

# Journal of Applied Psychology

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Online First Publication, June 9, 2014. <http://dx.doi.org/10.1037/a0037109>

### CITATION

Yam, K. C., Fehr, R., & Barnes, C. M. (2014, June 9). Morning Employees Are Perceived as Better Employees: Employees' Start Times Influence Supervisor Performance Ratings.

*Journal of Applied Psychology*. Advance online publication.

<http://dx.doi.org/10.1037/a0037109>

# Morning Employees Are Perceived as Better Employees: Employees' Start Times Influence Supervisor Performance Ratings

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In this research, we draw from the stereotyping literature to suggest that supervisor ratings of job performance are affected by employees' start times—the time of day they first arrive at work. Even when accounting for total work hours, objective job performance, and employees' self-ratings of conscientiousness, we find that a later start time leads supervisors to perceive employees as less conscientious. These perceptions in turn cause supervisors to rate employees as lower performers. In addition, we show that supervisor chronotype acts as a boundary condition of the mediated model. Supervisors who prefer eveningness (i.e., owls) are less likely to hold negative stereotypes of employees with late start times than supervisors who prefer morningness (i.e., larks). Taken together, our results suggest that supervisor ratings of job performance are susceptible to stereotypic beliefs based on employees' start times.

*Keywords:* stereotyping, implicit bias, job performance, morningness, chronotype

For most of the 20th century, employees' work schedules were highly regimented. Office managers and factory workers alike arrived at work at set times determined by their employers, with little say in their schedules and little variability across employees. Today, technological and social forces have provided employees with greater say and more flexibility in when they start and end their work days through programs collectively referred to as *flexible work practices* (FWPs; Kelly & Moen, 2007). FWPs allow employees to meet obligatory duties such as driving their children to school and caring for aging parents, while enabling organizations to attract and retain talent by enhancing employees' job satisfaction and commitment to the organization.

Meta-analyses suggest that FWPs generally produce desirable individual and organizational outcomes such as increased productivity, higher job satisfaction, and decreased turnover intentions (Baltes, Briggs, Huff, Wright, & Neuman, 1999; Gajendran & Harrison, 2007). However, research suggests that FWPs can also be harmful to employees' career outcomes (Glass, 2004). For instance, when supervisors believe that employees are only using FWPs to help them manage their personal lives, FWPs have a negative impact on employees' career success (Leslie, Manchester, Park, & Mehng, 2012). Although scholars have demonstrated the potential downsides of FWPs, research to date has only begun to consider the precise mechanisms and boundary conditions of these

effects. In addition, research has tended to consider FWPs holistically, providing limited insight into the specific aspects of FWPs that might be most directly responsible for their negative impact on employees' success.

In this article, we address these limitations by focusing on employee start times—one of the most frequently discussed and utilized components of FWPs (Galinsky, Bond, & Sakai, 2008). Drawing from the stereotyping literature, we specifically examine the implications of a stereotypic negative perception of people who begin the day's activities late—referred to here as a *morning bias*—for employees and their career success. We suggest that supervisors exhibit a pervasive morning bias and stereotype employees with late start times as less conscientious than employees with early start times. These perceptions in turn lead to lower performance ratings for employees with late start times. Furthermore, we explore supervisor chronotype as an important boundary condition of the mediated model. Based on decades of research on social identity theory and ingroup favoritism (Tajfel & Turner, 1986), we argue that supervisors with a preference for eveningness exhibit less negative stereotyping of employees with late schedules than supervisors with a preference for morningness, thereby avoiding the morning bias when evaluating their employees' performance. In other words, we propose a first-stage moderated mediation model in which supervisors' chronotypes act as a boundary condition to affect the link between employees' start times and their perceived levels of conscientiousness, which in turn affects supervisors' ratings of employees' performance (see Figure 1).

By developing and testing a model of supervisors' automatic inferences about employee job performance, we make several key contributions to the literature. First, we provide insight into the question of why supervisors might provide differential performance ratings of employees with equal performance metrics. Second, we contribute to a growing literature on the role of automatic inferences on employee performance evaluations, demonstrating that these inferences are based on more than gender and racial stereotypes (Jost et al., 2009). Finally, we pinpoint an important

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We thank associate editor Deidra Schleicher and participants in the IdeaLab, a student-run research seminar at the Foster School of Business, for constructive comments on earlier drafts of this article.

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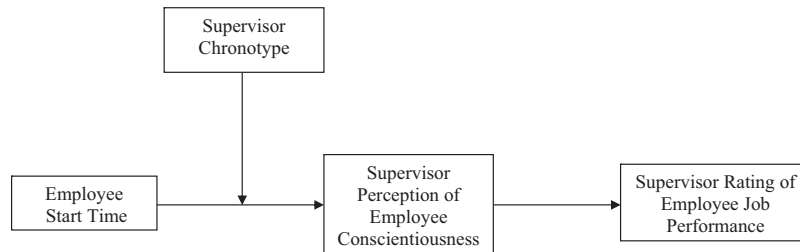


Figure 1. Theoretical model of the impact of employee start time on supervisor performance ratings.

dark side to the deployment and utilization of flexible work practices, demonstrating that employees who use FWP to arrive at work later in the day are likely to receive worse performance evaluations than their equally performing peers.

### Stereotyping and Employees' Start Times

Stereotypes are “beliefs about the characteristics, attributes, and behaviors of members of certain groups” (Hilton & von Hippel, 1996, p. 240). Although stereotypes are not necessarily erroneous, scholars have suggested that a stereotypic belief is often “a fixed impression which conforms very little to the facts it pretends to represent” (Katz & Braly, 1935, p. 181). Within the organizational sciences, scholars have demonstrated that workplace stereotypes are pervasive, particularly with respect to race and gender. Among racial minorities, racial stereotypes negatively influence the likelihood that they will receive job offers (Bertrand & Mullainathan, 2004) and succeed after a job is obtained (Johnson & Eby, 2011). Among women, gender stereotypes negatively affect hireability ratings of female professors (Madera, Hebl, & Martin, 2009) and hinder women’s decisions to become entrepreneurs (Gupta, Turban, & Bhawe, 2008).

