

**WORKPLACE CHRONOTYPE BIAS, FLEXIBLE SCHEDULING, AND
PERFORMANCE BELIEFS**

by

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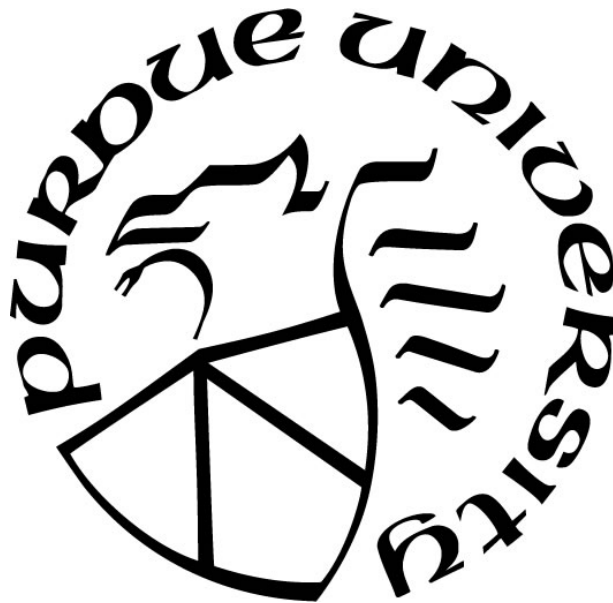
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I dedicate this project to night owls and early birds alike.

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ABSTRACT

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Workers who request a flexible schedule to accommodate their biologically-determined sleep-wake cycle (chronotype) may face prejudice if supervisors perceive them, particularly “night owls”, as lazy or unconscientious. Such bias may be exacerbated in organizational cultures characterized by stability and control. Thus, chronotype bias was examined in a 2 (rigid vs. flexible organizational norms) X 3 (morningness chronotype, eveningness chronotype, educational pursuit/control as reason for a flexible schedule request) online scenario study. Participants were recruited through Amazon Mechanical Turk (N=398) and were instructed to act as managers to decide whether to approve a fictitious employee’s request for a flexible schedule. Organizational culture and reason for schedule request were orthogonally manipulated in the scenarios. Ps completed measures of schedule approval (including an open-ended justification item), beliefs about the employee’s performance (job-specific task performance, contextual performance, personal discipline, and conscientiousness), and manipulation checks, as well as measures of their own chronotype. Ps were less likely to approve a flexible schedule request for employees with chronotype-based requests (both morningness and eveningness) compared to control (educational pursuit/control request). Task performance beliefs mediated the effect. Organizational norms had both a direct and moderating effect on schedule approval, such that approval was higher and chronotype bias was weakened in the flexible norm condition compared to the rigid norm condition. Ps’ own chronotype had no direct or moderating effect on

schedule approval. Qualitative content analysis of Ps' justification for the schedule approval decision revealed that Ps justified their decision on the impact of schedule approval on the organization.

CHAPTER 1: INTRODUCTION

Work schedules have long been a topic of interest for industrial/organizational psychologists, especially because schedules can affect health (Martens, Nijhuis, Van Boxtel, & Knottnerus, 1999), work-life balance (Tausig & Fenwick, 2001), and work-family dynamics, such as child well-being and family relationships (Strazdins, Clements, Korda, Broom, & D'Souza, 2006). Flexibility and control over work schedules have been a hallmark of modern job design (Kelly & Moen, 2007). Flexible scheduling has generally yielded positive impacts, such as reduced absenteeism, increased job satisfaction, and increased supervisor-rated performance (Baltes, Briggs, Huff, Wright, & Neuman, 1999), but traditional expectations for total devotion to work clash with a new culture of flexibility, which has been shown to create a backlash against workers who desire flexible schedules (Williams, Blair-Loy, & Berdahl, 2013). Because the predominant work schedule in the U.S. labor force for decades has been a standard daytime schedule (e.g., "8-to-5"), managers are likely to assume that this is the schedule under which subordinates will be most productive. However, there are many reasons why this time frame may not be ideal for everyone. Factors such as caregiving responsibilities and job type can affect the need for flexible scheduling, but the managerial/organizational decision to allow (or prohibit) flexible schedule arrangements is often related to individual differences among both supervisors and employees such as race, gender, socioeconomic class, parental status, and others.

This paper examines the effects of bias against flexible scheduling requests with respect to an individual difference that has not been widely studied in the industrial-organizational literature: chronotype. I first review relevant literature on chronotype and flexible work arrangements, specifically focusing on whether managers are biased by employees' chronotype in

supporting requests to work flexible schedules in addition to gender and other factors. I introduce performance beliefs (job-specific task proficiency, personal discipline, contextual performance, and conscientiousness) as a possible mediator of the relationship between chronotype and support for flexible schedules, couching performance beliefs in the person-organization/person-job fit literature. Additionally, I propose a moderating impact of organizational schedule norms on the relationship between chronotype and performance beliefs, such that there may be some instances where there may be less chronotype-based bias. I then move to a discussion of the current study, including hypotheses, methods, procedures, results, and discussion of a pilot and full study.

Chronotype

Chronotype refers to the idea that there are individual differences in the time of day in which people perform at their peak. In the common vernacular, terms such as "morning person" or "early bird" versus "night person" or "night owl" are reflections of the extreme ends of chronotype. The specific biological mechanisms for chronotype are discussed below. As with other individual differences and social categories, such as race and gender, there are stereotypes about people with different chronotypes, addressed as "chronotype bias" later in this review.

In biological terms, chronotype refers to the individual difference in preferred timing of sleep and wakeful activity (Nováková, Sládek, & Sumová, 2012). The construct is measured on a continuum ranging from "morningness" to "eveningness" (Roenneberg, Kuehnle, Juda, Kantermann, Allebrandt, Gordijn, & Merrow, 2007). Chronotype has an underlying biological basis, and literature presents evidence for the role of genetics in determining chronotype (Hur, 2007). The brain's suprachiasmatic nucleus (located in the hypothalamus) is responsible for responding to external light cues, called "zeitgebers," resulting in various sleep timing

preferences (chronotype; Roenneberg et al., 2007). Although “normal” chronotypes are characterized by a mean mid-sleep time—the halfway point between sleep onset and sleep end, and best anchor point for melatonin onset (Terman, Terman, Lo, & Cooper, 2001) —chronotype varies widely among humans. This variation is due to differences in phases of entrainment, or differences in external and internal time (Granada, Bordyugov, Kramer, & Herzel, 2013; Roenneberg et al., 2007). Entrainment refers to synchronization of environmental cues (such as light, social cues, and access to food; Stokkan, Yamazaki, Tei, Sakaki, & Menaker, 2001) and internal circadian rhythms. Even though “the differences between extreme early and extreme late types span over three quarters of the day” (Roenneberg et al., 2007), many employees are expected to work traditional daytime schedules, regardless of their chronotype. This is of note for researchers, as an internal and external rhythm mismatch can result in adverse consequences inside and outside the workplace.

Research has linked chronotype to performance on cognitive tasks in academic and workplace settings. Studies consistently find that those asked to perform tasks at times that are misaligned with their chronotype show poorer performance than those who perform tasks at more optimal times of the day (Carciofo et al., 2014; Goldstein et al., 2007; van der Vinne, Zerbini, Siersema, Pieper, Mellow, Hut, Kanterman, et al., 2015; Vetter, Juda, & Roenneberg, 2012). For example, a recent study found that night owl college students whose ACT scores did not significantly differ from those of early birds had significantly lower college academic performance because of social jet lag (sleepiness caused mismatch in circadian rhythm and social/work demands; Smarr & Schirmer, 2018). In shift work specifically, a mismatch of circadian rhythm and assigned schedule is strongly related to decreased performance (Scott, 1994). Literature displays no clear superior chronotype in terms of academic and workplace

performance, although one study found that those with an eveningness orientation displayed higher cognitive ability than those with a morningness orientation, but that eveningness-oriented individuals exhibit less academic achievement than morningness-oriented individuals (Preckel, Lipnevich, Schneider, & Roberts, 2011). Considering this literature, it is apparent that individuals with chronotypes that do not match mandated school/work schedules are disadvantaged in that they may experience more physical fatigue (and display lower performance) when asked to perform. Overall, to the extent that individuals with an eveningness chronotype are forced to be productive at suboptimal times of the day for them, their cognitive abilities may not be fully realized (Smarr & Schirmer, 2018). The association between chronotype and work performance (with confounds such as mandated work schedule removed) has not been empirically examined, although research indicates that sleep deprivation has a strong negative relationship with work performance (Koslowsky & Babkoff, 1992). This finding is more telling of a mismatch of mandated standard daytime schedules and chronotype than of a direct link between chronotype and performance at work. Further supporting this assertion, Taillard, Philip, and Bioulac (1999) found that an eveningness chronotype was associated with less sleep during the week and more sleep during the weekend, suggesting that employees with an eveningness chronotype may struggle to avoid sleep deprivation and its negative effects on work performance. Nevertheless, managers may exhibit bias against eveningness chronotype because they have lower performance expectations for “night owls” (Yam, Fehr, & Barnes, 2014).

The literature also links chronotype to specific personality dimensions, such as eveningness with low perceived conscientiousness (Yam et al., 2014), which can result in stigma against those with a certain chronotype. Research tends to reinforce the perception that night

owls have undesirable personality traits, such as Machiavellianism, narcissism, and psychopathy (Jonason, Jones, & Lyons, 2013). Additionally, associations of eveningness with lower perceived conscientiousness and agreeableness have led to a negative stigma of “night owls,” or those high in eveningness, while “early birds,” or those high in morningness, are associated with higher perceived conscientiousness and self-regulation (Gray & Watson, 2002; Roeser, Obergfell, Meule, Vögele, Schlarb, & Kübler, 2012). It is unclear whether this idea persists because night-owl employees are often forced to work during non-optimal times, thereby decreasing agreeableness and other favorable traits in the workplace. If this is the case, creating a more optimal schedule which accommodates individual differences in chronotype may decrease perceived personality differences between employees and any actual performance differences (which may be a result of sleep deprivation/fatigue), and subsequently decrease the negative stigma against evening types.

Flexible Work Arrangements

The idea of creating work schedules that optimize employees’ needs and preferences is not new. Programs ranging from “flextime” to telecommuting to reduced work schedules have been discussed in the literature and widely implemented in many workplaces (Allen, Johnson, Kiburz, & Shockley, 2013; Hill, Grzywacz, Allen, Blanchard, Matz-Costa, Shulkin, & Pitt-Catsouphes, 2008). Flexibility at work has been described as “the ability of workers to make choices influencing when, where, and for how long they engage in work-related tasks” (Hill et al., 2008). Individual differences affect scheduling needs; therefore, it is important for employees to have some control over their own schedules (Kerin & Aguirre, 2005). Furthermore, using FWAs lower stress and burnout (Grzywacz, Carlson, & Shulkin, 2008), and increases productivity (Pruchno, Litchfield, & Fried, 2000; Shepard, Clifto, & Kruse, 1996). FWAs should

be particularly important for “night owls” or “early birds”, because they are at a disadvantage within the traditional 8-to-5 schedule. Aside from choosing third shift jobs in a limited number of occupations, organizations can offer other options for night owls and early birds, such as flextime (Dunn, Dunn, Primavera, Sinatra, & Virostko, 1987) to allow employees to set their own working hours, or telecommuting, to allow employees to work from home or locations other than the primary work location.

Organizations have been adopting flexible policies for years for various reasons. Some flexibility policies aim to improve the well-being of the worker, whereas some are focused on the benefit to the organization (Hill et al., 2008). This framework notes the difference between granting employees schedules under which they will be successful (worker perspective) and hiring employees who can work odd hours or at a moment’s notice, therefore looking out for the well-being of the organization (organizational perspective; Kalleberg, 2001). Controversy over the organizational benefits of flexible schedules has limited the availability of flexible work arrangements within typical 9-to-5 jobs, which forces many employees (who may have family obligations, another job, etc.) to work nonstandard (often low-quality) jobs (Kalleberg, Rasell, Cassirer, Reskin, Hudson, Webster, & Spalter-Roth, 1997).

Flexibility Stigma

Flexibility stigma refers to bias against those who request flexible work arrangements. FWAs may be associated with actual and perceived career detriments, especially when they are connected to caregiving responsibilities, which can signal to employers that employees are not committed to their careers (e.g., Glass, 2004). As a result of flexibility stigma, requesting an FWA can mean employees may be less respected by managers, viewed as less committed, likeable, and deserving of a promotion, and thus may not be granted flexible schedules (Munsch,

2016). However, the presence and consequences of flexibility stigma toward different chronotypes has not yet been examined. If bias in the workplace indeed exists against eveningness chronotypes, it is then important to examine whether managers exhibit this bias behaviorally, such as denying employees flexible work arrangements on the basis of chronotype. Denial of alternative scheduling based on such a biological and uncontrollable factor would not only be discriminatory, it could result in the unfavorable impact of decreased performance and a possible decline in organizational success. However, before examining the possible mechanisms at play in chronotype bias, it is helpful to reflect on the empirical evidence of flexibility stigma/bias in the workplace.

Industrial-organizational and social psychologists have long been concerned with different forms of bias in the workplace. Scholars define (racial) bias as a “form of category-based responding that includes (typically) negative affect, stereotypes, attitudes, or behaviors” (Czopp, Montiel, and Mark, 2006, p. 784) toward stigmatized group members, but bias could also be displayed against individuals who possess any unchangeable attributes that are undesirable to managers. Literature shows that managerial bias against minorities has measurable negative impacts on employee performance, such as absenteeism and less time spent at work (Glover, Pallais, & Pariente, 2016). Knowledge of bias is vital for workplace well-being, especially because managers frequently exhibit bias against employees who desire flexible work arrangements (Munsch, 2016; Munsch, Ridgeway, & Williams, 2014).

