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Jo-Ana D. Chase

University of Missouri - Columbia

Robert V. Topp

Marquette University

Carol E. Smith

University of Kansas Medical Center

Marlene Z. Cohen

University of Nebraska Medical Center

Nancy Fahrenwald

South Dakota State University

See next page for additional authors

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Authors

Jo-Ana D. Chase, Robert V. Topp, Carol E. Smith, Marlene Z. Cohen, Nancy Fahrenwald, Julie Zerwic, Lazelle E. Benefield, Cindy M. Anderson, and Vicki Conn

Marquette University

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Time Management Strategies for Research Productivity

Jo-Ana D. Chase

University of Missouri, Columbia, MO

Robert Topp

Marquette University, Milwaukee, WI

Carol E. Smith

University of Kansas, Kansas City, MO

Marlene Z. Cohen

University of Nebraska, Omaha, NE

Nancy Fahrenwald

South Dakota State University, Brookings, SD

Julie J. Zerwic

University of Illinois at Chicago, Chicago, IL

Lazelle E. Benefield

University of Oklahoma, Oklahoma City, OK

Cindy M. Anderson

University of North Dakota, Grand Forks, ND

Vicki S. Conn

University of Missouri-Columbia, Columbia, MO

Abstract

Researchers function in a complex environment and carry multiple role responsibilities. This environment is prone to various distractions that can derail productivity and decrease efficiency. Effective time management allows researchers to maintain focus on their work, contributing to research productivity. Thus, improving time management skills is essential to developing and sustaining a successful program of research. This article presents time management strategies addressing behaviors surrounding time assessment, planning, and monitoring. Herein, the *Western Journal of Nursing Research* editorial board recommends strategies to enhance time management, including setting realistic goals, prioritizing, and optimizing planning. Involving a team, problem-solving barriers, and early management of potential distractions can facilitate maintaining focus on a research program. Continually evaluating the effectiveness of time management strategies allows researchers to identify areas of improvement and recognize progress.

Keywords: Time Management, research productivity, efficiency

Many researchers face the challenges of competing demands, interruptions, and internal and external distractions while working to build and maintain a successful program of research. Time management, defined as deliberate actions aimed at the effective use of time to achieve specific, goal-directed activities, is a skill necessary to maintaining scholarly productivity (Claessens, van Eerde, & Rutte, 2007). Furthermore, the benefits of effective time management may extend to improved job satisfaction and stress-related outcomes (Claessens et al., 2007). Strategies for time management fall into three broad categories: time assessment behaviors, planning behaviors, and monitoring behaviors (Claessens et al., 2007). Using a variety of personalized strategies in each category is essential to effectively manage time. Members of the *Western Journal of Nursing Research* editorial board have shared essays of time management strategies contributing to their research success. These strategies are summarized in Table 1.

Table 1. Time Management Strategies

Strategy	Implementing Time Management Strategy
Set realistic and attainable goals	<ul style="list-style-type: none"> • Develop long-term scholarship goals • Develop intermediate and immediate activities to achieve long-term goals • Link goals with a defined process • Identify goals/objectives that are measurable and attainable within a structured time limit • Determine what is under your direct control as you will have the most ability to complete these goals • Periodically review goals for <ul style="list-style-type: none"> • Achievement/lack of achievement • Factors that facilitate or act as barriers to achievement
Optimize realistic planning	<ul style="list-style-type: none"> • Create daily "to do" lists and check off as tasks are done • Break complex tasks, such as manuscripts, into manageable components with defined deadlines • Amass resources prior to beginning a task • Create detailed timeline of activities • When you end your work session, make an agenda of "to-do" items for the next session while it's fresh in your mind • When you finish a writing session, jot down notes of what to write in the next paragraphs • Automate some processes (e.g., sign up to receive automated notices of funding opportunities or research papers) • Identify and seek needed assistance early in the process • Use an electronic file management system for an organized approach to work
Prioritize	<ul style="list-style-type: none"> • Acknowledge the primacy of your work • Arrange your objectives/goals in order of priority • Work on highest priority goal first and consistently until you have achieved the goal or have temporarily exhausted available resources • Write down priorities—if request or opportunity is not in line with priority, say "no" • Learn when and how to say "no" (see Table 2)
Effective scheduling	<ul style="list-style-type: none"> • Schedule blocks of writing time • Schedule far in advance of deadlines • Choose days that tend to be less demanding than other days of the week • Create a recurring schedule with scholarship blocks • Use an electronic calendar • Make electronic calendar available to others so they may see your availability (outside times blocked for scholarly productivity) • When meeting with others, schedule time-limited appointment • Consider scheduling a "research sabbatical" aimed at completing selected research tasks
Maintain focus on research program	<ul style="list-style-type: none"> • Select opportunities that advance research program (e.g., student work, commitments) • Engage your clinical teaching and service in support of your science • Remove undue drifting to other "interesting topics" • Develop a way to work with multiple students on one project that also contributes to program of research
Involve a team	<ul style="list-style-type: none"> • Delegate work to divide labor among team members • Seek early peer review for potential revisions • Actively enlist support to facilitate research productivity at the school level
Reward yourself for achievement	<ul style="list-style-type: none"> • Plan rewards for achieving "to-do's" • Reward completion of parts of large projects instead of waiting until the entire project is finished
Manage potential distractions	<ul style="list-style-type: none"> • Create a work environment that is free from external distractions <ul style="list-style-type: none"> • Schedule work in a "secure" or cloistered setting • Create a physical space where you keep your materials "set up" and ready • Turn off visual and auditory interruptions (e.g., email/text alerts, phone) • Determine potential internal distractions and create a separate list so when these distractions develop, they can be briefly recorded and dismissed from thought to focus on the work at hand • Avoid multitasking as this leads to unnecessary distractions and does not increase productivity
Problem solve and manage of barriers	<ul style="list-style-type: none"> • Honestly appraise barriers • Discuss possible solutions with mentors and peers • Trial barriers management strategies and assess for effectiveness
Balancing life	<ul style="list-style-type: none"> • Get adequate rest, sleep, and regular physical activity • Set aside time for relaxation and downtime
Analyze progress and time management strategies periodically	<ul style="list-style-type: none"> • Reassess of research productivity after instituting potential solutions—continuous quality improvement • Reassess major goals at least quarterly • Consider using "productivity" or "project management" software

