Indecision and Avoidant Procrastination: The Role of Morningness–Eveningness and Time Perspective in Chronic Delay Lifestyles

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ABSTRACT. The authors examined how time orientation and morningness–eveningness relate to 2 forms of procrastination: indecision and avoidant forms. Participants were 509 adults (M age = 49.78 years, SD = 6.14) who completed measures of time orientation, morningness–eveningness, decisional procrastination (i.e., indecision), and avoidant procrastination. Results showed that morningness was negatively related to avoidant procrastination but not decisional procrastination. Overall, the results indicated different temporal profiles for indecision and avoidant procrastinations. Avoidant procrastination related to low future time orientation and low morningness, whereas indecision related to both (a) high negative and high positive past orientations and (b) low present-hedonistic and low future time orientations. The authors inferred that distinct forms of procrastination seem different on the basis of dimensions of time.

Keywords: avoidant procrastination, indecision, morningness–eveningness, time perspective

TIME DIMENSIONS SEEM to be necessary components of the definition of procrastination, the purposive and frequent delay in beginning or completing a task to the point of experiencing subjective discomfort (Ferrari, Johnson, & McCown, 1995; Schouwenburg, Lay, Pychyl, & Ferrari, 2004). Research supports different reasons why people may procrastinate. Some people avoid the start or completion of a task because the outcome involved may threaten the

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individual’s self-esteem (i.e., avoidant procrastination; Ferrari & Pychyl, 2000), whereas other individuals may procrastinate by postponing necessary decisions (i.e., indecision or decisional procrastination; Effert & Ferrari, 1989; Janis & Mann, 1977). Despite the obvious relation between the subtypes of procrastination (Harriott & Ferrari, 1996), few researchers have examined which psychological concepts differentially relate to the two motives.

In the present study, we examined both indecision and avoidant procrastination, considering their association with temporal dimensions. Given that people’s ability to organize their day is at the core of the timing of many daily behaviors (Ferrari & Díaz-Morales, 2007), we assessed how avoidant procrastinators and indecisive individuals differed in their time orientation (i.e., an individual’s way of relating to the past, present, or future) and morningness–eveningness (i.e., an individual’s preference for specific times during the day). We suggest this differential analysis may be relevant to the treatment of chronic procrastination.

Morningness–eveningness reflects individual differences in the temporal preferences for time of waking and sleeping, as well as for time of day for accomplishing demanding intellectual and physical tasks (Carrier & Monk, 2000). The underlying mechanism of morningness–eveningness is the variability of a set of psychological, behavioral, and biological variables that have roughly a 24-hour oscillation (i.e., a circadian rhythm; Tankova, Adan, & Buela-Casal, 1994). An individual’s preference along this dimension may have important implications for performance of certain tasks. People with higher morningness scores performed better on cognitive tasks conducted in the morning in comparison with individuals with lower morningness scores. In contrast, people lower in morningness scores (eveningness orientation) had an optimal level of alertness and improved scores on the same cognitive tasks when completed in the afternoon and evening (Carrier & Monk).

Previous researchers examined the relation between morningness–eveningness and procrastination (Ferrari, Harriott, Evans, Lecik-Michna, & Wenger, 1997). Ferrari et al. (1997) found that procrastinators self-identified more as “night” persons as opposed to “day” persons in comparison with non-procrastinators. This outcome may be because procrastinators tend to be most alert and active during the afternoon and evening hours, but this hypothesis has not yet been analyzed. In addition, Hess, Sherman, and Goodmand (2000) found eveningness and neuroticism were associated with academic procrastination, as neuroticism partially mediated the relation between eveningness and academic procrastination among students.