In practice, flexibility operates in a variety of ways, including reduced work schedules, flex-time, reduced time, flex-leaves, flex-careers, and flex-place (Friedman, 2012). Although more companies are starting to offer these flexible options, employees often fear stigmatization for taking advantage of or requesting these options, especially because no legal protections exist

for the right to request work-time flexibility without retaliation (Williams & Boushey, 2010). Managers have the final say in granting or denying flexible work arrangements (Kelly & Kalev, 2006), and factors accounted for in their decision-making process often go deeper than organizational financial concerns. Considering the prescriptive beliefs in the workplace of an unshakeable work-ethic, and expectations about who will work the hardest to be a high-performer, managers' work-ethic beliefs often overshadow other factors (such as financial concerns) as the driving force behind their decisions (Blair-Loy, 2010; Williams, Blair-Loy, & Berdahl, 2013). Moreover, flexible work arrangements are often not utilized, partially because they are considered privileges rather than formalized rights (Perlow and Kelly, 2014). As a result, many managers consider flexible schedules "quid-pro-quo" arrangements (Kelly & Kalev, 2006), only granting them to employees who have proven themselves as high performers in the organization. I further examine the presumed impact of performance beliefs later in this paper.

Some recent literature has examined the presence of flexibility bias against specific types of flexible work arrangements. Namely, flex-place (telecommuting) and flex-time (non-standard start times) have been examined (Munsch, 2016; Munsch, Ridgeway, & Williams, 2014; Yam, Fehr, & Barnes, 2014). Although Munsch (2016) notes that flexplace arrangements appear to be more stigmatized than flextime arrangements, managers still showed bias against employees requesting flextime arrangements.

On the other hand, it is apparent that flexibility bias may not be as widespread among individuals as the extant literature would have one believe. Specifically, Munsch et al. (2014) examined the influence of pluralistic ignorance in opinions of FWAs. They explored the idea that some individuals personally support flexibility, but do not display support because they believe it goes against a perceived corporate norm of inflexibility. In Munsch et al.'s (2014) study,

manipulating the perception of flexible schedule norms within an organization (telling participants that a certain percentage of senior managers work flexible schedules) resulted in significantly more support of flextime requests (but not flexplace requests; Munsch et al., 2014). If flexibility bias is partially a result of misperception of schedule norms, it is possible that changing perception of the norms can alleviate bias, at least for non-standard work hours. Furthermore, if leaders in organizations indeed refuse to endorse flexibility, it is likely that employees will avoid requesting FWAs.

Another factor that impacts flexibility stigma is organizational support for flexible work arrangements (Allen, 2001; Thompson, Beauvais, & Lyness, 1999). Research has shown that the mere existence of flexible policies is not enough to make employees feel justified and safe in using them; organizations must create a culture that is accepting of flexibility. Commonly, organizations support flexible work arrangements as a means of promoting a family-supportive environment. Allen (2001), for example, recognizes the importance of family-supportive organizational perceptions in addition to family-supportive policies and family-supportive supervisors in order to decrease work-family conflict and reduce perceived stigma. Thompson et al. (1999) touted the benefits of successfully building a work-family culture, which include increased utilization of work-family benefits and employee affective commitment. Outside of family-supportive policies, organizations may have cultures that are generally supportive of flexibility/non-traditional schedule norms, or generally maintain a traditional daytime schedule norm. Literature shows that the ability to choose one's schedule (possible in a more flexibility-friendly organization) can be advantageous in adjustment to job demands (Barton, 1994) and maintenance of work-life balance (Williams, 2008). Moreover, it is possible that flexibility stigma may be less common in organizations where flexible schedules are the norm.

In the minds of employers, time spent at work is a common measure of commitment to work. Therefore, requesting an FWA may broadcast to managers that one has competing obligations, which may jeopardize perceptions that one is fully committed to the organization. Consequences of flexibility stigma are numerous and far-reaching. Cech and Blair-Loy found that in a sample of academic scientists and engineers, employees who perceived flexibility stigma (thought others saw them as uncommitted employees, especially if they were parents) had lower persistence intentions, work–life balance, and job satisfaction than non-stigmatized employees (Cech & Blair-Loy, 2014). In the case of professional women, many have accepted flexibility stigma as a norm and do not view actions based on stigmatization as discrimination. As a result, such women may simply leave professional careers because they assume they will not be granted flexible schedules (Stone & Hernandez, 2013). Flexibility stigma may specifically impact women by pushing them out of the workforce, whether such women “opt-out” because there is no flexibility (Stone & Hernandez, 2013), or because they have difficulty advancing in their careers. Indeed, research suggests that women are more likely to be held to stringent time norms compared to men (Epstein, 2004), and are less likely to be promoted because of their schedule needs (Epstein, Seron, Oglensky, & Saute, 2014).

Chronotype Bias

Given the presence of flexibility stigma, it is plausible that there is a bias against employees requesting FWAs to accommodate an eveningness chronotype. Although there is a significant pocket of research on discrimination based on individual differences, there is a dearth of research on the topic of chronotype bias in the workplace. In one of the few workplace (I/O) studies on chronotype bias, Yam et al. (2014) found that managers gave significantly lower performance ratings to those with an eveningness orientation, or “night owls,” compared to those

with a morningness orientation (“early birds”), which was mediated by managers’ implicit associations of chronotype with conscientiousness (i.e., eveningness was implicitly associated with low conscientiousness, which led to lower performance ratings). Additionally, supervisor chronotype moderated these findings such that supervisors with an eveningness chronotype exhibited less bias against employees arriving to work late than supervisors with a morningness chronotype. Moreover, “early birds,” especially those who are male, earn significantly higher incomes than “night owls”, possibly in part because early birds are more typically able to work when they are most productive (Bonke, 2012). The belief that morningness is a preferable trait to eveningness is present in many old adages such as “the early bird gets the worm” and “early to bed, early to rise.” Chronotype appears to be popularly construed as a trait that is chosen rather than one that is determined by genetics and zeitgeber strength (e.g., light exposure), despite scientific evidence to the contrary (Roenneberg, 2012). According to attribution theory (Weiner, 1995), individuals are more likely to hold bias against or blame stigmatized individuals for characteristics that they believe are chosen or controllable, compared to characteristics that are perceived as unchangeable and uncontrollable. Thus, I find it necessary to continue exploring these ideas in an empirical framework.

Considering the previous literature, night owls are generally not as highly regarded in the workplace as early birds. When employees ask for flexible schedules on the basis of chronotype, it calls attention to negative attitudes that supervisors may harbor towards night owls. Therefore, similar to Yam et al., 2014, I hypothesize that bias against night owls exists in managers’ decisions to approve flexible work schedules on the basis of chronotype preference. In other words, I predict that managers will be less likely to approve an employee’s request for flexible

work schedule to accommodate preferred working hours to match their chronotype when the employee has an eveningness chronotype compared to a morningness chronotype.

Performance Beliefs

Research shows that those with later chronotypes may display lower task performance (likely because they are asked to perform at times incongruent with their optimal sleep/wake schedule), and therefore may be assumed to have lower levels of cognitive ability than earlier chronotypes. It may also be presumed that certain chronotypes with lower task performance have lower motivation to complete tasks, but such research has not been conducted to verify this, and as discussed previously, the reality may be that these individuals are too fatigued to perform at the same level as non-fatigued peers. Overall, literature is limited on why managers may specifically view later chronotypes as lower performers (e.g., is it due to perceived lower task performance, conscientiousness, or another construct?). Thus, care must be taken to define performance-related constructs related to chronotype bias.

Although performance has often been assumed to be a singular construct, it is now considered a multifaceted construct that includes several different components (Campbell, McCloy, Oppler, & Sanger, 1993). Campbell et al.'s (1993) proposed performance dimensions have received wide empirical support (McCloy, Campbell, & Cudeck, 1994) and include subjective (e.g., task effort) and objective criteria (absence; counterproductive work behavior) for measuring performance. Specifically, performance components are categorized as job-specific task proficiency, non-job-specific task proficiency, demonstrating effort, maintaining personal discipline, facilitating peer and team performance, supervision/leadership, and management/administration (Campbell et al., 1993). In this study, I focus on job-specific task proficiency, personal discipline, and contextual performance as three relevant components of

performance expectations. Job-specific task proficiency refers to an employee's ability to display the core competencies required of a particular position, and relevant tasks differ depending on the job. Importantly, ratings on this dimension depend on the extent to which an employee can aid the "technical core" of the specific organization, which may depend on managerial perceptions of employee fit. Specifically, night owls may be less likely than morning larks to be perceived as high in job-specific task proficiency. For example, literature notes that night owls may make more cognitive errors than their morning lark counterparts (Carciofo et al., 2014) and score lower on academic achievement (Preckel et al., 2011), thereby decreasing night owls' perceived ability to carry out their assigned role. Personal discipline encompasses avoidance of any behaviors that are counterproductive to the job, such as missing work and breaking rules/norms. This dimension of performance may be particularly relevant to chronotype bias because those with "abnormal" (eveningness) chronotypes may not be perceived as able to adhere to organizational norms (i.e., they likely perform at their best outside of the typical 8-5 work day), and therefore may score low on personal discipline. Thirdly, contextual performance refers to "individual-level behavior that supports the social, organizational, and psychological environment in which task behaviors are performed" (LePine, Hanson, Borman, & Motowidlo, 2000) and, because of its relationship with task performance, may be particularly important in capturing perceptions that employees can handle not only their basic job tasks, but also contribute to the organization outside of such tasks. I elected to exclude leadership and management-related performance dimensions from this study because there is not empirical evidence to support any hypotheses regarding these dimensions.

Past research on chronotype bias has examined the relationship between personality traits (conscientiousness) and performance ratings (Yam et al., 2014). In the personality-performance

literature, conscientiousness has been linked to job proficiency, training proficiency (Barrick & Mount, 1991), organizational citizenship behaviors (Hattrup, O'Connell, & Wingate, 1998) and supervisor-rated performance (Barrick, Mount, & Strauss, 1993). Furthermore, Yam et al. (2014) established that managers implicitly associate high conscientiousness with employees who have early start times for work and used this association to test for managerial chronotype bias against employees with later start times. However, chronotype bias may not simply be a result of low perceived conscientiousness in night owls: it may also be true that night owls are simply not perceived by managers as fitting the traditional employee role, and subsequently not viewed as high performers (specifically on dimensions of job-specific task proficiency, personal discipline, and contextual performance). In other words, it may also be the case that night owls are perceived as unable to do their jobs and as unlikely to perform duties outside of their required job description. Therefore, I will discuss implications of person-job and person-organization fit in workplace chronotype bias.

P-J/P-O Fit and Performance Beliefs

Research shows that performance beliefs can be even more important than actual performance when it comes to employment outcomes such as turnover. For example, Puffer and Weintrop (1991) found that board of director expectations of corporate performance was a stronger predictor of CEO turnover than actual task performance data (e.g., cumulative abnormal security returns). Another study found that older workers were subject to more hiring bias than younger applicants as a result of low adaptability (related to performance) perceptions (Diekmann & Hirnisey, 2007). Overall, investigating the impact of performance expectations over objective performance data on employment outcomes is crucial: it is likely where bias lies. There appears to be evidence supporting the notion that having individual characteristics that “fit” with the

organization means higher performance expectations. Additionally, research on person-job fit shows that employee perceptions of fit are positively correlated with organizational commitment, whereas a lack of fit often results in stress and lower job satisfaction (Saks & Ashforth, 1997). Night owls may specifically be perceived as lacking job fit in traditional daytime schedule jobs. Although I do not include P-J and P-O fit in my hypothesized model, I examine their connection to performance beliefs, which may vary based on chronotype.

Person-job fit refers to a match between the demands and rewards of a job and the abilities and desired rewards of an employee (Dawis and Lofquist, 1978; Judge, 1994). Person-organization fit is a similar concept that extends the conception of fit to a match between the employee's and the organization's "values, goals, and mission" (Lauver & Kristof-Brown, 2001). Person-job and person-organization fit have largely been examined as they relate to organizational commitment and turnover intentions (Kristof-Brown, Zimmerman, & Johnson, 2005); however, considerations of fit are also related to performance beliefs. Beliefs about how an employee will perform on the job may inform perceptions of P-J or P-O fit (Garcia, Posthuma, & Colella, 2008). In this study, researchers also examined the impact of similarity between applicants and interviewers, which appeared to increase perceptions of fit (informed by performance beliefs).

Furthermore, these beliefs may drive organizational decision-making and can uncover biases. As an example, literature calls for more research on disability, job fit, and performance beliefs that drive hiring decisions (Colella, DeNisi, & Varma, 1998). Research on gender stereotypes also points to a lack of perceived job fit and lower performance expectations for women, despite their actual levels of competence (Heilman, 2001). In a similar way, a link between performance beliefs and perceived job/organization fit (or lack thereof) of night owl chronotypes in traditional

daytime schedule jobs may be a reason for chronotype bias, rather than actual differences in performance or fit. On the other hand, I also examine the possibility that different schedule norms (e.g., an organization endorses or does not endorse FWAs) may weaken chronotype bias against night owls.

Schedule Norms

Despite the known benefits of flexible work arrangements, research shows that only 28% of all full-time wage and salary workers vary their work hours (Beers, 2000). This lack of schedule variation may be due to a schedule norm that prescribes a standard daytime schedule to which employees must adhere in order to be successful and to be viewed as committed employees. Various bodies of literature have examined the impact of organizational culture on flexible work options. The competing values framework (Denison and Spreitzer, 1991) notes that organizations often fall under different culture categorizations (i.e., group, developmental, rational, and hierarchical). This framework focuses on the balance between competing dimensions of stability and change, as well as the values of the internal organization and external market. Human relations and internal organizational health are emphasized in a “group” culture. “Developmental” organizations focus on flexibility to meet the changing demands of the external market (assuming the market values more flexible organizations or work must be coordinated across time zones). Both group and developmental organizations align with the demands of a constantly changing environment. In contrast, “hierarchical” organizations focus on the internal health of the organization in order to maintain stability, and “rational” organizations seek to improve productivity by adhering to structure. Overall, group and developmental organizations may tend to encourage flexible work arrangements as a result of a changing environment more than the stable and highly-structured hierarchical and rational organizations.

