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The Explanations People Give for Going to Bed Late: A Qualitative Study of the Varieties of Bedtime Procrastination

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ABSTRACT

Background/Objective: Bedtime procrastination is a prevalent cause of sleep deprivation, but little is known about *why* people delay their bedtimes. In the present research, we conducted a qualitative study with bedtime procrastinators to classify their self-reported reasons for later-than-intended bedtime. *Participants*: Participants (*N* = 17) were selected who frequently engaged in bedtime procrastination, but whose sleep was not otherwise affected by diagnosed sleep disorders or shift work. *Method*: We conducted in-depth, semistructured interviews and used thematic analysis to identify commonly recurring themes in the interviews. *Results and conclusions*: Three emerging themes were identified: *deliberate procrastination, mindless procrastination*, and *strategic delay*. For the form of procrastination we classified as deliberate procrastination, participants typically reported wilfully delaying their bedtime because they felt they deserved some time for themselves. For the category of mindless procrastination, a paradigmatic aspect was that participants lost track of the time due to being immersed in their evening activities. Finally, participants who engaged in strategic delay reported going to bed late because they felt they needed to in order to fall asleep (more quickly), which suggests that despite describing themselves as "procrastinating," their bedtime delay may actually be linked to undiagnosed insomnia. The conceptual distinctions drawn in this paper deepen our understanding of bedtime delay and may be helpful for designing effective interventions.

Although sleeping is generally considered to be highly enjoyable (Gershuny, 2013), and sleep is known to be essential for health and well-being (Banks & Dinges, 2007), many people still chronically sleep too little (Gallup, 2013). Recent studies have suggested that, for people in the general population whose sleep is not affected by diagnosed sleep disorders or shift work, this sleep deficit is often due to sacrificing sleep in favor of short-term rewards (Kroese, Evers, Adriaanse, & De Ridder, 2016).

This type of behavior is an example of *bedtime procrastination*: a form of self-regulation failure that involves needlessly and voluntarily delaying going to bed, despite expecting to be worse off as a result of going to bed late (Kroese et al., 2016; Kroese, Nauts, Kamphorst, Anderson, & De Ridder, 2016). Notice that not every form of delay constitutes procrastination, as the defining feature of procrastination is that the delay is associated with subjective discomfort (Anderson, 2016; Blunt & Pychyl, 2005; Giguère, Sirois, & Vaswani, 2016; Haghbin, 2015; Milgram & Naaman, 1995; Pychyl, Lee, Thibodeau, & Blunt, 2000; Steel, 2007). For bedtime procrastinators, this typically involves expecting to feel tired, irritable, and guilty the next day as a result of delaying one's bedtime (Nauts & Kroese, 2015).

The tendency to engage in bedtime procrastination, as a contributing cause of sleep deprivation, has been shown to be a pervasive phenomenon in the general population (Kroese, De Ridder, Evers, & Adriaanse, 2014b; Kroese et al., 2016). Recent research is beginning to shed light on the role of various causal factors in explaining bedtime procrastination, such as depleted self-regulatory resources (Kamphorst, Nauts, De Ridder, & Anderson, 2018) or biological factors such as chronotypes (Kadzikowska-Wrzosek (2018); Kühnel, Syrek, & Dreher, 2018). What is less often studied, however, are the qualitative differences in the ways that bedtime procrastination is understood by those who engage in it, who are also the ones who must be able to recognize any proposed intervention as being relevant to their situation.

Our aim, then, is to begin addressing this lacuna with the present study, in which we conducted in-depth, semistructured interviews with chronic bedtime procrastinators to identify the explanations people give for delaying their bedtimes. Using thematic analysis, we categorized the explanations provided by participants. Although we expected a certain irrational component to people's behavior, we hypothesized that the explanations people would give for delaying their bedtimes would show bedtime procrastination to be a more complex and varied phenomenon than previously assumed, further complicating attempts to reduce the barriers that keep individuals from meeting their intended bedtimes. If this holds true, and the results from this study suggest that it does, then shedding light on the complexities of the phenomenon and understanding the variety of explanations bedtime procrastinators give for delaying their bedtime may help researchers design more effective interventions to help people get more of the sleep they need.

