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Article

The Effect of Age on Daily Positive Emotions and Work Behaviors

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ABSTRACT

This study draws on socioemotional selectivity and person–job fit theories to investigate the emotional bases for age-related differences in daily task crafting and in-role performance. We tested a mediation model in which age is related to positive emotions that in turn predict task crafting and in-role performance. A total of 256 people working in multiple organizations participated in a 5-day diary study. Multilevel modeling showed that, at the person level of analysis, age is significantly and positively related to positive emotions and task crafting and, via crafting, to in-role performance. No significant mediation of high- and low-arousal positive emotions was found between age and task crafting. However, at the day level of analysis, high-arousal positive emotions are positively related to task crafting, and this in turn is positively related to in-role performance. These findings make important theoretical contributions to understanding within-person processes associated with employee age in addition to more traditional between-person factors. They also have implications for managing an age-diverse workforce by means of job crafting.

The recent economic downturn has led to postponements in retirement among many older people due to financial necessity (AARP, 2013). For these reasons, organizations must now address age-related differences among their employees, and managers must take the age diversity of their workforce into account. The literature on age diversity has thus grown rapidly over the last decade. As a result, we know that there are differences between younger and older workers in terms of work motivation (Kanfer & Ackerman, 2004; Kooij, de Lange, Jansen, Kanfer, & Dikkers, 2011), job attitudes (Ng & Feldman, 2010), and performance (Ng & Feldman, 2008). [Throughout the article, we do not use the terms "young" and "old" to describe our sample, as we do not examine age in the absolute sense. Rather, like most researchers in the aging workforce arena, we are examining age *differences*. For that reason, we use the terms "younger" and "older," intending to imply relative age differences rather than age in the absolute sense.] Some studies suggest that older workers, in particular, may be able to continue working effectively by crafting their jobs to fit their changing needs and thus enhance their performance (Kooij, Tims, & Kanfer, 2015; Kooij, van Woerkom, Wilkenloh, Dorenbosch, & Denissen, 2017). However, empirical tests of these assumptions are lacking, and the study of the link between age, job crafting, and outcomes is still at an infant stage.

A meta-analysis has also shown that job crafting is positively associated with performance (Rudolph, Katz, Lavigne, & Zacher, 2017), but the extent to which this may be especially true for older workers has yet to be investigated. So far, research reveals a very complex pattern of relationships between age and work behaviors. For example, age has been found to be positively associated with contextual performance (Ng & Feldman, 2008), and negatively associated with job crafting (but positively with specific subdimensions of it; Rudolph et al., 2017); it has also been found to be unrelated to task performance (Ng & Feldman, 2008).

Aiming to reconcile this apparent paradox, we propose investigating these relationships by taking both a between-person and a within-person approach. By disaggregating the levels at which the effects occur, we can achieve a more accurate representation of the interrelationships among the variables of interest (Curran & Bauer, 2011). Furthermore, it is important to clarify that the meta-analyses cited above are mostly based on cross-sectional studies and single-point-in-time measurements; on the other hand, some between-person effects

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may occur (and be visible) only over multiple occasions and points of measurement, that is, using longitudinal studies. In other words, cross-sectional studies correlate age with work-related behaviors at one single point in time, with the result that this relationship may be spurious or that the work-related behaviors may not be representative of workers' experience. Indeed, it is highly likely that both performance and crafting vary daily, and an extensive literature has accrued on fluctuations (weekly and daily) in job crafting (Demerouti, Bakker, & Halbesleben, 2015; Petrou, Bakker, & van den Heuvel, 2017; Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012).

We therefore aim to unpack the portion of daily variance in in-role performance and task crafting that may be attributable to age. We place task crafting at the core of a conceptual model that links age to daily in-role performance and envision a mediating role for daily task crafting in that relation. It has been argued that older workers are in a good position to craft their tasks effectively due to increased job knowledge (Truxillo, Cadiz, & Hammer, 2015), clearer professional identity, self-awareness, and self-control (Kooij et al., 2017).

We propose a focus on motivational drivers, and especially on positive emotions as energy reservoirs that can mediate the relationship between age and task crafting. A number of studies have illustrated the importance of investigating the daily emotions of older and younger workers (Scheibe & Zacher, 2013) and their effects on attitudes and behaviors. However, little research has examined how older and younger employees might differently experience emotions in their jobs on a daily basis (see, e.g., Scheibe, Spieler, & Kuba, 2016 for an exception) and the energizing capacity of these emotions.

This study has the potential to contribute to understanding how age may affect work outcomes on a daily basis, thereby leading to improved guidance for managers and organizations. We aim to make two primary contributions: First, to unpack the relationship between age and in-role performance at different levels of analysis, exploring the mediating role of task crafting; and second, to investigate the emotional mechanisms that enable age-diverse employees to engage in daily task crafting. In the following sections, we use a lifespan development approach to describe the role of age in emotions and how this may affect task crafting and in-role performance.

Age and Emotions at Work: Socioemotional Selectivity Theory

The literature on affective states—which include affect and emotions—has proposed a circumplex model defined according to two axes (Russell, 1980, 2003). The pleasure-displeasure axis identifies the valence feature of emotions (i.e., positive or negative), and the activation-deactivation axis indicates the high versus low arousal component in emotions, which is the level of activation produced by emotions. By crossing the two axes, four quadrants emerge, namely high-activation positive (HAP); low-activation positive (LAP); high-activation negative (HAN); and low-activation negative (LAN). Affective states, which are generic feelings, as well as their corresponding emotions that target a specific object, are located along the continuum of the circumplex (Remington, Fabrigar, & Visser, 2000).