Organizations also vary in their norms regarding flexible work arrangements. Specifically, flexibility may be encouraged when the demands of the market (external environment), or those of the internal environment/employee, require or encourage productivity at varying times in a 24-hour work period (Sok, Blomme, & Tromp, 2014). Sok et al. (2014) described a similar framework for examining organizational cultures: whereas supportive cultures strive to stay in tune with changing employee needs (including schedule flexibility), innovative cultures strive to maintain flexibility for the sake of the external market (e.g., “just in time” scheduling, or having to work at a moment’s notice). Amazon, which operates on a 24-hour schedule, is one example of an innovative culture. In this case, an employee with an evening chronotype may have an advantage in that they are available when other employees would not be able to work.

Organizational time norms may be important in influencing employee behavior: For example, employees may see a vague promise of later job success and security if they prove their commitment by working additional hours (Snyder, 2016, p. 165). However, as time goes on, more organizations are loosening the rigidity of their schedule norms. Therefore, an increasing number of employees work from home and set their own schedules. In a rapidly globalizing economy, it can be also be advantageous for organizations to have employees working during hours outside of the traditional daytime schedule realm. In this study, I consider the fit of a night owl in a group/developmental organization that encourages flexibility (e.g., Amazon), compared to a hierarchical/rational organization that is relatively inflexible. In doing so, I explore a possible way that night owl chronotypes may experience less bias, and may be viewed as higher-performing than when traditional daytime schedule norms are present.

Current Study

The current study aims to expand the limited literature on chronotype bias in the workplace. There is currently only one published study on chronotype bias (Yam et al., 2014); therefore, I aim to further fill this gap in understanding flexibility (and specifically chronotype) bias. Whereas Yam et al. (2014) established that supervisors possess an implicit bias that associates eveningness chronotypes (operationalized as employee who have a late starting time for work) with low conscientiousness, which in turn predicted low performance ratings, the current study examines whether performance beliefs about employees with an eveningness chronotype impact decisions to approve requests for a flexible work arrangement. Additionally, Yam et al. (2014) test the effects of employee start time rather than actual chronotype differences on workplace outcomes. In such a study, there lies a possible confound of rigid organizational culture which requires schedule conformity; in other words, employees may arrive to work late for various reasons besides chronotype, and face repercussions for violating norms. To account for this, my study manipulates and tests for effects of such schedule norms (hierarchical/rational culture and schedule norms vs. group/developmental culture and schedule norms) on chronotype bias against night owls, as well as manipulating the employee's reported chronotype directly.

Moreover, whereas past research (Yam et al., 2014) has looked at perceived personality traits (conscientiousness) as mediating the relationship between employee chronotype and work outcomes, I examine the mediating impact of a new variable: performance beliefs (specifically, job-specific task performance, personal discipline, and contextual performance). As previously stated, managers who perceive that employees have high job-specific task performance, personal discipline, and contextual performance may be more likely to believe that employees fit with the organization, and are able to sufficiently carry out the responsibilities required in their role. If

these conditions are met, it follows that a manager may be more likely to approve a flexible schedule request, because they assume that doing so will not cause the employee's performance to decrease. In other words, if employees are perceived as being able to "handle" their job already, in a task and contextual sense, managers may feel that flexible schedule arrangements are more justified, and therefore will be more likely to grant them.

Finally, I replicate Yam et al.'s (2014) inclusion of supervisor chronotype as a potential moderator of chronotype bias. Overall, my study explores the theoretical proposition that chronotype bias exists in the workplace and expands on this notion by examining the practical and realistic outcome of schedule approval and denial. I hypothesize that a relationship between chronotype and performance beliefs explains (mediates) why eveningness employees' FWA requests are less likely to be approved than morningness employees, if such bias is found, and explore the potential moderating impact of organizational norms and supervisor chronotype (see Figures 1-4 for hypothesized models).

Hypothesis 1.

Supervisors are significantly less likely to approve a flexible work arrangement for employees high in eveningness compared to employees high in morningness.

Hypothesis 2.

Chronotype is associated with perceptions of job-specific task performance, conscientiousness, contextual performance, and personal discipline such that employees described with a morningness chronotype are rated higher on these performance constructs than those described with an eveningness chronotype.

Hypothesis 3.

Performance beliefs (job-specific task performance, conscientiousness, contextual performance, and personal discipline) mediate the relationship between employee chronotype and flexible schedule approval.

Hypothesis 4.

The direct relationship between chronotype and schedule approval is moderated by organizational norms such that the relationship is stronger in organizations with a hierarchical/rational culture, compared to those with a group/developmental culture.

Supervisor Chronotype and FWA.

Similar-to-me bias (Rand & Wexley, 1975) suggests that people like others who are similar to them. Specifically, Rand and Wexley showed the effects of similarity perceptions on simulated employment interview outcomes (Rand & Wexley, 1975), and other research has examined these effects with race, age (Lin, Dobbins, & Farh, 1992), and personality traits (Sears & Rowe, 2003) in interview outcomes. In studies of existing supervisor-subordinate relationships, perceived similarity between supervisors and subordinates was significantly correlated with higher performance evaluations (Turban & Jones, 1988). Research conducted by Yam et al. (2014) found that supervisor chronotype moderated the relationship between employee chronotype and performance expectations, such that supervisors with chronotypes similar to the employees they were rating gave higher performance expectations than supervisors with incongruent chronotypes. Considering this literature, I test for moderating impact of participant chronotype.

Hypothesis 5.

Supervisor (participant) chronotype moderates the relationship between schedule condition and performance beliefs, such that supervisors with a congruent chronotype (e.g., morning-morning or evening-evening) rate the employee as higher on performance dimensions than if they have incongruent chronotypes.

Gender and FWA.

The literature on gender and flexible work arrangements is plentiful. As I previously discussed, women are less likely to utilize flexible work arrangements. However, the relationships between gender and flexibility bias are complex (Williams et al., 2013; Brescoll, Glass, & Sedlovskaya, 2013), and there is no current literature to suggest that chronotype and gender interact to influence flexible work outcomes. Therefore, I ask Ps about perceived gender of the schedule-requester, but do not manipulate employee gender (employee name is intended to be gender-neutral: A.C. Vicary).

CHAPTER 2: PILOT STUDY

Methods

Participants.

A scenario study was conducted on Amazon Mechanical Turk with a 2X3 (organizational norms: rigid vs. flexible; schedule condition: morning, evening, control) experimental design. Data were collected from Amazon Mechanical Turk workers (N=176) who resided in the U.S., were 18 years of age or older, and worked at least 20 hours per week at a paying job. Ps were compensated \$0.40 for completing the study.

Measures and Materials.

Measures.

Supervisor (Rater) Chronotype.

Chronotype is measured on a continuum, but is often examined in the literature at its extreme ends. For ease of hypothesis testing, literature commonly classifies chronotype trichotomously as intermediate, late, and early (Urbán, Magyaródi, & Rigó, 2011). The most popular instruments used to measure chronotype today are the Munich ChronoType Questionnaire (Roenneberg et al., 2007) and the Morningness-Eveningness Questionnaire (Horne & Ostberg, 1975).

There are multiple chronotype measures in existence, including the often-used Morningness-Eveningness Questionnaire (MEQ; Horne & Ostberg, 1975). The MEQ does not measure chronotype explicitly; rather, it assesses temperature, melatonin, and cortisol levels at different times of day and night. A low score on this measure indicates “eveningness,” whereas a high score indicates “morningness” (Horne & Ostberg, 1975). The MEQ was the first publicized

measure used to assess individual differences in sleep preferences, and did so using a scientifically sound biological method, but was not a comprehensive measure of chronotype.

The newer Munich ChronoType Questionnaire (MCTQ; Roenneberg et al., 2007), which is highly correlated ($r=-0.8$; self-assessment scores; Roenneberg et al., 2007) with the MEQ, builds on the previous measure by accounting for the differences between sleep preferences on free days and work days, sleep time (including time of mid-sleep), activity time, and time exposed to outdoor light. Each of these variables has an important effect on chronotype, and it is of central importance to consider contextual variables related to chronotype and sleep habits to gain a comprehensive understanding of differences in chronotype. For example, in his book Internal Time, Roenneberg noted that those who are exposed to thirty or more hours of outdoor light per week are likely to have bedtimes that are two hours earlier (earlier chronotypes) than those exposed to less than 30 hours of light per week (Roenneberg, 2012). For these reasons, I choose to utilize a portion of the MCTQ (self-reported chronotype and midsleep; see Appendix for full measure) to measure supervisor chronotype in my study.

Historically, chronotype researchers have used a calculation of the participants' midsleep (midpoint between time of sleep onset and natural wake up on free days) as an indicator of their chronotype (Roenneberg, Wirz-Justice, & Meroz, 2003). Participants are then placed into the following chronotype categories based on midsleep range: extreme early (≤ 2 AM to 12 AM), moderate early (3 AM to 1 AM), slight early (4 AM to 2 AM), normal (5 AM to 3 AM), slight late (6 AM to 4 AM), moderate late (7 AM to 5 AM), and extreme late (> 7 AM/6 AM). In this study, I also include a single item 7-point Likert-type scale of self-reported chronotype (similar to Roenneberg et al., 2003; see Appendix A), as quantitative measurement of chronotype (midsleep) was found to be significantly correlated with qualitative/self-report chronotype

classification (Roenneberg et al., 2003). Ps rate their chronotype on the scale, which ranges from “An extremely early morning person” to “An extremely late-night person.” For validation purposes, I examined the relationship between my single item self-report measure and midsleep, as measured by the MCTQ.

Performance Beliefs.

I assessed employee performance beliefs using five-point Likert-type scales (answers ranging from “Extremely unlikely” to “Extremely likely”, “Strongly disagree” to “Strongly agree”). Scales included job-specific task performance (6 items, e.g., “Regardless of when or where the employee is working, I believe that this employee will be productive.”) and personal discipline (7 items, e.g., “I believe the employee will respond in a timely manner to emails, phone calls, and other forms of communication.”). In addition, I used previously utilized scales of contextual performance (16 items; Borman & Motowidlo, 1993, adapted to remove military-related words, e.g., “While performing his or her job, how likely is it that this person would volunteer for additional work.”) and conscientiousness (11 items; Yam et al., 2014, used conscientiousness-related words in a lexical decision task, e.g., “It is likely that this employee is industrious.”). Reliabilities are later reported in the results section.

Schedule Request Approval.

Ps responded to 3 item 5-point Likert scale (1= “Strongly Disagree” to 5= “Strongly Agree”) measure of approval of a schedule request, playing the role of a manager (e.g., “I will approve this employee’s request for a flexible schedule.”, see Appendix C).

Materials.

Organizational Profile.

Participants received information about (and were asked to imagine themselves working in) a fictional professional services firm that had either a traditional daytime schedule norm or

more flexible schedule norms (see Appendix D). I created organization profiles to fit these norms, which were based on the competing values framework (Denison & Spritzer, 1991). Accordingly, the flexible organization represented a group/developmental organization, and included information about an organization in which employees do not need to work at a specific time. Conversely, the rigid organization represented a hierarchical/rational organization, and included information about an organization that “places great value on structure” and has employees who “typically work full eight hours days in the office, from 8 am-5 pm.” For both conditions, amount of narrative information was nearly identical, and the statement “The organization does not have an official policy regarding flexible schedule arrangements.” was kept constant, such that Ps could decide for themselves whether to approve or deny the forthcoming schedule request.

A professional services firm was chosen because it is perceived as a white-collar job category that may be less likely to be subject to disparities in schedule access that have been linked to other job categories, and specifically low-wage jobs (Hammer & Zimmerman, 2011, p. 404). Moreover, flexibility stigma has been documented in professional services firms specifically (Johnson, Lowe, & Reckers, 2008). Additionally, the profession does not necessarily require employees to work at specific times.

Employee Profile/Performance Rating.

After reading information about the organization, the participant read an employee profile that contained information about a fictional employee’s position within the company (see Appendix E). This was a one paragraph overview of the employee’s accomplishments and current duties as a Tax/Advisory Services Senior Associate. I intentionally gave the employee a gender-neutral name (A.C. Vicary) to avoid effects of flexibility bias via gender, as previously discussed.

In addition, I created and included the employee's latest performance review, which contained importance weighting of job-specific and general duties, and ratings on a 1 to 7 scale, with "1" meaning "Does Not Meet Expectations" and "7" meaning "Exceeds Expectations." I gave the employee slightly above average performance ratings, such that the employee received some ratings that fell into the category of "Does Not Meet", "Meets", and "Exceeds" expectations. Specifically, the employee received "Does Not Meet Expectations" on the dimensions of client engagement, office maintenance, and communication, because these dimensions may be perceived as connected to conscientiousness, contextual performance, and personal discipline. The employee received satisfactory ratings on dimensions related to task performance (e.g., financial transactions) so that Ps would not immediately assume that the employee could not perform basic job duties. Overall, moderately positive information was presented about the employee. In support of these decisions, racial prejudice literature shows that individuals may not display bias toward job candidates from stigmatized groups when qualifications are unambiguously low or high, but may be more likely to display bias when qualifications are ambiguous (Dovidio & Gaertner, 2000).

Employee Flexible Schedule Request.

Upon viewing the above information, participants were presented with a flexible schedule request form coming from the fictional employee, who was requesting a flexible schedule because they work best in the morning (morningness chronotype), at night (eveningness chronotype), or because they are taking classes to further their education (control/education condition). The employee was requesting to work during hours of their choosing (adding up to 40 hours per week).

In each schedule request condition, the employee was listed as a senior associate, full-time worker who had met performance expectations and had three years of tenure, and stated that

they could be “fully productive at this time and be able to meet all my client needs as well as be a solid team player.” There was a signature of HR manager line on the form that was left blank for the participant (acting as a manager) to imagine signing/not signing, see Appendix F.

A 2 item manipulation check of the schedule condition manipulation was performed in which participants were asked why the fictitious employee is requesting a flexible work arrangement (work best in the morning, work best at night, or to further their education) and which hours the employee specifically requested (“What was the reason for the employee’s schedule request?”, “What is the new schedule the employee is requesting (which hours)?”). Data from participants who did not pass this manipulation check were excluded from analyses (21.98%).