Method

The study protocol was approved by Internal Committee on Biomedical Experiments (ICBE).

Participants

We interviewed 17 participants (10 men, 7 women) between the ages of 20 and 62. There was considerable variation in people's educational background and occupation. In terms of educational level, the sample consisted of students, as well as working adults with a high school degree, vocational training, or a 4-year college degree. In terms of current occupation, there was considerable diversity in how many hours people worked as well as in their field of work (e.g., among others, the sample consisted of an administrative assistant, a day care worker, an IT consultant, a civil servant, a businessman, and a doctor's assistant). Within the sample, some participants lived alone while others lived together with a partner, their child(ren), or roommates.

Participants were recruited through newspaper ads, flyers, and online message boards. We only included participants who indicated engaging in bedtime procrastination at least three days a week, and who had an average score of 3.33 or higher on the Bedtime Procrastination Scale.[1] Inclusion was determined using a prescreen questionnaire; the complete set of selection criteria is depicted in Table 1.

Materials

Interviews

A male interviewer conducted in-depth, semistructured interviews with all 17 participants. Interviews were audiotaped and lasted 30 to 60 min. The interviewer used a predefined list of questions, but frequently deviated from this list in order to learn more about issues that were spontaneously mentioned by respondents. See Appendix 1 for the interview protocol.

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[1] In a representative Dutch sample, 3.33 marked the 75th percentile on this scale (Kroese et al., 2016).

Table 1. List of prescreen criteria.

Prescreen criteria
-Score on Bedtime Procrastination Scale: ≥ 3.33;
-Engages in bedtime procrastination ≥ 3 days/week;
-Aged 18 to 65;
-Does not work night shifts;
-Does not have children under the age of 3 living in their household;
-Not diagnosed with a sleep disorder (e.g., insomnia);
- Not diagnosed with a physical disorder that affects sleep (e.g., restless leg syndrome);
- Not diagnosed with psychopathology (e.g., depression);
-Has to get up at a specific time for at least four days a week (e.g., to take care of children or go to work);
-Is motivated to change his or her bedtime.

Procedure

In the week prior to the interview, participants received a notebook in which they kept a daily diary of their activities between 8 p.m. and their bedtime. The goal of this assignment was to help people gain insight into their late-night behavior and to provide them with concrete examples that they could use during the interview.

After giving informed consent, participants were interviewed in meeting rooms at Utrecht University and Philips Research in Eindhoven. After the interview, participants completed two additional exercises that were part of a different study. Participants were reimbursed with a €40 gift voucher (US$46.55).

Data analysis

Interviews were transcribed verbatim by the interviewer and checked for accuracy by another member of the research team. We conducted thematic analysis using NVivo to identify commonly recurring themes in the interviews. Two coders read the interview transcripts to find initial codes for themes, revising themes and rereading the transcripts until they reached agreement about which codes provided the best match with both the research question and the data. The concordance between the coders was generally high, especially for the main themes. In most cases of initial disagreement, the coders reached agreement after negotiation. In the few cases where no agreement was reached, multiple labels were applied.

In generating the themes, codes were organized around themes that were relevant for identifying participants' reasons for going to bed late. Specifically, we were interested in the explanations that participants gave for delaying their bedtimes that could (a) help researchers understand why people go to bed too late, or (b) help researchers identify potential interventions to help people go to bed earlier. To determine when thematic saturation occurred, we used the inductive thematic saturation model (cf. Saunders et al., 2018) and identified the point at which no new themes appeared. We conducted a total of 17 interviews, and thematic saturation was reached already with the ninth participant. After these nine participants, we increasingly encountered the same themes and did not encounter new ones. On this basis, we estimated that conducting more interviews was unlikely to yield new accounts of bedtime procrastination.

