

“I Lie to Myself that I Have Freedom in My Own Schedule”: Productivity Tools and Experiences of Busyness

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ABSTRACT

This paper examines the relationship between experiences of busyness in everyday life and the use of productivity tools, including planners, calendars and to-do lists. Field study findings demonstrate that American individuals across a demographic range have internalized a cultural emphasis of busyness as a moral value to construct positive identities as busy individuals. At the same time, they struggle with a sense of conflict around busyness, reflected in real-life experiences of clashing priorities, fantasies of downtime, and struggles with anxiety, guilt, and loss of control. Our findings also point to the ways digital and non-digital productivity tools are embedded in experiences and coping practices around busyness. Grounded in our observations we propose design principles for productivity tools that support users' identities as busy people but also address some of the perils of the American busyness ethic.

Author Keywords

Busyness, productivity tools, qualitative field study.

ACM Classification Keywords

H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

General Terms

Design, Human Factors.

INTRODUCTION

There is a heavy emphasis in contemporary American culture on busyness, i.e., being in a constant functional, action-oriented state [5]. The jury is still out on whether Americans' work time, paid and unpaid, across genders and occupations, objectively increased or decreased in the past few decades [27 vs. 26]. But busyness is not simply about factually having a lot to do; instead, it is the valuing of “doing more in less time,” as well as concrete practices and habits in individuals' daily lives that instantiate this idea.

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In this paper we examine the relationships between everyday busyness experiences in the US¹ and the use of productivity tools, i.e. digital and non-digital tools and artifacts for managing one's time, tasks, and activities, including planners, calendars and to-do lists. We report on a field study of experiences of busy lives and how people from multiple perspectives and demographic backgrounds cope with these experiences. Our findings show that participants have internalized the cultural norm of busyness, seeing being busy an important part of their identities and establishing this in the ways they use their productivity tools. At the same time, our participants' accounts suggest a fundamental sense of conflict around busyness and its costs. Based on our findings, we suggest design guidelines for productivity tools to both support users' identities as busy individuals and provide alternative responses to the downsides of busyness.

Productivity Tools in a World of Busyness

In American culture, a busy lifestyle at work, home, and leisure may signify an ethic to lead action-oriented, productive lives. When asked how one is doing, people often respond, “Busy, busy.” The value of busyness is so ingrained in work and leisure that for many it is hard to imagine a life that is not busy. This busyness ethic stands in contrast to alternative cultural norms, such as Latin-American expectation of being late, the Italian siesta, and eschewal of production on Saturdays by Orthodox Jews.

In the American cultural context, a common solution for managing a life perceived as busy is to adopt strategies for optimizing what to do at any given moment in order to be highly efficient [4] and get things done [2]. Productivity tools put such strategies into practice. For instance, Remember The Milk is a popular web application for managing one's to-do items (www.rememberthemilk.com), and RescueTime logs and analyzes time spent on computer applications and websites to boost one's productivity (www.rescuetime.com). These two examples are the tip of the iceberg of IT solutions designed to handle ever-more tasks, activities, commitments, contacts, opportunities, and information. These solutions include, for example, email clients that automatically categorize and prioritize incoming

¹ While our findings are limited to the US, research in other countries such as Canada and the Netherlands [10,36] suggests related ideas of busyness may extend to other nations.

messages to reduce cognitive load, awareness tools that help people find the most appropriate times to contact others, online calendars for efficient multi-party scheduling, and personal information management tools for organizing, storing, and retrieving increasing amounts of documents and information in computer desktops and on the web.

Why do Americans, equipped with a profusion of productivity solutions, feel ever more busy? In part, new information and communication technologies, such as cell phones, email, online calendars, and social media and networking sites, offer not only productivity and efficiency, but also affordances for new pursuits and temporal experiences [33]. These experiences include, for instance, fragmentation and micro-coordination of activities [15] and working in unanticipated times and locations between planned tasks and meetings [24]. These affordances may in turn be fostering high levels of busyness.

In this study, we look at how busyness is experienced, enacted, and responded to in everyday life, and show how individuals' mundane experiences materialize cultural-level norms. We specifically examine the role that productivity tools play in these micro-practices of busyness. What does real American busyness look like on the ground, and how are productivity tools deployed in it? Based on this analysis, we suggest how productivity tools can be better designed to respond to people's experiences of busyness.

FIELD STUDY

Previous ethnographic studies have documented everyday activities, coping strategies, and consequences of experiencing busyness in the workplace and the home [5,17]. These accounts mention the use of productivity tools as part of individuals' efforts to maintain order in their busy life pursuits. Another approach focuses on the use of productivity tools, such as calendars [7,22], email [35], and to-do lists [3], acknowledging the busyness norm in everyday work and home life. In this study, we integrate these two approaches to understand the role that productivity tools play in experiences of busyness, following Wajcman's call for

empirical studies addressing the reciprocal relationship between technological innovation and changing time experiences [33]. Between November 2009 and April 2010 we interviewed individuals to understand their daily experiences of busyness and coping strategies, and the use of productivity tools for managing their time and activities.

