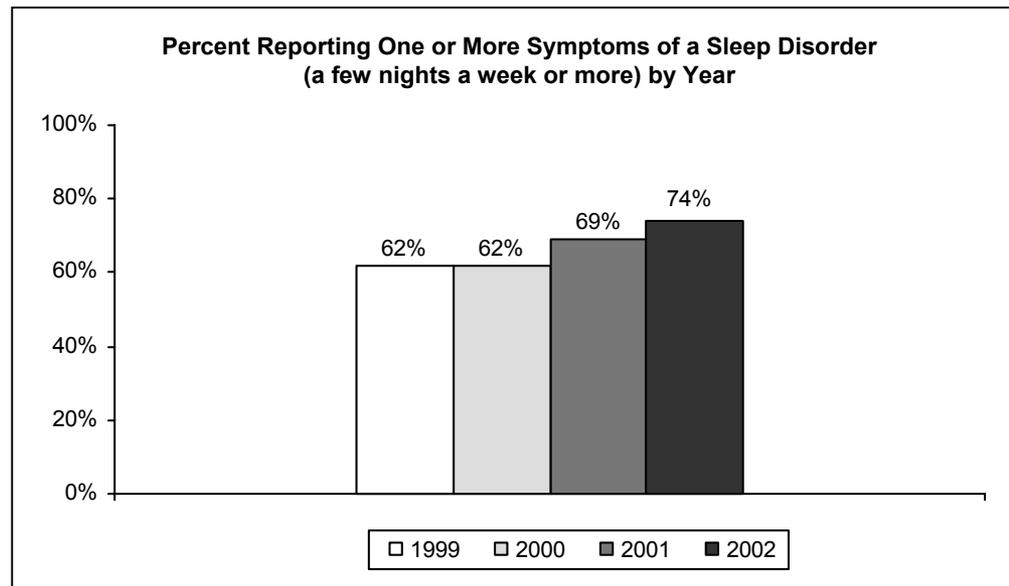
### *Any Symptom of a Sleep Disorder*

The following are defined as symptoms of a sleep disorder: difficulty falling asleep, waking a lot during the night, waking up too early and not being able to get back to sleep, waking up feeling unrefreshed, snoring, unpleasant, tingling feelings in legs (RLS), or pauses in breathing.

Overall, 74% of respondents in the 2002 study experienced at least one symptom of a sleep disorder a few nights a week or more, representing a small, but significant increase from those who experienced at least one symptom of a sleep disorder in 2001 (69%) or in previous years (62%).

Those who are most likely to experience a symptom of a sleep disorder a few nights a week or more include:

- Adults between the ages of 18 and 29 (77%) or 30 to 64 (76%) compared to those 65 years of age or older (60%);
- Those who experience daytime sleepiness at least a few days a month (88% vs. 65% rarely or never); and
- Those who report being in fair or poor health (93% vs. 66% excellent or very good health or 78% good health).



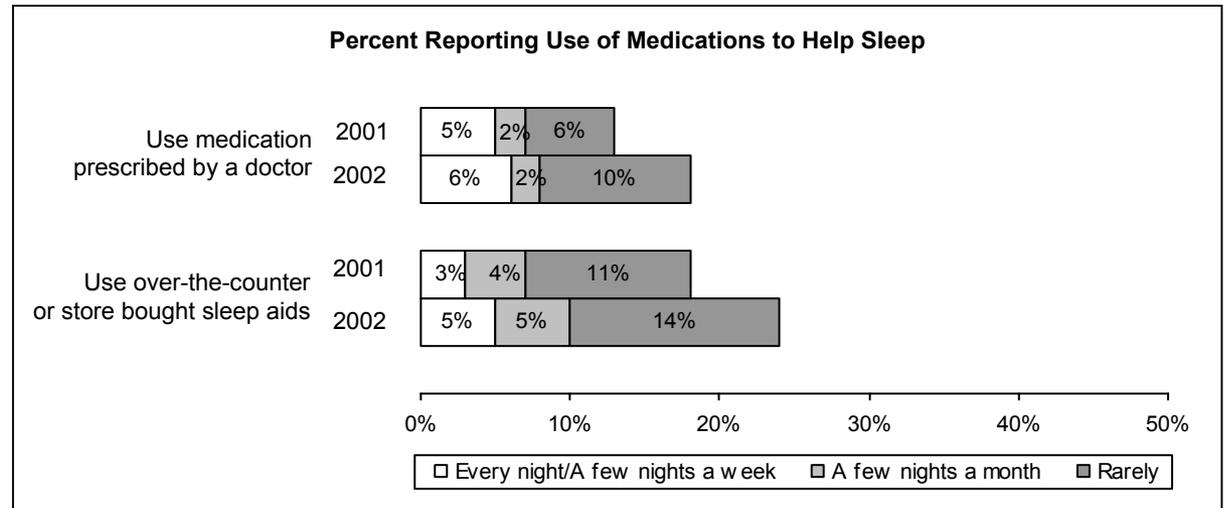
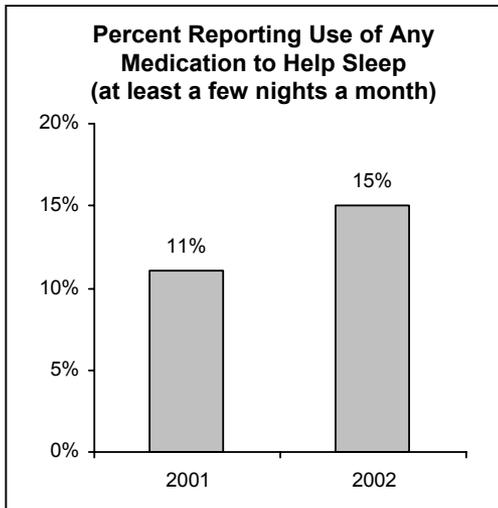
## Executive Summary – Sleep Aids

### Sleep Aids

During the past year, 15% of the respondents report using either a prescription sleep medication (8%) and/or an over-the-counter (OTC) sleep aid (10%) to help them sleep at least a few nights a month. This is an increase from 11% in 2001 who reported using either prescription and/or OTC sleep aids.

Characteristics of those who are more likely to use sleep aids at least a few nights a month include:

- Females are more likely than males to have used over-the-counter sleep aids (12% vs. 7%) and/or prescription sleep aids (10% vs. 6%) at least a few nights a month.
- Adults who report having any symptom of insomnia at least a few nights a month (18% vs. 7% rarely or never) were more apt to take sleep aids, both prescription and OTC, to help them sleep.
- Those who mention having daytime sleepiness at least a few times a month are more likely to have taken a sleep aid at least a few nights a month (22% vs. 12%).

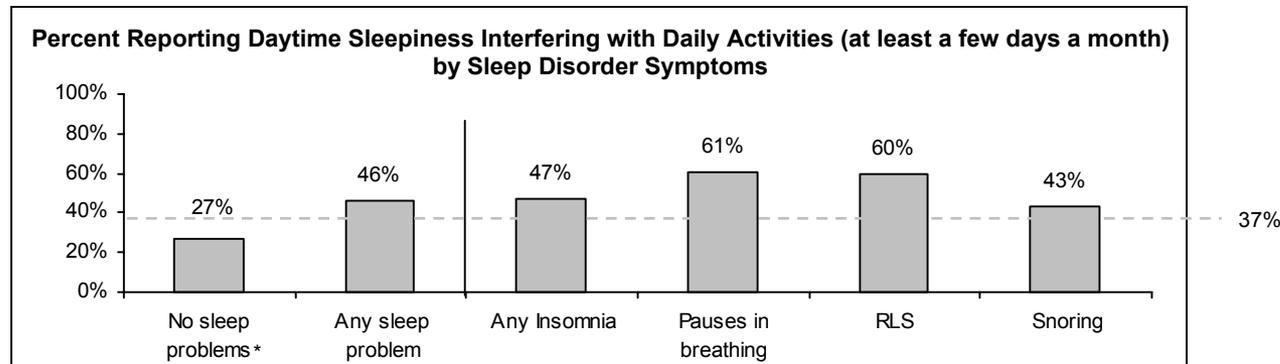
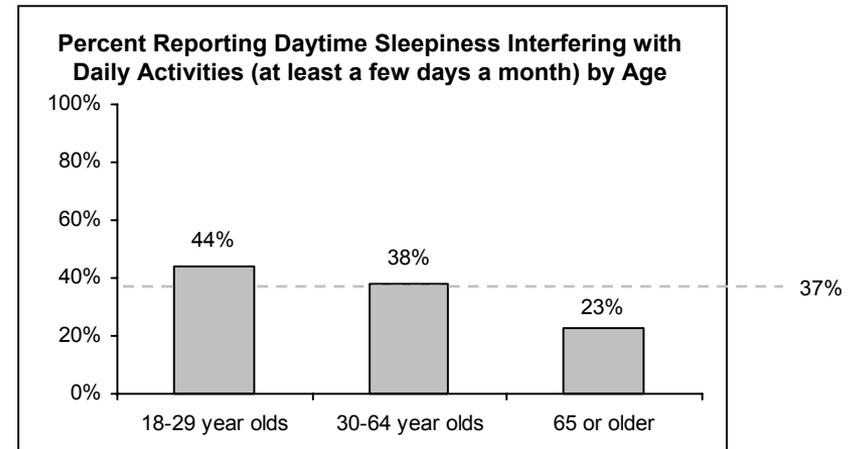
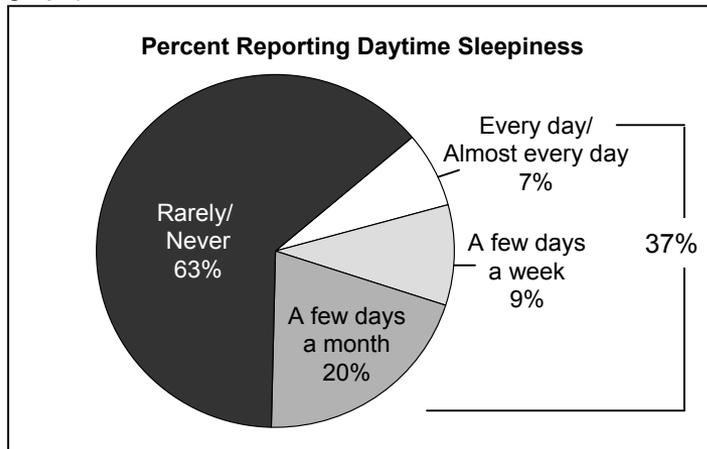


# Executive Summary – Daytime Sleepiness

## Daytime Sleepiness

A sizable proportion of adults (37%) report that they are so sleepy during the day that it interferes with their daily activities a few days a month or more; and 16% experience this level of daytime sleepiness a few days per week or more. (see graph on upper left)

- Sleepiness interfering with one’s daily activities at least a few days per month is less common among older age groups (see graph on upper right), those rating their overall health as either excellent, very good, or good (33% vs. 55% fair or poor), those rating the quality of their sleep as good or better (30% vs. 55% fair or poor), and those without children (33% vs. 42%).
- Those who report having a symptom of a sleep disorder are more likely to experience daytime sleepiness that interferes with their daily activities a few nights a month or more compared to those who rarely or never have symptoms of a sleep disorder (see lower graph).

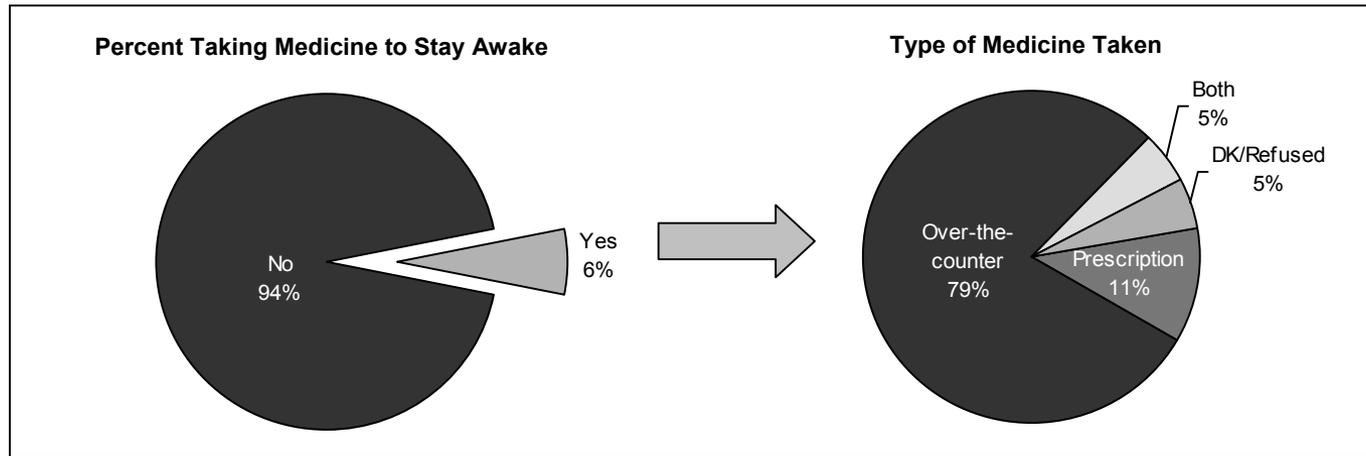


\*Those who rarely or never have had a sleep problem

## Executive Summary – Stay-Awake Medications

In this year's survey, 6% of respondents indicate that they have taken medications to stay awake. Among those who have taken these medications, the majority report using an over-the-counter medication (79%), while roughly 11% (.6% of entire sample) used a prescription medication.

- Adults who report daytime sleepiness at least a few days a week are most likely to take a medication to keep them awake (8% vs. 4%).

