# Sleep and moral awareness

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#### SUMMARY

The implications of sleep for morality are only starting to be explored. Extending the ethics literature, we contend that because bringing morality to conscious attention requires effort, a lack of sleep leads to low moral awareness. We test this prediction with three studies. A laboratory study with a manipulation of sleep across 90 participants judging a scenario for moral content indicates that a lack of sleep leads to low moral awareness. An archival study of Google Trends data across 6 years highlights a national dip in Web searches for moral topics (but not other topics) on the Monday after the Spring time change, which tends to deprive people of sleep. Finally, a diary study of 127 participants indicates that (within participants) nights with a lack of sleep are associated with low moral awareness the next day. Together, these three studies suggest that a lack of sleep leaves people less morally aware, with important implications for the recognition of morality in others.

### INTRODUCTION

Moral awareness is defined as "a person's determination that a situation contains moral content and legitimately can be considered from a moral point of view" (Reynolds, 2006a; p. 233). Without moral awareness, people are unlikely to effectively engage in moral judgement (Rest, 1986) or accurately judge the morality of others (Gino and Bazerman, 2009). Given the social and semi-public nature of much of human behaviour, moral awareness is important in that it determines whether or not people detect moral content in others' behaviour. Indeed, the monitoring of the behaviour of others is an important determinant of whether or not someone is willing to behave in a manner that harms others (Tenbrunsel and Messick, 1999). With high moral awareness, people can detect unethicality in the behaviour of peers and other third parties. In other words, moral awareness is important in perceiving one's own behaviour as well as the behaviour of others.

To date, research examining moral awareness has typically focused on characteristics of an issue (Reynolds, 2006a), individual traits (Reynolds, 2008) or social-contextual factors, such as leadership (Kalshoven *et al.*, 2013). However, recent research indicates that moral awareness may also depend on unstable features of the person, like energy and state self-control (Gino *et al.*, 2011), which can change over time and with sleep (Barnes *et al.*, 2011). This opens a view of moral awareness that is dynamic over time within a given individual. Specifically, we contend that moral awareness is driven in part by sleep, which is potentially of great importance given recent data indicating the prevalence of sleep deprivation (Barnes *et al.*, 2012; Kronholm *et al.*, 2008).

The purpose of this paper is to extend the ethics literature by examining the influence of sleep on moral awareness. Moving beyond previous research examining the influence of one's own sleep on one's own morality, we test the hypothesis that a lack of sleep will hinder moral awareness in general (which is important in recognizing moral issues in the behaviour of others). To do so, we conduct three diverse studies: an archival study of Web searches; a 4-day diary study; and a laboratory experiment. Collectively, these studies suggest that a lack of sleep undermines moral awareness, answering open questions in both the sleep and morality literatures and highlighting important implications for practice.

### SLEEP AND MORAL AWARENESS

A growing body of research highlights the importance of sleep for cognitive processes (Lim and Dinges, 2010). Underlying this research is a theme: a lack of sleep leads to difficulty directing and maintaining attentional processes (Harrison and Horne, 2000). In particular, a lack of sleep appears to disproportionately impact the prefrontal cortex, a region of the brain heavily involved in alertness and attention (Altena *et al.*, 2008; Thomas *et al.*, 2000). This is likely because insufficient sleep leads to a decline in the metabolism of glucose in the prefrontal cortex (Altena

*et al.*, 2008; Thomas *et al.*, 2000), which is problematic because glucose serves as fuel for cognitive activity (Fairclough and Houston, 2004). This is consistent with research indicating that the prefrontal cortex is heavily involved in attentional control (Langner and Eickhoff, 2013), and that sleep deprivation leads to difficulties controlling attention (Lim and Dinges, 2010). The upshot is that a lack of sleep leaves people low on the fuel needed by the brain structures that direct attention. As we discuss below, we posit that this has important implications for moral awareness.

Previous research has explored the topic of sleep and cognition in the domain of morality. Killgore *et al.* (2007) found that sleep deprivation led to greater difficulty in deciding upon a course of action in emotionally evocative moral dilemmas, as well as greater willingness to agree with solutions that violate personally held moral beliefs. Olsen *et al.* (2010) found that long-term partial sleep deprivation impaired the ability of military officers and officer cadets to conduct mature and principally oriented moral reasoning. Tempesta *et al.* (2012) found that sleep deprivation led to faster response speeds for moral impersonal dilemmas, likely due to a disinhibition process. Olsen *et al.* (2013) found that partial sleep deprivation hindered military officers' ability to anticipate problems within the moral domain.