Robert Topp (Marquette University)

A researcher's productivity within an academic environment is often measured in terms of "deliverables" produced within a unit of time. These deliverables are outcomes of a researcher's scholarly activity and are often considered quantifiably and qualitatively. The nature of these deliverables vary between institutions but commonly include publications, presentations, proposals submissions, funded research, service as a reviewer or editor, and mentorship of students and fellow faculty. A common misconception is that productivity is directly proportional to the time spent completing a deliverable. There is some truth that increased time focused on the development of a deliverable generally predicts the quantity and quality of the product. This definition of productivity also includes the unit of time. In fact, occasionally, the time spent developing a deliverable produces a curvilinear relationship in which excessive pondering and time spent dilutes both the quality and quantity of the deliverable. For example, two researchers produce the exact same high-quality deliverable, say a manuscript for publication. If the first researcher produces his or her manuscript in 3 months, he or she would be considered more productive than the researcher who produced the manuscript in 6 months. Thus, time is a critical component of research productivity in an academic environment. In addition, effective time management directly contributes to an individual's productivity as a researcher.

Time Drain

A common trinity of phenomena can divert one's ability to effectively manage his or her time and be an effective researcher. The word *trinity* is used because these phenomena are defined separately but seem to manifest in combination. These phenomena include procrastination, attending to interruptions, and a lack of discipline. Procrastination often begins by attending to an interruption from work, which is accompanied by a lack of discipline to maintain focus on the original activity. The interruption and lack of focus allow one's attention to be drawn to the distraction and result in further procrastination, which begins the cycle anew. Procrastination is postponing or needlessly delaying a high-priority unpleasant activity in favor of a more pleasant but low-priority activity. Attending an interruption is defined as the temporary cessation of a goal-directed activity, which distracts productivity from the desired goal. Some examples or sources of interruptions for researchers include email, phone calls, text or instant messages, and visits from coworkers. The average knowledge worker, which includes researchers, has been observed to switch tasks every 3 min, and once sufficiently distracted may require up to an average of 30 min to resume the original task. Interruptions and the requisite recovery time have been reported to consume 28% of a worker's day (Aloher, 2008). Finally, discipline is defined as the ability to motivate oneself to attend to a task in spite of the presence of distractions. Qualities associated with discipline include hard work and persistence. Therefore, a lack of discipline is the lack of motivation to discount distractions through the use of hard work and persistence.

This combination of procrastination, attention to interruptions, and lack of discipline not only results in activities that commonly do not contribute to the original goal but also requires the individual to spend additional time reorienting to the original task. For example, a researcher with poor time management skills is engaged in a search for a manuscript addressing topic X. During a search, the researcher receives an email from a colleague which contains a manuscript on topic Y which, although unrelated to the original topic X, piques his or her interest and he or she decides to read the manuscript dealing with Y instead of continuing to search for articles on the topic of X. After reading the topic Y manuscript, this

researcher must then reorient to searching for manuscripts on topic X and account for the time spent reading the topic Y manuscript. This example illustrates how attending the interruption from a colleague combined with the researcher's lack of discipline to continue his or her search for a manuscript on topic X contributed to the researcher's delay in task completion or procrastination. Both novice and experienced researchers are constantly confronted with the trinity of procrastination, attending to interruptions, and a lack of discipline that diverts their ability to effectively manage their time and to be a productive researcher.