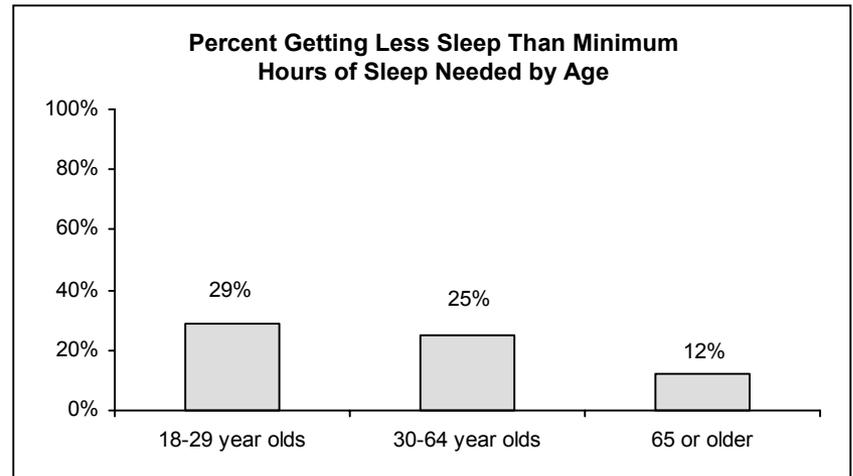
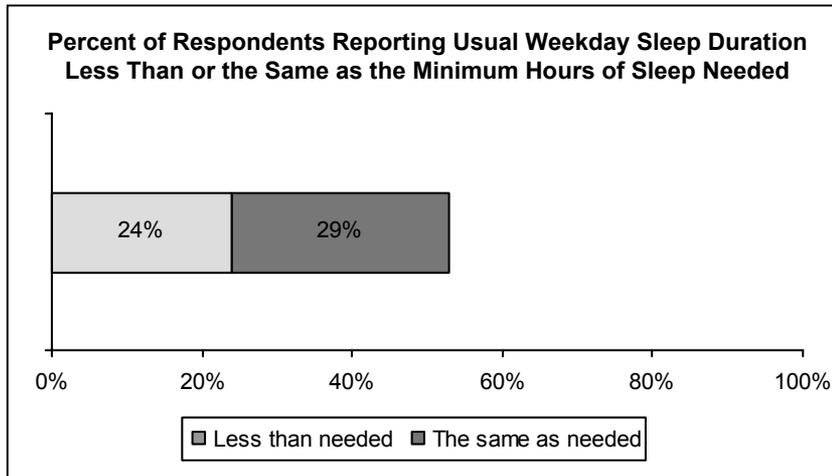


## Executive Summary – Perceived Sleep Need

Thirty percent (30%) of respondents say that they need a minimum of eight hours of sleep per night in order to not feel sleepy the next day. The proportions reporting a minimum nightly sleep need of less than 6 hours is 19%, 6 up to 7 hours is 30%, and 7 up to 8 hours is 19%.

Responses to “the minimum number of hours of sleep they need not to feel sleepy the next day” were compared to the number of hours slept on weekdays to determine whether each respondent was getting less sleep, the same amount of sleep, or more sleep than the amount they say is the minimum numbers of hours of sleep that they need to not feel sleepy the next day.

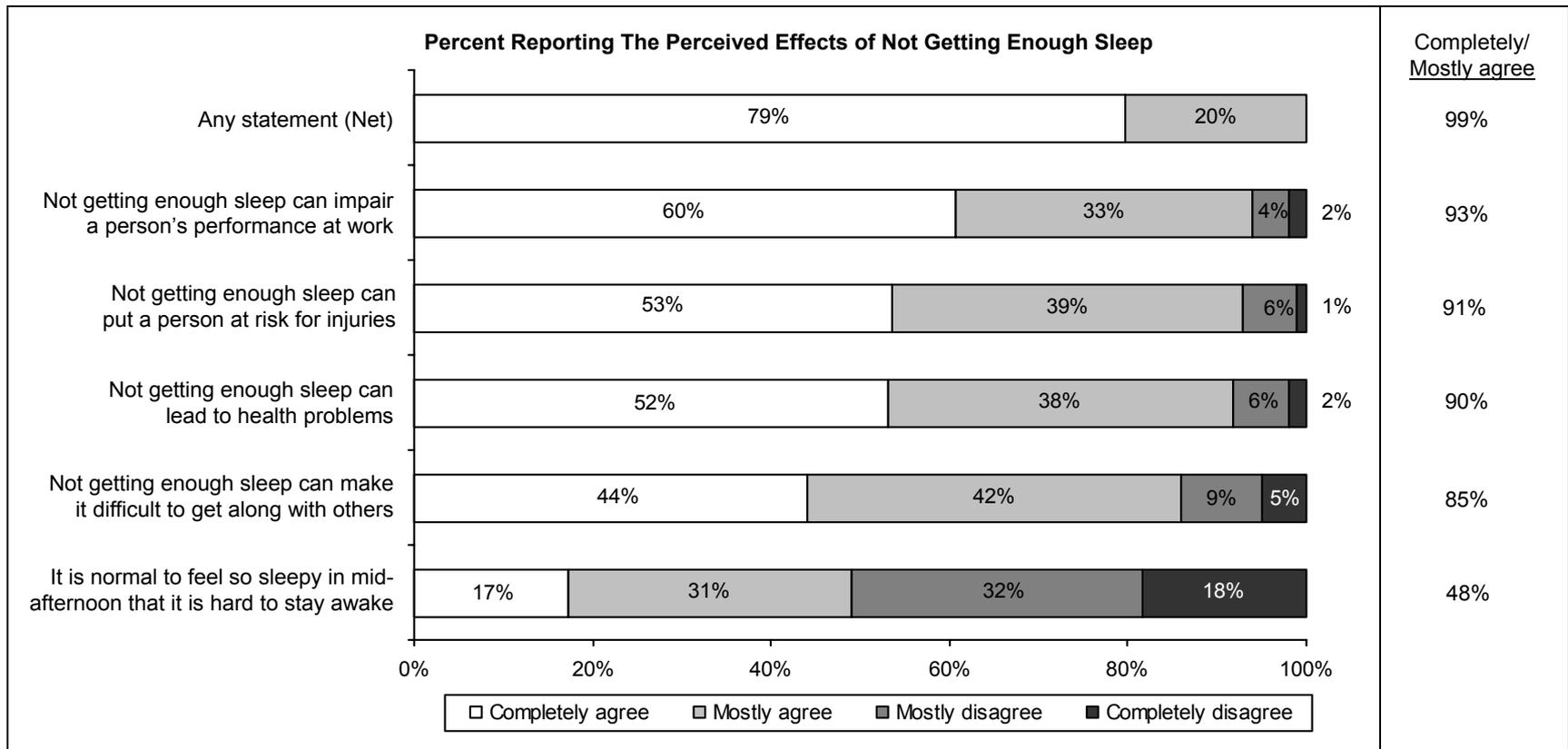
- As shown in the graph (below left), 24% state they get less than the minimum amount of sleep they say they need; 29% report getting the minimum amount needed. And, 43% say they usually obtain more than the minimum amount needed to avoid sleepiness the next day
- As respondents get older, they are more likely to get enough sleep so that they do not feel sleepy the next day (29% 18 to 29 year olds vs. 25% 30 to 64 years olds vs. 12% 65 or older).



## Executive Summary – Perceived Effects of Inadequate Sleep

Virtually all of the respondents either completely or mostly agree with one or more of the statements regarding the effects of not getting enough sleep (99%). In fact, 79% completely agree with one or more of these statements.

- An overwhelming majority completely or mostly agree that not getting enough sleep can impair a person's performance at work (93%), put a person at risk for injuries (91%), or lead to health problems (90%).
- Eighty-five percent (85%) of respondents completely or mostly agree that not getting enough sleep can make it difficult to get along with others.
- Almost one-half of the respondents (48%) completely or mostly agree that it is normal to feel so sleepy in the mid-afternoon that it is hard to stay awake. In fact, sleep experts say people obtaining adequate sleep do not have severe sleepiness in the afternoon.



## Executive Summary – Perceived Task Difficulty After Inadequate Sleep

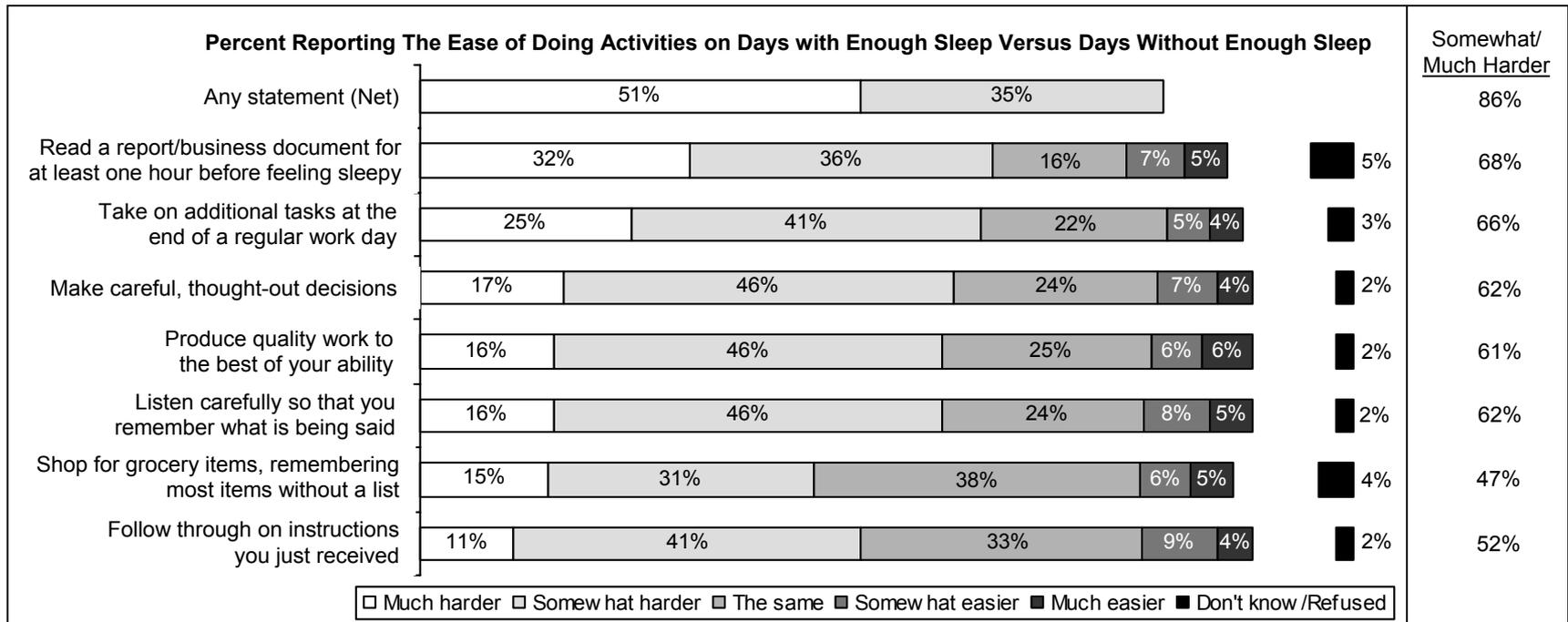
Respondents were read a number of activities (listed in graph below) and were asked to rate the degree of difficulty in doing these tasks when they did not get enough sleep the previous night, compared to days following a full night's sleep. The great majority of respondents (86%) indicated that it would be much or somewhat harder to do one or more of the activities on days when they did not get enough sleep, with 51% of respondents reporting that it would be much harder.

Without getting enough sleep the previous night, most respondents feel that it would be much or somewhat harder to:

- Read a report or business document for at least one hour before feeling sleepy (68%);
- Take on additional tasks at the end of a regular work day (66%);
- Make careful, thought-out decisions (62%);
- Listen carefully so that you remember what is being said (62%); and
- Produce quality work to the best of your ability (61%).

