

RESEARCH REPORT

Profiles in Time: Understanding the Nature and Outcomes of Profiles of Temporal Focus

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Individuals chronically vary in the extent to which they think about the past, present, and future. This individual difference—*temporal focus*—relates to a variety of work and life outcomes including affective well-being, job performance, and career success. Although it has been proposed that people can simultaneously focus on the past, present, and future (Lewin, 1943), tests of this idea within the organizational sciences remain scarce, with scholars instead focusing on the independent predictions of each aspect of temporal focus. As such, contradictory findings exist regarding the benefits of each dimension. In an effort to advance the discussion of temporal focus in the organizational literature, we present two studies that utilize latent profile analysis (LPA) to examine how people think about time holistically, uncovering initial profiles of past, present, and future temporal focus (Study 1) and demonstrating their effect on important work outcomes related to affect (e.g., job satisfaction, affective commitment) and withdrawal at work (e.g., turnover intentions, absenteeism, lateness; Study 2). Combined, our findings offer theoretical and practical implications that clarify conclusions about temporal focus in organizations and suggest directions for future work.

Keywords: temporal focus, time perspective, time, individual difference, latent profile analysis

An innate aspect of human behavior is the ability to mentally “time travel” across past, present, and future perceptions (Killingsworth & Gilbert, 2010; Mason et al., 2007; Suddendorf & Corballis, 2007; Wheeler et al., 1997). One individual difference associated with mental time travel is *temporal focus*—the characteristic level of attention people devote to each time period (Bluedorn, 2002; Shipp et al., 2009; Zimbardo & Boyd, 1999). Past research has demonstrated that an increased past focus is associated with reduced well-being (e.g., Shipp & Aeon, 2019; Zimbardo & Boyd, 1999); an increased present focus corresponds to greater well-being, but also greater procrastination and risk taking (e.g., Ferrari & Díaz-Morales, 2007; Nadkarni & Chen, 2014; Zimbardo & Boyd, 1999); and an increased future focus, though unrelated to well-being, relates positively to goal setting, helping,

and career success (e.g., Andre et al., 2018; Gamache & McNamara, 2019; Joireman et al., 2006; Kooij et al., 2018; Zimbardo & Boyd, 1999).

Although attention to temporal focus has grown, there has been limited understanding of the three time periods as a set—a *temporal focus profile*—despite theorizing that suggests these foci operate concurrently (Boniwell & Zimbardo, 2012; Levasseur et al., 2020; Shipp et al., 2009; Zimbardo & Boyd, 1999). Considering temporal focus as a profile allows for a more thorough examination of theory that states how past, present, and future thoughts are “simultaneous” aspects of one’s psychological field (Lewin, 1943, p. 303), generating a more nuanced understanding of how people think about time. Unfortunately, most temporal focus research in the organizational sciences to date has focused on regression-based theorizing and testing that examines singular effects of one dimension over another (e.g., Kooij et al., 2018; Nadkarni & Chen, 2014). In contrast, adopting a person-centered approach¹ (for reviews, see Craig & Smith, 2000; Gabriel et al., 2018; Wang & Hanges, 2011) using latent profile analysis (LPA) offers scholars the opportunity to identify prototypical temporal focus profiles that encompass varying levels of all three temporal foci, as well as the well-being or behavioral differences among them. For example, do individuals who focus on one time period (e.g., a “carpe diem” person high in present focus) differ in well-being or work outcomes compared to those who focus on multiple time periods (e.g., a “planner/doer”

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¹ Note that a person-centered (i.e., profile-based) empirical approach is distinct from person-centered theorizing that focuses on capturing the lived experiences of employees (Weiss & Rupp, 2011; see Woo et al., 2018, for a review).

high in present *and* future focus or a “hypertemporal” person high in past, present, *and* future focus; Shipp et al., 2009)? In the current investigation, we present two complementary studies to consider this question. In Study 1, we establish profiles comprised of past, present, and future focus. In Study 2, we replicate the majority of profiles from Study 1, and show how they relate to indicators of affect and withdrawal at work. In so doing, our results reinforce some conclusions from prior research (e.g., the benefits of present focus), but offer additional insights that differ from prior studies (e.g., attention to the present may be more beneficial than a “balanced” profile).

Study 1: Uncovering Temporal Focus Profiles

Based on early psychological theory describing how individuals perceive the flow of time (Lewin, 1942, 1943; Murray, 1938), temporal focus addresses individuals’ characteristic patterns of attention to the past, present, and/or future. Temporal thought patterns develop in childhood (McGrath & Rotchford, 1983), and are reinforced by life and work experiences (Nurmi, 2005). Because of this, temporal focus has been studied across many work and life domains. For example, past focus—the degree to which one ruminates over prior experiences—is positively associated with neuroticism, external locus of control, and trait anxiety (Shipp et al., 2009; Zimbardo & Boyd, 1999),² as well as indicators of well-being such as life dissatisfaction, diminished self-esteem, and increased depression (Drake et al., 2008; Rush & Grouzet, 2012; Zhang & Howell, 2011). Present focus—the degree of attention to one’s current experiences—is related to higher extraversion and internal locus of control, as well as lower conscientiousness and neuroticism (Bergadaa, 1990; Shipp et al., 2009; Zimbardo & Boyd, 1999). It also corresponds to improved well-being (Drake et al., 2008), but increased risk taking and procrastination, and decreased proactivity (Alberts & Dunton, 2008; Ferrari & Díaz-Morales, 2007; Zimbardo et al., 1997). Finally, future focus—the degree to which one dwells on the future—has a strong positive relationship with conscientiousness and internal locus of control (Kooij et al., 2018; Shipp et al., 2009; Zimbardo & Boyd, 1999). As a result, future-focused individuals tend to be less impulsive, more willing to help colleagues in anticipation of reciprocity, and more likely to set and achieve goals (Andre et al., 2018; Joireman et al., 2005, 2006; Strathman et al., 1994; Strobel et al., 2013; Zacher, 2014).

Perhaps because of the tripartite nature of the concept, most organizational research on temporal focus has taken one of two analytic approaches. First, some studies examine correlates and outcomes using a single dimension in isolation (e.g., past, present, *or* future focus as a sole predictor; Kooij et al., 2018), or interpreting one dimension while controlling for the others (e.g., Nadkarni & Chen, 2014). This approach has been helpful for understanding each temporal focus dimension on its own, but it has resulted in confusion about how much attention to each time period optimizes work outcomes. For example, the main effects from prior research demonstrate that well-being is higher when individuals focus less on the past but more on the present. Yet, if individuals devote attention to *both* time periods (Bluedorn, 2002; Lewin, 1943; Shipp et al., 2009), the resulting level of well-being is unclear. Similarly, prior research has demonstrated that individuals with a stronger present focus are more risk seeking and reactive, whereas individuals with a stronger future focus are more planful and organized

(Alberts & Dunton, 2008; Ferrari & Díaz-Morales, 2007; Joireman et al., 2005; Lasane & Jones, 1999; Zacher, 2014; Zimbardo & Boyd, 1999; Zimbardo et al., 1997). However, the correlation between present and future focus is typically positive (Shipp, 2020), suggesting possible co-occurrence among the foci. In addition, tests of interactions among the separate dimensions are rare and primarily nonsignificant (e.g., Shipp et al., 2009), and creating such statistical interactions at 1 *SD* above and below the moderator mean creates artificial distinctions per person-centered theorists (Morin et al., 2011). Thus, the existing method of examining each temporal focus dimension separately produces inconsistent conclusions when considering multiple time periods.