Additionally, Ps were asked for feedback about salience and realism of manipulations. For schedule condition, I asked Ps the following open-ended questions: “Did the schedule request appear realistic in terms of an actual request that would be received in a professional services firm?” and “What changes would you make to the schedule request form to make it clearer or more realistic?”. For organizational norms, I asked Ps “To what extent do you believe this organization is rigid or flexible with regard to its work procedures?” (1=Very rigid, 5=Very flexible), “On the basis of the information about this organization, how realistic do you believe this organization is as a professional services firm (i.e., a firm that provides services such as information technology, management consulting, accounting, legal services) for clients?” (1=Very unrealistic, 5=Very realistic), and “We’re trying to create an image of an organization that is rigid (flexible) in its attitudes toward employee scheduling. What information do you think would be helpful so that it is clear that this organization is fairly rigid or conventional (flexible and progressive) with regard to its schedule norms?” (open-ended response).

Procedures.

Ps completed an online study programmed in Qualtrics, which randomly assigned them to one of the conditions in the 2 (organizational norms) x 3 (schedule condition) factorial design. Average completion time was 12.5 minutes.

Ps completed three screening items to verify that they were eligible for the study. If the participant did not reside in the U.S., was not 18 years of age, or did not work at least 20 hours per week at a paying job, they were not able to continue the study. If participants passed the screening items, they then answered questions about their chronotype. Next, Ps were asked to mentally position themselves as a manager within an organization that had either rigid (typically 8-5 schedule) or flexible (adjust schedule frequently) schedule norms, and asked questions about the salience and realism of the information. Participants were presented with information about a fictional employee (employee profile and latest performance review ratings) and the employee's request form for a flexible schedule, and then completed a manipulation check for schedule condition. Ps were then asked to state their performance beliefs about the employee on the previously noted 5-point Likert-type scale measures (1=Very low performance, 5=Very high performance) and then to deny or approve the schedule request, using a similar 3 item 5-point Likert-type scale (1=Strongly Disagree, 5=Strongly Agree).

Results**Data Cleaning.**

Data were analyzed using SPSS statistical software. Data from participants who failed screening items or did not complete the study were excluded from the study, as were data from Ps who failed the schedule condition manipulation check (21.98%). This yielded a total sample size of N=71. Participants were 37.3% female, 54.7% White, 6.7% Black, 6.7% Latino/a

(Hispanic), 9.3% American Indian or Alaska Native, 16% Asian or Asian American, and 6.7% did not specify. Participant age ranged from 20 to 66, and the average age was 33.80 years. Additionally, 72.0% of employees worked in a private, for-profit business or firm, similar to the organization simulated in this study.

Tests for normality and homogeneity of variance were conducted. Shapiro-Wilk tests showed that schedule approval was not normally distributed when separated by schedule condition ($p < .05$), although the analysis methods used to test hypotheses are robust to violations of normality assumptions. Schedule approval was negatively skewed. Levene's test was used to test for homogeneity of variance across conditions and was significant for schedule approval across schedule conditions ($p = .04$), suggesting that variance was unequal across conditions.

Scale Reliability.

The four performance beliefs scales and the schedule approval scale were tested for internal consistency. All achieved sufficiently high values of Cronbach's alpha (schedule approval: $\alpha = .89$, contextual performance: $\alpha = .96$, conscientiousness: $\alpha = .94$, personal discipline: $\alpha = .95$, task performance: $\alpha = .82$) allowing interpretation of results regarding the performance mediators.

Descriptive Results.

Overall mean for approval was slightly high ($M = 4.15$, $SD = .92$), suggesting that across schedule and organizational norm conditions, Ps were more likely to approve the schedule request than not. This was unsurprising and reflects the employee information presented, which was moderately positive. Additionally, correlations among performance belief and approval variables were positive and significant at the $p = .01$ level, as expected. Mean differences in approval by organizational norms and schedule condition did not appear meaningfully different. One-way ANOVA showed that there were no significant differences in schedule approval by

schedule condition ($p=.174$) or organizational norm condition ($p=.817$). Effectiveness of manipulation checks was also tested. An independent samples t-test showed a significant difference between organizational norm conditions and ratings of an organization's perceived flexibility ($t(69) = -2.62, p=.011$; rigid condition: $N=36, M=2.89, SD=1.35$, flexible condition: $N=35, M=3.66, SD=1.11$), suggesting that the manipulation was effective. Ps rated the realism of the organizational norm manipulation as somewhat realistic, $M=3.70, SD=1.05$. Narrative feedback suggested that Ps wanted to know how many hours per week employees in the organization worked (40 hours) and thought that it would be more realistic for the organizational profile information to be "up front" about the company culture and expected hours. The schedule condition manipulation was effective, with 78.02% of participants passing. Ps largely viewed the schedule request as realistic, although some Ps expressed that they did not think it would be likely to be approved.

Supervisor Chronotype.

I achieved a significant positive correlation between self-reported chronotype and midsleep of $r=.251 (p<.05)$, showing that the qualitative and quantitative measures of chronotype are correlated. Considering my results, I use self-reported chronotype and midsleep as measures of chronotype to test Hypothesis 5 in the full study.

Perceived Employee Gender.

The majority of participants perceived the fictional employee to be male (85.9%). Independent samples t-tests showed no significant differences in schedule approval based on perceived employee gender or on participant gender, $p>.05$.

Participant Feedback.

Ps answered questions about the salience and realism of manipulations and were also asked about any additional information that they thought should be added to improve the study.

Overall, most participants noted that they thought the study manipulations were realistic, although a few participants expressed doubt that flexible schedule requests would be approved in general in a real organization. Additionally, Ps indicated that the times requested in the morning and evening conditions may not be salient enough. Finally, considering that over 20% of Ps failed the manipulation check, it is possible that Ps overlooked critical details in other materials presented in the study.

Discussion

Participant feedback provided valuable information about materials, which was used in developing the full study. Specifically, I amended the employee performance rating form to show some “Does Not Meet Expectations” ratings to introduce more variability in participant responses in the full study, as well as enlarged, bolded, and highlighted the performance ratings. Richer information was also added to the employee profile, such as how much money the employee’s projects brought to the firm, so that Ps may be more invested in the schedule decision. I also changed the schedule condition times (as requested by some Ps in the pilot study) from 6 am-3 pm to 6 am-2 pm, 10 am-7 pm to 12 pm-8 pm. Additionally, I added an open-ended schedule approval justification item to better understand the reasoning behind Ps’ approval response. Finally, a perceived employee race question was added to the end of the study to investigate effects of perceived race on flexible schedule approval (further investigating flexibility bias). For each new page of material about the fictional employee and organization, I added an item which read, “I have read the above information”, with the option for Ps to click “Yes” or “No”, to ensure that Ps paid attention to the employee and organization information.

CHAPTER 3: FULL STUDY

Methods

Participants.

A scenario study was conducted on M-Turk with a 2X3 experimental design (organizational norm: rigid vs. flexible; schedule condition: morning, evening, control). To increase ecological validity, I utilized a sample that contained a majority of participants with managerial experience. Furthermore, a one-way ANCOVA power analysis was conducted in G*Power 3 using a power of 0.8 and an alpha level of 0.05, which suggested a total sample size of 967 for an effect size of $f=0.1$. Although power analysis revealed an ideal sample size of 967, I elected to not recruit such a large sample. Because data on chronotype bias is limited, I could not be certain of the expected effect size. In other words, my initial sample size estimate could very well be a larger estimate than necessary to detect an effect. I recruited 526 participants (in each of the six conditions, $n>52$) to provide adequate cushion for participants who did not pass a manipulation check or dropped out of the study, and participants were compensated \$0.50 for completion of the study. Ns were slightly different across schedule condition because of a Qualtrics quota-setting error; however, contrasts used for hypothesis testing remain interpretable (West, Aiken, & Krull, 1996).

Measures and Materials.

All measures (supervisor (rater) chronotype, performance beliefs, schedule request approval) and materials (organizational profile, employee profile/performance rating, employee flexible schedule request) are as described in the pilot study methods section, with changes added as noted above. I slightly amended the employee performance rating form to give a more balanced review of the employee (e.g., most ratings fell into the “Meets Expectations” category,

whereas some ratings fell into categories “Does Not Meet Expectations” or “Exceeds Expectations”, see Appendix E). At the end of the schedule approval section, an additional open-ended item (“Why did you approve/deny the previous schedule request?”) was included to gather qualitative data about why participants may have approved or denied the request.

Procedures.

Ps completed an online study programmed in Qualtrics, which randomly assigned Ps to one of the conditions in the 2 (organizational norms) x 3 (schedule condition) factorial design. Average completion time was 15.55 minutes.

As in the pilot study, participants completed three screening items to verify that they were eligible for the study. If the participant did not reside in the U.S., was not 18 years of age, or did not work at least 20 hours per week at a paying job, they were not able to continue the study. If participants passed the screening items, they then answered questions about their chronotype. Next, Ps were asked to mentally position themselves as a manager within an organization that had either rigid (typically 8-5 schedule) or flexible (adjust schedule frequently) schedule norms. Participants were presented with information about a fictional employee (employee profile and latest performance review ratings) and the employee’s request form for a flexible schedule, and then completed a manipulation check for schedule condition. Ps were then asked to state their performance beliefs about the employee on a 5-point Likert-type scale measures (1=Very low performance, 5=Very high performance) and then to deny or approve the schedule request, using a similar 3 item 5-point Likert-type scale (1=Strongly Disagree, 5=Strongly Agree), as well as to justify their schedule approval decision in an open-ended item. Ps were then asked demographic questions about themselves and the fictional employee, as outlined in full in Appendix G.

Results

Data Cleaning.

Data were analyzed using SPSS statistical software. Data from participants who failed the manipulation check were excluded from the study (23.6%), as were data from participants who failed screening items or did not complete the study. This yielded a total sample size of $N=398$. Participants were 53.3% female, 44% male, 0.5% genderqueer/non-binary, and 0.5% did not specify. Additionally, participants were 72.4% White, 8.8% Black, 3.3% Latino/a (Hispanic), 0.3% American Indian or Alaska Native, 9.5% Asian or Asian American, 0.3% Native Hawaiian or Pacific Islander, 2% Other (mixed race), and 0.8% did not specify. Participant age ranged from 18 to 90, and the average age was 36.51 years. I found that 66.8% had managerial experience, and 20.6% had over 5 years of experience in managerial roles. Additionally, 69.3% of employees worked in a private, for-profit business or firm, similar to the organization simulated in this study, and 32.9% of Ps worked in a management, business, science, and arts job, whereas 22.4% worked sales/office jobs.

Tests for normality and homogeneity of variance were conducted. Shapiro-Wilk tests showed that schedule approval was not normally distributed when separated by schedule condition ($p<.001$), although, again, the analysis methods used to test hypotheses are robust to violations of normality assumptions. Schedule approval was negatively skewed. Levene's test was used to test for homogeneity of variance across conditions and was nonsignificant for schedule approval across schedule conditions ($p=.409$), suggesting that variance was roughly equal across conditions.

Using the methods outlined by West, Aiken, and Krull (1996), contrast coding was employed for schedule condition such that I contrasted morningness vs. eveningness (control=0,

morningness=-0.5, eveningness=0.5) and then both chronotype conditions together (morningness and eveningness) vs. control/education condition (control=-0.667, morningness=0.333, eveningness=0.333). Schedule norms were coded as “1” for hierarchical/rational norms, and “2” for group/developmental norms. I tested Hypotheses 1-4 using Hayes’s PROCESS macro, specifically utilizing Model 1 of simple moderation and Model 4 of simple mediation, and Hypothesis 5 using Model 8 of moderated mediation.

Scale Reliability.

The four performance beliefs scales and the schedule approval scale were tested for internal consistency. All achieved sufficiently high values of Cronbach’s alpha (schedule approval: $\alpha=.87$, contextual performance: $\alpha=.93$, conscientiousness: $\alpha=.84$, personal discipline: $\alpha=.87$, task performance: $\alpha=.86$) allowing interpretation of hypotheses tested. See Appendix B for specific items.

Descriptive Results.

Table 1 shows the means, standard deviations, and correlations among outcome (schedule approval) and mediator (performance beliefs) variables. Overall mean for approval was slightly high, suggesting that across schedule and organizational norm conditions, Ps were more likely to approve the schedule request than not. This was unsurprising and reflects the employee information presented, which was moderately positive. Alternatively, Ps could have simply been more inclined to approve the request rather than not. Additionally, correlations among all variables were positive and significant at the $p=.01$ level, as expected. All performance belief measures were strongly correlated ($r=.601-.769$) and approval was moderately correlated with performance beliefs ($r=.406-.449$).

Table 2 displays the means and standard deviations of outcome and mediator variables by schedule and organizational norm conditions. Schedule approval and performance belief means

were highest in the control condition, compared to the morning and evening schedule conditions. Additionally, schedule approval and performance means were higher in the flexible organizational norm condition compared to the rigid condition.

Hypothesis Testing.

I used PROCESS models to test both morningness vs. eveningness and morningness and eveningness vs. control/education condition contrasts simultaneously. I describe contrasts separately for clarity.

Morningness vs. Eveningness Chronotype.

PROCESS Model 4 shows that the direct (total) effect of chronotype (morningness vs. eveningness) on schedule approval was not significant ($b = -0.14$, $SE = 0.13$, $p = .289$), nor were any of the indirect effects (PROCESS Model 4, including all four performance mediators) through any of the performance expectation mediators, $p > .05$. There was also no significant effect of schedule condition (morningness vs. eveningness) on any of the performance expectation measures (see Table 3), although all of the performance expectation measures except contextual performance significantly predicted schedule approval (see Table 3). Organizational norms directly predicted schedule approval, such that approval ratings were higher in the flexible organizational norm condition than in the rigid norm condition, $b = 0.49$, $SE = .10$, $p < .001$ (see Table 2 for means and Figure 5 for effects). However, organizational norms did not moderate (PROCESS Model 1) the effect of schedule condition (morningness vs. eveningness) on schedule approval, $p = .878$. As expected, organizational norms did not moderate the relationship between schedule condition (morningness vs. eveningness) and performance mediators, $p > .05$.

Control vs. Chronotype Conditions.

