# **Master's Thesis**

# The Positive Affect and Work Performance Relationship at A Daily Level: Job Crafting as A Mediator and Proactive Personality as A Moderator

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## **Abstract**

This study investigated the underlying mechanism between daily positive affect and daily work performance. We expected that a workday characterized by higher levels of positive affect in the morning leads to higher levels of job crafting that day, which further makes employees rate that they have higher levels of work performance that evening according to the Broaden and Build Theory (Fredrickson, 2004). We also hypothesized that the within-person association between daily positive affect in the morning and daily job crafting during daytime is moderated by individuals' proactive personality such that the link is strengthened as employees have higher levels of proactive personality based on the Conservation of Resources Theory (Hobfoll, 2011). The multilevel analyses were utilized to examine these two hypotheses with two datasets separately. The within-person mediation analysis was tested among 157 workdays nested in 83 participants, and the moderation analysis was tested among 492 workdays nested in 172 participants. Contrary to our expectations, both hypotheses were not empirically supported. We discuss implications for future research and practice.

*Keywords:* positive affect, job crafting, work performance, proactive personality, experience sampling methodology

# The Positive Affect and Work Performance Relationship at A Daily Level: Job Crafting as A Mediator and Proactive Personality as A Moderator

#### Introduction

How employees perform well at work is a core question highly relevant to individuals, organizations, and society. Work performance is in-role performance, referring to employees' prescribed behaviors at work (O'Reilly & Chatman, 1986). Good work performance can translate into economic benefits (Campbell & Wiernik, 2015). Employees with higher work performance may possess more work engagement and higher levels of work motivation, thus constituting a positive gain spiral (Shirom, 2010). Empirical studies have shown that positive affect is an influencing factor in work performance (Bellet et al., 2019; Bouckenooghe et al., 2013; Kaplan et al., 2009; Lin et al., 2014; Salas-Vallina et al., 2020). As one of the two categories in the Positive Affect and Negative Affect Schedule (PANAS) (Watson et al., 1988), positive affect refers to humans' positive feelings and emotions such as being excited and proud. However, there is a lack of studies on the daily level examination of the positive affect and work performance link. According to the literature, both positive affect and work performance fluctuate daily within individuals, therefore it is important to study the link on the daily level (Binnewies et al., 2009; Harris & Daniels, 2005; Kim et al., 2018).

The second research gap is the underlying mechanism between the positive affect and work performance link. Scholars have called for an explanation for this link (Taris & Schaufeli, 2015; Tenney et al., 2016), yet very few studies have turned their attention to it. To offer insights into this gap, we introduce daily job crafting as a mediator. Job crafting refers to "the physical and cognitive changes individuals make in the task or relational boundaries of their work"

(Wrzesniewski & Dutton, 2001, p. 179). Daily job crafting is viewed as a mediator because the Broaden-and-Build Theory (B&B) (Fredrickson, 2004) theoretically supports that positive affect relates positively to job crafting, and both person-environment fit theory (van Vianen, 2018), as well as many empirical studies (Hulshof et al., 2020; Kooij et al., 2020; Tims & Derks, 2014), have shown the link between daily job crafting and daily work performance. These two research gaps together generate our first question: To what extent does daily job crafting mediate the relationship between daily positive affect and daily work performance?

We further investigate proactive personality, a stable individual characteristic, as a moderator relevant to the link between daily positive affect and daily job crafting. One reason is that Griep et al. (2022)'s study show individual differences in personal growth initiative on the link between positive affect and job crafting. Furthermore, both the resource investment principle of the Conservation of Resources Theory (Hobfoll, 2011) and the interaction model in personality research (Endler & Magnusson, 1976) offer support for investigating individual differences in this link. Thus, the second research question of this study is: To what extent does proactive personality moderate the relationship between daily positive affect and daily job crafting?

By seeking answers to these two research questions, this study contributes to the following aspects. First, this study reveals the underlying mechanism between positive affect and work performance at a daily level. This mechanism includes a time-varying variable, daily positive job crafting during a workday as a first-level mediator. Furthermore, this study utilizes data from the Experience Sampling Methodology (ESM), reducing the retrospective errors (Fisher & To, 2012). Second, this study contributes to explaining the link between positive affect and

work performance at a daily level by introducing proactive personality as a moderator. Third, the research findings of this study will benefit employees in understanding how their perceived work performance every day is influenced by their affect in the morning and their job crafting activities during workdays. Thus, they can increase self-awareness at work to adjust their work performance. Concurrently, organizations can learn from this study by focusing on both individual traits and daily variables to stimulate workers' work performance. For example, they can design individualized interventions for employees with different levels of proactive personality. Various daily interventions on positive affect before or just starting one day's work can also be designed. To conclude, this study provides theoretical and practical implications for major variables in organizational psychology.

# Theories and Hypotheses

# Job Crafting as A Mediator between Positive Affect and Work Performance

Positive Affect (PA) "reflects the extent to which a person feels enthusiastic, active, and alert. High PA is a state of high energy, full concentration, and pleasurable engagement" (Watson et al., 1988, p.1063). Both positive affect and positive emotions are widely used in organizational psychology, from a broad level, this study views these two concepts as having the same meaning which mainly captures humans' emotional feelings. Work performance in this study is in-role performance, referring to employees' prescribed behaviors at work (O'Reilly & Chatman, 1986). The theoretical basis of linking positive affect and work performance comes from the B&B Theory (Fredickson, 2004). This theory, composed of the broaden and build hypotheses, argues why positive affect is good. The broaden hypothesis points out that positive affect "broadens people's momentary thought-action repertoires,

widening the array of thoughts and actions that come to mind" (Fredickson, 2004, p. 1367). Transferring the broaden hypothesis to the work context, we think employees are likely to have better work performance with higher levels of positive affect because it stimulates employees in thinking broadly about their job tasks. Employees might become more creative about how to finish their work, thus leading to higher work efficiency.