As a second, alternative approach, some outside of the organizational literature have recommended that scholars should adopt a “balanced” temporal perspective in which the most beneficial outcomes may result from a moderate to high focus on all three time periods (cf., Boniwell & Zimbardo, 2012; Zimbardo & Boyd, 1999).³ Initial findings indicate that equal focus on the past, present, and future is related to greater well-being (e.g., Boniwell et al., 2010; Drake et al., 2008; Webster & Ma, 2013; Zhang et al., 2013). However, not only has this work been underutilized in applied psychology and management but also the method by which balance is operationalized varies greatly. Some have simply categorized individuals as “high” or “low” on each dimension using percentiles within the sample (e.g., Drake et al., 2008), which does not precisely identify specific levels for each dimension to be used across studies. Others have calculated balance as the difference between one’s attention to each dimension versus the “ideal” level stipulated in Zimbardo and Boyd’s (2008) book (e.g., Stolarski et al., 2011; Zhang et al., 2013). However, this method assumes that the ideal level is the optimal baseline. Still others have attempted to resolve these issues by using cluster analysis to group people into categories (e.g., Boniwell et al., 2010; Chishima et al., 2017; McKay et al., 2017). Yet, studies using cluster analysis have analytic imprecisions that more recent analyses have addressed using LPA (e.g., Chawla et al., 2020; Wang & Hanges, 2011), and further, they have not considered work-related outcomes. The few studies that have attempted to detect temporal focus profiles are found only within specific niches of psychology (e.g., addiction, Boniwell et al., 2010; depression in undergraduate students, McKay et al., 2017).

Overall, limited organizational research has examined past, present, and future focus simultaneously, despite co-occurrence among dimensions (i.e., the profiles of temporal focus) being theoretically critical to how temporal focus operates within the work context (Shipp et al., 2009). To advance the study of temporal focus in organizational scholarship, we adopt a person-centered empirical

² The Zimbardo Time Perspective Inventory (ZTPI; Zimbardo & Boyd, 1999) is a well-known measure of this construct but we contend that its five dimensions potentially confound temporal focus with time attitude (e.g., past positive vs. past negative, and present fatalistic vs. present hedonistic). Such lack of a clear factor structure was tested in Shipp et al. (2009) when comparing the ZTPI to the Temporal Focus Scale. Given that our discussion reflects temporal focus more broadly as past, present, and future, we target these three theoretical dimensions to be more inclusive in representing the literature. However, as needed, we note inconsistencies in results using different measures of temporal focus.

³ When using the ZTPI measure, “balance” is reflected by a moderate to high level of past positive, present hedonistic, and future, but a low level of past negative and present fatalistic. As described in Footnote 2, however, here we refer only to the general dimensions of past, present, and future.

Table 1
Study 1 and Study 2 Measures

Variable	Study and time period	Citation	Number of items	Response scale	Sample items and scale reliability
Temporal focus scale	Study 1 and Study 2 T1	Shipp et al. (2009)	12 (4 each for past, present, and future)	1 = <i>Never</i> ; 3 = <i>Sometimes</i> ; 5 = <i>Frequently</i> ; 7 = <i>Constantly</i>	Past: "I replay memories of the past in my mind" ($\alpha_{\text{Study 1}} = .90$; $\alpha_{\text{Study 2}} = .90$), present: "I focus on what is currently happening in my life" ($\alpha_{\text{Study 1}} = .80$; $\alpha_{\text{Study 2}} = .83$), future: "I think about times to come" ($\alpha_{\text{Study 1}} = .86$; $\alpha_{\text{Study 2}} = .89$)
Job satisfaction	Study 2 T2	Edwards and Rothbard (1999)	3	-3 = <i>Strongly Disagree</i> to +3 = <i>Strongly Agree</i>	"In general, I am very satisfied with my job." ($\alpha = .93$)
Affective commitment	Study 2 T2	Meyer et al. (1993)	6	-3 = <i>Strongly Disagree</i> to +3 = <i>Strongly Agree</i>	"I feel emotionally attached to this organization." ($\alpha = .94$)
Turnover intentions	Study 2 T2	Adapted from Adams and Beehr (1998)	3	-3 = <i>Strongly Disagree</i> to +3 = <i>Strongly Agree</i>	"I am planning to leave my job." ($\alpha = .94$)
Absenteeism	Study 2 T2	N/A	1	Number of days absent	"Over the last 6 weeks, how often have you skipped work when you weren't sick, but just because you felt like it?"
Lateness	Study 2 T2	N/A	1	Number of late occurrences	"Over the last 6 weeks, how many times have you been late for work?"

Note. T1 = Time 1; T2 = Time. For past, present, and future focus, Study 1: $n = 425$ and Study 2: $n = 362$. Random missingness was present on the outcomes in Study 2, such that the sample sizes were $n = 360$ for job satisfaction, affective commitment, and turnover intentions; $n = 348$ for absenteeism; and $n = 353$ for lateness. Variables on a -3 to +3 scale were transformed to a 1-7 scale prior to outcome analyses. Study 2 data are reanalyzed from Study 4 of Shipp et al. (2009).

approach, using LPA to study the profiles of temporal focus and their work-related correlates. LPA allows for an understanding of the natural subpopulations that emerge on the three dimensions of temporal focus (Morin et al., 2011; Wang & Hanges, 2011), which may be missed when simply relying on statistical interactions evoked in prior research (e.g., Shipp et al., 2009). Moreover, the independent effects of each dimension in a regression-based analysis do not speak to the standing an individual has on multiple dimensions at once. As such, we position the study of temporal focus profiles via LPA as a necessary starting point to begin a theoretical and empirical conversation surrounding how these dimensions co-occur.

Importantly, LPA allows for profiles that are quantitatively or qualitatively distinct in their theoretical meaning (Wang & Hanges, 2011). Quantitatively distinct profiles are those in which all profile indicators (i.e., past, present, and future focus) vary in absolute level, such that all profile indicators are high or low, for example, "hypertemporal" versus "atemporal" individuals as conjectured by Shipp et al. (2009). The presence of such profiles of temporal focus would fit with theoretical sentiments raised by Boniwell and Zimbardo (2012) who suggested a balanced profile includes a high focus on all three foci. Qualitatively distinct profiles vary in shape (i.e., the indicators are at different levels), which could be reflected by a profile with low past, high present, and high future focus (e.g., a "planner/doer"), or a profile with high past, high present, and low future focus, for example, a "realist" as conjectured by Shipp (2020). In considering these ideas, it is impossible to discern a priori which profiles will occur when studying employees; in fact, an inductive focus is a hallmark of person-centered scholarship (Craig & Smith, 2000; Gabriel et al., 2018; Wang & Hanges, 2011). As such, we first address an initial research question as follows:

Research Question 1: Do distinct profiles of temporal focus (past, present, and future) exist that vary quantitatively (in level) and qualitatively (in shape)?

Study 1: Method and Analytic Approach

Participants at least 21 years of age were recruited from subject pools at two public U.S. universities for a study about work experiences. A total of 425 individuals (83% response rate) completed a survey on temporal focus and demographics in exchange for course credit. The sample was 23.4 years old on average, 56% male, and largely white (59%; 17% Asian; 13% African American; 8% Hispanic; 3% other), with an average of 3.1 years of work experience. Participants completed the 12-item Temporal Focus Scale (Shipp et al., 2009, see Table 1).⁴

We conducted LPA using Mplus 8.1 (Muthén & Muthén, 1998–2017). We specified two profiles, and increased the number of profiles until fit no longer improved. We report several fit indices as follows: Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC), consistent AIC (C-AIC), sample-size adjusted BIC (SSA-BIC), Lo-Mendell-Rubin likelihood ratio test (LMR; Lo et al., 2001), bootstrap likelihood ratio test (BLRT), and Entropy. BIC and SSA-BIC statistics are more optimal in identifying the best fitting solution and were our primary focus (Diallo et al., 2016, 2017; Nylund et al., 2007; Peugh & Fan, 2013, 2015). We also sought to identify a solution that was theoretically parsimonious (Howard et al., 2016).

⁴ The procedure was reviewed and approved by the Texas A&M Institutional Review Board (#2006-0445: "Confirming the Structure of Personality") and by the Georgia State Institutional Review Board (#H08023: "Cognitive Processing and Job Attitudes").

We followed the automatic three-step approach (Asparouhov & Muthén, 2014). In step one, the profile enumeration process occurred. We allowed the profile indicators' intercepts to vary across the profiles, but modeled residuals as fixed (e.g., Bauer & Curran, 2003; Chen et al., 2001). In step two, we obtained the most-likely class membership from the posterior distribution in the profile enumeration process. Step three involves modeling outcomes in relation to profile membership. Because outcomes were not considered in Study 1, we detail this portion of the analysis in Study 2. Following guidance from Hipp and Bauer (2006, see also Morin et al., 2016), each model had 5,000 starting value sets with 100 iterations, with the 200 best sets ultimately retained for final stage optimization.