PROCESS Model 4 revealed that the direct (total) effect of schedule condition (control vs. chronotype) on schedule approval was not significant ($b = -0.20$, $SE = 0.12$, $p = .089$), nor were

the indirect effects (PROCESS Model 4, including all four performance mediators) through conscientiousness, personal discipline, and contextual performance, $p > .05$, see Table 3. Schedule condition (control vs. chronotype) had a significant indirect effect on schedule approval via task performance ($b = -0.06$, $SE = 0.03$, 95% CI: $[-0.131, -0.002]$), partially explaining why schedule approval ratings of employees requesting a flexible schedule to further education (control) were higher compared to those with chronotype-based requests. The relationship between performance beliefs and schedule approval was significant and positive for task performance, conscientiousness, and personal discipline, $p < .05$, see Table 3. Organizational norms directly predicted schedule approval, such that approval ratings were higher in the flexible organizational norm condition than in the rigid norm condition, $b = 0.49$, $SE = 0.10$, $p < .001$ (see Table 2 for means and Figure 6 for effects). Additionally, organizational norms moderated (PROCESS Model 1) the effect of schedule condition (control vs. chronotype) on schedule approval, such that in rigid organizations, schedule condition was significantly related to approval, but not in flexible organizations. The simple slope of schedule condition on schedule approval when the organization was rigid was significant ($b = -0.43$, $SE = 0.16$, $p = .008$), but was not significant when the organization was flexible ($b = 0.13$, $SE = 0.16$, $p = .431$), see Figure 6. Again, as expected, organizational norms did not moderate the relationship between schedule condition (control vs. chronotype) and performance mediators, $p > .05$.

Supervisor Chronotype.

I tested Hypothesis 5 using PROCESS Model 8, which simultaneously tests the impact of a mediator(s) on the relationship between an independent and dependent variable, as well as the effect of a moderator on the relationship between an independent and dependent variable and on the relationship between the independent variable and mediator(s). Self-assessed participant chronotype and midsleep did not moderate the relationship between schedule condition

(morningness vs. eveningness contrast) and performance beliefs in a pattern supporting similar-to-me bias, $p > .05$, which does not support Hypothesis 5. However, analysis using the control vs. chronotype schedule condition contrast yielded a few significant findings. First, the indirect effect of schedule condition (control vs. chronotype) on approval via task performance was significant when self-assessed chronotype was at the mean (Ps rated themselves as neither a morning nor an evening person; $b = -0.05$, $SE = 0.03$, 95% CI: $[-0.130, -0.002]$). Next, midsleep ($N = 206$) moderated the relationship between schedule condition (control vs. chronotype) and conscientiousness ($b = -.12$, $SE = .05$, $p = .017$). The simple slope was significant when midsleep was 1 standard deviation above the mean ($b = -0.27$, $SE = 0.13$, $p = .032$), but not at the mean or 1 standard deviation below the mean. This suggests that a later midsleep (later chronotype) strengthens the relationship between schedule condition (control vs. chronotype) and some performance beliefs, such that those in the control condition (compared to both chronotype conditions) were viewed as lower performers when Ps had a later midsleep. Moreover, the indirect effect of conscientiousness on the relationship between schedule condition (control vs. chronotype) and approval was significant when midsleep was 1 standard deviation above the mean ($b = -0.13$, $SE = 0.08$, 95% CI: $[-0.297, -0.007]$). Midsleep also had a positive significant relationship with task performance, such that those who were later chronotypes rated the fictional employee as higher on task performance ($b = 0.07$, $SE = 0.03$, $p = 0.025$). Additionally, Ps who identified as neither a morning nor an evening type ($M = 3.28$, $n = 38$) were overall the least likely to approve a flexible schedule (rather than extreme morning types), and extreme evening chronotypes were most likely to approve flexible schedules ($M = 3.74$, $n = 30$). Finally, I found a significant positive correlation between self-reported chronotype and midsleep ($r = .478$, $p < .05$).

Perceived Employee Gender and Race.

Most participants perceived the fictional employee to be male (83%) and White (74.3%). Dummy variables were created such that Ps who perceived the employee to be male were coded as 1 and all other perceived genders as 2. Similarly, Ps who perceived the employee to be White were coded as 1 and all other races were coded as 2. Independent samples t-tests showed no significant differences in schedule approval based on gender or race, $p > .05$.

Schedule Decision Justification (qualitative data).

Beyond the mediation hypotheses, I explored qualitative data to gain further insight into reasoning behind Ps' schedule approval rating. I randomly selected 100 data points from the approval justification item (the open-ended item asking Ps to justify their response to the schedule request) and two coders independently conducted interpretive content analysis. Responses were first classified as positive, negative, or null. Sub-coding categories were then included within these primary categories (see Table 4). Once sufficient inter-rater agreement was established (100%), I completed the coding. Frequencies by code are listed in Table 5, and percentages of sub-code responses by schedule and organizational norm condition are listed in Table 6.

Chi-square tests on primary codes showed that schedule justification coding marginally differed based on schedule condition, $\chi^2(4) = 9.066$, $p = .059$, and significantly differed based on organizational norm condition, $\chi^2(2) = 23.561$, $p < .001$. Specifically, 22.36% of Ps in control condition gave a negative response compared to 32.34% in the morning condition and 37.19% in the evening condition. Ps in the control condition were also most likely to give a positive response (67.27%) compared to 53.89% of Ps in the morning condition and 55.37% of Ps in the evening condition. Additionally, 42.59% of Ps in the rigid organizational norm condition gave a negatively coded response compared to 19.78% of Ps in the flexible organizational norm

condition. Unsurprisingly, positive coding was related to increased approval likelihood ($M=4.15$, $SD=.57$), whereas negative coding was related to decreased approval likelihood ($M=2.33$, $SD=.74$), $t(357) = 25.88$, $p < .001$.

Analysis of the sub-codes by study condition (schedule condition X organizational norms) is provided in Table 6. In the rigid organizational norms condition, participants were more likely to opine that the schedule request would be harmful to clients or to the organization when the employee was depicted as having a morningness or eveningness chronotype compared to when the employee was depicted as seeking a flexible schedule for educational purposes (control condition). Conversely, participants were more likely to state that the employee deserved the schedule request when depicted in the educational control condition than in either of the chronotype conditions. In the flexible organizational norm condition, however, employee deservingness – both positively and negatively (undeserving) – was mentioned as a reason for the schedule approval rating when the employee was depicted in the educational control condition than in either of the chronotype conditions. There was also a trend for participants to argue that the schedule request would benefit the organization when the employee was depicted in the morningness condition, and even more so in the eveningness condition, compared to the educational control condition. The qualitative data suggest that when organizational norms are rigid (and hierarchical) in nature, participants who are acting in the role of supervisors are not only less likely to approve a schedule change request, they are particularly skeptical of those who request based on chronotype. By comparison, when organizational norms are more flexible, schedule requests are not only more likely to be approved, participant supervisors believe that a schedule change to accommodate employees' chronotype will be beneficial to the organization.

Positively-Coded Responses.

Many Ps viewed the schedule request positively because they took what the employee said in the request at face value (i.e., “I know I can be most productive at this time”). Ps also paid attention to the employee profile information, which stated that A.C. Vicary is a valued, above-average employee, has a few years of experience, and has taken on large projects and leadership roles. These characteristics were often mentioned in responses coded “employee deserving.” In the control/education condition specifically, many Ps were impressed that the employee wanted to better themselves by furthering their education. They also saw a potential benefit to the organization of having an employee with enhanced job-related skills. Finally, several responses coded as “increases morale” were also coded as “benefits organization”, although in a few “increases morale” responses, organizational benefits were not specifically mentioned (e.g., a response that states the employee will be happier whether or not it directly benefits the organization and that the participant “believe[s] in flexible scheduling”). Specific response examples are listed in Table 7.

Negatively-Coded Responses.

Although the data were positively skewed, there were several negative responses that Ps used to justify their schedule request disapproval. Some Ps expressed frustration that an employee thought they deserved “special treatment”, and one participant noted that employees need to run on the organization’s schedule rather than citing their own preferences as a reason to switch. Others noted that the employee needed to further prove themselves worthy of a new schedule before being granted one, whereas some Ps stated that they were concerned about the employee’s availability to meet with clients if a new schedule were granted. Additionally, other Ps described the difficulty in the employee improving their skills (e.g., communication) if they worked hours during which other employees would not be present. Finally, some Ps noted a

discrepancy between the schedule request and the company's culture (ostensibly referring to the manipulated organizational norms).

Other Observations.

There were some idiosyncrasies in responses, such as responses that were both positive and negative (e.g., thinking that an employee was undeserving of a schedule change, but that giving a different schedule would hopefully increase the employee's performance and benefit the organization). The majority of these responses were found in the rigid organization condition, specifically within morning or evening conditions. Additionally, some people approved the schedule request because it simply seemed like the morally right course of action, and expressed empathy toward the employee (e.g., the participant personally appreciates having a flexible schedule or has seen a flexible schedule benefit someone else). It was common for Ps to give a positive response (willing to approve the schedule request because they view it as more positive than negative), but also note that a "trial period" would be necessary to ensure that the schedule change is indeed beneficial to the organization. These responses reflect a continued skepticism of the usefulness of FWAs, even if employees are approved for them. Participants also noted that the performance areas in which the employee was deficient (communication, most notably) gave them concern when deciding to approve a flexible schedule because they worried that the employee would not have as much face time with clients to work on improving communication skills. On the other hand, Ps in the flexible condition often noted that it would be helpful to have an employee around to communicate with clients when other employees are unavailable. Some Ps viewed the chronotype conditions as illegitimate (e.g., "why should they get to make their own schedule?"), whereas others recognized that the employee would be "most alert" or productive at certain times (coded as chronotype-relevant). Some Ps noted that they were sympathetic to a chronotype-based request, but still felt that approving the schedule could be

harmful to the organization. Similarly, there were Ps who stated that it did not matter whether an employee was deserving of a FWA (i.e., had earned the privilege), but more so whether the schedule change would benefit the organization or not.

CHAPTER 4: GENERAL DISCUSSION

Overall, I found partial support for my main hypotheses. Chronotype bias was present not necessarily against night owls and in favor of early birds; rather, Ps appeared to be biased against either form of chronotype compared to the control condition (education). Specifically, mediation analysis shows that task performance may be particularly important in understanding the relationship between the reason for a flexible schedule request and schedule approval likelihood. An employee who draws attention to the fact that they work best at a specific time of day may be viewed as less productive, perhaps, at different times of the day, as evidenced by lower ratings of task performance for chronotype schedule condition than the education/control condition. Although differences between morning and evening schedule conditions were not statistically significant, mean differences on task performance ratings as well as approval are apparent when comparing schedule condition, with Ps in the evening condition giving the lowest ratings on approval likelihood, and Ps in the control condition giving the highest. Mean differences in approval likelihood may be explained by a belief that the fictional employee in the control condition is proactive or a “go-getter” because they are pursuing continued education. This may signify to Ps that the employee is also proactive in the workplace and able to adequately complete tasks. Notably, task performance perceptions were an important determinant of the bias against chronotype conditions (compared to control) over other performance mediators in this study. Whereas previous research has found evidence that conscientiousness is an important mediator in explaining chronotype bias (Yam et al., 2014), my finding may reflect the assumption that giving employees chronotype-based requests will hinder the performance of the organization (den Dulk & de Ruijter, 2008; Powell & Mainiero, 1999). As expected, all four performance belief measures were strongly positively related to schedule approval likelihood. If

Ps thought that the employee was a high performer, they were more likely to approve the schedule request. This further supports the notion that flexible schedules are largely thought of as a privilege to be earned through performance rather than a right for all employees.

Organizational norms, however, appeared to both predict schedule approval and mitigate the effects of chronotype bias. Ps in the flexible organization condition were significantly more likely than Ps in the rigid organization condition to approve the schedule request, regardless of schedule condition. Furthermore, in the rigid condition, Ps were significantly more likely to approve the education/control schedule request than either chronotype-related schedule request. This finding suggests that in a rigid organization, Ps may only be willing to budge on the stable schedule if they legitimately thought that the schedule change would help the organization. In the case of the education condition, Ps may have thought that an employee furthering their education would only cause a short-term disruption to the rigid schedule and ultimately add value to the organization. In the flexible organization condition, there were no significant differences in approval based on schedule condition. This may be the case because Ps perceived a flexible organization would be likely to grant flexible schedule requests in general, as it would not be a deviation from the norm to do so.

Theoretical Implications

My study provides numerous contributions to the limited theory on chronotype bias in the workplace and expands the literature on flexibility bias, which has often been limited to exploring gender differences and parental status. I expand on Yam et al. (2014) with evidence that conscientiousness is not necessarily the only possible mediator of chronotype bias. Instead of limiting the effects of bias to performance ratings, I also measure bias in a new form: approval of a flexible schedule. Flexible scheduling is a relevant “benefit” as more organizations are

offering flexible work arrangements, but more importantly, I provide evidence that chronotype bias can play out in the form of reward allocation.

In addition, whereas other studies that have struggled to isolate chronotype-specific bias utilize a scenario of an employee showing up to work later than usual but do not specify that the employee works best at this time of day (e.g., Yam et al. (2014), the schedule request manipulation isolates perceptions of chronotype by specifically stating that the employee is most alert and works best during certain hours. By ensuring that it is bias against chronotype that is being measured, I ensure that the study investigates chronotype bias specifically, rather than bias against individuals who choose to arrive at work later for other reasons.

Finally, I push back on the idea of so-called “morning morality” (Kouchaki & Smith, 2014) by finding that chronotype bias is not simply a bias against night owls, but against people who want to work outside of “normal” business hours. This suggests that chronotype bias may have less to do with which times of day individuals want to work and more to do with historically rigid workplace schedule norms. Additionally, a chronotype rationale for a flexible schedule may call attention to possible performance weaknesses, whereas an educational rationale may speak to potential performance strengths. Finally, my manipulations contained requests for schedules with start times that were unusually early (6 a.m.) or late (12 p.m.) and therefore out of the norm, regardless of reason for the schedule request. It is possible that more modest request times (e.g., 7:30 am-3:30 pm) would be viewed as more “normal” and therefore be perceived more positively.