Despite this fruitful literature, researchers have yet to examine the effect of sleep on moral awareness. In contrast to the individual difference of moral attentiveness [defined by Reynolds (2008: p. 1028) as "the extent to which an individual chronically (emphasis added) perceives and considers morality and moral elements in his or her experiences"], moral awareness is more fluid within a given individual (Reynolds, 2006a), driven in part by temporary states and contexts. Thus, moral attentiveness is akin to a personality trait and, thus, stable over time, whereas moral awareness may change from moment to moment. This opens the possibility for moral awareness to be influenced by dynamic antecedents, such as sleep. Indeed, although moral attentiveness tends to be positively related to moral awareness because of a tendency to be on the lookout for moral content (Reynolds, 2008), the relatively modest correlations between the two indicate that even those high in moral awareness can miss moral content. Thus, people high in moral attentiveness may still be vulnerable to the effects of sleep, which vary on a daily basis (c.f. Barnes et al., 2012).

Drawing from this research, we posit that in order to bring a moral issue into conscious moral awareness, people must go through an effortful process of directing attention to the issue that is undermined by a lack of sleep. This expectation is consistent with Gino *et al.*'s (2011) finding that energy for self-control in cognitive processes is positively related to moral awareness. Accordingly, we hypothesize that a lack of sleep will lead to low levels of moral awareness. In the three studies noted below, we test this hypothesis.

### **STUDY 1**

#### Method

#### Participants

We targeted an 80% probability of detecting a moderate effect size (0.3) using a conventional cutoff (alpha = 0.05). That power calculation calls for a sample size of just over 80 participants. We sampled slightly more than that in order to be sure that the final sample would meet the power analysis. We recruited 90 university students enrolled in a junior-level business course in Singapore to participate in a study of negotiation and emotion in exchange for course credit. Participants signed up for the study online and were then assigned to either a control condition (N = 41) or a sleep deprivation condition (N = 49). Participants averaged 21.9 years old, and 51.1% were male; 92% self-identified as ethnically Chinese, 3% as Indian, 3% as Vietnamese and 1% as Malay.

#### Procedure

All participants who signed up for the study were instructed to report to an on-campus classroom the morning of the study. The subsample assigned to the sleep deprivation condition were also instructed to complete a survey (consisting of the PANAS short form; Mackinnon *et al.*, 1999; Watson *et al.*, 1988) once per hour on the hour, from 23:00 hours until 08:00 hours, throughout the night before the on-campus session (held at 10:00 or 11:00 hours). These participants received an hourly email containing the survey link, and were told that they must complete the survey within 15 min of receiving it to remain eligible for the study (in actuality, all participants were retained).

The next day, participants arrived at the in-person session and, after completing a brief task for an unrelated study on negotiation, were asked to read the Reynolds's (2006a) scenario, which involved an ethical violation (see Appendix A). We measured moral awareness using a scenario and scale provided by Reynolds (2006a), consisting of three items answered on a five-point Likert scale (see Appendix B). Ethics approval was provided by Johns Hopkins University, and informed consent was conducted electronically.

#### Results

Participants in the sleep deprivation condition completed an average of 7.72 of the 10 hourly overnight surveys (SD = 2.76). As a manipulation check, participants self-reported the number of hours that they had slept the prior night. A *t*-test indicated that participants in the sleep deprivation condition slept significantly less (M = 4.35 h, SD = 2.06) than did those in the control group (M = 6.43 h, SD = 1.65; *t* = 5.31, *P* < 0.01).

In conducting the t-test, we also tested whether the two aroups (sleep deprived versus control) exhibited equivalent amounts of variance in detecting the moral aspects of the scenario. The results of Levene's test of homogeneity of variance (Levene, 1960) revealed that the morality ratings in the two groups were heteroscedastic ( $F_{1.88} = 8.06$ , P < 0.01). Therefore, we conducted the *t*-test without the assumption of equivalent variances between the two groups. Results indicate that sleep-deprived participants were less aware of the scenario's moral content (M = 3.73, SD = 1.10) than were participants in the control group (M = 4.11, SD = 0.70), and this effect was statistically significant (t = 2.02, P < 0.05). These results indicated that a decrement of 2.1 h of sleep led to 10% lower levels of moral awareness, supporting our hypothesis. Moreover, the fact that moral awareness differed between the conditions despite random assignment of participants to condition is consistent with the idea that we measured moral awareness rather than the more stable construct of moral attentiveness.