Study 1: Results and Discussion

Mean values, standard deviations, and correlations are shown in Table 2; profile enumeration results are shown in Table 3. We retained the five-profile solution given the lower BIC and SSA-BIC values relative to the other solutions. The profiles are visually shown in Figure 1 with mean values per profile in Table 4. In labeling the profiles, we compared indicator mean values relative to the sample and built upon Shipp's (2020) labels. The largest profile (39.3% of the sample) reflected a *balanced focus*, such that average levels of each profile indicator—relative to the sample mean values—emerged. The second largest profile (35.8%) captured a *hyper-temporal focus*, or people who focused above the mean on all three time periods, particularly the present and future. Individuals with a *weak temporal focus* emerged as the third largest profile (13.9%); these individuals fell below the mean on each time period. Although Shipp et al. (2009) and Shipp (2020) labeled these individuals as “atemporal,” the lower scores found relative to the mean did not indicate an absence of focus per se. Thus, we created a new label of *weak temporal focus* to describe those who consider past, present, and future less than others. The next smallest profile was the *anytime-but-now focus* (7.0%) with stronger past and future foci versus the present. This label was updated from Shipp (2020) because the prior label of “wishful thinker” could be interpreted as predominantly future focused whereas *anytime-but-now focus* reflects the balance of past and future thought. Finally, the smallest profile detected was *carpe diem focus* (4.0%), which includes a stronger present focus, with less attention to the past or future.

These analyses provided a preliminary view into Research Question 1. We were encouraged by the fact that variety exists in temporal attention, such that no profile accounted for more than 40% of the sample. That said, because our sample was from the U.S., where focusing on the present and future are dominant values (Hofstede, 2001), it made sense that over one-third of participants fell into the *hypertemporal* profile. Yet, somewhat surprising was finding that even more participants belonged to a *balanced* profile that equally focused on past, present, and future. Furthermore, it was interesting that the third largest profile was the *weak temporal focus* profile, with a relative lack of focus compared to other profiles. These results contradicted the assumption that individuals focus on at least one dimension or possibly two, which were actually our smallest profiles (*anytime-but-now* and *carpe diem*). Furthermore, no profiles emerged that solely focused on the past or future; individuals may be socialized to avoid such narrow foci.

Table 2
Descriptive Statistics and Correlations for Study 1 and Study 2

Variables	Study 1		Study 2													
	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	M	SD
1. Age	23.41	4.76	—	-.17**	.06	.83**	-.14**	.20**	-.08	.02	.06	-.13*	-.19**	-.24**	39.16	10.74
2. Gender	0.44	0.50	.06	—	.13*	-.22**	.02	.04	.03	.06	.02	-.05	-.02	.10	0.55	0.50
3. Race	0.59	0.49	-.18**	-.10*	—	.15**	.03	.01	-.03	.04	.02	-.05	-.04	-.11*	0.86	0.35
4. Years of work experience	3.13	6.62	.60**	.10	-.11*	—	-.09	.17**	-.01	.04	.09	-.12*	-.15**	-.25**	19.20	11.08
5. Past temporal focus	4.32	1.24	-.16**	.01	-.08	-.04	—	.09	.42**	-.17**	-.05	.22**	.10	.09	4.44	1.23
6. Present temporal focus	5.01	1.01	.07	.11*	-.05	.03	.05	—	.48**	.19**	.17**	-.09	-.08	-.13*	5.18	0.95
7. Future temporal focus	5.37	1.13	.02	.18**	-.10*	.07	.26**	.36**	—	.03	.08	.09	.03	-.00	4.97	1.18
8. Job satisfaction	—	—	—	—	—	—	—	—	—	—	.79**	-.67**	-.14**	-.15**	4.90	1.46
9. Affective commitment	—	—	—	—	—	—	—	—	—	—	—	-.60**	-.09	-.15**	4.41	1.56
10. Turnover Intentions	—	—	—	—	—	—	—	—	—	—	—	—	.22**	.23**	3.41	1.86
11. Absenteeism	—	—	—	—	—	—	—	—	—	—	—	—	—	.28**	0.24	0.75
12. Lateness	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.05	2.63

Note. Correlations below the diagonal are for Study 1 ($n = 346$ –425; years of work experience only had 346 cases); correlations above the diagonal are for Study 2 ($n = 348$ –362; sample size varied slightly depending on the demographics and outcomes of interest). Gender is coded such that 0 = male and 1 = female. Race is coded such that 0 = non-White and 1 = White. In Study 2, past, present, and current focus were measured at Time 1; job satisfaction, affective commitment, turnover intentions, and lateness were at Time 2. Job satisfaction, affective commitment, and turnover intentions were measured on a –3 to +3 agreement scale but were transformed to correspond to the 1–7 frequency scale of temporal focus. All information for study measures including reliabilities can be found in Table 1. Complete measures with all items and all results can be found at: <https://osf.io/tujpk/>.

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

Table 3*Latent Profile Enumeration Fit Statistics for Study 1 and Study 2*

# of Profiles	LL	FP	AIC	BIC	SSA-BIC	LMR (<i>p</i>)	BLRT (<i>p</i>)	Entropy
Study 1 (<i>n</i> = 425)								
2	-1904.690	10	3829.380	3869.901	3838.167	0.0000	0.0000	0.649
3	-1887.008	14	3802.016	3858.745	3814.318	0.2358	0.0000	0.744
4	-1847.564	18	3785.128	3858.065	3800.945	0.0165	0.0000	0.759
5	-1860.586	22	3765.172	3854.318	3784.504	0.0166	0.0000	0.753
6	-1856.858	26	3765.715	3871.069	3788.562	0.4985	1.0000	0.743
Study 2 (<i>n</i> = 362)								
2	-1588.966	10	3197.932	3236.848	3205.123	0.0000	0.0000	0.648
3	-1569.614	14	3167.228	3221.711	3177.295	0.0504	0.0000	0.676
4	-1549.998	18	3135.997	3206.046	3148.941	0.0299	0.0000	0.731
5	-1540.431	22	3124.862	3210.479	3140.683	0.3470	0.0000	0.741
6	-1530.987	26	3113.974	3215.157	3132.671	0.5498	0.0000	0.746

Note. LL = log-likelihood; FP = free parameters; AIC = Akaike information criteria; BIC = Bayesian information criteria; SSA-BIC = sample-size adjusted Bayesian information criteria; LMR = Lo-Mendell-Rubin likelihood ratio test (Lo et al., 2001); BLRT = bootstrap likelihood ratio test.

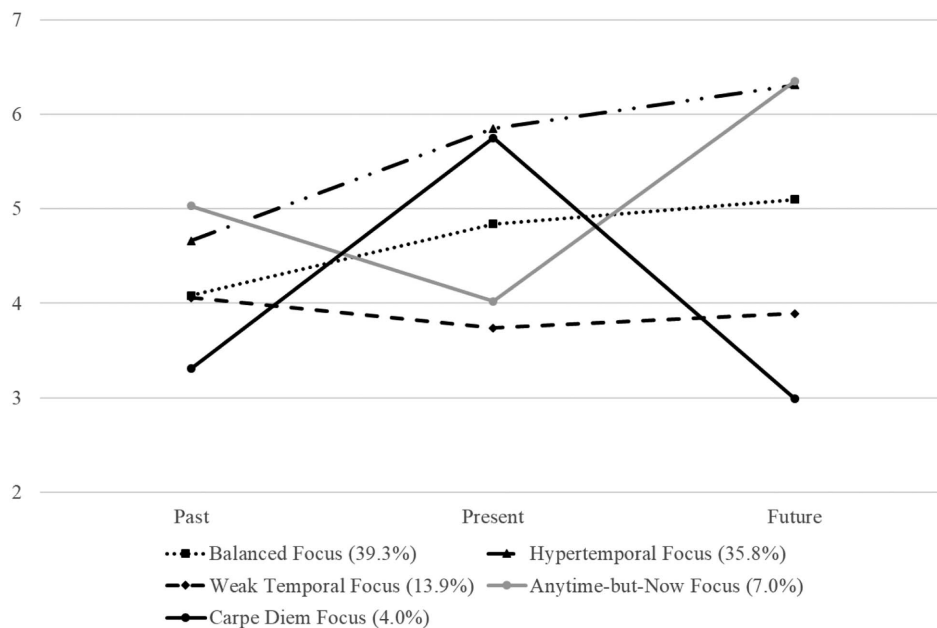
Study 2: Replication and Extension of Temporal Focus Profiles

In Study 2, we use a sample of working adults to determine whether the profiles in Study 1 replicate and to examine how the profiles relate to the two categories of work-related outcomes: affect and work withdrawal. These long-studied outcomes capture how individuals respond to work experiences, which may be influenced by the salient time periods in a profile (e.g., the degree to which one ruminates over past grievances may relate to job satisfaction).