Practical Implications

This study also provides practical implications. By using a majority managerial sample and simulating a situation that managers may encounter in the workplace, I was able to gain a

more accurate understanding of why schedule requests will be approved or not. Although the idea that flexibility is a privilege to be earned was reinforced by some of my findings, I also found that Ps in the flexible organization condition were more likely to grant schedule requests, which speaks to the power of organizational norms to drive decision making. This may also be useful information for organizations, because if an individual manager wants to grant a schedule change, they need to know that they will not experience repercussions for breaking organizational norms. Having the decision-making power (and lack of repercussions) to grant a schedule change is especially important if the schedule change can provide benefits to the organization and increase employee productivity and well-being. If more organizations are able to change their culture to one of flexibility rather than rigidity, they may find beneficial outcomes for employees and the organization overall. As more organizations enter the global marketplace, they may see a value add of employees who are able to stay alert and productive at “odd” hours, rather than casting these employees off as lazy or entitled for wanting to work at certain times of day. From a health and safety perspective, it is prudent for organizations to provide optimal scheduling for early birds and night owls, groups who are at risk for lower sleep quality and sleepiness at work, respectively (Taillard, Philip, Chastang, Diefenbach, & Bioulac, 2001). Moreover, as more employees with various schedule requirements enter and show their value in the workforce, it may suit managers to begin treating flexible work arrangements as an option that should be offered to all employees rather than a reward to be earned.

Additional Findings

Beyond my main hypotheses, I explored the impact of other factors such as participant chronotype and perceived employee gender and race. I did not find evidence for similarity-to-me bias, such that Ps with a congruent chronotype to the employee requesting a schedule were just

as likely as Ps with a different chronotype to approve the flexible schedule. Interestingly, it appears that Ps who have an extreme evening chronotype were most likely to approve schedule requests, perhaps because they are sympathetic to requests that they personally may find desirable or that are outside of the 9-to-5 schedule norm in general.

As previously discussed, chronotype bias is linked to theory surrounding flexibility bias, which is often discussed in terms of gender. Within the flexibility bias literature, researchers report that men and women often experience different (but not consistent) outcomes. In my study, I did not see significant differences in schedule approval based on gender or race, but Ps largely perceived the employee asking for a flexible schedule to be White and male. The case could simply be that it is common to see White men in such professions, so participants tended to imagine that the employee was a White male rather than a person of color and/or female. On the other hand, gender biases may not be a factor so much as whether the schedule request signals performance concerns (e.g., is viewed as an excuse, like chronotype) or performance strengths (e.g., pursuing more education). This finding may generalize to the flexibility bias literature on gender, in which parental needs may be viewed as another form of excuse and result in stigmatization of both men and women. Alternatively, caregiving could also be viewed with more empathy than a chronotype-based request because it is an altruistic duty, and therefore may result in less stigmatization.

Limitations and Strengths

As is typically the case in psychological research, my study contains a few limitations. First, I conducted a simulation study on MTurk rather than using a field design within an organization to test for effects of chronotype bias. To account for this, I used a largely managerial sample and included additional information about the organization and the employee requesting a schedule

change. I also provided “incentive” for providing reasoning behind the schedule decision (\$0.10 extra for giving a thoughtful answer, although all Ps received the \$0.10). I believe that taking these steps caused Ps to be more likely to imagine themselves in the situation of being a manager making a schedule decision and having to reflect on their decision-making steps. Additionally, I used manipulation checks to ascertain that this processing of the simulated situation was occurring. These manipulation checks were especially important in verifying that the organizational norm manipulation was effective.

The study also contains several strengths. Specifically, I utilized a sample of working adults, specifically manipulated fictional employee chronotype, included a novel and organizationally-relevant outcome (flexible schedules) to better understand chronotype, expanded performance mediators beyond conscientiousness, and further explored the impact of organizational norms on decision-making within organizations.

Future Research

Future work should continue to explore the impact of organizational norms and views of flexibility within organizations. As I found, chronotype bias may not be as much of an issue in organizations that already support employees who want to work when they know they will be most productive. Furthermore, as the view of flexibility as a privilege (versus a right) changes over time, field research should be conducted to explore the impact of how flexibility is viewed on schedule outcomes, organizational effectiveness, and employee well-being. It is my hope that organizations see the mutually beneficial outcomes for themselves and their employees that may be possible when they cease clinging to the 8-to-5 schedule norm.

Individual differences may predict experiences of flexibility stigma, and the literature notes the clear presence of intersectional (compounded multiple individual differences) issues in

flexibility stigma. Decisions to grant or deny flexible work arrangement decisions are often based on demographic variables such as gender, socioeconomic status (Williams et al., 2013), and race (Rudman & Mescher, 2013), and future research may be prudent to examine rationales of performance concerns versus strengths in schedule decisions. Finally, future work could further examine chronotype/flexibility bias by changing the current study's control condition to a potentially negatively-viewed schedule request rationale (e.g., caregiving responsibilities).

Conclusion

My study seeks to provide evidence that employees who work better at a certain time of day may be viewed as lower performers than those who are able to work traditional 8-to-5 schedules. Moreover, in some cases, these employees may be less likely to be granted the flexible schedules under which they believe they will excel, compared to individuals changing their schedule to return to school. One reason for these differences may be the power of social norms to guide decision-making. In this study, I found that Ps who imagined themselves to be in a rigid organization were less likely to grant flexible schedules overall, and specifically showed bias against people who “worked best” at a certain time of day. This bias was not found when Ps imagined working in a flexible organization.

Considering my findings, it may be prudent for employers to specifically consider employee's chronotype-determined schedule preferences, for both the sake of the employee and of the organization as a whole. Additionally, changing organizational norms should be explored as a means of increasing flexible schedule access, and, subsequently, employee well-being and organizational effectiveness.

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TABLES

Table 1. Means, Standard Deviations, and Correlation Matrix of Outcome and Mediator Variables

Variables	N	M	SD	1	2	3	4	5
1. Approval	39	3.5	1.0	-				
	8	2	6					
2. Contextual Performance	39	3.8	0.6	.406***	-			
	1	3	6					
3. Conscientiousness	39	3.5	0.6	.447***	.666***	-		
	0	9	1					
4. Personal Discipline	39	3.7	0.7	.442***	.717***	.637***	-	
	1	1	7					
5. Task Performance	39	3.8	0.7	.449***	.769***	.601***	.737***	-
	1	0	4					

***. $p < .001$ (2-tailed).

Table 2. Means and Standard Deviations of Outcome and Mediator Variables by Schedule and Organizational Norm Conditions

Variables	<i>Morning Condition</i>			<i>Evening Condition</i>			<i>Control Condition</i>		
	N	M	SD	N	M	SD	N	M	SD
<i>Rigid Organization</i>									
1. Approval	94	3.23	1.14	68	3.09	1.12	54	3.59	1.13
2. Contextual Performance	90	3.81	0.69	68	2.76	0.62	54	3.95	0.57
3. Conscientiousness	90	3.52	0.59	68	3.51	0.67	54	3.57	0.58
4. Personal Discipline	90	3.70	0.87	68	3.62	0.80	54	3.76	0.84
5. Task Performance	90	3.73	0.78	68	3.67	0.81	54	3.92	0.70
<i>Flexible Organization</i>									
1. Approval	73	3.93	0.71	53	3.75	0.97	56	3.71	0.94
2. Contextual Performance	70	3.83	0.66	53	3.73	0.75	56	3.94	0.63
3. Conscientiousness	69	3.72	0.53	53	3.55	0.70	56	3.69	0.59
4. Personal Discipline	70	3.73	0.71	53	3.78	0.72	56	3.72	0.66
5. Task Performance	70	3.85	0.69	53	3.74	0.79	56	3.95	0.65

Table 3. Mediating effect of performance beliefs on schedule approval

Outcome Variable	Predictor	<i>b</i>	<i>SE</i>	<i>p</i>
A. Schedule Approval, Direct Effect				
	Morning (E.)	-0.07	-0.11	0.512
	Control (C.)	-0.12	0.11	0.255
	Conscient.	0.40	0.11	<.001
	Task Perf.	0.29	0.11	0.008
	Personal Dis.	0.22	0.10	0.025
	Contextual P.	-0.02	0.13	0.846
B. Performance Mediators				
Conscientiousness	Morning (E.)	-0.08	0.07	0.291
	Control (C.)	-0.07	0.07	0.347
Task Performance	Morning (E.)	-0.09	0.09	0.305
	Control (C.)	-0.19	0.08	0.023
Personal Discipline	Morning (E.)	-0.03	0.09	0.717
	Control (C.)	-0.03	0.09	0.709
Contextual Performance	Morning (E.)	-0.089	0.08	0.259
	Control (C.)	-0.15	0.07	0.036
C. Schedule Approval, Indirect Effects				95% CI
Mediator: Conscientiousness	Morning (E.)	-0.03	0.03	-0.101, 0.027
	Control (C.)	-0.03	0.03	-0.101, 0.028
Mediator: Task Performance	Morning (E.)	-0.03	0.03	-0.096, 0.026
	Control (C.)	-0.056	0.03	-0.131,-0.002
Mediator: Personal Discipline	Morning (E.)	-0.01	0.02	-0.060, 0.037
	Control (C.)	-0.01	0.02	-0.056, 0.033
Mediator: Contextual Performance	Morning (E.)	0.00	0.02	-0.031, 0.038
	Control (C.)	0.00	0.02	-0.042, 0.051

Table 3 continued

Table 3 continued

D. Total Effect		<i>b</i>	<i>SE</i>	p
Schedule Approval	Morning (E.)	-0.14	0.13	0.289
	Control (C.)	-0.20	0.12	0.089

* $p < .05$ ** $p < .01$ *** $p < .001$ (2-tailed).

Note: E. = Eveningness, C. = Chronotype

Conscient. = Conscientiousness, Task Perf. = Task Performance, Personal Dis. = Personal

Discipline, Contextual P. = Contextual Performance

Table 4. Qualitative coding of schedule approval justification

Primary Code	Sub-code	Meaning
<u>Positive</u>		Request likely to be approved because it would be good for the individual and/or organization.
	Benefits organization	The employee getting their request approved will be in some way beneficial to the organization as a whole.
	Increases morale	Granting the request will help raise employee morale.
	Employee deserving	Employee should have request approved because they deserve it (e.g., high performance, tenure)
	Chronotype-related (positive)	Response recognizes impact of chronotype/working best at a certain time of day in decision.
<u>Negative</u>		Request unlikely to be approved because it would be detrimental to the organization.
	Harmful to organization and clients	Granting the schedule request will disrupt the functioning of the organization or hinder other employees' productivity.
	Employee undeserving	Employee shouldn't have request approved because low performance, not worthy, etc.

Table 4 continued

Table 4 continued

	Chronotype-related (negative)	Response recognizes impact of chronotype/working best at a certain time of day in decision.
<u>Null</u>	No response	Left blank
	Response gives no information	A simple yes or no, or other lack of reasoning.

Table 5. Schedule approval justification frequencies by code

Primary Code	Frequency
Positive	144
Negative	109
Null	39
Mixed	69
Sub Code	
Benefits organization	166
Harmful to organization/clients	75
Employee undeserving	69
Increases morale	28
Recognition of chronotype	58
Employee deserving	78
Null	44

Note: N >398 because there was primary code overlap.

Table 6. Schedule approval justification sub-codes by schedule and organizational norm condition

		Control	Morning	Evening
Rigid	Benefits organization	24.07%	24.47%	27.94%
	Harmful to clients and/or organization	5.55%	24.47%	27.94%
	Employee undeserving	22.72%	22.34%	17.65%
	Increases morale	7.4%	4.25%	0%
	Chronotype-specific	0%	4.25%	10.29%
	Employee deserving	31.48%	10.64%	8.82%
	No response/uninterpretable	9.26%	9.57%	7.35%
	Flexible	Benefits organization	26.79%	31.51%
Harmful to clients and/or organization		3.57%	5.48%	11.32%
Employee undeserving		21.43%	6.85%	13.21%
Increases morale		8.93%	4.11%	5.66%
Chronotype-specific		0%	15.07%	7.55%
Employee deserving		32.14%	16.44%	11.32%
No response/uninterpretable		7.14%	20.55%	11.32%

Table 7. Schedule approval justification examples by sub-code and schedule/organizational norm condition

Code	Rigid-Control	Rigid- Morning	Rigid- Evening
Positive- benefits organization	I believe that the willingness to improve one self through school or any means is a great attribute to have for a person working for your company. I also believe that going to school will help her to become better at communicating because you have to communte in a classroom setting if you want to succeed.	I feel that this employee intends to use a flexible schedule to increase his performance and do better for the company overall. Maybe they feel like they can have better client connections because they function better during that time of day.	The employee, starting work at a later time, can be more beneficial since he is working later hours than others in the company and can meet any demands that come about after everyone else is done for the day.

Table 7 continued

Table 7 continued

	Flexible- Control	Flexible- Morning	Flexible- Evening
	<p>If the classes he is taking will benefit him on the job, then in turn it will benefit the company.</p>	<p>An early schedule could allow clients more flexibility for meeting times before they go to work.</p>	<p>Even I would like to finished everyone our activities by 5pm I think it could benefit our company if we extend our hours of operations until 8pm and of course we would need some people to cover those hours from noon to 8pm. If we already had some people working those hours and there were not any available slot for this person I would see the performance of the current people in that shift or ask if anyone would love to work the morning shift.</p>

Table 7 continued

Table 7 continued

Code	Rigid-Control	Rigid- Morning	Rigid- Evening
Positive-increases morale	Generally, honoring requests increases morale, whether they “deserve” it or not, so I’m inclined to approve any reasonable request. A.C.’s improved feelings of autonomy and self-improvement are likely to benefit all areas of their work performance as long as it doesn't take too much attention from work activities.	The flexible schedule my or may not be beneficial to the organization, but it will be beneficial to this employee. So, a happier employee is a more productive employee, which gives me a better ROI. Also, I believe in flexible scheduling and, so, will implement a pilot program to see how it goes.	-

Table 7 continued

Table 7 continued

	Flexible- Control	Flexible- Morning	Flexible- Evening
	Flexible time to pursue his personal endeavors (i.e., education) will make him happier, and get him to use his time efficiently.	I work in an office where employees have the ability to make flexible schedules- four 10 hour days/come in early/stay late. I believe it increases people morale by being able to be with family and also work when it works for them.	Employees who enjoy working and are able to work when they want to will work harder.