Without getting enough sleep the previous night, approximately one-half believe that it would be much or somewhat harder to:

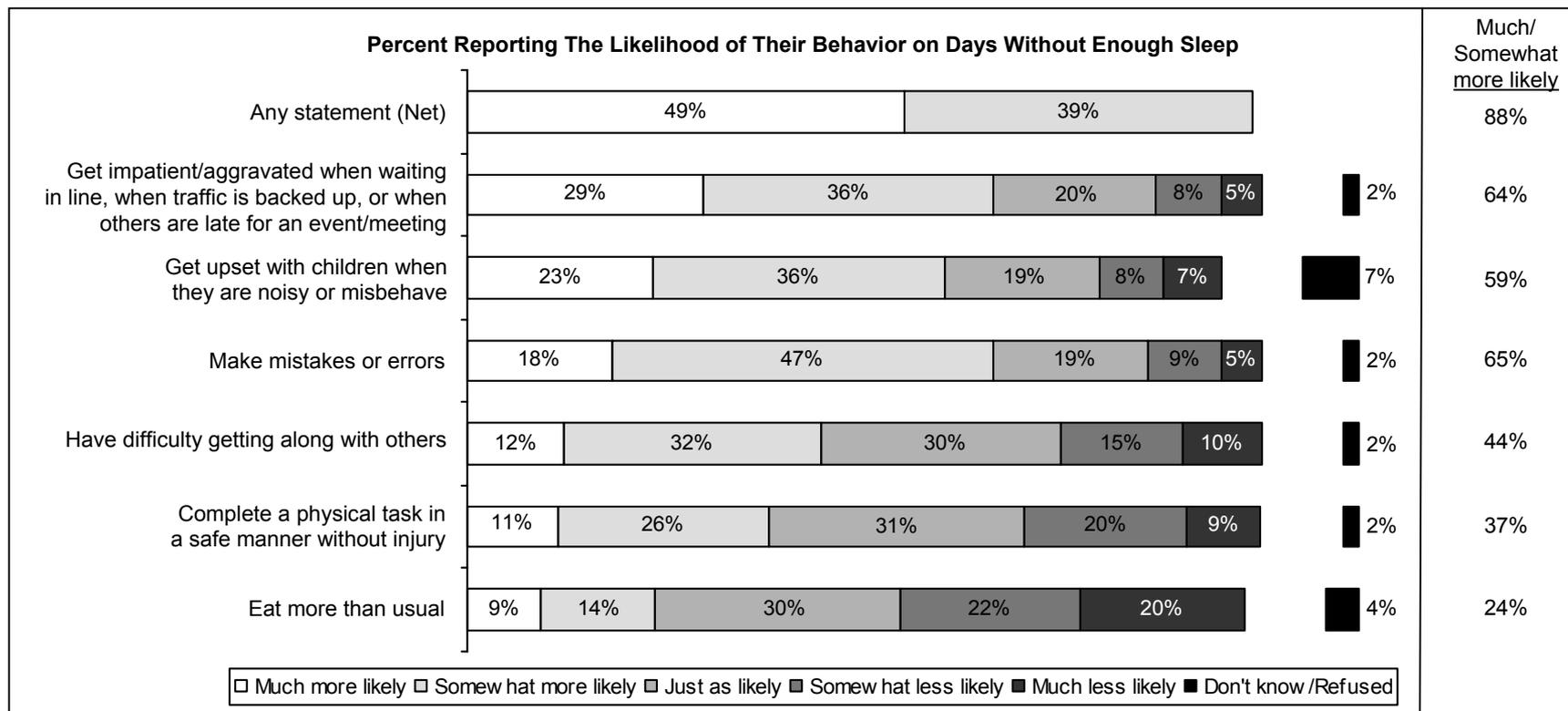
- Follow through on instructions they just received (52%); and
- Shop for grocery items, remembering most items without a list (47%).



## Executive Summary – Perceived Likelihood of Behavior After Inadequate Sleep

Respondents were read a number of behaviors (listed below in the graph) and asked how likely they are to behave in that way after not getting enough sleep. Eighty-eight percent (88%) of respondents report that they would be much or somewhat more likely to do one or more of these behaviors after not getting enough sleep, with 49% of the respondents being much more likely.

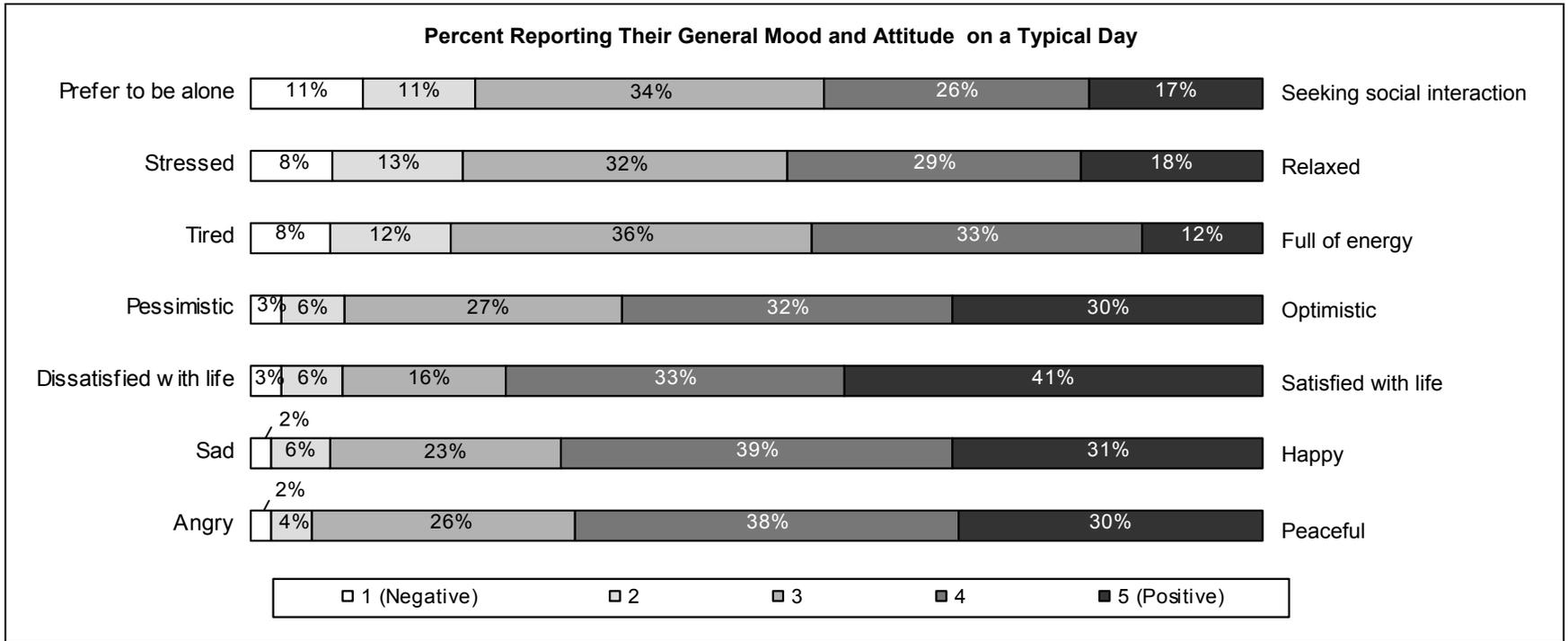
- The majority of respondents said they are much or somewhat more likely to make mistakes or errors (65%), to get impatient or aggravated when waiting (64%), and/or to get upset with children when they are noisy or misbehave (59%).
- Smaller percentages of respondents report they are much or somewhat more likely to have difficulty getting along with others (44%), completing a task in a safe manner without injury (37%), or to eat more than usual (24%).
- Those who are between the ages of 18 and 29 are more likely than their older counterparts to get impatient or aggravated while waiting (76% vs. 66% of 30 to 64 year olds vs. 45% of 65 or older).
- On days when they did not get enough sleep, females are more likely than males to eat more than usual (27% vs. 20%) and those who experience daytime sleepiness a few days a month or more are more likely to eat more than usual (31% vs. 19%).



## Executive Summary – Mood and Attitudes on a Typical Day

Respondents were asked to rate themselves regarding their mood and attitude on a typical day on seven dimensions using a five-point scale. Overall, at least two out of three respondents rate that, on a typical day, they are satisfied with life (74%), they tend to be happy (70%), and/or they are peaceful (68%).

- Sixty-two (62%) report that they tend to be optimistic.
- Slightly fewer than one-half report that they tend to be relaxed (47%), full of energy (45%), and/or seek social interaction (43%).
- Respondents who are 65 years of age or older are more likely than their younger counterparts to be relaxed, satisfied with life, and peaceful on a typical day.
- On a typical day, males are more likely than females to report being full of energy, angry, and prefer to be alone, while females are more likely than males to report being stressed.

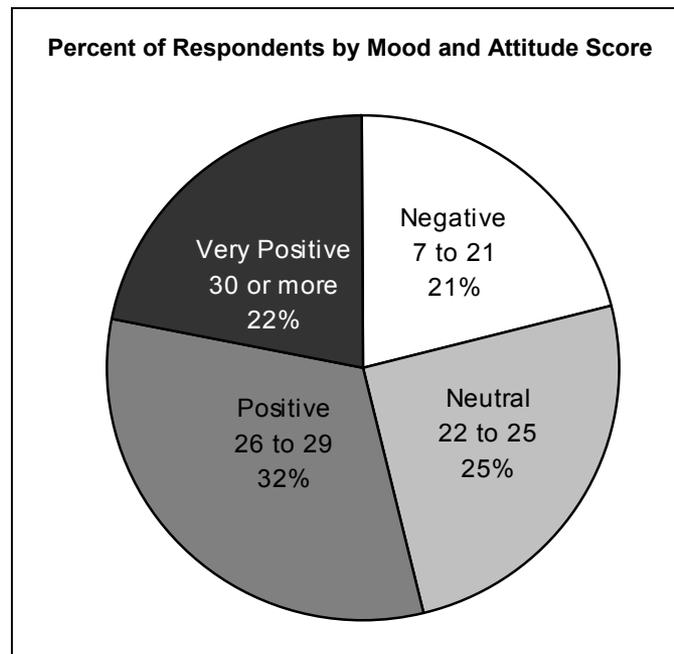


## Executive Summary – Moods and Attitudes on a Typical Day (cont'd)

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From responses to these seven mood and attitude ratings, respondents were classified into four mood and attitude groups (mood and attitude score) which would allow examination of the relationship of typical mood and attitude and a number of sleep factors.

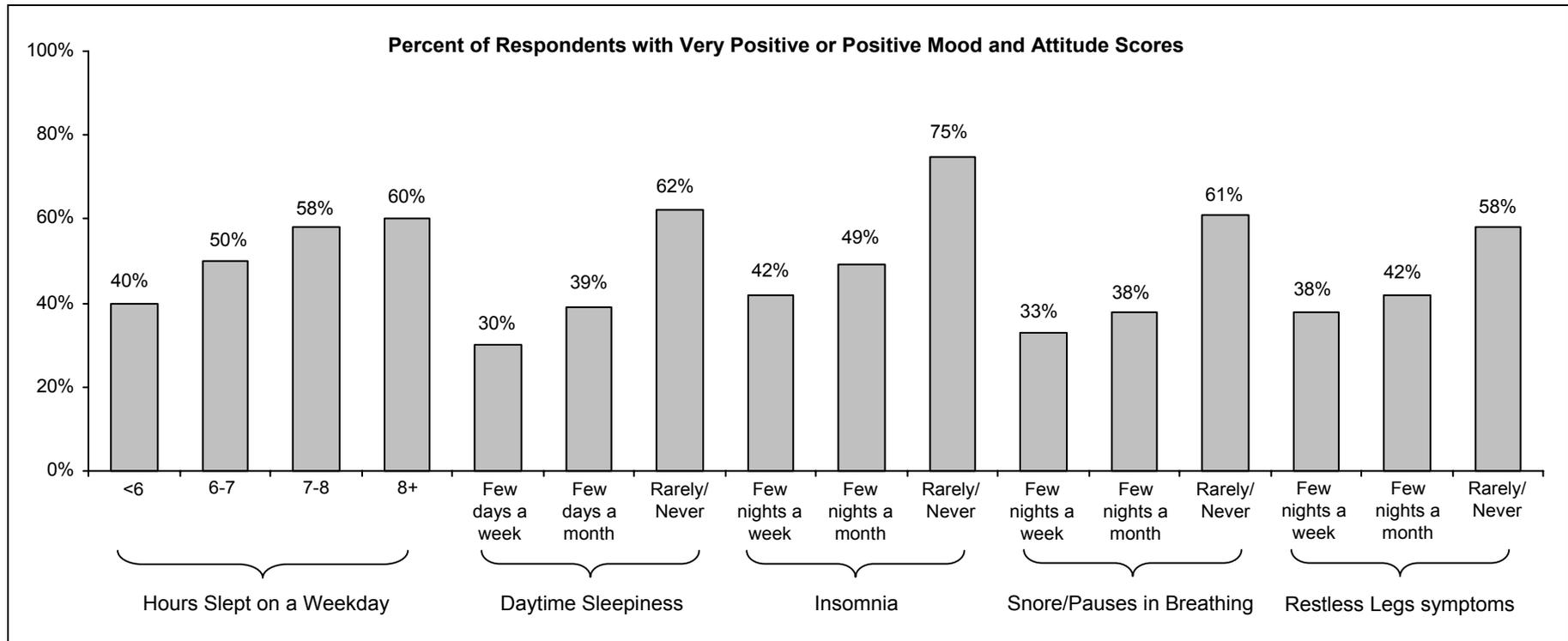
- Respondents who are 65 years of age or older are more likely than their younger counterparts to have a very positive score on mood and attitude (30 or higher).
- Interestingly, those with higher mood scores are more likely to get at least the minimum number of hours of sleep needed to not feel tired, while those with lower mood scores are more likely to get less than the minimum number of hours of sleep needed to not feel sleepy the next day.



## Executive Summary – Sleep Associations with Mood and Attitude

The graph below shows the proportions of respondents with very positive or positive mood and attitude scores as a function of various sleep characteristics. Some of the highlights include:

- The longer people sleep on weekdays, the *more likely* they are to have a very positive or positive mood and attitude score.
- The less frequently people experience daytime sleepiness, the *more likely* they are to have a very positive or positive mood and attitude score.
- The less frequently people report insomnia symptoms, the *more likely* they are to have a very positive or positive mood and attitude score.
- Those who report “rarely or never” to snoring and having pauses in breathing or Restless Legs symptoms are *more likely* to have a very positive or positive mood and attitude score, as compared to people reporting that they experience these symptoms.