#### **STUDY 2**

Previous research indicated that on the Sunday night immediately following the Spring change to Daylight Saving Time (commonly called DST or 'springing ahead'), Americans sleep about 40 min less than on comparison days (leaving them short on sleep on that Monday; Barnes and Wagner, 2009). Indeed, several studies indicate negative effects on the Monday immediately following the change to DST (Barnes and Wagner, 2009; Kantermann *et al.*, 2007; Wagner *et al.*, 2012).

Therefore, Study 2 used the Spring change to DST as a natural quasi-experiment. Specifically, we compared moral awareness on the Monday immediately after the change to DST with moral awareness on the preceding and following Mondays.

#### Method

#### Measure

To measure moral awareness, we examined Web searches conducted in the USA from 2008 to 2013. In 2012, 65% of all search engine queries went through Google (Search Engine Land, 2013). Google Trends (www.google.com/trends) tracks these searches and allows public access to aggregated versions of the data. Broder (2002) noted that people conduct Web searches for three purposes: (1) navigational, with intent to reach a particular site; (2) informational, with intent to acquire information assumed to be on the page they seek; or (3) transactional, with intent to perform some Webmediated activity. Each of these purposes suggests that Web search activity reflects what searchers are thinking about when making their queries. Thus, Web searches should generally reflect conscious cognitive activity, and should be a reasonable proxy for content of which searchers are actively aware. With respect to our study, the most direct indicator of moral awareness would be Web searches related to morality itself.

To generate a list of words associated with morality, we started by querying www.thesaurus.com for synonyms of the word 'moral', retaining that word and all synonyms that the three authors unanimously determined were not slang, did not have alternative non-moral meanings, and were commonly used. To supplement and validate this list, we conducted a word frequency count on an ethics textbook (Trevino and Nelson, 2011), and selected the most frequent words that the three authors unanimously agreed had moral content. Collectively, these processes produced 22 words, which served as the content for our examination of Web search frequency; we refer to these as the Moral Words category. In order to eliminate the potential alternative explanation that all Web search activity declines following the shift to DST, we compared searches for words in the Moral Words category against the broadest possible comparison group of searches - those contained in Google's set of 25 categories into which all Google searches are organized. We refer to these as the Google General Categories. Table 1 includes the list of Moral Words and Google General Categories.

To validate that the terms in our Moral Words condition were higher in moral content than the Google General Categories, we conducted a pilot study with 103 independent

Table 1         Study 2 search terms	
Moral words	General Google categories
Moral words         Corrupt         Ethical         Ethics         Evil         Fair         Fairness         Fraud         Guilty         Honest         Honorable         Humane         Immoral         Integrity         Moral         Principle         Principles         Sin         Sinful         Steal         Truth	General Google categories Arts and Entertainment Autos and Vehicles Beauty and Fitness Books and Literature Business and Industry Computer and Electronics Finance Food and Drink Games Health Hobbies and Leisure Home and Garden Internet and Telephone Job and Education Law and Government News Online Communities People and Society Pets and Animals Real Estate Reference
Unethical	Science Shopping Sports Travel

workers from Amazon's Mechanical Turk (MTurk) service. MTurk is a service provided by Amazon that enables people to post projects online for paid workers to complete. Buhrmester et al. (2011) provide evidence that research projects conducted on MTurk yield data meeting high psychometric standards. In the current pilot study, participants rated the degree to which each word or Google General Category had anything to do with morality on a scale from 1 to 5. Rwg, ICC (1) and ICC(2) values of 0.789, 0.682 and 0.995, respectively, indicated very high agreement across raters. This justified aggregation across raters to the word level of analysis. On a five-point scale, ratings of moral content of the terms in the Moral Words category (mean = 4.51) were significantly higher than ratings of the moral content of Google General Categories (mean = 2.05; P < 0.001, F = 407.32). Thus, we contrasted Web search activity (reflecting cognitive awareness) of searches on terms in the Moral Words category against searches falling into the Google General Categories.

#### Procedure

Using Google Trends, we downloaded daily search volume for each of the terms described above. We focused on searches conducted within the USA from 2008 to 2013, using the terms validated in our pilot study. Search volume made available by Google Trends is guantified as an index, normalized against the search volume for the region and dates specified in the search query. For each of the years in our query we examined searches on the Monday immediately following the change to DST, as well as the immediately preceding and following Mondays (i.e. the comparison days). This controls for any day-of-the-week or season-of-the-year effects. Thus, the archival data included in this study included 47 search terms across 6 years, with three examined days for each word-year. In total, this included 846 separate data points, with each data point representing search behaviour across the entire USA on the given day.