Peck (2003) was one of the first to recognize the negative effects that procrastination, attention to interruptions, and a lack of discipline have on productivity. To paraphrase this author "Life (conducting research) is difficult and includes pleasant and unpleasant activities. We can either moan about these unpleasant activities or work to complete them." Another way of thinking about this is if one engages in less procrastination, less attention to interruptions, and increased discipline during the unpleasant activities, these activities will be completed more quickly and allow more time to indulge in pleasant activities. If one engages in procrastination, attention to interruptions, and poor discipline during unpleasant activities, these types of activities will seem much longer to complete and in turn compound the perception that the task is unpleasant. This pessimistic perspective of a research career can be addressed through developing the skills of effective time management, minimizing procrastination and interruptions, and enhancing discipline particularly when engaging activities the researcher finds unpleasant.

Time Management Techniques

There are a variety of approaches to time management that minimize procrastination, minimize interruptions, and enhance discipline particularly when engaging research activities. Time management involves allocating time to activities that will help achieve goals. Approaches to time management include monitoring, setting goals, prioritizing, planning, delegating, and analysis of time spent. Specific examples of these approaches are listed below:

Monitoring

- During the time you have allocated to work on a task, keep a log to identify how you actually use your time (be honest)
- Identify common examples of your habits of procrastination, attending to interruptions, and a lack of discipline.

Setting Goals

- Identify and record *all* the objectives you wish to achieve. Each of these objectives needs to include a measurable component for the outcome and a time limit within which the objective will be obtained.
- Once you have recorded these goals, determine which are under your direct control and are realistically attainable within the time limit you have determined. For example, the goal of having a coauthor revise a section of a manuscript in 2 weeks is not something a researcher has direct control over.

Prioritizing

- Once all of the goals to be achieved within a unit of time have been identified, arrange them in order of priority.
- Work on the highest priority goal first and consistently until you have achieved the goal or have temporarily exhausted the available resources to achieve the goal.
- Avoid “dual tasking” or working toward two or more goals simultaneously.

Planning

- Make daily “to do” lists each day and cross off items you have completed.
- Break tasks into components you can handle within time available.
- Effectively use *all* of your time. Always have something to read with you. Other examples include reading on the bus or while waiting for your teenage daughter or son.
- Amass resources prior to beginning a task.
- Minimize opportunities for interruptions. Work is an activity but is often thought of as a place. Some of your best work may not be completed in your office. Pay attention as to where you are most creative and where you can best focus. Your office may not be the most efficient place to work (e.g., work in the library or an abandoned office, turn off your cell phone, disable the Internet, place a sign on your office door indicating you are unavailable for a specific time).
- Plan rewards for achieving “to do” items on your list, including planned unproductive activities (e.g., Facebook for 10 min, reply to nonurgent emails for 10 min, walk around the building for 10 min)

Delegating

- Handle snail mail and email items only once.
- Update your curriculum vita as you make achievements.
- With each request for a different role at work, ask yourself “Will my participation in this activity contribute to my prioritized goals?” Cultivate the ability to say “no” to opportunities that don’t directly contribute to your prioritized goals.
- Identify tasks that only you can complete and tasks that could be accomplished by support staff. Learn to delegate all or part of the tasks that don’t require your exclusive input.

Analysis of Time Spent

1. If an objective is not being achieved within the expected time frame, identify possible barriers and work to minimize the barriers in the future.
2. Periodically reevaluate your habits of procrastination, attending to interruptions, and a lack of discipline. Have you been able to change them?

A productive research career is predicated upon effective time management. Effective use of a researcher’s time contributes directly to his or her research productivity and allows more time to pursue pleasant activities. Procrastination, attending to interruptions, and lack of discipline commonly contribute to ineffective time management and result in low levels of research productivity. The researcher can minimize the negative impact of these drains of productivity through monitoring activities, setting goals, prioritizing, planning, delegating, and analysis of time spent on a task.

Carol E. Smith (University of Kansas)

Research productivity is gauged by written activities such as grant submissions, publication, and evidence-based policies. Productivity in writing research grants, reports, and articles is influenced by an intricate series of written work and the time required to perform these tasks.

Thus, research is based on taking the time to keep writing. Time must be scheduled before calendars become full of meetings, committee, or nonrequired teaching obligations. And for effective writing, scheduling in blocks of 2 up to 8 hr of time is necessary. Typically it's best to double the time first thought necessary for a specific piece of writing and then schedule that "doubled" time writing in your calendar. Also note on the calendar exactly what is to be written in that time (i.e., article outline, aim page revision, etc.). Not wavering from this writing schedule of blocked time and topics is important.