First, *affective outcomes* are key reactions that explain employees' feelings about their work, including job satisfaction—the affective response to one's job (Cranny et al., 1992), and affective organizational

commitment—the emotional attachment to one's organization (Meyer et al., 2002). Given that individuals' reactions naturally include assessments across past, present, and future experiences (i.e., the psychological field; Lewin, 1943) and these time periods can be laden with affect, it is likely that the degree to which each time period is salient relates to affective outcomes. As noted earlier, affective variables (e.g., life satisfaction) often correspond negatively to past focus, positively to present focus, but not at all to future focus (e.g., Shipp & Aeon, 2019; Zimbardo & Boyd, 1999). Building on this logic, affective outcomes could be highest for profiles such as *carpe diem focus*, where present focus is higher and past focus is lower. However, prior theory and regression-based studies have yet to create predictions based on the entire profile as a set. That is, we do not know how affective outcomes

Figure 1
Latent Profiles of Temporal Focus in Study 1



Note. The y-axis corresponds to the scale anchors used to assess each dimension of temporal focus, such that 1 = *never*; 3 = *sometimes*; 5 = *frequently*; and 7 = *constantly*.

Table 4
Descriptive Information by Latent Profile for Study 1 and Study 2

Profile	% of sample (<i>n</i>)	Past focus		Present focus		Future focus	
		<i>M</i>	95% CI	<i>M</i>	95% CI	<i>M</i>	95% CI
Study 1 (<i>n</i> = 425)							
Balanced focus	39.3% (167)	4.08	[3.86, 4.30]	4.84	[4.61, 5.06]	5.10	[4.85, 5.35]
Hypertemporal focus	35.8% (152)	4.66	[4.44, 4.88]	5.85	[5.65, 6.05]	6.31	[6.18, 6.45]
Weak temporal focus	13.9% (59)	4.06	[3.67, 4.45]	3.74	[3.45, 4.03]	3.89	[3.56, 4.23]
Anytime-but-now focus	7.0% (30)	5.03	[4.28, 5.78]	4.02	[3.63, 4.41]	6.35	[6.04, 6.65]
Carpe diem focus	4.0% (17)	3.31	[2.80, 3.83]	5.75	[5.42, 6.09]	2.99	[2.59, 3.39]
Study 2 (<i>n</i> = 362)							
Balanced focus	39.8% (144)	4.51	[4.25, 4.78]	5.09	[4.81, 5.38]	5.21	[4.94, 5.49]
Hypertemporal focus	24.3% (88)	5.21	[4.75, 5.67]	6.25	[6.07, 6.43]	6.26	[5.99, 6.53]
Weak temporal focus	19.6% (71)	4.35	[4.05, 4.64]	3.84	[3.62, 4.05]	4.07	[3.81, 4.32]
Carpe diem focus	16.3% (59)	3.31	[3.08, 3.55]	5.47	[5.26, 5.68]	3.67	[3.29, 4.05]

Note. CI = confidence interval around the profile indicator mean. Values represent the mean levels of past, present, and future focus in each latent profile. % of sample is reported from the final class counts and proportions based on most likely class membership to report the exact number of participants per profile. Participants per profile are reported directly from the Mplus 8.1 results; slight differences are due to rounding. Final class counts and proportions based on estimated posterior probabilities are as follows per profile in Study 1: *balanced focus* = 39.2%; *hypertemporal focus* = 34.6%; *weak temporal focus* = 13.7%; *anytime-but-now focus* = 8.3%; and *carpe diem focus* = 4.2%. For Study 2, final class counts and proportions based on estimated posterior probabilities are *balanced focused* = 40.0%; *hypertemporal focus* = 23.3%; *weak temporal focus* = 19.9%; and *carpe diem focus* = 16.8%.

differ in profiles combining a higher level of past *and* present, such as the *balanced focus* or *hypertemporal focus* profiles. Similarly, we do not know the level of affect associated with the *weak temporal focus* profile given its low level of past *and* present focus. Because past and present focus offer countervailing forces, it is unclear whether affective outcomes will be higher or lower than profiles with other combinations. As such, we pose the following question:

Research Question 2: Do the temporal focus profiles differentially relate to affective outcomes (i.e., job satisfaction and affective commitment)?

A second outcome of importance is *work withdrawal*, or the disengagement from work activities that can be exhibited through turnover intentions, absenteeism, and lateness (Carpenter & Berry, 2017; Newman et al., 2010). As individuals react to perceptions of the past, present, and future, they may contemplate whether to stay at their current organizations and possibly exhibit counterproductive behaviors such as skipping work. Such behaviors are influenced by one's personality (e.g., Berry et al., 2007), which prior studies have connected to temporal focus. Past-focused individuals are not only more neurotic but also they are lower in conscientiousness and impulse control (Shipp & Aeon, 2019; Zimbardo & Boyd, 1999), suggesting that profiles with a higher past focus could display greater withdrawal (at least while holding constant present and future focus). In contrast, present-focused individuals tend to be less neurotic, but they also exhibit increased impulsivity and reduced conscientiousness (Strathman et al., 1994; Zimbardo & Boyd, 1999). Thus, their risk of withdrawal may be lower for turnover intentions (i.e., less negative), but higher for lateness or absenteeism as they impulsively consider other activities outside of work. Finally, future-focused individuals are much higher in conscientiousness and impulse control (Alberts & Dunton, 2008; Lasane & Jones, 1999; Zimbardo & Boyd, 1999). As a result, profiles with higher future focus could associate with lower withdrawal because these are good citizens who anticipate future consequences (Park & Jung, 2015; Strathman et al., 1994). However, these competing influences have not yet been combined into profile-based predictions. In particular, we do not know

how the *balanced focus* or *hypertemporal focus* profiles will be associated with withdrawal due to the simultaneous but opposing influences of past and present focus (i.e., increased withdrawal) versus future focus (i.e., decreased withdrawal). Similarly, we do not know how withdrawal associates with the *weak temporal focus* profile given its low emphasis on any time period. That is, without the beneficial impact of future focus nor the detrimental impact of past or present focus, it is unclear how withdrawal potentially differs for those who think less about time. Therefore, we offer a final research question to explore,

Research Question 3: Do the temporal focus profiles differentially relate to withdrawal outcomes (i.e., turnover intentions, absenteeism, and lateness)?

Study 2: Method and Analytic Approach

We reanalyzed data from Shipp et al. (2009; Study 4) to directly compare our results to prior variable-centered research. The sample was drawn from working adults in the StudyResponse project (Stanton & Weiss, 2002) and included 362 participants who responded to 2 surveys sent 6 weeks apart. Such temporal separation helps to address possible concerns about common method bias (Podsakoff et al., 2003), yet we note that person-centered analyses are fairly robust to such concerns because "profile membership [cannot] be guessed ex ante by [the] participants" (Stanley et al., 2017, p. 97). Participants were 39.2 years old on average, the majority were White (86%; 2% Asian; 3% African American; 2% Hispanic; 1% Native American; 5% other; 1% non-response), and 55% were female. Approximately 85% were working full time, with an average of 19 years of work experience. Respondents completed the measures of demographics and temporal focus (Shipp et al., 2009) at Time 1, and outcomes related to job satisfaction (Edwards & Rothbard, 1999), affective commitment (Meyer et al., 1993), turnover intentions (adapted from Adams & Beehr, 1998), absenteeism, and lateness at Time 2. Complete details are provided in Table 1.⁵

⁵ The procedure was reviewed and approved by the Texas A&M Institutional Review Board (#2008-02165: "Temporal Focus Survey").