Therefore, procrastinators may delay activities until the afternoon or night because they are more evening oriented (Ferrari et al., 1997). However, Ferrari et al.’s results were based on undergraduate student samples. An important issue that remains is whether this relation between procrastination and eveningness would appear among adults. Circadian rhythms of undergraduates are not under the influence of time schedules and social patterns as much as those of the adult
working population. Chronopsychological studies have showed an evening orientation among undergraduates (Adan & Natale, 2002), especially when they are free of possible influences on their study or work schedules during the weekend (Bohle, Tilley, & Brown, 2001; Carskadon, 2002). Meanwhile, results showed that adults had a higher tendency to relate toward morningness, possibly because of their occupational schedules (Park, Matzumoto, Seo, Shinkoda, & Park, 1997). Thus, because adults do not relate to an evening orientation like undergraduates, further examination is needed to explore whether the initial results concerning morningness–eveningness and procrastination (Ferrari et al., 1997; Hess et al., 2000) may replicate in an adult population.

The second temporal dimension included in this study was time orientation. Time orientation represents an individual’s way of relating to the psychological concepts of past, present, and future. Individuals use past, present, and future frames in encoding, storing, and recalling experienced events and in forming expectations, goals, and imaginative views (Boyd & Zimbardo, 2005). Procrastination is conceptually representative of self-regulatory failure (Ferrari, 2001) and consequently disables individuals from guiding their goal-directed activities across changing circumstances and over time (Karoly, 1993). Because procrastination is viewed as wasting time, time orientation has been studied in relation to procrastination (Ferrari & Díaz-Morales, 2007; T. Jackson, Fritch, Nagasaka, & Pope, 2003; Specter & Ferrari, 2000; Vodanovich & Seib, 1997). Researchers have demonstrated that dilatory behavior related more strongly to a present orientation (Blatt & Quinlan, 1967, as cited in Ferrari et al., 1995) in comparison with a future orientation (Specter & Ferrari, 2000). Additionally, researchers found that avoidant procrastination positively related to a past orientation (T. Jackson et al., 2003). These findings may be because chronic procrastinators prefer short-term pleasurable activities (Ferrari & Emmons, 1995) and immediate rewards (Pychyl, Lee, Thibodeau, & Blunt, 2000) at the expense of future goals (Baumeister, 1997; Ferrari, 2001).

Specter and Ferrari (2000) found that indecision partially replicated the findings discussed previously (Blatt & Quinlan, 1967, as cited in Ferrari et al., 1995). They found indecision to be negatively associated with future time orientation and positively associated with a past time orientation but not related to a present time orientation. Additional researchers studying time orientation and procrastination found even more drastic differences among types of procrastination. After controlling negative affect, T. Jackson et al. (2003) showed that procrastination among students had robust associations with a negative evaluation of the past, a fatalistic or negative view of the present, and a positive view of the future. However, these studies did not examine or compare specific forms of procrastination such as indecision and avoidant procrastination.

Ferrari and Díaz-Morales (2007) found that avoidant procrastination was associated negatively with present-fatalistic time orientation, a hopeless attitude toward the future and life in general, whereas arousal procrastination (i.e., delays in the
start or completion of everyday tasks by need for a thrill) was associated positively with the *present-hedonist attitude*, a hedonistic risk-taking attitude toward time and life, and negatively associated with future time orientations. In addition, initial investigations of morningness–eveningness and time orientation provided valuable insights into the procrastination–time relationship. Still, three concerns remain that limit the generalizability of these findings: (a) The partial contribution of both temporal dimensions (morningness–eveningness and time orientation) has not been analyzed, (b) motives of procrastination have not been considered (except by Ferrari & Díaz-Morales), and (c) the generalizability of results based on undergraduate student samples to adults has not been investigated.

In the present study, we considered whether morningness–eveningness and time orientation are differentially related to avoidant procrastination and indecision. An avoidant procrastinator’s dilatory behavior may be motivated by a tendency toward eveningness. This would support previous findings that suggested procrastinators in general prefer completing their daily activities at the end of the day (Ferrari et al., 1997). In contrast, indecision may be motivated not by eveningness but by the way in which such individuals subjectively structure past, present, and future dimensions of time. The present findings may be consistent with previous studies on indecision in which researchers found a negative association with the future (Specter & Ferrari, 2000). Thus, we tested whether avoidant procrastinators delay their daily activities because they believe they perform best in the afternoon or evening, whereas indecisive procrastinators delay because of a negative view of what future consequences may result from their decision.