Previous studies have shown the empirical link between positive affect and work performance. Kaplan et al. (2009)'s meta-analysis study with 57 primary studies revealed that positive affect related to overall or technical job performance in a positive direction. Bouckenooghe et al. (2013) found that positive affectivity was positively associated with work performance whereas negative affectivity was negatively associated with work performance among 321 participants composed of nursing staff and factory workers in Pakistan. Lin et al. (2014) found out that individuals' positive affect had a positive effect on their work performance among 212 employees from the life insurance industry in Taiwan. All these studies are similar in the following ways. First, they studied positive affect from a trait level. Second, they focused on the positive affect and work performance at a between-person level. However, an increasing number of studies on daily positive affect and daily work performance respectively show their day-to-day variation (Binnewies et al., 2009; Harris & Daniels, 2005; Kim et al., 2018). Besides, there is no study on the daily link between positive affect and work performance. In light of these empirical studies, we hypothesized that:

**Research hypothesis 1:** Daily positive affect in the morning is positive associated with daily work performance in the evening. Workdays characterized by higher levels of positive affect in the morning lead to high levels of work performance in the evening.

Although it is expected that daily positive affect influences daily work performance within the framework of B&B theory (Fredickson, 2004), it will be more insightful to figure out the underlying mechanism. This study proposes to examine daily job crafting as a possible crucial mediator in the relationship between positive affect and work performance. This specifically means that on some days when people have higher levels of positive affect, they are more likely to conduct job crafting activities and therefore report higher levels of work performance. Whereas, on other days characterized by lower levels of positive affect, employees are less likely to display job crafting behaviors, causing lower levels of work performance.

Since the present study focuses on joy and contentment, we further explain these two positive affects in the following. According to Fredrickson (2004), "joy creates the urge to explore, take in new information and experiences, and expand the self in the process" (p. 1369), and "contentment creates the urge to savor current life circumstances, and integrate these circumstances into new views of the self and of the world" (p. 1369). In line with this reasoning, employees who feel happy in the morning are likely to behave actively that workday. These active behaviors include the alignment of personal interests and abilities with job. For example, employees can change their type of job tasks, and decrease or increase their amount of work depending on their plans. These behaviors touch upon job crafting, referring to "the physical and cognitive changes individuals make in the task or relational boundaries of their work" (Wrzesniewski & Dutton, 2001, p.179). These changes are made to "affect both the meaning of work and one's work identity" (Wrzesniewski & Dutton, 2001, p.180). This definition includes three forms of job crafting. The first form relates to task, which means that employees can adjust their task characteristics including the number, type, and range. The second form

relates to interactions with others, which means that employees can decide how frequently and to what extent their social interactions can take place with others such as customers, colleagues, and supervisors. The last form relates to cognition, indicating that employees can change their views toward their work, like whether their job tasks are discrete or an integrated whole. Apart from the definition used in this study, the current literature also shows other conceptualizations. With the help of the Job-Demands and Resources Model (Bakker & Demerouti, 2007), Tims et al. (2012) defined job crafting as the self-initiated changes employees make regarding the level of job demands and job resources. This definition includes three dimensions: increasing job resources; (2) increasing challenging job demands; and (3) decreasing hindering job demands. Kooij et al. (2017) identified interest crafting and strength crafting as two forms of crafting behaviors. These two crafting behaviors come from people's characteristics. In their view, both personal interests and strengths can guide employees' crafting efforts and behaviors. According to their article, one example of interest crafting is that a history teacher intrigued by music can add music in the teaching process or seek cooperation with music teachers.

For instance, an employee from the Human Resources Management (HRM) department starts his workday with higher levels of satisfaction and happiness. He has been assigned the job task of diversifying supporting strategies for employees. Stimulated by the positive affect in the morning, he is passionate about sending and collecting questionnaires for employees from various departments. Furthermore, he keeps talking with employees about their preferences in getting support from the organization. By doing so, he might realize he not only completes his tasks but also helps his colleagues. If he put forward supporting strategies for male workers whose wives are pregnant, it will help these male workers better balance work

and life. Therefore, he enriches his work meanings. Nevertheless, if this employee started his workday with very low levels of satisfaction and happiness, he may still fulfill his major tasks at work, yet he would not or less frequently conduct job crafting that day. To conclude, employees conduct job crafting activities on some workdays to align their personal needs, goals, and interests with job tasks and interactions with colleagues or supervisors. In this way, they will work in a way they prefer at least from their perspective, which adds their control and autonomy at work. Also, job crafting activities increase their work meanings and enhance their work identity, thus guaranteeing their work performance.