Whereas previous research has primarily focused on racial and gender stereotypes, we suggest that employees’ start times may also be a source of stereotypic beliefs with important work-related consequences. Our contention is that, with all else being equal, a pervasive morning bias causes supervisors to stereotype employees who start work late in the day as less conscientious than employees who start work early in the day. The association between morningness—beginning the day’s activities early in the morning—and goodness is ubiquitous in our society. The old saying “the early bird gets the worm” suggests that people who start their days early in the morning are the most successful. Benjamin Franklin (1855/2014) is famous for his belief that “early to bed, early to rise, makes a man healthy, wealthy and wise,” and Aristotle (1995) mused that “it is well to be up before daybreak, for such habits contribute to health, wealth, and wisdom.” An old Chinese saying similarly advises that “a day’s planning should be done in the morning,” suggesting that the positive perception of morningness transcends cultural boundaries.

Empirical research suggests that the stereotypic association between morningness and goodness can be traced in part to a link between morningness and conscientiousness—a personality trait associated with hard work, self-discipline, and dutifulness (Costa & McCrae, 1992; Kanfer & Heggestad, 1997). Specifically, research suggests that people who start the day’s activities late are generally perceived as less conscientious than people who start the

day’s activities early (Hepburn, Ortiz, & Locksley, 1984; McCutcheon, 1998) and that there is a small but positive correlation between self-reports of morningness and conscientiousness (DeYoung, Hasher, Djikic, Criger, & Peterson, 2007; Hogben, Ellis, Archer, & von Schantz, 2007).

Although employees with preferences for eveningness might be objectively less conscientious than employees with preferences for morningness, we suggest that supervisors’ morning biases equates to an overemphasis on employee start times in conscientiousness evaluations, leading them to rate employees with late start times as less conscientious than employees with early start times. In various national surveys of FWPs, employees cite family demands as the top reason they utilize FWPs and as the main driver of their start time decisions (Galinsky, Bond, & Hill, 2004; Galinsky et al., 2008). For example, a sales associate who is a morning person may nonetheless choose to start work at 1 p.m. because he needs to attend classes in the morning. Likewise, a parent who is an evening person may nonetheless choose to start work at 7 a.m. because she needs to pick up her child from school in the afternoon. Thus, although employees’ start times are a primary source of information available to supervisors regarding employees’ preferences for morningness versus eveningness, this information is often independent to employees’ actual preferences, and hence can be theorized to influence supervisors’ perceptions of employee conscientiousness above and beyond their actual levels of conscientiousness. We therefore posit the following hypothesis:

*Hypothesis 1:* Employee start time is negatively associated with supervisor perceptions of employee conscientiousness.

### Implications for Supervisor Ratings of Job Performance

We argue that once supervisors stereotype employees as low in conscientiousness based on their start times, these perceptions in turn lead supervisors to rate employees with late start times as lower performers. Lexical studies suggest that conscientious employees are reliable, orderly, and industrious, and have high impulse control (Hofstee, de Raad, & Goldberg, 1992; Roberts, Bogg, Walton, Chernyshenko, & Stark, 2004), all of which are imperative for high job performance. Supervisors believe that conscientiousness is a precursor to high job performance because conscientious employees display higher levels of work motivation (Colquitt, LePine, & Noe, 2000). In contrast, because supervisors perceive employees who “choose” to start working late as lacking these important personal characteristics, they are rated as lower performers.

Most research to date on the link between conscientiousness and job performance has focused on employees' self-report conscientiousness, rather than supervisor perceptions (Barrick & Mount, 1991; Salgado, 1997; Tett, Jackson, & Rothstein, 1991). However, recent studies also provide evidence consistent with the notion of a positive relationship between supervisors' perceptions of employee conscientiousness and job performance. In a survey-based study, interviewers were more likely to recommend hiring candidates whom they perceived to be high on conscientiousness (van Dam, 2003). In another study, Emerson and Yang (2012) found that perceived levels of conscientiousness in accountants were positively associated with their perceived ability to perform their jobs well. Taken together, these empirical studies suggest a positive association between supervisors' perceptions of their employees' conscientiousness and their assessments of these employees' job performance, leading to the following hypothesis:

*Hypothesis 2:* The relationship between employee start time and supervisor ratings of job performance is mediated by supervisor perceptions of employee conscientiousness.

### The Role of Supervisor Chronotype

Although the morning bias is pervasive in our society, we suggest that the stereotypic belief that start times influence employee-perceived conscientiousness depends in part on supervisors' own chronotypes. Chronotypes are "patterns of sleep/wake activity and energy levels that are tied to time of day and governed by internal circadian and sleep drives" (Biss & Hasher, 2012, p. 437). People can be classified as either "larks," who wake up and go to bed early, or "owls," who wake up and go to bed late (Horne & Ostberg, 1976). Drawing from social identity theory (SIT; Tajfel & Turner, 1986), we suggest that supervisors who are themselves evening people are less susceptible to the stereotypic belief that employees who work late are less conscientious and worse performers than supervisors who are morning people.

According to SIT, people tend to spontaneously self-categorize themselves into various social groups. Although such categorizations help people make sense of their social environments by providing prototypes for different group memberships and allowing people to act in accordance with those norms, they can also lead to ingroup favoritism (Terry & Hogg, 1996). SIT posits that people are motivated to evaluate their own social groups more positively in order to maintain a positive social identity and self-esteem (Tajfel, 1978). Social identities often develop as a function of highly visible group memberships (e.g., job function; Ashforth & Mael, 1989) but can also develop as a function of differences as subtle as musical taste (Lonsdale & North, 2009). Consistent with this literature, we argue that supervisors who are owls are likely to self-categorize themselves with others whom they perceive to prefer eveningness in the workplace. Once this social identity is formed, supervisors who prefer eveningness are less likely than their peers to exhibit a negative morning bias because they perceive themselves as belonging to the "owls" group. These arguments suggest the following hypothesis:

*Hypothesis 3:* The indirect effect of employee start time on supervisor ratings of performance via perceived conscientiousness is moderated by supervisors' chronotypes, such that

the indirect effect will be strong when supervisors are "larks," but dissipate when supervisors are "owls."