**Method**

**Participants**

Participants were a sample of 509 adults (254 women, 255 men; $M_{age} = 49.78$ years, $SD = 6.14$ years; range = 31–67 years). They worked as administrative staff (9.2%), housewives (25.4%), business professionals (8.8%), specialized workers (9.2%), unspecialized workers (22.8%), public health professionals (9.2%), and professors (6.6%; 2.2% of respondents did not report profession). In terms of education, 30% reported only primary school, 37.7% reported secondary school, and 32.3% reported higher education. Most participants (77.1%) were married. Typically, participants had two children. All participants volunteered for this study, and we debriefed them with a report of the results when the study was completed.

**Psychometric Instruments and Procedure**

All participants completed the Decisional Procrastination Scale (DP; Mann, 1982), a 5-item inventory addressing a person’s tendency to put off decisions
by doing others tasks. Sample items include, “I delay in making decisions until it is too late” and “I put off making decisions.” We used the Spanish version of this scale (Díaz-Morales, Ferrari, Díaz, & Argumedo, 2006a). With Anglo and Spanish samples, the scale had a Cronbach’s α ≥ .70 (Díaz-Morales et al., 2006a; Ferrari et al., 1995) and retest reliability ≥ .80 (Effert & Ferrari, 1989). With the present sample, the reliability (Cronbach’s α) was .78.

We included the 15-item Adult Inventory of Procrastination (AIP) developed by McCown and Johnson (1989; for details, see Ferrari et al., 1995) to examine procrastination motivated by fears of success or failure, avoidance of disclosure of skill inabilities, and insecurities about performance (Ferrari, 1991). Respondents rated each item along a 5-point Likert-type scale ranging from 1 (false for me) to 5 (true for me), with seven items with reverse scores. Sample items included, “I don’t get things done on time” and “I am not very good at meeting deadlines.” The scale had a Cronbach’s α ≥ .80 with Spanish samples (Díaz-Morales et al., 2006a) and .86 with the present sample.

Participants also completed the Zimbardo Time Perspective Inventory (ZTPI; Zimbardo & Boyd, 1999), a 56-item, 5-point Likert-type rating scale ranging from 1 (very uncharacteristic) to 5 (very characteristic). It measures a person’s subjective beliefs, preferences, and values about temporal experiences. Five dimensions have been identified: (a) past-negative, a general negative, aversive view of the past (“I think about the bad things that have happened to me in the past” or “I often think of what I should have done differently in my life”); (b) present-hedonist, a hedonistic risk-taking attitude toward time and life (“Taking risks keeps my life from becoming boring” or “I do things impulsively”); (c) future, an attitude that entails considering goal planning and achieving (“I am able to resist temptations when I know that there is work to be done” or “I complete projects on time by making steady progress”); (d) past-positive, an optimistic attitude toward the past (“I get nostalgic about my childhood” or “I enjoy stories about how things used to be in the ‘good old times’”); and (e) present-fatalist, a hopeless attitude toward the future and life in general (“My life path is controlled by forces I cannot influence” or “You can’t really plan for the future because things change so much”).

The structure of the inventory was reproduced in a Spanish adult population with congruence coefficients between U.S. and Spanish factorial structures from .97 for past-positive attitude to .79 for present-fatalistic attitude (see Díaz-Morales, 2006). Reliability (Cronbach’s alpha) of time orientation was .80 (past-positive), .79 (present-hedonistic), .70 (future), .70 (past-positive), and .64 (present-fatalistic).

Last, participants completed a measure of morningness–eveningness, the Early/Late Preferences Scale (PS; Smith et al., 2002). The PS is made of 12 items that do not refer to specific times of day. Instead, we explored the participants’ preferences for carrying out different activities in comparison with the reference group. By eliminating reference to time of day, the PS is inclusive of the variety of working schedules and better accounts for cultural differences in activity timing (Di Millia, 2005). The scores are calculated by summing all the items, with a
range from 12 to 60. Participants respond to questions such as, “Compared with most people, and assuming you were entirely free to choose, when would you prefer to get up?” and “When would you prefer to go to bed?”