A few empirical studies have also shown the link between positive affect and job crafting. Using three measurements within a six-month longitudinal research design at an interval of two months, Rogala and Cieslak (2019) found out positive emotions at Time 1 were positively associated with job crafting at Time 3 among the employees who use information and communication technology (ICT) in their jobs every day in study 1 (124) and study 2 (99). Job crafting was used from the Job-Demands and Resources aspect. Ten positive emotions at work were assessed in this study such as contentment and energy. Participants were asked about the frequency of experiencing positive emotions at work. Mäkikangas et al. (2017) investigated the antecedents of team job crafting, which was defined as "the extent to which team members engage jointly in shaping their job demands and resources" (p. 421). They found out that individuals' positive affect was positively related to their perceptions of their team job crafting among 119 employees from 46 teams in Finnish rehabilitation centers. Sample items about positive affect assessment were not offered by this study, thus the time frame of affect assessment was unknown, specifically, it was unknown whether the affects were assessed at a

broad level at work or during the past two weeks. Griep et al. (2022) approached job crafting from a global level and defined it as "the self-initiated changes employees make to their job to optimize their functioning in terms of well-being, attitudes, and behavior" (p. 64). Their research findings showed the positive relationship between the within-person fluctuations in positive emotions and within-person fluctuations in job crafting via a daily diary design of five consecutive workdays among 116 employees working in health care organizations. Though not directly assessing the relations between positive affect and job crafting, Ouyang et al. (2019)'s study also shadowed the possible link between these two variables. Their study found out highactivated positive affect including enthusiasm, inspiration, excitement, and joy during one morning predicted the proactive behavior at the end of that workday among 183 employees from IT and telecommunication organizations in China via a ten-day daily diary design. Overall, the positive affect-job crafting link has been indicated in both longitudinal research design and daily diary design, yet the two constructs were defined differently in previously reviewed studies. The previous studies pave the way for this study of linking positive affect in the morning with job crafting during the workday. Therefore, we hypothesized:

**Research hypothesis 2:** Daily positive affect in the morning is positively associated with daily positive job crafting during the day.

The link between job crafting and work performance finds its theoretical support from the Person-Environment Fit Theory, pointing out that "outcomes are most optimal when personal attributes (e.g., needs, values) and environmental attributes (e.g., supplies, values) are compatible" (van Vianen, 2018, p. 75). As in the example of an employee from the HR department, positive affect in the morning encourages him to conduct job crafting activities.

After changing the design of his job that day, he may complete tasks he has arranged for himself highly efficiently and perceives that he has a high level of work performance that day. The relationship between job crafting and work performance at a daily level has been examined in the literature. Tims et al. (2014) found out that daily job crafting indirectly influenced daily work performance via daily work enjoyment among a heterogeneous sample of 47 employees over five consecutive workdays. Research findings of Kooij et al. (2020) showed that daily interest crafting was positively associated with daily job performance among 128 old employees from three different types of organizations (a rehabilitation center, a casino, and an online marketing agency) over five consecutive workdays. Hulshof et al. (2020)'s study indicated that daily job crafting indirectly influenced daily service-oriented task performance via daily meaningful work and daily work engagement among 156 employees from an unemployment agency in the Netherlands over four consecutive workdays. Built upon previous theoretical reasoning and empirical studies, we present the following two hypotheses:

*Hypothesis 3:* Daily job crafting during the day is positively associated with daily work performance in the evening.

*Hypothesis 4:* Daily job crafting partially mediates the relationship between daily positive affect in the morning and daily work performance in the evening.

## Proactive Personality as a Moderator between Positive Affect and Job Crafting

Proactive personality refers to "the relatively stable tendency to effect environmental change" (Bateman & Crant, 1993, p. 103). Proactive employees tend to initiate changes at work to meet their goals rather than maintain the status quo. This study introduces proactive personality as a moderator between positive affect and job crafting at a daily level. In other

words, this study suggests examining the cross-level interaction effect of proactive personality and daily positive affect in the morning on daily job crafting during the daytime. We raise two competing research hypotheses for this cross-level interaction effect. One is the boosting effect hypothesis and the other is the buffering effect hypothesis.

Two theoretical aspects support proactive personality as a boosting moderator. The first one is Hobfoll's Conservation of Resources Theory (2011). According to Lazarus and Folkman's (1984) broad conceptualization of resources that anything useful can be a resource, both positive affect and proactive personality are personal resources for employees. One corollary of the Conservation of Resources Theory is that " those who possess resources are more capable of gain, and that initial resource gain begets further gain" (Hobfoll, 2011, p. 10). According to this, highly proactive employees with higher levels of positive affect in the morning can create more resources that can be helpful for job crafting activities. Second, the personality-situation perspective can also support this reasoning. People's affect can frequently fluctuate because of unexpected situations they experience in everyday life. However, stable traits can interact with the affect triggered by situations to influence peoples' behaviors, as explained by the interactional model in personality research (Endler & Magnusson, 1976). For example, happier employees are more likely to initiate job crafting activities if they are also more proactive. Building upon these two theoretical aspects, we expect that:

*Hypothesis 5a:* Daily positive affect in the morning interacts with proactive personality in affecting daily job crafting during the daytime. Specifically, the proactive personality strengthens the link between daily positive affect in the morning and job crafting during the daytime.

Nevertheless, the proactive personality is also hypothesized to attenuate the link between daily positive affect in the morning and job crafting during the day. This paradoxical hypothesis stems for two reasons. First, in McCormick et al. (2019)'s study on proactive personality and proactive behavior from the perspective of the person-situation aspect, they argued that "An employee can be motivated to behave in ways that are consistent with his or her inherent traits or can be motivated by a characteristic of the situation". If a situation enables employees to show proactive behaviors such as the presence of a leader or work climate, even if employees have lower levels of proactive personality, they can still behave proactively. In line with this reasoning, we think that a context with high levels of positive affect is likely to stimulate employees' job crafting activities based on the benefits of positive affect from the B&B theory (Fredickson, 2014) despite lower levels of proactive personality. One example is that a company organizes interesting break activities to deliberately create positive affect among employees. Second, in Griep et al. (2022)'s research, personal growth initiative (PGI) was hypothesized to strengthen the relationship between daily active emotions and daily job crafting, whereas research findings indicated that PGI played a buffering role. Though PGI and proactive personality are different conceptual constructs, they are related. Growth-oriented people tend to be proactive to initiate changes because they want to seek opportunities for personal development (Borowa et al., 2020). Thus, PGI's buffering effect between daily active emotions and daily job crafting offers empirical support to hypothesize proactive personality's same effect. The last research hypothesis is that:

*Hypothesis 5b:* Proactive personality moderates the daily link between positive affect in the morning and daily job crafting during the daytime. Higher levels of proactive

personality will buffer the effect of the lower levels of positive affect in the morning on the job crafting during the daytime.