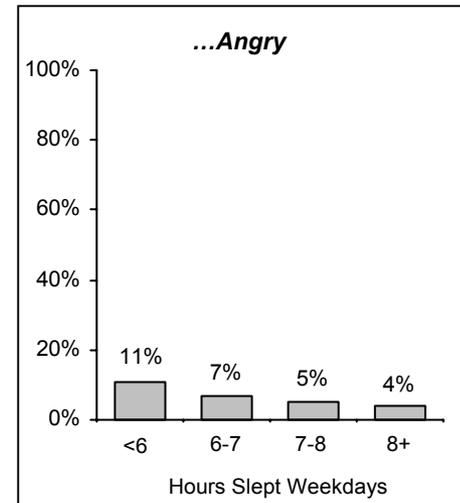
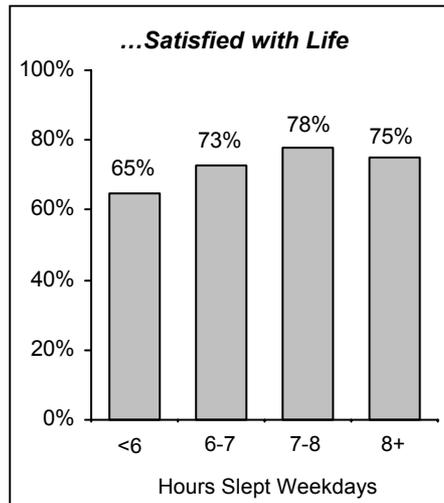
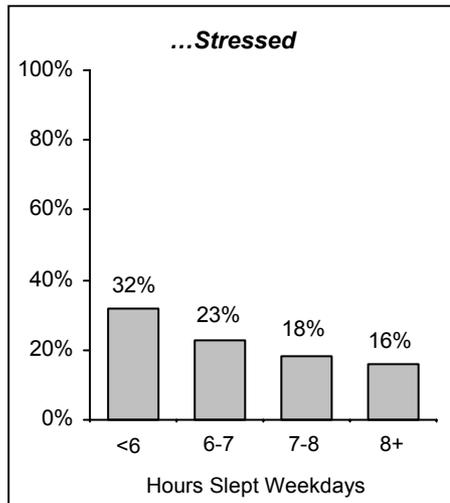
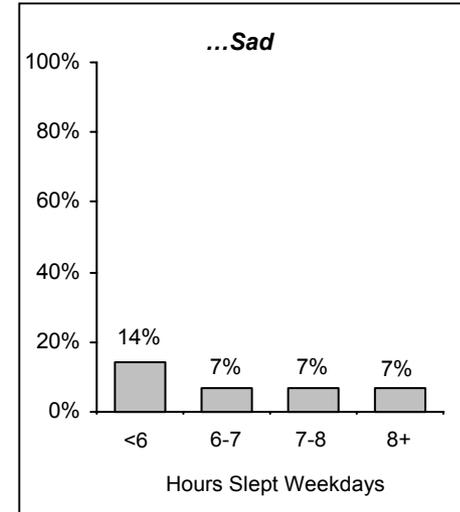
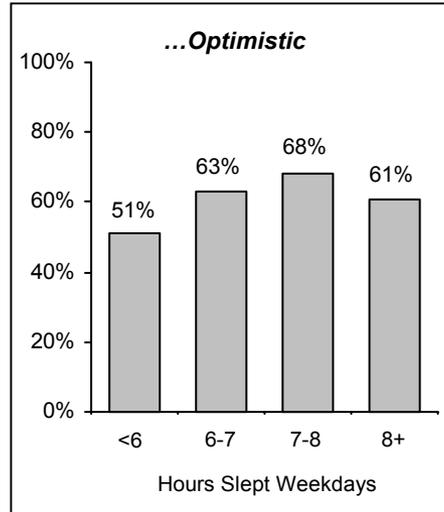
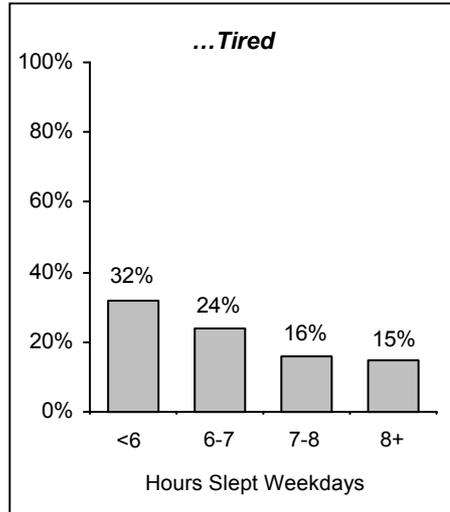


# Executive Summary – Hours Slept on Weekdays With Mood and Attitude

## Percent of Respondents Reporting They Typically Feel...By Hours Slept on Weekdays

The following graphs show the proportion of respondents reporting how they feel on a typical day compared with the number of hours they sleep on a weekday:

- Those who get less than six hours of sleep on a weekday are *more likely* to be tired, sad, stressed, and/or angry.
- Those who get more than six hours of sleep on a weekday are *more likely* to be optimistic and/or satisfied with life.

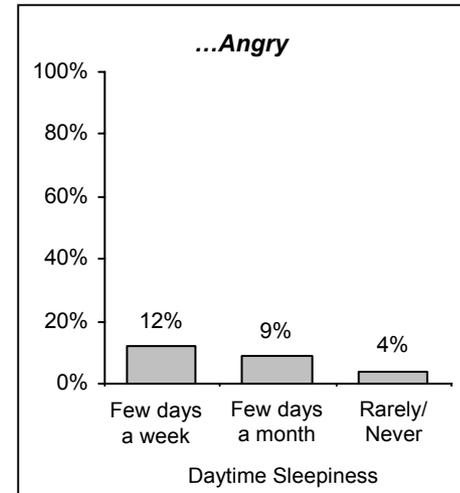
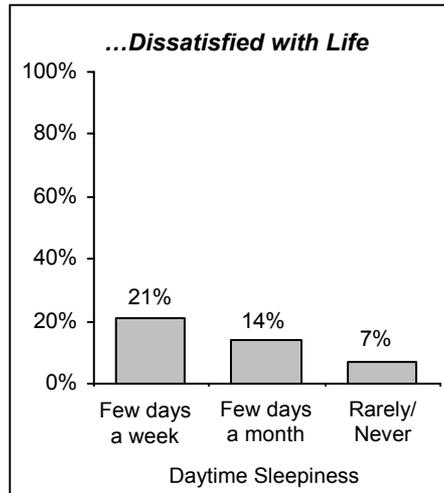
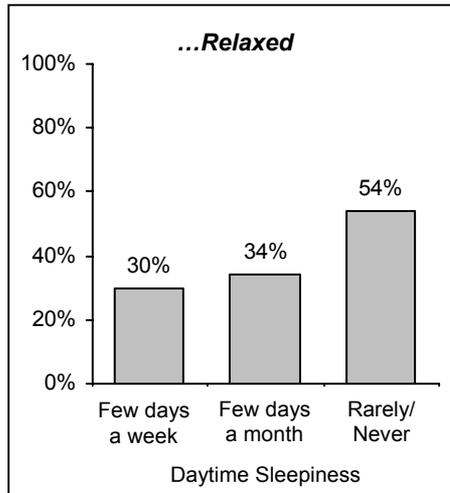
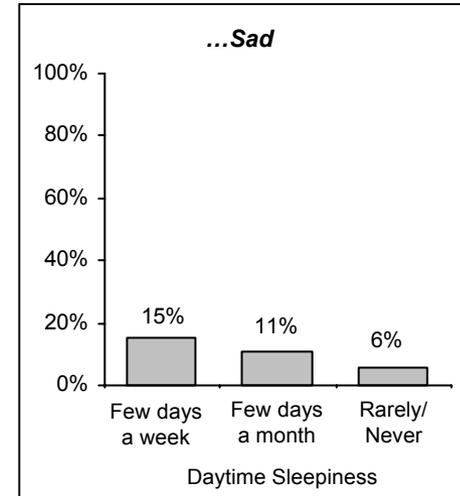
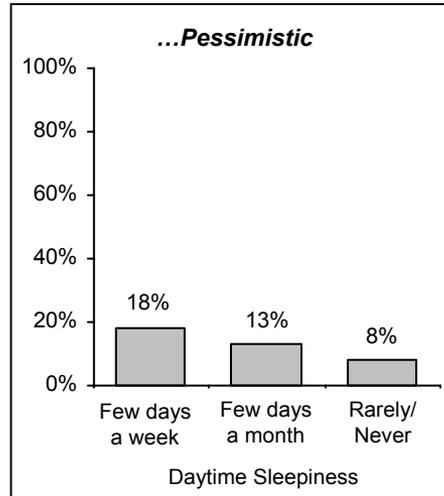
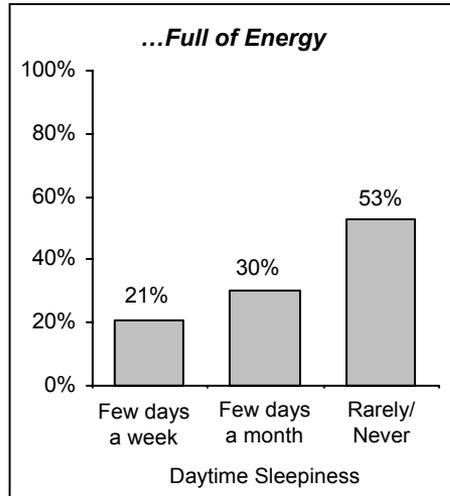


# Executive Summary – Daytime Sleepiness With Mood and Attitude

## Percent of Respondents Reporting They Typically Feel... By Daytime Sleepiness

The following graphs show the proportion of respondents reporting how they feel on a typical day compared with how often they experience daytime sleepiness:

- Those who rarely or never experience daytime sleepiness are *more likely* to be full of energy and/or relaxed.
- Those who rarely or never experience daytime sleepiness are *less likely* to be pessimistic, sad, dissatisfied with life, and/or angry.

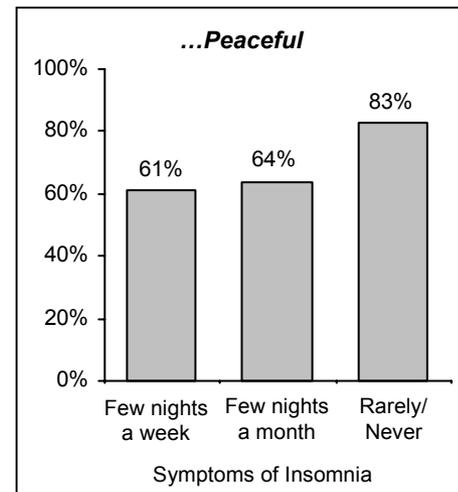
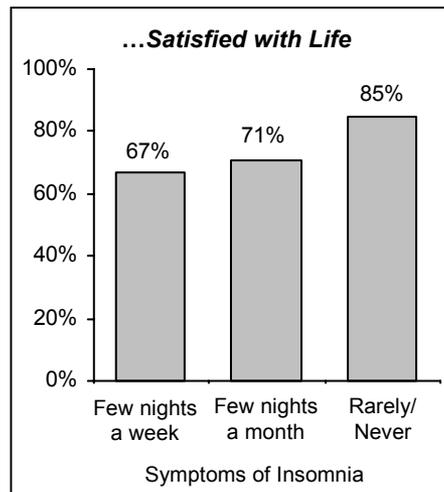
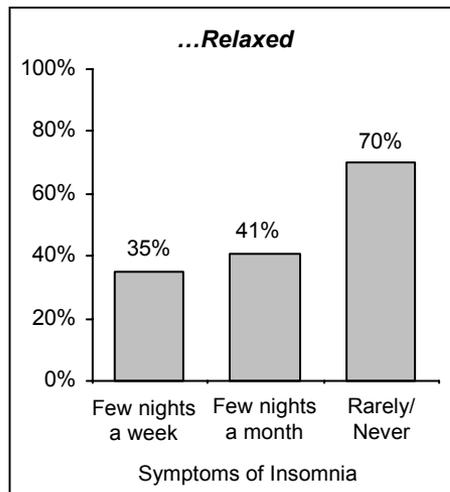
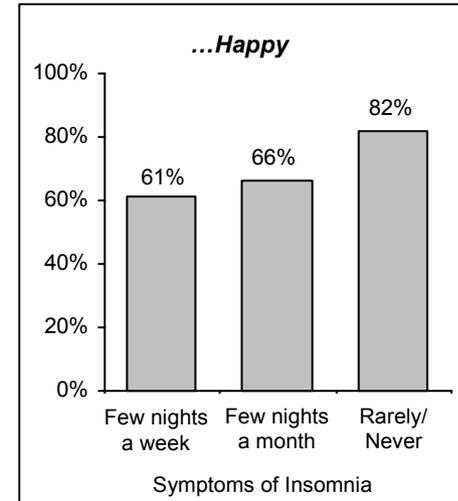
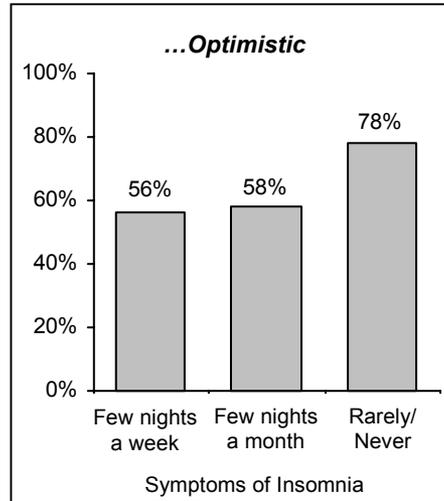
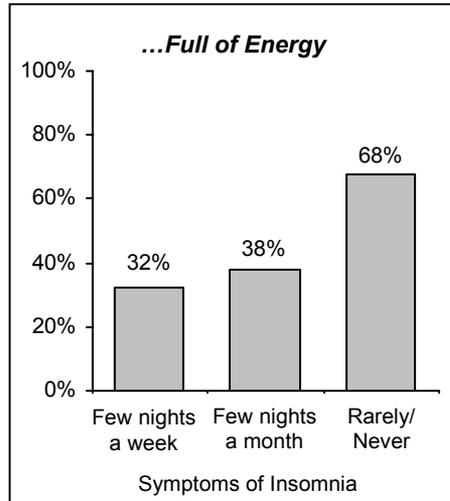


## Executive Summary – Symptoms of Insomnia With Mood and Attitude (cont'd)

### Percent of Respondents Reporting They Typically Feel...By Any Symptom of Insomnia

The following graphs show the proportion of respondents reporting how they feel on a typical day compared with how often they have experienced a symptom of insomnia:

- Those who have rarely or never have any symptoms of insomnia are *more likely* to be full of energy, optimistic, happy, relaxed, satisfied with life, and/or peaceful.
- Those who experience symptoms of insomnia a few nights a week or more are *less likely* to report any of these moods and attitudes.