Results

Explanations for bedtime procrastination

Explanations given for going to bed late were highly diverse, with some participants indicating that a single explanation accounted for almost all of the instances in which they went to bed late, and others indicating that their behavior was the product of a complex array of factors. We have classified the explanations that participants provided into three main categories that have previously

not been distinguished in this way: *deliberate procrastination, mindless procrastination*, and *strategic delay*. Importantly, rather than being mutually exclusive categories, *deliberate, mindless*, and *strategic* delay often seemed to co-occur. Several participants described a pattern in which the importance of reasons waxed and waned as the evening progressed; for example, they may have started procrastinating deliberately but ended up losing track of time.

Deliberate procrastination

We classified behavior as a form of *deliberate procrastination* when participants indicated that they *knowingly* and *intentionally* delayed their bedtime and expected to be worse off as a result. These types of behavior closely match many prototypical understandings of procrastination. Deliberate procrastination was one of the most commonly mentioned explanations for bedtime delay. Although many participants engaged in leisurely activities, it was also common for participants to delay because they worked on chores, despite acknowledging that they would later regret doing so. For example, they would "spend an hour or two gardening," "vacuum the car," "clean their room," or "reorganize their tools," even though they acknowledged that there was no need to engage in these activities late at night, and these activities could have waited until the next day. Central to these responses is talk of "temptation" and "inner conflict." Some described a "voice" that admonished them to go to bed and get the sleep they needed, while a "little devil" encouraged them not to. In these cases, participants indicated being fully aware of the negative consequences of going to bed late, such as feeling "tired," "lacking in energy," "forgetful," "guilty," "irritable," "passive," and "unable to concentrate."

A striking feature of the cases of deliberate procrastination was their attempt to provide at least a partial justification for delaying going to bed. Sixteen out of 17 participants mentioned at least one temptation that they gave in to in delaying their bedtime, which strongly suggested they procrastinated deliberately. Some participants indicated that they simply *enjoyed* having some time for themselves, while others indicated that they felt that they *deserved* this time, as illustrated by the following statement from a 24-year-old female participant:

> "You are sitting on the couch at night and think to yourself: listen up. I am going to stay on the couch a bit longer. It's all good. I *deserved* it." (emphasis added)

This is perhaps not surprising. A sizable number of participants indicated that they spend large parts of their days fulfilling obligations. Participants indicated that they work hard all day, studying for finals, staring at spreadsheets, analyzing blood samples, and managing home finances. Some reported exerting a great deal of effort to keep themselves from snapping at their boss; others indicated that they vehemently disagreed with new organizational changes in their job but used all their willpower to continue working anyway. Participants elaborated extensively on their daily travails, as they commuted, cooked, cleaned, potty-trained toddlers, or paid a visit to their aging parents. In the evening, after all the work had been done, they felt they deserved some time for themselves, time in which there is nothing they *have* to do. This idea is described by a 50-year-old female participant:

> Sometimes [it's] because I really enjoy doing it [delaying my bedtime] and sometimes it's a form of defiance, like: whatever! I am not going to do it. I am just going to, going to play a game. Or just watch another episode. . . . I am allowed to do that. It's a way of revolting against all the obligations that you have. Because well, my life, and I think the life of most adults, consists of lots and lots of obligations.

As is apparent from this participant's response, some bedtime procrastinators feel entitled to some "me time," even if they know it comes at the expense of getting sufficient sleep. Six out of our 17 participants mentioned the feeling that they *deserve* leisure time. Some participants, like the one just quoted, indicated that taking the time to do something that they want to do is a form of defiance against the demands of their busy lives. They seemed to be attempting to justify their delay by construing it as a way of meeting a need for autonomy (Deci & Ryan, 2000), although their regret seems sufficiently strong to warrant classifying it as procrastination and not strategic delay. Put

differently, although they seemed convinced that getting to bed at their intended bedtime was in their long-term interest, they also reported feeling a need to take the time to unwind.