Participants

In order to include diverse perspectives, we recruited participants from various ages, occupations, and backgrounds. We advertised in community centers, contacted people we thought might have interesting perspectives, and used snowball recruitment. 13 people from a US college town volunteered, each receiving a \$20 gift card for participating. Five participants were males and 8 females, in ages from 24 to 75 years (median=38), and 7 were parents. They varied in economic status and occupation, as shown in Table 1.

Method

We met participants for an interview at the time and place of their preference: their home, workplace, a café, etc. We asked participants to have with them ready the tools they use to manage and organize their time and daily activities. Participants showed us physical artifacts such as planners, appointment books, wall calendars, and to-do lists, as well as digital tools like email applications and phone calendars (Table 1 and Figure 1). Interviews were loosely structured, covering three main areas:

1. Daily activities at work, home, and elsewhere; planned and spontaneous activities; deviations from routine; etc.
2. Tools used for managing time and schedule or record activities; what each tool is used for and how; usefulness of and problems with each tool; etc.
3. Feelings and values of busyness and time and task management; whether participants feel more or less busy than others; if they would like to change how they spend their time; etc.

Pseudonym	Gender	Age	Self identification	Productivity tools discussed in interview
Tammy	F	35	Afterschool childcare assistant director	To-do lists, weekly planner
Sarah	F	32	Mother of 3, part time fitness instructor	Wall calendars
Robin	F	30	Community center childcare staff, returning undergraduate student	Weekly planner, school syllabi, running logbook, to-do list in notepad, email, bills payment notebook
Ben	M	24	Musician and afterschool counselor	—
Gina	F	38	“Professional slipper through the cracks of society”	Weekly planner, journal notebook, home chores list
Diana	F	25	Nanny and community college student	Calendar and notes on phone
Keith	M	48	Delivery company truck driver (married to Margie)	Day timer book, company pad computer, to-do lists
Margie	F	48	Stay-at-home mom (married to Keith)	Weekly planner, wall calendar
Nick	M	49	Artist-activist and musician, single father	Weekly planner, to-do lists, email
Stephanie	F	32	Hairdresser and mother of 3 children	Salon appointment book, personal monthly planner, family wall calendar, email on phone
Kurt	M	75	Retiree, widower, formerly college staff member	Weekly planner
Ann	F	58	University professor and department chair	Calendar, task list, and email on phone
Manuel	M	42	Assistant professor, husband and father of 2	Weekly planner, to-do list on office board, family calendar

Table 1. Field study participants, how they identify themselves, and their productivity tools

Interviews lasted 45-100 minutes, and were audio recorded and transcribed. We used open coding to analyze the data, searching for common concepts and identifying themes that reoccur in the data. We next report on these themes and the uses of productivity tools related to each one, organized into three subsections: a pervasive busyness culture, everyday experiences, and strategies for coping with busyness.

FINDINGS

A Pervasive Culture of Busyness

First, our findings confirmed that participants are enacting a culture of busyness. They described long days full of activi-

ties at work, at home, in school, and elsewhere. Ann, for example, a university department chair, attends meetings, runs a research lab, writes grants, supervises students, and handles emails early in the morning, late at night, and in between everything else. Keith, a truck driver, spends 10-11 hours hustling through his daily delivery route. Sarah, mother of three young children, cares for the family and the house, teaches fitness classes, trains for triathlons, and volunteers at her children’s schools. Even when engaged in fun or leisure activities, our participants seemed task-oriented. For example, Diana describes her packed weekends: “Sometimes I’ll schedule myself so that I’m doing things