Research about age-related differences in affective and emotional states has primarily been framed within socioemotional selectivity theory (SST; Carstensen, Isaacowitz, & Charles, 1999). SST explains that as people age, a shift occurs in their perspectives about the time that they have remaining in their lives. Specifically, time remaining will seem limited from the perspective of older people, whereas it will be perceived as much more open-ended to younger people. As such, older people are said to have a present-oriented time perspective, whereas younger people share a future-oriented time perspective. Because of their present-oriented time perspective, older people seek to maximize positive and meaningful social relations which in turn lead them to experience more positive emotions (Carstensen et al., 1999). Until recently, evidence regarding emotional differences due to age was relatively scant in the organizational psychology literature (Scheibe et al., 2016). Longitudinal evidence, in particular, mostly arises from the general and developmental psychology literatures (Carstensen et al., 2011; Gross et al., 1997). In the organizational psychology literature, Scheibe, Yeung, and Doerwald (2019) found that age was associated with more positive and less negative daily affect and, through these, to task performance. Moreover, Scheibe and colleagues found a higher frequency of reported positive events among older workers. When also considering the level of activation and thus distinguishing between HAP and LAP emotions, the results are less conclusive. In three German working samples, Scheibe and colleagues (2016, 2019) found that age was not significantly related to mean levels of either HAP or LAP emotions. In a sample of the general population from the United States, it was observed that in older individuals LAP emotions of at least moderate intensity were more frequent than HAP emotions of the same intensity, but the authors did not explore whether the intensity of the emotions also differed statistically (Scheibe, English, Tsai, & Carstensen, 2013).

These mixed findings may be related to different cultural norms that regulate the expression of emotional states (Scheibe et al., 2019), including when the expression involves "labeling" one's emotions by, for example, answering surveys (Gross et al., 1997). In the case of working samples, organizational and occupational norms may also play a role in influencing the intensity with which people characterize their emotions (Sutton, 1991). Furthermore, the few studies available present different features in design and measures; some studies explored the emotions experienced at the end of the working day (Scheibe et al., 2016; Study 2 in Scheibe et al., 2019), while others tied the emotions to specific events at work (Study 3 in Scheibe et al., 2019). In some cases researchers measured the intensity of the emotions (Scheibe et al., 2016; Study 3 in Scheibe et al., 2019), and in others they measured the frequency of the emotions during the day (Study 2 in Scheibe et al., 2019). All in all, the relative paucity of research in organizational psychology on HAP and LAP and the inconclusive findings about them in the general population indicate that it is important to empirically study HAP and LAP as separate dimensions.

We anticipate that older employees experience more positive emotions on a daily level, both low-arousal and high-arousal. SST makes no specific predictions concerning the relative strength of the two quadrants, particularly for the working population. Nonetheless, as we argue more in detail in a subsequent paragraph, the distinction between high- and low-arousal is very relevant for their motivational implications and expected impact on behaviors (Russell, 2003). Hence, even though older people may prefer low-arousal emotions, this does not deny that they experience the entire spectrum of arousal (Scheibe et al., 2013). Due to a selection effect, we argue, older people may choose the situations that best fit them (e.g., social interactions) and pay greater attention to particular aspects

of those situations (e.g., positive ones). Furthermore, the positive emotions—and the events that precipitated them—would become salient due to their congruence with older people's values and goals (Carstensen et al., 1999). In this way, older people may have a selective lens through which they look at daily events and focus especially on the positive events. Consequently, we formulate the following hypothesis:

Hypothesis 1: Age will be positively related to daily high-arousal positive (HAP) emotions (H1a) and low-arousal positive (LAP) emotions (H1b).

Age and Task Crafting

Multiple conceptualizations of job crafting have been advanced, and a recent review offers an integration (Zhang & Parker, 2019). According to Zhang and Parker (2019), job crafting can be motivated by an approach vs. avoidance orientation, and it can take different forms within each orientation. Consistent with the original formulation of job crafting (Wrzesniewski & Dutton, 2001), namely a self-initiated behavior aimed at reshaping the boundaries of one's job, it can either be cognitive (i.e., people alter the way they frame or view their job) or behavioral (i.e., people tangibly change aspects of their jobs, either task- or socially related). Finally, job crafting may deal with different content, such as being focused on resources or demands (Tims & Bakker, 2010). We focus here on behavioral task crafting encompassing both resources and demands content.

A recent meta-analysis reports on the relationship between age and job crafting (Rudolph et al., 2017) with fairly mixed results. Age appears to be weakly, negatively related to most dimensions of job crafting, but positively associated with the dimension "increasing structural resources," which involves altering some aspects of one's job to make it more motivating (Tims & Bakker, 2010). A qualitative study found that older employees engage the most in task crafting (i.e., changing the scope, number, and type of job tasks), while younger employees also engage in relational crafting (i.e., changing the amount and quality of interactions at work) and in cognitive crafting (i.e., changing the cognitive boundaries of one's job, such as taking up more responsibilities Baroudi & Khapova, 2017).

As Zhang and Parker (2019) point out, it is difficult to compare studies conducted with different conceptual frameworks and operationalizations and arrive at clear conclusions. This is especially true since one perspective collapses the distinction between social and structural aspects and instead categorizes them as demands and resources (Tims & Bakker, 2010); while the other perspective takes into account the tasks and social aspects of one's job but does not frame and further separate them as demands and resources (Wrzesniewski & Dutton, 2001).