#### Method

## **Procedures**

The present study used part of the data from a Job Crafting research project organized by a PhD researcher and seven students from the Department of Human Resource Studies at Tilburg University. Each student was responsible for recruiting 15 office workers, leading to an expected sample size of 105 people. Students looked for participants within their reachable network, resulting in a feature of convenience sampling for this study. This research project was approved by the Ethical Review Board of TSB.

Participants received a cover letter that assured them that they could withdraw from the project anytime without reason, and their data were kept anonymous. They also received an invitation letter with instructions about what specifically they would do during this project. This project required participants to fill in a general questionnaire on the platform of Qualtrics in the first period and the ESM part via the application Ethica downloaded on the smartphone by themselves in the second period of five consecutive workdays. After the installation of Ethica, each participant had their ID code so that we could link it with their general questionnaire. This ID code also made participants anonymous. In the ESM part, participants would be reminded six times by beeps of the Ethica during a day. The specific periods of each beep were offered in Table 1. A half-hour was extended for each assessment so that we could collect data as much as possible. Participants were not allowed to fill in each-time survey after the extension period. All questionnaires and ESM surveys were in Dutch via back-translation.

This study was preregistered (<a href="https://osf.io/brx8t">https://osf.io/brx8t</a>).

# Samples

Different datasets were constructed to answer the two research questions of this study. For the first research question that examines to what extent does daily job crafting mediate the relationship between daily positive affect and daily work performance, we selected positive affect assessed before 10:00 a.m., job crafting assessed between 10:00 a.m. and 16:00, and work performance assessed between 16:00 and 20:30. This selection led to a dataset of 157 matched daily responses from 84 participants. Of these 84 participants, 53.57% were males, and 46.43% were females. The average age was 35.24 years (SD=12.57). 3.57% attended high school, 14.29% completed middle-level applied education (MBO), 51.19% completed higher professional education (HBO), and 30.95% filled in the university. Participants' average organizational tenure was 6.54 years (SD=8.43), and they worked on average 37.34 hours per week (SD=5.05). 83.33% had a fixed work contract and 13.10% had a temporary work contract. 30.95% were managers and 67.86% had no roles of being a manager.

For the second research question that examines to what extent does proactive personality moderate the relationship between daily positive affect and daily job crafting, we selected positive affect assessed before 10:00 a.m. and, job crafting assessed after 10:00 a.m. This selection led to a dataset of 492 matched daily responses from 172 participants. Of these 172 participants, 55.23% were males, and 44.19% were females. The average age was 32.90 years (SD=11.41). 3.49% attended high school, 12.79% completed middle-level applied education (MBO), 52.33% completed higher professional education (HBO), and 31.40% filled in the university. Participants' average organizational tenure was 5.57 years (SD=7.80), and they

worked on average 37.80 hours per week (SD=2.99). 74.42% had a fixed work contract and 22.67% had a temporary work contract. 22.09% were managers and 77.91% had no roles of being a manager.

#### Measures

# General Questionnaire.

A general questionnaire was used to collect participants' demographical data, including age, gender, educational level, working hours, job title, and also time-invariant variables like proactive personality used in this study. Proactive personality was measured via a 6-item scale (Parker, 1998). Participants were asked to rate these items on a 7-point Likert scale ranging from 1 (totally disagree) to 7 (totally agree). One exemplary item was that "If I believe in an idea, no obstacle will prevent me from making it happen". The reliability was .76 CI [.70, .81]. *Daily Survey*.

Positive affect was measured by asking participants to rate three items on a 7-point Likert scale ranging from 1 (not at all) to 7 (very). These three items included: 1) I feel excited; 2) I feel satisfied; 3) I feel happy. These items came from a brief assessment of positive and negative affect (Watson et al., 1988). For research question 1, the within-person  $\alpha$  was .82 CI [.77, .87] and the between-person  $\alpha$  was .80 CI [.73,.88]. For research question 2, the within-person  $\alpha$  was .83 CI [.81, .86] and the between-person  $\alpha$  was .88 CI [.85, .91].

Job crafting was assessed by asking participants to rate three short items on a 7-point Likert scale ranging from 1 (not at all) to 7 (very). These items included: 1) I have just made adjustments in my duties; 2) I have just made adjustments in the meaning I give to my work; 3) I have just made adjustments in the person I work with. These items were from the study of

Slemp and Vella-Brodrick (2013). We created a daily job crafting during the daytime variable by averaging its four-time assessment from 11:00 to 17:59. For research question 1, the within-person  $\alpha$  was .88 CI [.85, .92] and the between-person  $\alpha$  was .85 CI [.80, .91]. For research question 2, the within-person  $\alpha$  of job crafting after 10:00 a.m. was .82 CI [.73, .80] and its corresponding between-person  $\alpha$  was .86 CI [.82, .89]. The within person  $\alpha$  of job crafting before 10:00 a.m. was .76 CI [.73, .80], and the between-person  $\alpha$  was .81 CI [.76, .86].