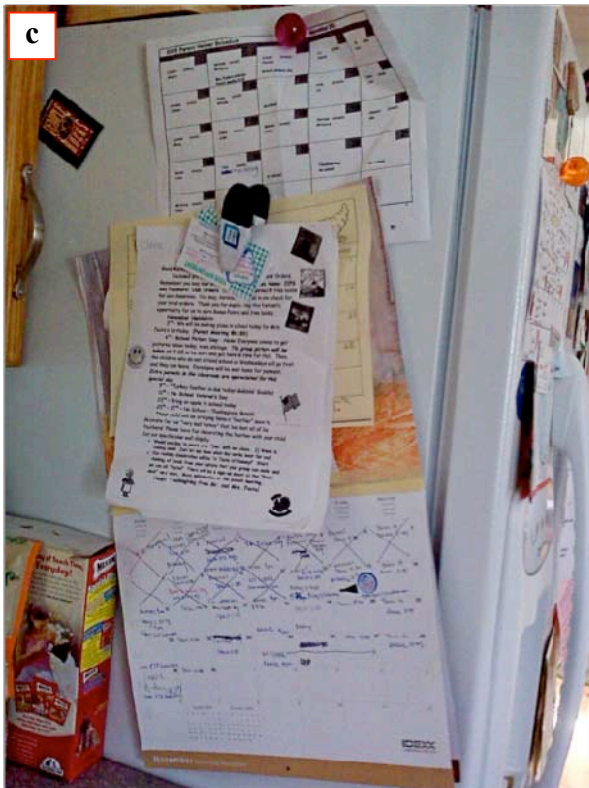
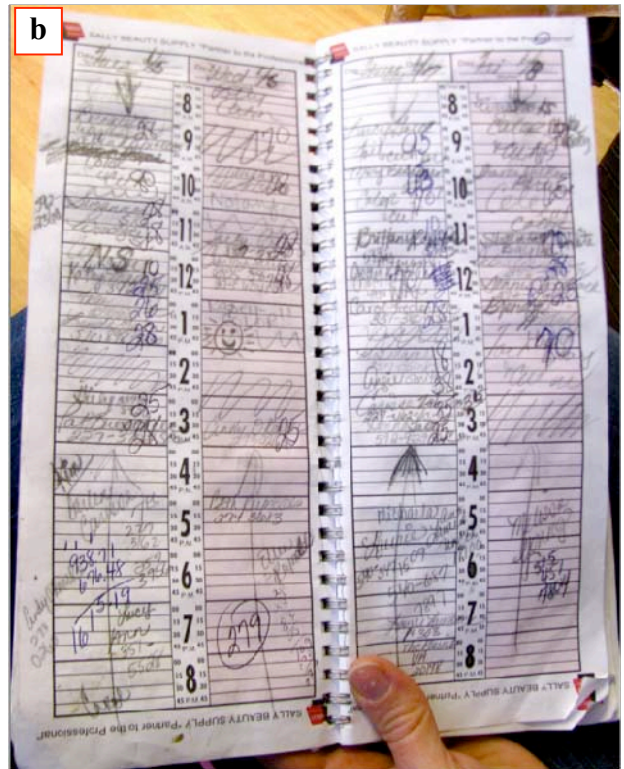
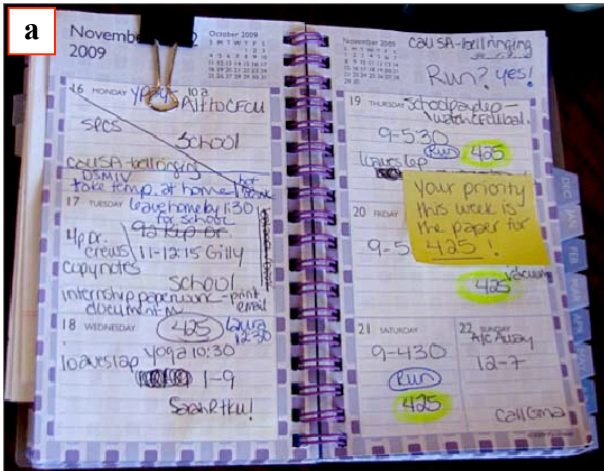


Figure 1. A sample of participants’ productivity tools: (a) Robin’s weekly planner; (b) Stephanie’s salon appointment book; (c) Sarah’s family calendars; (d) Manuel’s to-do list on his office board

straight through the weekend and then if my sister calls me and wants to hang out, I can't 'cause I'm too busy." The one participant who admitted not being busy, Ben, a band drummer and an afterschool counselor, appeared uneasy sharing that he has a lot of free time to "just" hang out.

Being busy, it became clear, is ingrained in how participants view the world and establish their identities in a specific socio-cultural context. Across occupations and stages of life, they consider being busy an important **personal value**: rewarding, fulfilling, and meaningful; as Tammy says: "I try to fill the day with accomplishments, meaning, getting things done. And at night, at my time off, as long as everything that needs to be done is done, then I can relax and feel good about it." Busyness is also seen as a **social norm**, illustrated in the account by Margie, who is married to Keith and mom to Jessica, a disabled 14-year-old:

"My husband thinks I don't do anything all day, that I sit and somehow magically the food appears on the table before or shortly after he arrives home, and the house is clean [...], and the child is taken care of [...]. It was very difficult for me when he broke his back and he was home [...]. I felt like there was somebody over my shoulder and I couldn't get anything done [...]. I'm sure that he went back to work convinced that I did nothing all the time."

Productivity tools seem to play an important role in formalizing one's busy selfhood. Participants often described their days by reading from their tools the details of their activities and tasks and the times in which they accomplished them. They see their productivity tools as essential to their ability to get things done, and as such, supporting their identities as busy people. Robin, juggling a full-time child-care job, studying for a bachelor's degree after a 10-year hiatus, and marathon training, explains the significance of her planner: "I don't fall behind [...]. I know when I have to be some place, and I know what I need to focus on for that day. I can't just do whatever I feel like doing."

But while productivity tools help relieve the anxiety associated with packed schedules and too many activities and tasks, this comes with a price. To keep up, participants describe how they perpetually fill up their planners, calendars, and task managers with appointments and tasks; Nick says about his to-do list, "I'm moving forward but always behind [...] I'm always taking care of old ones but I'm always adding to it." Further, many express fear of losing their tools. Tammy describes a time when she forgot the planner at home: "without the planner I feel anxious because I'm supposed to be working off the list!" These findings indicate a tension between wanting to abide by norms of busyness and the strain that may be associated with this desire.