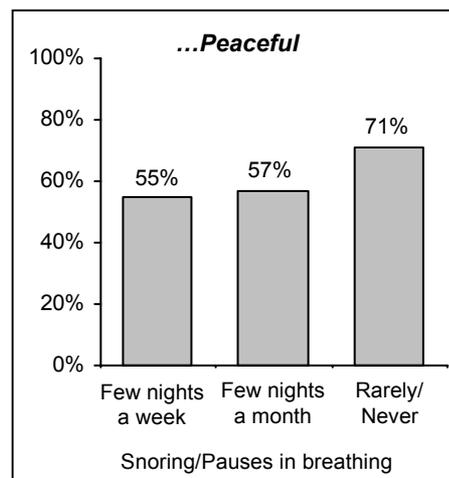
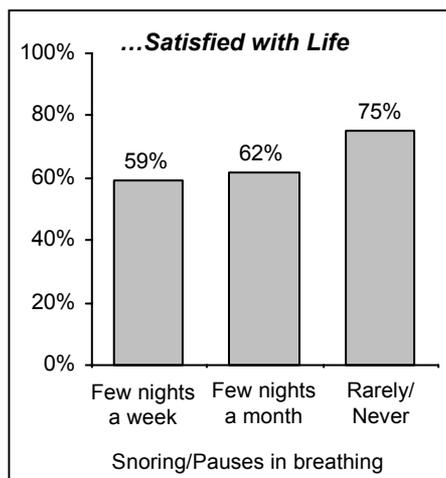
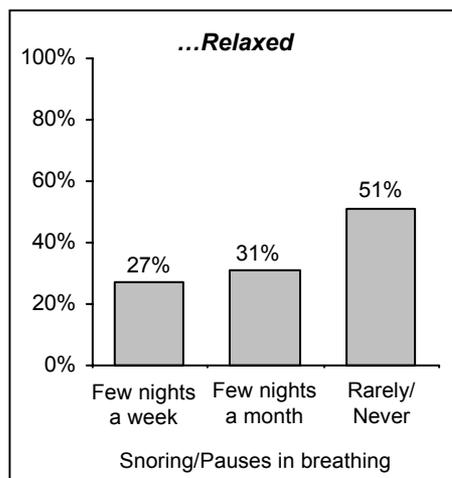
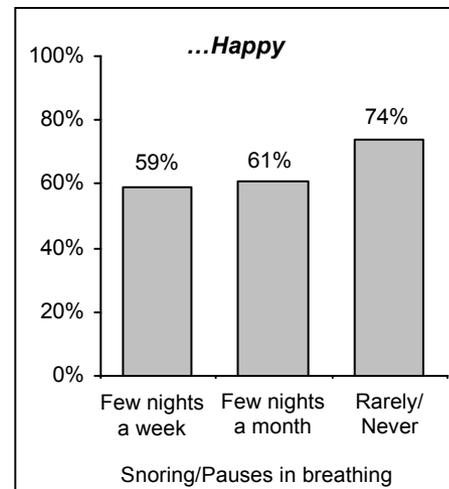
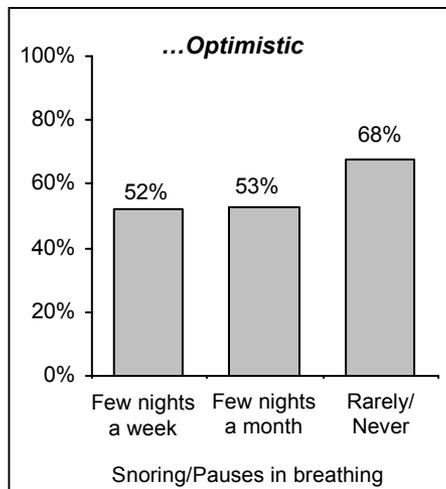
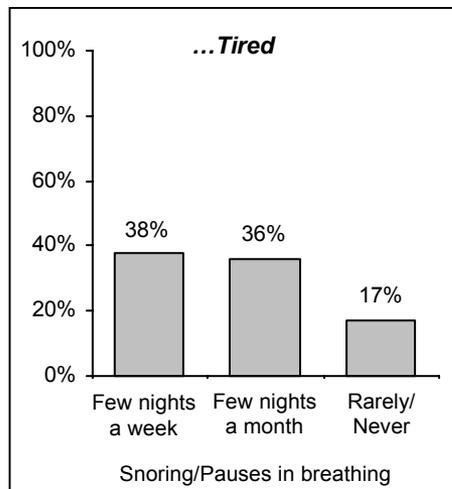


## Executive Summary – Snoring and Pauses in Breathing With Mood and Attitude (cont'd)

### Percent of Respondents Reporting They Typically Feel...By Snoring/Pauses in Breathing

The following graphs show the proportion of respondents reporting how they feel on a typical day compared with how often they experience both snoring and pauses in breathing:

- Those who rarely or never experience snoring and pauses in their breathing are *more likely* to have the following attitudes optimistic, happy, relaxed, satisfied with life, and/or peaceful.
- Those who rarely or never experience snoring and pauses in breathing are *less likely* to be tired on a typical day.

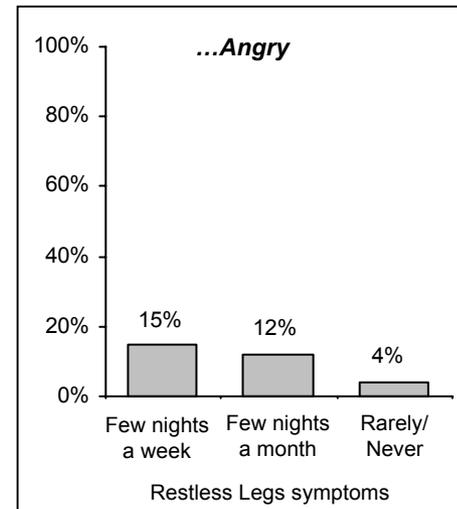
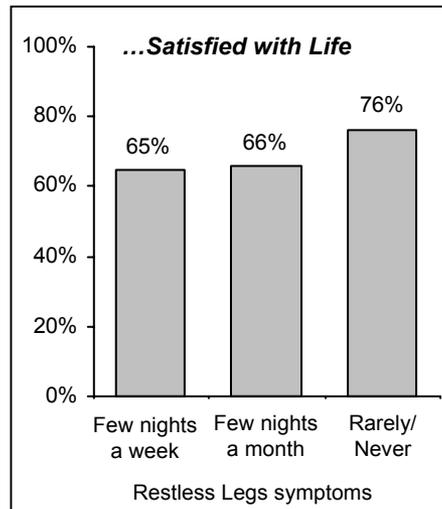
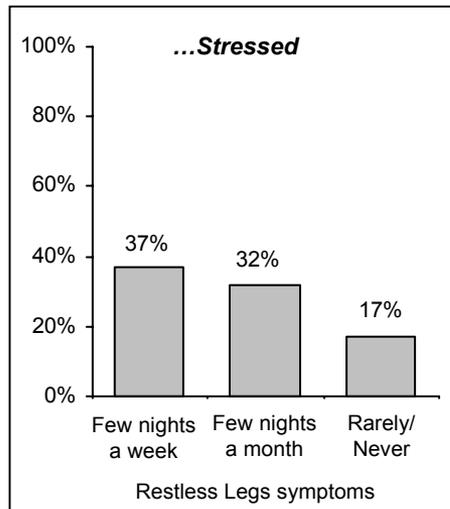
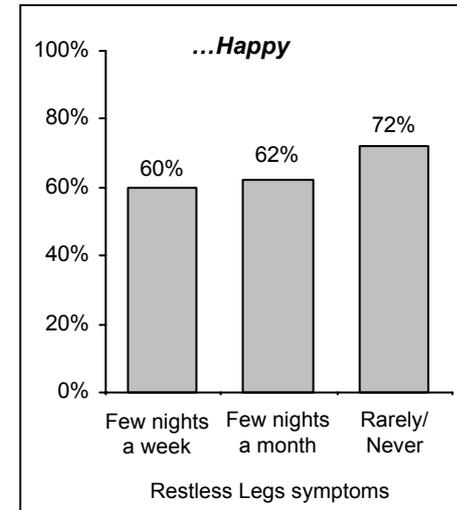
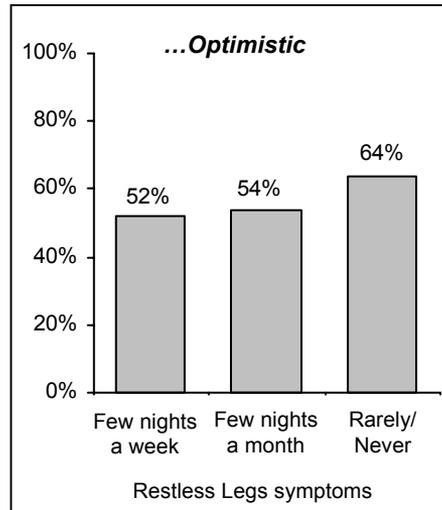
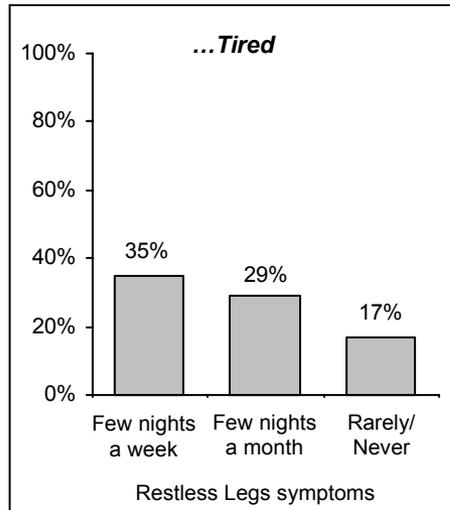


## Executive Summary – Restless Legs Symptoms With Mood and Attitude (cont'd)

### Percent of Respondents Reporting They Typically Feel...By Restless Legs Symptoms

The following graphs show the percent of respondents reporting how they feel on a typical day compared with how often they experience Restless Legs symptoms:

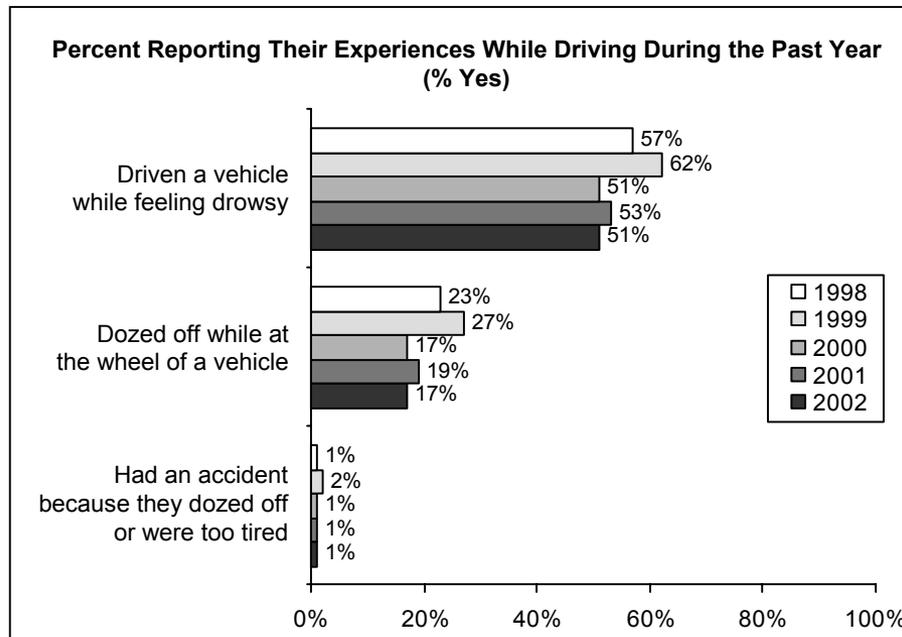
- Those who rarely or never experience RLS are *more likely* to be optimistic, happy, and/or satisfied with life.
- Those who rarely or never experience RLS are *less likely* to be tired, stressed, and/or angry.



## Executive Summary – Driving Drowsy

Overall, approximately one-half of respondents (51%) report that they have driven a car or another vehicle while feeling drowsy and almost two in ten (17%) have dozed off while driving within the past year.

- Males respondents were more likely than females to have driven while feeling drowsy (56% vs. 45%). In addition, those with children (59% vs. 45%) and those aged 18 to 29 (71% vs. 19% 65 or older) were more likely than their older counterparts to drive while feeling drowsy.
- Those who were more likely to have dozed off while driving a vehicle include: males (22% vs. 12%), those between the ages of 18 and 29 (28%) and 30 and 64 (16%) compared to those who are 65 years of age or older (6%), those who are single (24% vs. 15%), and those who experience daytime sleepiness a few days a month or more (24% vs. 12%).