As research writing is valuable time well spent, you must take a stand and say "No" to other competing nonessential activities, then using that time efficiently (without interruption) is key. Interrupted tasks take 50% more time to finish and have 50% more errors. Make it common knowledge to coworkers (put up "Do Not Disturb" signs) you are not available during writing times. But also be aware and control your own self-interruptions such as flipping between books, articles, web browsing (i.e., looking for a reference). It is much more time efficient to jot a reminder note to look for a citation than to stop your writing to look for one. Other interruptions that stop the flow of words include when phones or emails are answered.

One of the most useful tips that numerous faculty have said that they are so please to have coached themselves on is "when to stop writing." Specifically, when you near the end the time you set aside, you will know what you are going to write about in the next paragraphs. So instead of writing those last few paragraphs, just jot down notes of what to write in them. Then when you begin writing at your next blocked calendar session, you won't let yourself waste time by rereading or trying to determine the writing flow. Thus, each blocked session can be started with immediate writing. Making short notes can keep your progress going and provide the track to pick up the next time. Some writers use outlines to keep the flow but most find outlines change too frequently to be helpful. Rewriting outlines often wastes time. Another productive time-saving approach is obtaining peer reviews periodically as your writing becomes more unclear to you, others revisions can save you many "blocked" hours of rewriting.

Other time-saving ideas are using project management software for scheduling of overall tasks such as data entry, preliminary analyses, institutional review board (IRB) recertification, and writing time blocks. Go over this scheduling monthly and delegate any tasks you can. Time can be gained from using other software, which provides results for required reports that are simple and automated. Also employee "performance" software increased from US\$100 million in 2001 to US\$2 billion in 2005. Have your research office provide this kind of "productivity" software for your work.

Tenacity and "stick-to-it-tive-ness" attitudes are also key aspects of time management. Also admitting that writing is hard work and full of frustrations can alleviate those discouraging reactions that stop writing.

Because ideas and creativity are the backbone of writing, it is important to use smart problem-solving habits. Problems that get in the way of writing, including your own multitasking, need to be addressed. Last, writing productivity is also related to one's ability to take rejection. Writing is often rejected but with the need to be revised. So revise!

Marlene Cohen (University of Nebraska)

Existentialists have noted that what we share with each other is that we each have a body in space and time. Time and time management are so universal and central to our lives that many have written about it. Several aspects of time management for the successful academic are important to think about. We are most likely to find time to do what we value and for which we have the skills.

Prioritize/Set Goals

There is nothing so useless as doing efficiently that which should not be done at all.

—Peter F. Drucker

Helen Reddy's song "I Am Woman" proclaims that "I can do anything." Note she says anything, not everything. (I expect this applies equally to men.) Learning when to say "no" is important. Setting goals, ideally with the support of colleagues and administrators, will help you focus and prioritize activities that fill your time. Although we might value volunteering to review grants for a professional organization, doing that volunteer work the same month a grant is due may prevent you from achieving your grant submission goal.

Plan Realistically

I recommend to you to take care of the minutes; for hours will take care of themselves.

—Lord Chesterfield

Part of goal setting is to plan for small aspects of each task. It is useful to break long tasks into sections. We sometimes put off big tasks because they seem impossible, rather than dividing them into manageable tasks. An example I often discuss with faculty is the need to start writing grants well in advance of the deadline. We have developed a detailed timeline of activities and when they need to be completed so that the faculty will start in a timely manner. Perhaps even more difficult is writing manuscripts that have no deadlines. It is useful for me to schedule writing time as an appointment. What pattern works for these appointments is individual, but it is important to think about what works for you. Dividing tasks into portions that can be managed, and scheduling time to do these tasks, will help you to complete the manuscript.

Stay Organized

Do not confuse motion and progress. A rocking horse keeps moving but does not make any progress.

—Alfred A. Montapert

Finding the best strategies that work for you is important. Some write best in short blocks of time—perhaps an hour—whereas others work best with 4- to 8-hr time blocks. Some write best in the morning, whereas others are most effective later in the day. The only wrong approach is not to start or not to devote the time needed to the task at hand.

Preparation is also important and varies among people. I heard a professional writer talk about needing to sharpen several pencils and lining them up on her desk before she started to write. She noted that

this may seem reasonable—but she composes on the computer! Again, whatever works is what you should do.

Team Work

No person will make a great business who wants to do it all himself or get all the credit.

—Andrew Carnegie

Having a team is often useful. Team members help in several ways. They discuss the work, and having different perspectives always improves the outcome. They also share the work, making your “share” more manageable. Finally, when the team sets deadlines, they are more “real” because someone is depending on you for your part. Doing things you enjoy with people you like also helps with motivation to get tasks accomplished. I have had the experience of not wanting to work on a project because finishing it will mean contact with someone I do not enjoy. The reverse holds true as well—wanting to do something so the reward is discussion with the colleague.