In our view, behavioral task crafting is similar to increasing structural resources and we argue that older workers are likely to engage in this form of crafting. As suggested in recent theoretical models, older workers engage in job crafting to improve their person–job (P-J) fit (Kooij et al., 2015), and this prediction was supported in an experimental study (Kooij et al., 2017). As such, we expect that older workers intervene especially on task crafting versus other forms of crafting to better fit the job to one's interests and strengths. Task-related crafting entails augmenting the motivational features of one's job, and hence making it more interesting to oneself. It also entails gearing it toward one's strengths; hence, task-related crafting also includes addressing demands, for example, optimizing them (i.e., increasing the efficiency and simplifying the tasks; Demerouti & Peeters, 2018).

Consistent with this literature, we propose:

Hypothesis 2: Age will be positively related to daily task crafting.

Emotions as Mediators Between Age and Task Crafting

We suggest, based on SST theory (Carstensen et al., 2011), that one likely factor linking age with task crafting rests with the positive emotions that older workers experience more regularly, which are a powerful driver of work behaviors especially on a daily basis (Weiss & Cropanzano, 1996). The positive emotions experienced during the day are likely to be channeled into energy to use at work. They drive one's actions in the direction of trying new and different behaviors, as opposed to negative emotions, which narrow one's mind, prompt a defensive attitude, and mainly lead to "survival" behaviors (Fredrickson, 2001). Accordingly, it is not surprising that experiencing positive emotions leads to enacting more positive work-related behaviors (e.g., Fisher, 2003; Fritz & Sonnentag, 2009; Ouweneel, Le Blanc, Schaufeli, & van Wijhe, 2012).

Nevertheless, not all behaviors require the same levels of energy or arousal to be enacted. Warr and colleagues (2014) conducted a multistudy examination of the differential relationships of the four quadrants in the emotional circumplex with specific work behaviors, both positive (including task proficiency, proactivity, and several dimensions of extra-role contribution) and negative (notably multiple forms of counterproductive work behaviors). The hypothesized symmetrical relationships between the valence of the affect and the valence of the behaviors were supported. For example, they found positive correlations between positive emotions and proactivity, as well as between negative emotions and withdrawal. They showed that the predictive power of positive affect with high arousal was greater than that of positive affect with low arousal. This was true for all positive behaviors, and especially for highly discretionary behaviors such as proactive behaviors, which are conceptually close to crafting. This is consistent with Russell's (2003) as well as other biopsychological models of emotions (Thayer, 1989) that regard high-arousal emotions as energy reservoirs and drivers for action.

In sum, we argue that compared with younger workers, older workers will focus more on the positive events that happen in their daily lives and that lead them to experience more positive emotions (Carstensen et al., 1999, 2011); these emotions, in turn, should translate into more proactive work behaviors. In particular, HAP emotions are likely to provide the necessary level of energy required to engage in discretionary and proactive behaviors like task crafting (Warr et al., 2014). Thus, we set forth the following hypothesis:

Hypothesis 3: The relation between age and daily task crafting will be mediated by (a) HAP emotions, (b) LAP emotions, with (c) HAP emotions having the greater mediation effect.

Task Crafting and In-role Performance

The outcomes of job crafting have been extensively investigated in a recent meta-analysis by Rudolph and colleagues (2017), who

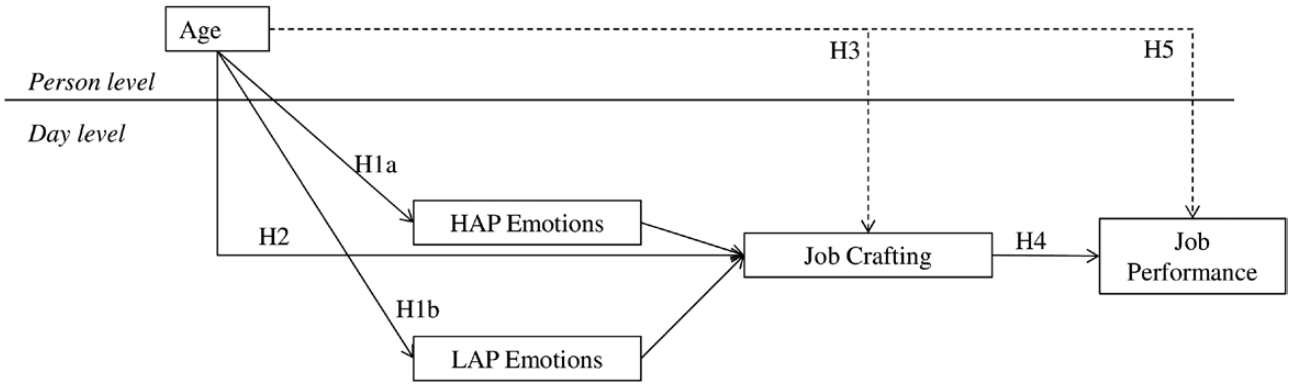

Figure 1. Conceptual model.

report moderate correlations between job crafting and job attitudes, indicators of wellbeing, and performance, both self- and other-rated. Similar findings have been found at the within-person level of analysis, and specifically within a short time frame such as weekly or daily. Petrou and colleagues (2012) found that daily challenge seeking (but not resources seeking) was positively associated with daily work engagement. On the other hand, in another daily diary study, Demerouti and colleagues (2015) found that daily crafting, especially seeking to increase one's resources, actually led to increased resources (i.e., autonomy) which were associated with work engagement and ultimately task performance. The crafting dimension of "reducing challenges" was negatively associated with task performance due to decreased overload and work engagement.