Experiences of Busyness

Doing and Being

Some participants distinguished between tasks they want to get done with and activities they find rewarding and mean-

ingful. For example, Sarah considers the time spent preparing to go for a workout as wasted, taking away from time of actually exercising. Kurt's morning includes an hour of open-ended reflection and retrospective writing, after which he runs errands and works on house projects. He values accomplishing house projects, but finds deeper meaning in non-task-oriented reflection. Stephanie consciously combines her weekly grocery shopping with spending time with a friend: "we go get coffee, spend our time at Wegman's [supermarket], [...] and it's just like a girls' time. And then we get our groceries, we're getting the job done."

Our participants generally aim the use of their productivity tools for practical tasks and activities. They use these artifacts to plan for, remind, document, and prepare for things to do: appointments, meetings, work tasks, homework, workouts, and more. In this sense, these artifacts are seen as supporting one's **doing** rather than what they define as the more in-depth significance of their **being**. Kurt says about his weekly planner: "It gives me a general structure of what I will be doing, not what I will be thinking or emoting."

However, the prosaic details of routine actions can also be thought of as defining a person's identity. For instance, Sarah knows that getting her children ready for school or waiting for them to finish their karate class substantiate her identity as a mother, even if she does not savor these mundane activities. This is in accordance with the concept of human agency in Giddens' Structuration theory, that humans simultaneously act and reflexively consider the meanings of their actions, thus coupling the concepts of 'human being' and 'human doing' [13].

Accordingly, we found evidence that productivity tools not only play a functional role, but also give a sense of fulfillment, meaning, and identity. Gina, for example, cuddles her planner as she talks about it, calling it "my very best friend." She intentionally chose an attractive-looking planner, and uses it not only for appointments and tasks, but also to record thoughts, feelings, recipes, and books she wants to read. Keith records in his day timer productivity-oriented details such as the time he started his route, number of stops and packages he delivered and picked up, and driving distances. Yet, he considers it a personal diary:

"By filling this out at lunch break and then at the end of the day, it's like markers, it's like chapters in a book. [...] I know if I'm having a good day, bad day, or so-so day. [...] I live and die by this thing. Could I survive without it? Yeah, but I wouldn't have the same sense of... accomplishment."

These findings suggest that productivity tools have a deeper role beyond simply helping people functionally get things done. These tools also help people feel valuable, accomplished, and satisfied; they materialize people's identities and thereby help people both **do** and **be**.

Doing Nothing

When asked, each participant described moments of "doing

nothing” differently: Keith sleeps in and reads the newspaper on Sunday morning; Robin “goofs off” on social networking sites; Nick lingers after a meal instead of doing the dishes; Tammy relaxes on the patio chair. Others say they never really “do nothing”, but sometimes get close: Sarah snuggles with her youngest daughter, thinking in her head what to do next; Kurt watches TV on Sunday nights when he doesn’t feel like “*doing something intentional*”; And Manuel realizes, “*it will be nice just to have a little time in which you are really not using your mind or your body.*”

The latter quote exemplifies a desire for moments of unwinding or relaxation. Stephanie enjoys her 40-minute commute, away from both work and family, listening to her favorite music and sipping coffee. Robin purposely takes Friday nights off: “*you just need to sit there and not do anything and vegetate, because you’re just brain-overloaded.*” Keith, constantly on the rush at work, is appreciative of unplanned downtime: “*If I’m under-dispatched [...], then I’ll do something spontaneous. Go buy a newspaper or go chat with somebody, [...] once in a while the dispatcher screws up and under-dispatches you [...] I take it as a gift from the heavens.*”

At the same time, some participants worry about having downtime. Used to a high pace job, Ann expresses uneasiness when work slows down: “*when there’s a break or in the summer, there is a lot of I-should-be-doing-something guilt that drags along.*” Sarah says: “*There is always something that can be done [...] I’m not really comfortable not doing anything*”. Other accounts indicate a tension between valuing downtime on its own right and justifying it as purposeful relaxation so that one can get back to being busy.

Time for relaxing, unwinding, lingering, or goofing off is similar to the concepts of dead times [24], plastic time [25], British pottering [32], and liming in Trinidad [20]. Whether planned or spontaneous, we found these times to be marginalized and seen as gaps between task-oriented times. They do not appear in participants’ productivity tools, even when planned. Instead, productivity tools are reserved for **doing something**, and moments of **doing nothing** have to fit in the blank spots.

Publicly Busy

Experiences of busyness have a strong social component: one’s daily schedules and activities are often affected by and affect others. First, participants express commitment to activities that involve others. For example, despite Ann’s time-consuming administrative duties, she prioritizes helping colleagues: “*co-professors, postdocs, the people here [...], when they need something I try to make that happen.*” Forgetting or being late to social commitments breaks codes of behavior; Ben admits that he is often late to work, which is “*not a good reputation to have.*” Social commitments therefore reflect ways in which busy identities become real through being performed (or underperformed) for and with others [14].