#### Results

This research design entailed multiple observations per search word over time. This nesting violates the assumption of observation independence required by ordinary least squares regression analysis. Hence, we used a hierarchical linear modelling (HLM) framework, which accounts for nonindependence of observations (Raudenbush and Bryk, 2002). The HLM analysis had three levels: three Mondays (Level 1) nested in each of 6 years (Level 2) nested in each search term (Level 3).

In order to test the hypothesis that a lack of sleep leads to a decrease in moral awareness, it is important not only to show that searches associated with moral awareness decline on the Monday immediately following the change to DST, but that this does not simply reflect a decline in Web searches in general. Thus, we examined the interaction between day and

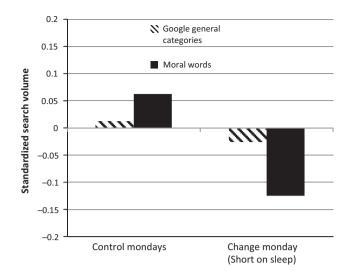


Figure 1. Interaction between sleep category and search category on standardized search volume.

search category (moral words versus Google General Categories). The main effect of day was not significant ( $\beta = -0.04$ , P = 0.11), suggesting that Web searches in general do not differ on the Monday after DST. In support of our hypothesis, however, the interaction was significant ( $\beta = -0.16$ , P < 0.05), such that the change to DST resulted in a decline in Web searches associated with moral words, but no decline associated with the general Google categories (Fig. 1). This finding supports our hypothesis, indicating that a lack of sleep is associated with lower moral awareness.

# **STUDY 3**

Study 3 extends this research to a within-persons approach. Specifically, we used a diary design in which participants, each day for 4 days, recorded their previous nights' sleep and completed a measure of moral awareness at that moment. One strength of this within-person design is that it parses out any between-individual differences in need for sleep. Participants completed the entry survey on a Thursday, which captured demographic information and described the procedure for the rest of the study. Participants completed daily surveys containing the other measures the following week.

### Method

#### Participants

We recruited 127 MTurk participants residing in the USA. Participants had a mean age of 33.61 years (SD = 12.2); 82% of participants were Caucasian, 9% were Asian/Pacific Islander, 4% were African-American, 3% were Latin-American and 2% listed 'other'. In total, participants completed 447 out of the 508 possible daily surveys, for an average within-

participant response rate of 88%. Ethics approval was provided by Johns Hopkins University, and informed consent was conducted electronically.

#### Measures

*Sleep*: We measured sleep with the Pittsburgh Sleep Diary (Monk *et al.*, 1994). Participants were asked what time they went to bed the previous night, how long it took them to fall asleep, how much of the night they were awake, and what time they finally awoke in the morning.

*Moral awareness:* We measured moral awareness using scenarios and items provided by Reynolds (2006a). Reynolds' Study 2 provides four morality-related scenarios that were specifically designed for use in within-participant research designs. Accordingly, in each of the four daily surveys, we presented one of the four scenarios (see Appendix C). After reading the scenario, participants completed the Reynolds (2006a) measure of moral awareness, consisting of three items answered on a five-point Likert scale (average  $\alpha = 0.89$ ). An example item reads: "There are very important ethical aspects to this situation" (1 = strongly agree to 5 = strongly disagree).

#### Results

This within-participant design entailed multiple observations per participant. Thus, as in Study 1, we used HLM to analyse the data using a multilevel format that accounts for nonindependence of observations (Raudenbush and Bryk, 2002). Substantive variables for the analysis were at Level 1, with participant ID number at Level 2.

The mean participant sleep across days was 436 min (SD = 83 min). The mean moral awareness across days was 3.36 (SD = 1.11). HLM analysis indicated a significant effect of sleep on moral awareness ( $\beta$  = 0.12, *P* < 0.05), supporting our hypothesis. The more participants slept, the greater was their moral awareness. Moreover, this was specifically the case when judging the behaviour of other people, meaning that people will be less likely to notice unethical behaviour in others when short on sleep. It is worth noting that the fact that there was variance in moral awareness across days within a given individual is consistent with our contention that we were measuring moral awareness rather than moral attentiveness.