The same analytic approach in Study 1 was used in Study 2. In step three, we used the BCH command to test outcomes (Bolck et al., 2004; see Bakk & Vermunt, 2016; Nylund-Gibson et al., 2019). The BCH uses a weighted multiple group analysis to test whether one profile is significantly different from other profiles on an outcome, avoiding shifts in profile membership in the final stage.

Study 2: Results and Discussion

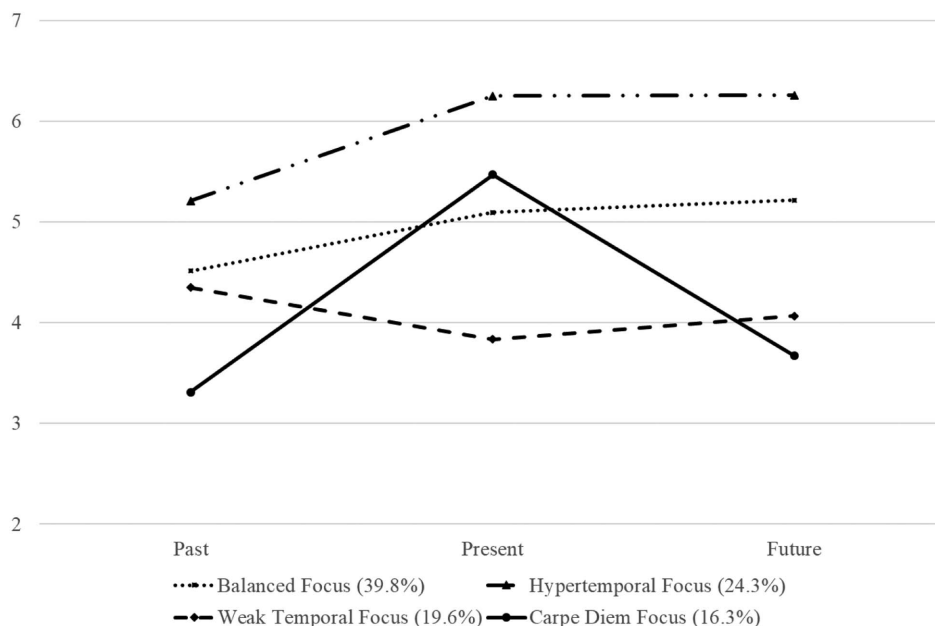
Descriptive statistics and correlations are shown in Table 2, with fit indices in Table 3. The four-profile solution exhibited the lowest BIC and was retained; mean values per profile are shown in Table 4 (see Figure 2). Per Research Question 1, we replicated four of the five profiles from Study 1. The *balanced focus* profile captured the largest percentage of our sample (39.8%), followed by the *hypertemporal focus* profile (24.3%), *weak temporal focus* profile (19.6%), and the *carpe diem focus* profile (16.3%). Interestingly, the *carpe diem focus* profile was much larger in this sample, whereas the *anytime-but-now* profile was not found. It is possible that students in Study 1 may have exhibited the *anytime-but-now* profile because college is a temporary transition period. In contrast, working adults may shift to a *carpe diem focus* (or another profile) as their lives become established.

Research Question 2 considered whether profile membership exhibited differences in the affective outcomes of job satisfaction and affective commitment. As shown in Table 5 (see Figure 3), *weak temporal focus* employees had lower job satisfaction ($M = 4.38$) compared to *balanced focus* ($M = 4.91$), *hypertemporal focus* ($M = 5.02$), and *carpe diem focus* ($M = 5.32$) employees (all comparisons $p < .05$). All other comparisons were nonsignificant. Those in the *weak temporal focus* profile also reported lower affective commitment ($M = 3.94$) compared to the *balanced focus* ($M = 4.53$) and

hypertemporal focus ($M = 4.62$) profiles (all comparisons $p < .05$). However, no other differences emerged, and the overall chi-square test was $p = .05$; thus, we interpret these results with caution. Overall, affective outcomes differed across profiles, with the *weak temporal focus* profile being lower. That is, despite the possible negative influence of past focus in the *balanced* or *hypertemporal focus* profiles, the simultaneous positive influence of present focus seemingly compensated for this, such that affective outcomes were higher in all profiles that reflected greater attention to the present. Thus, in contrast to the notion that “bad outweighs good” (e.g., Baumeister et al., 2001), thinking about the present appears to be beneficial even when thinking about the past.

Research Question 3 considered profile differences for the work withdrawal outcomes (see Table 5 and Figure 4a,b). Those with a *carpe diem focus* reported the lowest turnover intentions ($M = 2.64$) compared to all profiles (*balanced focus* $M = 3.48$, *hypertemporal focus* $M = 3.60$, *weak temporal focus* $M = 3.71$; all comparisons $p < .05$); no other differences emerged. When considering absenteeism, no differences emerged at conventional standards, and the overall chi-square was nonsignificant. For lateness, although *carpe diem focus* employees were late less often ($M = 0.49$) than *weak temporal focus* employees ($M = 1.61$; $p < .05$), the chi-square was not significant. Nonetheless, some differences in work withdrawal did exist among the profiles, particularly the turnover intentions for those with a *carpe diem* profile. We again found a benefit when individuals focus on the present; however, for turnover intentions, it was the pure focus on the present (*carpe diem focus*) that mattered. Turnover intentions were similar in profiles that included a focus on past and future (*balanced* or *hypertemporal focus*) or one with lower focus on any time period (*weak temporal focus*). Considering both affective and work withdrawal outcomes, our findings suggest that

Figure 2
Latent Profiles of Temporal Focus in Study 2



Note. The y-axis corresponds to the scale anchors used to assess each dimension of temporal focus, such that 1 = *never*; 3 = *sometimes*; 5 = *frequently*; and 7 = *constantly*.

Table 5
Three-Step Results for Outcomes (BCH) in Study 2

Outcome	Balanced focus (A)		Hypertemporal focus (B)		Weak temporal focus (C)		Carpe diem focus (D)		Chi-square
	M	95% CI	M	95% CI	M	95% CI	M	95% CI	
Job satisfaction	4.91 ^C	[4.63, 5.18]	5.02 ^C	[4.61, 5.44]	4.38 ^{A, B, D}	[4.03, 4.73]	5.32 ^C	[4.90, 5.73]	12.42*
Affective commitment	4.53 ^C	[4.24, 4.82]	4.62 ^C	[4.18, 5.06]	3.94 ^{A, B}	[3.57, 4.30]	4.42	[3.93, 4.92]	7.83 [^]
Turnover intentions	3.48 ^D	[3.12, 3.85]	3.60 ^D	[3.09, 4.12]	3.71 ^D	[3.25, 4.16]	2.64 ^{A, B, C}	[2.11, 3.17]	10.11*
Absenteeism	0.37 ^d	[0.17, 0.57]	0.18	[0.04, 0.31]	0.17	[-0.01, 0.35]	0.12 ^a	[-0.05, 0.29]	3.09
Lateness	1.13	[0.54, 1.72]	0.83	[0.21, 1.46]	1.61 ^D	[0.84, 2.37]	0.49 ^C	[0.00, 0.99]	5.97

Note. CI = confidence interval around the outcome mean. Outcome means were generated by the BCH approach developed by Bolck et al. (2004). Capitalized superscripts indicate profiles that are significantly different at $p < .05$; lower case superscripts indicate profiles that are significantly different at $p < .10$. The [^] symbol next to the overall chi-square test indicates that the chi-square is significant at $p = .05$ exactly. The 95% confidence intervals are not available with the automatic three-step approach in Mplus, and instead were estimated with the manual three-step procedure with the CINTERVAL command.
* $p < .05$.

thinking about the present can buffer other harmful influences, although thoughts of quitting also rely on attention to the past and/or future. Importantly, had we taken a variable-centered approach, we would have garnered limited support that temporal focus dimensions combine (see the Appendix for tests of interactions among the dimensions).