Balance (Vacation/Rest/Exercise)

Take a rest. A field that has rested yields a beautiful crop.

—the Roman poet Ovid

Taking time to enjoy family, friends, and activities is essential to maintaining a fresh and creative outlook. Perhaps procrastination will result from failure to refresh yourself. Taking time away may require turning off your phone, computer, and other such devices. Some traditions actually require rest. Taking time to get both adequate sleep and exercise is important as you prioritize taking care of yourself.

A final note to think about:

The only reason for time is so that everything doesn't happen at once.

—Albert Einstein

Nancy Fahrenwald (South Dakota State University)

Every year I write a professional staff evaluation that summarizes my accomplishments in relationship to the goals I set the previous year. Setting realistic goals and reviewing them quarterly are two overall strategies that effectively help me to manage my time. If, after 3 months, I haven't made meaningful progress toward annual goals, I reflect on the barriers I encountered and plan for ways to overcome those barriers in the next 3 months. I also reflect on the factors that facilitate progress toward professional goals and brainstorm ways to capitalize on those things. This quarterly ritual helps me to stay on top of all of the things I juggle in an academic career.

Time management strategies that yield favorable outcomes are highly varied. Here are some more tips. Follow a fairly consistent schedule, but anticipate and embrace an occasional disruption to that consistency! Protect scholarly time by using an electronic calendar that other people can access so that they know when you are available and when you are not available. Schedule blocks of writing time in your calendar and keep that commitment to yourself. Make recurring appointments with yourself and note that you cannot be interrupted except for emergencies. Try to schedule time-limited appointments

with colleagues and students instead of maintaining an open door policy. Collaborative writing and research is a special challenge because each team member differs in his or her approach to time management. Developing and adhering to realistic timelines that are tied to outcomes are vital to strong working relationships.

Barriers to time management are as varied as the facilitators. Lack of healthy self-care is one of those hygiene factors that can disrupt effective time management. Evaluate whether you are committed to regular sleep, physical activity, relaxation, and meaningful life experiences. The balance scale between work and life will swing back and forth over the course of a year, but attention to both sides of the scale is vital. Another barrier to time management is an inability to say no. Opportunities abound, but keep focused on the goals you have set forth when choosing to capitalize on those opportunities. When I was in doctoral school, I asked my mentor for time management wisdom. Her insight was that academic faculty focus on their teaching first and research second. Although this was a fine approach in her mind, she indicated that course materials didn't have to undergo complete revision every year. Her advice for overcoming this barrier was to integrate the scholarship role with the teaching and service roles whenever possible, and to schedule regular writing time into the workweek.

Julie J. Zerwic (University of Illinois at Chicago)

An effective strategy is to schedule research time into your calendar just like you do any other activity. Choose days that you know tend to be less demanding than other days of the week. Depending on what you want to accomplish, you may want to schedule this day as a day away from the office. Working from home or the local library may help you concentrate with few interruptions. This also adds time you would have spent commuting to productive work time.

Working with graduate (and even undergraduate students) on research projects can be very time-consuming, especially if the student chooses a topic that you have little experience with or if you have several students all working on different projects. A colleague and I developed one strategy that was an effective solution. We developed a research proposal and a master IRB template on an aspect of our research on cardiovascular disease and fatigue. We invited interested master's students to conduct this research at their institution. The IRB experience at their institution, data collection, and a paper met their curriculum requirement for a research project. Several doctoral students used this project for their research practicum. Doctoral students also collected data, analyzed the data, and developed the subsequent presentations and publications. All faculty and students involved were coauthors. Subsequently, each of the doctoral students who participated built their dissertations on some aspect of this practicum experience. The faculty were able to model the experience of collaborative research, negotiation of responsibilities, and authorship. This was a very effective time management strategy because I could work with multiple students on one project that also contributed to my program of research.

Lazelle E. Benefield (University of Oklahoma)

Effective time management strategies to enhance research productivity include intellectually acknowledging the time necessary and importance of the work as well as implementing practical time management strategies.

- Acknowledge the primacy of the work by actually scheduling an appointment with yourself, with scheduled recurring appointments on your calendar. Name the topic of the appointment (e.g.,

“appt with researcher” or list the specific task planned). Block this appointment time on your calendar so others don’t assume you are free; hold firm to the commitment.