To respond to the PS, participants select a choice along a 5-point Likert scale ranging from 1 (much later than most people) to 5 (much earlier than most people). Recent researchers have demonstrated high reliability values of the PS (Cronbach’s $\alpha = .73–.90$) by using large student and worker samples (Bohle et al., 2001; Di Millia, 2005; Smith et al., 2002). An earlier study with Spanish adult samples using the same version of the PS as the present version suggested accurate psychometric properties ($\alpha = .82$; Díaz-Morales & Sánchez-López, 2004). With the present sample, the reliability of the PS was .80.

**Procedure**

Each participant completed a consent form, demographic items (e.g., age, gender, marital status, occupation, education level), and the three psychometric scales during a 1-hr session. We recruited adult participants by using a snowball approach so that a group of psychology undergraduates gave all scales (in counterbalanced order) to people from their group of friends, with restrictions on gender and age to maintain a balanced distribution.

**Results**

Table 1 shows means and correlation coefficients split by sex among indecision, avoidant procrastination, morningness–eveningness, time orientation, and age. Mean scores of avoidant procrastination ($M = 32.22, SD = 9.03$) and indecision ($M = 12.46, SD = 4.33$) were comparable to previous studies on procrastination in Spanish samples (Ferrari, Díaz-Morales, O’Callaghan, Díaz, & Argumedo, 2007, for avoidant procrastination; Díaz-Morales, Ferrari, Díaz, & Argumedo, 2006b, for indecision). Regarding morningness–eveningness level, the adult participants in this study showed a greater tendency toward morningness in comparison with the adult sample in Díaz-Morales and Sánchez-López’s (2004) study, $M = 33.5, SD = 6.57, z = -16.36, p < .001$. Last, mean time orientation scores were similar to values obtained in previous studies (Díaz-Morales, 2006; Ferrari & Díaz-Morales, 2007).

Out preliminary analysis indicated a significant relation between avoidant procrastination and age ($r = -.16, p < .05$) in men but not in women. However, we did not find a significant relation between indecision and age for either men or women (see Table 1). Regarding sex, there was a significant difference between men and women in regard to indecision, $t(507) = 2.48, p < .05$, indicating that women ($M = 12.9, SD = 4.47$) were more indecisive than men ($M = 11.9, SD = 4.15$). However, there was no significant sex difference for avoidant procrastination, $t(507) = 0.68, p > .05$. 
### TABLE 1. Means and Zero-Order Pearson Correlations Among Avoidant Procrastination (AIP) and Indecision (I), Past-Negative (P-N), Present-Hedonist (P-H), Future (F), Past-Positive (P-P), and Present-Fatalistic (P-F) Time Orientations, Morningness–Eveningness (M-E), and Age