Given that Study 1 was comprised of working college students whereas Study 2 was comprised of working adults with a wider range of ages, and the fact that slightly different profile structures emerged, we conducted a supplemental analysis to model age as an antecedent of profile membership in the Study 2 data. To do so, we used the R3STEP command in the third step of the automatic three-step approach (Vermunt, 2010). This analysis uses multinomial logistic regression to help elucidate whether a one-unit increase in an antecedent—in this case, age—contributes to an individual being more or less likely to belong to one of the two profiles. For added interpretation, we report odds ratios (ORs) per comparison. Results as shown in Table 6 illustrated partial support for the idea that age may delineate profile membership. As age increased, participants were more likely to belong to the *carpe diem focus* profile as compared to the *balanced focus* (coefficient = .04, $p = .017$, $OR = 1.04$) or *weak temporal focus* (coefficient = .07, $p = .002$, $OR = 1.07$) profiles. In addition, as age increased, participants were more likely to be in the *hypertemporal focus* than the *weak temporal focus* profile (coefficient = .04, $p = .046$, $OR = 1.04$). Such findings align with our previously espoused sentiments that, given the older nature of our Study 2 sample, participants may be more established and therefore not exhibiting the *anytime-but-now* profile found in Study 1. Indeed, in two out of the three possible comparisons, increases in age contributed to *carpe diem focus* profile membership. However, we found that older age also was associated with those who emphasize all three time periods (i.e., *hypertemporal focus*), at least when compared to those who focused less on time altogether (i.e., *weak temporal focus*).

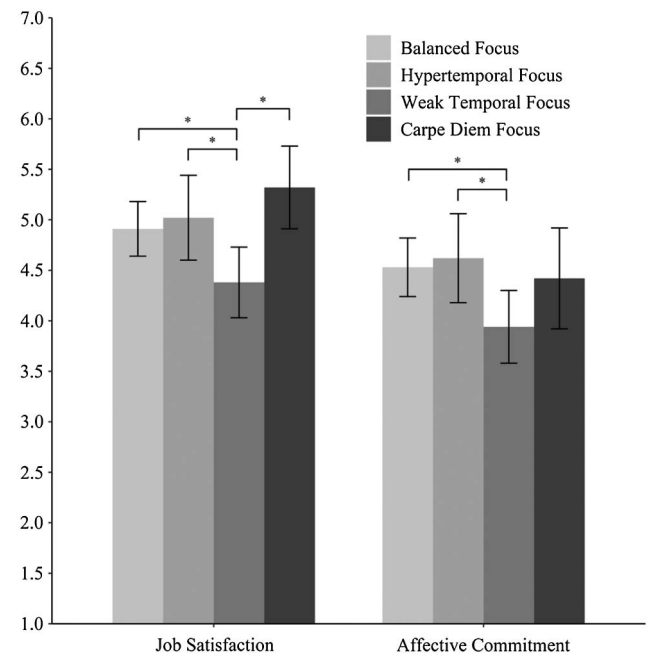
General Discussion

Our article contributes to advancements in temporal focus research by demonstrating how LPA simultaneously accounts for past, present, and future temporal focus as a set. In addition to uncovering the four most common temporal focus profiles—*balanced*, *hypertemporal*, *weak temporal*, and *carpe diem focus*,

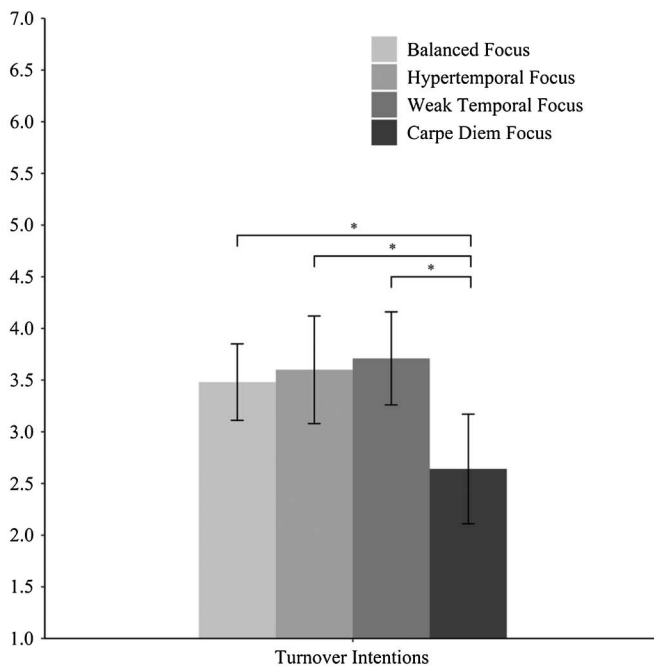
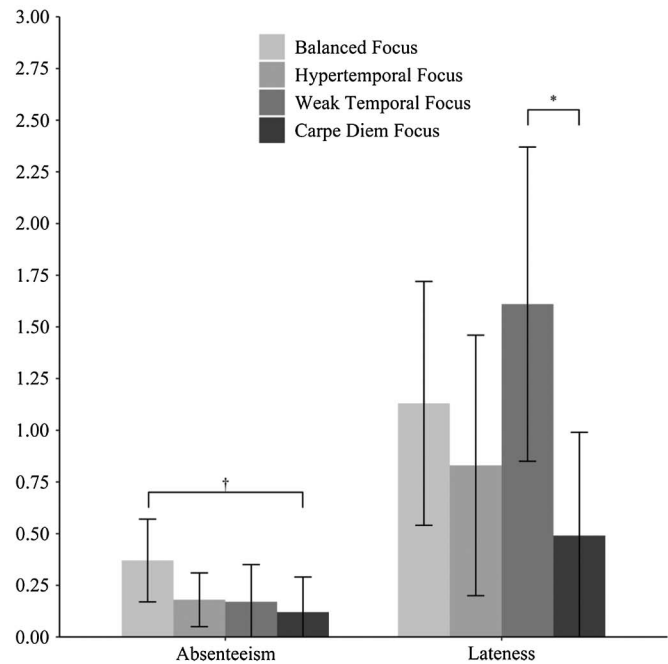
which replicated across samples of working college students (Study 1) and working adults (Study 2), we demonstrated how profile membership differentially relates to affective outcomes and work withdrawal.

We found interesting outcomes in Study 2 that suggest more work is needed to understand the incidence and impact of temporal focus profiles. Notably, those with a *weak temporal focus* exhibited lower affective outcomes, implying that a lack of focus on any time period may indicate maladjustment. However, these individuals did not exhibit higher turnover intentions, which suggests that thinking less

Figure 3
Affective Outcomes per Temporal Focus Profile for Study 2



Note. * and horizontal brackets indicate which profiles are significantly different at $p < .05$. Vertical bars reflect 95% confidence intervals for each outcome mean per profile; 95% confidence intervals are not available with the automatic three-step approach in Mplus, and instead were estimated with the manual three-step procedure with the CINTERVAL command. The y-axis corresponds to 1 = *strongly disagree* and 7 = *strongly agree*.

Figure 4*Work Withdrawal Outcomes per Temporal Focus Profile for Study 2***(a) Turnover Intentions****(b) Lateness and Absenteeism**

Note. * and horizontal brackets indicate which profiles are significantly different at $p < .05$. Vertical bars reflect 95% confidence intervals for each outcome mean per profile; 95% confidence intervals are not available with the automatic three-step approach in Mplus, and instead were estimated with the manual three-step procedure with the CINTERVAL command. For (a) turnover intentions, the y-axis corresponds to 1 = *strongly disagree* and 7 = *strongly agree*. For (b) lateness and absenteeism the y-axis corresponds to the number of days absent or late in the 6 weeks between Time (T1) and Time 2 (T2).

about time, while dissatisfying, may not translate into plans to leave. In contrast, individuals who focused more on the present—*carpe diem focus*—were the least likely to entertain thoughts of quitting, despite reporting similar job satisfaction as those in the *hypertemporal* or *balanced focus* profiles. Furthermore, whereas *carpe diem focus* could encourage individuals to impulsively skip or be late to work, such relationships did not emerge. Thus, when considering profiles of temporal focus, focusing mostly on the present may be the best way to translate job satisfaction into reduced intent to quit and fewer counterproductive work behaviors. Critically, this implication stands in contrast to research that suggests outcomes are

maximized with a moderate to high focus on all three time periods (e.g., Boniwell et al., 2010; Webster & Ma, 2013; Zhang et al., 2013). As such, research on balanced temporal focus may need to reconsider its assumptions.