These findings can be read in light of the P-J fit perspective. Workers perform better by maintaining P-J fit and adjusting for changing motivations and physical abilities that may vary with age (Kooij et al., 2015). It has been proposed that crafting one's job can enhance older workers' motivation, even in the face of routine tasks that they may face, by fostering or fueling one's interest in the job (Kooij et al., 2015). Moreover, it can help meeting challenging demands by allowing a person to adjust the tasks around one's abilities and strengths. Therefore, re-designing one's tasks by crafting them would be instrumental to ensuring high levels of in-role performance, which also fits well with the observation that age per se is unrelated with job performance (Ng & Feldman, 2008). In that sense, to the extent that age relates to task crafting, and studies show that age is positively related to crafting that increases one's structural resources (Rudolph et al., 2017) it should also lead to in-role performance. Based on this reasoning we propose the last two hypotheses:

Hypothesis 4: Daily task crafting will be positively related to daily in-role performance.

Hypothesis 5: The relation between age and daily in-role performance will be mediated by daily task crafting.

The overall model that is tested in this research is shown in Figure 1.

METHOD

Participants and Procedure

Two-hundred fifty-six participants (32.8% Spanish, 36.7% Portuguese, and 30.5% Italian) from different professional occupations and organizations participated in the study. Participants were all volunteers and were recruited in their respective country of origin by means of the researchers' networks. Participation was encouraged by offering individual reports to those who completed all 5 days of surveys. Because our main goal was maximizing the number of participants, prospective respondents were approached in a number of ways: (a) directly, through their participation in postgraduate programs; (b) indirectly, via students that contacted professionals and recruited them for the study in exchange for course credits; (c) via personal contacts in organizations, who spread the information about the study among employees. All individuals signed an informed consent form in which they were ensured that their personal information would be used by the researchers only for the purposes of matching their daily responses.

The sample was 50.8% male, 43.8% female, and 5.5% did not indicate their sex. The average age was 37 years (SD = 10.55; range: 19–59). Because there were differences in age by nationality (F = 86.97; p < .01) and sex (F = 5.41; p < .05), we used these variables as covariates of age in our analyses. Sample occupations of our participants include consultants, bank and office employees, civil service workers, chemists, and data analysts.

Data for this study were collected through a general survey and daily questionnaires over the course of 1 week. The general survey was administered at Week 1 and assessed demographic and relatively stable characteristics. At Week 2 (i.e., the following week), participants were invited to complete the short daily survey at the end of each working day (between approximately 4 and 5 p.m.) from Monday to Friday. Daily reminders were provided, and the overall number of observations is 1,061 (average of 4.1 observations per person). No differences were found in terms of age, sex, and nationality in a dropout analysis, respectively: $t(226)$ = .95, p = .33; $t(261)$ = 1.64, p = .10; $t(232)$ = .25, p = .80). The sample size is adequate for testing our model (Ohly, Sonnentag, Niessen, & Zapf, 2010), whose main focus is on fixed effects. In these circumstances, characteristics of the Level 2 units have little impact on the precision of Level 1 estimates (Snijders, 2005). Therefore, it is recommended to add Level 2 units (i.e., in this

Table 1. Means, Standard Deviations, and Between- and Within-Person Correlations

	Variables	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1	Spanish nationality dummy[a]	0.33	0.47	—									
2	Portuguese nationality dummy[a]	0.37	0.48	−.53**	—								
3	Sex	1.46	0.50	.03	.05	—							
4	Age	37.12	10.55	.32**	−.01	−.07	—						
5	Emotional stability	3.16	0.96	−.12	−.18**	−.08	−.14*	—					
6	Job crafting[b]	−0.03	0.82	.16*	−.15*	−.03	.17*	.01	—	.28**	.17**	.08*	.00
7	Performance[b]	−0.02	0.75	.22**	−.25**	−0.02	.06	.06	.28**	—	.22**	.15**	−.09**
8	HAP emotions	1.44	0.85	.58**	−.22**	.02	.25**	−0.10	.10	.13	—	.47**	.08*
9	LAP emotions	1.45	0.87	.44**	−.18**	.06	.20**	−.02	.06	.19**	.70**	—	.04
10	Day												

Note. Correlations below the diagonal are person level. Correlations above the diagonal are day level. *N* (observations) = 1,061; *n* (participants) = 256.
[a]The Italian nationality dummy variable is the reference point.
[b]Job crafting and job performance were transformed in *Z*-scores because of technical issues by which some respondents had a different answering scale. In this way their responses could be used with the others.
*$p < .05$; **$p < .01$.

case, individuals) as opposed to Level 1 units (i.e., observations) in order to obtain unbiased parameters (Heck, Thomas, & Tabata, 2010).

Measures

All scales used in the study were translated from English into each of the three languages by the researchers and then back-translated into English by native speakers (Brislin, 1970). More specifically, the coauthors of this article were affiliated with different institutions in the countries where this research has been conducted. Therefore, in all the countries we followed the same double translation procedure, and we counted on other researchers, not involved in the study, to review the final version of the survey.

Emotions

Similar to the day reconstruction method by Kahneman, Krueger, Schkade, Schwarz, and Stone (2004), we asked participants each day about what they did and how they felt. Specifically, we asked them to think of their day as a continuous series of scenes or episodes in a film and to report two episodes. Then, we presented them with a list of eight emotions (based on Remington et al., 2000) measuring the four quadrants of the emotional circumplex (Russell, 2003). HAP emotions were measured with the adjectives "enthusiastic" and "lively"; LAP emotions were measured via "at ease" and "relaxed." Each emotion could be rated on a scale from 0 to 100. The emotions belonging to the same quadrant were summed to obtain the final score, and the two daily episodes were summed up as well, so that for both HAP and LAP emotions the minimum value possible is 0 and the maximum is 400. To facilitate the coefficients' interpretation, we have rescaled these variables dividing them by 100. Multilevel reliability tests estimated through the Omega index indicated acceptable reliability for both HAP emotions ($Omega_{between}$ = .96, $Omega_{within}$ = .67) and for LAP emotions ($Omega_{between}$ = .97, $Omega_{within}$ = .56).