<table>
<thead>
<tr>
<th>Variable</th>
<th>AIP</th>
<th>I</th>
<th>P-N</th>
<th>P-H</th>
<th>F</th>
<th>P-P</th>
<th>P-F</th>
<th>M-E</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIP</td>
<td>—</td>
<td>.37***</td>
<td>.09</td>
<td>.13*</td>
<td>.46***</td>
<td>.02</td>
<td>.19***</td>
<td>−.20***</td>
<td>−.05</td>
</tr>
<tr>
<td>I</td>
<td>.50***</td>
<td>—</td>
<td>.32***</td>
<td>−.08</td>
<td>−.13*</td>
<td>.18***</td>
<td>.24***</td>
<td>−.12</td>
<td>−.05</td>
</tr>
<tr>
<td>P-N</td>
<td>.22***</td>
<td>.38***</td>
<td>—</td>
<td>.17**</td>
<td>−.02</td>
<td>.25***</td>
<td>.45***</td>
<td>−.02</td>
<td>.04</td>
</tr>
<tr>
<td>P-H</td>
<td>.18***</td>
<td>.10</td>
<td>.20***</td>
<td>—</td>
<td>−.11</td>
<td>.19***</td>
<td>.19***</td>
<td>−.12*</td>
<td>−.16**</td>
</tr>
<tr>
<td>F</td>
<td>−.61***</td>
<td>−.47***</td>
<td>−.13*</td>
<td>−.09</td>
<td>—</td>
<td>.11</td>
<td>−.35***</td>
<td>.26***</td>
<td>−.05</td>
</tr>
<tr>
<td>P-P</td>
<td>.01</td>
<td>.16**</td>
<td>.27***</td>
<td>.18***</td>
<td>.10</td>
<td>—</td>
<td>.22***</td>
<td>.08</td>
<td>.03</td>
</tr>
<tr>
<td>P-F</td>
<td>.30***</td>
<td>.31***</td>
<td>.35***</td>
<td>.33***</td>
<td>−.30***</td>
<td>.08</td>
<td>—</td>
<td>−.16***</td>
<td>.11</td>
</tr>
<tr>
<td>M-E</td>
<td>−.28***</td>
<td>−.11</td>
<td>−.06</td>
<td>−.10</td>
<td>.24***</td>
<td>.05</td>
<td>−.19***</td>
<td>—</td>
<td>.09</td>
</tr>
<tr>
<td>Age</td>
<td>−.16*</td>
<td>−.05</td>
<td>−.05</td>
<td>−.22***</td>
<td>.13*</td>
<td>.00</td>
<td>.01</td>
<td>−.03</td>
<td>—</td>
</tr>
<tr>
<td>Women</td>
<td>M</td>
<td>32.51</td>
<td>12.92</td>
<td>2.72</td>
<td>2.88</td>
<td>3.69</td>
<td>3.40</td>
<td>2.86</td>
<td>36.50</td>
</tr>
<tr>
<td></td>
<td>SD</td>
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<td>4.47</td>
<td>0.61</td>
<td>0.53</td>
<td>0.53</td>
<td>0.62</td>
<td>0.58</td>
<td>5.93</td>
</tr>
<tr>
<td>Men</td>
<td>M</td>
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<td>3.19</td>
<td>2.66</td>
<td>37.41</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>9.06</td>
<td>4.15</td>
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<td>0.57</td>
<td>0.69</td>
<td>0.61</td>
<td>6.60</td>
</tr>
<tr>
<td>Total</td>
<td>M</td>
<td>32.22</td>
<td>12.46</td>
<td>2.64</td>
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<td>3.71</td>
<td>3.30</td>
<td>2.76</td>
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</tr>
<tr>
<td></td>
<td>SD</td>
<td>9.03</td>
<td>4.33</td>
<td>0.59</td>
<td>0.55</td>
<td>0.55</td>
<td>0.66</td>
<td>0.60</td>
<td>6.30</td>
</tr>
</tbody>
</table>

*Note.* Women (n = 254) are shown above diagonal, and men (n = 255) are shown below diagonal. N = 509.

*p < .05. †p < .01. ‡p < .001.
As noted in Table 1, avoidant procrastination was negatively related to morningness–eveningness, whereas the negative correlation between indecision and morningness–eveningness was not significant. These results confirm our hypothesis that avoidant procrastinators delayed their daily activities because they believed they performed best in the afternoon or evening. Avoidant procrastination was strongly related to indecision among men ($r = .50, p < .001$) and moderately related among women ($r = .36, p < .001$), indicating that for the present adult sample both procrastination styles were not mutually exclusive.

Considering time orientations, avoidant procrastination was positively related to past-negative time orientation in men but not in women. Avoidant procrastination was also related to present-hedonist and present-fatalist time orientations and was negatively related to future orientation. However, indecision was positively related to past-negative, past-positive, and present-fatalist time orientations and also negatively related to future orientation (more for men, $r = -.47, p < .001$, than for women, $r = -.13, p < .001$; $z = 3.83, p < .001$). These results support our hypothesis that indecisive individuals delay because of a negative view of what future consequences may result from their decision. Morningness–eveningness also was negatively related to present-fatalist time orientation and positively related to future time orientation. Last, present-hedonist orientation decreased with age, whereas future orientation increased with age (see Table 1).