Work performance was assessed by asking participants to rate one short item on a 7-point Likert scale ranging from 1 (not at all) to 7 (completely). This item was that I am performing my duties properly, from Williams and Anderson's study (1991).

## **Analysis**

We used R version 4.0.3 (R Core Team, 2020) to form the two datasets, to calculate the within-person variance, to conduct Confirmatory Factor Analyses, and to test all research hypotheses. It is important to differentiate between-person variation and within-person variation of repeatedly measured predictors. This step is done by group-mean centering. It is needed to subtract each individual's mean value on a level 1 variable from the individual's raw score on this variable. Research hypotheses in this study were tested via different multilevel models with the package "lme4" (Bates D et al., 2015).

The first research question of this study focused on within-person mediation analysis among daily positive affect, daily job crafting, and daily work performance, thus all three variables were group-centered. A level one controlled variable work performance in the morning was also group-centered. The dataset for research question 1 included these variables: each participants' id, day, within-person positive affect, within-person job crafting, within-

person work performance in the evening, and within-person work performance in the morning. Because the format of day was a date in the raw dataset, day for each participant was created by subtracting a participant's date from his/her starting date. We constructed the within-person mediation model (Figure 1) to test the first research hypothesis. Figure 2 was added as an illustration for this within-person mediation model. Unlike the mediation analysis used to investigate between-person level relationships, the within-person mediation needs to consider the covariance between the effect of the predictor on the mediator and the effect of the mediator on the outcome variable according to Bolger and Laurenceau (2013). The mediated effect is calculated in the formula presented in Figure 3. Bootstrapping is further used to examine the significance of this indirect effect via the "bootmlm" package (Lai, n.d.). This analysis was guided by Ram's (n.d.) tutorial on within-person mediation analysis.

$$\begin{split} JC_{ij} &= dJC_j + a_jPA_{ij} + \epsilon JC_{ij} \\ WP_{ij} &= dWP_j + c\text{'} PA_{ij} + b_jJC_{ij} + \epsilon WP_{ij} \end{split}$$

Figure 1. The Within-person Mediation Model

Note. JC: job crafting during the day; PA: positive affect in the morning; WP: work performance in the evening

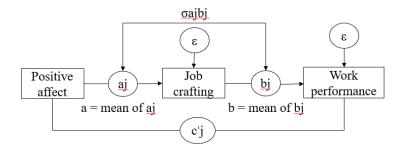


Figure 2. Within-subjects mediation: Diagram and structural equations.

Mediated effect = 
$$a*b + \sigma a_i b_i$$

Figure 3. The Formula of Calculating the Mediated Effect

For the second research question, daily positive affect as the predictor and daily job crafting in the morning as the control variable were group-centered. The second-level variable

proactive personality was grand-centered. The dataset for research question 2 included variables in the following: each participants' id, day, within-person positive affect, within-person job crafting before 10.a.m., within-person job crafting after 10 a.m., and proactive personality. Multilevel models for testing the second research hypothesis were presented in Figure 4. We looked at whether the parameter  $\gamma$ 21, which represents the slope of the interaction effect between proactive personality and daily positive affect on daily job crafting, is statistically significant or not. This analysis was guided by Brinberg's (n.d.) tutorial on multilevel model and interactions.

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\begin{split} JC_{ij} = \beta_{0i} + \beta_{1i} day_{ij} + \beta_{2i} PA_{ij} + \epsilon ij \; (level \; 1 \; model) \\ \beta_{0i} = \gamma_{00} + \gamma_{01} prop_i + \zeta_{0i} \; (level \; 2 \; model) \\ \beta_{1i} = \gamma_{10} + \gamma_{11} prop_i + \zeta_{1i} \; (level \; 2 \; model) \\ \beta_{2i} = \gamma_{20} + \gamma_{21} prop_i + \zeta_{2i} \; (level \; 2 \; model) \\ JCij = \gamma 00 + \gamma 01 * propi + \gamma 10 * dayij + \gamma 11 * propi * dayij + \gamma 20 * PAij + \gamma 21 * propi * PAij + \zeta 0i + \zeta 1i * dayij + \zeta 20 * PAij \; (compositive \; model) \\ Figure 4. \; Multilevel \; Models \; for \; the \; Second \; Research \; Question \end{split}
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# Results

## **Preliminary Analyses**

Means, SDs, and correlations of relevant variables for research question 1 were presented in Table 1. Table 2 showed the proportion of within-person variance in all daily variables for research question 1. These daily variables indicated the variance at a daily level with a range from 38.63% to 72.32%, and therefore offers evidence to investigate variables at a within-person level. Table 3 presented the fit statistics of the Confirmatory Factor Analysis (CFA) of daily variables for research question 1. The two-factor model (M1) showed a good fit to the data and was also better than alternative models.