This suggests the need for a more nuanced account of the bedtime delay. Rather than being a case of irrationally giving in to a goal-undermining temptation or the result of "failed" self-regulation, staying up late to watch TV might sometimes represent a tradeoff between two sets of goals: the goal to get sufficient sleep and the goal to have time for oneself, to have the freedom to do as one pleases. As a result, in trying to understand procrastination, there is no avoiding the question of whether the reasons that people cite are considerations of which they are sincerely and appropriately convinced or, instead, part of a self-indulgent strategy of protecting their self-image (Anderson, 2016). Saying that one "deserves" time off after hard work may be construed as a form of *self-licensing*, a way of making excuses for behavior that is discrepant with the long-term goal to get sufficient sleep (De Witt Huberts, Evers, & De Ridder, 2014). Yet, regardless of whether, in a given case, people actually *need* this "me time" or not, people's *perception* that they do may be an important driver of their behavior. Rather than being a slave to their impulses, many participants in our sample seemed to have given a great deal of thought to their behavior and decided (whether this is warranted or not) that they *need, want*, or *deserve* time to engage in activities of their choosing. To the extent to which this is the case, the behavior involved shifts from the category of *deliberative procrastination* to that of *strategic delay*, discussed below. Either way, the prevalence of appeals to a felt need for what could be termed "slack time" (on "slack" see Mullainathan & Shafir, 2013) suggests that it may be fruitful to design planning interventions with the specific aim of making sure that people retain a certain amount of time in which they have the freedom to do as they please.

Mindless procrastination

One theme that emerged quickly and prominently in the interviews was a temporarily diminished awareness of the participants' intended bedtime. A majority of the participants indicated that they often went to bed too late because they lost track of time. We classified this phenomenon as *mindless procrastination*, where the departure from bedtime intentions is associated with reports of distraction or inattention rather than with a deliberate delay of their bedtime.

Participants who engage in this type of procrastination typically reported that they were engaged in an immersive activity (e.g., watching TV, working on an arts project) and "forgot the time." Many accounts of mindless procrastination included distortions in people's sense of time: It was "suddenly" late, it happened "before they knew it." One 22-year-old male participant describes this as follows:

> If I really go to bed two hours too late, I've often simply forgotten the time. *Suddenly, the time just flies by*. I wouldn't consciously keep putting things off, two hours long. Because then I know that I'm going to be a zombie the next day. (emphasis added).

Mindless procrastination often seems to occur when participants are deeply absorbed in an activity, which is in line with research suggesting that highly immersive activities can evoke a sense of *time loss* (e.g., Wood, Griffiths, & Parke, 2007). Besides being absorbed in a single activity, participants sometimes reported being absorbed in a string of activities, with one activity leading to another. Some report that they wanted to "take a quick peek" at a TV show but did not manage to disengage once they were watching. Others reported that they wanted to "just check" the news online "quickly," only to end up spending hours browsing the web. Thus, many instances of bedtime procrastination involved situations in which people went to bed late because they had difficulty disengaging from activities and time just got away from them.

It is important to note that mindlessness is not the same as changing one's mind. The participants we coded as mindless procrastinators gave no indication that they had stopped caring about a good night's sleep or had modified their intended bedtime. They experienced themselves as having gotten off track, not as setting off on a new path. In this sense, mindless bedtime procrastination parallels mindless eating (e.g., Wansink and Sobal, 2007). The fact that individuals mindlessly consume a pint

of ice cream or a bag of chips does not mean that they have ceased to be on a diet simply because they were not paying attention to what they were eating. Similarly, losing track of time while immersed in late-night binge-viewing does not mean that one has given up one's intention to go to bed on time.[2]