- Maintain the priority focus of the scheduled time by being unavailable to email, phone, or for in-person interruptions. Schedule the work in a secure or cloistered setting (e.g., in your office with closed/locked door, or in the library or off-site). Create a physical space where you keep writing materials set up and ready, and when the work session is over, make an agenda of “to do” items for the next session while it’s fresh in your mind. You will launch into the next session more quickly.
- Set a timeline detailing each step in your plan of work, for instance, “develop the concept paper” or “draft support letters.” Using a set agenda to frame the time enables you to begin promptly without undue time spent reorganizing. Insert directly into your electronic calendar any copies of materials needed for the “appointment,” this might include a sample methods section to frame your writing, PDF copies of articles helpful to your plan for the time. As you come upon new articles or reports, slot these into future appointments. And it is essential to use a citation management system, Endnote© is but one example to manage references and store articles.
- Consider scheduling a 1-week research sabbatical, during the summer or in early January, aimed at completing selected tasks: finalizing the manuscript, drafting of one or more sections of the next proposal.
- Work toward building a team so that team members cover for each other during busy times. You create opportunities for division of labor as well as champion the project.
- Engage your clinical teaching and service in support of your science. Role model ways to interweave your teaching, service, and research activities to promote this culture of scholarship in today’s College of Nursing. Using this approach, frame your professional and community service to support your areas of research. Aim to focus your area of science in your teaching activities to provide “deep versus superficial” education (à la the Carnegie model of learning), while supporting the advancement of science (yours!).
- Focus, focus, focus on your area of scientific inquiry. Be productive in managing your emphasis area by removing seductive drifting to other “interesting topics.” Latch on to others with expertise, serving in a coinvestigator role to learn the ropes of managing a team. Seek a senior researcher to coach you in bringing a team together and effective strategies to elicit each member’s relative strengths in the area of inquiry. This will enhance your productivity because you are building a team that distributes labor, synergy, and support.
- Value your time. Be benevolent to yourself and others. Early in my research career, I printed my four or five important and priority areas on a single page. These priorities were concrete items or activities, for example, develop research team to include nurse and physical therapist with community focus, develop community linkages for recruitment of caregiver subjects by November 1st, submit the Alzheimer’s Association grant by December 1st, and one manuscript on the NIH caregiving study submitted by April 3rd. I reproduced the page with the priorities in large print and placed the page in a location only I could see, right next to my computer. When a request came in by email, or a colleague stopped by to ask if I could “just do this one small thing . . . xxxx,” I glanced to my page of priorities and then framed my response. If the request for my time, talent, or wisdom did not directly relate to moving one of my priority items to completion, I either deferred for time to think or immediately responded with “what a wonderful

opportunity and any other time I would love to do this, but right now this won't work. May I suggest you consider . . . (I would share another person or another strategy that may not be where they were originally headed but would address their intended goal). If I deferred a decision, my email or phone response would be similar to what I just described. If the request had strong and direct potential to move a priority item forward, I would agree and/or reframe, for instance, "Thank you for the invitation to present XX topic at the statewide aging conference. How about we engage XXX (junior faculty, doctoral student) in this—I know s/he would benefit professionally from the experience and would be good," or "I would be happy to present to your NP students (or the statewide conference), however the topic you suggest is not something I am prepared to discuss. I could do this with a modification; I would be happy to provide a session on XXXXX." The topic now directly related to my stated priorities, and my time is strategically used.

- Be strict with your time, and others. Remember that service responsibilities are not a substitute for the tangible results you aim for in your program of research. Therefore, as a participant in activities, meetings, and communications within the academic and university unit, you must honor others and yourself by arriving on time, providing directed input, and departing at the stated end of the meeting. Allow yourself the opportunity to depart the meeting at the scheduled end time, with the statement "I have another meeting, so sorry to depart."

Cindy M. Anderson (University of North Dakota)

The pattern of research productivity can be likened to an unending circle. The need for success in grant funding is dependent on having publications that demonstrate evidence of investigator ability. To develop a track record of publication, data are required. To collect data, grant funding must be in place, and so on. Such a pattern requires the ability to manage the process of searching out funding opportunities while implementing a research study and writing manuscripts from a completed study. For most nurse scientists, these activities are accomplished in the face of other work demands. Particularly for those establishing research independence, the reality of the expectations and the associated pressures of assuring that research expectations are met can be overwhelming. It is therefore essential that strategies for time management and prioritization of responsibilities are established, effectively promoting research productivity.

Competing demands on time require an approach that links outcomes with a defined process. Careful planning is central to enhancing productivity. Identifying the ideal journal for manuscript submission is an intentional process, requiring a match between type and focus of the manuscript and desired readership. Although most productive researchers are familiar with the primary journals in their fields, the opportunity to respond to special calls presents unique opportunities for publication. Similarly, nurse researchers are knowledgeable regarding funding agencies suited to their areas of investigation. Targeted requests for proposals or special calls may be uniquely geared to a particular aspect of investigation. The time necessary for the detective work required in the process of finding just the right venue for a manuscript or proposal submission represents an additional challenge to research productivity. Steps to automate the process can both save time and reveal opportunities that might otherwise be overlooked. For example, signing up to receive automated notifications from funding agencies regarding upcoming opportunities delivers essential information to your inbox with a minimal investment of time. Similarly, establishing an automated notification of recent research publications in areas of interest can identify new journals for manuscript submission.