Our results also suggest that prior work on the intersection of the three temporal foci can benefit from using naturally emerging subgroups versus artificial classifications (e.g., Drake et al., 2008; Stolarski et al., 2011; Zhang et al., 2013). Whereas earlier research assigned individuals into categories proxying a profile that is either “balanced or not,” scholars may have inadvertently confounded *weak temporal focus* profiles with the *balanced* and *hypertemporal*

Table 6*Antecedents (R3STEP) Results for Age in Study 2*

Antecedent	Profile comparisons																	
	Balanced versus hypertemporal			Balanced versus weak temporal			Hypertemporal versus weak temporal			Carpe diem versus balanced			Carpe diem versus hypertemporal			Carpe diem versus weak temporal		
	Coefficient	SE	OR	Coefficient	SE	OR	Coefficient	SE	OR	Coefficient	SE	OR	Coefficient	SE	OR	Coefficient	SE	OR
Age	−.02	.02	0.98	.02	.02	1.02	.04*	.02	1.04	.04*	.02	1.04	.03	.02	1.03	.07*	.02	1.07

Note. Study 2 $n = 361$ (one participant did not report their age). OR = odds ratio. All values are estimates from the R3STEP logistic regression analyses. Positive values indicate that higher values on the antecedent make a person more likely to be in the first latent profile out of the two being compared; negative values indicate that higher values on the antecedent make a person more likely to be in the second latent profile.

* $p < .05$.

focus profiles (i.e., all three have balance but at low, medium, and high levels, respectively). Our results demonstrate that, whereas the *balanced focus* profile does produce relatively strong affective outcomes, the *hypertemporal focus* profile is equally as strong, and the *carpe diem focus* profile is even better in terms of its relationship with turnover intentions.

Theoretical and Practical Implications

Our findings yield key theoretical implications. First, whereas prior work has suggested a multitude of hypothetical profiles (e.g., Shipp, 2020), we consistently found only four. Furthermore, in contrast to prior scholars' tendency to label individuals as attending to one time period over the others (i.e., past, present, or future focused), no profiles emerged that focused solely on the past or future. Thus, individuals should not be labeled as past or future focused, as it does not correspond to the diverse styles of mental time travel in which people engage.

Second, further theoretical and empirical examination of the *weak temporal focus* profile is needed. This profile could reflect an underlying lack of motivation or a form of withdrawal that we did not capture. Given that this profile is not uncommon (i.e., 14%–20% of participants), additional theoretical development is needed to understand what it means to have a weak focus on time. If individuals purportedly mind wander outside of the present approximately 50% of the time (i.e., the brain's default mode; Killingsworth & Gilbert, 2010; Mason et al., 2007), what is it that *weak temporal focus* individuals think about instead? We surmise that rather than reduced retrospections or anticipations, they simply may be unaware of their thought patterns. Future research could determine if self-awareness or need for cognition are antecedents of this profile. In addition, *weak temporal focus* individuals may be lower in "meta-cognition," the degree to which people monitor their information processing (Kudesia, 2019). Tying our results to this literature could clarify who is considered a mind wanderer (i.e., *anytime-but-now focus* who may be high in meta-cognition) versus who is simply less aware of their thoughts (i.e., *weak temporal focus* who may be low in metacognition). Whereas both would be considered low in mindfulness, when examining the temporal focus profile, their experiences are quite different.

Moreover, emerging research on mindfulness has demonstrated the advantages of focusing on the present (e.g., Good et al., 2016; Hülshager et al., 2013). Indeed, the *carpe diem focus* individuals in Study 2 demonstrated the benefits of a stronger present focus, despite the potential risks shown in prior temporal focus research (e.g., impulsivity, risk taking). Yet, our findings extend the research on mindfulness by demonstrating that these benefits also extend to *balanced* and *hypertemporal focus* individuals. That is, the benefits of these profiles suggest that to be considered mindful, individuals need not exclude thoughts of the past and future as long as they can maintain a stronger present focus.

Overall, such findings question the assumption that individuals are either mindful (i.e., focused exclusively on the present) or not (i.e., mind wandering to the past and future). This implication offers a new direction for future research to determine if the key mechanism of mindfulness is less about present thinking and more about the concomitant "non-judgmental awareness" of thought. Similarly, additional empirical work could demonstrate that the widely used

Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003), a scale whose items measure distraction, may be a better measure of mind wandering rather than mindfulness per se. Further refinement of the mindfulness concept and its measures seems warranted based on the nuances found in profiles that include a stronger present focus.

Finally, our results have implications for other research domains that draw upon temporal focus. For example, in the strategy literature, temporal focus has been used to explain how top managers' attention to the past and future shapes key decisions (e.g., Gamache & McNamara, 2019; Nadkarni & Chen, 2014). Our more complex profile-based approach may extend these variable-based findings with new theoretical questions, including whether top managers hold the same temporal focus profiles found in our samples, or whether organizational outcomes differ when top managers hold certain profiles vis-à-vis their organization's competitive environment or within the top management team (i.e., temporal focus profile fit). With the LPA method, we look forward to new advances in the application of temporal focus to different domains.

Practically, our findings indicate that managers should seek out individuals with a higher present focus, whether those with the *carpe diem focus* profile or those with the *balanced* or *hypertemporal focus* profiles. These individuals should be more satisfied and committed, and for *carpe diem focus* employees, less likely to consider quitting. Such profiles could be detected through assessment (e.g., administering the Temporal Focus Scale to applicants) or indirectly as managers listen to the time periods referenced in interviewees' speech. Individuals may describe lessons from previous jobs, reactions to their current jobs, and/or future aspirations. To the extent individuals seem well versed in their current experiences and/or frequently refer to the past and future, managers can target the best employees in terms of work outcomes. However, if interviewees are unable to explain their past experiences, current interests, or future goals, it may indicate that an individual holds a *weak temporal focus* profile, which could be detrimental.

Managers also need to know how to engage employees with different profiles. Although temporal focus profiles are likely stable, one's temporal focus profile could be temporarily adapted to situational cues (see Cojuharenco et al., 2011). Stated differently, situations can direct one's attention to a specific time period, such that managers may be able to induce a momentary present focus. Thus, for employees with the *weak temporal focus* profile, managers could counteract its negative outcomes by intentionally directing attention to the present (e.g., asking for a report of daily tasks or emphasizing positive outcomes in the current situation).

Finally, managers can observe the language and behaviors of *balanced* and *hypertemporal focus* individuals to indicate whether they have begun to engage in turnover cognitions. Despite reporting similar job satisfaction as *carpe diem focus* individuals, the *balanced* and *hypertemporal focus* individuals think more about quitting. Managers can influence these employees' perceptions by directing attention to the satisfying aspects of the current job and how they fulfill future aspirations and career trajectories (see Liu et al., 2012).

Limitations and Directions for Future Research

Despite strengths of our study, there are some limitations. First, both samples were from the U.S., yet future research could test if the profiles

generalize to other countries (Chishima et al., 2017; McKay et al., 2017), or even other contexts. For example, the *anytime-but-now* profile from Study 1 may emerge in other transitional contexts (e.g., unemployed individuals). Second, the *balanced* and *hypertemporal focus* profiles were distinct, yet they produced similar outcomes. It is crucial to know if they differ on other outcomes or if the difference reflects a response tendency, such as extreme responding. Another possibility is that individuals with a longer temporal depth may consider the past and future more frequently (i.e., *hypertemporal focus*) compared to those with a shorter temporal depth (i.e., *balanced focus*, e.g., Bluedorn, 2002; Trope & Liberman, 2010). Finally, we measured temporal focus only at the general, characteristic level using self-reports. Issues with social desirability are generally assuaged with LPA (e.g., Stanley et al., 2017). However, scholars could explore alternative methods of measurement such as text analysis (Nadkarni & Chen, 2014), state-based surveys in a specific time period (Cojuharencu et al., 2011), or experience sampling methods (Foo et al., 2009) to capture the degree to which individuals can accurately report their own temporal focus levels versus their enacted thought patterns. We look forward to future research that extends our understanding of temporal focus profiles.