Table 7 continued

Table 7 continued

Code	Rigid-Control	Rigid- Morning	Rigid- Evening
Positive- employee deserving	A lot of the ratings were good, and a few were bad. Overall, t he person seems like a good employee. As long as he continues to do well, he should be allowed to have the flex time.	Although the employee only received a meets expectations score, his biography and the type of work that he's done suggests that he is a valuable and hard working employee	This employee deserves to have this scheduled changed to meet his needs, this employee has provided this company more than enough quality work and performance to justify this schedule change.

Table 7 continued

Table 7 continued

	Flexible- Control	Flexible- Morning	Flexible- Evening
	He's a valuable employee with a solid evaluation, and deserves a chance to move up the corporate ladder.	He works as a team very well and is in charge of large projects. He is aware of his shortcomings and wants to be able to have more time for clients. He says he is more productive for the flexible schedule. I would let him have it on a probationary period and tell him the client communication needs to be improved in order for him to continue on with the new schedule. It has to be beneficial for the company.	His track record as the beginning of the survey showed that when he works he takes on a lot of responsibilities and leadership roles. I would grant his schedule request due to the fact he received high evaluations marks. There is no doubt that when he works he works efficiently.

Table 7 continued

Table 7 continued

Code	Rigid-Control	Rigid- Morning	Rigid- Evening
Negative-harmful to organization and/or clients	-	While I personally think he should be allowed to work his specialized schedule and I think it would be ultimately beneficial to the company, the company's profile strictly states that there is no wiggle room for the 8am to 5pm day.	I do agree that this employee has earned the right to ask for this schedule request but his work day would be a lot different from his coworkers that could cause some issues with being able to be a team member

Table 7 continued

Table 7 continued

	Flexible- Control	Flexible- Morning	Flexible- Evening
	<p>I am hesitant to approve the flex time request, but I did so anyway because the employee's overall rating is a 4. However, I am concerned that taking 2 hours out during typical working hours will impact the areas that need improvement. Building relationships with clients and communication can be done any time, but typically should be done during regular work hours.</p> <p>Likewise, it's hard to keep work and meeting spaces organized efficiently if an employee is not present during the time when these things are needed most. But I am approving it, and will keep an eye on whether the employee's performance improves, stays the same, or worsens during the next months. Then we will know how to proceed in the future.</p>	<p>This was hard. Let her work the hours that she wants; could make her happy and help her do her job better. But normally not too many clients would be around that early in the morning to work with. So this could possibly give her less of a chance to meet with them. I would set down with her and ask why she things changing her schedule would help her with the requirements of working with the clients.</p>	-

Table 7 continued

Table 7 continued

Code	Rigid-Control	Rigid- Morning	Rigid- Evening
Negative- employee undeserving	-	He doesnt communicate enough which is shown that he is usually slow when it comes to email. On top of that, letting him work on his schedule while going against the company's work schedule could be disruptive.	-

Table 7 continued

Table 7 continued

	Flexible- Control	Flexible- Morning	Flexible- Evening
	-	-	I said that I would approve the schedule request, because I know that in the long run this employee would probably do better work for the firm, but at the same time I don't approve of his request, because he only seems to be out for his own gain. instead of the benefit for his clients. He claims that this schedule request will help him to have better relationships with clients, but that is something he should have had when he started the job.

Table 7 continued

Table 7 continued

Code	Rigid-Control	Rigid- Morning	Rigid- Evening
Chronotype-specific	-	I think allowing them to have a flexible schedule will benefit the firm because AC said that they do their BEST work early in the morning. He scored a 4, which meets expectations, but there is still room for growth. Perhaps allowing a flexible schedule will be the push he needs to develop better client communication.	I believe that beginning work at 12pm will still give AC ample time to shine with the team. However, later hours- when he has self-identified as “on”- will allow him to better communicate and be more repsonsive.

Table 7 continued

Table 7 continued

	Flexible- Control	Flexible- Morning	Flexible- Evening
	-	He can get more done and stay on task in the mornings being a morning person as he said he is.	In the end the work is what matters. I dont think its relevant as to what time the work is done as long as it is getting done with excellence, and if the employee works best later, that will mean better work is produced for the company.

Table 7 continued

Table 7 continued

Code	Rigid-Control	Rigid- Morning	Rigid- Evening
Null- response gives no information	-	-	-
	Flexible- Control	Flexible- Morning	Flexible- Evening
	-	I WILL LET HER START AT 6AM TO 2PM, I THINK THAT WILL BE BEST	I have a hard time telling people no, so I gave the employee the requested time.

FIGURES

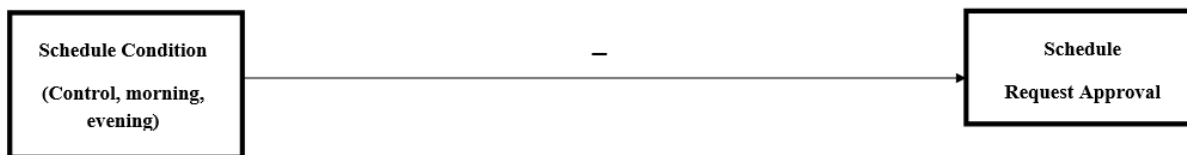


Figure 1. Hypothesized direct effect of schedule condition on schedule approval

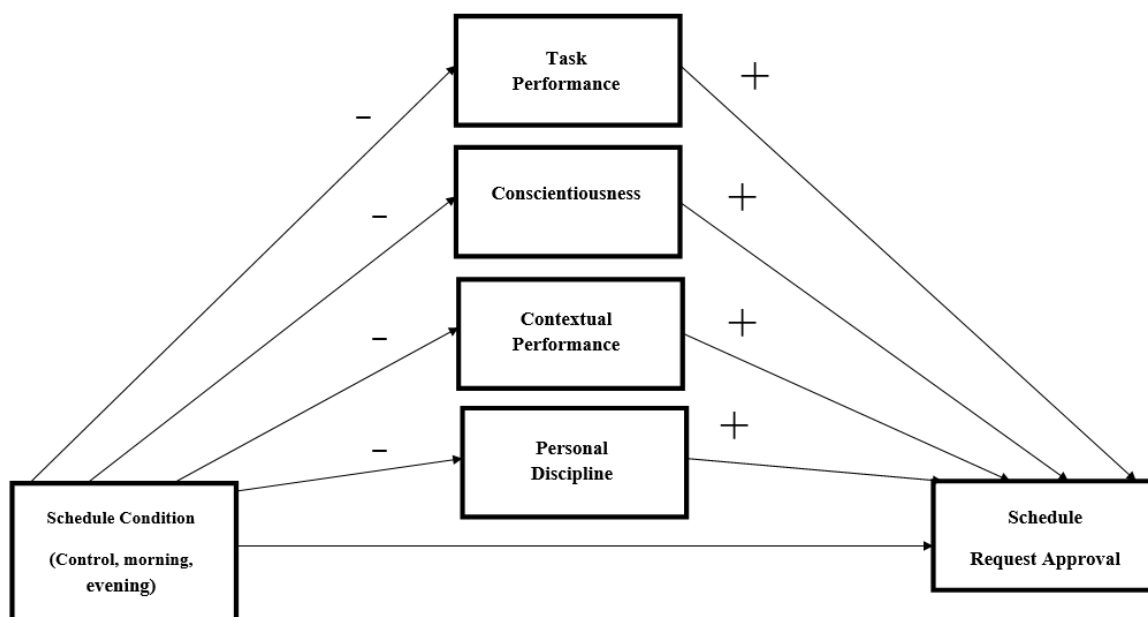


Figure 2. Hypothesized mediating effects of performance beliefs

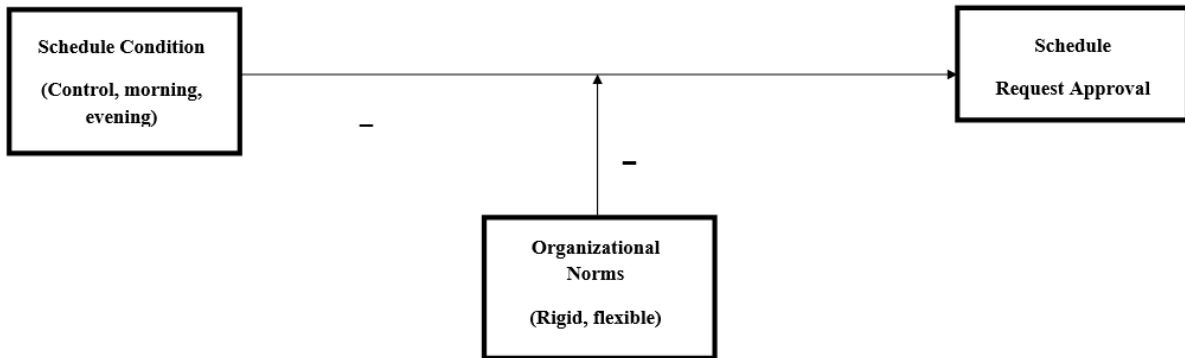


Figure 4. Hypothesized moderating effect of organizational norms

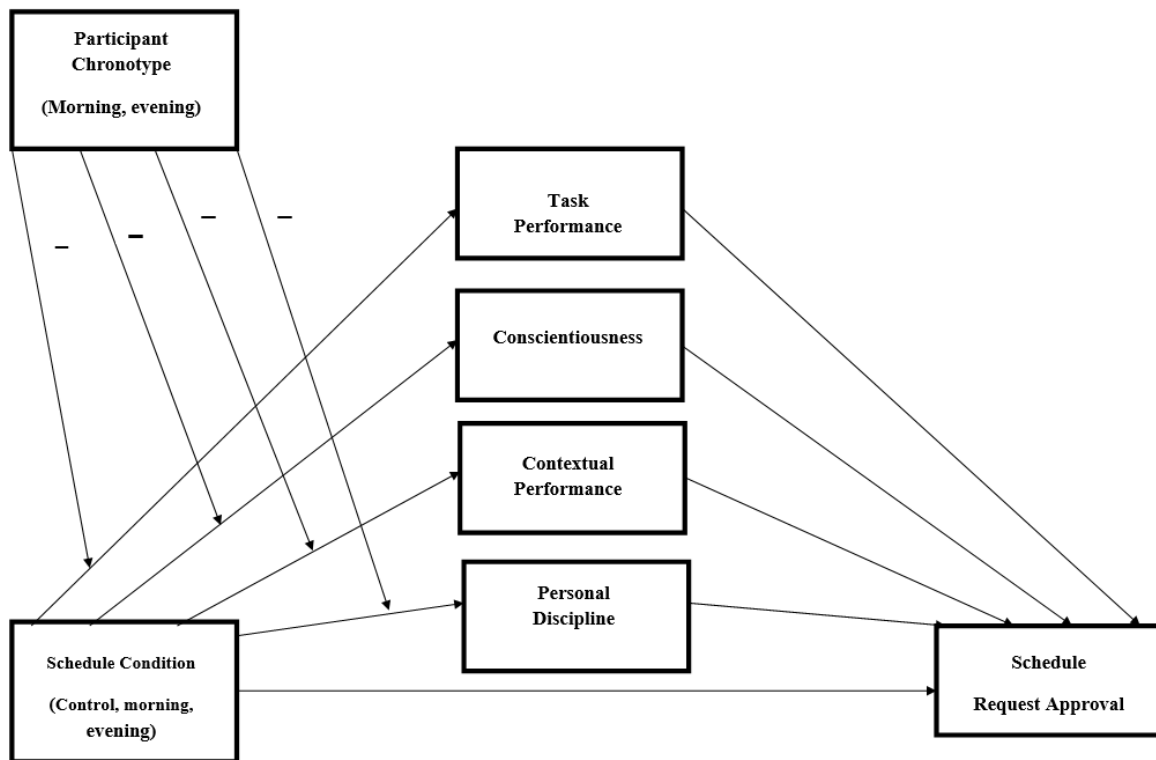


Figure 3. Hypothesized moderating effect of participant chronotype

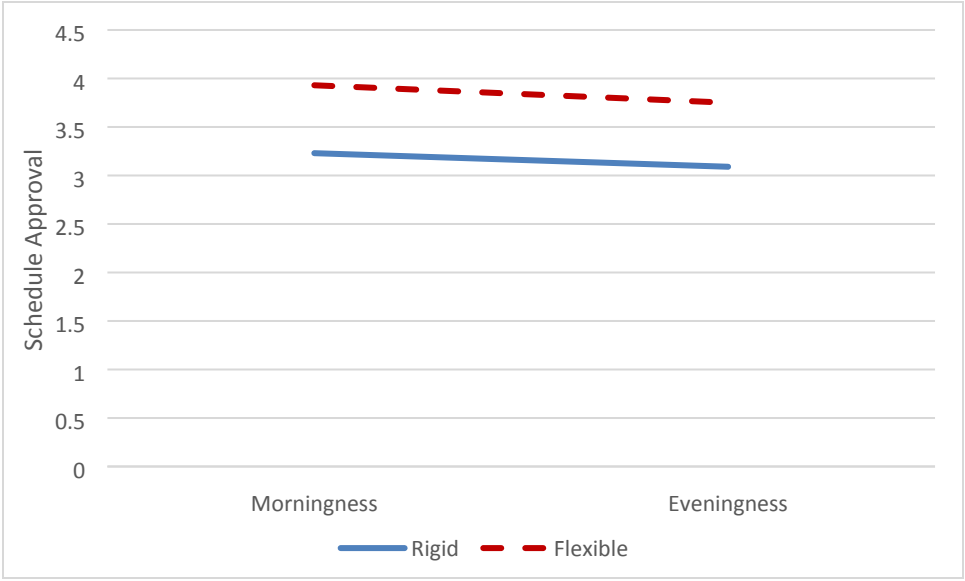


Figure 5. Interaction between schedule condition (morningness vs. eveningness) and organizational norms

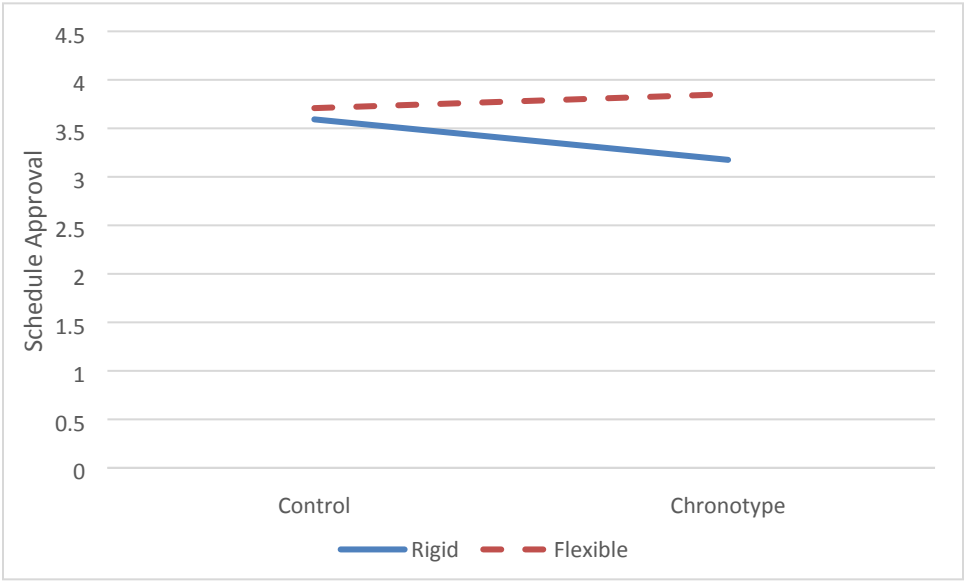


Figure 6. Interaction between schedule condition (control vs. chronotype) and organizational norms

APPENDIX A

Self-Assessment of Chronotype.