Once opportunities are identified, they must be implemented. A plan for making progress toward the end result is critical, as procrastination and competing interests can undo good intentions. This is particularly important for scholarly products that are associated with firm deadlines. A variety of strategies to assure steady progress toward completion of the final product can be successful. The challenge lies in which approach is most suited for each individual. Blocking small periods of time daily works for some, whereas blocking large time periods with less frequency works for others. Unfortunately, the development of the most productive writing style is often trial and error, or simply capitalizing on available time. Completion of the scholarly product in advance of the deadline is most desirable, as this timeline allows for an opportunity for peer review, essential to enhancing submission success. Even if there is no firm deadline, establishment of self-imposed deadlines increases accountability. Involving others in the process of establishing timelines is effective, as external expectations are established beyond one's own.

The individuals most prolific in their research productivity have common characteristics that are conducive to achieving their goals and objectives. The ability to focus and set a course toward achievement of a desired outcome significantly enhances success. Writing as a member of a research team is the correlate to "the sum is greater than its parts," all members being accountable to each other and contributing to a better product. Of course, one of the greatest motivators is the deadline, which is often related to increased activity consistent with the ticking clock. The closer the deadline gets, the higher its priority becomes. Ultimately, flexibility and ease with which one can move from idea to action will determine research productivity for both beginning and experienced researchers.

Vicki S. Conn (University of Missouri)

Research productivity requires considerable time to work with research teams, plan studies, draft competitive grant applications, conduct projects, complete publishable manuscripts, and the like. Several time management strategies have been used successfully by scores of academics. Prioritizing activities is essential. The focus should be on long-term scholarship goals and the intermediate and immediate activities to achieve those goals. Staying busy is not adequate; the busyness must be goal-directed behavior. Many successful scholars develop both 1 year and multiyear goals. They also develop shorter range behavioral goals such as completing the methods section of a specific manuscript this week.

Research success is not an accident. Planning is important. One should never wait for free time to develop scholarship. Time to work on scholarship should be scheduled on the calendar. Scholarship time should be your best thinking and writing time, if you are a morning writer you could avoid other morning appointments. Many people require more than 1 hr for productive writing, so the schedule may need to have longer blocks of time allocated to writing (those 1 hr blocks might be useful for doing specific tasks such as developing tables, findings additional citations, etc.). The personal calendar should have these blocks of time scheduled far in advance, to ensure the time remains available.

Organized scholars are more productive than disorganized researchers. Breaking large projects into manageable chunks can be very helpful. For example, a manuscript activities list might include items such as draft introduction, write methods, develop results, develop [table 1](#), create Figure 2, draft discussion, write abstract, get drafts to coauthors, decide journal for initial submission and secure direction for authors, format manuscript and citations for journal, and so forth. These lists can identify

needed assistance early in the process. It is often much easier to secure assistance from others when the deadline can be generous. Some writers find it helpful to start someplace beside the first paragraph of the manuscript. For example, it may be easiest to write the methods section first. The “to do” list can become a “ta da” list as items completed remain on the list with their completion indicated in some manner (e.g., strikethrough). Each writing session can end with notes in the activities list about what specific work should be tackled during the next work session to avoid time spent deciding the work anew. The electronic file management system should reflect the organized approach to work. Junior investigators might benefit from viewing the file organization used by senior investigators to garner ideas for organization.

Distractions can be devastating for research productivity. One should not underestimate the effectiveness of decreasing immediate distractions: cell/office phone, email and text audio notices, drop in visitors, and so forth. These immediate distractions not only consume time, but refocusing on scholarly activities requires time after the distraction disappears. With practice, we can learn to check these messages every few hours. People we routinely communicate with will eventually learn that message will be returned on the day they were received, but not in the same hour. Internal distractions can be a problem. Some scholars keep a separate list of ideas so when these mental distractions develop, they can be briefly recorded and dismissed from thought to focus on the work at hand. Some people erroneously believe multitasking improves productivity. Multitasking is another form of distraction. Single-task work is more productive, especially for the complex activities required for research productivity.

Making time for research productivity requires avoiding other time commitments. This is often a matter of deflecting seeming urgent needs to achieve important long-term research productivity. Learning to decline these time-occupying activities is important. Table 2 identifies some strategies to gracefully avoid time commitments, which are not a priority. These strategies would be judiciously applied depending on the situation, including the person making the request.