Productivity tools reflect the importance of such performance through being particularly used to track participants’ activities that pertain to others. For example, Margie marks her daughter’s school schedule in her planner to make sure she is home when Jessica arrives from school. Kurt explains what kinds of activities he writes in his planner: “*If it involves other people, where I need to make contact, and not forget it, I’ll put that. That’s number one.*”

Second, when others are involved, one has to coordinate mutual activities to ensure the flow of their own schedules, which is in itself a source of busyness. Sharing productivity tools is one way to support such mutual coordination, at work and at home. Stephanie’s salon appointment book always stays at work for other hairdressers to add or update appointments if a client calls when she is out; and Sarah writes her weekend workouts on the family calendar and encourages her husband to put his fishing plans there too so that they are each aware of when the other will be out.

However, some participants are reluctant to share their productivity tools with others. Ann, for example, accessing her online calendar on her phone, stopped using the university system that made her schedule visible to others besides her assistant: “*Not that I have anything to hide, it’s just that I don’t want everyone else running my life. [...] When I was on this public one, they’d say, I noticed you have this time from 2 to 3 on Friday, and I would be, that’s my writing day. So I’ve had to block things out a little bit more.*” Similarly, Stephanie blocks personal times using scribbles in her salon appointment book (Figure 1b) so that other salon employees know when not to schedule clients, but don’t know exactly what she will be doing at these times.

These findings suggest a tension between maintaining others’ awareness and retaining privacy and control. Despite efforts to apply IT solutions for shared spaces, activities, and calendars that improve coordination among employees [23] and family members [7,21], there might not be a single solution that fits individuals’ particular understanding of what should be shared, with whom, and when. We discuss some design principles for handling these tensions below.

Redundancies and Inconsistencies in Productivity Tools

Often, participants showed us a range of digital and analog productivity artifacts and tools (Table 1), raising questions about how they deal simultaneously with all these tools. We observed that each tool offers specific purpose, value, function and materiality, seamlessly integrating with the other tools. Robin’s planner (Figure 1a) is a central organizer with pointers to details in her school syllabi, email, running plan, and bill payment notebook. Stephanie maintains a concrete distinction between work and home by keeping her appointment book at the salon (Figure 1b), a family wall calendar at home, and a personal monthly planner in her purse to synchronize between the two. Sarah keeps on the kitchen refrigerator the primary family calendar and “back-up” calendars sent from school with activities, snacks, and

volunteering reminders (Figure 1c). Manuel maintains his schedule in a weekly planner he carries everywhere, and visualizes the “big picture” of his work with a list of tasks and projects on his office blackboard (Figure 1d).

At the same time, one instrument may be used for several, seemingly inconsistent purposes. Robin showed us a Post-It note in her planner that says “wash sleeping bag”: *“I went camping this summer and I still have not washed my sleeping bag [...]. I keep moving the little Post-It note, because I know it’s one thing I can push off.”* Figure 1a shows another Post-It note with a message Robin wrote to herself: *“Your priority for this week is the paper for 425!”* Post-It notes offer Robin two distinct affordances: they stand out for highlighting important tasks, and can be moved around for low-priority tasks. This system makes sense for her, despite its inconsistency to the external observer.

Using tools inconsistently or redundantly may require extra work to maintain them simultaneously, synchronize them, and remember how they integrate, implying a difficulty in creating efficient systems that “work”. At the same time, these “systems” are uniquely created and appropriated for each person’s own purposes and specific needs and as such make sense for them and fit with who they are, and respondents showed little difficulty in managing their integration. We discuss later the extent to which the materiality of physical artifacts may extend to digital productivity tools.

Coping with Busyness

Setting Goals and Priorities

In a busy world where people feel there is a lot to do and not enough time, they must continually negotiate what to spend their time on. Our participants attempt to manage this by setting priorities based on their life perspectives, and, based on these priorities, determine what to do at any given moment. This leads to unique experiences of busyness, where individuals attempt to orient their everyday activities toward identity constructing goals.

For instance, for Nick, parental commitments such as driving his daughter to the mall take precedence over some personal activities as working on his website, but he makes sure nothing interferes with his daily yoga exercise. Diana, who recently moved out of her parents’ home, explains how her goals influence her time-spending choices:

“Setting up goals where I want to be involves time management. If I want to become healthy then I’m going to set aside time to work out, and if I want to be healthy I’m going to have to set a time to go grocery shopping to buy the foods I need. And if I want to go to school, I’m going to have to set aside time to work on my homework. And I keep my schedule open to work a lot, like, I’ll choose work over play now, because I want to save money.”

While the strategy of optimizing activities by setting and following priorities may appear obvious and is a mainstay

of the time-management self-help literature, it is important to highlight that this way of thinking may not necessarily be a natural human condition, but rather a pervasive habit shaped by living in circumstances that call for never-ending activity. In a culture where productivity experts exhort people to prioritize, it is remarkable how widely ingrained this practice actually is, or at least is reported to be. It demonstrates the degree to which a busyness orientation has been incorporated into people’s everyday lives.