Next, to analyze the contribution of time orientations and morningness–eveningness on indecision and avoidant procrastination, we performed two multiple linear regression analyses including time orientations, morningness–eveningness, age, and sex (dummy variable: women = 0, men = 1) as predictors. Because both motives of procrastination were strongly associated, we also included avoidant procrastination and indecision as predictors to control the shared variance. Table 2 presents regression models for avoidant procrastination (with control of indecision) and indecision (with control of avoidant procrastination), respectively. The first regression model ($R^2 = .37$) indicated that avoidant procrastination was related to indecision ($\beta = .29, p < .001$) and that future time orientation ($\beta = -.41, p < .001$) and morningness–eveningness ($\beta = -.10, p < .05$) negatively predicted avoidant procrastination. The second regression model ($R^2 = .29$) indicated that indecision was positively related to avoidant procrastination ($\beta = .32, p < .001$); was positively predicted by both past-negative ($\beta = .29, p < .001$) and past-positive ($\beta = .13, p < .001$) time orientations; and was negatively predicted by present-hedonistic ($\beta = -.16, p < .001$) and future ($\beta = -.10, p < .05$) time orientations.

Discussion

In the present study, we analyzed the relevance of two personality variables that may correspond to completing tasks on time: morningness–eveningness and time orientation. Our goal was to provide further evidence that there are distinct forms of procrastination (see Ferrari & Díaz-Morales, 2007) by demonstrating
how indecision and avoidant procrastination relate to different time profiles. Results indicated that when the relative contributions of both temporal dimensions were considered in the prediction of indecision and avoidant procrastination, morningness–eveningness and future time orientation negatively predicted avoidant procrastination. High past-negative and past-positive time orientations and low present-hedonistic and future time orientations predicted indecision scores.

It seemed that among adult men and women, avoidant procrastination but not indecision related to being a night person. Avoidant procrastinators likely performed activities during the evening, specifically much later than most people. This outcome was consistent with research on procrastination and morningness–eveningness that included only university students (Ferrari et al., 1997; Hess et al., 2000). Future researchers may want to examine whether this eveningness orientation and a belief that an individual performs at an optimal level in the afternoon or evening are the motivating factors behind avoidant procrastination.

These findings suggest that avoidant procrastination may mediate the relation between morningness–eveningness and a variety of maladaptive processes. People high in morningness represent the best values and standards because they are more conscientious (L. A. Jackson & Gerard, 1996) and have a dutiful or conformist personality style (Díaz-Morales, 2007). Previous researchers have demonstrated that procrastination negatively relates to conscientiousness, as people postpone necessary duties to protect their self-esteem (Schouwenburg & Lay, 1995; Van Eerde, 2003; Watson, 2001). Therefore, it may be that the reason why evening individuals are not held in the same regard as morning people is

### TABLE 2. Regression Analysis of Procrastination Motives, by Time Orientations, Morningness–Eveningness, Age, and Gender

<table>
<thead>
<tr>
<th>Variable</th>
<th>Avoidant procrastination</th>
<th>Indecision</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>t</td>
</tr>
<tr>
<td>Indecision</td>
<td>.29</td>
<td>7.03**</td>
</tr>
<tr>
<td>Avoidant procrastination</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Past-negative</td>
<td>.00</td>
<td>0.08</td>
</tr>
<tr>
<td>Present-hedonist</td>
<td>.07</td>
<td>1.96</td>
</tr>
<tr>
<td>Future</td>
<td>-.41</td>
<td>-1.38**</td>
</tr>
<tr>
<td>Past-positive</td>
<td>.00</td>
<td>0.11</td>
</tr>
<tr>
<td>Present-fatalistic</td>
<td>.00</td>
<td>0.04</td>
</tr>
<tr>
<td>Morningness–eveningness</td>
<td>-.10</td>
<td>-2.63*</td>
</tr>
<tr>
<td>Age</td>
<td>-.06</td>
<td>-1.56</td>
</tr>
<tr>
<td>Gender</td>
<td>.02</td>
<td>0.67</td>
</tr>
</tbody>
</table>

*Note. Gender was coded as dummy variable (women = 0, men = 1). N = 509.

*p < .05. **p < .01.
their tendency to avoid certain obligations during the day, making them low in conscientiousness and likely to not conform to certain tasks that need immediate attention. Thus, intervention strategies designed to help evening individuals increase activity earlier in the day may decrease avoidant dilatory behavior and help them to develop more adaptive qualities.