### Research Overview

We conducted three studies to test our theoretical model. In Study 1, we used an experimental method to examine the impact of morningness cues on the accessibility of words related to conscientiousness. In Study 2, we then tested our full theoretical model by surveying supervisor–employee dyads and examined the effect of employee start time on supervisor perceptions of conscientiousness and job performance, controlling for total work hours, supervisor–employee relationship quality, and self-rated conscientiousness. Finally, in Study 3, we constructively replicated our findings with a randomized performance rating exercise to establish causal inferences for our theoretical model.

### Study 1

#### Method

We recruited 120 working adults ( $M_{\text{age}} = 29.8$  years, 76.1% European American; 58.7% female) from Amazon's Mechanical Turk. Following from the conceptualization of stereotypes as implicit and automatic biases (Blair, 2002), we began our empirical examination of the hypothesized model with a lexical decision task (LDT) to assess the automatic association between morningness and conscientiousness. The LDT is an association-based implicit measure that examines the accessibility of a concept in a person's mind by examining how quickly he or she can distinguish words associated with a focal concept from nonwords as a function of a pretask prime (Uhlmann et al., 2012). For example, in past research, the LDT has been used to establish a link between a leader's gender and perceptions of his or her communal leadership traits by priming participants to think of either a female or a male leader and then assessing how quickly they are able to recognize words indicative of communal leadership traits (Scott & Brown, 2006). In these studies, a stronger association between two concepts (e.g., a female leader and communal leadership traits) equates to faster reaction times because exposure to the first concept during the priming phase of the experiment enhances the mental accessibility of the second concept during the decision-making phase. In contrast, an inverse relationship between two concepts should produce slower reaction times (Bassili, 2003).

Participants were randomly assigned to one of two priming conditions. In both conditions, we presented participants with 10 word fragments and asked them to complete the fragments to form valid English words. In the morningness [eveningness] condition, five fragments were related to morningness (e.g., sunrise) [eveningness (e.g., sunset)]. We also embedded five neutral fragments in both conditions (e.g., elephant) to conceal the purpose of the study. On average, participants successfully completed 4.20 out of the five morningness or eveningness fragments, indicating that participants were attending to the stimuli and correctly following the instructions.

After the prime, we directed participants to complete the LDT. Participants were randomly presented with strings of letters and asked to quickly identify, using keystrokes of *E* or *I*, whether the strings constituted valid English words or not. Participants were



presented with 10 nonsense strings (pronounceable nonwords), 10 neutral words (e.g., notebook), and 10 conscientiousness-related words in random order. The 10 conscientiousness-related words were chosen from extant lexical investigations of conscientiousness, which specify five unique facets of conscientiousness: orderliness, reliability, industriousness, impulse control, and decisiveness (Roberts et al., 2004). Specifically, we chose the two positive-valence words with the highest factor loadings from each facet (i.e., organized, neat, reliable, dependable, industrious, tenacious, careful, cautious, decisive, and deliberate; Roberts et al., 2004). Participants were instructed to sort real words from nonwords as quickly as possible. Consistent with prior research, we excluded incorrect responses and reaction times that exceeded 3 s, as these responses may be a result of participants' temporary lack of attention to the task (Greenwald, Nosek, & Banaji, 2003). A total of 11 participants were omitted due to either a high rate of incorrect responses (indicating randomly clicking) or significant incomplete data.

## Results and Discussion

To test Hypothesis 1, we examined the impact of exposure to morningness versus eveningness cues on participants' averaged reaction times (in milliseconds) to conscientiousness-related words. According to Hypothesis 1, participants in the morningness condition should respond to conscientiousness-related words more quickly than participants in the eveningness condition. As expected, participants in the morningness condition ( $M = 394.38$ ,  $SD = 152.12$ ) reacted to the conscientiousness words significantly faster than participants in the eveningness condition ( $M = 465.83$ ,  $SD = 180.39$ ),  $t(107) = -2.24$ ,  $p < .05$ . Paired-samples  $t$  tests further showed that participants in the morningness condition reacted to the conscientiousness words significantly faster than the neutral words ( $M = 433.65$ ,  $SD = 159.35$ ),  $t(54) = -2.04$ ,  $p < .05$ , and that participants in the eveningness condition reacted to the conscientiousness words significantly slower than the neutral words ( $M = 427.09$ ,  $SD = 172.44$ ),  $t(53) = 3.14$ ,  $p < .01$ . Reaction times for the neutral words did not differ by condition,  $t(107) = -0.16$ ,  $p = .88$ . These results provide initial support for Hypothesis 1, suggesting that participants display a morning bias and automatically associate morningness with conscientiousness. On the basis of this initial supporting evidence of a morningness bias, we conducted Study 2 to test our full theoretical model in an organizational setting (i.e., first-stage moderated mediation).

## Study 2

### Method

**Participants and procedures.** We recruited 229 supervisor–employee dyads through the Study Response Project (for a detailed discussion of Study Response, see [www.studyresponse.net](http://www.studyresponse.net); for recent examples of studies utilizing the Study Response data collection method for dyadic data, see Barnes, Schaubroeck, Huth, & Ghumman, 2011; Piccolo & Colquitt, 2006). With the assistance of the Study Response administrators, we first prescreened potential participants to select those who were working full-time and willing to invite their supervisors to participate in a study on workplace attitudes. Administrators from the Study Response Proj-

ect then validated all leaders' e-mail addresses. A total of 149 dyads successfully completed the surveys (65.1% response rate). Employees were an average of 39.23 years old, 62.4% male, and 79.6% European American. Supervisors were an average of 41.98 years old, 70.7% male, and 85.3% European American. Employees completed a measure of the time that they arrive at work. Supervisors completed a measure of their own chronotypes and rated their employees' conscientiousness and job performance. Employees and supervisors also completed a set of measures for control variables.