We observed, similar to [3], that planning and recording activities and events in productivity tools are often used to highlight one’s goals and priorities. For example, Robin wants to get into a PhD program in psychology and be financially secure after experiencing a divorce and layoff. She writes tasks that pertain to these priorities in her planner and syllabi, marking high-priority tasks using circles, colors, and Post-It notes (Figure 1a): *“I’ve highlighted this 425 because I know I have to sit down and do the research for that paper and that’s really important.”* Sarah writes her teaching schedule and her children’s afterschool activities on the family calendar to highlight their importance, despite those being routine and mostly consistent (in contrast to [7]). And while Tammy writes home chores in her to-do list, Margie does not, explaining: *“things that are ingrained like grocery shopping, laundry, that sort of stuff doesn’t go in there, because it’s just what I do.”*

These findings again suggest that these tools play a broader role beyond offering time and task management or as memory aids. The **use** and **non-use** of productivity tools, for example, recording a task or an event (or not), can be seen as a way one defines what specific details in their life experiences are important, thereby identifying their personal goals and priorities and constructing one’s identity.

Dealing with Conflicts and Constraints

However, life sometimes gets in the way. Keith would rather spend more time with his family and as an athletic coach, and Margie would want to work outside of the house (*“I never really saw myself as necessarily being a stay-at-home mom forever”*). Yet, Keith has to work overtime to provide for Jessica’s living and medical expenses, while Margie does the nursing care. Margie describes how her daily schedule is dictated by taking care of Jessica:

“Basically my day is driven by her. I have to do what she has to have done, because she isn’t physically able to do much of anything for herself. So if she has homework that requires being written out, I have to sit with her and write it out, I’m her scribe. And she has breathing treatments at night, she has feeding that has to be hooked up. [...] So when she’s home and her nurse shifts are done, then I’m her nurse, basically.”

The circumstances Keith and Margie face do not afford simply setting life goals and pursuing activities to achieve them. Instead, they had to readjust their priorities in order to

make peace with real-life constraints. They compensate a little for their pushed-off passions and aspirations: Margie runs a card-making business from home, and Keith coaches adult swim groups on Monday evenings, justifying it as enough to maintain the spark of coaching (“*I go to my island two hours a week and it just realigns my world*”).

We observed that participants use their productivity tools in idiosyncratic ways in coping with conflicts. Manuel writes in his weekly planner with pencil to make it easy to update his schedule; Tammy rewrites unfinished tasks in the next day’s to-do list; Stephanie blocks openings in her calendar knowing she might be running late with clients and will need to catch up; and Ann, so used to double-booking, marks in purple events she will not attend in her color-coded digital calendar. Although productivity tools are often designed within a mindset of “set your goals, decide on the activities that will let you achieve them, and carry out those activities,” users uniquely appropriate their tools to renegotiate goals and revise activities on the fly in a world of changing schedules due to dynamic interactions, conflicts and constraints. Gina eloquently expresses the contradictions involved in these negotiations: “*I’m not as organized as I’d like to be, but I know that without something like this to even deviate from, I’d be completely sunk.*”

Planning

One of the most significant strategies we observed in coping with busyness given changing constraints, conflicts, and responsibilities is planning. Plans, even those not eventually followed, help participants organize and prioritize their activities, coordinate with others, and anticipate what their schedules are going to look like. For example, Ben describes how he had planned to help at a music concert one night and drive his girlfriend to a medical appointment early next morning, setting two alarm clocks to wake up on time. Robin reorganizes her work hours to fit her marathon training plan. Keith follows his daily route with a plan of packages delivery and pickup, their order and addresses, on the company’s pad computer. Although the nature of these plans and the level of control over them vary, participants appreciate having plans because they give a sense of systematicity for getting things done.

Seemingly, our data demonstrate existing stereotypes about the degree to which individuals control their plans, for example, that blue-collar workers are less in control whereas academics can decide on their schedules and tasks. So Ann, a university department chair, can decide if she will travel to Europe for a conference and what research projects to embark on. But facing a myriad of choices of how to carry out her job and struggling to keep up with all the commitments and changes in her daily schedule, she sometimes feels she is losing control (“*I lie to myself that I have freedom in my own schedule*”). In contrast, Keith does not control much of his daily plan (“*I can’t control the number of stops, the number of pieces or how the truck’s loaded, all I*

can do is go faster or slower”), but being able to predict what his day will look like makes him feel in control. This suggests that at a deeper level, **having control** and **feeling in control** are not the same.

Ideally, once plans are made they are to be followed. In reality, they are continually interrupted by impromptu circumstances. Stephanie, for instance, tries to follow the daily plan of clients’ appointments written in her salon appointment book, but occasionally a client is late, causing her to run behind schedule. Thus, despite being important for anticipating what will happen, plans are not deterministic, but open-ended, suggestive, and subject to change. Margie’s plans change frequently because of unexpected school work demands for Jessica or, worse, because of sudden medical complications:

“I like being able to write things down, I like kidding myself that my life is predictable. I could plan to do anything I wanted, and I have accepted now [...] that it’s gonna go up the smoke. If I spend too much time downstairs working and I’m late starting whatever I wanted to do upstairs that day, [Jessica] will inevitably come home with 4 hours worth of homework.”

