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Sleep Deprivation and Team Performance

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SLEEP DEPRIVATION & TEAM PERFORMANCE

When the Presidential Commission on the Space Shuttle Challenger Accident finished its report, it cited a curious factor that contributed to the collective human error and poor judgment in the Space Shuttle Challenger disaster (1986): "sleep loss." Similarly, the disasters in the nuclear power plants of Chernobyl and Three Mile Island began when it was early morning, "a time when sleep deprivation effects are especially powerful." All these disasters suggest a relationship between sleep deprivation and team performance. But while the effects of sleep deprivation (SD) on individuals have been documented quite extensively in the literature, it is only recently that researchers have begun to explore how sleep deprivation affects team decisions.

In a pioneering article in the *Academy of Management Review*, Barnes and Hollenbeck (2009) suggest several effects of SD on team performance (see Exhibit 1):

- Routine tasks may not be affected at all since routine decisions are often based on the automatic nature of information processing which does not draw heavily on the prefrontal cortex. Nonroutine decision making demands the analysis of decision options and will be impacted by SD in a direct negative way.

- When sleep-deprived teams are faced with the task of coming up with new solutions and innovation, SD can have severe consequences because it affects the precortex structures of the brain necessary for these functions. If the team is just trying to find the one right solution, it can be accomplished by any member of the team able to function and the team will recognize when it has found the right solution. Thus

Exhibit 1: ***What Happened to Sleep Deprived Teams?***

Tasks Demanded of the Team	**The Right Solution** can be demonstrated	**The Right Solution** can't be demonstrated
Decision Making Choosing among existing solutions	Sleep deprivation (SD) may not affect performance. SD has a negligible effect.	The more sleep deprived, the worse the performance. SD has negative proportional effect.
	Team deals only with routine solutions.	Teams have to deal with non-routine solutions.
Problem Solving Generating new solutions	One single rested member can offset the negative effects of sleep deprivation.	The presence of SD in even one member may result in poor team performance.
	Problem solving needed to come up with the one right solution (convergent thinking).	Problem solving needed to come up with innovative break-through solutions (divergent thinking).

sleep deprivation can be offset by even a single rested member who shares the right solution with the team. But when sleep-deprived teams are called to come up with innovative solutions to problems with no obvious solution, the team is at a great disadvantage. Even if a member comes up with the right solution there is no guarantee that he or she will be able to convince the rest of the team.

What do all these insights mean for Christian leaders? If critical functions depend on the whole team working in an innovation-generating problem-solving mode, SD may be playing with fire, waiting for an accident to happen.

Source: Barnes, C. M., & Hollenbeck, J. R. (2009). Sleep deprivation and decision-making teams: Burning the midnight oil or playing with fire? *The Academy of Management Review, 34*(1), 56-66.

EXPRESSING GRATITUDE

Susan and Peter Glaser, in their book *Be Quiet, Be Heard: The Paradox of Persuasion* (Eugene, OR: Communications Solutions Publishing, 2006, chapter 6), describe gratitude as one of the keys to changing the relational chemistry in an organization and unleashing the power of encouragement. Building on the work of neuroscientists, they observe that the brain typically notices patterns that are out of alignment with expectations.

The Glasers call this ability of the brain the "uh-oh factor" (p. 107). For example: The smell of smoke would most likely send us searching for the source so we can do something about the perceived threat. The problem is that this ability to notice things that are wrong can quickly turn into a climate-setting habit that poisons morale.

Contrary to the typical "praise sandwich" managers use to praise workers first in order to soften the blow of correction, the Glasers suggest that leaders use a more pure praise sandwich:

Step 1: Thank (offer sincere thanks for someone's effort)
Step 2: Offer specifics (mentioning the specific behavior you found helpful and would like to see repeated)
Step 3: Note benefits (indicating how this behavior contributed to some positive outcome for you, the team, the organization)
Step 4: Thank again (ending by reinforcing how grateful you are)

Here is an example: *Thank you so much for rearranging your schedule so our committee could meet. This enabled our candidate to meet the deadline and stay on the graduation list. I know that this meant extra work for you. I really appreciate it.*

During the holiday season—and throughout the year—you may want to work on your gratitude skills and spread a little thanksgiving to enhance the power of encouragement in your organization.