Table 1. Means, SDs, and Correlations Among Study Variables for Research Questio
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Variables	M	SD	1	2	3	4
1 Positive affect in the morning	3.98	.85		.06	.13	.33***
2 Job crafting during the day	2.21	1.35	-0.03		15	08
3 Work performance in the evening	4.64	.87	.21	18		0.46***
4 Work performance in the morning	4.62	.99	.27*	16	0.64***	

Note. Means and SDs refer to person-level data. Correlations of the variables aggregated t the person level appear below the diagonal (N=84); within-person correlations appear above the diagonal (N=157). \*p < .05 \*\*p < .01 \*\*\*p < .001

Table 2. Percentage of Within-Individual Variance Among Daily Variables for Research Question 1

Variables	Within-individual	Between-individual	Within-individual
	variance (e <sup>2</sup> )	variance (r <sup>2</sup> )	variance (%)
Positive affect in the morning	.51	.44	53.51%
Job crafting during the day	.84	1.34	38.63%
Work performance in the evening	.91	.38	70.99%
Work performance in the morning	.76	.29	72.32%

Table 3. Fit Statistics for CFA Models for Research Question 1

Models	$X^2(df)$	RMSEA	CFI	TLI	SRMR	Comparison	$\Delta X^2$	Δdf	p
M1	7.82(8)	.00	1.00	1.00	.04				.45
M2	7.82(7)	.03	.99	.99	.04	M2-M1	0	1	.35
M3	611.36 (9)	.36	.51	.18	.23	M3-M1	598.58	1	<.001

Note RMSEA: root mean square error of approximation; CFI: comparative fit index; TLI: Tucker-Lewis index; SRMR: standardized root mean square residual; CMF: common method factor

M1: job crafting, positive affect load onto two separate latent factors.

M2: job crafting, positive affect, and common method factor load onto three separate latent factors

M3: job crafting and positive affect load onto one latent factor.

Means, SDs, and correlations of relevant variables for research question 2 were presented in Table 4. Table 5 showed the proportion of within-person variance in all daily variables for research question 2. These daily variables indicated the variance at a daily level with a range from 31.60% to 53.59%, and therefore offers evidence to investigate variables at a within-person level. Table 6 presented the fit statistics of the Confirmatory Factor Analysis (CFA) of daily variables for research question 1. The two-factor model (M1) showed a good fit to the data and was also better than alternative models.

Variables	M	SD	1	2	3	4
1 Positive affect before 10:00 a.m.	3.99	.91		.26	.13	-
2 Job crafting after 10:00 a.m.	1.91	1.15	07		.62**	-
3 Job crafting before 10:00 a.m.	1.99	1.18	08	.66***		-
4 Proactive personality	5.29	.74	.26***	.08	.08	

Note. Means and SDs refer to person-level data. Correlations of the variables aggregated at the person level appear below the diagonal (N=172); within-person correlations appear above the diagonal (N=492). \*p < .05 \*\*p < .01 \*\*\*p < .001

Table 5. Percentage of Within-Individual Variance Among Daily Variables for Research Question 2

Variables	Within-individual	Between-individual	Within-individual
	variance (e <sup>2</sup> )	variance (r <sup>2</sup> )	variance (%)
Positive affect before 10:00 a.m.	.44	.61	41.80%
Job crafting after 10:00 a.m.	.50	1.08	31.60%
Job crafting before 10:00 a.m.	1.02	.88	53.59%

Table 6. Fit Statistics for CFA Models

Models	X <sup>2</sup> (df)	RMSEA	CFI	TLI	SRMR	Comparison	$\Delta X^2$	Δdf	p
M1	12.79(8)	.034	.996	.993	.026				.12
M2	12.79(7)	.040	.995	.990	.026	M2-M1	0	1	1.00
M3	316.61(9)	.47	.38	04	.27	M3-M1	308.79	1	<.001

Note RMSEA: root mean square error of approximation; CFI: comparative fit index; TLI: Tucker-Lewis index; SRMR: standardized root mean square residual; CMF: common method factor

M1: job crafting and positive affect load onto two separate latent factors.

M2: job crafting, positive affect, and common method factor load onto three separate latent factors

M3: job crafting and positive affect load onto one latent factor.

## **Hypothesis Testing**

Table 7 showed the results of hypothesis testing for research hypotheses 1 to 4. Research hypothesis 1 was not supported (b=-.1, p=-.54). Research hypothesis 2 was not supported (b=.38, p=1.93). Research hypothesis 3 was not supported (b=.38, p=1.92). Research hypothesis 4 could not be tested because the relationship between daily positive affect and daily job crafting and the relationship between daily job crafting and daily work performance in the evening were nonsignificant. Thus, research hypothesis 4 was not supported in this study.

Table 7. Results for Research Hypothesis 1

Variables		Daily Job Crafting			Daily Work Performance_pm				
	В	SE	p	CI	В	SE	p	CI	
Day	.01	.03	.35	[05, .08]	04	.03	-1.31	[11, .02]	
Daily Work Performance_am	-	-	-	-	13	.09	-1.42	[32, .06]	
Daily positive affect	.38	.19	1.93	[01, .77]	1	.19	54	[48, .31]	
Daily job crafting	-	-	-	-	.38	.20	1.92	[05, .83]	

 $N_{level1} = 157, N_{level2} = 84$ 

Table 8 presents the parameter estimates for research hypotheses 5a and 5b. Research hypothesis 5a and 5b were not supported because the interaction effect between proactive personality and daily positive affect in the morning on daily job crafting was insignificant (b = .04, p = .74).