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Appendix

A Variable-Centered Investigation of Temporal Focus

An alternative approach to understand how past, present, and future focus intersect would be to model all possible main effects, two-way interactions, and three-way interactions (e.g., Morin et al., 2011). We centered past, present, and future focus around each respective mean, and then calculated the two-way and three-way interactions from these centered terms (Aiken et al., 1991). All regression analyses were run in Mplus 8.1 and are shown in Table A1.

For affective outcomes, we found that job satisfaction was positively related to present focus ($b = .41, p < .001$), but unrelated to past and future focus. No two-way interactions emerged, but there was a significant three-way interaction ($b = -.13, p = .018$). In depicting this interaction (see Figure A1), we plotted present focus

as the x variable, with past (z) and future focus (w) as the moderating variables. The relation between present focus and job satisfaction was strong and positive when combined with higher past focus and lower future focus (simple slope = $.76, p = .002$). This is interesting, as we did not find evidence of a similar profile in either Study 1 or Study 2 using LPA (i.e., a qualitatively distinct profile with high past, high present, and low future focus). Significant positive slopes also emerged between present focus and job satisfaction at lower levels of past focus and higher levels of future focus (simple slope = $.44, p = .005$), and at lower levels of past and future focus (simple slope = $.23, p = .046$). Although the former relationship was not conceptually similar to any profile we found in either study, the latter mirrored the *present focus* profile. The simple slope at

(Appendix continues)

Table A1
Regression Results for Study 2 Outcomes

Variable	Job satisfaction (<i>n</i> = 360)			Affective commitment (<i>n</i> = 360)			Turnover intentions (<i>n</i> = 360)			Lateness (<i>n</i> = 353)			Absenteeism (<i>n</i> = 348)		
	<i>b</i>	<i>SE</i>	95% CI	<i>b</i>	<i>SE</i>	95% CI	<i>b</i>	<i>SE</i>	95% CI	<i>b</i>	<i>SE</i>	95% CI	<i>b</i>	<i>SE</i>	95% CI
Past focus	-.13	.08	[-.28, .02]	-.06	.08	[-.23, .10]	.23*	.10	[-.04, .42]	.12	.16	[-.18, .43]	.06	.04	[-.02, .13]
Present focus	.41**	.10	[-.22, .61]	.30**	.10	[-.10, .50]	-.35**	.13	[-.60, -.11]	-.48**	.18	[-.84, -.13]	-.09	.05	[-.19, .00]
Future focus	-.02	.09	[-.21, .16]	.02	.10	[-.17, .21]	.12	.11	[-.09, .33]	.09	.15	[-.21, .38]	.05	.05	[-.05, .15]
Past × Present	.06	.08	[-.10, .23]	.16	.08	[-.01, .32]	.05	.10	[-.15, .25]	.02	.17	[-.30, .35]	-.05	.05	[-.16, .05]
Past × Future	.00	.07	[-.14, .15]	.01	.07	[-.13, .15]	-.08	.08	[-.24, .08]	-.07	.12	[-.30, .15]	.03	.05	[-.06, .12]
Present × Future	-.07	.07	[-.20, .05]	-.07	.06	[-.19, .06]	.02	.09	[-.15, .19]	-.01	.14	[-.29, .26]	-.02	.04	[-.10, .06]
Past × Present × Future	-.13*	.06	[-.24, -.02]	-.07	.05	[-.17, .03]	.13	.07	[-.00, .25]	.11	.11	[-.10, .32]	-.01	.04	[-.08, .06]

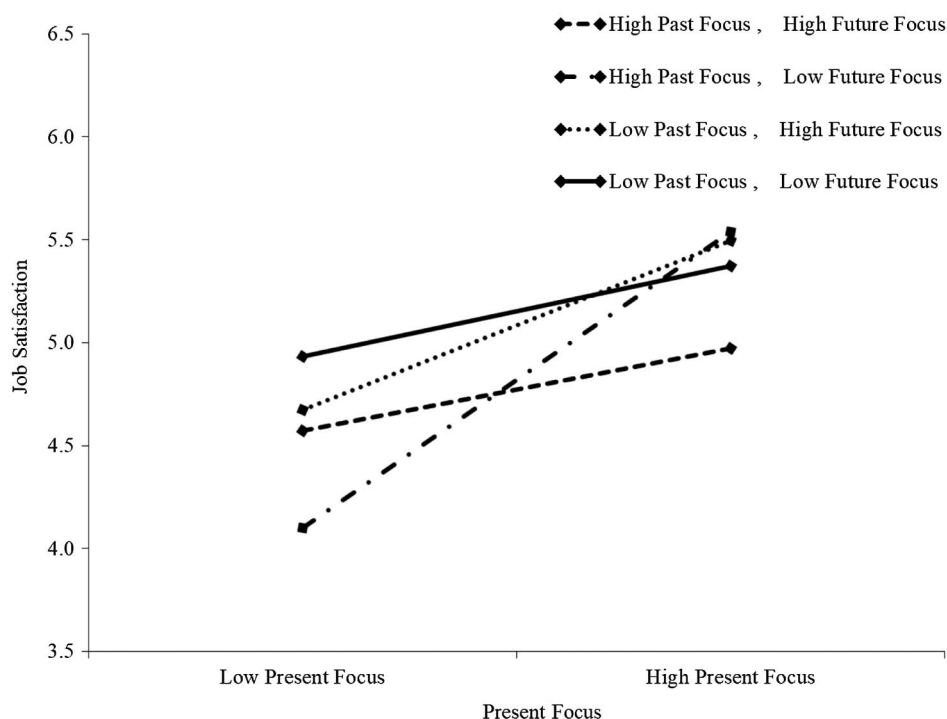
Note. All coefficients are centered and unstandardized. *SE* = standard errors. Outcomes were assessed approximately 6 weeks after the assessments of past, present, and future focus. We ran a separate analysis per outcome in Mplus 8.1. Sample sizes are adjusted for each outcome based upon missing data.

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

higher levels of both past and future focus was nonsignificant (simple slope = .21, $p = .257$). In comparing the differences among the simple slopes, two differences emerged, the simple slope at higher past/lower future focus was significantly different from the simple slope at higher past/higher future focus (difference = $-.55$, $p = .037$) and the simple slope at lower past/lower future focus (difference = $.53$, $p = .048$). No other significant differences emerged. As such, the most pronounced difference was found for a simple slope with higher past, higher present, and lower future focus. However, a similar profile was not reflected in Study 1 or 2.

Critically, these interactions were at 1 *SD* above and below each moderator mean, which “can yield artificial categories of individuals that may or may not actually exist” (Morin et al. 2011; Gabriel et al., 2015, p. 865), a point reflected by aspects of this three-way interaction. Furthermore, no other interactions emerged for the remaining outcomes. Specifically, affective commitment was positively related with present focus ($b = .30$, $p < .001$), but no other effects were significant. Turnover intentions were negatively related to present focus ($b = -.35$, $p = .006$) and positively related to past focus ($b = .23$, $p = .017$), but no other effects reached significance.

Figure A1
Three-Way Interaction Between Past, Present, and Future Focus Predicting Job Satisfaction



Note. Given that present focus was the only significant main effect for job satisfaction, we plotted it as the *x* variable, with past (*z*) and future focus (*w*) being the moderating variables.

(Appendix continues)

Finally, lateness was negatively related to present focus ($b = -.48$, $p = .011$); all other main and interactive effects for lateness and absenteeism were nonsignificant.

Combined, these findings are consistent with prior variable-centered research (e.g., Shipp & Aeon, 2019) in which past focus is detrimental and present focus is beneficial. Yet, we found that higher job satisfaction and affective commitment were associated with profiles that included higher present focus, as well as profiles in which stronger present focus was combined with stronger past *and* future foci. The only negative outcomes emerged when individuals focused comparatively less on the three time periods (i.e., *weak temporal focus*). Thus, we would argue that the *interpretation* of

each dimension on its own is incomplete when considered in a variable-centered way. Furthermore, given that four out of five outcomes did not exhibit the same three-way interaction as job satisfaction, it appears to be more fruitful from a statistical standpoint for temporal focus scholars to use LPA to analyze these complex relationships among the dimensions of past, present, and future focus in future research on the topic.

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