### Measures.

**Employee start time.** We measured employees' start times by asking employees, "On average, when do you come to work?" Participants were asked to provide a specific time. Employees' start times ranged from 5 a.m. to 9:45 a.m. with a mean start time of 8:42 a.m. We standardized this variable to ease interpretation of the data.

**Supervisor perceptions of employee conscientiousness.** We asked supervisors to rate their employees' conscientiousness with a 10-item Conscientiousness Scale (e.g., "This employee is always prepared"; Goldberg et al., 2006; 1 = *strongly disagree*; 5 = *strongly agree*;  $\alpha = .88$ ).

**Supervisor ratings of employee job performance.** We asked supervisors to rate their employees' job performance with a five-item Job Performance Scale (e.g., "This employee always completes the duties specified in his or her job description"; Podsakoff & MacKenize, 1989; 1 = *strongly disagree*; 7 = *strongly agree*;  $\alpha = .81$ ).

**Supervisor chronotype.** Supervisors' chronotypes were measured via the 12-item Morning–Evening Orientation Scale (Smith et al., 2002). Supervisors were asked to respond to the questions according to their own preferences and not what they may be forced to do by their work schedules (e.g., "When would you prefer to get up if you had a day off and nothing to do?"; 1 = *much later than most people*; 5 = *much earlier than most people*;  $\alpha = .90$ ). A higher score indicates a greater preference for morningness.

**Control variables.** In addition to demographic information, we controlled for employees' total work hours because performance evaluations are likely affected by total hours worked. Employees were asked to indicate their total work hours at home and at the office in a typical week. Supervisors were asked to estimate employees' total work hours with the same items. We added these items together to form two total work hours variables (employee-reported and supervisor's perceptions). Employees self-reported their conscientiousness with an identical 10-item scale. We controlled for self-report conscientiousness so that our results are not confounded by actual differences in conscientiousness across employees. We also controlled for whether flexibility in start times is a formal arrangement between the dyad with one item ("My manager gives me flexibility over my work schedule"; 1 = *strongly disagree*; 5 = *strongly agree*). For supervisors, we controlled for relative start time by asking supervisors to indicate whether the focal employees come to work earlier or later than other people with similar jobs (1 = *much earlier*; 5 = *much later*) to control for social comparison effects. Finally, we controlled for the length and quality of interaction between the employee and the supervisor because ratings of others' personalities are affected by familiarity with the targets (Connelly & Ones, 2010). Supervisors

Table 1  
Means, Standard Deviations, and Correlations of the Focal Variables (Study 2)

Variable	<i>M</i> ( <i>SD</i> )	1	2	3	4	5	6	7	8	9	10	11
Employee-report variables												
1. Employee start time <sup>a,d</sup>	0.00 (1.00)	(—)										
2. Total work hours <sup>d</sup>	0.00 (1.00)	.06	(—)									
3. Formal arrangement	4.94 (1.64)	.17*	.18*	(—)								
4. Self-report conscientiousness	3.91 (0.65)	-.12	.03	.02	(.84)							
Supervisor-report variables												
5. Perceptions of conscientiousness	3.83 (0.78)	-.26**	.03	.05	.23**	(.88)						
6. Job performance	5.68 (0.93)	-.10	-.04	.12	.24**	.55**	(.81)					
7. Supervisor chronotype <sup>b</sup>	3.26 (.60)	-.12	.10	.12	-.10	-.14 <sup>†</sup>	-.15 <sup>†</sup>	(.90)				
8. Total work hours <sup>d</sup>	0.00 (1.00)	-.23**	.49**	.11	.09	.03	.04	.07	(—)			
9. Dyad interaction (years)	4.30 (1.05)	-.02	.03	.03	.06	.11	.07	.09	.18*	(—)		
10. Dyad relationship quality	4.08 (0.78)	.02	-.07	.13 <sup>†</sup>	-.02	.32**	.35**	.02	.02	.10	(—)	
11. Relative start time <sup>c</sup>	2.40 (0.74)	.25**	-.04	.18*	-.00	-.29**	-.11	.04	-.23**	-.07	.03	(—)

Note. *N* = 149. Alpha coefficients are presented on the diagonal.

<sup>a</sup> Higher scores indicated later start hours. <sup>b</sup> Higher scores indicated greater preferences for morningness. <sup>c</sup> Higher scores indicated later relative start time. <sup>d</sup> Standardized scores.

<sup>†</sup>  $p < .10$ . \*  $p < .05$ . \*\*  $p < .01$ .

were asked how long they have worked with their employees (in years), and how well they know their employees (1 = *not at all*, 5 = *very well*).<sup>1</sup>

## Results and Discussion

The means, standard deviations, and correlations of the focal variables are presented in Table 1. Prior to hypothesis testing, we first conducted a confirmatory factor analysis (CFA) to demonstrate discriminant validity among our three latent constructs: supervisors' ratings of employees' job performance, supervisors' perceptions of employees' conscientiousness, and supervisors' chronotypes. The hypothesized three-factor model demonstrated good fit to the data,  $\chi^2(323) = 656.60$ ,  $p < .01$ , comparative fit index (CFI) = .91, root-mean-square error of approximation (RMSEA) = .08, and was also superior to a more parsimonious model where the conscientiousness and job performance items were set to load on a single factor,  $\Delta\chi^2(1) = 7.41$ ,  $p < .01$ .