“We have a family motto to make wishes not plans, because for a long time whenever we would make plans, we’d get tickets to go to something, inevitably she would get sick, and we’d have to give that up.”

Therefore, while productivity tools are designed to rationally make plans and follow them, real life is full of unexpected, changing interactions and situations. This is the core argument in Suchman’s “Plans and Situated Actions” [29], which distinguishes between formal representations of courses of actions and situated real life experiences, and recognizes the dynamic negotiation between the two. Similarly, we do not argue that plans embedded in productivity tools do not matter. They serve an important role in creating feelings of control, order and predictability, negotiating priorities and goals, and as such, constructing identity. This is true even when participants do not create their own plans, when planning happens only mentally, or when plans continually change. The need for order might be a fundamental human trait; as Swan et al. put it, “in ordering things, materially, we unavoidably order ourselves” [30].

DISCUSSION

The results of our study point to two primary topics of discussion: the ways in which participants have incorporated broader cultural norms of busyness into their personal identities through daily experiences and use of productivity tools, and the gaps and glitches in their experiences that suggest underlying conflicted relationship with busyness. Below, we discuss each topic and its implications for the design of productivity tools. Note that our analysis is derived from US-based interview accounts; other cultural

perspectives and additional data collection methods would likely lead to different design opportunities.

Enacting Busyness

Our analysis demonstrates how participants enact cultural norms of busyness through their daily practices. Whether or not they are objectively busy, participants certainly *feel* busy and incorporate that sense into their activities and habits. We do not argue that individuals are ‘cultural dopes’ [11], mindlessly following norms of busyness; rather, given the situations they find themselves in and the cultural alternatives available for them to think those situations through and weigh their opportunities, desires, and values, a focus on busyness becomes a natural choice. An important aspect of this is that busyness is not simply a rational means to an end but has become itself part of Americans’ identity and source of fulfillment. So, for example, participants justify moments of downtime by a need to “charge the batteries,” given the negative value associated with “doing nothing” in their cultural context.

Our findings further suggest that in experiencing and dealing with everyday busyness, productivity tools have a broader role beyond merely offering a way to organize and prioritize many to-do items or coordinate busy schedules. Participants use these tools to renegotiate their goals and priorities, feel socially committed, manage ever-changing real-life interactions, feel in control, and organize not only what they do, but also who they are. As such, these tools are what Foucault calls “technologies of the self” [9]—tools and techniques through which humans constitute themselves, by engaging in processes in which they define and produce the ethical self-understanding of the ‘truth’ of their own thoughts and practices. Further, through idiosyncratic use, personalization, and appropriation of an array of productivity tools, these tools play an important emotional role in their users’ lives. Our findings are underscored by other studies showing that tools embedded in everyday practices extend beyond their original intent, toward constituting one’s personal identity and social values through use and appropriation [e.g., 19,31,34].

Allow Personalization

Our findings show that the idiosyncratic uses and appropriations of productivity tools play important roles in how participants perceive themselves as busy individuals. For example, a calendar book is used by Kurt to plan his upcoming week and anticipate his schedule, by Keith to post-hoc log his work activities and feel satisfied by seeing the details accumulate, by Tammy to list her to-do items and feel accomplished in crossing them out, and by Gina to write down anything that bubbles up in her mind and needs to be recorded at the moment. The material qualities of the calendar book, with pages that can be flipped back and forward and without restrictions for what can be written in them enables a variety of emerging appropriations.

We suggest that designers of productivity tools should welcome unexpected uses as their design iteratively develops beyond mere scheduling or task management. One way to achieve personal appropriation is by keeping the system open for multiple interpretations of how it should be used and experienced [28], where the ‘final design’ is creatively constructed as the user interacts with the system over time [34]. For example, while email was originally designed as a communication medium, people also use it to manage their tasks and archive information [35]. Allowing users to send themselves email and to create email folders allowed for the emergence of these uses. Another example would be to provide easy access to archived calendared events in a digital calendar. This can offer opportunistic reflection on one’s past activities beyond simply managing one’s schedule, translating the idea of flipping pages in a calendar book.

Offer Heterogeneity

A quick review of commercial productivity software reveals “all-in-one” solutions for managing emails, schedules, contacts, and tasks (e.g., Microsoft Outlook, Lotus Notes, and Google Apps), protocols for synchronizing calendars, email, and other data between multiple platforms, and web applications accessed from any browser on any machine. Fusing together or synchronizing tools for various contexts and functionalities offers convenience and efficiency, for example, by automatically sending an email when a meeting has been updated. However, Ann’s decision not to be on the university’s online scheduling system and Robin’s suite of calendars, syllabi, and other tools she constantly synchronizes, exemplify the value one may find in maintaining tools detached from a global system.

We suggest that designers of productivity tools consider the specific, heterogeneous functions they want to support before offering an all-encompassing solution. Allowing users to decide what tools to combine and what to leave unconnected offers an additional dimension of personalization and control, allowing users to choose what fits their own identities as busy individuals.