Table 8. Results for Research Hypothesis 2

Variables	Daily Job Crafting							
	В	SE	p	CI				
Day	02	.02	.52	[06, .03]				
Job crafting before 10:00 a.m.	.20	.04	<.001***	[.12, .27]				
Positive affect before 10:00 a.m.	.03	.07	.64	[11, .18]				
Proactive personality	.18	.13	.16	[07, .43]				
Proactive personality * Positive affect	.04	.11	.74	[18, .25]				

 $N_{level1} = 492, N_{level2} = 172$ 

## Supplemental analyses

We averaged six assessments of positive affect, job crafting, and work performance each day. The time regarding morning, afternoon, and evening were not considered here, leading to the impossibility of examining causal relationships among variables caused by time lags. Despite this shortcoming, there were two advantages. First, the dataset we used was composed of 827 days nested in 203 participants, guaranteeing the needed power. Second, the measurement of all variables, especially those assessed via only one item such as work performance was more reliable. We examined the three research hypotheses raised in the introduction, and time was not considered here. Thus, we first tested whether daily job crafting

<sup>\*</sup>p < .05 \*\*p < .01 \*\*\*p<.001

<sup>\*</sup>p < .05 \*\*p < .01 \*\*\*p<.001

mediated the link between positive affect and work performance at a daily level, and then examined whether proactive personality moderated the daily relationship between positive affect and job crafting.

## Sample

The dataset for complementary analysis was made up of 827 daily responses nested in 203 participants. Of these 203 participants, 52.22% were males, and 46.80% were females. The average age was 32.45 years (SD=11.24). 3.45% attended high school, 13.79% completed middle-level applied education (MBO), 52.22% completed higher professional education (HBO), and 30.55% filled in the university. Participants' average organizational tenure was 5.08 years (SD=7.35), and they worked on average 37.32 hours per week (SD=4.81). 69.95% had a fixed work contract and 25.12% had a temporary work contract. 23.65% were managers and 75.86% had no roles of being a manager.

## Results

Table 9 showed that daily positive affect was positively associated with daily job crafting (b = .27, p=.00) and also with daily work performance (b=.28, p=.00). Daily job crafting was not associated with daily work performance (b=.03, p=.47), thus the mediation analysis failed to be further examined. Table 10 showed that the interaction effect of proactive personality and daily positive affect was not statistically significant (b=-.01, p=.94).

Table 9. Within-person mediation analysis among positive affect, job crafting, and work performance

Variables		Dail	y Job Cra	fting	Daily Work Performance				
	В	SE	p	CI	В	SE	p	CI	
Day	01	.02	.67	[04, .03]	03	.01	.02*	[05,004]	
Daily positive affect	.27	.08	.00***	[.12, .43]	.28	.05	.00***	[.17, .39]	
Daily job crafting	-	-	-	-	.03	.04	.47	[06, .11]	

 $N_{level1} = 827$ ,  $N_{level2} = 203$ 

Table 10. Proactive personality as a second-level moderator in the within-person relationship between job crafting and positive affect

	Job crafting							
	В	SE	P	CI				
Variables								
Day	02	.02	.28	[05,.02]				
Positive affect	.29	.07	<.001***	[.14, .43]				
Proactive personality	.03	.11	.78	[19, .25]				
Proactive personality * Positive affect	01	.11	.94	[22, .20]				

## **Discussion**

The present study aimed to answer two research questions. First, to what extent does daily job crafting during daytime influence the daily link between positive affect in the morning and work performance in the evening. Second, to what extent does proactive personality moderate the daily link between positive affect in the morning and job crafting during daytime? Hypothesis testing results showed that neither mediation effect nor moderation effect was found. Though research hypotheses 1 to 3 were not empirically supported in the primary analyses, the effects of daily positive affect on daily job crafting and daily work performance were supported in the supplemental analyses with a larger sample size.

The within-person mediation analysis (research hypothesis 4) was not supported in our study. Two reasons are responsible for explaining this result. The first reason is the lack of enough power with 157 workdays nested in 83 participants. Before this study started, there was no specific idea about participants' responses in the evening. In reality, there were a large

<sup>\*</sup>p < .05 \*\*p < .01 \*\*\*p<.001

number of missing values for responses in the evening compared with those in the morning and during the daytime, leading to a small number of complete workdays. In Ouyang et al. (2019)'s study, they had 1240 matched daily responses from 183 participants to find out the mediation effect of high-activated positive affect in the morning between off-job mastery during the evening and proactive behavior during the subsequent workday. Griep et al. (2021) found the significant mediation effect of job crafting between positive active emotions and DA-fit among 341 observations nested in 116 respondents. Therefore, to a certain extent, it is reasonable to explain the insignificant mediation effect between positive affect and work performance from the lack of power in the present study.

However, in our supplemental analysis with 827 workdays nested in 203 participants, we still failed to find the mediation effect of daily job crafting between daily positive affect and daily work performance. Another possible reason is that the wording of job crafting items might influence the results. The current study selected items from Slemp and Vella-Brodrick (2013)'s study. The wording was that "I have just made adjustments in my duties/in the person I work with/in the meaning I give to my work". These items might not exactly measure job crafting since these items failed to pinpoint the purpose of adjustments at work. In Griep et al. (2022)'s study, one example item was that "I made changes in my job to feel better". In Kooij et al. (2017)'s study on strength and interest crafting, one example item was that "I organize my work in such a way that it matches with my strengths". In our study, participants might make adjustments at work without thinking about making their work more meaningful. In our view, the blurry wording of job crafting items in the present study might also become an influencing factor.