To test Hypothesis 1, we conducted an ordinary least squares (OLS) regression. All control variables were entered in Model 1 to predict supervisor perceptions of employees' conscientiousness. In Model 2, we entered employees' standardized start times as a predictor and found that employees who come to work later were perceived as less conscientious by their supervisors ( $\beta = -.18$ ,  $p < .05$ ; see Table 2). We then conducted a bias-corrected bootstrapping procedure (1,000 resamples) to test for mediation (Hypothesis 2) because traditional methods (e.g., Baron & Kenny, 1986) in testing mediation are generally low in power (Fritz & MacKinnon, 2007). The coefficient for the indirect effect of employees' start times on supervisor ratings of job performance via supervisor perceptions of conscientiousness was significant (indirect effect =  $-.09$ ,  $SE = .04$ , 95% confidence interval [CI]  $[-.23, -.01]$ ). Collectively, these results provide support for Hypothesis 1 and Hypothesis 2, suggesting that, all else being equal, employees with late start times are rated as lower performers by their supervisors than employees with early start times, mediated by reduced perceptions of conscientiousness.

To test our hypothesized first-stage moderated mediation model, we began by examining the interactive effect of supervisor chro-

notype and employee start time on supervisor perceptions of conscientiousness. We entered supervisor chronotype and employee start time in Model 2 and the interaction term in Model 3. Results suggested that the model explained significantly more variance ( $\Delta R^2 = .02$ ,  $p < .05$ ) and that the interaction term was significant ( $\beta = -.38$ ,  $p < .01$ ; see Table 2). Simple slope analysis confirmed that results were in the expected direction. When supervisors were "larks," employee start time significantly predicted lower levels of perceived conscientiousness ( $\beta = -.44$ ,  $p < .01$ ). When supervisors were "owls," however, employee start time did not influence perceptions of conscientiousness as the slope did not differ significantly from zero ( $\beta = -.18$ ,  $p = .14$ ). To aid interpretation, we have plotted the interaction effect in Figure 2.

Finally, we utilized the methods of Hayes (2013) to test for conditional indirect effects at 1 standard deviation above and below the mean of the moderator (i.e., supervisor chronotype). When supervisors were larks, the mediated model was significant (indirect effect =  $-.14$ ,  $SE = .07$ , 95% CI  $[-.30, -.01]$ ). When supervisors were owls, however, the mediated model was not significant (indirect effect =  $-.02$ ,  $SE = 0.10$ , 95% CI  $[-.22, .16]$ ). These results hold even when we account for all the control variables. Together, the results suggest that supervisors who prefer eveningness are less likely to be affected by the morning bias and less likely to rate employees with late start times as less conscientious or lower performers.

Study 2 provides support for Hypotheses 1, 2, and 3, demonstrating that employee start times are meaningfully related to supervisors' performance ratings. Despite its strengths, there are

<sup>1</sup> Because we did not collect data on employees' chronotypes, we conducted a validation study to provide support for the argument that employees' start times and their chronotypes are uncorrelated constructs. We recruited 135 working adults (six were dropped due to significant missing data) from Amazon's Mechanical Turk ( $M_{\text{age}} = 32.16$  years, 79.1% European American; 50.4% female). On average, these participants reported 12.43 ( $SD = 8.31$ ) years of working experience. We used the same measures to assess participants' start times and chronotypes (higher = "larks") as in Study 2. As expected, start time and chronotype were not significantly correlated ( $r = -.08$ ,  $p = .41$ ).

Table 2  
Summary of Regression Results (Study 2)

Variable	Dependent variable = Supervisor perceptions of conscientiousness								
	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Age	.03	.01	.34**	.03	.01	.34**	.03	.01	.32**
Race <sup>a</sup>	.09	.13	.05	.08	.13	.05	.11	.13	.06
Gender <sup>b</sup>	.12	.06	.16*	.13	.06	.17*	.13	.06	.17*
Employee total work hours (supervisor report)	-.01	.07	-.01	-.02	.08	-.03	-.04	.09	-.04
Self-reported conscientiousness	.20	.09	.17*	.19	.09	.16*	.19	.10	.16*
Dyad relationship quality	.37	.08	.38**	.37	.08	.38**	.35	.08	.36**
Dyad interaction (years)	.11	.06	.16 <sup>†</sup>	.12	.06	.17*	.12	.06	.18*
Employee total work hours (employee report)	.06	.07	.08	.07	.07	.09	.08	.08	.11
Formal arrangement	.03	.04	.02	.03	.04	.02	.03	.04	.03
Relative start time	-.06	.06	-.08	-.04	.09	-.04	-.06	.09	-.06
Employee start time				-.16	.06	-.18*	-.18	.04	-.25**
Supervisor chronotype				-.08	.10	-.06	-.16	.10	-.15 <sup>†</sup>
Employee Start Time $\times$ Supervisor Chronotype							-.26	.10	-.38**
Adjusted $R^2$		.30			.32			.34	
$\Delta R^2$					.02*			.02*	

Note.  $N = 149$ .

<sup>a</sup> Dummy variable (1 = White, 0 = others). <sup>b</sup> Dummy variable (1 = female, 0 = male).

<sup>†</sup>  $p < .10$ . \*  $p < .05$ . \*\*  $p < .01$ .

two key limitations to Study 2. First, although high in external validity, the cross-sectional design of Study 2 precluded us from establishing causal inferences. Second, although Study 2 controlled for a wide array of factors, we were unable to collect comparable data on objective performance and to rule out this potential confound. In Study 3, we addressed these concerns with an experimental design, allowing us to establish causality and hold objective performance constant through the use of a simulated performance rating task.

### Study 3

#### Method

**Participants and procedure.** We recruited 150 undergraduate students ( $M_{\text{age}} = 21.11$  years; 57.4% female; 55.3% European Amer-



Figure 2. The interactive effect of employees' start times and supervisors' chronotypes on supervisors' perceptions of employees' conscientiousness (Study 2).

ican) from a large public university to complete a performance rating task. A total of 85% reported at least 1 year of work experience. Nine participants were dropped due to significant missing data, leaving a final sample of 141 students. We adapted a previously validated performance rating task in which participants were asked to assume the role of a manager at a fictitious company and to rate one of their employees (Reb & Cropanzano, 2007). Participants were randomly assigned to one of two conditions. In the early [late] start time condition, participants read about the performance of an employee who comes to work early [late] in the day. After reading the employee description, participants were asked to rate the employee in terms of his or her conscientiousness and job performance. Participants then completed a measure of chronotype and provided demographic information.