Strategic delay

Interestingly, many participants described their behavior as a form of bedtime procrastination, while at the same time articulating what they themselves took to be convincing reasons why they would *not* be better off if they would go to bed earlier. A majority of participants indicated that they deliberately delayed going to bed, occasionally or regularly, because they believed that they would be unable to sleep if they were to go to bed earlier. Some indicated that they had a surplus of energy at the time they "should" go to bed (though sometimes, they felt tired at an earlier moment in the evening and indicated they "missed the right moment" to go to bed). Others indicated that they strategically delayed their bedtime as a form of self-medication against insomnia: By building sleep pressure, it becomes easier for them to fall (or stay) asleep. Thus, a subgroup of participants indicates that they deliberately *choose* to go to bed late because they believe that doing so will benefit them. This is clear from the account of a male 38-year-old participant:

> If I go to bed late, I will fall asleep more easily. Otherwise, you lie there, tossing and turning, and in the end, it gets to be later than when you would have gone to bed late.

A relatively small subset of our participants indicated that they often ruminated or felt anxious if they did not fall asleep immediately, and that they delayed their bedtime to avoid having to deal with these negative emotions. For example, one 62-year-old female participant mentioned that she is prone to ruminate, and uses a book to guard off rumination:

> In the dark, some things are . . . they seem so grim. Yet the next day you think: Why was I worrying about that? And I don't want that, I don't want to lie there ruminating about things. . . . Actually, I am already afraid beforehand. That I will be unable to sleep if I go to bed. And then, I arm myself with my book. And perhaps I hope that I will fall asleep with my book still in my lap.

Delaying one's bedtime qualifies as bedtime procrastination only if one acknowledges, at some level, that the delay is needless or unwarranted (Anderson, 2016; Kroese et al., 2016). Those who are sincerely convinced that going to bed earlier would leave them less well off, such as the participant quoted above, is engaging in a form of strategic delay (cf. Klingsieck, Grund, Schmid, & Fries, 2013; Chowdhury & Pychyl, 2018; Haghbin, 2015; Kroese & De Ridder, 2016; Rahimi, Hall, & Pychyl, 2016), not procrastination. Indeed, one well-established behavioral intervention for insomnia —"Sleep Restriction Therapy" —involves *reducing* the number of hours slept so as to increase sleep efficiency (Riedel & Lichstein, 2001), and thus these participants' bedtime delay might, in fact, be highly effective. What removes behavior from the category of "procrastination" to "strategic delay" is that one *genuinely believes* that the delay is strategic.

Of course, is it not always self-evident what someone *genuinely* believes. In cases of confabulation or self-deception, one's public reports and even subjectively felt conviction belie a suppressed acknowledgement that one's justifications for delaying are a sham. In some cases, clearly, people are truly procrastinating but confabulate reasons to explain their lack of goal-directed behavior (cf. on self-licensing, De Witt Huberts et al., 2014; on "self-indulgent reconstruals," Anderson, 2016). In many cases, however, it will be difficult to determine how to apply the conceptually clear distinction between procrastination and mere delay, and we make no claims to assign participants' responses in the present study to one category or the other, since this would require obtaining independent confirmation of the veracity and sincerity of people's claims about the reasons they had for bedtime

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[2]We are grateful to an anonymous referee for encouraging us to clarify this point.

delay. This highlights important methodological and epistemological challenges both for clinical and research uses of the concept of procrastination.

Discussion and practical implications

The accounts that participants offered of their bedtime procrastination are diverse and deeply personal. Some participants procrastinated by going out for drinks with their coworkers; others engaged in immersive activities to forget their worries. Some participants procrastinated because they wanted to make jewelry or watch a documentary; others felt compelled to check social media or play games on their smartphones until deep into the night, even though they did not necessarily like or value this activity. Some labeled their behavior "procrastination" even though they seemed convinced that their bedtime delay was actually for the better.

Yet, amid this diversity, common patterns emerge from the accounts that procrastinators gave, and these patterns provide initial suggestions of which interventions are likely to best fit the context. For example, many participants mentioned deliberately procrastinating because they found it difficult to resist the temptation to pack "just one more" item into the day, past the point at which they had decided the day would be over. It is thus to be expected that a decisive factor in reducing bedtime procrastination will be the development of time management and priority-setting skills. As an intervention, people could be prompted to consider reserving a certain amount of "slack time" in which they can engage in activities of their choosing, particularly if their need for autonomy is high, whether as a matter of specific context (a day of being bossed around) or individual difference (a high general need for autonomy). Schedules and skills for ensuring downtime earlier in the evening could relieve the felt pressure to claim late-night "me time" at the expense of getting sufficient sleep.