Table 2. Strategies to Decline Requests That Would Diminish Scholarship Productivity

Strategy	Sample Wording
Do not make an immediate decision: the time delay gives you time to really consider whether the activity fits your priorities	<ul style="list-style-type: none"> • Let me think about it and get back to you. • I will look over my other commitments and let you know. • I need to talk with my mentor before making any commitments. • That is an interesting opportunity, I will need to carefully consider my other obligations and get back to you. • I need to examine my other commitments to make sure I would have adequate time to do quality work, I will let you know on Thursday.
Delay additional time commitments	<ul style="list-style-type: none"> • I am unable to assume any new responsibilities until ____ happens (e.g., my grant is submitted next year, I am reviewed for tenure). • I am sorry, I can't help you now, please ask again after ____ happens.
Declare that you are not the right person for the role	<ul style="list-style-type: none"> • I wish I could help you but that is outside my area of expertise. • I am sorry, I don't have the knowledge to help with this problem. • I think ____ would be much more capable of working on this.
Acknowledge an excellent opportunity: this allows you to recognize the importance of the work without becoming personally involved	<ul style="list-style-type: none"> • That is a great opportunity, unfortunately I am unable to participate at this time. • I appreciate the offer to be involved in this important work, I am sorry I can't participate. • Thanks for letting me know about this excellent opportunity, I am sorry I am not in a position to accept this offer.
Blame your mentor (if your mentor agrees to be blamed)	<ul style="list-style-type: none"> • My mentor told me to not take on any additional service responsibilities at this time. • My chair asked me to discuss all time commitments with her/him before making a decision. • My mentor is very insistent that I not join any other committees until my grant is submitted later this year.
Compliment the requestor before declining	<ul style="list-style-type: none"> • I would love to work with you because I know you are an expert in this area, unfortunately I am unable to join the project. • I admire your dedication to this topic, I am sorry I won't be able to work with you at this time. • I would really enjoy working with you because you are an expert, I have to decline this wonderful opportunity. • I am so glad you asked because I admire your work, and I am very sorry to have to decline. • There is no one I would rather work with, I am sorry I am unable to participate.
Express gratitude at being ask, then decline	<ul style="list-style-type: none"> • I am flattered that you think I could help with ____, unfortunately I am unable to be involved.
Avoid specific excuses, unless the excuse is incontrovertible, especially if the inviter is likely to argue about the excuse	<ul style="list-style-type: none"> • I appreciate this opportunity but I'm afraid it just won't work for me. • I am sorry, but I am not able to help you. • You are doing important work, unfortunately I can't help you. • That is not something I do.
Acknowledge that this is an important problem to the requestor without becoming personally involved	<ul style="list-style-type: none"> • I know you care deeply about ____, I am sorry I can't help at this time. • I agree this is a very important problem, unfortunately I won't be able to help. • I see this is an important challenge. I am sure you will find a good solution. Sorry I can't help you develop the solution.
Assume a smaller role than the one offered	<ul style="list-style-type: none"> • I am unable to be a task force member, but perhaps I could offer ideas at one meeting related to my area of expertise. • I can't join as a coinvestigator, but I would be glad to participate in occasional meetings to discuss ____. • I am unable to take on a coauthor role, but I would be willing to comment on a draft of the paper.
Negotiate trade-offs to meet the requestor's needs	<ul style="list-style-type: none"> • I could help you with ____ committee, if I were released from ____ committee. Can you arrange that? • I am unable to join the task force this year, could I become a member next year?

Note: Discretion is required to determine which invitations should be accepted and which should be declined. Declining every request is not appropriate.

Problem solving to achieve research productivity is important. An honest appraisal of barriers to research productivity can be discussed with a mentor to develop potential solutions. Reassessment of research productivity after instituting potential solutions is a vital part of the continuous quality improvement process for becoming more productive. Even brilliant scholars can benefit from a mentor's observation that ceasing nonproductive approaches may be essential.

Finally, time management to achieve research productivity must be recognized at the school level as an important aspect of school success. Chairs, associate deans for research, and faculty mentors can be powerful allies in managing commitments to achieve high research productivity. Researchers should actively enlist their support to facilitate research productivity.

Conclusion

Researchers face numerous perils to productivity related to ineffective use of time. This article has detailed several strategies addressing effective time management. These strategies are founded upon a firm dedication and commitment to a unified goal among researchers: building and maintaining a productive program of research. Researchers should assess their own use of time to determine barriers and facilitators to effective time management. Furthermore, planning and implementing a variety of strategies based on this personalized assessment will encourage changes in time management behaviors. Finally, monitoring progress will promote identification of successes in time management and areas that may need further improvement. Deliberately cultivating time management skills is essential to maintaining a productive and successful program of research among scientists in all stages of their careers.

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