The effect of proactive personality as a moderator between the daily link of positive affect in the morning and job crafting during daytime was examined among 492 matched daily responses from 172 participants. Contrary to our two competing research hypotheses, this interaction effect was statistically nonsignificant in this study. This result means that the stable trait, proactive personality, and state of positive affect in the morning might not work together in influencing job crafting during the daytime. However, we think three reasons might explain this result. First, the buffering and the strengthening hypotheses may cancel each other out, thus leading to the null effects. As Hayes pointed out that "two or more indirect effects with opposite signs can cancel each other out" (2009, p.414). Second, our sample tends to be proactive with a mean value of 5.29, yet the between-person level mean of job crafting was 1.91. The range of these two measurements was a 7-Likert scale. Therefore, overall, our participants were proactive yet they made fewer changes at work. One possible reason might be they were satisfied with their work and they felt more changes were not necessary. Third, the combination of potential important demographic factors like age and job crafting dimensions together are likely to function in this moderation process. In Kooij et al. (2020)'s study, they targeted old workers' interest and strength in crafting. They argued that "older adults focus on short-term positive experiences and that older workers particularly value an interesting job" (p. 166). In our sample, the age ranges from 20 years old to 61 years old, with a mix of young, middle, and old workers. The job crafting dimensions we utilized were "I have made adjustments in my duties, in the meaning, I give to my work, and in the person, I work with." Young adults who start their work or work for a rather short period may make more changes compared with middle or old workers.

There were interesting findings from our complementary analyses to support the B&B theory (Fredrickson, 2004). In the complementary analysis, it was found that a workday characterized by high levels of the daily positive effect is positively associated with daily job crafting, and daily work performance.

# **Implications**

The present study contributes to the relevant literature in two aspects. First, it investigates the link between positive affect and work performance at a daily level and further examines daily job crafting as a potential mediator. Despite the lack of power to detect the mediation effect, this study shows it is reasonable to raise this research question according to the B&B theory and empirical studies. Furthermore, this study might be the first one to study the link between positive affect and work performance at a daily level. Second, this study is innovative by introducing two competing research hypotheses to answer the research question that to what extent does proactive personality moderates the daily relationship between positive affect and job crafting. Proactive personality's strengthening effect comes from the Conservation of Resources Theory (Hobfoll, 2011) and the interaction model (Endler & Magnasson, 1976), and the buffering effect was built upon empirical studies (McCormick et al., 2018; Griep et al., 2022).

The practical implication of this study comes from the complementary analyses. The finding that positive affect is positively associated with job crafting and work performance suggests that employees can pay attention to keeping positive affect work. Current literature has shown relevant interventions benefit peoples' positive affect. Gander et al. (2020) found that the elicitation of positive emotions within the area of positive psychology interventions

brought about higher intensity and variety of positive emotions. Quoidbach et al. (2015) studied five emotion regulation strategies (situation selection, situation modification, attentional deployment, cognitive change, and response modulation) in positive emotional events. Some strategies were related to a short-term increase in positive emotions and others were related to a long-term increase in positive emotions. Positive interventions and emotional strategies studied in the literature might help employees to possess positive affect at work. At the same time, companies can also organize activities to stimulate employees' positive affect during different periods during the workday in order to boost employees' work performance.

# Strengths, limitations and suggestions for future research

The present study has the following strengths. First, it utilized the experience sampling methodology to collect employees' data six times from the daily work context. This design makes it possible to record participants' immediate responses among investigated variables, thus reducing retrospective errors. Second, we identified time lags among major variables in the present study, and these time lags allowed for the examination of causal effects. Third, the research questions of this study were built firmly upon theories and empirical studies. Despite the fact that our results were not statistically significant, it does not necessarily mean these effects are non-existent.

There are also limitations in the present study. First, there were too many missing values for variables assessed after 16:00, posing a vital threat to the power for answering research question 1. Second, though we set up time lags in our study, the time lag can be doubtful and questionable to a certain extent. For the second research question, we used positive affect in the morning, which was assessed at a one-time point, and job crafting during the daytime,

which was measured at four-time points. It would be more ideal to examine the link between the first assessment of variable A and the second assessment of variable B since in our analysis process, we also found variables tested in the same period showed correlation with each other compared with variables assessed during the periods far away from each other. A third limitation is that we used a one-item measurement for work performance. Nevertheless, a one-item assessment is acceptable in an ESM study considering the length of the survey participants has to fill in over consecutive days (Baethge et al., 2021; Barber et al., 2013; Clauss et al., 2021; Grech et al., 2009). Besides, we averaged two-time points assessment of work performance each day to boost the reliability.

There are the following suggestions for future research. First, it is suggested to take potential demographic factors into account in the research design or treat demographic factors like age groups as research questions. As we discussed above, people from different age groups may have a tendency to different job crafting dimensions. Young people might make changes more at the start of their career period in various job crafting dimensions in contrast with old people who tend to craft more in interests and strengths. Thus, different types of job crafting also deserve research attention in future research. Second, time lags need to be carefully designed according to research questions. As we pointed out in the limitation, the time sequence is not only needed to be considered but also the time unit. We suggest researchers study job crafting within different time frames (moment, day, week, and month) based on specific research goals and questions. Current literature has already reflected relevant research with a stress on time within organizational psychology. For example, Binnewies et al. (2010) studied recovery during the weekend and fluctuations in weekly job performance in a week-level study

with 133 employees over four working weeks. This week-level design can also be extended to research on job crafting. Research on month-level is rare in the present literature and this might be due to the possible difficulty of collecting the data. Third, future research is suggested to replicate the present study with bigger sample size, for example, more participants over 10 consecutive workdays. This will further help to detect whether the effect examined in the present study exists or not.

## Conclusion

To conclude, the present study tries to reveal daily job crafting's mediation effect on the daily link between daily positive affect and daily work performance and proactive personality's moderation effect on the daily connection between daily positive affect and daily job crafting. We derive nonsignificant results from all relevant statistical analyses, yet these results raise more interesting questions to be tested and provide suggestions for future research. Our complementary analyses show the association between positive affect with job crafting and work performance, respectively. This point also indicates the usage of the B&B theory (Fredickson, 2004) within the context of organizational psychology.

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