In-role Performance

Two items from Williams and Anderson (1991) were used to assess daily individual performance: "Today, I performed well" and "Today, I fulfilled all the requirements for my job." Items were rated on a 5-point Likert-type scale ranging from 1 (*to a small extent*) to 5 (*to a large extent*). Multilevel reliability indices were good ($Omega_{between}$ = .91, $Omega_{within}$ = .80). We opted for a self-report measure of in-role performance for two main reasons. The first is that self-report measures allow putting together different occupations and jobs, whereas other measures (e.g., objective measures) would not be easily available for all jobs and would make a comparison difficult. The second reason is that for relatively complex jobs such as those we have in our sample, made of knowledge workers (specific jobs that require a combination of both knowledge and skills; Hislop 2008), performance at the day level may not translate into visible outputs; hence, the best informant of one's performance can only be the person, referring to both the output and the process.

Task Crafting

Three items from Leana, Appelbaum, and Shevchuk (2009) were used to assess proactive behavior in which the employee changes his/her daily job tasks. Items were adapted to the data collection context, for example, by substituting "my work in the classroom" with a more general "my work," as the scale had been originally used in the educational context. The items are: "I introduced new approaches on my own to improve my work"; "I changed minor work procedures that I think were not productive (such as lunch time or other routines) on my own"; "On my own, I changed the way I do my job to make it easier for myself." We used a 5-point Likert-type scale ranging from 1 (*to a small extent*) to 5 (*to a large extent*). Multilevel reliability indices were good ($Omega_{between}$ = .93, $Omega_{within}$ = .71).

Control Variables

Among demographic variables we decided to control for sex and nationality (introduced as correlates for age) and also for emotional stability. All these variables are relevant and can explain key individual differences in emotional mechanisms (Immordino-Yang, Yang, & Damasio, 2016; Wright, Riedel, Sechrest, Lane, & Smith, 2018) also as function of age (Roberts, Walton, & Viechtbauer, 2006). Emotional stability (two items) was measured at the person level in the general survey via the Gosling, Rentfrow, and Swann (2003) short measure of Big Five. Finally, we used day of the week (From Monday to Friday) as a day-level control variable because it

Table 2. Multilevel SEM: Results of the 2-1-1-Mediation Test

	LAP Emotions	HAP Emotions	Task Crafting	Job Performance
	Estimate (*SE*)	Estimate (*SE*)	Estimate (*SE*)	Estimate (*SE*)
Within level				
Day	0.02 (0.02)	0.05* (0.02)	0.00 (0.01)	−0.04* (0.02)
LAP emotions			0.00 (0.04)	
HAP emotions			0.16** (0.04)	
Task crafting				0.33** (0.06)
Between level				
Age	0.02** (0.01)	0.02** (0.01)	0.01* (0.01)	0.00 (0.01)
LAP emotions			−0.06 (0.10)	
HAP emotions			0.06 (0.10)	
Task crafting				0.26** (0.07)
Indirect effect for mediation test (age-crafting-performance)				0.003* (0.002)
Intercepts	0.71** (0.20)	0.53** (0.20)	−0.49* (0.21)	0.04 (0.17)
Residual variances (within)	0.57** (0.04)	0.53** (0.04)	0.44** (0.03)	0.56** (0.04)
Residual variances (between)	0.54** (0.06)	0.54** (0.07)	0.53** (0.05)	0.34** (0.04)

Note. *N* (observations) = 1,061; *n* (participants) = 256. Standard errors in parentheses. Additional information of the model estimation: BIC = 27768.47.
*$p < .05$; **$p < .01$.

was found that affective reactions and behaviors vary as function of the unfolding of the week (Fisher, 2003).

RESULTS

Multilevel Confirmatory Factor Analysis

Before testing our hypotheses, we ran a multilevel confirmatory factor analysis taking into account the nested nature of our measurements (multiple measurements for the same participants). We found that a four-factor model (task crafting, in-role performance, HAP emotions, and LAP emotions, modeled at both within and between level) presented a good fit to the data (Schreiber, Nora, Stage, Barlow, & King, 2006; RMSEA = .023, CFI = .986, TLI = .979, $SRMR_{within}$ = .032, $SRMR_{between}$ = .062). The single-factor model (modeled at both within and between level) presented an unacceptable fit (RMSEA = .128, CFI = .425, TLI = .333, $SRMR_{within}$ = .152, $SRMR_{between}$ = .368), offering additional evidence for the validity of our measures.

Descriptive Statistics and Correlations

Table 1 shows the means, standard deviations, and correlations for all study variables at the day and at the person level. At the day level, correlations were calculated on the within-person centered variables to account for the nonindependence of measures. At the person level, correlations involving daily variables were calculated using the average value across measurement occasions. At both the person and day levels, correlations among our core variables are small to moderate in magnitude and in the expected direction. One surprising observation is that, at the between-person level, job performance is significantly and positively correlated with LAP emotions and not with HAP emotions. At the within-person level, however, job performance is significantly and positively correlated with both, but more strongly with HAP than LAP emotions. The apparent inconsistency of these findings further shows the importance of separating the two levels of analysis, and this issue can be interpreted by considering that the within-person correlation implies that a person performs better every day that he/she has higher HAP emotions. On the other hand, if we only look at the between-person level of analysis, the correlations would obscure this relevant information, showing that "on average" higher levels of LAP emotions are associated with higher levels of performance.