#### Manipulation and measures.

**Employee start time manipulation.** We randomly presented participants with one of the two profiles. In the early [late] start time condition, participants were told that, in general, the employee comes to work at 7 a.m. [11 a.m.] and leaves at 3 p.m. [7 p.m.] (see Appendix). The employee's schedule was approved by the company, and in both conditions, the employee worked for 8 hr per day. In addition, we presented participants with an identical objective performance chart of the employee over the last 26 weeks to hold objective performance constant.

**Supervisor perceptions of employee conscientiousness.** We asked participants to rate the employee's conscientiousness with the same 10-item Conscientiousness Scale as in Study 2 (Goldberg et al., 2006; 1 = *strongly disagree*; 5 = *strongly agree*;  $\alpha = .90$ ;  $M = 2.94$ ;  $SD = 0.70$ ).

**Supervisor ratings of job performance.** We asked participants to rate the employee's job performance with the same five-item Job Performance Scale as in Study 2 (Podsakoff & MacKenzie, 1989; 1 = *strongly disagree*; 7 = *strongly agree*;  $\alpha = .74$ ;  $M = 4.74$ ;  $SD = 0.73$ ).

**Supervisor chronotype.** We asked participants to rate their own chronotypes with the same 12-item morning–evening orientation scale as in Study 2 (Smith et al., 2002; 1 = *much later than most people*; 5 = *much earlier than most people*;  $\alpha = .82$ ;  $M = 2.77$ ;  $SD = 0.60$ ).

## Results and Discussion

The means, standard deviations, and correlations of the focal variables are presented in Table 3. Prior to hypothesis testing, we first conducted a CFA. The hypothesized three-factor model demonstrated good fit to the data,  $\chi^2(323) = 401.16$ ,  $p < .01$ , CFI = .92, RMSEA = .06, and was also superior to a more parsimonious model where the conscientiousness and job performance items were set to load on a single factor ( $\Delta\chi^2_{[1]} = 90.34$ ,  $p < .01$ ).

To test Hypothesis 1, we conducted an independent samples  $t$  test. Participants in the late start time condition rated the employee as significantly less conscientious ( $M = 2.83$ ,  $SD = 0.65$ ) than participants in the early start time condition ( $M = 3.06$ ,  $SD = 0.73$ ),  $t(139) = -2.01$ ,  $p < .05$ . We then conducted a bias-corrected bootstrapping procedure (1,000 resamples) to test for mediation (Hypothesis 2) as in Study 2. The coefficient for the indirect effect of employee start time on participants' ratings of job performance via perceptions of conscientiousness was significant (indirect effect =  $-.04$ ,  $SE = .03$ , 95% CI [ $-.13$ ,  $-.003$ ]). These results support Hypotheses 1 and 2.

As in Study 2, we examined Hypothesis 3 by first assessing the interactive effect of participants' chronotypes and employee start time on participants' perceptions of the employee's conscientiousness. Chronotype and the experimental condition were entered in Model 1 of the OLS regression, and the interaction term was entered in Model 2. Results suggested that the model explained significantly more variance ( $\Delta R^2 = .03$ ,  $p < .05$ ) and that the interaction effect was significant ( $\beta = -.17$ ,  $p < .05$ ; see Table 4). Simple slope analysis confirmed that when participants preferred morningness, employee start time significantly predicted lower levels of perceived conscientiousness ( $\beta = -.21$ ,  $p < .05$ ). When participants preferred eveningness, however, employee start time did not influence perceptions of conscientiousness as the slope did not differ significantly from zero ( $\beta = -.07$ ,  $p = .49$ ). To aid interpretation, we have plotted the interaction effect in Figure 3. We then utilized the methods of Hayes (2013) to test for conditional indirect effects. When participants were larks, the mediated model was significant (indirect effect =  $-.06$ ,  $SE = 0.05$ , 95% CI [ $-.20$ ,  $.004$ ]). When participants were owls, however, the mediated model was not significant (indirect effect =  $-.03$ ,  $SE = 0.04$ ,

95% CI [ $-.16$ ,  $.03$ ]). Together, the results provide support for our full theoretical model.

## General Discussion

Contemporary employees are increasingly concerned about work–life balance. To this end, many organizations have introduced flexible work practices that allow employees to decide *when* to start the work day. Drawing from the stereotyping literature, we conducted three studies aimed at providing insight into the processes and boundary conditions that underlie the negative effects of FWP on how employees are perceived. Specifically, we demonstrated that employees who choose late start times subject themselves to the negative stereotype of being less conscientious. This stereotype in turn leads supervisors to perceive late-starting employees as lower performers, but only among supervisors who prefer morningness themselves.

## Theoretical Implications

First and foremost, we contribute to the FWPs literature by introducing stereotyping as an important lens through which the negative effects of FWPs can be examined. Popular beliefs and empirical research suggest that FWPs are beneficial for employees (e.g., Baltes et al., 1999).

Nonetheless, recent studies have begun to challenge this view, suggesting a potential dark side to FWPs (Glass, 2004; Leslie et al., 2012). Through the lens of the stereotyping literature, we provide insight into the question of why, precisely, FWPs might produce adverse effects. Our results suggest that employees should be particularly mindful of their decisions to utilize FWPs by arriving at work later in the day, as this decision might equate to career penalties in the form of lower supervisor performance ratings.

More broadly, our research contributes to the literature by examining the effects of automatic inferences and social perceptions in the workplace beyond gender and racial stereotypes. Although decades of research have demonstrated the consequences of gender and racial stereotypes in the workplace, more recent research suggests that even extraneous attributes such as height (Judge & Cable, 2004) and weight (Judge & Cable, 2011) can affect employees' career success. In addition to these extant workplace stereotypes, we introduce employee start time as another important source of stereotyping that has significant work-related consequences. In addition to introducing a new source of workplace stereotypes, we provide a deeper understanding of when and

Table 3  
Means, Standard Deviations, and Correlations of the Focal Variables (Study 3)

Variable	Means (SD)	1	2	3	4
1. Employee start time <sup>a</sup>	0.50 (0.50)	(—)			
2. Perceptions of conscientiousness	2.94 (0.70)	-.17*	(.90)		
3. Job performance	4.74 (0.73)	-.29**	.22**	(.74)	
4. Supervisor chronotype <sup>b</sup>	2.77 (0.60)	.01	-.03	-.10	(.82)

Note.  $N = 141$ . Alpha coefficients are presented on the diagonal.