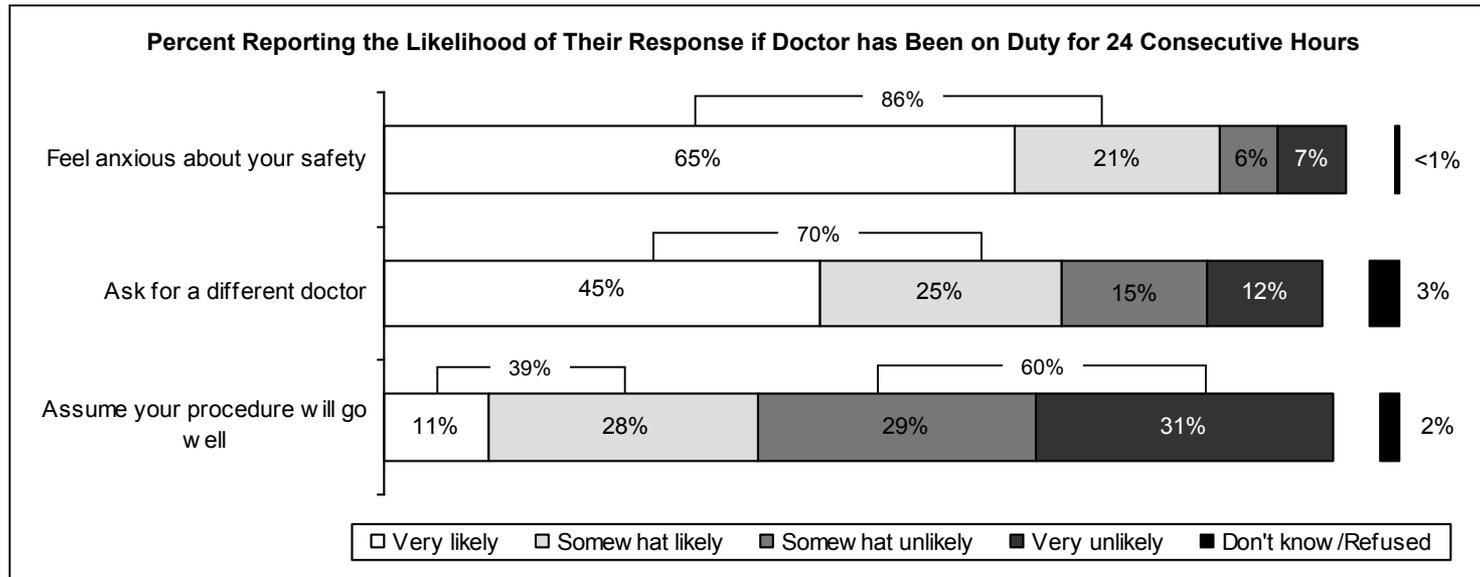


## Executive Summary – Sleep Policy Issues

### Physician Work Hours

Respondents were read a statement asking the likelihood of their actions if they learned that the doctor that is about to perform their surgery has been on duty for 24 consecutive hours.

- Seven in ten or more respondents report that if they learned that their doctor had been on duty for 24 consecutive hours, they would be very or somewhat likely to feel anxious about their safety (86%) or to ask for a different doctor (70%). On the other hand, 60% would be very or somewhat unlikely to assume that their procedure would go well.

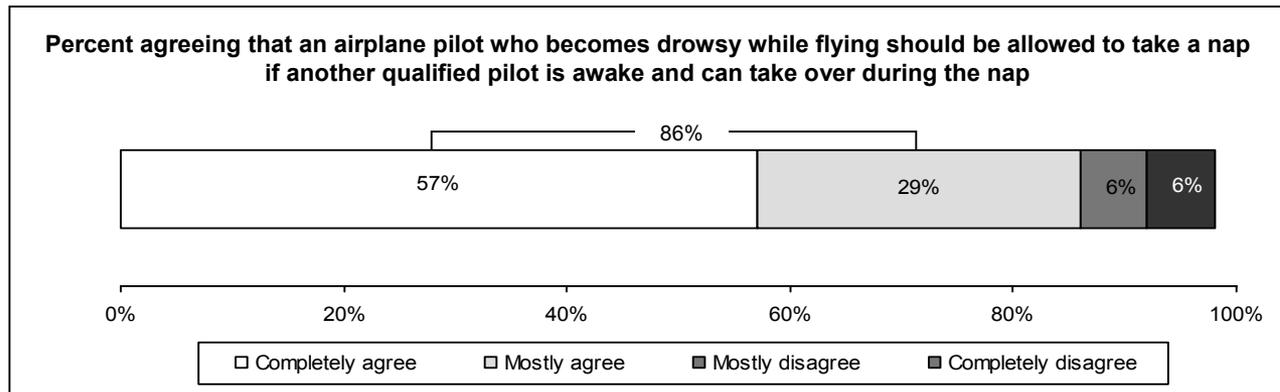


## Executive Summary – Sleep Policy Issues (cont'd)

### *Airline Pilot Napping*

Respondents were asked to rate their level of agreement with the statement “An airline pilot who becomes drowsy while flying should be allowed to take a nap if another qualified pilot is awake and can take over during the nap,” using the scale of completely agree, mostly agree, mostly disagree, or completely disagree.

- The vast majority of respondents (86%) say that they completely or mostly agree with this statement, with more than one-half (57%) saying that they completely agree.
- On the other hand, 12% say that they mostly or completely disagree with this statement.



## Executive Summary – Sleep Policy Issues (cont'd)

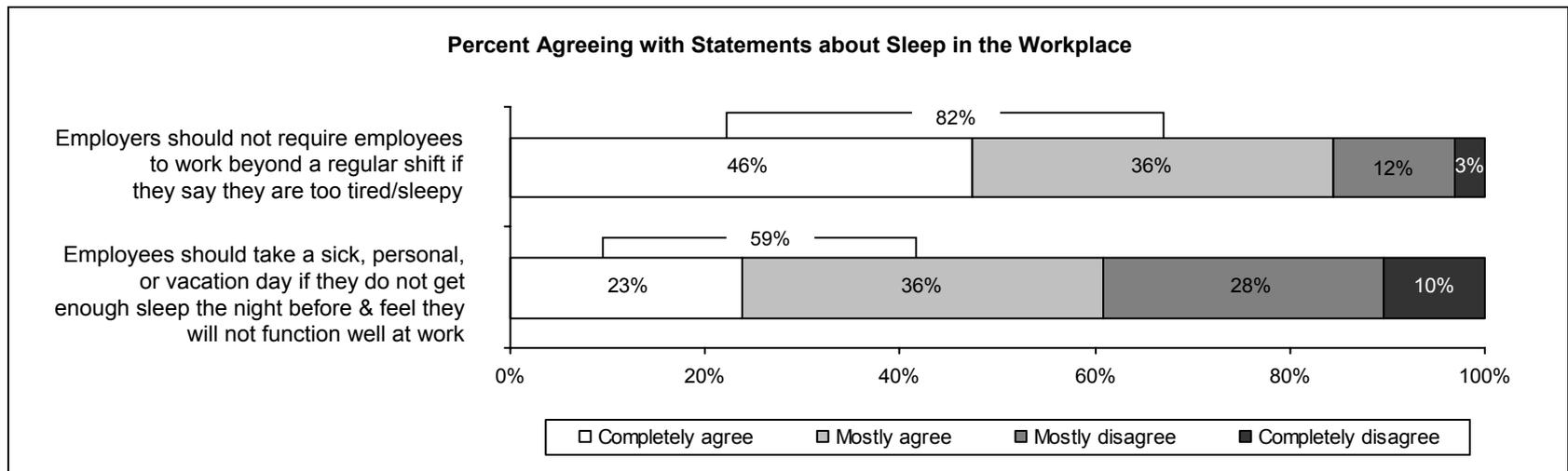
### Workplace Overtime and Time Off

The vast majority of respondents (82%) completely or mostly agree that employers should not require their employees to work beyond a regular shift if the employee says that he or she is too tired or sleepy. In fact, nearly one-half of respondents (46%) said that they completely agree with this policy.

- Females are more likely than males (86% vs. 78%) to agree with this statement.
- Those who are 65 years or older (86%) are more likely to agree with this statement compared to those who are between the ages 18 and 29 (77%) and 30 and 64 (83%).

More than one-half of respondents (59%) completely or mostly agree that employees should take a sick, personal, or vacation day if they do not get enough sleep the night before and feel that they will not function well at work. Fewer than one-fourth (23%) completely agree with this policy.

- Females (62% vs. 55% males) and those who are 65 years of age or older (71% vs. 57% 18 to 29, 56% 30 to 64) are more likely to agree that employees should take a sick, personal, or vacation day if they do not get enough sleep the previous night and feel they will not function well.

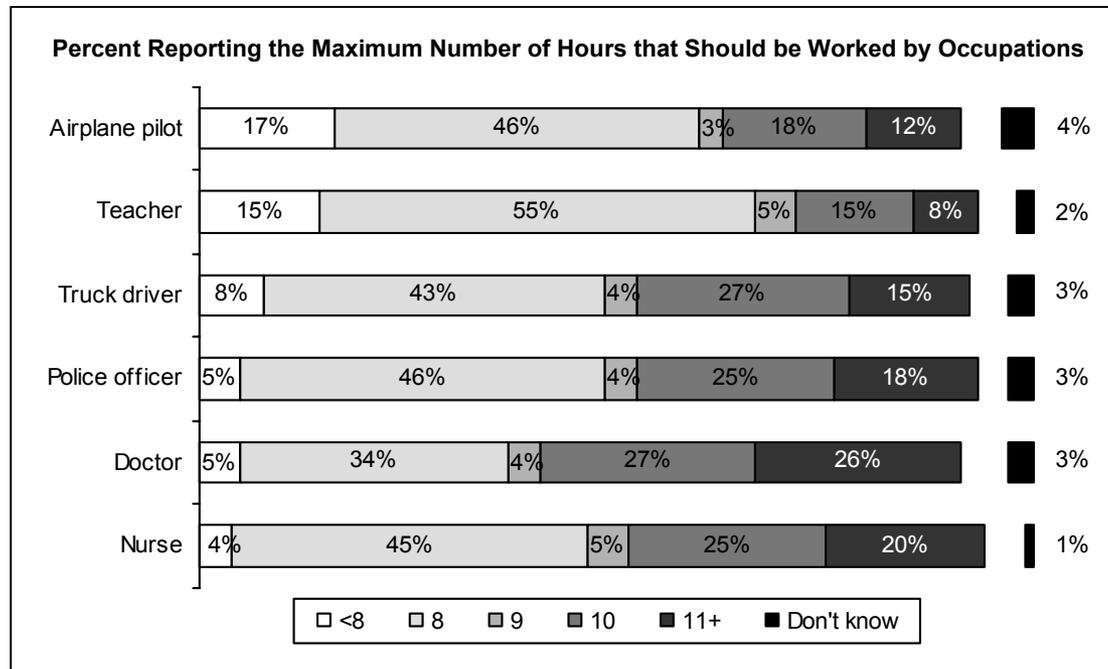


## Executive Summary – Sleep Policy Issues (cont'd)

### Maximum Work Hours

Respondents were asked the maximum number of hours that people in certain occupations should work per day in order to perform with alertness and provide services safely and effectively.

- The majority of respondents say that teachers (70%) and pilots (63%) should work a maximum of 8 hours or less per day.
- Slightly more than one-half of adults stated that truck drivers (51%) and police officers (51%) should work no more than 8 hours per day.
- Fewer respondents felt that nurses (49%) and doctors (39%) should be limited to 8 hours or less per workday.
- However, between 8% and 26% of respondents, depending on occupation, indicated maximum daily work hours should exceed 11 hours for each occupation.

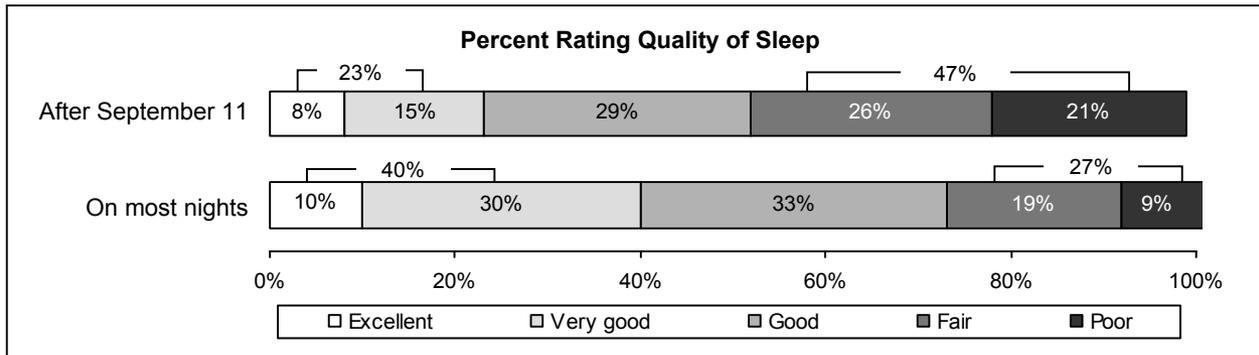


# Executive Summary – Impact of September 11

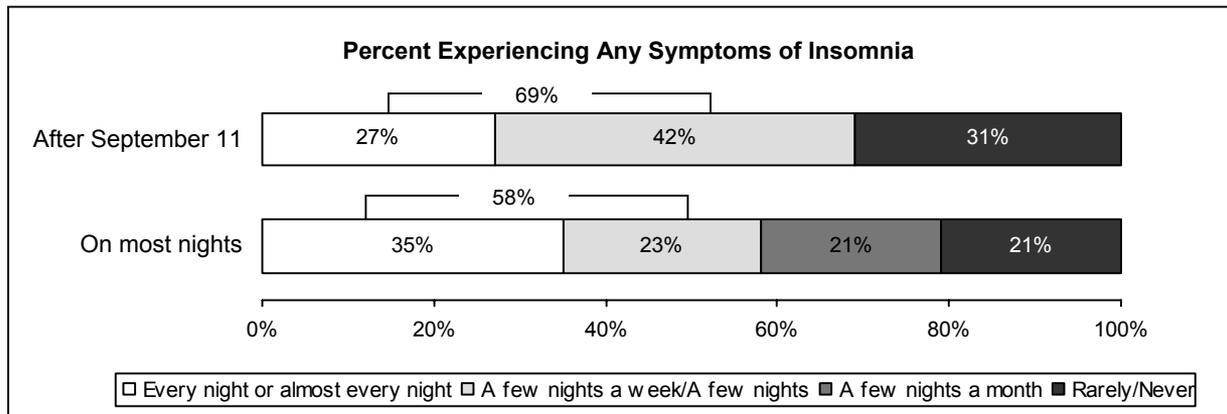
## Sleep and September 11

Respondents were much more likely to rate the quality of their sleep on the nights immediately following the September 11 attacks as fair or poor (47%) compared to a typical night (27%).