Given that most participants mentioned other reasons for delaying their bedtimes besides wanting "slack time," it is worth considering interventions that go beyond mere time management. To reduce mindless procrastination, for example, people could benefit from preestablished interruptions, reminding them of their bedtime intentions or even just what time it is (e.g., using environmental cues; cf. Nauts et al., 2018), a strategy that is likely to be less effective with deliberate procrastination. For those who fear that they will be unable to sleep if they attempt to go to bed in time, time management interventions and reminders likely have to be supplemented by coaching interventions. Coaching people about ways in which they can make it easier for themselves to fall asleep earlier in the evening may be a fruitful strategy for those who believe that they are predestined to be night owls. Such an intervention could, for example, coach people to seek bright light in the morning and reduce light exposure in the evening (cf. Burgess & Molina, 2014).

Conclusion

In the present study, bedtime procrastinators reported experiencing a multifaceted array of barriers —internal and external—to going to bed in time. This suggests that interventions may be effective only if they take these barriers into account, for example, by tailoring an intervention to the specific barriers individuals face, by correcting the myths underlying maladaptive patterns of (subjectively) strategic delay, or by combining multiple components so as to address the various aspects of *deliberate* and *mindless procrastination*. The study also shows that more research is needed to shed light on the prevalence of the different kinds of delay and to examine the characteristics of the subpopulation of people who engage in strategic delay of their bedtime in order to cope with what may be subclinical symptoms of sleep disorders such as insomnia or delayed sleep–wake rhythm disorder. In addition, more research is needed into the underlying causes of bedtime procrastination, including how chronotype features into procrastinatory behavior in the evening. And, finally, there is a need for experimental studies that determine which interventions can effectively reduce bedtime procrastination. The present research provides some first avenues for future interventions that may break down barriers to getting a good night's sleep.

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Appendix 1: Interview questions

Section 1: Circadian rhythm

1. Can you tell me something about your sleep patterns?
2. On weekdays, when do you go to bed and when do you get up?

*On weekdays, at what time do you usually get up? Why?
*Do you have difficulty getting up in the morning?
*Are you ever late for appointments or other obligations because you get up too late?
*On weekdays, at what time do you usually go to bed? Why?
*Do you notice that you start getting tired over the course of the evening?

1. Is there something about going to bed that you dislike (Thoughts? Behaviors that you need to perform?)
2. How much sleep do you think you need? Do you usually manage to get this much sleep?

Section 2: Bedtime procrastination

1. Do you ever go to bed later than you intended, without having an external reason for doing so? (If yes) Can you give some examples of instances in which you did?

*What kind of activities do you engage in when you are procrastinating on your bedtime?
*How often do you go to bed later than you would like to (in which there is no external circumstance preventing you from going to bed)?
*On average, how much later do you go to bed?
*How long have you engaged in this behavior?
*Why do you engage in this behavior?

2. What is your main reason for staying up late?

*While you are engaging in bedtime procrastination, are you generally aware of the potential negative consequences of engaging in this behavior?
*What negative experiences do you expect? Are your expectations generally met?

7. Compared to other moments in the day, how much do you enjoy the activities you engage in after your intended bedtime?
*What makes it difficult for you to quit these activities?
8. Do you have a partner?

*How do you think your partner influences your bedtime?

Section 3. Attempts to change

9. Do you believe your sleep patterns have changed over the course of the past months or years?
*If so, why?
*Have you ever tried to change your sleep patterns?
10. Would you like to change your sleep patterns?
*What is your motivation for this?
11. Are there other factors that may limit your sleep that you think are relevant, and that we have not discussed?