<sup>a</sup> Dummy variable (0 = early start time; 1 = late start time). <sup>b</sup> Higher scores indicated greater preferences for morningness.

\*  $p < .05$ . \*\*  $p < .01$ .



Table 4  
Summary of Regression Results (Study 3)

Variable	Dependent variable = Supervisor perceptions of conscientiousness					
	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Experimental condition <sup>a</sup>	-0.25	0.11	-.18*	-0.09	0.05	-.07
Supervisor chronotype	-0.06	0.10	-.03	-0.22	0.13	-.20 <sup>†</sup>
Experimental Condition $\times$ Supervisor Chronotype				-0.14	0.05	-.17*
Adjusted $R^2$		0.09			0.12	
$\Delta R^2$					0.03*	

<sup>a</sup> Dummy variable (0 = early start time; 1 = late start time).

<sup>†</sup>  $p < .10$ . \*  $p < .05$ .

why this stereotype is most likely to occur by demonstrating the underlying psychological mechanism as well as the boundary conditions of this morning bias. Furthermore, our findings support the contention that stereotyping is a malleable process by revealing that supervisors who are “owls” are least affected by this morning bias (Blair, 2002).

Finally, we contribute to the literature by introducing the construct of chronotype in the prediction of supervisor ratings of job performance. Chronotype is a biologically based individual difference that has received consistent empirical attention in the biological sciences (e.g., Roenneberg et al., 2004) and personality psychology (e.g., Tsaousis, 2010) but comparatively little attention in the organizational sciences. In this research, we demonstrate the benefits of applying this construct toward a better understanding of interpersonal interactions at work. Beyond research on employee start times, we suggest that chronotype can be used to augment research on the role of other individual traits (e.g., Big Five) in determining how people behave at work. For example, a mismatch of chronotype and work hours may lead to depletion and negatively affect a range of important work outcomes such as ethical behavior (Barnes et al., 2011) and work effort (Hagger, Wood, Stiff, & Chatzisarantis, 2010).

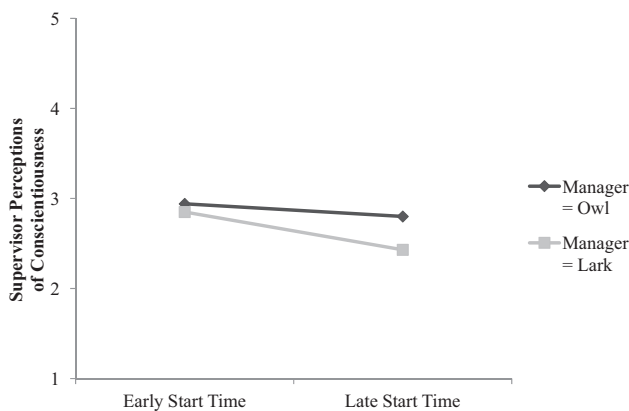


Figure 3. The interactive effect of employees' start times and supervisors' chronotypes on supervisors' perceptions of employees' conscientiousness (Study 3).

## Practical Implications

Given recent trends indicating a rapid increase in the utilization of FWP, our research holds several important practical implications for employees, supervisors, and organizations. First, by demonstrating the existence of a morning bias and its work-related consequences, we hope to aid employees in deciding whether to utilize FWPs. We are by no means discouraging employees from utilizing FWPs but merely wish to provide them with an understanding of the full range of potential consequences of using FWPs. Unlike gender or racial stereotypes, there are no legal regulations concerning the morning bias in the workplace. Nevertheless, we hope that our results can help supervisors better understand how they rate their employees' performance. Should supervisors consistently endorse the morning bias and make unfair reward decisions, their employees are likely to suffer. We recommend that supervisors remain mindful of the morning bias and ensure that their performance ratings are based on more reliable performance metrics. When organizations implement FWPs, we specifically recommend that they structure their performance appraisal systems in ways that might allow them to remain objective in their assessments of employee performance. For example, top management at Best Buy attempts to set a cultural norm for FWPs by explicitly requesting supervisors to let go of their established expectations of traditional work time (Moen, Kelly, & Hill, 2011). By directly addressing these biases upfront, organizations can ensure a more productive and effective workforce, with performance appraisal systems that accurately reflect the quality of their employees' work.

## Limitations and Future Research

Looking at the limitations of the current research, we suggest a few fruitful avenues for future research. First, our research is limited in its focus on global job performance, which is only one of many potential outcomes relevant to the morning bias. Job performance has been conceptualized as a multidimensional construct encompassing task, citizenship, and counterproductive performance (Rotundo & Sackett, 2002). Conscientiousness is generally found to be a stronger predictor of citizenship behavior than task-related performance (for a review, see Borman, Penner, Allen, & Motowidlo, 2001), suggesting that negative effects of the morning bias may be even more salient if we examine other facets of job

performance. Conversely, the morning bias may in fact positively affect ratings of creative performance, as research has generally revealed a negative correlation between conscientiousness and creativity (Feist, 1998). We therefore encourage future research to examine the full range of consequences of the morning bias in the workplace.

Second, in Study 3, we asked participants to evaluate employees' job performance with limited information. Past research suggests that people are more likely to rely on stereotypes when making judgments concerning unfamiliar individuals (Fiske, 1998). Moreover, although participants were provided with the same objective performance data, it is likely that participants would form idiosyncratic interpretation of the performance charts. Thus, it is not clear if the findings from Study 3 would fully extend to a field setting. In future research, investigators should seek to address this issue by controlling for objective performance in field settings.