(7-point Likert scale of “An extremely early morning person” to “An extremely late night person”)

In terms of the time when I prefer to be awake and alert, I consider myself to be:

1. An extremely early morning person
2. A moderately early morning person
3. A slightly early morning person
4. Neither a morning nor a night person
5. A slightly late night person
6. A moderately late night person
7. An extremely late night person

APPENDIX B

Job-Specific Task Performance Items.

(5-point Likert scale from “Strongly disagree” to “Strongly agree”)

Regardless of when or where the employee is working, I believe that:

1. This employee will be productive.
2. This employee will continuously improve.
3. This employee to complete their work in a timely manner.
4. This employee’s core job performance will add value to the organization.
5. This employee will become a top performer.
6. I won’t be sure about how hard they are working. (reverse-coded)

Personal Discipline Items.

(5-point Likert scale from “Strongly disagree” to “Strongly agree”)

1. This employee will adhere to the norms of the organization.
2. This employee will be on time when necessary.
3. The employee will consistently show up for work, even when virtual.
4. This employee will be prepared for meetings.
5. This employee will be organized.
6. This employee will be available to work with clients.
7. I believe the employee will respond in a timely manner to emails, phone calls, and other forms of communication.

Contextual Performance Items.

(5-point Likert scale from “Extremely unlikely” to “Extremely likely”)

While performing his or her job, how likely is it that this person would:

1. Comply with instructions even when supervisors are not present
2. Cooperate with others in the team
3. Persist in overcoming obstacles to complete a task
4. Display proper professional appearance
5. Volunteer for additional work
6. Follow proper procedures and avoid unauthorized shortcuts
7. Look for a challenging assignment
8. Offer to help others accomplish their work
9. Pay close attention to important details
10. Defend the supervisor's decisions
11. Render proper professional courtesy
12. Support and encourage a coworker with a problem
13. Take the initiative to solve a work problem
14. Exercise personal discipline and self-control
15. Tackle a difficult work assignment enthusiastically
16. Voluntarily do more than the job requires to help others or contribute to group effectiveness

Conscientiousness Items.

(5-point Likert scale from “Extremely unlikely” to “Extremely likely”)

1. It is likely that this employee is organized.
2. It is likely that this employee is neat.
3. It is likely that this employee is reliable.
5. It is likely that this employee is dependable.
6. It is likely that this employee is industrious.
7. It is likely that this employee is tenacious.
8. It is likely that this employee is careful.
9. It is likely that this employee is cautious.
10. It is likely that this employee is decisive.
11. It is likely that this employee is deliberate.

APPENDIX C

Schedule Request Approval Items.

(5-point Likert scale from “Strongly Disagree” to “Strongly Agree”)

1. I will approve this employee’s request for a flexible schedule.
2. This employee deserves a flexible schedule.
3. This employee having a flexible schedule will be beneficial to the firm.

APPENDIX D

Organization Profile.

Hierarchical/Rational Organizational Culture Condition.

You are supervisor at a medium-size East Coast professional services firm in the United States. This firm places great value on structure as a means of enhancing productivity, and has an organizational culture that has remained stable for decades. The firm relies on well-tested, highly controlled and efficient processes and methods in their services to clients. Most of their clients reside in the East Coast and are very loyal. Work cycles are steady and predictable. For nearly all full-time employees, it is not imperative that they work at a specific time to complete tasks, provided that they work 40 hours per week. However, employees typically work full eight hour days in the office, from 8 am-5 pm. The organization does not have an official policy regarding flexible schedule arrangements.

Group/Developmental Organizational Culture Condition.

You are a supervisor at a medium-size East Coast professional services firm in the United States. This firm places great value on adapting to the needs of a global market, and has an organizational culture that is known for being innovative and responsive to change. The firm continuously adapts their processes and services to an ever-changing client landscape. Clients change rapidly and are located around the world. Work cycles are fast and unpredictable. For nearly all full-time employees, it is not imperative that they work at a specific time to complete tasks, provided that they work 40 hours per week. The organization does not have an official policy regarding flexible schedule arrangements.

APPENDIX E

Employee Profile.

PSF, LLC

Employee Profile

Name: A.C. Vicary

Hometown: Granbury, Ohio

Hired at PSF: May 2014

Current Role: Tax/Advisory Services Senior Associate

A.C. Vicary, an Ohio native who received a Bachelor's degree in Finance from a large Midwestern university, has served as a tax/advisory services associate since 2014, and was promoted to senior associate in 2017. In this position, A.C. fosters client relationships, manages revenue, works on billing and collecting, and serves as a mentor to younger associates at the firm. Throughout A.C.'s time at PSF, A.C. has continued to take on new responsibilities and opportunities. A.C. has worked on five major engagements, each lasting about 6 months and valued at \$1,000,000 or more, and three minor engagements (each lasting 3 months and each valued between \$10,000 and \$100,000) over the past three years. A.C. has also started to take on more leadership responsibilities over time, and seems to be following a trajectory of upward movement. As A.C.'s performance review indicates, A.C. is a valued employee at PSF, and generally works well as a part of the team; however, concerns regarding client engagement, communication, and conscientiousness have been raised. Outside of PSF, A.C. enjoys the Ohio Buckeyes, reading, and spending time with family.

Employee Performance Evaluation.

PSF, LLC Performance Evaluation

Provides example ratings for job responsibilities for

Staff Member: A.C. Vicary Date: 8/6/2017

Job Title: Tax/Advisory Services Senior Associate

Review period: 08/01/16 - 07/31/17

List primary job responsibilities from position description:

Job Specific Duties (Importance Weighting):
1. Tax/Advisory Services (50%) 2. Financial Transactions (30%) 3. Client Engagement (10%) 4. Office Maintenance (10%)
General Duties: 5. Organizational Citizenship 6. Teamwork 7. Professionalism 8. Communication

1. Job Responsibility: Tax/Advisory Services (50%)

Does Not Meet Expectations		Meets Expectations			Exceeds Expectations	
1	2	3	4	5	6	7
			4			

Performance Manager Feedback: A.C. provides quality advisory services to clients, and keeps up to date on tax law.

2. Job Responsibility: Financial Transactions (30%)

Does Not Meet Expectations		Meets Expectations			Exceeds Expectations	
1	2	3	4	5	6	7
				5		

Performance Manager Feedback: A.C. is accurate and careful in carrying out transactions.

3. Job Responsibility: Client Engagement (10%)

Does Not Meet Expectations	Meets Expectations			Exceeds Expectations	
1	2	3	4	5	6 7

Performance Manager Feedback: A.C. has taken part in several major and minor engagements, but does not always spend adequate time engaging with clients.

4. Job Responsibility: Office Maintenance (10%)

Does Not Meet Expectations	Meets Expectations			Exceeds Expectations	
1	2	3	4	5	6 7

Performance Manager Feedback: A.C. could improve significantly in keeping the office clean and supplies maintained, as well as making sure meeting spaces are allocated fairly.

5. Job Responsibility: Organizational Citizenship

Does Not Meet Expectations	Meets Expectations			Exceeds Expectations	
1	2	3	4	5	6 7

Performance Manager Feedback: It is encouraging to see A.C. take on a mentoring role with lower level associates.

6. Job Responsibility: Teamwork

Does Not Meet Expectations	Meets Expectations			Exceeds Expectations	
1	2	3	4	5	6 7

Performance Manager Feedback: A.C. has never had any issues working with the various teams that I have assigned.

7. Job Responsibility: Professionalism

Does Not Meet Expectations		Meets Expectations			Exceeds Expectations	
1	2	3	4	5	6	7

Performance Manager Feedback: Maintaining a professional demeanor and attitude has never been a problem. A.C. is punctual for meetings and sending deliverables.

8. Job Responsibility: Communication

Does Not Meet Expectations		Meets Expectations			Exceeds Expectations	
1	2	3	4	5	6	7

Performance Manager Feedback: A.C. is often slow to respond to email, sometimes verifies expectations during new engagements, and could be more conscientious when providing feedback to coworkers.

Overall Performance Rating

Does Not Meet Expectations		Meets Expectations			Exceeds Expectations	
1	2	3	4	5	6	7

Employee Comments: I have enjoyed working at PSF, and would like to continue working on my leadership skills through mentoring and other opportunities. Additionally, I would like to continue building client relationships.

Performance Manager Comments: A.C. is a valued employee at PSF whose goals align with those of the company. I would like to see A.C. continue to pursue leadership and deeper client relationships, as well as displaying more conscientiousness toward tasks and communications

APPENDIX F

Flexible Schedule Request.

Control/Education Condition.

Requestor's Name: (in space below)			Date of Request:
A.C. Vicary			September 17, 2017
Employee ID:	Geographic Office:	Position:	Tenure:
58953	Washington, D.C.	Senior Associate- Tax/Advisory Services	3 years
Schedule Request Type:		Current Status:	
Flextime (choosing own hours)		Full-time	
Reason for your request:			
I am taking some courses at the university to further my career and I would like to have about 2 hours of flextime each day during normal working hours in order to attend classes. I know I can be fully productive each day and be able to meet all my client needs as well as be a solid team player.			
Previous Year Performance Rating: (1=Does not meet expectations, 7=Exceeds expectations)			
4- Meets Expectations			
Signatures-Required:			
Signature of Employee:	<i>AC Vicary</i>	Date:	September 17, 2017
Signature of HR Manager:		Date:	

Morning Condition.

Requestor's Name: (in space below)			Date of Request:
A.C. Vicary			September 17, 2017
Employee ID:	Geographic Office:	Position:	Tenure:
58953	Washington, D.C.	Senior Associate-Tax/Advisory Services	3 years
Schedule Request Type:		Current Status:	
Flextime (choosing own hours)		Full-time	
Reason for your request:			
I really do my best work early in the morning and cannot be as productive later in the day, so I'd like to have a work schedule where I can start my workday at 6:00am and work until 2:00pm . I know I can be fully productive at this time and be able to meet all my client needs as well as be a solid team player.			
Previous Year Performance Rating: (1=Does not meet expectations, 7=Exceeds expectations)			
4- Meets Expectations			
Signatures-Required:			
Signature of Employee:	<i>AC Vicary</i>	Date:	September 17, 2017
Signature of HR Manager:		Date:	

Evening Condition.

Requestor's Name: (in space below)			Date of Request:
A.C. Vicary			September 17, 2017
Employee ID:	Geographic Office:	Position:	Tenure:
58953	Washington, D.C.	Senior Associate- Tax/Advisory Services	3 years
Schedule Request Type:		Current Status:	
Flextime (choosing own hours)		Full-time	
Reason for your request:			
I really do my best work later in the day and cannot be as productive early in the morning, so I'd like to have a work schedule where I can start my workday at 12:00pm and work until 8:00pm . I know I can be fully productive at this time and be able to meet all my client needs as well as be a solid team player.			
Previous Year Performance Rating: (1=Does not meet expectations, 7=Exceeds expectations)			
4- Meets Expectations			
Signatures-Required:			
Signature of Employee:	<i>AC Vicary</i>	Date:	September 17, 2017
Signature of HR Manager:		Date:	

APPENDIX G

Employee Gender.

1. What gender did you perceive A.C. Vicary to be?

Male

Female

Transgender Man

Transgender Woman

Genderqueer/Non-binary

Other _____

Employee Race.

1. What race did you perceive A.C. Vicary to be?

White or Caucasian

Black or African American

Latino/a (Hispanic)

American Indian or Alaska Native

Asian or Asian American

Native Hawaiian or Pacific Islander

Other (specify)

Prefer not to say

Demographic Questions.

1. What is your age? _____

2. What is your gender?

Male

Female

Transgender Man

Transgender Woman

Genderqueer/Non-binary

Other _____

3. Which of the following races do you consider yourself to be? (select all that apply)

White or Caucasian

Black or African American

Latino/a (Hispanic)

American Indian or Alaska Native

Asian or Asian American

Native Hawaiian or Pacific Islander

Other (specify)

Prefer not to say

4. Which statement best describes your current employment status?

- Working (paid employee)
- Working (self-employed)
- Not working (temporary layoff from a job)
- Not working (looking for work)
- Not working (retired)
- Not working (disabled)
- Not working (other)

- Prefer not to answer

5. How many employees work in your establishment?

- Sole proprietorship
- 2-100
- 101-500
- 501-1000
- 1001-2500
- 2500 or more

6. Where are you employed?

Private, for profit business or firm

Public institution (government or supported by taxpayers)

Not for profit

Self-employed