### DISCUSSION

A large volume of literature indicates that, in part due to juggling multiple demands on their time, people often restrict their sleep (Barnes *et al.*, 2012). Thus, many people are short on sleep on any given day. Moreover, this is a trend that is worsening over time (Kronholm *et al.*, 2008).

Drawing from research in both sleep physiology and moral psychology, we hypothesized that a lack of sleep would lead to decrements in moral awareness. To test this hypothesis, we conducted three very different types of studies: a largescale study of archival data; a diary study; and a laboratory experiment. All three studies supported our hypothesis, indicating that the individuals who slept least were the least morally aware and thus least able to recognize unethical behaviour in others. In addition to different methodologies, these three studies used two separate operationalizations of moral awareness, suggesting that the finding is robust. Moreover, the experimental design of Study 1 provides general support for the causal nature of the relationship, indicating that a 2.1 h decrement in sleep led to a 10% decrement in moral awareness.

Important in the findings of Study 2 is that the influence of sleep seems to be focused on moral awareness rather than awareness in general. Indeed, the null effect of DST on searches for non-moral content, in contrast to the negative effect of DST on searches for moral content, is consistent with this view. It appears that although a lack of sleep may have negative impacts on cognitive function in general, this effect is especially strong for moral awareness.

These three studies had complementary strengths and limitations. Study 1 was a true experiment, with a manipulation of sleep, random assignment to conditions and entailed measuring moral awareness on an established scenario specifically developed to include an ethical violation. However, the research was conducted in an artificial setting, and we did not control the behaviour of people in the experimental condition beyond depriving them of sleep.

Study 2 examined an extremely broad sample, investigating naturally occurring behaviour in the context of a quasiexperiment. However, differences in sleep were inferred based on previous research on the DST effect rather than directly measured, and moral awareness was measured indirectly through a new method. These limitations make it difficult to specifically infer that a lack of sleep was the cause, as well as some uncertainty as to the precision with which search behaviour reflects moral awareness.

Study 3 examined moral awareness across four scenarios, using a diary study design. This within-individual approach parses out between-individual differences in need for sleep, and measured moral awareness more directly using an established method. However, it is possible that natural variation in sleep was driven in part by an unmeasured variable that could also influence moral awareness. Moreover, it is possible that MTurk participants, who were provided a financial incentive to complete this research, differ from people who do not participate in MTurk in a manner that would be relevant to our results.

Across all three research designs, using two very different measures of moral awareness, convergence in the results indicated support for our hypothesis. This type of triangulation of methods should aid in confidence in our results. Our finding that sleep influences moral awareness has important implications for ethical decision making and moral psychology in general. Not only is moral awareness a necessary precursor to conscious moral judgement and influential in determining ethical behaviour, which has already been linked to sleep (Barnes *et al.*, 2011), but it is also important in judging the behaviour of others. Without moral awareness, people make moral judgements of their own and others' behaviour by default, either without considering the situation's moral features, or by relying on non-conscious processes. The latter is especially important in contexts where whistle-blowing or peer influence to stop unethical behaviour would be important, such that decrements in moral awareness may influence not only the actor but also people with whom the actor interacts.

Considered more broadly, our results suggest that demanding circumstances like long work hours or family conflict that cut into sleep may also reduce people's moral awareness. This matters because it is often these very circumstances that require people to make important moral decisions. Executives working long hours to meet a deadline, for example, may also have to decide whether to cut corners or how to portray substandard results. Our results, generalized broadly, would suggest that these executives may fail to perceive or act upon the moral implications of their policies. Similarly, graduate students working on restricted levels of sleep may be more likely to copy arguments from a published paper in their own work, police officers working sleepdisrupting schedules may be less likely to notice or report their colleagues' mistreatment of suspects, senators working through the night on an amendment to the nation's budget may ignore the moral implications of their proposals, and obstetricians at the end of a 24-h shift may make a treatment decision that violates the moral standards of their patients. In general, our results sound a cautionary note to anyone faced with making moral decisions after a short night's sleep. Moreover, broadening from previous work indicating that sleep is relevant to one's own propensity for unethical behaviour (Barnes et al., 2011), we extend this body of research by showing that a lack of sleep influences moral awareness in general (which is relevant not only to one's own behaviour, but also to one's processing of others' behaviour). Thus, it appears that a lack of sleep hinders one's likelihood of catching unethical behaviour in others, a finding that is especially important for managers who are responsible for monitoring the behaviour of subordinates.