Another observation pertaining to the correlation matrix is the negative association between emotional stability and age, which is different from what is traditionally found in the literature (Roberts et al., 2006).

Hypothesis Testing

To test our hypotheses, we took into account the hierarchical structure by which daily responses are nested within individuals. We decided not to center our variables, as centering is essential when testing cross-level interactions, but on the contrary it can be risky when cross-level interactions are not of interest (Bliese, Maltarich, & Hendricks, 2018). To analyze the data, we employed multilevel structural equation modeling (MSEM) using MPlus 7 (Muthén & Muthén, 2012). Specifically, we tested a 2-1-1 model (age at Level 2, emotions at Level 1, behaviors at Level 1) according to Preacher, Zyphur, and Zhang (2010), with fixed slopes and no constrains for the two levels of analysis to be equal. We tested first a null model (Model 0) to study the variances of HAP emotions, LAP emotions, task crafting, and in-role performance, all of which we found to be significant. [HAP emotions: (within person variance = .47**; between person variance = .53**). LAP emotions: (within person variance =. 50**; between person variance = .50**). Task crafting: (within person variance = .45**; between person variance = .55**). In-role performance: (within person variance = .62**; between person variance = .38**) where ** indicate $p < .01$.] This indicates that in all these variables there is significant variation both within and between persons. Additionally, we calculated the amount of variance in daily in-role performance and daily task crafting that is attributable to between-persons differences, namely 38% for in-role performance and 54.4% for task crafting. We ran Model 1 by entering Day as a control variable *within* persons. Then, in Model 2, we entered age

as predictor *between* persons, as well as sex, emotional stability and nationality (entered as dummy variables) as correlates of age. Following Becker and colleagues' (2016) recommendation, we ran Model 2 both with and without the covariates of age and found the same pattern of results. We, therefore, decided to exclude the covariates, as they were not part of our hypothesis testing. Finally, we tested models with indirect paths, the last of which (Model 3) is reported in Table 2.

First, we found HAP emotions to be positively related to the day of the week (Estimate = .05, $p < .05$), while in-role performance was negatively related to day of the week (Estimate = −.04, $p < .05$); this implies that HAP emotions tended to be higher at the end of the week, while in-role performance tended to be lower. LAP emotions and task crafting were not associated with the day of the week (respectively .02, $p = .24$; and .00, $p = .99$).

Regarding Hypothesis 1, as given in Table 2, we found a positive and significant relationship between age and daily LAP emotions (Estimate = .02, $p < .01$) and HAP emotions (Estimate = .02, $p < .01$), thus lending empirical support to both H1a and H1b.

Hypothesis 2 was also supported, as given in Table 2, as we found a significant and positive relationship between age and task crafting (Estimate = .01, $p < .05$). However, HAP and LAP emotions were not significantly associated with task crafting at the *between-person* level. Nevertheless, we tested a model estimating the indirect effects of age on task crafting via HAP and LAP emotions. The results revealed an insignificant mediation path, both via HAP emotions (.00, $p = .57$) and LAP emotions (−.00, p = .49). Thus, Hypothesis 3 was not supported. We note that *within* persons there was a positive and significant relationship between HAP emotions and daily task crafting (Estimate = .16 $p < .01$), while the relationship between LAP emotions and daily task crafting was not significant.

Supporting Hypothesis 4, as reported in Table 2, we found—between person—a significant positive relationship between daily task crafting and daily in-role performance (Estimate = .26, $p < .01$), and the same pattern also *within* person (Estimate = .33, $p < .01$).

Finally, to test Hypothesis 5, we added the estimation of the indirect effect for the mediation test (age—daily task crafting—daily in-role performance) to our Model 2 and found significant indirect effect (Estimate = .003, $p = .05$), offering empirical evidence for a mediated relationship.

In summary, at the between-person level of analysis we found a positive relationship between age and task crafting, and that task crafting mediated the relationship between age and in-role performance; we also found a positive relationship between age and positive emotions, although neither HAP nor LAP emotions mediated the relationship between age and task crafting.

DISCUSSION

The goal of this article was to investigate the predictive role of age in daily emotions and work behaviors. Drawing on SST and P-J fit theories, we designed and tested a model that hypothesized a positive relationship between age and daily task crafting via daily positive emotions; moreover, our model also posited that, via greater task crafting, age would be positively related to in-role performance. We tested our predictions in a sample of 256 individuals that completed a 5-day diary questionnaire (for a total of more than 1,000 observations), with respondents coming from a cross-section of organizations and occupations across three countries.

A preliminary result, which we found before testing the model, was that all of our variables—namely HAP and LAP emotions, task crafting, and in-role performance—showed daily as well as individual variability. The multilevel nature of our daily data allowed us to disentangle these two portions of variance and explicitly focus on the variance attributable to the individual, that is, the *between* part of the model. Our goal was to explain this variance using age as an independent variable and, in so doing, we believe that we made a number of contributions to the literature.