Third, we have only examined supervisor chronotype as a boundary condition of the theoretical model. Future research should examine the moderating effects of contextual factors such as organizational climate and industry type on the link between employee start times and supervisor performance ratings. Ideally, future research can explore these avenues to identify effective structural interventions that can simultaneously leverage the positive effects of FWP and minimize their negative effects.

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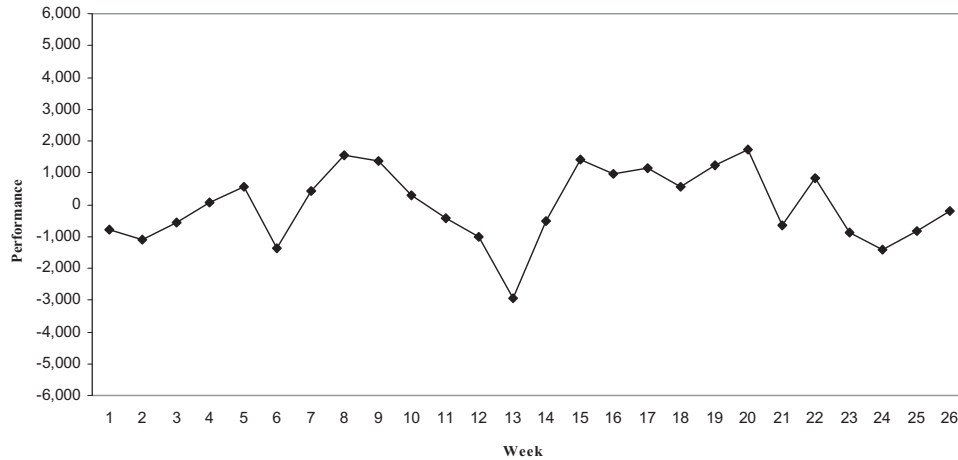
**Appendix**

**Study 3 Experimental Manipulation**

**Early Start Time Condition**

Digital Analysis Corporation (DAC) is a business consulting firm based in Bothell, Washington. It is generally perceived to be a good place to work. John is a recent hire at DAC. Below is a graph of John’s recent objective performance report, which is based on the number of client contracts he fulfills.

One of the perks of working at DAC is its flexible work scheduling program. DAC allows its employees to arrive at the office anytime between 7 a.m. and 11 a.m. and to leave anytime between 3 p.m. and 7 p.m., as long as they work in 8-hr shifts. Generally, he chooses to set an early schedule. Most days, he comes in at 7 a.m. and leaves at 3 p.m.



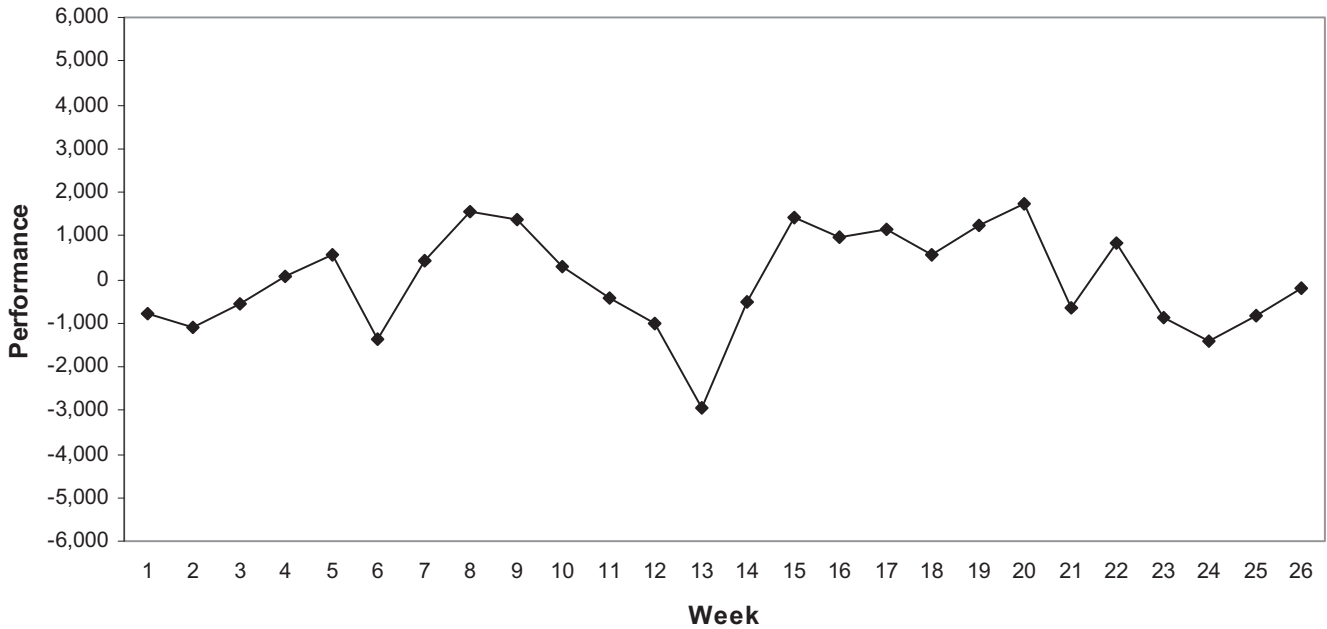
*(Appendix continues)*



### Late Start Time Condition

Digital Analysis Corporation (DAC) is a business consulting firm based in Bothell, Washington. It is generally perceived to be a good place to work. John is a recent hire at DAC. Below is a graph of John's recent objective performance report, which is based on the number of client contracts he fulfills.

One of the perks of working at DAC is its flexible work scheduling program. DAC allows its employees to arrive at the office anytime between 7 a.m. and 11 a.m. and to leave anytime between 3 p.m. and 7 p.m., as long as they work in 8-hr shifts. Generally, he chooses to set a late schedule. Most days, he comes in at 11 a.m. and leaves at 7 p.m.



Received July 31, 2013

Revision received March 21, 2014

Accepted May 6, 2014 ■