- Females were more likely than males to report that the quality of their sleep was fair or poor (54% vs. 40%).
- Surprisingly, respondents in the Northeast (31%) were more likely than those in the South (21%) or the Midwest (15%) to rate the quality of their sleep as excellent or very good.



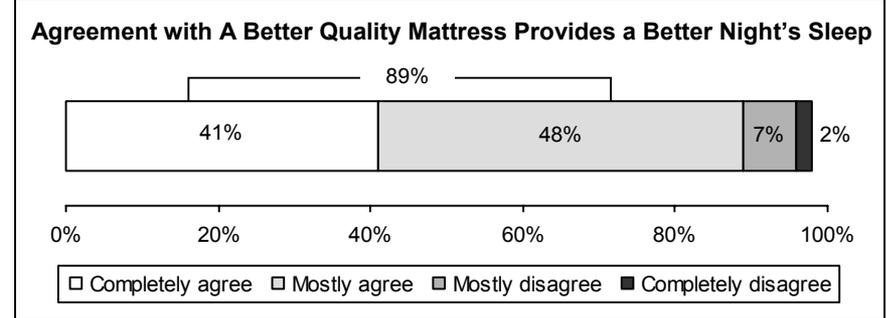
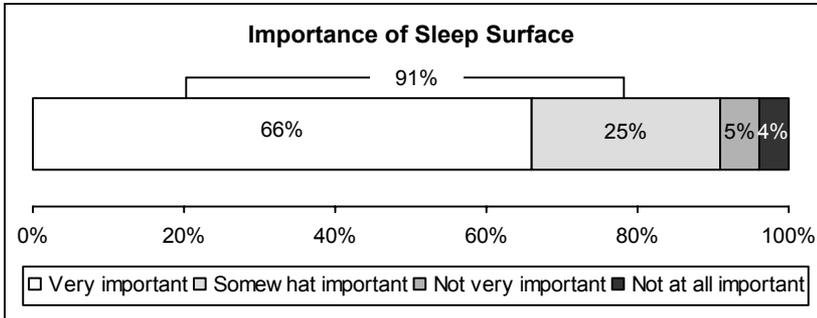
In general, following September 11, respondents were more likely to have experienced symptoms of insomnia at least a few nights a week (69%) as compared to typical nights (58%). On the nights immediately following the attacks, females were more likely than males to report that they experienced symptoms of insomnia at least a few nights (78% vs. 59%).



## Executive Summary – Sleep Surfaces

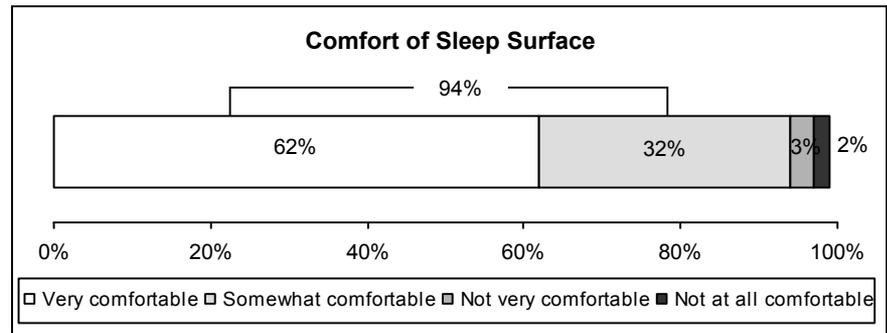
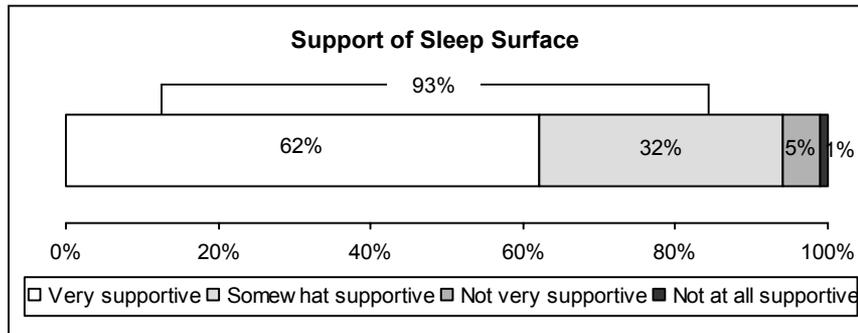
The vast majority of respondents say that their sleep surface is very or somewhat important (91%) in helping them get a deep, restful night's sleep. In fact, about two-thirds (66%) say that their sleep surface is very important to them.

Similarly, the vast majority of respondents agree that a better quality mattress provides a better night's sleep (89%), with 41% completely agreeing with this statement.



The vast majority of respondents say that their sleep surface is very or somewhat supportive (93%), with about six in ten (62%) saying that their sleep surface is very supportive.

Virtually all respondents say that their sleep surface is very or somewhat comfortable (94%). In fact, 62% rate their sleep surface as very comfortable.



## **Profiles**

## Profile – Region

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The following is a profile of adults' sleep habits based on the four U.S. Census regions:

- Adults in the West are more likely than their Midwestern, Southern, and Northern counterparts to get more sleep on average, specifically, eight or more hours of sleep on a workday.
- Those in all regions get an average of about seven and one-half hours of sleep on weekends, while adults in the West are more likely than those in the Northeast to get eight or more hours of sleep on a weekend.
- Respondents residing in the South are more likely than those in the Northeast to experience sleepiness during the day so badly that it interferes with their daily activities.
- In fact, Southern respondents are more likely to report taking a prescription medication to help them sleep compared to those living in the Northeast.
- While most symptoms of insomnia are equally prevalent across the four regions, respondents in the Northeast are more likely than those in the Midwest to report that they have difficulty falling asleep at least a few nights a week. And, respondents in the South are more likely than those in the West to report waking too early and have trouble getting back to sleep a few nights a week or more.
- Adults in the South are the most likely than those residing in the Midwest to report having any symptom of a sleep disorder, specifically, pauses in breathing at least a few times a week. And, those in the South are more likely than their Western counterparts to experience pauses in breathing as well as having symptoms of Restless Legs symptoms.
- Respondents in the West are the most likely to report snoring at least a few times a week than those in the Midwest.
- Adults in the Midwest and South are more likely than those in the West to get less sleep than what they say is the minimum amount that they need to not feel sleepy the next day. In addition, Southern respondents are also more likely to get less sleep than needed than those residing in the Northeast.
- Those living in the West and Northeast are more likely than their Southern counterparts to get more sleep than the minimum they report needing to not feel sleepy the next day.

## Profile – Region (cont'd)

	Region			
	<u>Northeast</u>	<u>Midwest</u>	<u>South</u>	<u>West</u>
n =	(191)	(243)	(365)	(211)
	B	C	D	E
<b><u>Hours slept on a workday</u></b>				
8 hours or more	25%	24%	32% <sub>C</sub>	40% <sub>BCD</sub>
Mean (# of hours)	6.7	6.7	6.8	7.2 <sub>BCD</sub>
<b><u>Hours slept on a weekend</u></b>				
8 hours or more	48%	51%	52%	59% <sub>B</sub>
Mean (# of hours)	7.3	7.5	7.5	7.7 <sub>B</sub>
<b><u>Insomnia – at least a few nights a week</u></b>				
Net: Any symptoms of insomnia	58%	54%	60%	60%
Difficulty falling asleep	30 <sub>C</sub>	21	25	24
Awake a lot during the night	34	38	37	34
Woke too early & couldn't get back to sleep	24	22	29 <sub>E</sub>	19
Woke up feeling unrefreshed	44	38	41	38
<b><u>Sleep disorders reported – at least a few nights a week</u></b>				
Net: Any sleep disorder	70%	69%	77% <sub>C</sub>	75%
Any symptoms of insomnia	58%	54%	60%	60%
Snoring	34	31	39	42 <sub>C</sub>
Pauses in breathing	8	7	13 <sub>CE</sub>	7
Restless Legs symptoms	13	17	19 <sub>E</sub>	11
<b><u>Actual vs. minimum hours of sleep</u></b>				
Less than needed	19%	27% <sub>E</sub>	28% <sub>BE</sub>	17%
Same as minimum	29	28	29	31
More than needed	50 <sub>D</sub>	41	37	49 <sub>D</sub>

	Region			
	<u>Northeast</u>	<u>Midwest</u>	<u>South</u>	<u>West</u>
n =	(191)	(243)	(365)	(211)
	B	C	D	E
<b><u>Daytime sleepiness – at least a few days a week</u></b>	12%	16%	19% <sub>B</sub>	16%
<b><u>Sleep medications – at least a few nights a week</u></b>				
Prescription	4%	6%	8% <sub>B</sub>	5%
Over-the-counter	3	5	5	5
<b><u>Medication to stay awake</u></b>				
Yes	5%	7%	5%	6%
<b><u>Any task: Much harder (Net)</u></b>	50%	48%	52%	53%
<b><u>Any activities: Much more likely (Net)</u></b>	47%	47%	53%	46%
<b><u>Perceived effects: Completely/mostly agree (Net)</u></b>	76%	81%	78%	81%
<b><u>Mood score</u></b>				
Negative	18%	21%	22%	20%
Neutral	24	23	27	27
Positive	30	35	30	32
Very Positive	28	21	21	21

## Profile – Gender

---

The following is a profile of adults' sleep habits based on their gender:

- While men and women report getting an average of seven hours of sleep on workdays, women are more likely than men to sleep eight hours or more.
- Conversely, there are no significant differences in the hours males and females sleep on a weekend.
- Adult females are more likely than males to report having daytime sleepiness at least a few times a week.
- Females are more likely than males to have had any symptoms of insomnia at least a few times a week. Specifically, they are more likely to have difficulty falling asleep, to wake a lot during the night, to wake too early and have trouble getting back to sleep, and to wake up feeling unrefreshed compared to males.
- While males are more likely to report snoring or having pauses in their breathing at least a few times a week, males and females are almost equally as likely to have experienced Restless Legs symptoms.
- There are no significant differences between males and females in terms of using over-the-counter or prescribed sleep medications and using a medication to help them stay awake.
- Females are more likely than males to get less sleep during a weekday than the minimum hours of sleep they report needing to not feel sleepy the next day, whereas males are more likely to get more sleep than the minimum hours of sleep they report needing to not feel sleepy the next day.

## Profile – Gender (cont'd)

	Gender	
	Male	Female
n =	(499)	(511)
	F	G
<b><u>Hours slept on a workday</u></b>		
8 hours or more	26%	35% <sub>F</sub>
Mean (# of hours)	6.7	7.0 <sub>F</sub>
<b><u>Hours slept on a weekend</u></b>		
8 hours or more	51%	54%
Mean (# of hours)	7.5	7.5
<b><u>Insomnia – at least a few nights a week</u></b>		
Net: Any symptoms of insomnia	54%	63% <sub>F</sub>
Difficulty falling asleep	22	28 <sub>F</sub>
Awake a lot during the night	31	41 <sub>F</sub>
Woke too early & couldn't get back to sleep	21	28 <sub>F</sub>
Woke up feeling unrefreshed	36	45 <sub>F</sub>
<b><u>Sleep disorders reported – at least a few nights a week</u></b>		
Net: Any sleep disorder	72%	75%
Any symptoms of insomnia	54%	63% <sub>F</sub>
Snoring	42 <sub>G</sub>	31
Pauses in breathing	11 <sub>G</sub>	7
Restless Legs symptoms	14	18
<b><u>Actual vs. minimum hours of sleep</u></b>		
Less than needed	19%	28% <sub>F</sub>
Same as minimum	28	30
More than needed	47 <sub>G</sub>	39

	Gender	
	Male	Female
n =	(499)	(511)
	F	G
<b><u>Daytime sleepiness – at least a few days a week</u></b>		
	13%	20% <sub>F</sub>
<b><u>Sleep medications – at least a few nights a week</u></b>		
Prescription	6%	5%
Over-the-counter	3	6
<b><u>Medication to stay awake</u></b>		
Yes	6%	6%
<b><u>Any task: Much harder (Net)</u></b>		
	48%	54%
<b><u>Any activities: Much more likely (Net)</u></b>		
	46%	52% <sub>F</sub>
<b><u>Perceived effects: Completely/mostly agree (Net)</u></b>		
	77%	81%
<b><u>Mood score</u></b>		
Negative	22%	19%
Neutral	25	26
Positive	31	32
Very Positive	22	23

## Profile – Age of Respondents

---

The following is a profile of adults' sleep habits based on their age:

- Overall, respondents between the ages of 18 and 64 are more likely to get less sleep during the week than older adults. However, younger adults (18 to 29) are more likely to sleep longer on the weekend.
- Adults who are between the ages of 18 and 29 are more likely than those over the age of 65 to report having daytime sleepiness at least a few days a week. In addition, they are more likely to report taking medication to help stay awake.
- On the other hand, adults between the ages of 30 and 64 are more likely than their younger counterparts to take an over-the-counter medication a few nights a week or more to help them sleep.
- In addition, those who are 18 to 64 are more likely to report experiencing one or more symptoms of insomnia at least a few times a week. Specifically, younger adults are more likely to experience difficulty falling asleep and/or waking up feeling unrefreshed.
- Respondents who are between the ages of 18 and 64 are more likely to experience any symptom of a sleep disorder than respondents who are 65 years or older. However, those between the ages of 30 and 64 are more likely than those between the ages of 18 and 29 to report snoring, pauses in breathing, and symptoms of restless legs symptoms.
- And, adults who are between 30 and 64 years old are more likely to snore than their older counterparts.
- However, respondents between the ages of 18 and 29 are less likely to experience restless legs symptoms than their older counterparts.
- Adults who are 65 years or older are less likely to report getting less sleep than the minimum needed to not feel sleepy the next day compared to those under the age of 65. In fact, older adults are more likely to get just the right amount of sleep on the weekdays to not feel sleepy the next day.
- Respondents 65 years or older are less likely to have a negative mood score compared to those between the ages of 18 and 64. In fact, older respondents are more likely to have very positive mood scores.