Theoretical Contributions

Our first contribution to the literature is a test of the mediated relationship among age, crafting, and performance. Increasing theoretical and empirical accounts suggest a positive correlation between age and crafting (Baroudi & Khapova, 2017; Kooij et al., 2015), and particularly revealing are recent intervention studies (e.g., Kooij et al., 2017) that, adopting strong experimental designs, show that older workers benefit from crafting interventions in terms of perceived job fit and wellbeing. However, the assumption based on P-J fit theory—that older workers are able to perform better via crafting their tasks—was to date largely unverified. Our findings also help clarify the complex pattern of relationships between age and task performance (Ng & Feldman, 2008). The meta-analysis points to the fact that performance is most likely predicted by individual and contextual factors other than age. However, we proposed that by crafting their tasks, older workers may perform better than their younger counterparts; indeed, they can gear their activities toward their strengths, compensating for any weaknesses and taking advantage of their expertise. In addition, we reasoned that adjusting one's own tasks at work is most likely to occur on a day-to-day basis, hence we investigated daily task crafting. The data supported our hypothesis of a direct positive relationship. A portion of daily task crafting, namely a portion due to fixed or individual effects, was explained by age, such that older workers had a higher average level of task crafting more than 5 days compared with younger workers. Interestingly, age was not directly related to daily in-role performance, but the two variables were indirectly related via task crafting. Thus, the mediation path was supported and implies that by engaging in greater task crafting on average during the week, older people achieve an average better performance. At the within-person level of analysis, task crafting was also positively related to in-role performance, meaning that on days that people craft their job they perform better, and this is consistent with previous studies (Demerouti et al., 2015); it may allude to the fact that on that day an individual achieved a successful fit with their job, which increased their task performance.

A second contribution to the literature was testing the process through which age relates to daily task crafting. The extant literature mostly focuses on work ability and job requirements as predictors of crafting for older workers—that is, a combination of demands and resources (Demerouti, 2014; Kooij et al., 2015; Rudolph et al., 2017). However, in the present study, we sought to specifically focus on daily motivational processes that could affect daily task crafting. We examined affective processes and drew from SST (Carstensen et al., 1999) to derive our rationale. We argued, consistent with SST, that there was a positive association between age and the average daily positive emotions, both high- and low-arousal. This illustrates that older workers tend to have an average upper baseline of positive emotions on a daily basis, as was found in the general population

(Carstensen et al., 2011). However, a previous diary study conducted with working adults did not detect any association between age and emotions (Scheibe et al., 2016). These divergent findings may be explained by considering the specific focus and time of reference of the emotions. In the present study, we asked participants to report emotions related to two specific events that occurred during their working day (since events that happen at work are among the primary drivers of work-related behaviors; Weiss & Cropanzano, 1996); Scheibe and colleagues (2016), on the other hand, measured how people felt at the end of the working day. Therefore, it may be that measuring emotions only at the end of the day and referring to how they felt right in that particular moment is different from capturing older workers' experience of positive emotions related to specific events. A further element of difference is the context, as the only empirical studies from organizational settings were restricted to few nationalities; in this sense, it will be worth exploring to what extent our different findings may be ascribed to cultural differences or the nature of the work (Scheibe et al., 2016, 2019).

Notwithstanding the positive association of age with positive emotions and task crafting, the mediation path was not supported, questioning the affective route as an explanatory mechanism. It is possible that cognitive mediating mechanisms are at play, and future research should explore these cognitive mechanisms within a daily temporal frame. Since these are motivational factors to craft ones' daily tasks, such cognitive variables may include a person's assessment of their work ability conceptualized as a state (McGonagle, Fisher, Barnes-Farrell, & Grosch, 2015), health symptoms, experienced fatigue on a given day, daily job demands (Demerouti et al., 2015), and experienced job characteristics (e.g., Morgeson & Humphrey, 2006). It is worth noting that, at the day level, we could observe a positive correlation between task crafting and HAP and not with LAP emotions. This means that on days that people report higher HAP emotions they also craft their tasks more. This would be consistent with the idea that task crafting as a proactive behavior requires greater levels of energy such as those provided by high arousal (Frederickson, 2001; Russell, 2003). This finding corroborates Warr and colleagues' (2014) results and extends them by showing that such correlations are present *within* persons in addition to *between* persons. At the same time, the fact that HAP emotions and task crafting between persons are not significantly related in our study may point to the presence of moderators, or even enabling factors. Specifically, across individuals there may be occupational (e.g., job autonomy) and other individual differences (e.g., proactive personality) that may represent necessary conditions (Dul, 2016) for the crafting and even more the HAP-crafting relationship to emerge.

Finally, a few additional results emerged at the day level of analysis and, albeit not related to our main hypotheses, are worth noting. First, although day of the week was not related to task crafting, it was negatively related to in-role performance, suggesting that the participants' in-role performance is lower at the end of the week, likely due to fatigue. Second, and conversely, the association between day of the week and HAP emotions was positive, meaning that these emotions are higher as the week unfolds into the weekend. These relationships are in line with previous studies aimed at investigating trends in similar phenomena throughout the week (Binnewies, Sonnentag, & Mojza, 2010; Fisher, 2003) and further attest to the validity of our findings.

Practical Implications

These findings may have important implications for organizations. Because the minimum retirement age has been extended in many countries (and the trend is to extend it even further), organizations need to find ways to keep older workers productive at work (Truxillo, Cadiz, & Rineer, 2014). Our results suggest that increasing the opportunities for task crafting for older workers can help in reaching this goal. Given the age differences found here, and results from prior studies suggesting different results of job crafting interventions for older and younger people (Kooij et al., 2017), we suggest that task crafting interventions may not be one-size-fits-all but may be best tailored to fit a person's age or career stage, or that crafting interventions should be developed to be flexible enough to account for these differences.