Future research should more directly examine differential effects of sleep on moral awareness versus awareness of content in other domains. These comparisons would be helpful for advancing this science. Moreover, there may be different moderators of the effect across different domains. For example, it may be that people who are low in moral attentiveness are most vulnerable to the effects of sleep on moral awareness, but that moral attentiveness does not influence the effect of sleep on awareness of other content domains.

Future research should also examine strategies for addressing the negative effect of a lack of sleep on moral awareness. One such strategy would be to change organizational policies and practices in a manner that leads to lower levels of sleep deprivation in organizations. Barnes (2011) provides some recommendations that might be relevant, such as altering work schedules, tailoring stress-reduction programmes, and implementing nap facilities and programmes. Another approach would be to seek strategies that mitigate the effects of sleep on moral awareness. A final strategy for mitigating the effects of sleep on moral awareness would be to place cues around employees to prime them to think about ethics. Recent research indicates that even subtle cues can influence the manner in which people process ethics information (Leavitt *et al.*, 2012). It may be possible that the right set of environmental cues will remind people to look for and be aware of moral content in their organizational lives.

#### **AUTHOR CONTRIBUTIONS**

All three authors were involved in the research design, data collection, data analysis and writing of this manuscript.

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# APPENDIX A STUDY 1 VIGNETTE (FROM REYNOLDS, 2006A)

One of your most important customers, a medical clinic, called yesterday. They had ordered a product 10 days ago (products are normally delivered within 7–10 days), but it had not arrived. Quickly, you traced the order to the shipping office. You asked the shipping clerk about the order and she said, "I shipped it 2 days ago!" As you left the shipping office, you glanced at her desk and saw her shipping receipts. You could clearly see that the order was shipped this morning. You called the clinic back to let them know the product was on its way. As you talked with them, you learned that the delay of the product had not affected any patients in any way.

# APPENDIX B MORAL AWARENESS ITEMS (FROM REYNOLDS, 2006A)

- 1. There are very important ethical aspects to this situation.
- 2. This matter clearly does not involve ethics or moral issues. [reverse coded]
- 3. This situation could be described as a moral issue.

# APPENDIX C STUDY 3 VIGNETTES (FROM REYNOLDS, 2006A)

- Last Monday, you were sitting at your desk examining a request that a customer had just faxed to you. The customer was proposing a project that would make a tremendous amount of money for your company but had an extremely demanding time schedule. Just as you were about to call the customer and accept the project, one of your employees, Phil, knocked on the door. He entered your office, politely placed a letter of resignation on your desk, and told you that he was sorry, but in 2 weeks he would be moving to another state to be closer to his ailing parents. After he left, you thought about the proposed project and determined that even though Phil would be gone, you could still meet all of the customer's deadlines. You called the customer and accepted the project.
- 2. One of DenComp's manufacturing facilities contains five very large and very noisy pressing machines. The facility manager has always followed the state and federal regulations about noise control that apply to those machines, but the noise effects can never be completely eliminated. Doug, a long-time DenComp electrician who regularly works right next to the pressing machines (and always wears the proper equipment) came to your office and told you that his doctor has informed him that he has lost 80% of his hearing in his right ear, probably because of the work he does near the machines.
- 3. Earlier today, a DenComp salesman who works in Iowa called you and told you about an experience that he had last week. One of his customers placed a small order of about \$1500 worth of product from DenComp's corporate headquarters. DenComp immediately shipped the pack-

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age through a freight company, and it arrived the next day at the freight company's warehouse in Iowa. The salesman went to the warehouse just as it was closing and talked to one of their managers. The manager said that everyone had gone home for the day, but he assured him that the package would be delivered directly to his office the next day. The salesman knew that the customer did not need the materials for at least another 3 days, but he didn't want to wait. He placed a \$20 bill on the counter and asked the warehouse manager one last time if there was anything he could do. The manager found the paperwork, got the product from the back of the warehouse and brought it out to the salesman. 4. A manager in your area, Terry, drives a company car. Company policy states that corporate cars are to be inspected every 3000 miles without exception. Terry last had her car inspected about 5000 miles ago – she says that she "just doesn't want to be bothered that often". Today, Pat, a co-worker of Terry's, asked Terry for the keys to the car so she could deliver some artwork to a few customers. While driving on the highway, the car's breaks malfunctioned. The car spun out of control and came to a rest in a ditch on the side of the road. Pat's forehead struck the steering wheel, and she had to go to the hospital to get 18 stitches.