## Profile – Age of Respondents (cont'd)

	Age of Respondents		
	<u>18 - 29</u>	<u>30 - 64</u>	<u>65+</u>
n =	(184)	(650)	(161)
	H	I	J
<b><u>Hours slept on a workday</u></b>			
8 hours or more	35% <sub>I</sub>	25%	48% <sub>HI</sub>
Mean (# of hours)	6.9	6.7	7.3 <sub>HI</sub>
<b><u>Hours slept on a weekend</u></b>			
8 hours or more	60% <sub>I</sub>	50%	53%
Mean (# of hours)	7.8 <sub>I</sub>	7.4	7.5
<b><u>Insomnia – at least a few nights a week</u></b>			
Net: Any symptoms of insomnia	68% <sub>IJ</sub>	59% <sub>J</sub>	44%
Difficulty falling asleep	33 <sub>J</sub>	24	19
Awake a lot during the night	32	38	32
Woke too early & couldn't get back to sleep	20	26	25
Woke up feeling unrefreshed	49 <sub>J</sub>	41 <sub>J</sub>	25
<b><u>Sleep disorders reported – at least a few nights a week</u></b>			
Net: Any sleep disorder	77% <sub>J</sub>	76% <sub>J</sub>	60%
Any symptoms of insomnia	68% <sub>IJ</sub>	59% <sub>J</sub>	44%
Snoring	26	43 <sub>HJ</sub>	24
Pauses in breathing	6	10 <sub>H</sub>	9
Restless legs symptoms	8	17 <sub>H</sub>	18 <sub>H</sub>
<b><u>Actual vs. minimum hours of sleep</u></b>			
Less than needed	29% <sub>J</sub>	25% <sub>J</sub>	12%
Same as minimum	24	27	40 <sub>HI</sub>
More than needed	44	44	40

	Age of Respondents		
	<u>18 - 29</u>	<u>30 - 64</u>	<u>65+</u>
n =	(184)	(650)	(161)
	H	I	J
<b><u>Daytime sleepiness – at least a few days a week</u></b>	20% <sub>J</sub>	16%	12%
<b><u>Sleep medications – at least a few nights a week</u></b>			
Prescription	4%	7%	6%
Over-the-counter	2	5 <sub>H</sub>	5
<b><u>Medication to stay awake</u></b>			
Yes	11% <sub>I</sub>	6%	-%
<b><u>Any task: Much harder (Net)</u></b>	53%	51%	46%
<b><u>Any activities: Much more likely (Net)</u></b>	58% <sub>IJ</sub>	49% <sub>J</sub>	38%
<b><u>Perceived effects: Completely/mostly agree (Net)</u></b>	85% <sub>I</sub>	78%	78%
<b><u>Mood score</u></b>			
Negative	25% <sub>J</sub>	21% <sub>J</sub>	12%
Neutral	29	26	20
Positive	29	33	32
Very Positive	17	21	37 <sub>HI</sub>

## Profile – Work Schedule

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The following is a profile of adults' sleep habits based on their work schedule:

- Respondents who work regular shifts are more likely than those who are shift workers to report getting more sleep on average during the workweek. However, there are no differences in the amount of sleep these workers get on weekends.
- Shift workers are also more likely than those with regular work schedules to report having experienced symptoms of insomnia, such as difficulty falling asleep and waking up feeling unrefreshed.

## Profile – Work Schedule (cont'd)

	Work Schedule	
	Regular Shift	Shift Worker
n =	(514)	(177)
	K	L
<b><u>Hours slept on a workday</u></b>		
8 hours or more	24%	27%
Mean (# of hours)	6.8 <sub>L</sub>	6.5
<b><u>Hours slept on a weekend</u></b>		
8 hours or more	55%	52%
Mean (# of hours)	7.6	7.4
<b><u>Insomnia – at least a few nights a week</u></b>		
Net: Any symptoms of insomnia	57%	64%
Difficulty falling asleep	21	31 <sub>K</sub>
Awake a lot during the night	33	38
Woke too early & couldn't get back to sleep	22	21
Woke up feeling unrefreshed	39	47 <sub>K</sub>
<b><u>Sleep disorders reported – at least a few nights a week</u></b>		
Net: Any sleep disorder	73%	79%
Any symptoms of insomnia	57%	64%
Snoring	38	41
Pauses in breathing	8	10
Restless Legs symptoms	12	11
<b><u>Actual vs. minimum hours of sleep</u></b>		
Less than needed	24%	27%
Same as minimum	30	25
More than needed	43	47

	Work Schedule	
	Regular Shift	Shift Worker
n =	(514)	(177)
	K	L
<b><u>Daytime sleepiness – at least a few days a week</u></b>		
	13%	19%
<b><u>Sleep medications – at least a few nights a week</u></b>		
Prescription	4%	3%
Over-the-counter	4	5
<b><u>Medication to stay awake</u></b>		
Yes	6%	8%
<b><u>Any task: Much harder (Net)</u></b>		
	52%	46%
<b><u>Any activities: Much more likely (Net)</u></b>		
	50%	49%
<b><u>Perceived effects: Completely/mostly agree (Net)</u></b>		
	77%	80%
<b><u>Mood score</u></b>		
Negative	21%	22%
Neutral	26	31
Positive	33	28
Very Positive	21	19

## Profile – Children in Household

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The following is a profile of adults' sleep habits based on having children in their household:

- While respondents who do not have children in their household and those who do have children in the household report getting an average of seven hours of sleep on workdays, those without children in the household are more likely than those who do not to sleep eight hours or more. However, there are no differences in the amount of sleep these respondents get on weekends.
- In addition, those who have children in the household are more likely to report experiencing one or more symptoms of insomnia at least a few times a week. Specifically, they are more likely to experience waking a lot during the night and/or waking up feeling unrefreshed.
- In fact, these respondents are also more likely to report having any symptom of a sleep disorder compared to those who do not have children in the household.
- However, those without children in their household are more likely to report the use of a prescription medication to help them sleep.
- Adults who have children in their household are more likely to report getting less sleep than the minimum needed to not feel sleepy the next day compared to those without children. In fact, respondents without children in the household are more likely to get just the right amount of sleep on the weekdays to not feel sleepy the next day.
- Respondents who do not have children in the household are more likely to have a very positive mood score compared to those with children in the household. However, those with children are more likely to have a more neutral mood score compared to their counterparts.

## Profile – Children in Household (cont'd)

	Children in Household	
	Without Children in Household	With Children in Household
n =	(627)	(381)
	M	N
<b><u>Hours slept on a workday</u></b>		
8 hours or more	33% <sub>N</sub>	25%
Mean (# of hours)	6.9 <sub>N</sub>	6.7
<b><u>Hours slept on a weekend</u></b>		
8 hours or more	51%	54%
Mean (# of hours)	7.5	7.6
<b><u>Insomnia – at least a few nights a week</u></b>		
Net: Any symptoms of insomnia	54%	66% <sub>M</sub>
Difficulty falling asleep	25	25
Awake a lot during the night	34	40 <sub>M</sub>
Woke too early & couldn't get back to sleep	24	25
Woke up feeling unrefreshed	37	47 <sub>M</sub>
<b><u>Sleep disorders reported – at least a few nights a week</u></b>		
Net: Any sleep disorder	71%	78% <sub>M</sub>
Any symptoms of insomnia	54%	66% <sub>M</sub>
Snoring	35	40
Pauses in breathing	9	9
Restless Legs symptoms	17	14
<b><u>Actual vs. minimum hours of sleep</u></b>		
Less than needed	19%	31% <sub>M</sub>
Same as minimum	31 <sub>N</sub>	25
More than needed	44	41

	Children in Household	
	Without Children in Household	With Children in Household
n =	(627)	(381)
	M	N
<b><u>Daytime sleepiness – at least a few days a week</u></b>		
	15%	18%
<b><u>Sleep medications</u></b>		
Prescription	7% <sub>N</sub>	4%
Over-the-counter	5	5
<b><u>Medication to stay awake</u></b>		
Yes	5%	7%
<b><u>Any task: Much harder (Net)</u></b>		
	48%	56% <sub>M</sub>
<b><u>Any activities: Much more likely (Net)</u></b>		
	48%	51%
<b><u>Perceived effects: Completely/mostly agree (Net)</u></b>		
	79%	80%
<b><u>Mood score</u></b>		
Negative	20%	22%
Neutral	22	31 <sub>M</sub>
Positive	33	30
Very Positive	25 <sub>N</sub>	18

## Profile – General Mood

The following is a profile of adults' sleep habits based on their general mood and attitude

Those with positive mood scores are less likely to:

- Reported and been diagnosed with a sleep problem;
- Have any symptom of insomnia at least a few nights a week including difficulty falling asleep, awake a lot during the night, woke up too early and could not get back to sleep and woke up feeling unrefreshed;
- Have daytime sleepiness a few days a week or more;
- Take medications to help them stay awake;
- Find it harder to do various activities when they do not get enough sleep; and
- Find it much more likely to be difficult to complete various tasks and activities when they do not get a full nights sleep.

	General Mood			
	Negative B	Neutral C	Positive D	Very Positive E
n=	(203)	(251)	(312)	(221)
<b><u>Hours slept on a workday</u></b>				
8 hours or more	25%	28%	31%	37% <sub>BC</sub>
Mean (# of hours)	6.6	6.8	7.0 <sub>B</sub>	7.1 <sub>BC</sub>
<b><u>Hours slept on a weekend</u></b>				
8 hours or more	46%	55%	54%	53%
Mean (# of hours)	7.2	7.6 <sub>B</sub>	7.6 <sub>B</sub>	7.5
<b><u>Daytime sleepiness – at least a few times a week</u></b>				
	32% <sub>CDE</sub>	19% <sub>DE</sub>	10%	7%
<b><u>Insomnia – at least a few times a week</u></b>				
Net: Any symptoms of insomnia	81% <sub>CDE</sub>	68% <sub>DE</sub>	54% <sub>E</sub>	33
Difficulty falling asleep	41% <sub>CDE</sub>	29% <sub>DE</sub>	21% <sub>E</sub>	10
Awake a lot during the night	57% <sub>CDE</sub>	41% <sub>DE</sub>	33% <sub>E</sub>	15
Woke up early and couldn't get back to sleep	38% <sub>CDE</sub>	29% <sub>E</sub>	22% <sub>E</sub>	10
Woke up feeling unrefreshed	64% <sub>CDE</sub>	45% <sub>DE</sub>	35% <sub>E</sub>	20
<b><u>Sleep problems reported – at least a few nights a week</u></b>				
Net: Any sleep problem	92% <sub>CDE</sub>	79% <sub>E</sub>	72% <sub>E</sub>	52%
Snoring	42% <sub>E</sub>	43% <sub>E</sub>	36% <sub>E</sub>	26
Sleep apnea	15% <sub>DE</sub>	12% <sub>DE</sub>	6	5
Restless legs syndrome	21% <sub>DE</sub>	21% <sub>DE</sub>	12	9
<b><u>Sleep problems diagnosed (% Yes)</u></b>				
Insomnia	11% <sub>DE</sub>	8% <sub>DE</sub>	4%	2%
Sleep apnea	7% <sub>E</sub>	4% <sub>E</sub>	5% <sub>E</sub>	<1
Restless legs syndrome	3% <sub>E</sub>	6% <sub>E</sub>	4% <sub>E</sub>	<1
<b><u>Any task: much harder (Net)</u></b>				
	62%	50%	49%	43%
<b><u>Any mood/behavior: much more likely (Net)</u></b>				
	62%	49%	46%	40%
<b><u>Actual vs. minimum hours of sleep</u></b>				
Less than needed	42% <sub>CDE</sub>	27% <sub>DE</sub>	18% <sub>E</sub>	10%
<b><u>Medication to help stay awake (% Yes)</u></b>				
	10% <sub>DE</sub>	7% <sub>E</sub>	4%	2%