Moreover, our results suggest that task crafting seems most likely to occur on a day-to-day basis, and, even more importantly, older workers have a higher average daily level of task crafting compared to younger workers. Therefore, when designing interventions (Truxillo et al., 2015), organizations need to consider the daily aspects of task crafting (i.e., daily adjustment of work tasks). Accordingly, organizations should increase the opportunities for older workers to craft their job on a daily basis; that may include, for example, facilitating a personalized and flexible process of optimization and compensation (e.g., to compensate for losses through a daily basis crafting of tasks).

Moreover, our results suggest that by engaging in greater task crafting during the week, older people also achieve better in-role performance. Organizations that want to keep older people active and productive at work could benefit from designing and implementing task crafting interventions that increase or create new opportunities for older workers to adjust their tasks to meet their work demands consistent with their resources. For instance, this might include giving older workers a higher degree of autonomy and more freedom about how to perform a task in order to let their experience and expertise drive their daily work.

Finally, our results reveal that older workers experience more positive emotions on a daily basis, and this finding can be useful in itself for organizations that are concerned with individual wellbeing in the workplace, and in particular keeping older workers healthy at work. Although positive emotions do not seem to be the mechanism that explains older workers' greater crafting, such emotions are nevertheless associated with numerous other positive work attitudes and behaviors (Fritz & Sonnentag, 2009; Ouweneel et al., 2012). The differences in the emotions of younger and older workers should be considered and valued when planning organizational interventions, for example, by paying attention to the creation of age-diverse teams.

Limitations and Future Directions

Despite the strengths of our study (e.g., a large number of observations from people working in different contexts), it presents some limitations that we should acknowledge. First, although it is quite common in diary studies, we employed a single source of information and collected only self-report data; this raises concerns about common method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) that cannot be entirely ruled out as far as the day-level part of the model is concerned. This limitation could be addressed in future studies combining external sources for our dependent variables and mediators. Nonetheless, we point out that one of our research questions was the effects of daily emotions on daily task crafting and performance, and as

such, we needed to measure these within the same day. We also emphasize that the main focus of this study concerned the age-related differences in daily emotions and behaviors, and therefore we point to the portion of variance in these phenomena explained by Level 2 characteristics (i.e., age) that is not subject to common method bias.

A second potential issue is related to the participants' compliance in diary research designs. To overcome this issue, we put significant effort into maximizing compliance, timely completion, and data quality in several ways. First, all participants were volunteers, and there were no benefits for taking part in the study (except the possibility to receive an individualized report of the measured variables if required); these procedures have been shown to reduce faked responses and backdated entries (Green, Rafaeli, Bolger, Shrout, & Reis, 2006). In addition, we included a detailed explanation concerning the aims of the study and the utility of accurate responding and provided a direct contact with the members of the research team who were available for solving doubts and concerns with the data collection. On some occasions participants wrote to ask for some additional information, which was immediately provided. Additionally, participants received daily reminders to complete the data collection. Finally, regarding the measurement of emotions, we asked the participants to describe and rate the two most relevant episodes of the working day. We followed this procedure (according to the daily reconstruction method, Kahneman et al., 2004) to reduce reconstruction bias (Ohly et al., 2010) and based on previous literature that links emotional reactions to specific work-related episodes (Weiss & Cropanzano, 1996). Nevertheless, despite these advantages, this procedure may fail to represent the whole day. Future research should aim to assess the emotions experienced over the participant's entire day via experience sampling methodologies.

A third potential issue was our exclusive focus on chronological age, which left out other possibilities such as psychosocial or subjective age (Kooij, de Lange, Jansen, & Dikkers, 2008). While our interest in chronological age is justified by increased concerns in organizations about managing a multigenerational workforce (Truxillo et al., 2014), we recognize that other age-related variables may have potential as well (Kunze, Raes, & Bruch, 2015).

Finally, our study opens the way to future research directions. First, given the differences found here and in past studies regarding the emotions of older and younger people, it would be worth exploring how and in which ways they channel their higher positive emotions. It may be that organizational interventions, such as mindfulness interventions that have been applied to the workplace (Hülsheger, Feinholdt, & Nübold, 2015; Roeser et al., 2013) could be useful in helping workers in emotion regulation and in using these emotions in the workplace.

Related to this, another direction to explore in future studies is the interaction between age, emotions, and emotion regulation strategies. Our day-level observations did not provide sufficient statistical power to explore two-way and three-way interactions. However, it is possible that older workers not only experience more positive emotions, but they also use and regulate them in a way that leads to more crafting.

Third, multisource performance measures from supervisors, colleagues, and objective sources could be included in future studies to reduce concerns with single-source data. We also believe that additional outcomes would be worth investigating, in particular related to possible outcomes of task crafting; for example, measures of strain and physiological reactions (e.g., via wearable technology; Patel, Asch, & Volpp, 2015) could be used to examine the interplay of age, emotions, stress and strain, and crafting. Finally, it is important to understand the boundary conditions by which age affects task crafting and performance (e.g., providing greater autonomy; Ng & Feldman, 2015) and the possible role of HR practices (Kooij, Jansen, Dikkers, & de Lange, 2014).

CONCLUSION

In conclusion, this study sheds light on a possible age-related advantage, visible on a daily basis, in terms of experiencing positive emotions at work, engaging in task crafting and, via this proactive behavior, achieving better performance. We hope that this study will encourage further research on how individuals of different ages deal with their daily tasks and routines, as well as practical initiatives that foster individuals' abilities to fit their job requirements with their personal preferences or needs.

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