In addition to morningness–eveningness, future-time orientation also negatively predicted avoidant procrastination. Procrastinators often cope with the anxiety and threat from the potential accomplishment of a task by actively avoiding the start of a task until there is insufficient time to perform optimally. Consistent with Van Eerde (2003), we found that avoidant procrastination seemed to be a purposive strategy to avoid a temporary threat to an individual’s well-being. Ferrari and Díaz-Morales (2007) showed that the protection of the well-being of avoidant procrastinators may be achieved by a *fatalistic view of time*, a sense that their future is predestined regardless of their actions and that the present seems controlled by fate (Zimbardo & Boyd, 1999). However, when we considered both present-fatalistic time orientation and morningness–eveningness as predicting avoidant procrastination, eveningness—but not present-fatalistic time orientation—was related to avoidant procrastination. An obvious consequence of these results may be a lack of self-regulation by avoidant procrastinators to low future orientation and a preference to be a night person. Future researchers may test time-of-day effects on the accomplishment of tasks.

Furthermore, time orientation may be proposed as one process that underlies the tendency to delay making decisions. Janis and Mann (1977) proposed that a plausible explanation for procrastinators’ delaying the beginning of their tasks was that they think of past experiences, which are valued negatively rather than positively. The results of the present study partially supported this notion, indicating that indecision was associated with thinking about past experiences, with not only negative views but also positive views. Therefore, we suggest that indecisive individuals may be too preoccupied with reminiscing about both positive and negative past events, and this form of rumination may result in indecision. Future studies showing that ruminations about an individual’s past underlie indecision would demonstrate that rumination on its own not only is a maladaptive coping mechanism but also supports other inefficient cognitions such as indecision.

However, whereas past-time orientations may positively relate to indecision, present-hedonist time orientation may reduce decisional procrastination. Perhaps this reduction occurred because making contingent decisions reduces indecision over choices from the past. Living in the moment requires few concerns about the future or regrets about the past, and these outcomes may decrease indecision. This finding is contrary to previous research on arousal procrastination and present-hedonist orientation. Ferrari and Díaz-Morales (2007) showed that behavioral procrastination motivated by a thrill-seeking motive (i.e., arousal procrastination) was related to present-hedonist orientation, perhaps because chronic arousal procrastinators seek more immediate and pleasurable rewards than the rewards of longer plans or future goals (Pychyl et al., 2000). Thus, a high present-hedonist
orientation may reduce decisional procrastination—because there is no burden of past or future ruminations (for an explanation of orientation ruminations, see Martin & Tesser, 1996) when making a decision—and may increase arousal procrastination because of the focus on the present thrill. The difference between arousal procrastination and indecision may be important to consider in diagnosis and treatment of procrastination because it shows the distinct motives that may underlie specific styles of procrastination.

Last, consistent with past research (Specter & Ferrari, 2000), we found that indecision was negatively associated with future orientation. Future time orientation is important in the decision-making processes because it allows an individual to anticipate the consequences of future events (Seijts, 1998). For example, to increase preventative behavior, anticipation of the consequences of behavior (e.g., sexual behavior; Richard, van der Pligt, & de Vries, 1996) is a better strategy than focusing on the behavior itself. Therefore, encouraging a future orientation, possibly through the promotion of long-term planning, may reduce decisional procrastination and lead to better decisions on important issues.

The principal limitation of the present study is its correlational nature and exclusively cross-sectional data. Future longitudinal experimental research is needed for researchers to better understand the exact relation of morningness–eveningness and time orientation with procrastination. However, the present results should lay the important groundwork for these research efforts. Focusing on how styles of procrastination may differentially relate to time orientation and morningness–eveningness not only leads researchers to better definitions of the different styles of procrastination but likely also leads them to more effective treatments of the maladaptive process. Future researchers should consider differentiating profiles of procrastinators, because distinctive profiles may lead to better diagnoses, treatments, and research on procrastination. For example, if the present-hedonist dimension of time decreases indecision but increases arousal procrastination, researchers’ consideration of motivational reasons for procrastination may help practitioners and procrastinators to manage or treat frequent delay tendencies.

**AUTHOR NOTES**

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