Gaps and Glitches

The overwhelming majority of our participants made clear that being busy is an important part of their identity, and, furthermore, that they enjoy being busy. Our first set of design implications aims to support these practices. At the same time, conflicts and struggles began to emerge through our conversations that suggest a dark side to the American busyness ethic. First, the pervasive desire to be busy stands in contrast to an anxiety associated with having to keep up with the norm, as well as to a longing for and appreciating relaxation and downtime. Second, whereas participants used productivity tools to maintain a sense of control over their schedules and lives, realizations that this sense of control is illusory glimpsed through their accounts (see also [6]). Third, our findings point to a mismatch between supporting public awareness and retaining privacy and control

over one's schedules and activities. Fourth, participants perpetually readjust plans and renegotiate priorities to settle conflicts and constraints between what they find meaningful and what needs to be done.

These findings suggest a significant design opportunity for productivity tools that take into account these forgotten or marginalized aspects of busyness experiences. We are inspired in this by Dunne and Raby's notion of designing for neglected, negative aspects of human experience as a design ethic [8], as well as by Agre's call to open up new spaces for design by inverting core design assumptions [1]. In the case of productivity tools, the design of tools for time, task, and activity management tends to centralize concepts of rational planning, "getting things done", and a fast pace of life. In contrast, neglected but valued aspects of people's experiences with busyness – spontaneity and dynamic interactions, downtime, and slowness – are marginalized, opening an opportunity for alternative design.

Design for Underload and Slowness

Current productivity tools are designed with the assumption that one can better cope with busyness by becoming more efficient and productive. For example, a task manager that keeps track of many to-do items and a scheduling system that helps juggle many appointments relieve the burden of having to keep everything in one's mind. However, these systems are designed within a mindset that one *should* have a lot of to-do items and appointments and that one *should* juggle and manage rather than cut them back.

Our observations suggest that the other side of busyness—slack, inefficient time use, downtime, and slowness—is predominantly ignored in productivity tools. Instead, designers could acknowledge a fundamental need for inefficient downtime, non-functionality, slowness, and gaps between busy times [25,32]. HCI researchers have successfully introduced purposeful slowness into the home and leisure domains [12,16]; this may also benefit businesses and organizations [18]. For example, purposefully delaying email delivery (e.g., realsnailmail.net), while it has drawbacks such as email arriving too late, might in turn evoke reflection on one's level of commitment and about opportunities versus losses in inefficiency and non-productivity.

Highlight Situated Interaction

Productivity tools are designed to help cope with busyness by helping create formal representations of one's daily actions, tasks, and schedules. Our findings, however, suggest that participants incessantly negotiate between what the formal plan pushes toward and dynamically changing daily interactions, experiences, conflicts, and constraints.

We suggest that designers should be wary about creating representations in productivity tools that immerse users in them too much. For example, calendar systems may assist in scheduling multi-party meetings, but everyone must represent all their engagements in the system, "blocking" per-

sonal times [23], not leaving room for spontaneity and unmediated engagements. Instead, acknowledging and emphasizing the opportunistic, plastic character of the openings in one's schedule [25] as well as the ephemeral, improvised nature of plans and other formal representations [29] may help downplay the authority of the system and prepare users to better handle unexpected situations.

CONCLUSIONS

Our empirical analysis demonstrates that our relationship with busyness is more complex than that suggested by a simple emphasis on efficient "getting things done" in the manner that drives much of the research and design of productivity tools. While American users of productivity tools have internalized cultural norms of busyness, engagement with productivity tools is not simply an attempt to optimally organize one's schedule and activities, but also includes significant social and emotional dimensions. Engagement with productivity tools is accompanied by a sense of pride in accomplishments, personal feelings of control over one's life, and constructing and reflecting on one's identity. Awareness of these dimensions affords new design opportunities for productivity tools to support not only busyness management but also the emotional and personal journeys through which users are traversing in their lived experiences and identity construction.

Our observations of gaps and glitches in everyday experiences of busyness further suggest a more intricate perspective on busyness than simple idealization. Our participants detailed significant challenges they experience when coping with their busy lives, including guilt or anxiety over how well one measures up to the cultural ideal of a busy citizen, moments of awareness of an actual lack of control over one's schedule despite a superficial sense of freedom, or inability to engage in downtime. The conflicts with what it means to be a busy person suggest an opportunity to intervene with design for alternative values. Our current endeavor in this direction is the GoSlow program that plugs serendipitous moments of pause and reflection into a calendar on one's mobile phone. This highlights the ideas of designing for underload, but can be taken up by users in many different ways and in various contextual situations.

Our work raises questions about the larger context within which productivity tools are embedded, a fast-paced culture with a strong busyness ethic seen as a personal value and a social norm. While redesigning productivity tools may not necessarily change cultural norms, our design suggestions highlight the ethical responsibility of designers to take an active role and make informed choices instead of succumbing to cultural norms allegedly beyond their control. Despite socio-cultural forces, technology may be designed to open a window for slowing down and self-expression as well as speeding up and uniformity.

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